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Formation and Resident Perception of Gated Communities:

the Case of Apartment Complexes in Seoul

빗장주거단지의 형성과 거주자 인식에 관한 연구:

서울의 아파트 단지를 사례로

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Abstract

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Gated communities are clearly bounded residential estates that limit the access of non-residents to privately controlled common spaces. Services such as street maintenance and policing that are usually provided by the public authority are privatised there. In return for funding the private infrastructure and its upkeep, residents acquire the rights to govern their residential territory and exclude those who are not members. As a real estate product or defensive mechanism against crime and nuisances, gated communities proliferate in many countries. South Korea is no exception of the global gating phenomenon.

In the country, privately owned high-rise apartment complexes possess all the characteristics of gated communities. Apartment complexes progressed in a great deal both in quantity and quality during the last decades and gated living is a part of middle class life styles today. The study aims to diagnose the current status of gating in urban space, track its evolutionary process and identify the socioeconomic forces behind the evolution. Three approaches were adopted for this purpose: typology of gated communities, gating actor analysis and analysis of residents' perception.

Typology of border permeability through the audit of physical barriers against outsiders in thousand apartment complexes in Seoul has produced four types by the degree of physical exclusiveness: *Demarcated*, *Enclosed*, *Car-restricted* and *All-restricted complexes*. The most highly gated type, All-restricted complexes that control both cars and pedestrians, is concentrated in the most affluent area of Seoul. Analysis of the average home prices and home sizes between types demonstrates that people with more financial means tend to live in more exclusive communities. Combination of the data with that of non-gated collective housing types extends the

spectrum of housing and wealth to cover the majority of Seoul population. In the spectrum, residents of non-gated collective housing constitute the least economically privileged group. These results go further than the conventional notion of gated communities as ‘golden ghettos’. The incessant evolution of apartment complexes by private funding and the stagnation of traditional neighbourhood with insufficient public infrastructure create a hierarchical residential space in Seoul, organised by exclusiveness bought by money.

The four types are not fixed and have been constantly evolving. Before the 1990s, Enclosed complexes with walls but without any barrier at complex entrances were the only type of gated communities. Increase of cars and consequent lack of parking space made gated community residents install rising arm barriers at entrances, thus converting Enclosed complexes into Car-restricted complexes through retrofitting. The residents’ retrofitting has since been integrated in the design of consequent apartment complexes. Thus, Car-restricted complexes are the most prevalent type today. Conversion of Car-restricted complex from All-restricted complex is not as smooth as the precedent conversion. Municipality planners refuse to approve of design integrating electric gates against pedestrians. Nonetheless, some zealous residents of gated communities still proceed to the conversion after obtaining the approval. Demarcated complexes with low walls built in new towns with heavy public intervention come from the will of the public to reduce exclusiveness.

Although gated community residents already feel safe in their apartment complexes and neighbourhoods, they seek an extra measure of protection from crime. People who want electric gates have heightened sense of safety compared to others and their fear of crime is inflated from the incessant media reports of crime rather than actual threat. Gates mostly offer symbolic comfort to the residents when the device can be easily circumvented by criminals with a gimmick as simple as tailgating. However, gates are practical and effective in strengthening the social environment of gated communities by removing opportunistic behaviours by non-residents such as loitering and littering. In this manner, gates can be understood as localised efforts to improve living conditions. However, these efforts are anti-civic

and anti-urban due to their inward-looking nature and their problem-solving resorting to avoidance and exclusion rather than exchanges and collaboration.

The production of gated communities has involved three major actors: developers, housing consumers and the state. Each actor has greatly benefitted from the process of developing apartment complexes internalising modern infrastructure by private funding, thus their proliferation in cities. The state has been paramount in the virtuous circle of the production of gated communities which presented the prototype and systemised the production process, while financially benefitting from the process through upgrade of infrastructure without public investment. Today, however, the so-called 'gating machine' in the Korean housing market reached a critical juncture where public and private interests collide. Residents of gated communities want to strengthen physical exclusiveness to escape from the perceived nuisances for themselves but the state strives for a walkable and more equitable city without gates for the many. Bold restructuring of the current housing system with more focus on equality and inclusion on the part of the state will be the first step to cure the urban and social fragmentation caused by walls and gates.

Keywords: formation of gated communities, perception of gated communities, typology of gated communities, apartment complex, Seoul

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Chapter I. INTRODUCTION

Once gating is conceived of as a variable, it can become a more complex and contradictory process, one that requires research, interpretation and debate.

Saskia Sassen (2015)

1. Objective

South Korean cities saw a rapid expansion of apartment complexes during the last decades thanks to their mass-producibility, comfort of modern living they offer and their profitability as an investment (Gelézeau, 2003). According to the population and housing census of KOSIS (Korean Statistical Information Service), the share of apartments among the total housing stock rapidly increased from 7% in 1980 to 59% in 2010. The growth of apartment complexes in Korean cities is not limited to quantity. Apartment complexes were relatively modest in architecture and their amenities were simple, composed of playgrounds and some trees. In contrast, today's apartment buildings are designed by renowned architects and colour experts. Their amenities include wholly pedestrianised green space with themed gardens, swimming pools and guesthouses, which upgrade new apartment complexes to luxury condominiums.

Korean apartment complexes are typical gated communities which limit access of non-residents to privately controlled common spaces by making boundaries. Behind the spectacular growth in quantity and quality, apartment complexes are increasingly fortified. Entrances of apartment complexes used to be only an intersection of access roads and walls surrounding apartment complexes without installations. As time went on, guard posts, rising arm barriers and imposing arches have been added at entrances. As the last step, electric gates with keycard system are being installed at

the entrances of apartment complexes to completely control the access of non-residents.

Making barriers along the borders of housing estates against outsiders is termed ‘gating’ and is not limited to Korean cities. It is an urban phenomenon reported from all corners of the world with varying contexts such as neoliberal America, post-communist states in Eastern Europe and post-apartheid South Africa (Grant and Mittelsteadt, 2004; Low, 2003:16; Townshend, 2006). Gating occurs because it is perceived to be beneficial for those who live inside gates for various reasons such as better security, pursuit of particular lifestyles, manifestation of social status or escape from unknown others (Blakely and Snyder, 1997; Low, 2001).

Gating may benefit those who living inside the walls but their proliferation in urban space is reported to be largely negative at the levels of neighbourhoods and the society according to the existing literature (Blakely and Snyder, 1997; Lemanski, 2006; Roitman, 2010). At the opposite of walkable city, disruption of movements caused by gating makes children climbing over walls to go to school. Urban fragmentation results to social fragmentation between ‘the gated-in’ and ‘the gated-out’. Glittering gates in front of neighbours’ eyes are a visible symbol of social segregation and is a potential point of contention between groups (Atkinson and Flint, 2004; Blakely and Snyder, 1997:121; Blandy and Lister, 2005).

What distinguishes Korea from other countries in terms of gating is the extensiveness of gated life style. Unlike other countries where non-gated communities outweigh those gated significantly, life in gated communities is a *fait accompli* in Korea. As a result of the state policy having encouraged the construction of communities with private infrastructures, they exist in every corner of cities. Due to the overwhelming presence of gated communities, many people do not even recognise their life style behind walls is something special. Thus, the focus of gating phenomenon in Korea should be why existing gated communities are becoming more exclusive rather than why they spread.

Worries over deepening gating of apartment complexes are gaining recognition from the Korean society, as can be seen in media reports over gates (Jang, 2014;

Jeon, 2013; Kang, 2015; Seong, 2010) and anti-gating measures devised by the municipalities. Although a systematic analysis on the working of gating is essential to tackle its problems just like any other attempt to deliver a remedy for malady, there have not been proof-based efforts to answer where the Korean apartment complexes are situated in terms of *gatedness* and what process cities have been going through in terms of gating. Major tasks in order to achieve this analysis are threefold. The current level of gating in urban space should be analysed first. Then, the evolutionary process to reach the current status should be revealed. Finally, socioeconomic factors that have propelled the evolutionary process should be identified. These three tasks are translated to the research questions below.

- How does gating phenomenon manifest in urban space?
- What evolutionary process has resulted to the current manifestation of gating phenomenon?
- What are the socioeconomic factors that have propelled the evolutionary process?

Identification of manifestation and evolution of gating phenomenon is achieved through typology of gated communities in Seoul. The foremost South Korean metropolis lived by ten million inhabitants, is a site adapted to construct a typology of gated communities due to the abundant quantity of apartment complexes and the better traceability of their evolution, resulting from the higher availability of data than other cities. The level of visible exclusionary devices at the edges is traceable through the audit of apartment complexes built in different eras with the help of geotagged digital image archives. The audit results to a typology based on individual cases with time and spatial information. Unlike the existing ideal typologies, the typology with attributes enables patterns and relationships between types to be analysed both spatially and chronologically. The result of analysis provides a concrete description of the current status and evolution of gated communities in urban space.

The narrative behind the phenomenon is constructed from the analysis of socioeconomic forces that have produced apartment complexes in Korea. Developers, housing consumers and the state are the three actors of housing market and each has sought its own benefits under the capitalistic system. They found their common interests in producing apartment complexes and their actions have naturally influenced gating in the process.

Increasing physical exclusiveness of the existing gated communities have been initiated by housing consumers' retrofitting rather than suppliers' innovation. Residents had retrofitted existing apartment complexes for new needs and developers later applied retrofits devised by consumers to new apartment complex designs. As the main driver of residential fortification today, housing consumers need to be investigated in-depth through survey and interview.

The three approaches of typology, actor analysis and perceptual analysis will be able to systematically reveal the working of gated communities in Korea and its structural problems.

2. Methodology

Mixed methodology combining quantitative and qualitative approaches is used in the study. The main methodology consists of three methods: audit by street view and survey and interviews for exclusive apartment complex residents. The former is used to establish a typology and the latter two are used to find the meaning of the typology. The 'boundary permeability' (Townshend, 2006) of a large number of apartment complexes can be effectively measured by using street view services on the internet which shows walls and gates along streets in a consistent manner. The result provides a diagnosis on gating phenomenon in Seoul and a typology of gating. Residents of selected apartment complexes from the audits are surveyed by mail to find out the perceived reasons and approval of gating. Respondents of the survey who volunteer are interviewed to identify their perception on gating in more detail and depth.

Table I-1 Methodological process of the study

Method	Steps to take
1. Audit	1) Fix a list of apartment complexes to be audited 2) Establish criteria of the audit through a pilot audit by street view 3) Conduct the principal audit by street view 4) Analyse characteristics of each type and relationship between types
2. Survey	1) Fix a list of apartment complexes to be surveyed based on the outcome of the audit 2) Conduct pilot interviews 3) Prepare questions based on literature review, the outcome of the audit and the pilot interviews 4) Conduct a pilot survey to test the feasibility of mail survey 5) Perform the main survey by mail 6) Analyse the survey result
3. Interview	1) Prepare questions based on literature review, the outcome of the survey and the pilot interviews 2) Perform the main interview 3) Transcribe the interviews 4) Analyse the interviews and the comments from the survey together.

These interconnected methods are processed as in the Table I-1. Other complementary methods include field observation, formal or impromptu interviews with municipality officials, housing product developers and real estate agents and content analysis of various documents such as the academic literature, news articles, civil petitions and memoranda issued by residents' councils of apartment complexes. The three main methods are detailed in the beginnings of relevant chapters (Chapters IV and V).

3. Structure

The study is in the form of reverse pyramid. The study starts from macro level which deals with gated communities all over Seoul and every type found from them but ends up narrowed in micro level that focuses on a single type and several cases of gated communities found in it (See Figure I-1).

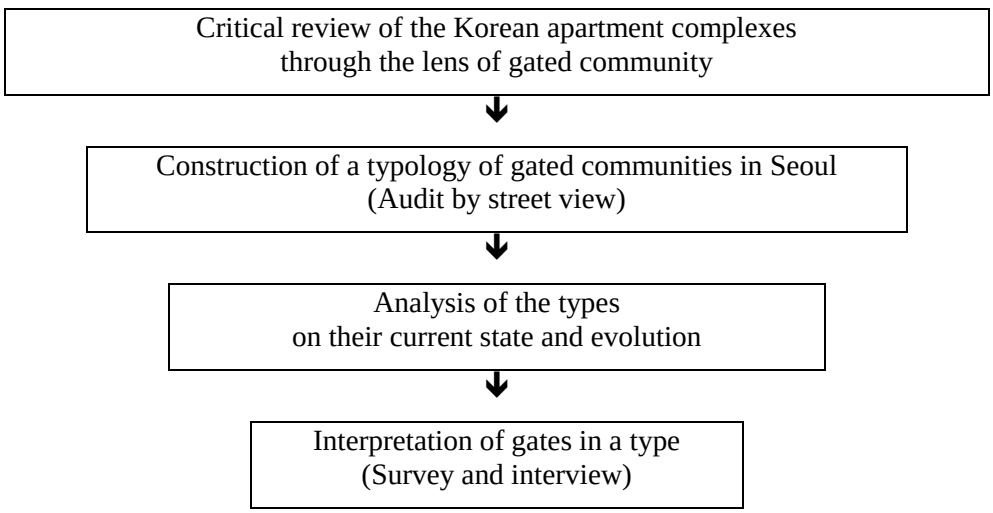


Figure I-1 Research flow

The dissertation consists of six chapters. This first chapter presents the contents and methodology of the dissertation and sets its orientation. Chapter II defines gated communities for the study and lays down the theoretical framework on which the dissertation develops through the analysis and critique of the literature on gated communities both from global and domestic contexts. Images are used to show the linkage between global and Korean contexts of gating phenomenon. Chapter III critically review the logic and development of Korean apartment complexes formed by gating machine of the state, developers and housing consumers. The chapter discusses self-sufficiency of apartment complexes which have been supported by the Korean state through privately funded residential developments and self-sufficient

setup of the internal structure of apartment complexes. It also examines the spatial impact of gated communities and the anti-gating measures introduced by the Korean state. Chapter IV establishes a typology of apartment complexes in Seoul classified by their border permeability through audit by street view services. It then analyses spatial manifestation and evolutional interconnectedness of types and discusses possible factors influencing exclusiveness of gated communities. Chapter V explores the meaning of gates perceived by residents living in exclusive communities through survey and interview. The chapter seeks the motivations of residents behind strengthening exclusiveness and also analyses which segments of population support gates. Chapter VI discusses and summarises major subjects of the dissertation to draw conclusions and implications.

Some parts of the study were published in Kim (2015) prior to the completion of this dissertation. Those parts were further developed in the dissertation. The parts concerned are Regulator perspective in Chapter II, Chapter III and Policy implication in Chapter VI.

Chapter II. GATED COMMUNITY DEBATES

1. Definition of terms

In the study, gated communities are defined as clearly bounded residential estates that limit the access of non-residents to privately controlled common spaces (Blakely and Snyder, 1997:2; Grant and Mittelsteadt, 2004; Raposo, 2006). A gated community requires substantial area accommodating both private and common space devoted for residences and amenities, though the exact area cannot be fixed. This means that a single high-rise residential building with full security is not a gated community, while it can have hundreds of households (Blakely and Snyder, 1997:2). The access to gated communities is either physically controlled by walls, gates, road configuration, natural barriers such as mountains and rivers or psychologically controlled by low fences, community name signs and warning signs (Grant and Mittelsteadt, 2004).

The two words constructing the term 'gated community' reflect its two major characteristics respectively. First, it is a spatial *community* whose members are bound by shared common spaces. While public space and services in non-gated neighbourhoods are publicly owned and managed, common spaces and services in gated communities are owned and managed by residents themselves and exclusive to them in varying degrees. Residents form an association to manage amenities and share the cost of maintenance. The association create rules governing the communal life within gated communities and exercise private planning power by transforming common areas for the needs of residents. This characteristic can be more accurately expressed as 'self-sufficiency' (Marcuse, 1997), an economic and political autonomy of micro space based on privatisation. As only certain categories of people can pay for common ground and services offered in gated communities, their members tend to be homogenous in terms of income and other socioeconomic characteristics (Low, 2003:71; Roitman, 2010). Geographical proximity and

homogeneity in membership are seemingly ideal nutrients for the growth of a true community where there exist 'sense of mutual responsibility, significant interaction, and cooperative spirit' (Blakely and Snyder, 1997:34). Nevertheless, there is no proof that gated communities incubate sense of community. Rather, gated communities are known to have zero or even negative influence on the sense of community (Wilson-Doenges, 2000; Lemanski, 2006).

Second, the word '*gated*' implies a clear border and exclusiveness. Unlike ordinary neighbourhoods whose extents are blurred and overlapped with others, gated communities have distinct borders marked by walls or natural barriers that clearly separate the inside and the outside. Permeability of the border is selectively applied to residents and non-residents in varying degrees depending on each individual gated community. Some borders are mere demarcations, thus hardly discriminating non-resident access, while others are heavily applied of security measures, thus actively excluding non-residents (Brabec and Machala, 2015; Grant and Mittelsteadt, 2004; Lemanski, 2006). This characteristic can be more accurately expressed as 'territoriality', a strategy of spatial separation and control (Sack, 1983) (See Figure II-1).

The shared attribute between the two characteristics of self-sufficiency and territoriality is the exclusiveness against non-residents which happens to be the most salient feature of gated communities. Exclusiveness is born from the fact that common spaces within gated communities are privately and collectively owned. Like

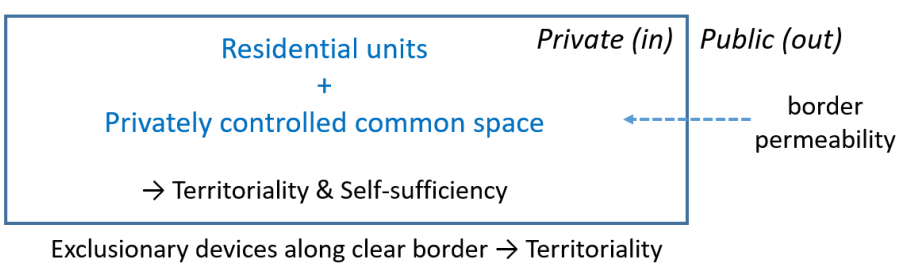


Figure II-1 Definition and characteristics of gated community

any owner of private commodities, gated community residents want to use them exclusively.

However, it should be noted that all communities considered as ‘gated’ do not satisfy all the two characteristics: self-sufficiency and territoriality. While master-planned gated communities embedded with planned amenities satisfy both characteristics, retrofitted gated communities or security zone communities, which were originally ordinary neighbourhoods but later modified to be gated by a collective action of residents, only satisfy territoriality as they include publicly managed roads and other spaces supported by the public in their territory (Blakely and Snyder, 1007:99; Kenna, Lineham, Brady and Hall, 2015; Landman, 2006; Milian Avila and Guenet, 2015:188). Exclusiveness here is mostly a defensive mechanism against external threats perceived to be brought in by non-residents such as crimes and other nuisances in reality or in the imagination of gated community residents. As these external threats are present in any urban space, the exclusiveness found in master-planned gated communities plays the role of defence against external threats as well as protection of the membership to amenities at the same time. In this study, gated communities indicate master planned communities.

2. Formation of gated communities

Logics behind the phenomenon of residential gating are multiple, formed by the interplay of socioeconomic, political and urban changes. Systematic understanding on the emergence of gated communities can be done either in terms of housing economics or social changes. In economic terms, gating is a product of interaction between supply (developers) and demand (house buyers) sides of housing market and their regulator (government) (Brabec and Machala, 2015).

House is a basic human right first of all (UN Habitat, 1996) but also a commodity under capitalist system where houses are exchanged through monetary transactions in the housing market. Master-planned gated communities are a sophisticated

housing commodity or a real estate product more specifically (Raposo, 2006) combining houses and attached amenities as a package, planned and marketed for a certain category of people. Major actors of the housing market – supplier, consumer and regulator – have different roles in the production and consumption of gated communities in our cities. Therefore, causes of residential gating can be analysed from the perspective of each actor and the respective behaviour in the housing market (Cséfalvay and Webster, 2012; Le Goix, 2005; McKenzie, 2003). When the three actors find the common benefits from building gated communities, their socioeconomic alliance forms 'gating machine' and accelerates gating in the process of profit taking (Kenna and Dunn, 2009; La Grange, 2014; Vesselinov, Cazessus and Falk, 2007). South Korea has seen prospering gating machine after the introduction of liberal housing policy by the developmental state striving for state-led economic development.

1) Supplier perspective

Housing suppliers strive to raise their profits by maximising house price from a given land. According to hedonic pricing model (Rosen, 1974), house price can be broken down into endogenous factors inherent to houses including size, age and architectural quality and exogenous factors inherent to neighbourhoods including location and local amenities. When the endogenous factors such as gross floor area, bound by limited available land and planning regulations, cannot be easily modified, the improvement of exogenous factors through the addition of amenities and creation of desirable image are one of the solutions to significantly raise house price. Housing suppliers create artificial neighbourhoods with exclusive amenities in order to raise profits from selling houses within and these neighbourhoods are none other than gated communities. Amenities provided for gated communities range from basic infrastructures such as roads, gardens and playgrounds to luxury amenities mostly destined for leisure activities such as club house, gym, swimming pool and golf course. These amenities are provided either by the public or the private sector in non-

gated residential areas. However, their availability is not always guaranteed in optimal level especially for consumers with higher needs due to the lack of land or funding by the public or insufficient needs for the private sector to be profitable. Inclusion of the amenities in gated communities is a way to overcome the market failure (Cowen, 1988 as cited in Cséfalvay, 2011) by making convenient services instantly available and continuously provided with a reduced cost thanks to 'club economy' in which the production costs of services are shared by members who own and consume the services at the same time (Buchanan, 1965; Glasze, 2005). Even though all amenities in gated community are not actively used, their availability itself is an advantage over non-gated residences, thus works as a hedge against the devaluation of properties (Brabec and Machala, 2015).

Image is another marketing tool for gated communities. The image of a planned gated community derives from multiple elements including the surroundings, amenities, architecture and landscape architecture, securitisation and branding by developers. Developers promote the images highlighting its commodifiable aspects in the process of 'aestheticisation of commodities' to make the product more attractive and to stimulate new needs (Raposo, 2006; Wu, 2010). These needs are not basic housing needs but sophisticated wishes and expectation of individual clients that can be expanded and influenced by marketing (Brabec and Machala, 2015). Some of the most frequent images for aetheticisation include verdure, ecology, liveability, luxury and exoticism (Wu, 2010). For larger developers, the image transcends a single instance of development to be perpetuated through the creation of unique brands that guarantees the same level of satisfaction and reputation with their existing realisations for new gated communities (See Figure II-2).

Developers of gated communities promise to offer comfort through private amenities, safety by walls and gates and satisfaction of living in an attractive place to potential buyers in a higher price. The high price, in turn, functions as an access barrier for the have-nots preventing for residents to live next to poorer neighbours, thus raising the attractiveness of the gated community even further for those who want to live in 'golden ghettos' (Grant and Mittelsteadt, 2004; Raposo, 2006;

The main brand: ‘Prugio’ for private apartment complexes developed by Daewoo

The sub-brand: ‘Uz center’ for Prugio’s amenities

Source: Daewoo E&C

Figure II-2 An example of the branding of gated communities

Townshend, 2002, Üstüner and Holt, 2010). The superior quality of physical environment and the removal of ‘the undesirables’ make gated communities effectively a physically and socially sanitised place of living where artificial niceness and homogeneity bury the inevitable roughness and diversity of urban life (Kenna et

al, 2015: 117; Walks, 2006). Thus, a gated community is a physical and social environment maintained by exclusiveness.

This sanitised living space does not need to be situated in already a 'clean' area. Another advantage of gated communities lies in the relative freedom of location selection for development. As gated communities self-sustain residential infrastructures, they can attract middle class buyers to *nowheres* with scarce infrastructures such as green fields and impoverished brown fields (See Figure II-3). Building gated communities in the periphery reduces the land acquisition cost which constitutes one of the largest expenses in any development. Stark contrasts between gated communities and nearby non-gated neighbourhoods reported from all over the world (Caldeira, 2000; Lemanski, 2006; Salcedo and Torres, 2004) result from the availability of cheap land in the periphery and their transformation into middle class residential areas by developers of gated communities. Their 'colonisation' of the

Source: Daelim

Note: The apartment complex in Yongin, Gyoenggi is planned for 6,725 households

Figure II-3 Example of an out of nowhere gated community

periphery results to a ‘citadel gentrification’ (Atkinson and Flint, 2004) in which a gentrifying unit constitutes an entire estate in contrast to typical incremental gentrification occurring plot by plot.

The gated community as a development model is diffused nationally and internationally, usually from the core (metropolises / the West, especially USA) to the periphery (regional cities / developing countries), by housing suppliers who learn or copy the model from other developers and apply it in their developments with adoptive measures that fit the context to maximise profit and win over competition (Atkinson and Flint, 2004; Coy, 2006; Leisch, 2002; Webster, Glasze and Frantz, 2002). The process of copying and innovation by developers is led to multiplication and sophistication of gated communities both at national and international levels.

2) Regulator perspective

The supplier perspective is the first step to understand gating in capitalist housing system but cannot explain the different levels of their prevalence among countries (Cséfalvay and Webster, 2012) because all developers pursuit the maximum profit regardless of the country where they are situated. The difference largely comes from the different stances of the housing market regulator toward gating who may encourage or discourage it purposefully or unwittingly. Regulator creates and manages institutional settings of the housing market. As the housing market regulator is central and municipal governments, it also plays an essential role of sculpting the socioeconomic context in which the housing market is situated. In this regard, the role of the regulator in gating is twofold: an indirect role in guiding the socioeconomic development of the country, thus creating the conditions positive or negative for gating; and the direct role of establishing housing policy and using planning measures to influence gating (Grant, 2005).

The regulator in weak states tend to promote urban gating due to their incapacity to support the optimum functioning of cities (Cséfalvay, 2011). A city is mainly composed of private actors – households and businesses – but it needs public services

for its private actors to function. Public services are provided by government, and these include policing, public transport, waste removal, parks, education and cultural facilities. These services are unevenly distributed in the urban space because each neighbourhood has different levels of access to public goods (Webster, 2003). These goods, whose qualities depend on location, are called 'local public goods' (Tiebout, 1956).

In weak states that do not provide sufficient local public goods, the well-to-do class (primarily, though not exclusively) will try to buy them from the market (Glasze, 2005) by joining a club economy that shares public services only among paying members (Buchanan, 1965; Manzi and Smith-Bowers, 2005). The weakness of the state in providing public services is either forced by under-development or deliberate due to neo-liberal privatisation policies (Kenna and Dunn, 2009). The physical manifestation of the club economy is the gated community, whose exclusionary mechanisms prevent outsiders from using privately provided public services. Gating that results from fear of crime is, in fact, a private production of a particular local public good (security) and is caused by residents' distrust of the police service provided by government (Costa Vargas, 2006). Private production of security is a global phenomenon amid fragmentation and delegation of policing function to various 'mass private properties' including shopping malls, business improvement districts (BID) and university campuses as well as gated communities (Schuilenburg, 2015:30-31).

Some laisser-faire governments even go further by actively encouraging gating in order to enjoy the financial benefits that are generated by gated communities which pay taxes, but which are self-sufficient in the provision of public services and therefore do not burden the public finance (Grant and Mittelsteadt, 2004; Le Goix, 2005; Libertun de Duren, 2006; Low, 2006:59). These governments essentially see citizens living in gated communities as consumers from whom a lucrative trade is made (Wu, 2005). Las Vegas is an extreme case of institutional gating, and one that has occurred against the will of its residents in the form of the installation of walls around traditional neighbourhoods; as well as encouraging gated developments in an

effort to widen the tax base while simultaneously reducing expenditure (McKenzie, 2005).

The motivations of pro-gating states are also political, using gated communities as a space of control. The Chinese government uses privatised security within well-defined walls as an effective tool for maintaining social order over a heterogeneous population (Huang, 2006; Tomba, 2010:31). Although the Singaporean state has provided decent public housing for the majority of its people, middle class Singaporeans started to seek better residential amenities. In response to this demand, the state made gated condominiums an integral part of its housing policy to satisfy 'the rising aspirations of middle class home buyers' and to maintain the government's control of these aspirations (Pow, 2009).

3) Consumer perspective

Consumer perspective sees gating as the result of conscious choice of house buyers and renters, based on their individual motives (Kenna and Dunn, 2009). The motives of gating in consumer perspective are mostly social. Housing consumers' social motives behind seeking gated communities are converted to economic and political motives by suppliers and the regulator as they seek their own benefits by catering to the needs of consumers. The discourses on the detrimental social impact of gated communities are concentrated on the consumers who exploit walls as the protector of their personal interests but disregard the wider community beyond walls. In Marxist and postmodernist thoughts on urban space, walls of gated communities are 'social boundaries' (Davis, 1990:223) that give the dwellers inside the power to reorganise the space by differentiating and controlling people living in proximity. In other words, walls help to exclude the undesirable others and choose those whom to live together with (Lynch, 2001). Housing costs and implicit or explicit discrimination have served the similar function throughout the history. Today walls and gates are more effective social filters that can eliminate both the poor neighbours and the occasional others such as passers-by, unruly youths and solicitors (Blakely

and Snyder, 1997:153). Distancing oneself from the undesirables is triggered when they are regarded as threat or nuisance (crime, anti-social behaviour, unwanted traffic…) or that they are just different and unfamiliar (race and income level).

Consumer factors influencing gating are many but fear of crime is by far the most recurring theme in the literature (Cséfalvay and Webster, 2012; Roitman, 2010). Fear of crime is defined as 'the wide range of emotional and practical responses to crime and disorder made by individuals and communities' (Pain, 2001) and seeking gated communities is one of the responses. The focus of gated communities in security is evident in their design principles: defensible space formed by cul-de-sac streets and CPTED (Crime Prevention Through Environmental Design) and militarisation of space with walls, gates and guard posts. People look for safety inside the walls of gated community because of the real threat of crime or over-sensitisation to crime due to incessant mediatisation of crime at national level regardless of actual low crime rate at local level (Blakely and Snyder, 1997:100; Low, 2003:130). Fear of crime explains why low and middle income gated communities exist, since people of all income levels are afraid of crime. However, effect of gates on fear of crime is inconclusive according to empirical researches on the topic. While fear of crime among gated community residents appeared similar to that of non-gated community residents in America (Sanchez, Lang and Dhavale, 2005), residents living in more heavily fortified communities in South Korea felt safer than their counterparts (Kim, 2011). In contrast, gated community residents felt less safe than non-gated community residents in Malaysia (Abdullah, Salleh and Sakip, 2011).

Urban nuisance is a lower level threat than crime with little bodily harm but is much more of an everyday affair. It is unpleasant but inevitable products of urban life including noise, vandalism, uncleanness, crowdedness and disruption, caused by anti-social behaviour, solicitation and traffic. As in the crime prevention function of gated communities, cul-de-sacs and gates are used to channel traffic and problem makers to somewhere else. (See Figure 8) Walls and gates are more effective for this goal than prevention of crime because makers of nuisance are a lot less purposeful in their action than criminals who may actively find cracks in defence and achieve

their purpose (Blakely and Snyder, 1997:87). As prevention of urban nuisance is an easier justification than other ideologically loaded justifications for gating, it is also employed as a diversion tactic to hide the real intention of gating such as segregation or social control (Kenna et al, 2015). Ultimately, gating as a response to social problems is a proactive measure that does not resolve the problems (Beckett and Herbert, 2008) but export them outside. Since gating benefits members by externalising threats, it cannot avoid creating externalities for others by concentrating problems outside the walls. In this regard, residential gating is a form of civic disengagement and NIMBYism (Lemanski, 2006).

'The others' may cause disruption and be untrusted but they are not completely dispensable in gating. There should exist the others as someone to covet the life in gated communities and recognise its value and prestige. High-income gated communities are prestigious addresses that serve as a social marker and a guarantee for house price. Walls and gates in this type of the community have the double function of defence against external threats and being a status symbol, thus they tend to be more ornamental and luxurious in appearance (Blakely and Snyder, 1997:75).

'Us' inside walls in the opposite of 'the others' is like-minded people who share similar social status and interests. Globalisation has increased social heterogeneity in urban space by creating polarised and multicultural societies resulting from heightened competition at international level and transnational movement of people. Fear of different others and longing for stability make gated communities veritable sanctuaries from increasing social heterogeneity. Life in gated community is reassuring for them because it recreates a safe environment where only familiar faces with similar social status inhabit (Low, 2001). The guarantee of social homogeneity inside gated communities mostly comes from the cost barrier to live there (Kenna and Dunn, 2009), though some of them, especially age-restricted communities, have extra eligibility conditions.

The ultimate reason for living in gated communities is the carefree life they offer (Chase, 2008). It is a total package including leisure, well-being, tranquillity and privacy (Kenna and Dunn, 2009), although the contents of the package vary

depending on the price. Various amenities and services in gated communities support this lifestyle and residents buy homes and the attached lifestyle at a reasonable price without hassles to organise them by themselves. There exist even customized gated communities that provide particular lifestyles for special needs such as golf club communities (Duca, 2015) and retirement communities. People learn the existence of such lifestyle from media, overseas travel and the global elites who already had the experience in other countries (Üstüner and Holt, 2010), let alone the marketing of gated community developers.

The rise of sophisticated gated communities for high income earners is essentially a product of globalisation. The post-fordist upper-middle class who seek gated communities was formed by the economic order of globalisation that requires highly skilled labour (Kenna and Dunn, 2009; Roitman, 2010). They are more wealthy and mobile than the conventional middle class under the fordist system who were more numerous but earned less. Gated communities fulfil their need for a vastly improved infrastructure (Roitman, 2010) and provide standardised and readymade services regardless of local contexts for the elites who constantly move within and between countries (Chang and Kim, 2016). Thus, gated communities are not only spaces of living but also 'spaces of consumption' (Wu, 2005).

The analysis of the literature shows that gated communities are advantageous for those who live inside and for those who build them but mostly dysfunctional for the society as a whole. Some advocate the positive function of gated communities making it possible for the have and the have-nots to coexist in proximity and achieve social mix through micro-segregation (Lemanski, 2006; Salcedo and Torres, 2004). However, it should be noted that the advantage is only a by-product of gating in the consumer perspective. Gated community dwellers do not necessarily intend to live in socially mixed environment. Those gated communities with advantages such as proximity to job centre or cheaper house price just happen to be islands in the centre of poverty, usually in the context of gentrification.

Despite surprisingly many consensus and commonalities found in the studies conducted in different parts of the world, a significant portion of the claims introduced here are not empirically proved enough and the need for empirical examination of the claims has been raised (Kenna and Dunn, 2009). The present study tries to overcome the text based analysis of the gating phenomenon in consumer side by directly hearing the voice of gated community dwellers.

3. Typology of gated communities

Although the first modern gated communities appeared in America already in the late 1800s, they remained as a marginal form of housing limited to some elites for more than one and half centuries. Gated communities became prevalent only from the 1960s in America (Blakely and Snyder, 1997:4) and the rest of the world began to be subject to gating later in the last few decades (Cséfalvay and Webster, 2012). In the 1990s in America, gated communities entrenched enough in cities to be studied (Le Goix and Webster, 2008; Roitman, 2010). One of the first attempts to analyse gated communities was achieved by creating a typology.

Blakely and Snyder (1997) proposed three ideal types of gated communities according to the major goal of gating: lifestyle, prestige and security zone communities. Lifestyle communities are developed for the residents to fully enjoy particular lifestyles such as leisure oriented life, retirement or suburban life. These developments are equipped with amenities to support particular lifestyles. Lifestyle communities are the most merchandised housing type among the three due to the differentiated consumer base and the presence of specialised amenities. While the wall of lifestyle communities is the boundary marker of their own world, that of prestige communities is the symbol of status. The wall of prestige communities implies the people and their houses inside are the privileged few. The residents may be really the selected few in the society or those who want to be projected as such by living inside walls. The image projected from walls is further enhanced by

imposing architecture and well-manicured gardens. The image also protects property value by tagging the kind of people who can afford the address. In security zone communities, walls have the most practical role of defending residents from unwanted traffic and potential criminals. Walls are retrofitted when residents feel threatened by outside regardless of the real existence of threats. Unlike lifestyle and prestige communities, security zone communities are also produced in poor neighbourhoods located in crime rampant areas. Walls and gates are present in all the three types of communities but their meanings differ according to the intended goal of communities.

As the three types are not mutually exclusive, most gated communities have characteristics belonging to multiple types (Hook and Vrdoljak, 2002; Leisch, 2002; Pow, 2009). In effect, the typology portrays inherent characteristics of gated communities found anywhere in the world and explains their formation process in the consumer perspective. Thus, this typology, despite its origin from a particular country, has been continuously reproduced in the narrative of gating phenomenon not only from America but also from all corners of the globe, situated in different contexts (Le Goix, 2005; McGuirk and Dowling, 2007; Townshend, 2006; Wu, 2005). As evidenced in the apparent universality of the typology, it is not a working typology that can categorise a particular stock of gated communities except for some regions in America (Richter and Goetz, 2007). It is an ideal typology to reveal the recurring characteristics found in gated communities as a mode of development. As it is impossible to create a single working typology to fit for various places in the world having different urban and socioeconomic conditions (Townshend, 2006), it is the role of local researchers to develop working typologies adapted to localities. Hence, working typologies of gated communities in a country or a city have been proposed using various criteria such as type of housing estate (Breitung, 2012; Glasze and Alkhayyal, 2002; Thuillier, 2005), affordability (Almatarneh, 2013), application of master plans (Landman, 2003) and the degree of physical exclusiveness (Grant and Mittelsteadt, 2004; Loudier-Malgouyres et al, 2010; Townshend, 2006). Grant and Mittelsteadt (2004) made a synthesis of typologies

with differing criteria, a model of working typologies that functions as a framework to produce local working typologies. They systematically analysed the ideal typology of Blakely and Snyder (1997) and developed a more thorough typology with broader criteria through the observation of enclaves in Canada. These eight criteria include tenure, location, size, policy context and type of residents on top of the criteria developed by Blakely and Snyder (1997): functions of enclosure, security features and barriers and in-community amenities and facilities. Although all the criteria were explored in detail, only one criterion – security features and barriers ended up as a typology with precise definitions of each type.

1) Physical exclusiveness

Researchers most often use the degree of exclusiveness as the criteria of classification of gated communities because it is the clearest measure to classify and the most distinguished features of gated communities. In the most basic level, they are classified into implicitly and explicitly gated communities. Implicitly gated communities are lightly equipped with partial walls and symbolic gates and allow uncontrolled access. In contrast, explicitly gated communities are heavily equipped with secure gates, guards, high walls and access to compound is strictly controlled (Townshend, 2006). In Ile-de-France, more differentiated typology was developed based on the analysis of wordings appeared in gated community housing advertisements. The four types are 'private', 'enclosed', 'enclosed+secured' and 'closed+controlled access' in the ascending order of exclusiveness (Loudier-Malgouyres et al., 2010:39).

Grant and Mittelsteadt (2004) created by far the most differentiated typology of exclusiveness for Canadian gated communities. Eight types were established according to the defensiveness of the boundary and the entrances of gated communities. In this typology, a gated community ranges from much open types having only ornamental gates without marked boundary to strictly closed developments with walls, closed gates and guards. Table II-1 compares different

Table II-1 Relative positioning of working typologies based on the physical exclusiveness of gated communities

Canada Townshend (2006)	France L.-M. et al (2010)	Canada Grant and Mittelsteadt (2004)
• Implicit	• Private	• Ornamental gating
	• Enclosed	• Walled subdivisions
		• Faux-gated entries
	• Enclosed + secured	• Barricaded streets
		• Partially gated roads
• Explicit	• Closed + controlled access	• Fully gated roads
		• Restricted entry, bounded areas
		• Restricted entry, guarded areas

categorisations performed, based on the physical exclusiveness. It shows that implicit gated communities are more numerous in terms of categorisation, opposed to the dominant image of full security communities among the public.

2) Typology of gated communities for Korea

The typology of the present study is a working typology of gated apartment complexes in Seoul whose criterion for classification is the degree of physical exclusiveness in line with the above mentioned typologies. At the same time, it tries to fill gaps found in existing typologies. As Loudier-Malgouyres' (2010) typology depends only on the words of designers, it overlooks retrofitting that may have happened by residents after the completion of projects. Grant and Mittelsteadt's (2004) typology is clear and meticulous but remains as an ideal type. Their typology does not have information to understand them better such as their order of appearance, ratio of each type relative to the total stock and interaction between types in a context. As the typologies in the literature have come out from non-systematic observation or secondary sources, they have the risk of being non-exhaustive, creating discrepancies with the reality and not mutually exclusive. Moreover, there is no interpretation of types on how the types came into life and how they are perceived by residents.

The present study typifies apartment complexes in Seoul into Demarcated, Enclosed, Car-restricted and All-restricted apartment complexes according to the intended targets of exclusion and type of exclusionary devices. The typology presented in the current research, based on systematic observation through the audit of existing housing stock increases accuracy and exhaustiveness of types. Clear mutual exclusiveness between types and the knowledge of the attributes attached to types not only produce a typology but also make emerge the evolution and interaction between types. The construction of this typology is featured in Chapter IV and an in-depth interpretation of a type through survey and interviews is found in Chapter V.

4. Domestic debates

It was during the 2010s that incremental gating of apartment complexes acquired enough momentum to capture the attention of scholars who study Korean apartments. Before that time, exclusiveness of apartment complexes was not studied as the main subject but was occasionally mentioned in related works. It was understood by the 1990s that isolated apartment complexes from the environs have problems of separated road networks between apartment complexes and the surroundings and loss of the sense of belonging to the local community by apartment residents resulting from inward looking structure of their residences. Clearer physical exclusiveness of apartment complexes such as the existence of walls at the edges and blocking of the entrances were also considered problematic (Kim, Ahn, On and Lee, 1997: 29-35). It took eventually two decades for these distinct gating features to be discussed in the paradigm of gating. Gated communities were recognised as a foreign phenomenon that occurred outside of South Korea until the 2000s, and as such they were understood as a potential type of housing for the future (Choi, 2007) or as a limited occurrence that was at its inception (Nam, 2006).

Understanding of the *gatedness* of Korean apartment complexes reached a turning point in the 2010s with a series of studies that analysed the gated features of ordinary apartment complexes through anthropological (Jung, 2012), criminological (Kim, 2011) and planning (C. S. Park, 2013; I. S. Park, 2013; Kim, 2015; Kim and Choi, 2012) approaches. A consensus of viewing Korean apartment complexes as a fortified residence was reached among various authors from different disciplines. The sudden increase of the literature on the subject suggests that the impact of the gating of apartment complexes over the society and cities reached a tipping point during this period as it had happened in the late nineties of America with the publication of important works of gated communities (Blakely and Snyder, 1997; Low, 2003).

The debate starts from how different types of collective housing in Korea fit into the framework of gated community that have been developed in international debates of gating (Jung, 2012). In the next step, exclusiveness of apartment complexes is quantified to explore its relation with other meaningful variables. The exclusiveness is measured by a point system checking the availability of exclusionary device components such as security cameras, keycard system, rising arm barriers, guard posts and guards in apartment complexes. According to the study results, the degree of exclusiveness is correlated to housing type, apartment unit size (Kim, 2011), age of apartment complex and housing prices (Kim and Choi, 2012). The physical exclusiveness is positively correlated with apartment unit size and housing price but negatively correlated with the age of apartment complex, which effectively means the haves prefer to live behind gates and newer apartment complexes are more heavily equipped with exclusionary devices. Measurement of the impact of exclusiveness on neighbourliness within apartment complexes shows mixed results. While exclusiveness promotes neighbourliness in a survey for wealthy apartment complex residents (Kim and Choi, 2012), it is the opposite in a countrywide survey (Kim, 2011).

Structural and morphological approaches from the planning literature seek the structural cause of the gatedness of contemporary apartment complexes in the nation

and blame the privatised development under neoliberal housing supply system for mass production, embraced by the state. This type of housing regime is beneficial for the state finance but distorts the urban structure with closed residential islands where public space is not shared but privatised (Kim, 2015; C. S. Park 2013; I. S. Park 2013). A well-publicised case of gating in a satellite city of Seoul in 2012 illustrates the problem more clearly because gates were systematically installed in an unprecedented scale to prevent foot traffic belonging to non-residents (Kim, 2015). The next chapter is developed from this previous study of the author (Kim, 2015). By expanding the number of cases citywide and typifying them both in space and time scale, the present study tries to overcome the limit of the previous study as a single case analysis, whose efforts are only concentrated on the role of state in gating and club economy of apartment complexes.

Chapter III. FORMATION OF THE GATED COMMUNITIES IN KOREA

Self-sufficiency and security are bound to create exclusiveness. As residents can live comfortably without venturing out to the external world, self-sufficient arcology is structurally exclusive. It is also functionally exclusive because outsider access should be controlled to maintain security.

Bok, Geo-Il (2002)

1. Definition of gated communities in Korea

Korean gated communities featured in the study are an amalgam of master planning and retrofitting. As the closure of public roads for private appropriation is forbidden in the country unlike others such as Ireland, South Africa and USA, all Korean gated communities are master planned communities having private amenities and clear borders. At the same time, many of them are retrofitted to strengthen physical exclusivity than the original design through the addition of exclusionary devices by residents such as guard posts, rising arm barriers and electric gates.

In terms of morphology, a large majority of them happen to be high-rises. While residential tower blocks are the symbol of poverty in the West, especially in Western Europe, high-rises in Korea are mostly privately owned and built for the middle and upper classes. There exist enclaves of low-rise town houses in Seoul (Jung, 2012) but their occurrence is insignificant relative to high-rise enclaves and most of them are too small in land area to have private amenities and impact on neighbourhoods. High-rise housing estates are called a-pa-t danji (apartment complex) in Korea regardless of the type of tenure whether they are privately owned, public rental or mixed. Privately owned apartment complexes are in effect condominiums which is a type of collective housing whose land and housing units are separately owned and

<table>
<tr><td colspan="4">Gated community (master-planned)</td></tr>
<tr><td>Luxury townhouse</td><td colspan="3">Apartment complex</td></tr>
<tr><td>Privately owned</td><td>Privately owned</td><td>Mixed tenure</td><td>Public rental</td></tr>
<tr><td></td><td colspan="3">Objects of the study</td></tr>
</table>

Figure III-1 Clarification of gated community and apartment complex in the Korean context of the study

common space and amenities are jointly owned. The term 'apartment complex' is used here instead of condominium to reflect the local custom as in another study of gated communities of Seoul written in English (Woo and Webster, 2013). Unless specified otherwise, apartment complexes mean privately-owned and mixed tenure complexes in the study. Since rental units are usually a minority in mixed tenure apartment complexes, they were grouped with privately owned ones rather than public rental ones (See Figure III-1). As all such apartment complexes in Korea have the characteristics of gated communities, the terms, apartment complex and gated community, are used interchangeably in the Korean context.

2. Working of gated communities

1) Development system

South Korea suffered a severe housing shortage from the mid-1960s until the early 1990s when the government's Two Million Home Construction Drive created a housing glut. The main culprit of the housing shortage was rural migration to the cities as well as the rapid industrialisation of the country under a developmental Korean state that pursued state-led industrialisation in alliance with *chaebols* (conglomerates) (Lee and Han, 2006). When a large number of homes had to be supplied quickly to meet burgeoning housing demand in the cities, apartments were chosen by the state as the main form of housing on account of the ease with which

they could be mass produced to modern housing standards. Unlike contemporary Western governments, which provided public rental apartments, the much poorer Korean government stopped providing these (Gelézeau, 2008; Jun, 2009:38) and instead chose to allow private developers and public developers such as Korea National Housing Corporation to construct privately owned apartments. The existing literature blames the low funding priority given by the state to housing development on the characteristics of a Korean state that concentrated its resources in pursuit of a growth policy centred on industrial development rather than following a distributive policy based on housing development (Park, 1998; Doling, 1999). Public money saved on housing was maximised by the state's requirement that apartment buyers pay for the construction and maintenance of their own residential infrastructure on top of paying for the construction of the apartment buildings.

The expansion of apartment stock came from either 'new town' greenfield development, or from brownfield redevelopment. The latter consists of the redevelopment of traditional neighbourhoods and old low-rise apartment complexes. The state minimised its financial engagement in both greenfield and brownfield developments, but the latter received even smaller amounts of assistance and contributions from the state. While new towns have been built as part of state initiatives, and while there have been city-wide masterplans that have been elaborated by the state, sporadic residential redevelopments have occurred as the result of private initiatives planned by private developers. Thus, the financial detachment of the state and *laisser-faire* home building schemes are more pronounced in the redevelopment process. The current redevelopment scheme came into being in 1983. Prior attempts at public redevelopment had failed due to the lukewarm attitude of the government towards making a financial commitment. But unlike these prior redevelopment schemes in which the public took the lead, the homeowners of the sites now to be redeveloped became autonomous project operators by forming Homeowners' Unions for Redevelopment under the provisions of the Joint Redevelopment Scheme of 1983. At this point, redevelopment had to proceed with the homeowners providing their own resources and assuming all the

construction risk; the government, meanwhile, only had an obligation to provide the necessary legal framework and approvals for the project. Private developers became intermediaries between homeowners and the government, coordinating the differing demands of the two while extracting their own profit from the project.

The scheme has been successful because all three actors – the homeowners, the government and the developers – greatly benefited from redevelopment whenever real estate boom comes up. Under the scheme, homeowners can obtain new and bigger homes with better infrastructure at below-market prices by selling additional homes constructed through vertical redevelopment to outside buyers. Their gain is not limited to obtaining new homes. The price of the new homes increases significantly soon after redevelopment due to improved living conditions and speculative forces. Developers also benefit from the scheme because residential redevelopment guarantees a risk free business in which their construction costs are always repaid by the sale of additional homes that are sold at high prices. The pre-sale system of apartment complexes before completion orchestrated by the state reduce the financial risk of developers by making home buyers fund the construction of their home throughout the duration of construction who pay the price of their homes in several instalments for two or three years.

The apartment complex system has played a vital role in the operation of this particular redevelopment scheme (Ha and Kim, 2003:56). The construction of high-rise apartment complexes has made it possible to build extra housing units to sell to external buyers, to provide open space, and all without the need to reduce the number of apartments available (I. S. Park, 2013:87). Since the infrastructure created – including electricity, water, parks and roads – was internalised within the apartment complexes and sold to homeowners as a package that included the apartment unit itself, the scheme could be totally self-sufficient without much recourse to public funding. The total self-sufficiency of the scheme enabled financial gains from the project to be allocated also to the government, since it was able to oversee a modernisation of the housing stock and its associated infrastructure with little investment from its own coffers (Ha and Kim, 2003: 55; C. S. Park, 2013:145). This

mode of residential development almost entirely based on private investment with minimised public input has become the economic and planning base of self-sufficiency found in Korean apartment complexes.

2) Design

The design principles of apartment complexes in Korea are based on Clarence Perry's neighbourhood unit to plan a self-sufficient residential neighbourhood where residents can live safe and feel a sense of belonging (Isaacs, 1948). The neighbourhood unit is not only a common planning practice but also an institutionalised requirement for creation of apartment complexes in the country. The municipal ordinance of Seoul on planning apartment complex districts (SMG, 2000) commands to create a neighbourhood unit of 400 meter radius where between 1,000 and 3,000 households live in apartment buildings of five floors or more. It should have an amenity centre in a location with good accessibility for the residents. Roads should have a hierarchy of artery roads, local roads, roads within neighbourhood units and pedestrian only paths. The artery roads cannot penetrate neighbourhood units. A neighbourhood unit should have at least one park whose area is 10,000m^2 in minimum or equivalent to 30 percent or more of the neighbourhood unit area. The neighbourhood unit was duly applied in clusters of apartment complexes along the large swathe of land reclaimed from the southern river bed of the Han and Mok-dong New Town in southwestern Seoul during the 1970-80s. It cannot be literally applied to smaller complexes due to the size limit but they are designed as miniaturised neighbourhood units having essential amenities such as green space, playgrounds, indoor amenities and private roads. Therefore, an apartment complex in Korea is usually a residential unit bordered by artery roads, composed of high-rise apartment buildings and amenity buildings. Open space between buildings are devoted to in-complex roads, parking space and parks where through-traffic from the outside is actively discouraged.

In the planning of apartment complexes, the Perrian and even Corbusian features in a stark contrast to the characteristics of traditional urban tissue have strengthened through time. Large apartment complexes built in the 1970s and 80s were built with more urban characters such as street walls formed by bar type apartment buildings, shopping centres in the middle of complex and limited use of pedestrian only paths. In newer apartment complexes, resident-only amenity centre (colloquially 'community centre') is located in the middle but shopping centres where external visitors can access are planned at the edge. With the introduction of the Corbusian principle of modern city, the whole complex is planned as 'towers in a park' where pedestrian only paths are crisscrossing a single large private park between towers, whereas cars go underground (See Figure III-2).

1. Community centre 2. Shopping centre 3. Entrance to underground parking

Source: Hyundai Development Company

Note: Apt. complex for 1,066 households, completed in 2015 in Goyang, Gyeonggi

Figure III-2 Example of a wholly pedestrianised apartment complex

The current manifestation of the neighbourhood unit in high rise apartment complexes in the twenty first century Korea cannot avoid concerns raised by Reginald Isaacs (1948) twenty years later the invention of the theory. He saw the neighbourhood unit as an attempt to revive rural villages in modern cities by means of planning. Ignoring radically different social structures between a rural village bound by territorial and blood ties and an urban neighbourhood characterised by the heterogeneity of members, the neighbourhood unit is likely to promote a pseudo community based on urban homogeneities such as income and race. The neighbourhood unit principle and the social segregation as the result are shared by suburbs and gated communities all over the world. However, Korean cities are particularly hard hit by their problems because Korean apartment complexes are omnipresent regardless of in inner city and suburbs. Perry presented the dual role of the neighbourhood unit in a city by saying that 'an urban neighbourhood should be regarded both as a unit of a larger whole and as a distinct entity itself' (Perry, 1929). However, the second role overwhelms the first one in most cases of apartment complexes in Korean cities, especially when they are not built as an organic part of global master plan but constructed with only a master plan at complex level disregarding the surrounding.

3) Service provision

Everything within an apartment complex parcel, including the apartment units, amenities, parking lots and streets, minus the in-complex shopping centre, are the collective private property of the apartment owners. The maintenance and management of these private properties is the responsibility of the apartment residents. Local public goods that are run at the expense of the apartment residents consist of parking, security, street maintenance – including lighting and cleaning – and maintenance of amenities such as parks, senior centres and playgrounds. Most of the services provided in apartment complexes except special amenities are also provided by the district offices and the national police using tax money for residents

who live in traditional neighbourhoods. Apartment complex dwellers are thus burdened with double payment for the provision of local public goods, since their tax burden is not reduced as a result of their privately providing certain local public goods (Lee, 2000). As the costs of service provision are divided among the households in proportion to the size of apartment units held, and since larger apartment complexes have more diverse local public goods, homeowners are driven to larger apartment complexes to obtain economies of scale (C. S. Park, 2013:138). Due to these advantages, apartment complexes comprising thousands of households are a familiar urban scene in South Korea[1].

Local public goods offered in apartment complexes saw diversification and upgrades since the late 1990s. This period was an important turning point in the design of the open spaces and amenities of apartment complexes, which had previously been considered unimportant relative to that of apartment units themselves. The large numbers of unsold apartments caused by the housing glut of the mid-1990s and the Asian financial crisis of 1997 propelled developers to differentiate their products from those of their rivals. Coincidentally, the institutional barriers that had previously hindered product differentiation also disappeared in the late 1990s with the abolition of price caps on new apartments in 1999. As a result, developers began to compete by enhancing not only their apartment units, but also the amenities and open spaces within the complexes (Choi, 2005). Green spaces were upgraded to parks; and in an effort to attract homebuyers, parking spaces and amenities that exceeded the legal requirements of the Housing Act were built.

Today local public goods offered within apartment complexes can be categorised into three groups according to their relationship with public and private sectors that provide services. Essential goods are the services for every citizen that must be provided by the public but enhanced within apartment complexes with better quality. For instance, CCTVs and security guards in apartment complexes locally improve

[1] A huge apartment complex with 9,510 households will be completed in the late 2018 in Seoul, which will be the largest complex ever in the city.

the security service provided by the national police. Substitute goods are the basic everyday services produced within apartment complexes that are provided by either the public or the private sector in traditional neighbourhoods. Services available in older apartment complexes largely substituted only the ones offered by the public but later apartment complexes incorporated more services that had been offered by neighbourhood businesses open to any paying customers such as gym, sauna and café.

Novelty goods such as guesthouse and water park are distinctive services that are usually provided by neither the public nor the neighbourhood businesses. They are mostly available in bigger complexes where economies of scale exists or in luxury complexes whose residents can pay for higher maintenance costs (See Table III-1). Both the substitute and novelty goods are the major marketing tool of developers to entice homebuyers. They also transformed developers from mere mass producers of housing to life style setter that create ever sophisticating needs for services and amenities.

Table III-1 Category of local public goods offered in apartment complexes

<table>
<tr><th>Category</th><th colspan="2">Example</th><th>Period</th></tr>
<tr><td>Essential LPG</td><td colspan="2">Security (better surveillance within apartment complexes), garbage collection (better hygiene within apartment complexes), street maintenance (enhanced walking safety and cleanliness within apartment complexes)…</td><td rowspan="2">1960s and onward</td></tr>
<tr><td rowspan="2">Substitute LPG</td><td>Substituting the public sector</td><td>Neighbourhood parks, playgrounds, outdoor sports grounds, senior centre, library…</td></tr>
<tr><td>Substituting the private sector</td><td>Indoor sports facilities, swimming pool, sauna, reading room, café, play room for kids, atelier…</td><td rowspan="2">Late 1990s and onward</td></tr>
<tr><td>Novelty LPG</td><td colspan="2">Garden with sophisticated landscape architecture, banquet hall, dining hall, guesthouse, observation deck, water park, spa, kayak pond…</td></tr>
</table>

Note: LPG = local public goods

The continued increase of amenities in quantity and quality in apartment complexes has strengthened self-sufficiency even more by reducing the dependence of residents on the outside for their daily needs (Grant and Mittelsteadt, 2004). The private funding of infrastructure upgrades by homebuyers solidified the position of apartment complexes as the residences of the middle classes. In contrast, the low-rise neighbourhoods where infrastructures are maintained by the state have seen a deterioration in their liveability and reputations as a result of increase in density without corresponding infrastructure upgrades (C. S. Park, 2013:119–23). The gap in environmental quality between gated and non-gated parts of the city creates social fragmentation on top of the physical fragmentation by walls and disjointed roads resulting from gated communities.

4) Governance

Amenities within apartment complexes are not only owned by residents but also governed by themselves. The Housing Act prescribes that a residents' council should be elected by the residents of any apartment complex having 300 households or more, so that the shared properties of the apartment complex and other affairs can be managed by the residents themselves. By the Collective Housing Management Act, the residents' council has competence in creation and modification of rules, fixing utilisation fees for amenities, employment of management staffs, repair of shared space, allowing or disallowing non-residents' using amenities and keeping order in the community life among others.

Election of the residents' council is the smallest scale of residency based voting in the country. However, club membership is strictly applied to the eligibility for residents' council unlike other types of elections. Participation in the residents' council requires not only residency but also ownership. Renters residing in public rental units in apartment complexes of mixed tenures have no right to vote or be elected for residents' council, while renters of private units can (See Figure III-3). Today affairs of apartment complexes are actively discussed on internet as well as

in residents' council sessions but the internet forums are also strictly residents only. Non-residents including the authority cannot read the contents of the forum, let alone writing, unless the residents allow them to do so. Strict restriction in the membership and secrecy mean that its decision processes are open to neither the general public nor the authority.

The opaqueness of the decision process of residents' council results to a private power to which checks and balances are not applied unlike public power whose operation should be transparent and their competences are held by different bodies. No checks and balances on the power of residents' councils is led to corruption scandals and conflicts but no fundamental changes to the current private governance structure was made yet (Choi, 2016). Matters having impact on the whole neighbourhood including installation of gates are solely decided by the residents of apartment complexes in the current private and exclusive governance structure without consultation with the authority and neighbours outside the complex.

Source: Naver Geori View (2014)

Note: The placard reads 'The rights of renters are annihilated by self-righteousness of the president of residents' council. Unite and get our stolen rights back! – Keeper of renters' rights'

Figure III-3 A placard of renters living in public rental units in a mixed tenure complex in Seoul criticising the residents' council

The authority intervenes when their decisions turn problematic but it can only 'recommend' modifying the decisions under the current legal setting that guarantees the autonomy of residents. The Ministry of Land, Infrastructure and Transport is running the Conciliation Committee for Conflicts in Collective Housing since 2016. It is the response of the government to various problems caused by the private governance of apartment complexes. It has no power to monitor the decision process, thus can only intervene after appearance of problems. Its decision is legally binding only when the both sides of contention agree to accept it.

3. Impact of gated communities

1) Fragmentation and two-tier spaces

Although there is no specific statistics on the subject, it is roughly estimated that more than half of households in Seoul live in gated communities, while the rest live in non-gated traditional neighbourhoods, based on housing type statistics (See Table III-2). One of the most serious consequences from the prevalence of private apartment complexes is the fragmentation of urban space where privatised residential islands mechanically exist without forming an organic connection with the existing urban tissue and functions (Wu, 2005). Since apartment complexes are designed according to the principles of a self-contained neighbourhood, their internal organisation promotes the autonomous functioning of the complex rather than harmonised cooperation within the wider neighbourhood (C. S. Park 2013: 141–5).

Table III-2 Housing stock in Seoul by types

Gating	Housing type	Stock	Percentage
Gated	Apartment	1,636,896	58.6%
Non-gated	Detached home	88,163	3.2%
	Multifamily home	871,988	31.2%
	Town house	117,235	4.2%
	Mixed use (RC*) building	49,260	1.8%
	Non-residential building	29,702	1.1%
	Sub-total	1,156,348	41.4%
Total		2,793,244	100.0%

* Residential and commercial

Source: Gating category added by the author on top of the data from Seoul Open Data Plaza (2017)

Note: A marginal number of apartments in the statistics are non-gated when they do not belong to a substantial size of estate. This reversely applies to town houses, too.

This rupture is the most evident in the uncoordinated road networks between apartment complexes and their environs. Most of the older low-rise neighbourhoods in Korean cities have grid pattern streets that were formed by land readjustment schemes between the 1930s and the early 1980s. The inward-oriented road networks of the apartment complexes (I. S. Park 2013: 103) only allow for a limited number of entrances. They ignore the easily navigable street patterns to be found in the surrounding areas, and effectively disrupt both vehicular and human movement in the wider neighbourhood (Figure III-4). Detour of cars drive potential through-traffic from apartment complexes to traditional neighbourhoods which suffer congestion and unsafe walking environment. The recent phenomenon of pedestrian control creates social conflicts between the controllers (gated apartment complex residents) and those who are robbed of shortcuts by the controllers. The issue of the right to walk through apartment complexes is frequently featured in Korean media (Jeon, 2013).

L: 1995 (before redevelopment) R: 2009 (after redevelopment)

Source: Park, Jeong, Park, Lee and Ki (2009)

Figure III-4 Continuance of cul-de-sacs in apartment complexes and grid pattern streets in traditional neighbourhoods in Jamsil, Seoul

Disconnection does not stop at the physical gap. The more serious problem stems from the life quality between the private oases and the public deserts. Parking, green space and security are the privately provided services in apartment complexes far superior to the ones provided in traditional neighbourhoods by the public. While strict regulation exists for developers to build enough parking lots for apartment complexes, the same rule has gone through repeated deregulations for multifamily homes[2] in traditional neighbourhoods, which results to difficulty of parking and danger of walking in narrow residential streets. Moreover, apartment complexes improve both the quantity and quality of parking by burying parking lots underground pedestrianizing a large part of in-complex open space and creating a safe environment for children. Green space creates another visible contrast between the two spaces. As traditional neighbourhoods are either naturally formed or planned minimising public investment, parks and open spaces are rare in many of them.

[2] Multifamily homes are residential buildings usually less than five floors for multiple households. Some of them form small complexes but the majority stands alone. They are colloquially called ‘villas’ in Korea. Although villas mean luxury homes in other countries, most of the villas in Korea are for low and middle income households.

Conversion of detached house to multifamily homes almost completely removed greenery there due to the disappearance of private gardens accompanied in the conversion process. However, apartment complexes are in the opposite direction as their open spaces widens thanks to the adoption of pedestrianisation and sophisticated landscaping as marketing strategies to sell (See Figure III-5). Crime is an invisible contrast between the two spaces. Thanks to private security, defensive road layout, application of CPTED and the composition of residents mainly from middle class background, apartment complexes are acknowledged as the most secure type of residence among the general public and the police according to a study on crime prevention (Lee, 2014: 101, 129). In the same study, multifamily homes in traditional neighbourhoods are indicated as the most vulnerable housing type both by the police and the public.

The gaps between the two types of residential areas create two tier spaces and the irregular mix of the two spaces is led to fragmentation of urban space. Gating of apartment complexes creates more imbalance by giving more power over space to apartment complex dwellers. Their spatial power is monetarily obtained from their

Source: Naver Map

Figure III-5 Spatial contrast between a superblock of apartment complex and a traditional neighbourhood in Seocho-gu, Seoul

investment in land and protected by the guarantee of private ownership under capitalist system. Conversely, those living in traditional neighbourhoods have less means for physical or political control on space. Unlike countries like Ireland, South Africa and USA, there is no procedure to close off public roads in residential areas in South Korea. In traditional neighbourhoods, as roads belong to the state, residents cannot do anything to through car traffic exploiting the grid type road network especially in rush hours. It is also more difficult for them to raise a unified voice for their interests when an official self-governance structure such as residents' councils do not exist in their neighbourhoods.

The loss of liveability in traditional neighbourhoods and the rise of privatised spaces of living are not confined to Korea. The rise of the private at the expense of declining public is becoming a new spatial order in countries with neo-liberal housing policy as the withdrawal of the state from service provision continues and the faith in public services erodes (Kenna and Dunn, 2009). In America, flourishing private streets, services and government drive traditional neighbourhoods with public services to 'forced obsolescence' (McKenzie, 2006:14-15), which creates a vicious cycle of the decline of trust in public services and more desire to resort to private services among housing consumers. The hierarchical shift of orders within residential spaces is finalised through the widespread acceptance of privatised public spaces by the upper class (Caldeira, 2000:259).

> *The transformation of fortified enclaves into prestigious spaces {"spaces of representation"} has demanded some important changes in the values of the upper classes. Firstly, collective residences got priority over individual ones… Secondly, distant, isolated, and non-urbanized areas were transformed into spaces which were more valuable than the traditional neighborhoods with good infra-structure.*

2) State control over gating

The continued operation of gating machine in Korea resulted to the well-established gated communities in large Korean cities including Seoul. The magnitude of gated communities makes the government realise the physical and social ruptures created by them as urgent problem to cope with. As a result, the state is emerging as the only actor of gating allies that wants to decelerate gating. Although it was central government that established the current apartment complex system, it has been primarily the municipal governments that have tried to mitigate the negative impacts of the system. The municipalities, as the authorities that approve and control apartment complexes, are increasingly seeking '*publicness*' in their design criteria; although reforming the fundamental root of the '*privateness*' of apartment complexes, which originates from the private ownership of public spaces, is beyond their capacity. Manoeuvring of municipal governments is limited when the central government maintains the privatised development and management system of apartment complexes. Its main intervention method depends on the good will of apartment residents, while avoiding any financial commitment.

The Movement for the Demolition of Walls, which aims to replace walls with green space in government complexes, schools, detached houses and apartment complexes, was started by Korea's fourth largest city, Daegu, in 1996, and soon spread to other cities. In 2012, the campaign was upgraded to the No Walls Movement, which intervenes in the design stage to create wall-less apartment complexes. The city council of Seongnam, a city of one million population in Seoul Capital Region, created an ordinance to stop subsidising maintenance of the apartment complexes which block non-residents' access by installing physical barriers (City Council of Seongnam, 2004). It is one of the maximum municipal measures against gating when the prohibition of gates is impossible within the current legal system. Similar measures were discussed more importantly seven years later in Gwangmyeong and Council members asked planning officials to consider

carefully pedestrian network when they approve of the design of apartment complexes (Gwangmyeong City Council, 2011).

The Seoul Metropolitan Government (hereafter SMG) established its own Guide for District Plan concerning apartment complex redevelopment in 2004. The Guide discourages developers from abolishing existing roads and merging lots to create apartment complexes that are too large (SMG, 2004), a common practice in the establishment of self-sufficient apartment complexes. The intervention of the SMG in the design of apartment complexes took a leap 2012 with the introduction of 'public architects'. The public architect system was created to enable the SMG to be involved at the architectural design stage of residential redevelopment projects. Public architects, as representatives of the public, influence apartment complex projects to reflect the interests of the whole city rather than merely to maximise the profits to be gained under the Joint Redevelopment Scheme (See Figure III-6). It is a trial scheme that is aimed at moving the planning of apartment complexes out of private and into public hands. The redevelopment plan of the Garak Siyeong

Source: Hyundai Development Company

Figure III-6 Park Band: a strip park open for outsiders as well as residents within the planned redevelopment of Garak Siyeong Apt. Complex in Seoul

Apartment Complex in Seoul is the first outcome of the seemingly incompatible combination of the public architect and the Joint Redevelopment Scheme (interview with the public architect in charge of Garak Siyeong in 2013). Announcing its redevelopment plan, the SMG also declared that it would henceforth prohibit the construction of walls in any apartment complex with more than 2,000 households.

Prevention of gating through planning was concretised by the central government and the Seoul Metropolitan Government. The central government introduced the Public Pedestrian Path in its Guide for District Plan in 2000. Designation of a Public Pedestrian Path by the planning authority makes pedestrian access to a newly developed lot whose size is considered to be excessively large, possible (Ministry of Land, Infrastructure and Transport, 2000). However, even the Public Pedestrian Path is not free from gating incidents because it is designated on private land within apartment complexes. Rather, it is often the source of conflict. While the residents

Source: Yonhap News, 2015

Note: The entrance of an apartment complex in Gwanggyeo New City is currently repaired and open after several months of purposeful abandon under the guise of repair as could be seen in the photo (Kang, 2015)

Figure III-7 A public pedestrian path sabotaged by the residents

unwillingly allowing public access do not want noise and traffic, the neighbouring locals need it as a shortcut for their daily life (Kang, 2015) (See Figure III-7).

Contradictory stances towards gating emerge in the attitudes of the state as a proponent and opponent of gating at the same time. This dualism stems from the fact that gated communities generate both gains and costs for the state. First, the state gains financial benefits from gated projects due to their autonomous provision of local public services without the need for public funding. However, gating is accompanied by hidden costs to society, such as the disruption of traffic flows and the intensification of social segregation. The dual impacts of gating drive the state to consider whether to choose benefit seeking over cost aversion.

The Korean state is no exception in this dilemma; it has chosen the benefit seeking path by taking a direct role in the institutionalisation and promotion of self-sufficient apartment complexes on a large scale when it was a developmental state concentrating its resources in economic growth while neglecting distributive policies such as construction of public housing. Today it is inching toward welfare state committed to social and economic wellbeing of citizens that cannot ignore the proliferation of gating in Korean cities and its increasing repercussions on urban spaces and social relations. The Korean state increasingly adopt more cost aversion policies – including planning interventions that are aimed at reducing gating while at the same time preserving the current system of private development and maintenance of apartment complexes. Unfortunately, its efforts have had only limited effects and often create backlash from residents when the basic economic structure of apartment complexes founded on self-sufficiency cannot be reformed. The measures taken by the state to tackle physical gating can be understood as an expression of the state's concern over its loss of control, which implies that the initiative of the evolution of gated communities in terms of exclusiveness was effectively transferred from the public to the private sector.

Table III-3 Gating features and their initiators for different periods

Features of gated communities		Initiator	Period		
			Before 1990s	Since 1990s	Since 2000s
Eco-nomic	Private production and exclusive consumption of local public goods	State & developer	Obligatory amenities designated by the state	Diversifi-cation of amenities began by developers.	Continued diversify-cation by developers
Political	Private governance over in-complex affairs	State & residents	Residents' council by the state	Residents' council	R.C. and internet forum by residents
Physical	Exclusionary devices	Residents	Non-existent	Advent of rising arm barriers	Generalisation of R.A.B. and advent of electric gates

4. Conclusion

All gated communities in Korea are masterplanned communities having private amenities and clear borders. On top of the planned borders, many of them are retrofitted to strengthen physical exclusivity than the original design through the addition of exclusionary devices by residents such as guard posts, rising arm barriers and electric gates. They are privately owned mostly by the middle and upper class citizens. In terms of morphology, a large majority of them happen to be apartment complexes with high-rises.

Apartment complexes embedded with private infrastructures have been constructed en masse by private funding to overcome acute housing shortage while minimising public investment in infrastructure. This *laisser-faire* housing policy is one of the economic policies born from the Korean developmental state that prioritises economic growth over redistribution of wealth. The policy was so successful that the

gating machine formed by the triple alliance of developers, the state and home buyers have produced gated communities in an unprecedented scale in South Korea, each ally pursuing its own interests. The influence of the state among the three actors was paramount in the Korean gating machine because the state established the basis of private apartment complexes including their design, service provision and governance structure.

The design principles of apartment complexes in Korea are based on Clarence Perry's neighbourhood unit to plan a self-sufficient residential neighbourhood. For its nationwide application, his design principle was concretised and codified by the Korean state to be adapted for apartment complexes. Thus, an apartment complex in Korea is a housing estate bordered by artery roads and walls, composed of high-rise apartment buildings and amenity buildings. Open space between buildings are devoted to in-complex roads, parking space and parks where through-traffic from the outside is actively discouraged. Apartment complexes as distinct physical and social entities promote pseudo communities based on urban homogeneities such as income and race.

Everything within an apartment complex parcel, including the apartment units, amenities, parking lots and streets, minus the in-complex shopping centre, are the collective private property of the apartment owners. They are collectively owned by homeowners and run at the expense of residents. Amenities within apartment complexes produce various local public goods and they have been diversified and upgraded as a marketing tool of developers. In contrast, low-rise neighbourhoods suffer deterioration of infrastructures because they have been densified without proportionate public investment in infrastructures. Thus, the already existing gulf between gated and non-gated residential areas resulting from contrasting environmental qualities are being widened.

The Housing Act prescribes that a residents' council should be elected by the residents of any apartment complex having 300 households or more, so that the shared properties of the apartment complex and other affairs can be managed by the residents themselves. It is by far the smallest residency based governance structure

in the country. Guarantee of self-determination by election of representatives is democratic on the surface. However, strict application of membership based on homeownership and opaqueness in decision-making make residents' councils an apparatus to serve self-interests rather than wider civic interests.

The self-sufficiency in development, design, service provision and governance of apartment complexes improved living environments for the middle class citizens in a relatively short time without burdening the state finance. However, it also produced considerable negative impacts, which can be summed up as physical and social fragmentations of the city and the society. Cul-de-sac road pattern and walls of gated communities result to uncoordinated road network, which disrupts vehicular and human movements sending congestion to traditional neighbourhoods with grid road networks and creating dead-ends and detours for pedestrians. Private funding of infrastructure as well as homes in gated community means ever-diverging living qualities between gated and non-gated areas and consequent filtering of residents based on income. Private governance of gated communities leads to formation of microstates that can freely shut themselves off from the outside. The capitalist system behind gated communities privatising spaces effectively justifies monetary rule of the haves over territory.

The negative impacts of gated communities by private actors of gating machine pursuing more privatisation become contentious social issues. In consequence, the public actor - municipal governments are trying to mitigate the negative impacts through planning and financial measures to promote sharing of spaces within apartment complexes with the neighbouring locals. However, their move contradicts the unchanging organisational rule of apartment complexes based on privatisation of everything. Today the Korean state is sandwiched between the desire to keep improving infrastructures by private funding and the worry of losing control over spatial and social orders that it can no longer maintain as it wants.

Chapter IV. MANIFESTATION AND EVOLUTION OF THE GATED COMMUNITIES IN SEOUL

Typologies alone do not constitute theory; indeed, in seeking to facilitate description, they simplify complex realities. At the same time, though, they provide an important step in the process of theory building around new urban forms by offering a framework for observation and a lens for analysis.

Grant and Mittelsteadt (2004)

Economic self-sufficiency of gated communities necessitates physical exclusiveness for residents to monopolise the spaces and services available within enclaves by blocking free riders. Micro planning power derived from political self-sufficiency enables measures to maintain physical exclusiveness. This chapter identifies types of control used at the border of apartment complexes in Seoul to maintain exclusiveness, based on the evaluation of border permeability at each gated community. Analysis of the types reveals the degree of exclusiveness globally and locally in Seoul. The evolutional process to reach the current exclusiveness can be traced back using the age of each complex. Social and urban factors influencing the different degrees of exclusiveness can be identified using other available data attached to the apartment complexes.

1. Audit of apartment complexes

1) Selection of apartment complexes for audit

An audit of apartment complexes is necessary to create a typology based on border permeability, as there exists no record of the physical exclusiveness of apartment complex borders in the country. The first task of the audit was to obtain a reliable list of apartment complexes in Seoul. On the request of public information by the researcher, the Seoul Metropolitan Government (SMG) offered a list of collective

housing complexes in Seoul completed until 2013 with their names, addresses, number of households, unit sizes, areas and dates of completion. Omitted and erroneous information in the list was complemented by Seoul Real Estate Information, an online database run by the SMG.

Apartment complexes fully composed of public rental housing were excluded from the audit. Although they look similar to privately owned apartment complexes in appearance, they cannot be considered as gated communities because they are owned by the public and about 70% of them are not managed by residents themselves but by public housing companies (Ryu, 2016). As the study is most interested in exclusive communities barring pedestrians, only the period in which such apartment complexes had appeared was chosen. As there is no record of tracking this development, the most likely areas in Seoul to have the most concentration of exclusive communities barring pedestrians were chosen for a pilot audit. The pilot audit of Gangnam-gu and Seocho-gu in southeast of Seoul was performed on all the apartment complexes regardless of completion dates. The earliest completion year of apartment complexes barring pedestrians in those areas is 1998. Thus, 1997 was chosen as the starting year of the main audit in case other gu's have earlier case of pedestrian gating. 2011 was chosen as the last completion year considering that it takes some years for a newly built apartment complex to be equipped with gates.

Through the pilot audit, the researcher could set categories to classify apartment complexes and the minimum area of apartment complex to be included in the study. At first, a minimum of 300 households in an apartment complex was used as the threshold as in another study of gated communities in Seoul (Kim and Choi, 2012) which have adopted the legal minimum number of households for a mandatory residents' council as the threshold. However, it was found that the minimum number of household does not reflect the territoriality of gated communities in the pilot audit. Some high-rise apartment complexes have more than 300 households but they occupy little land with little impact on the surroundings. Some low-rise apartment complexes have less than 300 households but they occupy significant amount of land.

Thus, land area was deemed to be a more rational threshold than the number of households for the study.

There is no official minimum land area requirement for an apartment complex in Korea, while a minimum area of 4,000 m^2 for condominium exists in the Singaporean planning regulation (Urban Redevelopment Authority, 2006). According to the observation of pilot audit, 7,000 m^2 turns out to be the threshold area in which an apartment complex can have basic amenities including green space and a playground. It is also an enough size that can hinder traffic flow of a grid type neighbourhood. For easier understanding of the scale, 7,000 m^2 happens to be the size of a soccer field. Filtering by the year of completion and land area resulted to 1,035 apartment complexes in Seoul to audit out of 4,256 in total (Seoul Open Data Plaza, 2017). Thus, one fourth of the apartment complexes in Seoul are covered in the audit and they are the objects of typology.

2) Street view

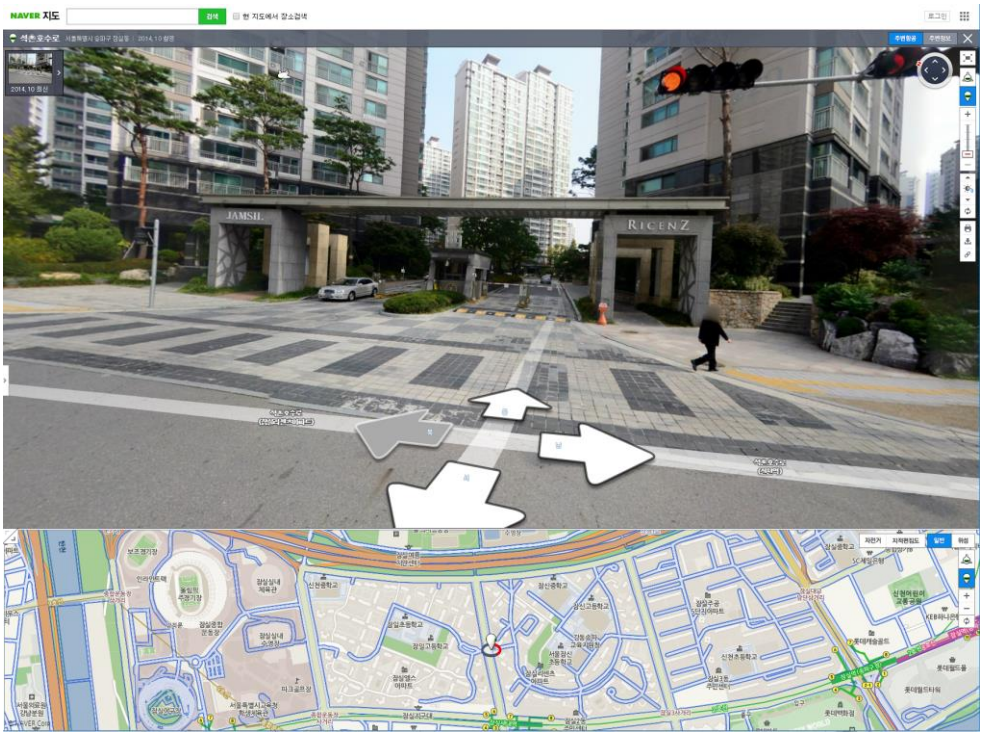
Street view is the tool of the audit of apartment complexes liberating the observer from time consuming and costly field trips. The service as a part of internet map components offers panoramic views along streets that can be zoomed and freely rotated. It is useful to audit built environments as if you do it at the site but with much less effort and time. It is also useful in studying the past of cities because the views are constantly updated and archived. However, as it usually shows views only along streets where cars can enter, views from narrow paths, pedestrian squares and some private streets are not entirely covered. Important spots not covered by street view were visited in person and photographed to overcome this limit.

Seoul is the best place to employ the street view service because the streetscape of the capital has been most extensively covered and most frequently updated in the country. Seoul is currently covered by three different street view services: two domestic and one international. The study used two domestic services: Naver Geori View and Daum Road View, due to their wider coverage than Google Street View

which skip some small streets. In addition to the street view, satellite images were used to find out the horizontal configuration of apartment complexes when necessary.

Apartment complexes were located in the internet map using the address in the list of SMG. Once located on the map, their edges were checked for border permeability using the street view (See Figure IV-1). Entrances and walls were employed as the indicators of the degree of border permeability. The criteria of classification of entrances and walls were established in the pilot audit and were finalised in the principal audit. The list of collected data is figured in Table IV-1.

Thanks to the convenience of these services, a single researcher could check several hundred kilometres of apartment walls in Seoul in a relatively short time. It also made possible to estimate the approximate dates of retrofitting with pedestrian gates in some apartment complexes whose gates were installed after the launching



Source: Naver Geori View

Figure IV-1 Interface of a street view service

Table IV-1 List of data produced from the audit of apt. complexes in Seoul

Source	Category	Attributes
Known attributes in the list given by the SMG	Housing	Name, address, year and month of completion, number of households by apartment unit size category, land area
Attributes obtained from observation, other records and calculation	Housing	Type of housing, division of complexes by public roads, percentage of apartment units smaller than 85m^2 by complex, officially assessed land price and house price
	Gating	Type of wall, type of access control, blocked entrances
	Gating against pedestrians	Date when gates did not exist, date when gates existed, time required for retrofitting

of street view services (2010 for Naver and for 2009 for Daum). However, street view was not practical to estimate dates of retrofitting with rising arm barriers because many of them had already been installed prior to the launching of the service. Existence of two competing services helped narrowing down the timing of retrofitting because their street views were taken on different dates. The oldest street view images available are from November 2008.

2. Typology of exclusiveness

1) Classification

The border permeability of an apartment complex is the criteria of typology and is measured by physical exclusiveness of walls surrounding apartment complexes and the degree of access control at entrances. Classification by border permeability is a clear measure to produce distinct types from a stock of gated communities when their exclusiveness exists as a continuum in reality.

(1) Walls

Walls have been one of the default elements of Korean apartment complexes since its inception. Although entrances were open without any device in the first generation of apartment complexes, the existence of walls helped later generations of apartment complexes to easily implement retrofitted access control over entrances. Most of the apartment complex walls are not threatening. Barbed wires and excessively high walls on purpose are rare. Walls are usually lower than the eye level of adults but they become higher at some edges where the interior of ground floor apartment units can be seen from outside. The height of walls also changes depending what type of roads they face. The visual permeability of walls in general lessens when they face wide arteries having more noise and strangers. Apartment complexes located on hills have manmade cliffs as walls, created by level gaps between the ground platforms of apartment complexes and the outside (Kim, Kim and Nam, 2015). Other types of barriers bordering an apartment complex include mountains, sound barriers, planted buffer zones, back of buildings and railroads.

As purposeful variation of wall heights is weak between complexes, walls are classified by material. *Hard walls* have been built since the 1960s using artificial materials such as concrete, bricks and iron grills. Walls entirely made of grills are almost non-existent. Walls either have grills at the upper part, thus visually permeable; or are completely solid of concrete or bricks, thus visually closed.

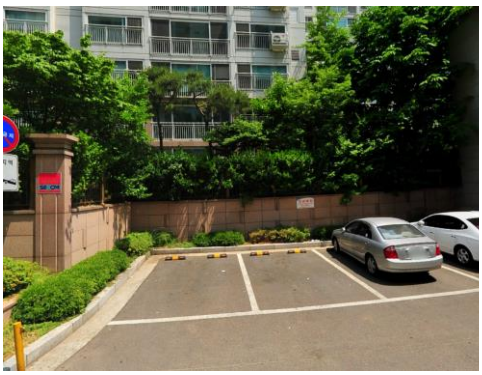
In the 2000s, *Green fences* made of natural elements such as plants, rocks and wood came to the fore, propelled by municipal policies. These policies aim to convert the existing Hard walls into Green fences in order to increase urban green space and improve walking conditions (Kim and Jeong, 2013) (See Figure IV-2). The policy has generated 207,325m^2 of green space in 179 apartment complexes in Seoul until today (Seoul Open Data Plaza, 2017). For newly built apartment complexes, green fences are encouraged from the design stage by the planning authority for the same purpose with wall conversion.

Source: Yeongdeungpo-gu Office, 2006

Figure IV-2 Wall conversion of an apt. complex in Yeongdeungpo-gu, Seoul

Although the policy of Seoul Metropolitan Government was titled as 'Project of Making Open Green Space at Apartment Complexes' (2005), Green fences are hardly more open than Hard walls in practice. Since plants, mostly trees and bushes, are densely planted on rock bases, the new green walls are neither lower in height nor visually more permeable, compared to their Hard wall counterparts in many cases. Plants are also used to lower visual permeability of Hard walls by being densely planted along the grills of Hard walls (See Figure IV-3). The spread of Green fences is a success in aesthetics but not making much change in terms of exclusiveness.

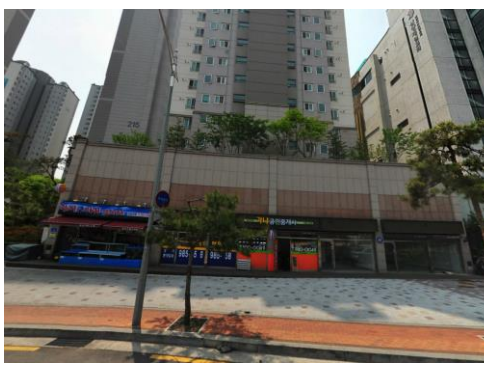
Noticeable changes of walls only occurred in a limited number of apartment complexes built in new towns. These apartment complexes surrounded by only *Low bush* without rock bases. These complexes are fully exposed to the eyes of passers-by. Low bush is easily passable, albeit still functioning as a clear marker of boundary. However, this wall of low exclusivity is only applied in apartment complexes in new towns through the intervention of the planning authority. None of the existing apartment complexes which applied for the scheme of greening of Hard walls chose Low bush over Green fences.



Hard wall reinforced by dense plants

Green fence

Low bush



Wall-building

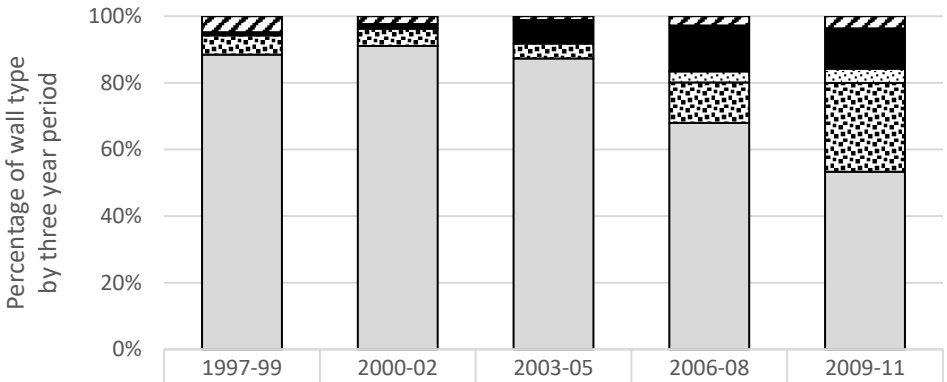
Source: Naver Geori View

Figure IV-3 Different types of walls

Apartment complexes having *Buildings* as walls are either having inner courts surrounded by buildings or built over podiums. Buildings as walls are double-edged as an exclusionary device. They are completely impermeable visually and physically and much higher than other types of walls, thus, create the most severe separation between apartment complexes and the outside. This is the most evident in apartment complexes built over podiums where their ground level is artificially far higher than that of the surroundings. On the other hand, they increase social interaction between the two separate spaces when the wall-buildings have shops on the ground floor, contributing to better cityscape and convenience for non-residents as well as residents (Table IV-2).

Table IV-2 Characteristics of wall types

Category	Low bush	Green fence	Hard wall	Building
Visual permeability	High	Medium	Medium	None
Social interaction	Medium	Low	Low	High



	1997-99	2000-02	2003-05	2006-08	2009-11
Others	4.8%	2.3%	1.1%	2.8%	3.6%
Building	1.0%	1.4%	7.1%	13.8%	12.1%
Low bush	0.0%	0.0%	0.0%	3.3%	4.2%
Green fence	5.8%	5.2%	4.5%	12.2%	26.7%
Hard wall	88.5%	91.1%	87.3%	68.0%	53.3%

Note: Years denote the completion years of apartment complexes

Figure IV-4 Differentiation of complex wall types over time

Overall, types of walls have been diversified over the time from monotype (Hard wall) to multi-types due to the city greening efforts and the appearance of new types of housing such as apartment complexes on podiums. The majority of apartment complexes completed between 1997-99 have Hard wall (88.5%) but the latter's share significantly decreases in the period between 2009-11 to just over half (53.3%). In contrast, the share of Green fence increased from 5.8% to 26.7% between the same periods (See Figure IV-4). As a result, a single apartment complex often has multiple types of walls today.

(2) Access control at entrances

Access control at entrances is practised for most of the observed apartment complexes with varying degree of intensity. It is achieved by physical devices, design including road configuration and different colours of pavement between in and outside of the complex or the presence of guards. The audit observed only the access control by physical devices as they are the most durable and quantifiable markers of control and well reflect the will of residents to exclude outsiders.

The access control by physical devices is either indiscriminative (blocking) or discriminative against non-residents (devices). Blocking is applied indiscriminately to both the residents and non-residents by installing car barriers leaving room for pedestrians (bollards, plant pots or barricade), total barricades or permanently closed gates. Older apartment complexes tend to resort to blocking strategic entrances where unwanted traffic flows in. Creating a cul-de-sac by blocking one entrance to prevent through-traffic is the best example of the practice (See Figure IV-5).

Source: Daum Road View

Figure IV-5 A total barricade installed to form a cul-de-sac in an apartment complex in Gangnam-gu, Seoul

As blocking is inconvenient for the residents as well, the number of blocking within an apartment complex is limited. In contrast, discriminative control used by newer apartment complexes lets only the residents use the entrances where it is applied. Most frequently used discriminative exclusionary devices are rising arm barriers, warning signs, electronic gates and resident only elevators. In rare cases, guards also vet visitors on top of the physical devices. As discriminative control is inconvenient only for the non-residents, it can be applied for all entrances. Access control in apartment complexes is evolving from indiscriminative blocking to discriminative control. Although indiscriminative blocking was recorded in the audit, the typology in the study is based on discriminative control which is more thorough, systematic and socially polemic, compared to indiscriminative control.

There are two types of moving objects subject to access control at complex entrances: vehicles and pedestrians. Some apartment complexes, mostly old ones, are enclosed by walls but entrances are open both to outside vehicles and pedestrians without physical exclusionary devices. Parking by outsider cars are controlled by unauthorised parking prohibition signs, manual surveillance and private punishment for violators. However, apartment complexes allowing outside traffic in are becoming rare, nowadays vehicular access is controlled at entrances by rising arm barriers in the majority of apartment complexes. The most primitive rising arm barriers are manually controlled by guards. Resident vehicles are issued with windshield stickers proving residency and guards manually vet residents by checking the residency stickers. Today's automated rising arm barriers vet resident vehicles by reading windshield tags or registration plates. Enforcement of the vehicle control varies depending on the availability of parking space and security concern of residents. If parking is abundant and security is lax, rising arm barriers are always up or go up for every vehicle without vetting process. In security sensitive apartment complexes, guards check with the host resident to verify the identity of visitors. When parking space cannot accommodate even the residents' vehicles, visitor parking may be subject to parking fee.

Some apartment complexes go further by controlling non-resident pedestrians as well, using a variety of means such as no trespassing signs, electric gates and manual vetting by guards. At the most extreme, common space of an apartment complex goes up on podium. The common space on podium is completely hidden from the eyes of passers-by and the access to it is controlled by resident only elevators managed by guards or electronic means.

The use of the exclusionary devices is intended for indirect psychological or direct physical effects. Rising arm barriers which get opened for any car, no trespassing signs and gates ajar psychologically deter outsiders from entering but are not physically binding. Manned rising arm barriers which check thoroughly the

Table IV-3 Methods of discriminative access control

Objects of access control	Exclusionary device	Description
Non-resident vehicles	None or warning sign	As no exclusionary device is installed at entrances, cars owned by non-residents can freely enter. Parking is controlled by manual surveillance and 'Non-resident parking prohibited' signs.
	Rising arm barrier	Rising arm barriers vet outsider cars by recognising electronic tags or vehicle registration plates.
Non-resident pedestrians	No trespassing sign	'No entry for outsiders' sign is not physically binding but creates feelings of being unwelcomed, thus deters outsiders psychologically.
	Open gates	Entrances are equipped with gates but they are either always open or closed at night.
	Narrow opening	Smaller entrances are closed by gates but main entrances remain open with or without gates.
	Closed gates	All entrances are closed by gates.
	Reserved elevator	Only residents can go up on the podium terrace through reserved elevators.

identities of non-resident drivers and closed gates deter non-residents' entering both psychologically and physically. Different methods of discriminative access control are detailed in Table IV-3.

2) Typology

After the analyses on patterns of exclusiveness found in walls and entrances of private apartment complexes in Seoul, they could be categorised into four types according to the combined degree of exclusiveness of walls and entrances. The typology classifies apartment complexes in Seoul into Demarcated, Enclosed, Car-restricted and All-restricted apartment complexes according to the intended objects of exclusion and type of exclusionary devices (See Table IV-4). Entrances to apartment complexes of the four types are located alongside public roads. Apartment complexes with elevated ground level on podiums accessed by reserved elevators were excluded from the typology because their entrances to ground cannot be observed from outside and that spatial composition is significantly dissimilar to ordinary apartment complexes due to the ground level being elevated. Thus, the number of apartment complexes subject to typology is 1,015 excluding the ones with podiums.

This typology is one of the first working typology of gated apartment complexes in a city whose criterion for classification is border permeability in line with the existing conceptual typologies of exclusiveness developed (Grant and Mittelsteadt, 2004; Townshend, 2006). This typology, based on systematic observation through the audit of housing stock, significantly increases accuracy and exhaustiveness of types. Clear mutual exclusiveness between types and the attached attributes not only produce a typology but also make emerge the evolution and causation of types.

Table IV-4 Matrix of the typology of border permeability

<table>
<tr><th colspan="2">Entrance</th><th colspan="2">Edge</th></tr>
<tr><th>Object of physical control</th><th>Exclusionary device</th><th>Low bush</th><th>Walls*</th></tr>
<tr><td>None or cars</td><td>None or ‘no parking’ signs</td><td rowspan="3">Demarcated</td><td>Enclosed</td></tr>
<tr><td rowspan="2">Cars</td><td rowspan="2">Rising arm barriers</td><td>Car-restricted</td></tr>
<tr><td rowspan="3">All-restricted</td></tr>
<tr><td rowspan="2">Pedestrians</td><td>No trespassing signs</td><td></td></tr>
<tr><td>Electric gates</td><td></td></tr>
</table>

* Walls include Hard walls, Green fence and Buildings.

Nevertheless, it should be noted that the visual permeability is not necessarily equal to the actual permeability because invisible methods of control such as the number of guards and the different degrees of thoroughness in enforcing access control are not accounted in this typology. It cannot address different urban contexts and complex designs in which each apartment complex is situated, either. Some apartment complexes have fewer entrances than the average due to topology or the surrounding urban tissue. Others, especially some older apartment complexes completed before mid-2000s, were simply designed to have fewer entrances due to more *laisser-faire* planning decision made by the planning authority. It once allowed apartment complexes facing lots directly without planning streets to separate them or those featuring strongly inward-looking design with a very limited number of entrances. In these sorts of apartment complexes, less number of entrances have the same role as gates in other complexes, thus their permeability at the edge can be actually lower than the ones with gates. This fact was observed by one of the interviewees who live in a community with electric gates.

> In my apartment complex, visitors who are acquainted with residents can anyhow enter the complex through the gates with the help of the residents… In some new large apartment complexes, in contrast, there are no entrances at the back. You need a detour of 10 to 20 minutes to reach the main entrance (from there)… This type of apartment complexes is isolated from the outside. The residents come and go only through the main entrance.
>
> Spoken by a male resident of All-restricted complex in his 50s

The exclusiveness of the apartment complexes with few entrances by design is not addressed in the typology because the typology focuses on the process of growing exclusiveness by the retrofitting of entrances by residents. It is the limit of the typology that such apartment complexes are classified as lower exclusiveness types when their limited number of entrances function as barriers against outsiders.

(1) Enclosed complex

Enclosed apartment complexes are surrounded by walls but entrances are open without physical exclusionary devices. Most of them are old apartment complexes built before 2000s but some of new apartment complexes not using installed rising arms were also classified to this type. Guard posts are located on the ground floor of each apartment building to control those who enter apartment buildings. Entrances usually bear columns or stone plates marking the name of apartment complex without much decoration. They tend to remain in place in the periphery where population density is lower and land value is low, which make them retrofitted with exclusionary devices unnecessary. They are often surrounded by natural or artificial barriers that make the complexes dead-end.

Source: Drawn by author with elements downloaded from Flaticon.com (same for the other three illustrations of types)

Figure IV-6 Edge of Enclosed complex

Source: The Kyunghyang Shinmun, 1992

Note: The sign reads ‘Warning: If you park your cars in our apartment complex without permission, you will be charged or your cars will be painted in red. – Management Office Chief’

Figure IV-7 Warning sign for parking violators in an apartment complex in Seoul in the 1990s

Although non-resident cars can enter the complex, through traffic is usually discouraged by erecting car barricades when the complex is not designed with cul-de-sac or loop road network. Illegal parking is warned by signs and monitored by guards and vehicles parked without approval are subjected to private penalties such as verbal warning, sticky tickets and wheel locks (See Figure IV-7). Today newly built apartment complexes are equipped with rising arm barriers from the start and older apartment complexes have been retrofitted to have them. Thus, this type is gradually replaced by Car-restricted apartment complexes through retrofitting or redevelopment.

(2) Car-restricted complex

Car-restricted apartment complexes are surrounded by walls and major entrances have rising arm barriers to preserve parking space for residents and prevent through traffic. Guard posts are built at major entrances alongside rising arm barriers to control car access. Guard posts having been located at ground floors of apartment buildings are usually replaced by electric doors with keycard system. Given a new function and installations, main entrances of newly built car-restricted complexes are becoming increasingly extravaganza with large arches and ornamentation, coupled with the need to make apartment complexes standing out for property value. The arches inadvertently became a stepping stone to All-restricted complex functioning as frames to attach gates. Some of the walls became Green fences by design or conversion from Hard walls by policy shift. Security of underground parking was strengthened. While underground parking lots had open stairways from underground to on-ground in the age of Enclosed complex but they were removed in new Car-restricted complex and replaced by the exits to the underground level of apartment buildings that are locked by keycard just like the ground floor doors.

Car-restricted complexes originally started as retrofitted Enclosed complexes which had rising arm barriers and attached guard posts built by residents who wanted to preserve parking space and prevent through traffic (See Figure IV-9). Developers later integrated the retrofitting in their design of new apartment complexes to

Note: Raemian is one of the most reknowned private housing brands in Korea.

Figure IV-8 Edge of Car-restricted complex

Source: Naver Geori View

Note: The sign reads 'This road is a private property of Hanshin Hanjin Apartment Complex. Outsider vehicles should NEVER travel in the complex. (Access of vehicles to be controlled with the installation of rising arm barriers) – President of the residents' council' (April 2012, Seoul)

Figure IV-9 Notice of planned retrofitting with rising arm barriers in an apartment complex

respond to the new consumer need. Thus, newly built apartment complexes today are either Demarcated, Car-restricted or Elevated. As the presence of Demarcated and Elevated complexes is marginal, Car-restricted complex is currently the most prevalent type of exclusiveness and found almost anywhere in Seoul.

(3) All-restricted complex

All-restricted apartment complexes are surrounded by walls and entrances have either electric gates and/or 'no trespassing' signs as well as rising arm barriers. Apartment complexes having only blocked entrances without discriminative access devices or those having only one entrance due to geographical or planning reasons are excluded from this type and are classified into Enclosed or Car-restricted complex. While guard posts are located a few meters inside the edge for some Car-restricted complexes, they are located right beside the entrances for All-restricted apartment complexes for close surveillance of visitors on foot. Although many All-

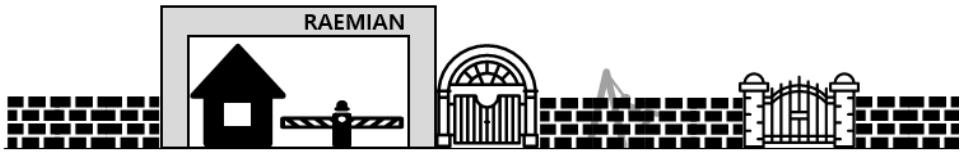


Figure IV-10 Edge of All-restricted complex

restricted complexes were built at the time when green walls were encouraged, all of them with only one exception have Hard walls.

There exist three sub-types of All-restricted complex. No trespassing signs are used mostly for larger apartment complexes that are harder to implement gates than smaller ones. Electric gates against pedestrians are used for middle and small complexes. Gates are either partially open or completely closed (full security community). Gates are usually opened with keycards. In some complexes, you also need them to go out as well as to come in. A single keycard usually integrates the functions of opening perimeter gates and doors on the ground floor of apartment buildings. While ground floors are opened with passwords as well as keycards, gates are usually only opened with keycards to prevent for passwords to float around the neighbourhood. In practice, functioning of electric gates are far from being perfect. They are often left ajar and subject to tailgating. They also get easily broken and become the target of vandalism by those who feel inconvenienced by them.

The type is retrofit only and cannot be newly built because the planning authority does not approve of electric gates in design stage (interviews with a developer and a municipal official of Gangnam-gu). Residents either immediately install gates after completion of the complex, especially for prestige communities, or after several years when the need arises. Building gates is relatively easy once the consensus among residents is reached. Construction of columns and arches to attach gates requires building permit, since the act is considered as a modification of the approved construction. However, once columns exist, gates can be freely installed by residents without consultation with municipality (interview with the above mentioned municipal official). The construction does not require extra financial contribution from residents because the construction fee is paid from the obligatory maintenance

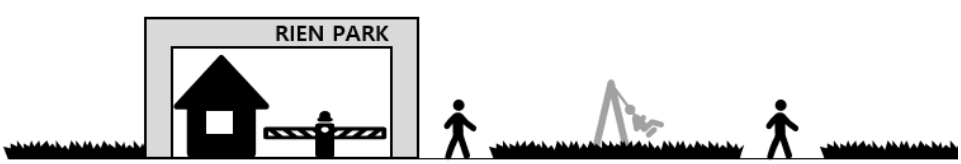
fund or the profit of redevelopment. Gates are perceived to reduce maintenance expenditure by reducing labour cost for guards.

The type occurs only in infill apartment complexes with no district-level master plan. While their number is steadily increasing, they are still a minority and concentrated in the wealthy south-east of Seoul. Due to its increased exclusiveness and evolutional importance, the type is explored more in detail in Chapter V.

(4) Demarcated complex

Unlike other types, *Demarcated* apartment complexes do not have walls at the edge but only a demarcation lined with *Low bush* less than one-meter-high or just lawn. Consequently, visual permeability is greatly improved in this type. They allow non-residents' pedestrian access but bar car access. A minority of them allow car access by not using installed rising arm barriers. It is more complicated, albeit not impossible, to implement pedestrian restriction in this type of apartment complexes because gates as well as walls should be added for retrofitting.

This type is found only in publicly planned new towns and represents the recent efforts of the authority to create more open neighbourhoods through planning intervention since the late 2000s. For example, walls of apartment complexes were included as one of the five physical elements to be eradicated in the design guideline of Eunpyeong New Town, along with level differences, retaining walls, utility poles and commercial signs (Seoul Solution, 2016). As new towns do not have substandard



Note: Rien Park is one of the housing brands belonging to public developers in Korea.

Figure IV-11 Edge of Demarcated complex

May 2010 July 2011

Source: Daum Road View

Figure IV-12 Retrofitting from Demarcated to All-restricted complex in Gwangmyeong, Geyonggi

houses as in old cities, the neighbourhoods this type belong to are more homogenous in socioeconomic composition, which makes lowered wall to be maintained possible. However, Demarcated complexes are not retrofit free. An apartment complex newly built in the middle of older urban tissues with no wall policy enforced by the authority in Gwangmyeong, a city bordering south west of Seoul, had walls retrofitted by the residents (Kim, 2015) (See Figure IV-12).

3. Current manifestation

Composition of the exclusiveness types is close to standard normal distribution with the medium exclusiveness type (Car-restricted) constituting 74.7% of the total (1,015 apartment complexes). Low exclusiveness types (Demarcated + Enclosed at 20.5%) are almost five times numerous than high exclusiveness types (All-restricted at 4.4%) proving that residential areas of Seoul are still far from the domination of heavily gated communities. In the perspective of drivers, the level of exclusiveness is very high with almost 80% of the complexes barring non-resident car access (Car-restricted + All-restricted). In the perspective of pedestrians, the level of exclusiveness is relatively low with less than 5% of the complexes barring non-

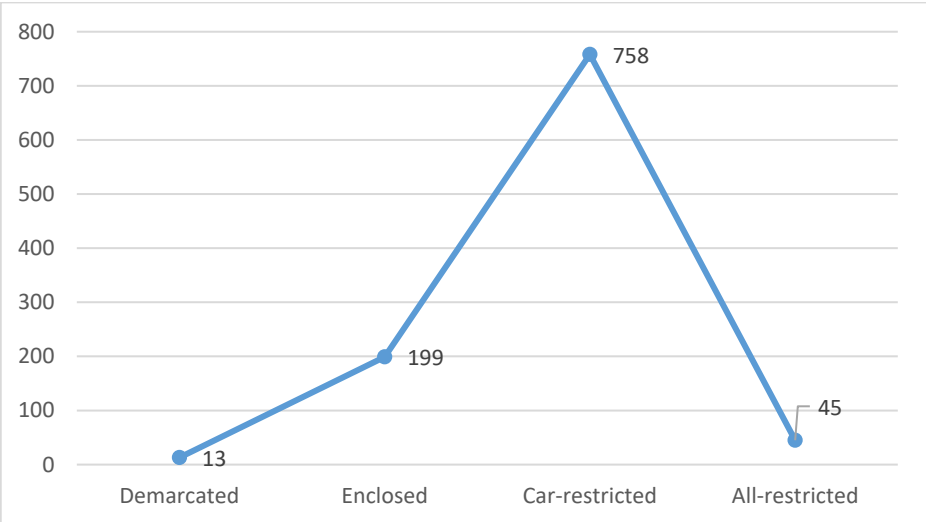


Figure IV-13 Distribution of types in the order of exclusiveness

resident foot access (See Figure IV-13). As older complexes tend to be more open, the current bell-curve's left bulge from more open types will be more pronounced for the total stock of apartment complexes in Seoul for all periods (the audit was performed only for the apartment complexes in Seoul, completed between 1997 and 2011).

1) Spatial distribution of the types

(1) Global distribution

Cities in developed countries in general have inner cities that were developed before the generalisation of gated communities and have sufficient public infrastructures. The gated communities having appeared after the maturity of inner cities are concentrated in the periphery where land is available and institutional and civil resistances against the development of large scale exclusive communities are weak. Thus, inner cities composed of traditional neighbourhoods are circumscribed by cul-de-sac suburbs and gated communities (Townshend, 2006). In contrast, cities of developing countries have inner cities that were developed or redeveloped to

modern standard later than those in developed countries, coinciding with global gating phenomenon. As their national policies are more geared toward growth and development, opposition to gated communities can be more easily circumvented. Therefore, the temporal and spatial analyses of gating process often come from developing countries, especially Latin America where gates are entrenched in cities so wide and deep that gating is an important key to understand the evolution of cities (Coy, 2006; Janoschka and Borsdorf, 2004).

South Korea, as a country having obtained developed status recently, does not have the proliferation of full security communities found in some developing countries. However, gated communities with weaker degree of exclusiveness are widely distributed throughout the core and the periphery of Seoul (Kim and Choi, 2012). They are distributed in built areas in an indiscriminative fashion with few

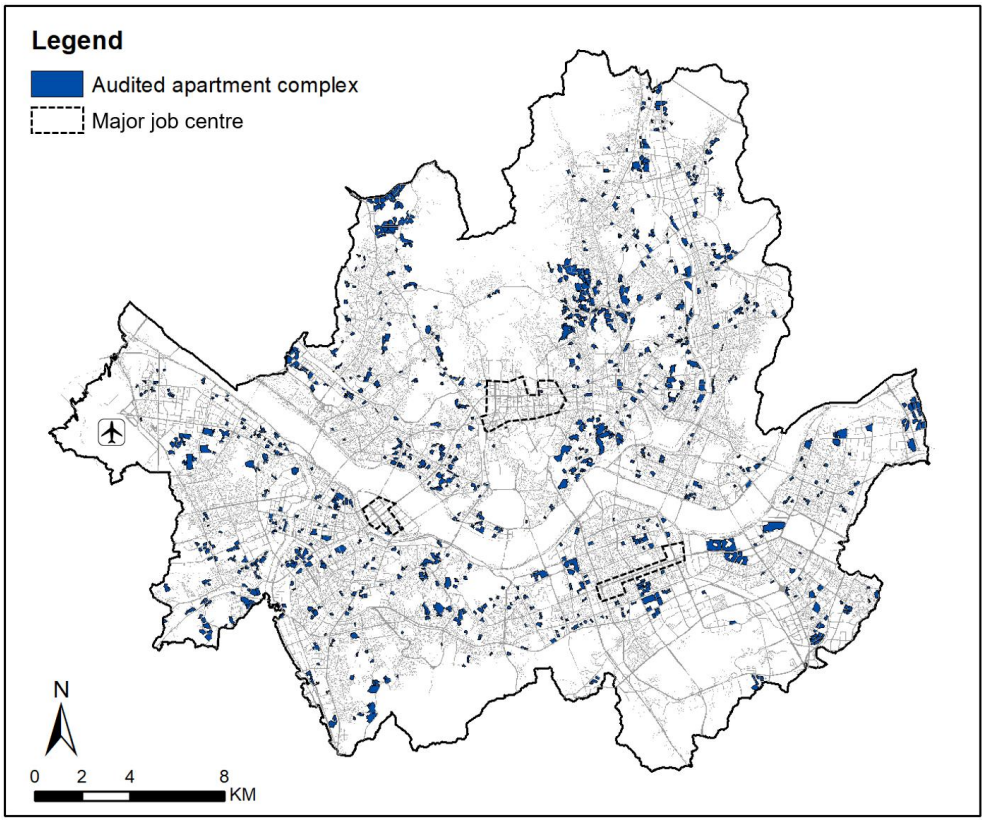


Figure IV-14 Spatial distribution of the gated communities audited

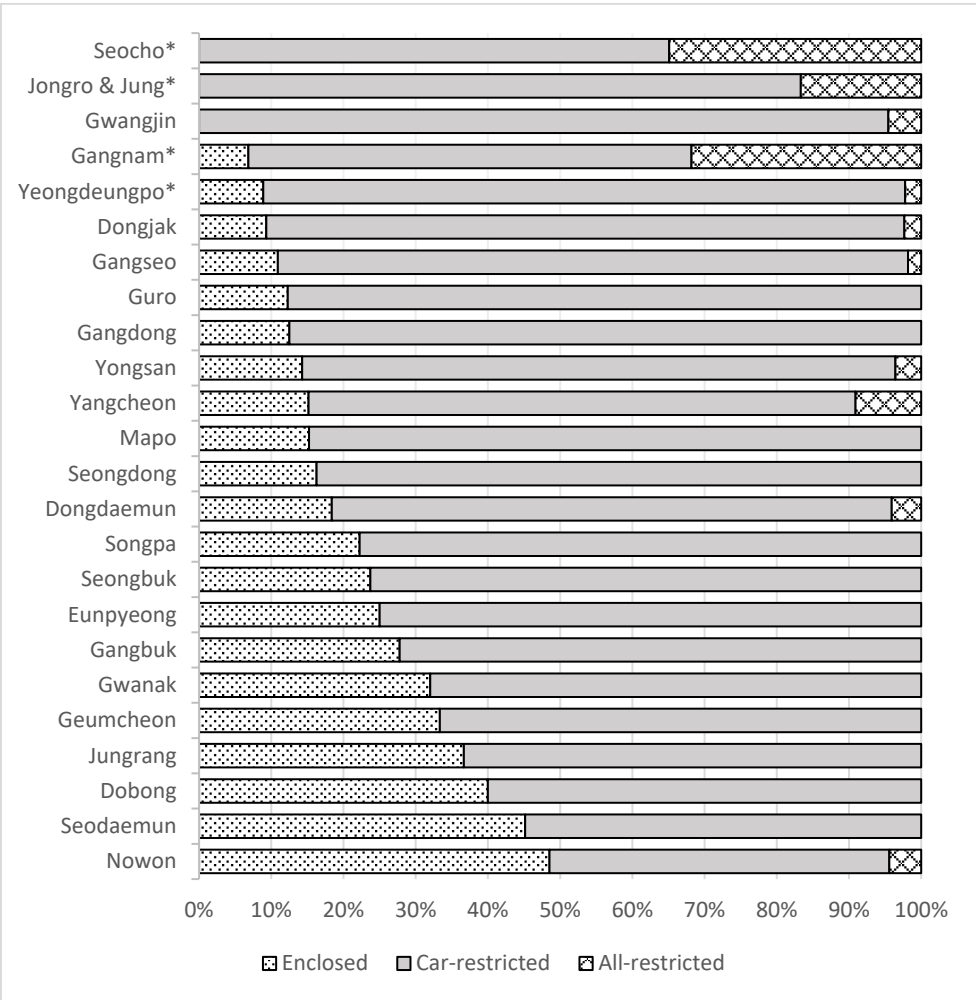
exceptions (See Figure IV-14). This is largely because development of green fields and redevelopment of brown fields have been mainly achieved through building apartment complexes. Only the historic core of Seoul in the north and the area adjacent to the airport at the southwestern end of the city could be spared from apartment complexes for the protection of heritage sites and air traffic safety respectively. The omnipresence and relatively even distribution of gated communities make them a ubiquitous force shaping the space in Seoul and their repercussion will be proportionate to the scale.

(2) Distribution by type

Unlike the indiscriminate global distribution, each exclusiveness type of gated communities has distinct locational characteristics except Car-restricted complexes which are evenly distributed as the most prevalent type. Demarcated complexes are located in new towns at the edge of Seoul, especially in Eunpyeong New Town in northwest, as they have occurred only in green field new towns. Enclosed complexes are the indicator of crowdedness. Four out of top five gu's with the least percentage of Enclosed complexes have the three major jobcentres of Seoul in their territories. The four gu's are Jongro & Jung-gu, Gangnam, Seocho and Yeongdeungpo (See Figure IV-15). Faster extinction of the Enclosed near jobcentres is not only influenced by lower housing affordability due to high land prices but also more traffic and crowd drawn by jobcentres.

About 60% of All-restricted complexes are located in Gangnam-gu and Seocho-gu - Seoul's most expensive areas, which shows residential exclusiveness is one of the indicators of wealth (See Figure IV-16). The concentration of more exclusive communities in the same high income areas in Seoul is also attested by the finding of Kim and Choi (2012). Some of the All-restricted complexes form four clusters in Gangnam-gu and Seocho-gu near the jobcentre. While Seocho clusters are located in the middle of low-rise neighbourhoods, Samseong and Yeoksam clusters exist within group of apartment complexes (See Figure IV-17). The latter two are going

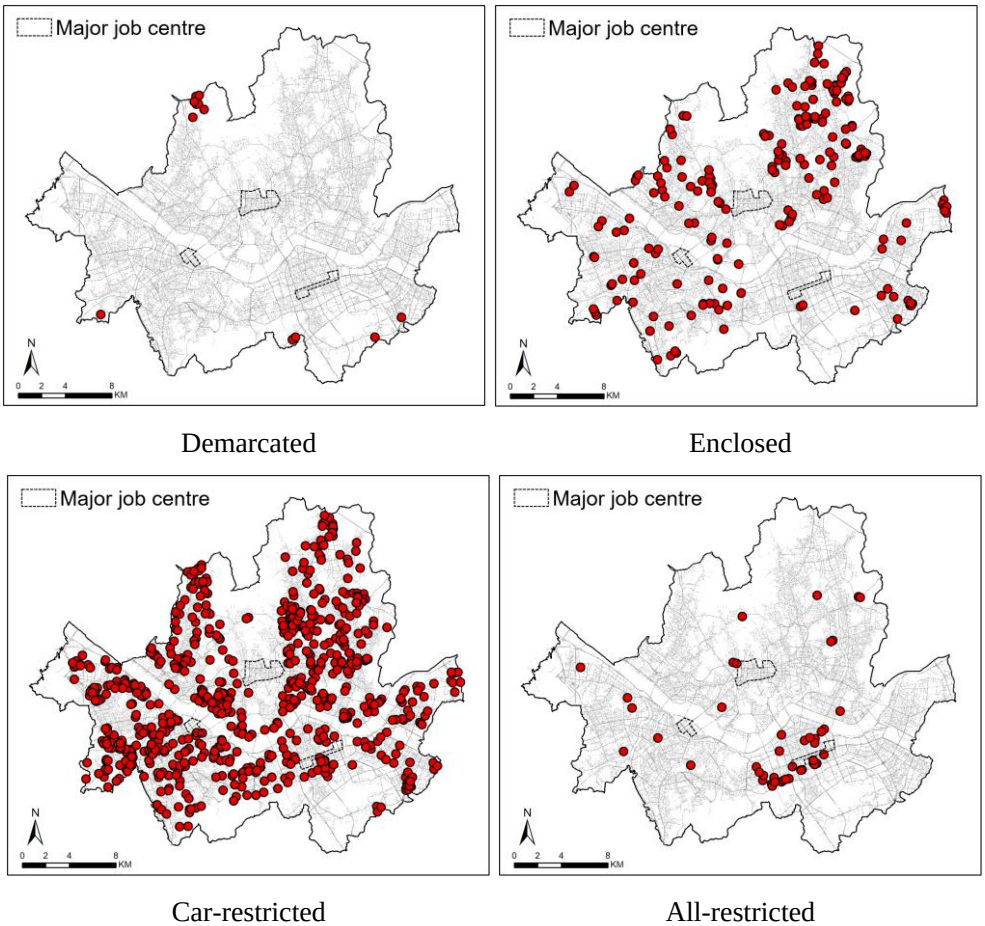
through contagion of gating in which two Car-restricted complexes were retrofitted to All-restricted as recently as 2016. The process of copying and multiplication of gates manifests in official announcements of the residents' council explaining their decision of building gates.



* A major jobcentre is located inside the gu.

Note: 1. Apartment complexes in new towns are not represented in the graph to eliminate the influence of public planning. 2. As the number of gated communities of Jung-gu is less than 10, it was merged with the adjacent Jongro-gu which accomodates the same jobcentre with the former. All other gu's have at least 10 gated communities.

Figure IV-15 Percentage of exclusiveness types by gu in Seoul



Demarcated Enclosed

Car-restricted All-restricted

Figure IV-16 Spatial distribution of each type

Neighbouring apartment complexes strictly control outsiders by installing gates. However, our apartment complexes have no gates and more outsiders than the residents use the complex as a passage. The complex is completely exposed to them without any defence.

Official announcement of a residents' council in Yeoksam cluster (2014)

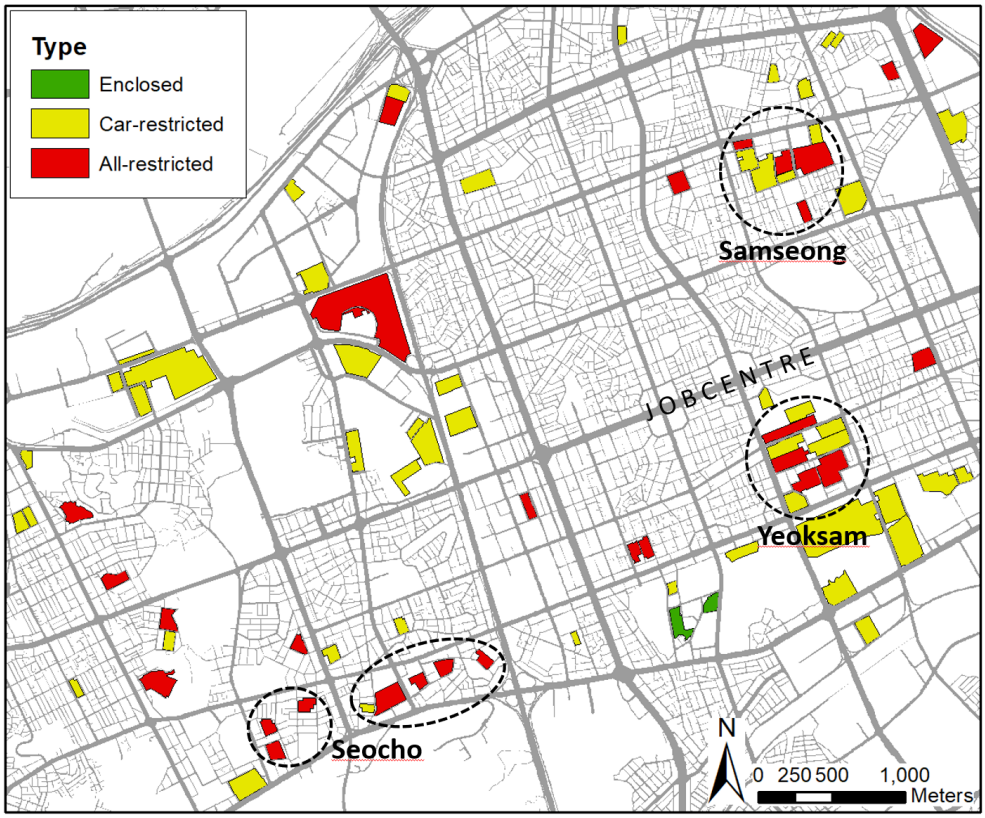


Figure IV-17 Clusters of All-restricted complexes in Gangnam and Seocho

2) Factors of exclusiveness

Three factors influencing exclusiveness of the gated communities in Seoul were identified with available data. Socioeconomic status of residents appears to be the primary factor in determining the exclusiveness level of a gated community, while mode of development and estate size are secondary factors.

(1) Socioeconomic status of residents

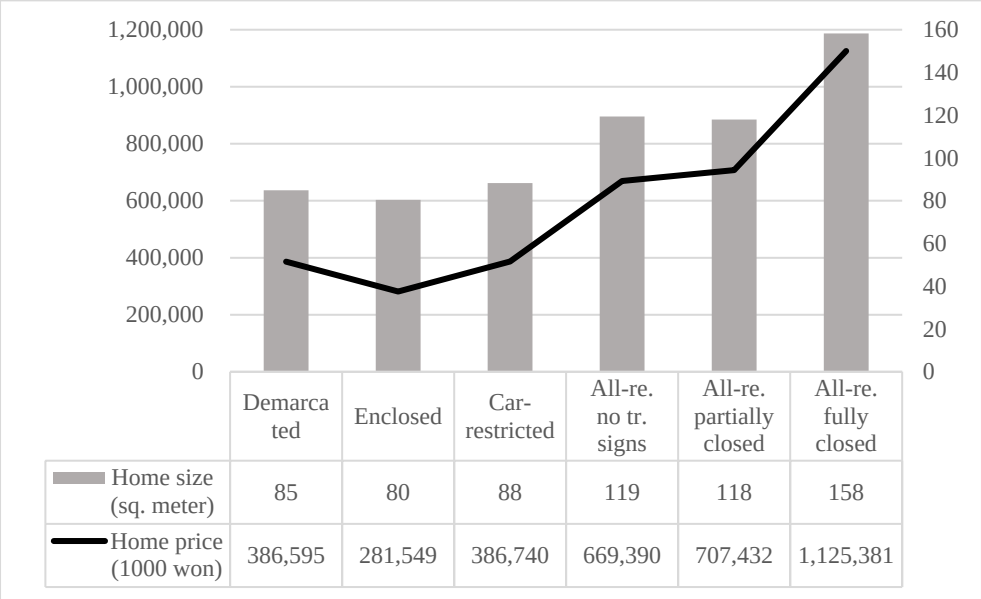
Although there exist studies that gated communities are lived by not only the rich but also poorer residents (Sanchez, Lang and Dhavale, 2005), they are primarily known as the residences for the haves (Roitman, 2010). Insertion of socioeconomic

indicators into the typology of gated communities in Seoul has produced a result that clearly supports the latter proposition in which the more exclusive gated communities are, the richer the residents are.

Common indicators of socioeconomic status include income, occupation and level of education (Geyer and Peter, 2000). As statistics on these indicators per apartment complex are not available in South Korea, housing statistics can be used to substitute income statistics. Home price is one of the alternative indicators of social status, linked to the housing purchase and rental affordability of individuals with different financial capacities. Home size is another alternative indicator of social status that measures housing maintenance affordability and the prestige attached to luxury housing. In Korea, apartment units larger than 85m^2 are subject to harsher acquisition tax and VAT and their maintenance fees are higher than smaller units. According to National Housing Survey (Ministry of Land Infrastructure and Transport, 2014:72), the middle class households occupy homes of 72.7m^2 in floor area on average while their upper class counterparts occupy 94.9m^2 on average.

Average home prices and home sizes of each gated community in the audit were calculated using the housing data of SMG in 2016. These values were sorted into exclusiveness types that include the three subtypes of All-restricted complexes to find out whether a pattern between average home prices and home sizes of each type and degrees of exclusiveness exists. The result indicates that the average home price and home size of a gated community tend to be higher and larger in more exclusive types (See Figure IV-18).

The correlation is especially evident in the types in which evolutionary relationship through retrofitting exists: Enclosed, Car-restricted and All-restricted complexes. Enclosed is the most affordable type with an average home price of 282 million wons and home size of 80m^2. Despite its lowest housing value among the types, the average housing value of Enclosed is slightly above the average of the total collective housing in Seoul (See Table IV-5). The average home size of Car-restricted (88m^2) is 10% larger than that of Enclosed but its average home price (387 million wons) is much higher by 38%. Apartments in All-restricted with no



Note: 1. The home size is net (usable) area excluding common area.
2. The home prices are officially evaluated prices by the government.
1and 2 are also applied for the other tables containing the home prices and sizes.

Figure IV-18 Types of gated communities by income indicators in housing

Table IV-5 Home prices and sizes of collective housing in Seoul

Gated-ness	Housing types	Home price (1000 won)	Home size (m^2)	Price per m^2 (1000 won)	Number of homes
Non-gated	Multifamily home	122,138	48	2,520	630,619
	Town house	200,619	74	2,706	108,467
	Sub-total	133,656	52	2,558	739,086
Gated	Apartment	352,534	79	4,462	1,492,220
Total	Collective housing	280,034	70	3,993	2,231,306

Note: The table excludes homes with no data.

trespassing signs (669 million wons for 119 m^2) and partially closed gates (707 million wons for 118 m^2) have similar home prices and sizes but are much more expensive than Car-restricted by more than 70%. All-restricted with fully closed gates is the least affordable type with an average home size of 158 m^2 and home

price of 1.13 billion wons. The subtype is located in the same space with other All-restricted subtypes in view of the similar land prices between them (See Table IV-6) but its significantly larger home sizes produce an equally significant difference in home price from other subtypes.

Another difference between the three subtypes of All-restricted complexes lies on the average time that took for them to be retrofitted with gates or no trespassing signs. 23 cases of retrofitting could be tracked down for their timing with the help of street view services and the survey result. While it took 5.1 years for no trespassing signs and partially closed types to be retrofitted, it took 3.4 years for the fully closed type. This indicates that the residents of partially closed type decided to install gates to cope with threats felt after moving in but the wealthier residents of fully closed type had gates in their mind for existential purposes from the time they moved in. Although all three types are inhabited by wealthy residents, no trespassing sign and partially closed types are closer to the security zone community under the typology of Blakely and Snyder (1997) where gates are a defence mechanism against external threats. On the other hand, fully closed type is closer to the prestige community where gates are the symbol of prestige and protector of privacy (See Figure IV-19).

Table IV-6 Land price for each exclusiveness type

Type / Subtype		Average land price (won/m^2)	Designated land use by zoning	
			Residential	Commercial
Demarcated		4,325,333	100.0%	0.0%
Enclosed		3,592,862	100.0%	0.0%
Car-restricted		4,659,443	95.9%	4.1%
All-restricted	No trespassing sign	6,290,429	71.4%	28.6%
	Partially closed	8,411,963	92.6%	7.4%
	Fully closed	8,062,909	90.9%	9.1%
AVERAGE		4,726,160	94.7%	5.3%

Gate of security zone type (partially closed) in Gangseo-gu in May 2012

Gate of prestige type (fully closed) in Seocho-gu in June 2016

Source: Naver Geori View

Figure IV-19 Example of security zone vs prestige communities in Seoul

Demarcated complexes deviate from the general tendency existing between home value and exclusiveness due to their different planning from the rest of types. Apartments in Demarcated (387 million wons for 85 m^2) are as expensive as Car-restricted (387 million wons for 88 m^2) because they are located in new towns with better infrastructure, albeit in periphery.

The comparison of average home prices and home sizes between types can be expended to all collective housing in Seoul. First, the types can be reorganised into two groups with and without pedestrian access control considering the large gap in housing value between the types that allow non-resident pedestrian access and those not. Second, non-gated collective housing of Seoul is added for a comparison between the non-gated, the lesser gated and the highly gated residential areas to see the bigger picture.

Average home price and home size of each group increase as the degree of gatedness and exclusiveness go higher (See Table IV-7). The significant difference of home prices and sizes of the groups make them social groups due to affordability differentials of the different category of homes. Non-gated group is composed of town houses and multifamily homes. Multifamily homes are small scale residential

Table IV-7 Social status by exclusiveness of collective housing in Seoul

Housing and social group by gatedness	Home size (m^2)	Home price (1000 won)	Price per m^2 (1000 won)
Non-gated: no or very small housing estate	52	133,656	2,558
Lowly-gated: no pedestrian restriction	87	364,943	4,195
Highly-gated: pedestrian restriction	128	770,063	6,016
Total collective housing	70	280,034	3,993

Note: Values for 'non-gated' and 'total collective housing' were obtained from general statistics but those for 'Lowly-gated' and 'Highly-gated' were calculated only from the apartment complexes included in the audit of the present study using the same source of statistics. As the apartment complexes in the audit do not include pre-1997 constructions, their average home value might be higher than that of the total stock including constructions of all period.

buildings not belonging to housing estates. Town houses often form housing estates but their sizes are usually a lot smaller than apartment complexes and town house complexes rarely contain amenities except parking lots. Multifamily homes are more numerous than town houses by more than seven times. Their average home size (52 m^2) and price (134 million wons) are by far the smallest among the three and well below the average of all collective housing. Lowly-gated group combines the gated community types that do not control pedestrian access: Demarcated, Enclosed and Car-restricted. Its average home price (365 million wons for 87 m^2) is far higher than that of the non-gated group by more than twice. Highly-gated group is the exclusiveness type that controls pedestrian access: All-restricted complexes. Its average home price (770 million wons for 128 m^2) is higher than that of the lowly-gated group by twice.

The correlation between residents' income and physical exclusiveness reaffirms the perception of gated community as a place for the haves. The large gap in housing value between the non-gated and the gated is translated to social stratification between those who can afford gated life and those not. Differentiation of wealth levels also exists between the gated community residents: those who are satisfied with no pedestrian control and those who are mindful of the heightened pedestrian

control. The two kinds of gap between the three groups show that walls and gates are not the issue limited to certain category of people but concern the whole income spectrum. Inhabitants of Seoul look for gated residences and the attached life style, which drives up the price of homes in gated compounds relative to those outside. If they can afford enough, they want gated communities with more gates and control. The significant gap of apartment prices and sizes between apartment complexes open for non-resident pedestrians and those not highlights the fact that control of foot traffic is the core exclusionary elements of the gated communities lived by the upper class citizens. People with means have more need to control residential territories for tranquillity, safety and other reasons. Thus, they either move in gated communities with more control or add exclusionary devices on their current residences through retrofitting. Their exclusive residences happen to be more expensive due to their higher housing affordability.

The result may be understood in the opposite way that exclusionary devices hike up home prices among gated communities. However, this way of reasoning is not feasible considering the tremendous zeal of homeowners to raise their asset prices. If it were the case, far more apartment complexes would be equipped with rising arm barriers and pedestrian gates as an effort of the homeowners to increase their asset value with a relatively small investment and maintenance. Highly exclusionary devices are installed not to drive up home price but to satisfy certain life needs of the upper classes. These needs are explored in detail in Chapter V.

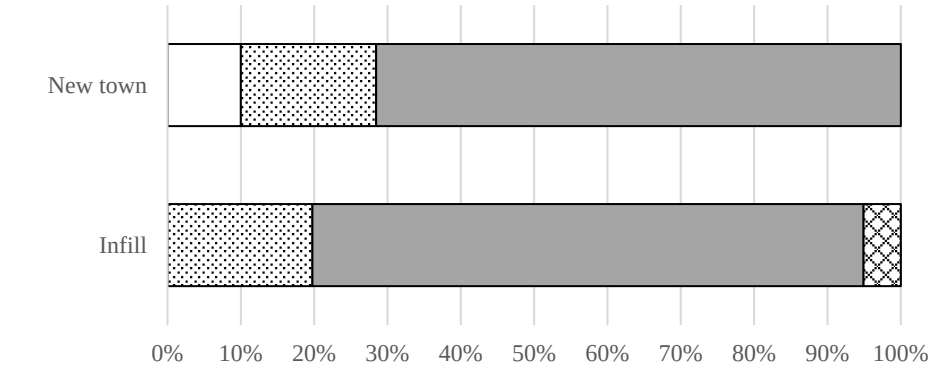
(2) Mode of development

A contrast between apartment complexes designed to be more open in publicly planned new towns and infill apartment complexes with less of such consideration in less planned areas is evident. While both types of apartment complexes are privately owned and free to install exclusionary devices, apartment residents in new towns are less likely to do so. Demarcated complexes are consequently found only in new towns. In contrast, All-restricted complexes are found only among the infill

apartment complexes. The ratios of Enclosed (19.3% in new towns and 18.5% in infill) and Car-restricted (73.5% in new towns and 71.5% in infill) are similar in both developments (See Figure IV-20).

Apartment complexes in Seoul are developed by either public or private initiatives. The public initiative drives the creation of new towns. New towns are either built over green field (development after expropriation in the periphery) or brown field (public orchestration of multiple redevelopments in blighted areas of the inner city) (See Table IV-8). Apartment complexes in new towns form tightly knit clusters unlike infill apartment complexes which are usually developed alone in the middle of existing urban tissue.

Master plans of new towns consider not only working of each apartment complex but also that of the wider neighbourhoods. Both the pedestrian and car movements in neighbourhoods are planned without being cut off (See Figure IV-21) and each apartment complex is encouraged to be designed more open since the late 2000s (See Figure IV-22). In terms of socio-economic conditions, new towns tend to have more



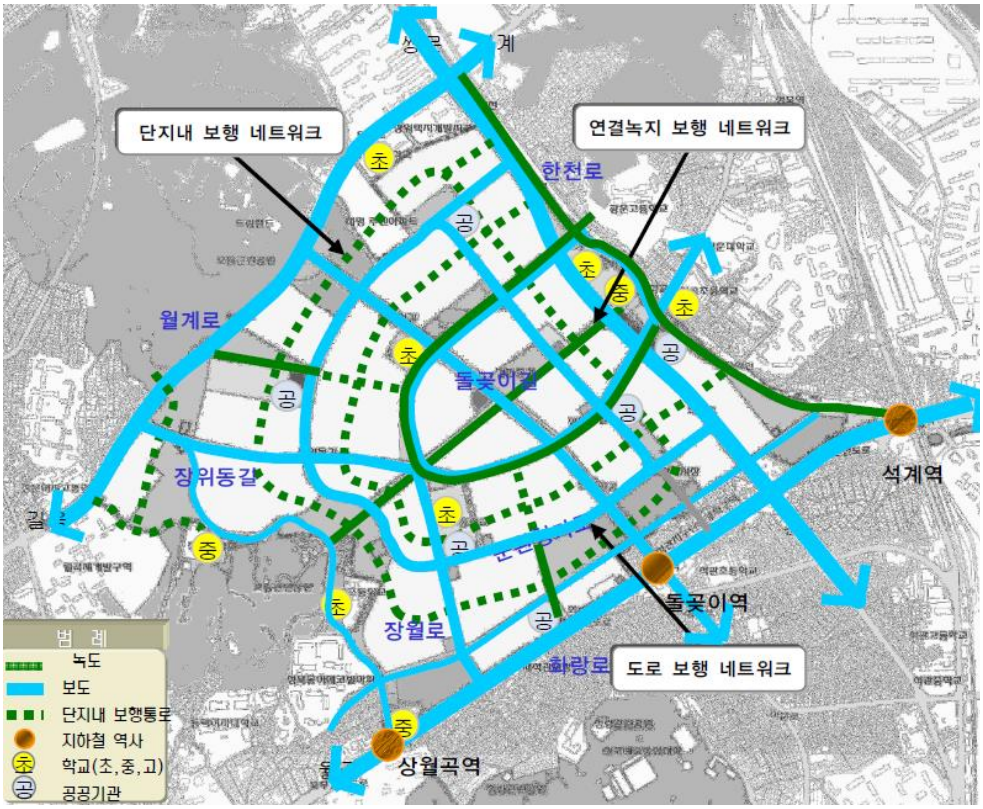
	Infill	New town
Demarcated	0	13
Enclosed	175	24
Car-restricted	665	93
All-restricted	45	0

Figure IV-20 Exclusiveness types by mode of development

Table IV-8 New towns of Seoul included in the audit

Type of site	Name of development
Green field (115)	Balsan RD (8), Cheonwang UD (6), Eunpyeong New Town (35), Gangil UD (12), Gangnam Bogeumjari RD (5), Geoyeo RD (4), Jangji RD (13), Macheon RD (2), Sangam RD (10), Sangye Jangam UD (2), Sinjeong RD (1), Sinjeong 2 RD (3), Sinjeong 3 RD (5), Sinnae 2 RD (2), Sinturi RD (4), Wumyeon 2 Bogeumjari RD (3)
Brown field (15)	Gajaeul New Town (2), Gileum New Town (10), Mia New Town (3)

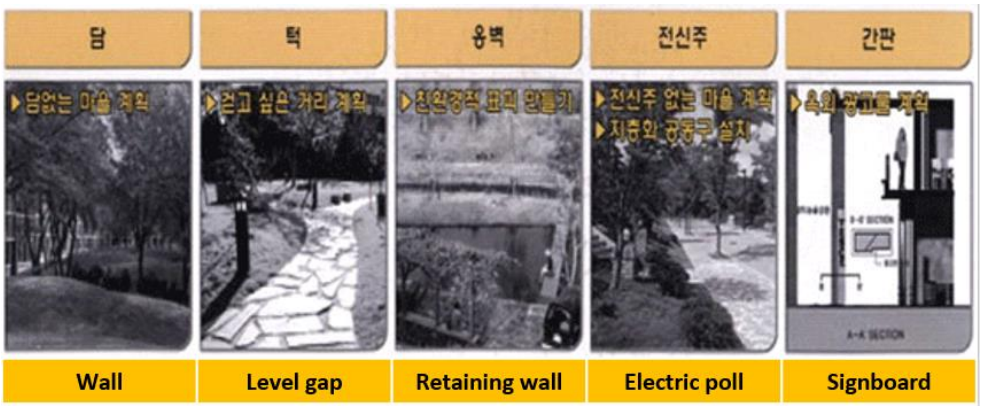
Note 1. RD = Residential Development, UD = Urban Development 2. Numbers inside brackets denote the numbers of apartment complexes included in the audit from each new town.



Source: Seongbuk-gu Office, 2007

Note: Pedestrian paths within apartment complexes are planned and marked in green dots.

Figure IV-21 Pedestrian network plan of Jangwi New Town in Seoul



Source: Seoul Solution (translation added by the author)

Figure IV-22 Five elements to eradicate in the design guideline of Eunpeyong New Town

pay the cost of living in new apartments. Younger population are more mobile to move to new developments and they are attracted to planned cities to raise their young. Rational planning and homogeneous population help the planned low exclusiveness maintained with the least retrofitting by the residents.

In contrast, design of infill apartment complexes by private initiatives in the inner city and periphery are relatively, if not completely, free from a higher level of master plans. As a result, they often form islands with their own logic: road layouts are not always smoothly connected to the outside and disrupt the existing flows in some cases. As these ‘less planned’ neighbourhoods are the mixture of heterogeneous elements including commercial zones, civic centres and residential areas of different socio-economic status, spatial and social conflicts are more likely to arise here than in new towns. Common spaces in apartment complexes are valued not only by the residents but also by their neighbours outside and are prone to be subject to conflicts. These spaces are shortcuts to reach schools, subway stations and municipal offices and children’s playgrounds. News reports and civil petitions concern these conflicts over the spaces belonging to privately owned apartment complexes but also being useful for non-residents.

Please stop the installation of gates opened with keycard in the apartment complexes. Redeveloped apartment complexes in my neighbourhood have no [public] roads between them. Now my children should take a long and dangerous detour to go to school.

A civil complaint filed to Dongjak-gu Office, Seoul (2013)

This dichotomy of planned versus unplanned spaces suggests that gating in the inner city is induced by various conflicts caused by fragmented spaces with heterogeneous urban compositions and populations. In turn, gating fragments already fragmented spaces more by strengthening physical divides. However, it should be noted that planning is not a foolproof method to create less exclusive neighbourhoods. Without a careful examination between planned pedestrian flows inside apartment complexes and possible backlashes, planning can provoke gating rather than preventing it (Kim, 2015) (See Figure IV-23).

Source: Ajou University Facebook Forum

Note: The banner reads ‘We wish for the students going to Ajou University to use the roads outside the apartment complex instead of coming inside. – Residents’ council’. (Gwanggyo New City, Gyeonggi)

Figure IV-23 No trespassing sign against shortcutting university students in an apartment complex

(3) Estate size

Although a minimum land area was set for the inclusion of apartment complexes in the audit, there still exists a considerable variation of land area among them. The average number of households and complex land area from the audit are 588 households and 24,915m^2. The biggest apartment complex is 40 times larger in area and 114 times more numerous in number of households than the smallest one (See Table IV-9). Despite this size variation, no gated community in Seoul constitutes an independent city incorporating exclusive schools and shopping malls as in America. For example, Coto de Caza in Orange, California, a lifestyle community with golf courses in its centre is much larger than the biggest gated community in Seoul by more than 70 times (20.65km^2), while the number of households are smaller (4,853)[3], as it is entirely composed of detached houses. The largest urban unit that a gated community in Seoul reaches is a neighbourhood.

The average land area of the apartment complexes audited is roughly equivalent to three soccer fields combined. The average land areas of Demarcated (25,499 m^2), Enclosed (25,124 m^2) and Car-restricted complexes (25,177 m^2) are about the same as the total average (24,915 m^2). However, apartment complexes equipped with gates against pedestrians (18,762 m^2 for partially closed gates and 20,642 m^2 for fully closed gates) tend to be smaller than the total average (See Table IV-10). Small size is not a prerequisite for gates but large size is an inhibitor against gates in general.

Table IV-9 Numbers of households and land areas of the audited apt. complexes

Category	Minimum	Average	Maximum
Nbr. of households	60	588	6,864
Complex area	7,006m^2	24,915m^2	279,928m^2

[3] As of 2010 (source: US Census Bureau)

Table IV-10 Estate size by type

Type / subtype		Average land area (m^2)	Average households	Number
Demarcated		25,499	377	13
Enclosed		25,124	633	199
Car-restricted		25,177	591	758
All-restricted	No trespassing signs	48,503	869	7
	Partially closed gates	18,762	414	27
	Fully closed gates	20,642	321	11
Total / Average		24,915	588	1,015

A huge apartment complex over 10 hectares in land area often constitutes a neighbourhood alone. Such complexes form superblocks and are well separated from the surroundings by wide arteries or other barriers, which function as gates in effect (See Figure IV-24). The likelihood of outsiders' entering the apartment complexes is reduced, as they are bothered by crossing wide roads or simply have no business out of their own neighbourhoods. However, larger complexes are not completely immune from outsiders' entry, especially when they serve as shortcuts or their high quality open spaces attract visitors. Even when the residents of larger complexes want gates, it is harder to implement them because gates over the whole neighbourhood garner more attention and backlash from outside as well as inside.

Some residents of a large landmark apartment complex in Seocho-gu wanted to install gates to prevent the influx of visitors to their parks due to the problem of dog turd not picked up by dog owners but faced internal resistance from the residents who were against the idea. Moreover, their move was mediatised in a national newspaper even before executing it (Seong, 2010), as the complex was nationally famous. As a result, they had to be satisfied with putting up no trespassing signs against non-residents and their dogs (interview with the management office). There is another similar case of large apartment complex with no trespassing signs in Seoul and the two complexes make the average land area of the complexes with no

Source: Park et al (2009)

Figure IV-24 Apt. complexes forming superblocks in Jamsil-dong, Seoul

trespassing signs (48,503m^2) twice larger than the average (24,915m^2) (See Table IV-10).

Combination of large land area and topographic relief reduce exclusiveness in a great deal. Although there are not many cases, relief makes private roads to semi-public roads in large complexes on hills. They have in-complex bus stops because it is physically exhausting for residents to navigate a large hilly area without resorting to private cars or public transports (See Figure IV-25). As not everyone drives cars, the residents allow public buses linked to the outside serving inside their private territories despite the problems of noise and more frequentation of outsiders.

Source: Daum Road View (December 2014)

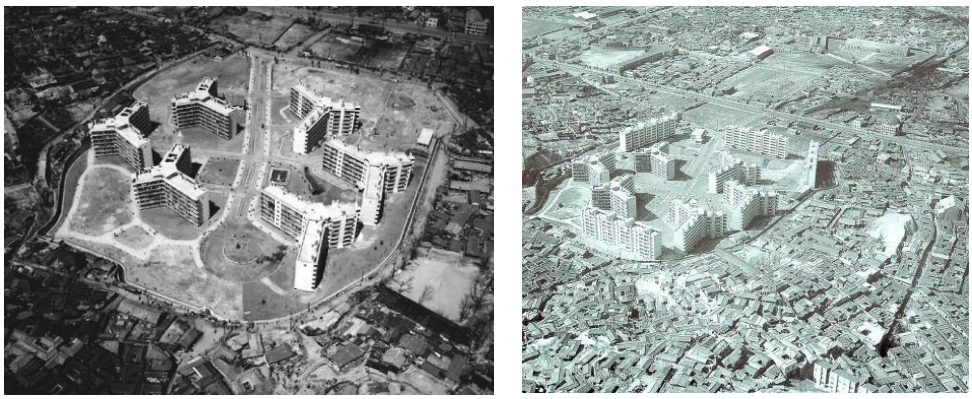
Note: This apartment complex on steep hills in Seoul has a land area of 18 *ha* with 3,929 households.

Figure IV-25 A bus stop inside an apartment complex in Seoul

4. Evolutionary process

1) Evolutionary tales

A decade before the demolition of Pruitt Igoe in Saint Louis and the end of Corbusian model of planning in the West (Hall, 1996), Mapo Apartment Complex in western Seoul was inaugurated with much fanfare in the presence of the head of state in 1962. In contrast to Pruitt Igoe (1956-1972), an apartment complex remembered as the symbol of a failed planning, Mapo Apartment Complex became the proto type of later Korean apartment complexes which have become a great success. The apartment complex shows a distinctive defensible design characterised by the central cul-de-sac, a clear demarcation between in and outside of the complex and total disregard for the existing urban tissue in consequence (See Figure IV-26). It had a symbolic event in which the residents demanded installation of barbed wires



Source: National Archives of Korea

Figure IV-26 Aerial views of Mapo Apartment Complex in 1963

only after a year from the completion, being worried of crimes due to their apartments standing out in the traditional low-rise neighbourhood (Song, 2011). Barbed wires are not a norm in later Korean apartment complexes but the episode manifests their gating tendency and the ease of implementation of doing so from their very start.

Today 3,794 apartment complexes in Seoul (100km^2) occupy 28 percent of the urbanised area (363km^2) and 45 percent of the residential zone of the city (223km^2) as of 2012. The total length of the walls of these apartment complexes is 637.7km (8 percent of the total length of roads in Seoul in 2005). Their physical enclosure stems from the self-sufficiency of apartment complexes. The economic self-sufficiency justifies the self-rule of the territory belonging to apartment complexes and erection of walls and gates is included in the domain of such rule. The increasing exclusiveness of apartment complexes has manifested in three phases: gating of parking space, gating of common indoor space and gating of common outdoor space.

Control of space in apartment complexes started being applied to vehicles. With the increase of cars in the 1980s, vehicular access to apartment complexes by non-residents has been increasingly blocked since the 1990s in order to guarantee parking spaces for residents and prevent unwanted traffic (Kim and Choi, 2012). Although controlling non-residents' vehicles in apartment complexes is an established practice now, it was not so at the beginning. In a piece written by a newspaper reader who

parked his car for a while in an apartment complex as a non-resident and had to go to police station for that matter in the 1990s, the reader deplores heartlessness of the society that does not know sharing space with others (Park, 1995). This gating against cars became a stepping stone to gating against pedestrians by relocating guard posts from the ground floors of apartment buildings to the entrances of the complexes. Old guard posts of the ground floors were replaced by electric security doors. With the relocation of guard posts from building entrances to complex entrances, the focus of surveillance was expanded from common indoor space in apartment buildings to much wider common outdoor space.

If the prohibition of outside vehicles was indicative of the first wave of gating, newer apartment complexes built since the 2000s have marked a second wave of gating by prohibiting outsiders from using their indoor amenities – such as gym, sauna, study room and café – by putting up 'reserved for residents' signs and even installing electric doors opened with keycard. Amenities were located inside shopping centres in older apartment complexes, thus anyone willing to pay for services could use them. Nowadays, the shopping centres in apartment complexes become mostly retail while amenities are accommodated within an independent space, usually called 'community centre' which functions as a club house in American gated communities. Amenities inside community centres are strictly for residents. Use of these amenities require keycards which are also used to open individual apartment doors. The keys function as a resident identity card. Basic service fees are included in maintenance fee for every resident while selective service fees are charged upon the keycard.

Unlike vehicular access, foot access to apartment complexes regardless of residency has been allowed in most of the apartment complexes (Gelézeau, 2008). However, some apartment complexes also started controlling foot access in the third wave of gating from the 2000s. Although it has not been rare to block a couple of entrances in the past, today's more exclusive apartment complexes strive to a more systematic approach discouraging non-resident pedestrians entering through a thorough application of exclusionary devices. These apartment complexes have been

retrofitted by residents to control foot access through installation of no trespassing signs or electric gates. Table IV-11 summarises development of gating by periods and the affected spaces in apartment complexes.

Although the social consensus over restricting pedestrians in apartment complexes is not established yet, the control of pedestrians is accomplished within or through the loophole of the existing legal framework. As no Korean law stipulates the legality of gates and they are installed within private properties, municipalities could not help recognising the self-determination of apartment residents on erecting gates over the right to walk in neighbourhood whenever complaints against the construction of gates were raised by concerned citizens (Dongjak-gu, 2013; Gwangmyeong, 2011).

Table IV-11 Major developments of gating since the 1970s

Feature	1970-80s	1990s	2000s-present
Indoor amenities	Shopping centre and senior centre	Addition of resident only amenities such as sauna and gym	Diversification and upgrade of resident only amenities such as café and swimming pool
Outdoor amenities	Greenery at the periphery	Park in the centre	Park everywhere and sophisticated landscaping
Pedestriani-zation	Ground parking at the centre	Mix of underground and ground parking	Underground parking only
Rising arm barriers	None	Retrofitting begins	Installed by developers
Guard post	At apartment building entrances	Retrofitted guard posts begin to be installed at estate entrances.	Constructed at estate entrances by developers (building entrances are guarded by electric doors)
Gating against pedestrians	Some estate entrances are blocked by the residents both against themselves and outsiders.		Systemic gating against pedestrians by electric gates appears, allowing only the residents to enter.

2) Evolutionary relationship of types

The average age of apartment complexes belonging to each type decreases in the order of Enclosed (15.2 years), Car-restricted (12.4 years), All-restricted (11.0 years) and Demarcated (7.0 years) as of 1 January 2017. As architectural records pertaining to installation of exclusive devices are sparse, the average age helps to reconstruct the evolution of types. Enclosed complexes have been the only type between 1970's and 1980's. The rapid increase of cars in the 1980s and the consequent problem of in-complex parking by non-residents' cars brought in Car-restricted complexes equipped with rising arms. Starting as a retrofitted type from Enclosed complexes in the 1990s, the Car-restricted complex became a standard of apartment complex design by the 2000s. The retrofitting from Enclosed to Car-restricted has been a long incremental process. For example, a large apartment complex with more than 5,000 households in southeastern Seoul decided to install rising arm barriers in 2015 after 26 years since the completion.

The 2000s also saw the long-held consensus on allowing non-resident pedestrians into apartment complexes crumbling. Some Car-restricted complexes in the upper middle income neighbourhood were retrofitted to transform into All-restricted complexes. It is impossible to know the exact date of first retrofitting due to the lack of data but it began in earnest in the mid-2000s at latest. It took about four years on average for Car-restricted complexes to be retrofitted to All-restricted after the completion of complex among confirmed cases. Some complexes found an adequate level of exclusiveness at a single trial but others went through multiple stages of physical gating to find an equilibrium with the surrounding and the best technical solution. For example, an apartment complex in the southwestern Seoul had only rising arms at first, then no trespassing signs and gates were consequently added (See Figure IV-27). Most of them took the path of intensification of exclusion but a minority of them have reverted from All-restricted back to Car-restricted after a trial. In the 2000s, Elevated complexes began spreading becoming the most closed type of housing estate in the country. In the late 2000s, Demarcated complexes were

introduced by the public authority in new towns to mitigate deepening gating (See Table IV-12).

Exclusiveness types were grouped to five periods of completion dates spanning three years each between 1997 and 2011 to analyse their evolution. The two more exclusive types, All-restricted and Elevated, constitute only 1.0% among apartment complexes completed between 1997 and 1999 but the ratio increases to 8.5% among those completed between 1999 and 2011. The ratio goes up to 14.9% among infill developments of the same period. The percentage of Car-restricted complexes among the total stock also increases from 56.3% between 1997 and 1999 to 73.3% between 1999 and 2011. In contrast, the percentage of Enclosed complexes among the total stock decrease from 42.8% between 1997 and 1999 to 13.9% between 1999 and 2011.

The public authority delivered Demarcated complexes for the first time in new towns in 2008 as a counter measure to the deepening exclusiveness of apartment complexes. New towns also saw the revival of Enclosed complexes where residents do not feel the need to use rising arm barriers included in design. The marked reversal of increase of more exclusive types and decrease of more open types between 1997-99 and 2009-11 is largely due to the design intervention of the public authority in

Table IV-12 Formation of types by period

<table>
<tr><th>Type</th><th>1970-1980s</th><th>1990s</th><th>Early 2000s</th><th>Late 2000s –</th></tr>
<tr><td>Enclosed</td><td>Only type</td><td>Retrofitting to car-restricted begins.</td><td>Retrofitted or redeveloped to car-restricted</td><td>No longer built as infill but revived in new towns</td></tr>
<tr><td>Car-restricted</td><td rowspan="3"></td><td>Retrofitted from enclosed</td><td colspan="2">Retrofitted from enclosed or newly built</td></tr>
<tr><td>All-restricted</td><td colspan="2">Retrofitted from car-restricted (Electric gates cannot be included in design)</td></tr>
<tr><td>Demarcated</td><td colspan="2"></td><td>Newly built in new towns as a counter reaction to deepening gating</td></tr>
</table>

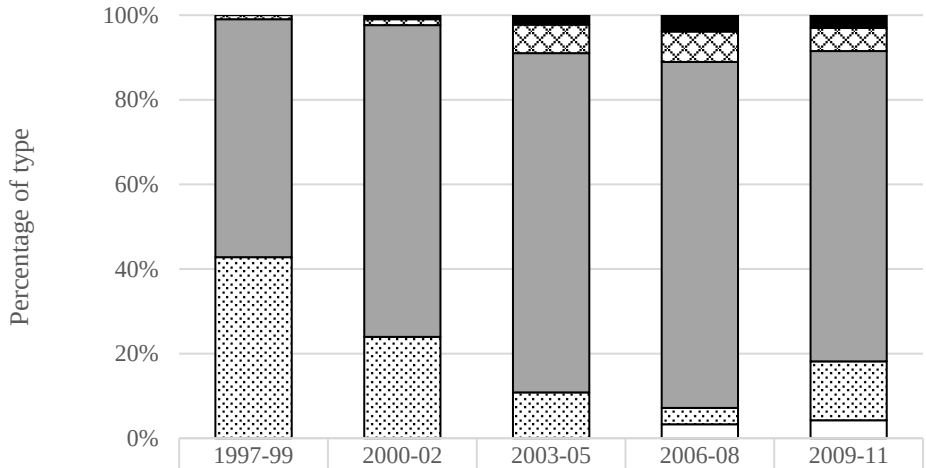
First phase: rising arm barriers in October 2010

Second phase: no trespassing signs added in April 2012

Third phase: gate (left) and fence (right) added in 2013

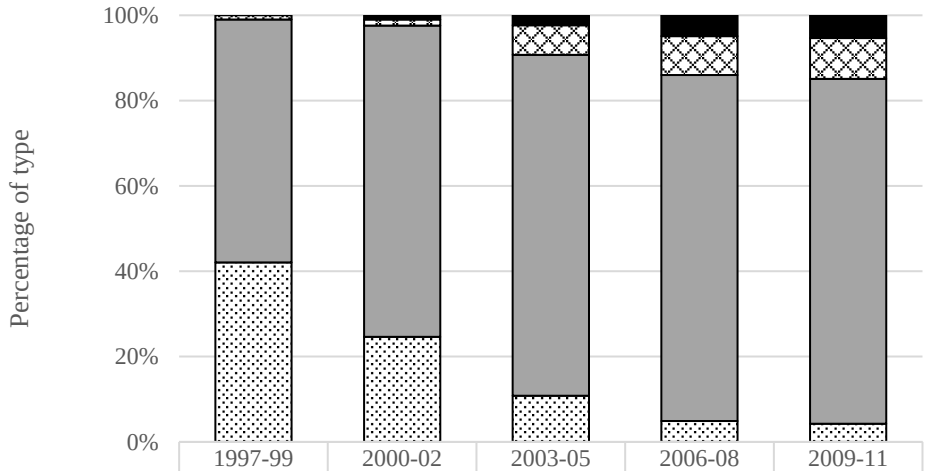
Source: Naver Geori View and Daum Road View

Figure IV-27 Increasing defensive measures over time in AC3



	1997-99	2000-02	2003-05	2006-08	2009-11
Elevated	0.0%	0.9%	2.2%	3.9%	3.0%
All-restricted	1.0%	1.4%	6.7%	7.2%	5.5%
Car-restricted	56.3%	73.7%	80.2%	81.8%	73.3%
Enclosed	42.8%	23.9%	10.8%	3.9%	13.9%
Demarcated	0.0%	0.0%	0.0%	3.3%	4.2%

Figure IV-28 Composition of types by period: all stock (private + public planning)



	1997-99	2000-02	2003-05	2006-08	2009-11
Elevated	0.0%	1.0%	2.3%	4.9%	5.3%
All-restricted	1.0%	1.4%	6.9%	9.1%	9.6%
Car-restricted	56.9%	72.9%	79.9%	81.1%	80.9%
Enclosed	42.1%	24.6%	10.8%	4.9%	4.3%

Figure IV-29 Composition of types by period: infill (private planning only)

new towns. Among infill developments, such reversal did not occur, although the pace of increase of more exclusive types decelerated between 1997-99 and 2009-11 (See Figure IV-28 and Figure IV-29).

Since local contexts producing gated communities constantly change, the exclusiveness typology is not static. Types of gated communities can either converge (Townshend, 2006) or diverge (Thuillier, 2006) as a part of the evolution process of a city. For Seoul, the typology is evolving toward diversification reflecting the increasing complexity and fragmentation of the metropolis. The typology remained stable for three decades dominated by a low degree of exclusiveness type but has differentiated relatively fast from the 1990s to today through the interaction of private and public forces. The evolution oriented toward more exclusiveness until early 2000s by urban and societal pressures but the public intervention started weakening the exclusion drive from the late 2000s through the delivery of more openly planned new towns (See Figure IV-30). The public intervention was effective in turning the tide in the global picture but open design complexes are limited to the periphery, unable to influence private infill developments in the inner city.

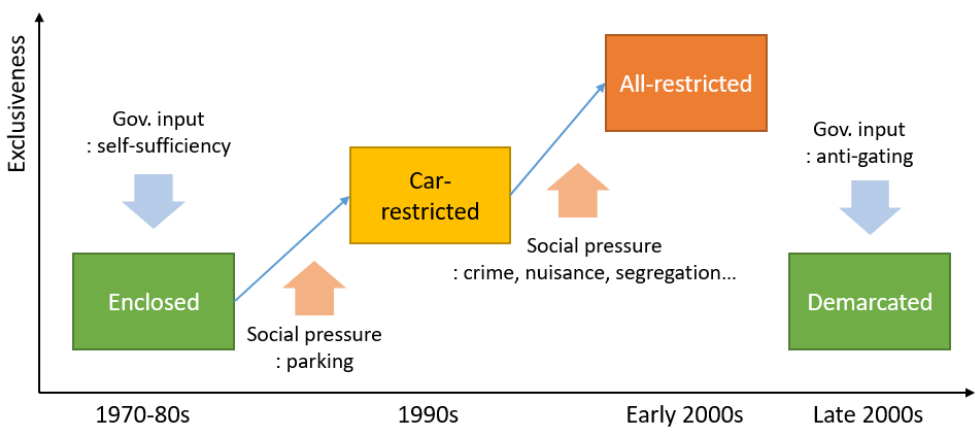


Figure IV-30 Evolution of types

5. Conclusion

An audit of privately owned apartment complexes in Seoul completed between 1997 and 2011 whose land areas exceed 7,000m^2 was carried out to create a typology based on border permeability through indirect observation of apartment complex borders using street view services. Types of walls and access control at entrances of apartment complexes were identified in the audit over one thousand apartment complexes. Walls are made of vegetation or hard materials such as concrete and bricks. Apartment buildings or shopping centres at the edge sometimes function as walls. Physical access control at entrances is either non-existent, for vehicles or for both the vehicles and pedestrians. Devices used for the control include rising arm barriers, warning signs, electric gates and reserved elevators to terrace level.

Types of wall and access control were combined to produce four exclusiveness types: Enclosed, Car-restricted, All-restricted and Demarcated complexes. *Enclosed* apartment complexes are surrounded by walls but entrances are open without physical exclusionary devices. *Car-restricted complexes* are surrounded by walls and major entrances have rising arm barriers to preserve parking space for residents and prevent through traffic. Guard posts are built at major entrances alongside rising arm barriers to control car access. *All-restricted complexes* are surrounded by walls and entrances have either electric gates and/or 'no trespassing' signs as well as rising arm barriers. Guard posts are located right beside the entrances for close surveillance of visitors on foot. Unlike other types, *Demarcated complexes* do not have walls at the edge but only a demarcation lined with *Low bush* less than one-meter-high or just lawn. The type is the result of public design intervention to lower exclusiveness of apartment complexes in new towns.

The typology does not remain as a mere classification. Their interrelationship and evolution become a tool to understand the reason and dynamics of gating phenomenon. Distinct patterns and evolutionary tracks of types emerge from the correlation between types and their attributes. Major attributes of the types include home price and size, mode of development, estate size, location and age.

Seoul's gating geography is characterised by indiscriminate distribution of gated communities in both the inner city and the periphery. While Car-restricted complexes as the most prevalent type are evenly distributed, other types are concentrated in certain parts of the city. Enclosed complexes survive farther away from jobcentres, which produce crowdedness, without becoming Car-restricted. All-restricted complexes are concentrated in better-off areas as the residence of the wealthy. Demarcated complexes are located in new towns in the periphery.

The primary factor determining the degree of exclusiveness of gated communities in Seoul appears to be socioeconomic status of residents. As statistics on income, occupation and level of education per apartment complex are not available in South Korea, housing statistics were used to substitute income statistics for an analysis on the relationship between residents' socioeconomic status and exclusiveness of their homes. The result of analysis indicates that home price and home size of a gated community tend to be higher and larger in more exclusive types. In the same token, collective housing units in gated communities are more expensive and larger than their counterparts in non-gated areas. The two analyses show that the housing market in Seoul is stratified by exclusiveness and the wealthy actively seek gated life style.

Secondary factors determining the degree of exclusiveness of gated communities in Seoul are mode of development and estate size. Apartment complexes in planned districts where the public intervened in design tend to be more open due to rational planning and relatively homogenous population. In contrast, apartment complexes built as infill in the middle of existing urban tissue tend to be more exclusive due to spatial and social conflicts with the surroundings. Although there is no coherent correlation between estate size and exclusiveness, large estate size does hinder the attempt to control pedestrians. Large apartment complexes as independent neighbourhoods have less unwanted visitors from the outside and it is harder to find consensus of installing gates from a large number of residents.

Enclosed complex was the first and unique type of apartment complexes and guided by the design of the government which wanted to create a self-sufficient housing estate. Car-restricted complex emerged in the 1990s as parking became

scarce resources in urban space amid rapidly rising car ownership. All-restricted complex began appearing in the early 2000s as an ultimate way to remove crime and nuisances in residence by controlling pedestrian entry as well as vehicle entry. Demarcated complex was also introduced by the government in the late 2000s, but as a counter measure of the deepening gating phenomenon.

There exists an evolutionary relationship between Enclosed, Car-restricted and All-restricted complexes because Car-restricted and All-restricted appeared as the retrofitted form of each preceding type. The retrofitting by installing more exclusionary devices has been led by residents among the three actors of gating – developers, the state and home buyers. As a result, the ratio of more exclusive gated communities has kept increasing among the infill apartment complexes that are relatively free from public design intervention. Therefore, increase of exclusiveness in gated communities is a voluntary evolution for the residents to adapt to the changing urban environment.

Chapter V. RESIDENT PERCEPTION OF GATED COMMUNITIES

The walls and gates of the community reflect this splitting physically as well as metaphorically, with 'good' people (the good part of us) inside, and the 'bad' remaining outside.

Setha Low (2003)

Whereas Chapter III and IV approach the gating phenomenon from the perspectives of the state and developers at citywide macro level, this chapter does the same from the perspectives of housing consumers at neighbourhood micro level, pinpointing several cases of All-restricted complexes barring both vehicles and pedestrians. First, urban and social characteristics of All-restricted complexes are explored through case study. Second, perception of gates and neighbourhood by residents and the profile of gating proponents are analysed through survey and interview. The result of the analyses reveals working, causation and contradiction of gated communities.

1. Survey and interview

1) Survey

Mail survey was conducted to find out the perceived reasons behind gating, acceptance of gates and the level of satisfaction of gating for six apartment complexes controlling pedestrian access, denoted as from AC1 to AC6 (See 5.2 for the selection process of apartment complexes to be surveyed). The questions are all close-ended except the last question. Respondents were asked either to choose maximum two or three answers from multiple choices or to assess the degree of opinion by five-level Likert scale including a neutral (zero) level. Respondents could describe their own choice in multiple choice questions and comment whatever they wanted in the last question. The number of questions was minimised to essentials to

prevent respondents' getting tired of a long list of questions. The survey questions are as follows and the original questionnaire in Korean is found in the Appendix.

Table V-1 Survey questions and answers

Main Questions	Answers
1. When did you move into the current residence?	1. YYYY / MM
2. Why do you think gates are installed in your apartment complex to control the access of non-residents?	2.a) Prevention of encountering non-residents in the complex b) Prevention of shortcutting the complex by outsiders c) Prevention of nuisance caused by vendors, deliverymen and adolescents d) Prevention of crime e) Protection of plants and facilities in the complex f) Image of luxury homes and raising property value g) Other complexes already have one. h) Others:
3. How effective are the gates for the reasons selected above?	3. very efficient – efficient – no effect – reverse effective – very reverse effective
4. How much are you afraid of crime in your neighbourhood?	4. very low – low – normal – high – very high
5. Do you feel more secure or insecure in your apartment complex due to the gates?	5. much safer – safer – no difference – more unsafe – much more unsafe
6. Were the gates one of the reasons in choosing the current residence?	6. Yes – No – Gates were not there then.
7. Do you approve of the gates in your apartment complex?	7. strong yes – yes – neutral – no – strong no
8. If you are neutral to, against or very against the gates, why do you disapprove of them?	8. a) Effect of gates is null or little. b) Inconvenienced by detour caused by gates or barricades c) Passage of gates and use of key are cumbersome. d) Inconvenient when guests or service agents visit e) Repulsed by installing gates at entrances f) Worried of disharmony with the neighbours outside g) Others:
9. How should the operation of gates be improved?	9. a) Opening or demolishing gates as I don't want gates b) Satisfied by the current method c) Manage the gates more thoroughly d) Install gates at the main entrance which is currently open e) Others:
10. If you move to another apartment complex in the future, will you move to one having gates?	10. strong yes – yes – neutral – no – strong no
11. If any, please leave your comments on the subject.	

Socioeconomic Questions	Answers
- Individual: gender, decennial age group and profession - Household: number of family, existence of minority in family, housing tenure and income	- Profession: Professionals - Senior managers - Clerks and engineers - Sales and service - Labourers and technicians – Homemakers – Students – Unemployed – Retirees - Tenure: owner occupier – renter – other: - Income (won): 1.99 million or less - 2 to 3.99 million or less – 4 to 5.99 million or less – 6 million or more

Since the only available contact information was home address, the survey could be conducted either face-to-face on site or by mail. However, conducting a face-to-face survey is difficult in certain complexes without an explicit permit from the president of residents' association, which is almost impossible to obtain without a prior personal relationship. Thus, mail survey was the best mean to conduct the survey in the circumstances. Planning and implementation of the survey followed the methods presented in Dillman, Smyth and Christian (2008) to conduct a reliable survey and improve the response rate.

A pilot survey was conducted before the main survey to test the feasibility of mail survey for exclusive apartment complex residents in Seoul. Each mail included a copy of questionnaire, a cover letter signed by the researcher, a return envelope with stamp and a national lottery ticket valued 1,000 wons as a token of gratitude. Each questionnaire was identified with a four-digit serial number to track down respondents. 5 out of 30 questionnaires sent to an apartment complex (AC2) were returned in a single mailing, which corresponds to a response rate of 16.7%. The response rate was deemed to be enough to adopt the methodology. The pilot survey helped to rectify some problems of the survey such as conceptual confusion of respondents between complex gates and building security doors, mainly resulting from the fact that a single Korean word (*mun*) denotes both gates and doors. The result of the pilot survey is not included in the analysis because some questions and choices were rephrased for the main survey. However, the patterns of response to

major questions such as reasons and approval of gating are similar between the two surveys.

In the main survey, despite the difference in population size, each complex was weighted equally in determining the number of questionnaires to be sent in order to avoid possible idiosyncrasies resulting from a single large complex. Within a complex, 100 households were randomly chosen with the help of Excel spreadsheet, while keeping the distribution of different unit sizes same to the population, considering income gap between households living in different unit sizes. Envelopes sent in the first mailing had the same content to that of the pilot survey. As people only receive mail but rarely send it due to numerous means of communication today, methods to raise response rates were sought. The cover letter informed respondents the location and the telephone number of the nearest post office and post boxes. An online version of the survey was set up using Google Forms for those who are tech-savvy and the address to the online survey was indicated in the cover letter. 13 out of 133 people used the online survey instead of returning the questionnaire by mail. The response rate of the first mailing was 16.7%, inferior to the minimum response rate set at 20%. 408 questionnaires were sent again to those who had not responded in any way either by returning questionnaires or unopened envelops except to those who residing in AC1 who had fulfilled the required response rate of 20% in the first mailing. In the second mailing, the cover letter asked residents to return the questionnaire once more but the national lottery ticket was not resent.

The interval between two mailings was one month and the total response rate of the survey reached 22.2% (133 respondents) after two mailings (See Table V-2). The actual response rate would have been higher, considering occasional loss of mail during delivery process. In fact, a respondent reported having filled out the questionnaire twice due to the delivery loss. Response rates among different complexes are relatively even from minimum 19% to maximum 26%. Survey results were coded using IBM SPSS Statistics 23.

Table V-2 Survey response rates

Category		1st mailing on 26 April	2nd mailing on 26 May	Total	Total percent
Valid responses		100	33	133	22.2%
No or invalid responses	Invalid responses*	1	0	1	0.2%
	Returned unopened	14	27	41	6.8%
	No reaction	492	348	425	70.8%
Total		600	408	600	100.0%

* Questionnaire returned with major questions unanswered.

2) Interview

The interview was conducted to hear the opinion of residents directly and to obtain information on the complex for case study and working of gates. It also aimed to verify validity in the design of the survey and complement it. The interview was planned, conducted and analysed based on the guidance of Merriam (2009) on qualitative research. Semi-structured interview was chosen to guarantee comparability between interviews and flexibility for individual context. A set of questions had been prepared but its order was adjusted for what the interviewee said. Complementary questions were spontaneously asked in particular situations. The question set was composed of four categories. With meaning of the gate as the main subject, background of interviewee, community life and information on the complex were also asked. The question set is featured in Table 5. Group interview was not planned but unplanned participation of family member occurred once.

Two people were interviewed to help the design of the survey in 2014. They were contacted through personal relationship or online announcement. At the end of the survey in 2016, survey respondents were encouraged to volunteer for interviews with a promise of small monetary compensation – gift certificate with no mention of the amount. The amount was not specified in order to encourage the willingness of the participants for social contribution and good deeds to helping others. 19.5% of the respondents (26) left either their telephone number or email address on the

questionnaire. However, some of them could not be contacted or declined interview when asked. Snowballing of interviewees had been expected from initial volunteers as in other qualitative studies of gated communities but turned out to be difficult in practice. Snowballing was not easy due to lack of neighbourhood relationship or unwillingness to intervene. Thus, more volunteers were sought among those who had participated in the survey but not left their personal contacts for interview. Letters were sent to them once more to ask volunteering for interview. The mail contained a letter of gratitude and promotion of interviews with a five-page summary of the survey results customised for each apartment complex. This effort could recruit more volunteers.

Interviews took place in places and times where interviewees were most comfortable and free. Most of the places of the interviews were the cafes near their homes and workplaces and gardens inside apartment complexes. Some older male interviewees invited the researcher to their homes, which came as a surprise considering that the interviewer had neither intermediaries nor prior face-to-face contact with them. Two people didn't want to face the interviewer and talked on the telephone for shyness or lack of time. Interviews took for half an hour on average. All the interviews were recorded with the permission of interviewee under the guarantee of anonymity from the researcher. Interviewees were given the promised gift certificate with the amount of 10,000 wons at the end of interviews, although some of them declined it as a gesture of good will.

Every interview was transcribed using Express Scribe Transcription. Transcription was merged with the comments from the survey. Notes briefly explaining the meaning of passages to the study were added in the merged transcription using word processor. When the notes were finished, they were assigned into categories (See Table V-11). Categorisation produced two types of contents: testimony and observation. Testimonial information includes facts and experiences revolving around gates, while observation includes insight on the complex, the neighbourhood, gating phenomenon and the society. Testimonies were used alongside the survey result to describe the phenomenon, while observations intersected with the literature

Table V-3 Interview questions

Category	Question
1. Background of interviewee	1.1. What kind of housing did you occupy before moving to the current residence? 1.2. Why did you choose the current apartment complex? 1.3. What are your satisfactions and dissatisfactions of the complex? 1.4. Please introduce your family.
2. Community	2.1. Do you know any neighbour? Where do they live? How close are you to them? 2.2. Do you participate in the community activities of the complex?
3. Information on the complex	3.1. What kind of amenities exist in the complex? 3.2. What sort of residents live in the complex? (age, job, tenure, turn-over…) 3.3. What had existed before the current apartment complex built? 3.4. Do you know the story behind the installation of gates? 3.5. Please explain how the gates are operated for the residents and visitors.
4. Meaning of the gate	4.1. Why do you think gates are operated in your apartment complex? 4.2. How different are the degrees of safeness you feel inside and outside of the complex in the neighbourhood? 4.3. Why do you think the gates contribute to crime prevention although the main entrance is open? 4.4. What kind of change in your daily life was brought by the installation of gates? 4.5. Have you heard of any problem or conflict with the residents living outside the gates? 4.6. What do you think of the existence of gates in your complex? Do you agree or disagree? 4.7. How much are you satisfied with the current method of gating? What kind of extra measures are needed? 4.8. Do you think the main entrance should be closed, too? If yes, then why? 4.9. If you move in the future, do you want to move to an apartment complex with gates? If yes, then why?
5. Other	5.1. Do you have any extra comment?

in the analysis of the phenomenon. A similar testimony from more than two participants were considered important, but such distinction was not applied for observations because they were rarer and more diverse than testimonies.

The researcher has lived both in gated and non-gated residences in Seoul and was living in a gated community in the city at the time of research. However, he has lived neither in nor near more exclusive gated communities where the access of pedestrians into compounds is physically controlled.

3) Participants of the study

(1) Survey respondents

133 out of 600 households returned the questionnaire. Younger population is underrepresented in the survey, though any adult more than 18 years old could respond. Questionnaires were filled out more by the retirees who tend to be less busy and AC6 turned out to be a NORC (naturally occurring retirement community). More interests for the survey from older male cohorts make males (57.0%) more represented than females (43.0%) (See Table V-4). The average number of household members is estimated to be more than 3, significantly higher than the Seoul average of 2.53 (Kosis, 2015). It is because private apartment complexes in general and the ones in the survey do not have small apartment units for single-

Table V-4 Age and gender of respondents

Age	Male	Female	All
19-29	16	1	17
30-39	20	9	29
40-49	17	10	27
50-59	8	20	28
60-69	9	11	20
≥ 70	4	5	9
Total	74	56	130

person households. 27.6% of the respondents reported having minors whose age is less than 19 years old in their family. Respondents have lived in the current residence for 6.6 years on average.

Many of the respondents belong to the high echelon of the society. Respondents having highly skilled jobs such as professionals and senior managers constitute 34.4% of the total (See Table V-5). Accordingly, the household income is high with 50.0% of households earning more than 6 million won per month (See Table V-6). Such high-income households were found out to constitute only 10.9% of the Seoul households from a citywide survey conducted in 2014 (Byeon, Park and Kang, 2015). This comes from the fact that these residences are relatively new and some of them located in well-off residential areas. High rise apartments are also a housing type for the middle and upper classes in Korea. 70.2% of the households surveyed are owner-occupiers and 29.8% renters. The ratio of owner-occupiers among respondents is significantly higher than the Seoul average of 41.2% (Byeon, Park and Kang, 2015:33).

Table V-5 Professions of the respondents

Profession group	Male	Female	Total
Professionals	19	13	32
Senior managers	11	1	12
Clerks and engineers	14	9	23
Sales and service	8	2	10
Labourers and technicians	2	0	2
Homemakers	0	26	26
Students	1	3	4
Retirees	18	1	19
Unemployed	0	0	0
Total	73	55	128

Note: The total in the table does not match the total number of respondents (133) because this question was skipped by some respondents out of rejection or negligence. This applies to other tables from the survey.

Table V-6 Household income distribution

Monthly household income (million wons)	≤1.99	2.00-3.99	4.00-5.99	≥6.00	Total
Nbr. of households	5	27	32	64	128

(2) Interviewees

Unlike surveys, social relationship between the researcher and subjects could not be erased in interviews. A disproportionate number of men relative to women from survey volunteered for interviews. It is assumed that female respondents of the survey may have hesitated more to see an unknown male interviewer (The gender of researcher could be deduced from the name). The number of interviewees was proportionate to the number of households in apartment complex by and large except AC6 where no one among the survey respondents volunteered to talk. 18 interviewees are all Korean nationals and their brief profiles are summarised in Table V-7.

Table V-7 Profiles of the interviewees

Commu-nity	Gender	Age cohort	Job category	Approval of gates	Participation
AC1	Female	20s	Student	Yes	From survey
AC1	Female	40s	Sales and service	Yes	From survey
AC2	Male	40s	Clerk & engineer	Yes	From survey
AC2	Male	50s	Retiree	No	From survey
AC3	Male	30s	Clerk & engineer	Yes	From survey
AC3	Male	60s	Labourer & technician	Yes	From survey
AC3	Male	70s	Retiree	Yes	From survey
AC3	Female	30s	Professional	No	Pers. relation
AC3	Female	30s	Homemaker	Yes	Snowballed
AC4	Male Female	50s 70s	Labourer & technician Retiree	Yes	From survey His mother
AC4	Male	60s	Professional	Yes	From survey

AC4	Female	40s	Homemaker	Yes	From survey
AC5	Male	40s	Professional	Yes	From survey
AC5	Male	40s	Professional	Yes	From survey
AC5	Male	60s	Clerk & engineer	No	From survey
AC6	Female	60s	Homemaker	Yes	Pers. relation
CC near AC3	Female	40s	Homemaker	Yes	Online announcement
CC near AC1	Female	50s	Sales and service	Yes	Snowballed

Note: CC near ACn = Car-restricted complex about 1 kilometre apart from ACn (not in the same neighbourhood)

2. Description of the cases

1) Selection of type and sites

All-restricted complex barring both vehicles and pedestrians is studied in-depth because it is at the final stage of the evolution of apartment complexes in terms of physical exclusiveness which retains the traces of past types: Enclosed and Car-restricted complexes. It is also the most polemic form of gated communities in Korea barring outsider pedestrians by the will of residents, thus requires a further analysis to understand the contexts. There is less need for survey for apartment complexes where only rising arm barriers are installed as their motivation is evident (preservation of parking space and prevention of vehicular through traffic) and control over cars is almost an accepted custom in the society unlike control over pedestrians. The case study was conducted taking notable cases having gates against pedestrians while maintaining main entrances open. Study of those communities can reveal not only practical role of the gates but also their symbolic meaning from the fact that some entrances are physically closed while others are psychologically closed toward outsiders.

Eligible apartment complexes should not be completely gated for the researcher to ask the residents whether they want more control on their borders. Full security communities maintaining every gate closed were excluded also for representability.

They are likely to represent only a fraction of the Seoul population, as they are mostly composed of large luxury homes. The eligible complexes should have more than two complex entrances of which minor entrances are controlled by electric gates, while major entrances have only rising arm barriers. Finally, they must have enough residents not to make every household receive the questionnaire. When it happens, the survey mail can be mistaken as junk mail. At the worst, it can become a suspicious matter of the community, which may lead to a boycott. Gaining an official approval on the survey from management offices or residents' councils to prevent boycott without personal relationship is very difficult considering the sensitivity of the issue and general unwillingness to participate in academic studies. The criteria for eligibility is summarised as follows.

- The eligible apartment complexes should not be divided by public roads[4].
- There are more than two entrances by the design but smaller pedestrian entrances are gated through retrofitting while the main entrance remains open.
- The eligible apartment complex should have more than 200 households to avoid every household receiving the questionnaire.

The survey and interview are interested in different responses depending on various circumstances of apartment complexes. At the same time, the number of apartment complexes had to be less than ten for easier comparison and limitation of the study budget. Six was chosen because 100 questionnaires sent to 6 complexes could warrantee at least 100 filled out questionnaires, even if the response rate dips below 20%. They were chosen from different areas scattered in Seoul to prevent geographical bias and to observe different thoughts of residents depending on local context. Four complexes were the only complexes that met the eligibility in their areas (gu's) and the rest two had to be chosen in the south-east of Seoul where

[4] 5.8% of the audited apartment complexes are divided by public roads.

eligible complexes were multiple. A larger and more distinctively gated complex was chosen from each of two gu's in the south-east.

Application of the criteria produced a list of six apartments totalling 3,951 households which are located in different gu's from each other. They are relatively new, all having been built in the 2000s. As gating of apartment complexes is a socially contentious issue, anonymity of the apartment complexes was guaranteed to the participants of the survey. The cases are denoted as from AC(All-restricted Complex)1 to AC6 in the order of average income level obtained from the survey for easier understanding of the survey and interview result.

Table V-8 Housing attributes of the All-restricted complexes studied

Category	AC1	AC2	AC3	AC4	AC5	AC6
Year completed	2000	2010	2005	2006	2006	2003
Year gated	2009	2011	2011	2008	2012	2003
Number of households	265	386	1,067	850	738	645
Estate area (m^2)	8,022	19,586	43,007	50,908	24,001	27,115
% of homes less than $85m^2$	89%	60%	74%	73%	100%	0%
Average home size (m^2)	77.4	97.2	92.1	90.9	72.4	183.2
Land price** (1,000 won/m^2)	2,957	4,009	4,340	2,640	9,899	10,500

* The year when electric gates were installed. ** As of 2015
Source: Statistics of Seoul Metropolitan Government

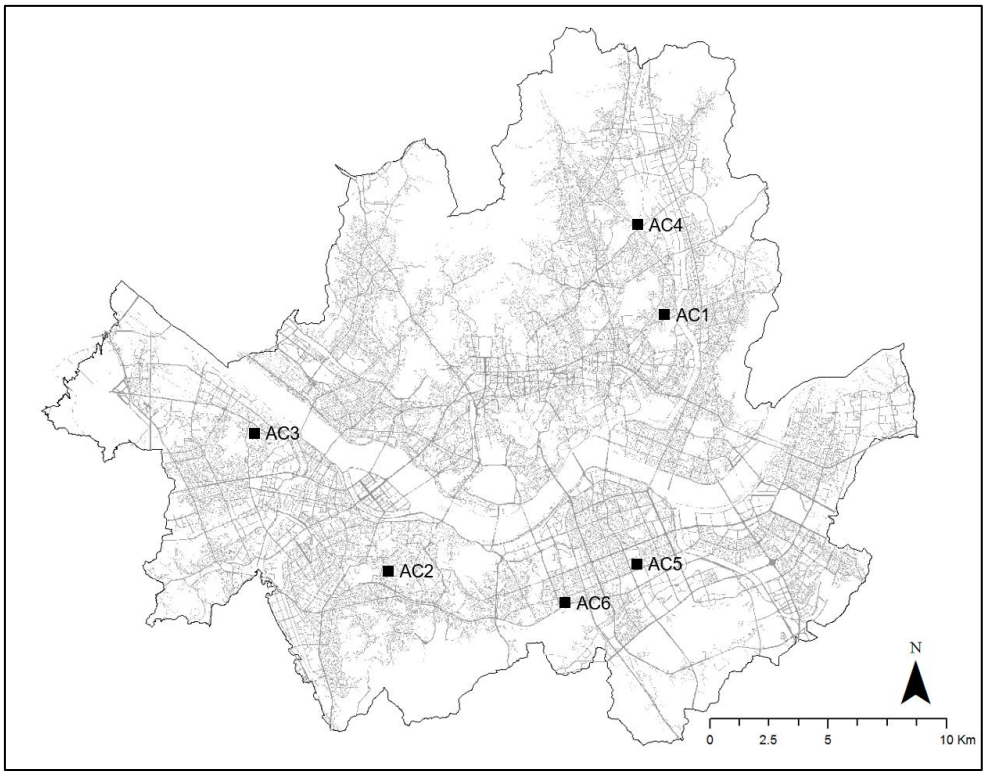
Table V-9 Socioeconomic attributes of the All-restricted complexes studied

Category	AC1	AC2	AC3	AC4	AC5	AC6	Avrg.
Average age of residents*	51.7	49.8	52.8	48.0	48.7	65.5	52.7
Average household size	2.86	2.96	3.26	3.50	3.26	2.71	3.08
Average years of residence**	7.5	3.6	7.8	5.7	5.6	10.2	6.6
Average household income (million won)*	4.30	5.07	5.09	5.50	6.00	6.80	5.42
Ratio of highly skilled job (%)***	14.3	26.9	21.7	35.0	55.6	57.1	34.1
Ratio of renters (%)	24.0	29.6	30.4	35.0	52.6	9.5	29.8

* Average of the median values of cohorts ** As of 15 June 2016

*** Highly skilled jobs include managers, executives and professionals.
Source: survey of the study

This section describes the six selected communities for locational characteristics, socioeconomic situation and mode of gating. The description serves both for a micro level analysis of All-restricted complexes and background analysis of the survey and the interview. The cases illustrate various contexts in which gates have sprung up. Numerical data describing these communities are summarised in the Table V-8 and Table V-9; their locations in Seoul are presented in Figure V-1. In the description of apartment complexes to follow, artery means wider roads having pavements while street means narrower alleys less than 18 metre wide without pavement. In every case, main entrances are facing arteries.



Source: Author

Figure V-1. Location of the apartment complexes studied in Seoul

2) Characteristics of the sites

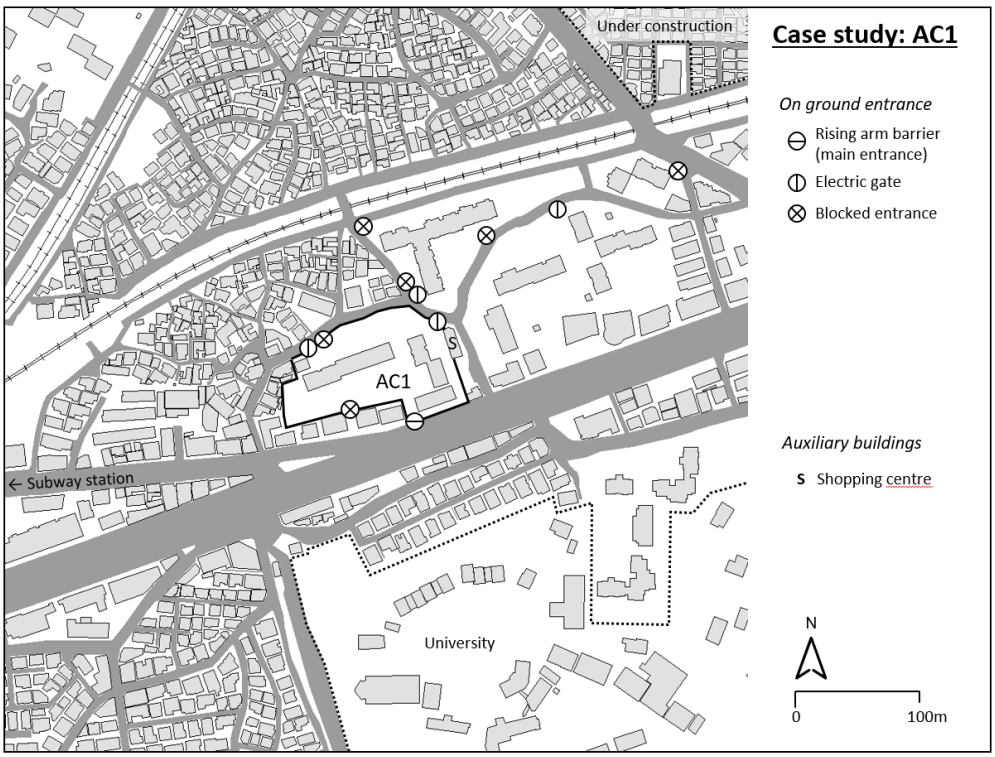
(1) AC1 in a gentrifying neighbourhood

AC1 is a small complex composed of two apartment buildings with 265 housing units and a shopping centre, located in mid-eastern Seoul. Almost 90% of the homes in the complex are small or medium sized less than 85m^2. As a small and old apartment complex built in 2000, it does not have much amenity except a playground and a senior centre. Much of the space is occupied by parking lots and there is no garden. AC1 is one of the first generation of apartment complexes built in the area. It is surrounded by two other small apartment complexes in the east and degraded multifamily homes and houses in the west. The immediate neighbourhood of AC1 is not exactly an ideal residential area, being sandwiched between railway in the north

and an artery road in the south on a 150m wide strip stretching east-west. The area had been composed of small houses with irregular street networks, severely lacking infrastructure and amenities except a subway station (450m to the west from AC1) until the 2000s with few parks, schools and retail places. It has since been being actively transformed into a jumble of small and medium sized apartment complexes which replace the old tissue in an irregular manner. As the size of developments were relatively small and independent from each other, the overall infrastructure of the neighbourhood was barely improved through redevelopments. The average income of the residents surveyed in AC1 are the lowest among the six apartment complexes with a significant margin. It has a high portion of the elderly residents who started living here before the redevelopment.

The complex has four entrances, of which the main entrance to the artery road is open to pedestrians, a small pedestrian only entrance leading to the artery road is blocked and two entrances to the street are gated with keycard system. The rising arm barriers without an attached guard post at the main entrance[5] indicates that they were not included in the design stage but added later by the residents. The complex would have started as an Enclosed complex and gone through Car-restricted and All-restricted complex in order with erection of rising arms barrier and electric gates. AC1 and three nearby apartment complexes, equipped with at least one gate, form a cluster of All-restricted complexes in a rather unusual location for gates to emerge, considering that other clusters are typically situated in affluent areas. All-restricted complexes in the area demonstrate that advanced gating is not limited in wealthy areas.

[5] A guard post exists five meter inside from the rising arm barriers.

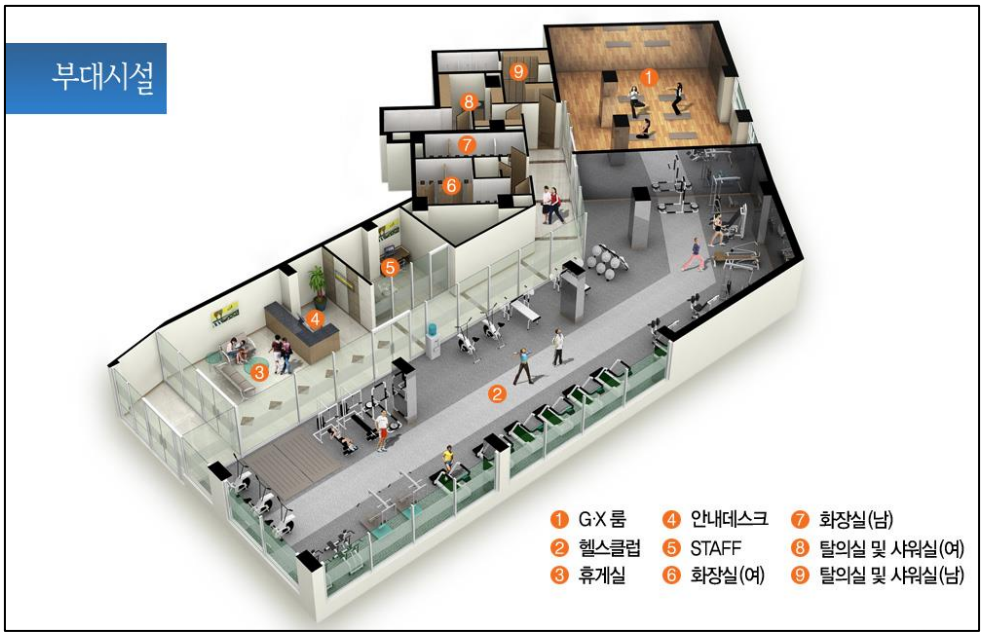


Note: Entrances of the complexes other than AC1 are marked, only if they are gated or blocked.
Source: Author

Figure V-2. AC1 and the neighbourhood

(2) AC2, reversing design progress

AC2 is a small complex composed of eight apartment buildings with 386 housing units, located in the south west of Seoul. As a new apartment complex built in 2010, all the parking space exists underground while the ground is dedicated to pedestrian ways and green space. Its amenities include themed gardens, playgrounds and a gym (See Figure V-3). The apartment complex straddles a hill whose heights increase from west to east. Using the slope, shops and the gym are designed to be partially underground whose facades face the artery road but their roof forms the ground of the apartment buildings. The complex also has a senior centre, study rooms and a library.



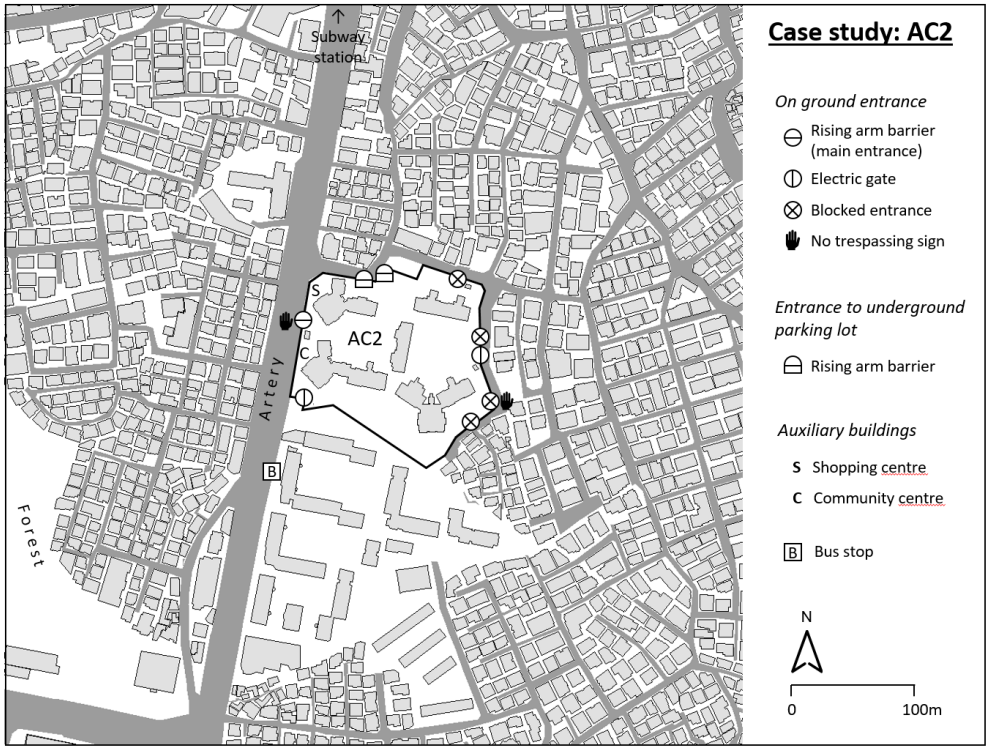
Source: Samho International Co. Ltd.

Figure V-3. Gym in AC2

It borders an artery road to the west and an older apartment complex of 710 households completed in 1996 to the south which, in turn, borders another small apartment complex to the south. The neighbourhood to the north and east of AC2 is composed of low-rise multifamily homes with irregular road network. The three apartment complexes in the area are not separated by streets but by walls, thus form an impermeable area stretching from north to south by 400m, blocking shortcuts to the artery road for eastern dwellers to the apartment complexes. There is no school in 500 meter radius from the complex. The area is similar to that of AC1 that the urban tissue was formed without planning, but the gentrification process of creating apartment complexes is more subdued.

Car and pedestrian traffics are completely separated in the complex. There are two car entrances to underground parking lot and six pedestrian entrances. The main entrance to the artery road is open but is under the close surveillance of guard post. Visitors can go through but are warned by the no trespassing sign saying ‘Non-

residents' entry is prohibited' which was put up in 2015. Another entrance to the artery road is gated. The four entrances to the streets in the north and east had been blocked by low barricades in 2011 until three of them were upgraded to gates in 2015,



Source: Author

Figure V-4. AC2 and the neighbourhood

Barricade in October 2014

Electric gate in August 2016

Source: Daum Road View

Figure V-5 Conversion from barricade to gate in AC2

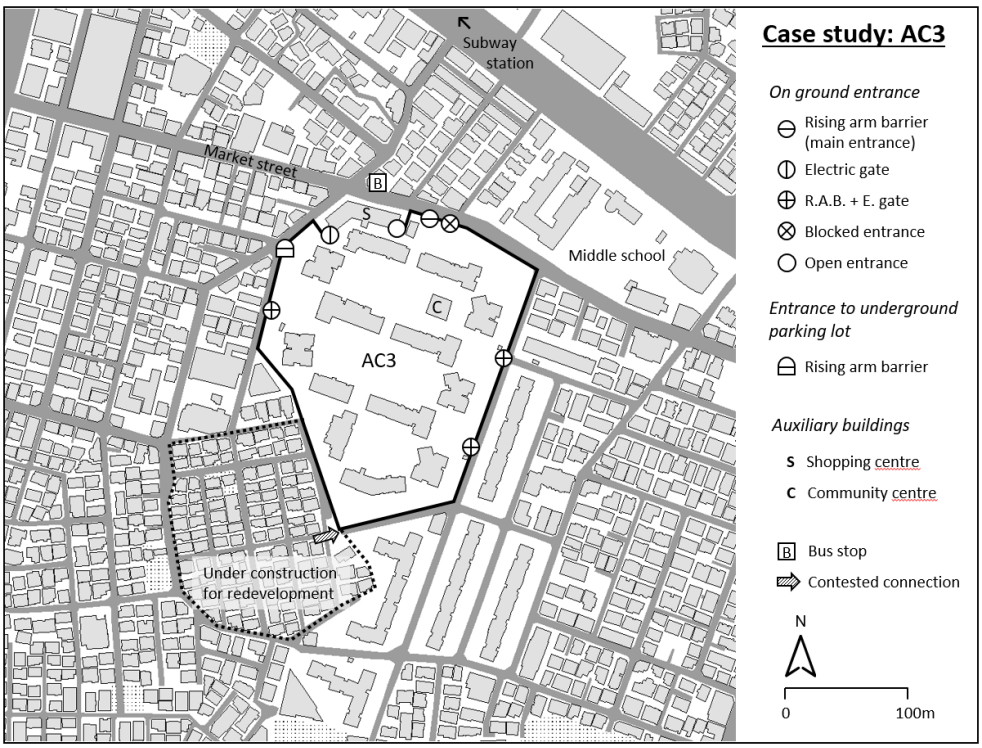
of which two are permanently closed except for special occasions such as moving and emergency gates (See Figure V-5). The other entrance in the centre has an electric gate for pedestrians and a permanently closed gate. However, the enforcement of gates is lax. As the surroundings look clean and are filled with newly built multifamily homes, it is puzzling to see the continued increase of physical defence and no trespassing signs at AC2.

Evidenced by the relatively large number of pedestrian entrances for its size, the apartment complex was designed as an open apartment complex offering a pedestrian shortcut between the eastern area and the artery road with bus stops. Now the shortcut is unavailable for non-residents due to the gates erected by the residents of AC2. It is a lone All-restricted complex where nearby apartment complexes are not gated against pedestrians. However, the neighbouring apartment complex to the south has no entrances toward streets in the east by design. Some older generation of apartment complexes in Seoul were built to border neighbouring buildings without creating roads separating them, thus they have only the entrances to artery roads. The design progress of AC2 in contrast to the uninviting design of the neighbouring complex, a departure from the old planning without consideration of the surroundings, was effectively nullified by the gates erected by the residents.

(3) AC3, a fenced island in fine-grained urban tissue

AC3 is a large apartment complex composed of thirteen apartment buildings with one thousand households, located in the south-west of Seoul. The apartment complex was completed in the mid-2000s as a redevelopment replacing an old apartment complex of 890 households that had been built in the early 1980s. A significant number of residents have lived here since the time of the old apartment complex for more than thirty years and form a community within community.

Since most of the parking space is located underground, all the open space is devoted to amenities including gardens, playgrounds, a basketball court and a tennis court. Gardens are well-maintained and the main garden with ponds facing the main



Source: Author

Figure V-6. AC3 and the neighbourhood

entrance is especially impressive. The gardens and playgrounds are well-suited to children's activities, thus you can always see many children playing there with their parents. It also has a promenade fitted with exercise machines. The complex has by far the best open space both in quantity and quality in the neighbourhood where open space offered by the public is almost non-existent. The large gap in the quality of open space between inside and outside the complex is one of the reasons attracting outsiders.

> My apartment complex is the best one in this neighbourhood… Outsiders visit here for the landscaping… As you know, the neighbourhood is mostly multifamily homes without other apartment complexes. There are some apartment complexes but their landscaping is not good.
>
> Spoken by a male resident of AC3 in his 30s

The complex forms a superblock of 4*ha* in the middle of a fine-grained residential neighbourhood having a grid-type road network. The north of AC3 has a busy market street, a bus stop and a street leading to subway station, generating a large crowd. The remaining surrounding area is residential and quiet relative to the northern side. Another apartment complex of 495 households, redeveloped three year earlier, is adjacent to the south-east. Unlike AC3, it is divided into five blocks by public roads. There is an ongoing project of converting eleven residential blocks into an apartment complex to the south-west. The neighbouring apartment complex and multifamily homes are relatively well maintained, but they do not possess the quality infrastructure found in AC3.

It is one of the largest apartment complexes in Seoul directly controlling foot traffic with gates. The complex has eight entrances. The main entrance at the north has a rising arm barrier with a permanently manned guard post and an adjacent pedestrian only entrance – originally a part of the main entrance – is blocked. However, the less visible entrance between the guard post and the shopping centre is open without any device installed. Two entrances at the east and other two at the west have rising arm barriers and electric gates. Delivery motorcycles cannot enter the complex and should be parked in a designated place next to the complex wall. Then, the resident should come to the gate to get food or the delivery person enters the complex on foot (See Figure V-7-L). Prohibition of food delivery within compound stems from safety concern from motorcycles and food smell. As a result, some local restaurants stopped delivering food to AC3.

With the installation of gates at the east and west, AC3 and the south-western part of the adjacent apartment complex effectively partition the neighbourhood into two by forming an impermeable area which stretches from north to south by 350 meters. Before the gates, the middle school students and other non-residents used to take a shortcut and more pleasant route through AC3. It is planned that the dead-end street separating AC3 and the south-east apartment complex is connected to the south-western redevelopment project. When the project is complete, the connection can function as the east-west corridor of the neighbourhood, unless the new apartment

complex also erects gates. However, the plan is already contested by the residents of AC3 due to security and privacy concern.

Security does not seem to have been a major concern in the design stage of AC3, which is evidenced by the sufficient number of entrances to complex and exposed mail boxes. Mail boxes in AC3 have almost no security measures. They are located outside the ground floor lobbies and each mail box is not locked, thus anyone can have access to any mail (See Figure V-7-R). The current state of mail box suggests that security is still not really a serious problem in AC3. However, the lack of concern for security in design was rejected by the residents. The apartment complex went through a gradual gating consisting of three stages. At first, it was designed as a Car-restricted complex with rising arm barriers for mixed entrances and no barrier for pedestrian entrances. By 2011, no trespassing signs were erected in the middle of pedestrian entries and they were replaced by electric gates by 2013 (See Figure IV-27). The apartment complex does not belong to a cluster of All-restricted complexes but there exists a full security community of 276 households to 900 meter south-east.

L) Designated parking place outside the complex for delivery motorcycles

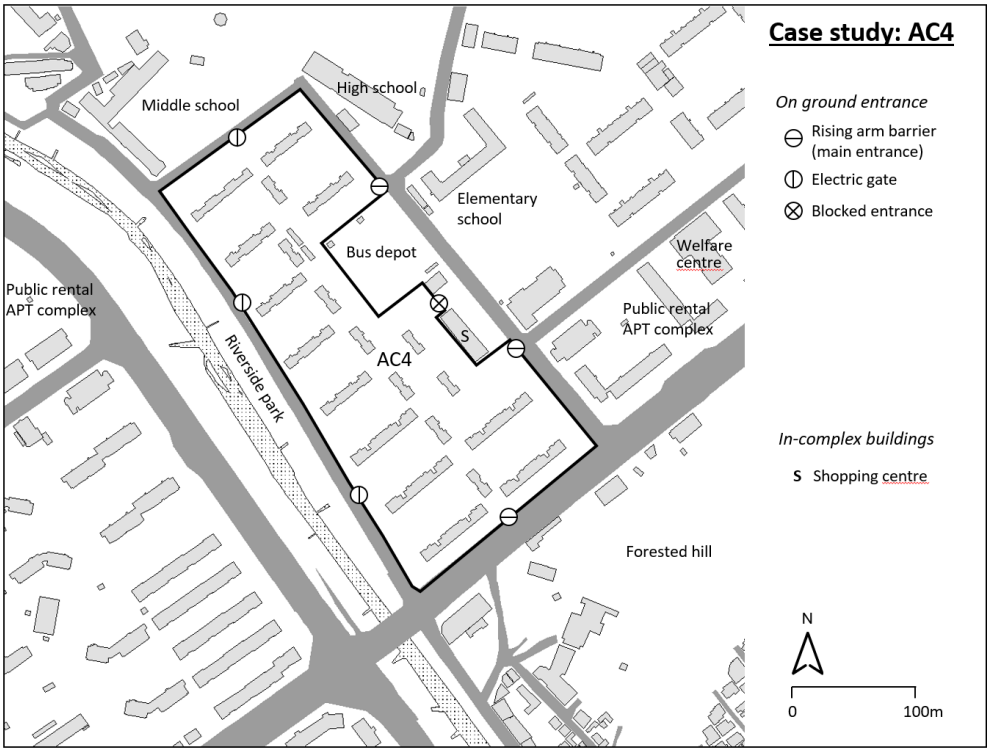
R) Exposed mail box

Source: Author

Figure V-7. Photos of AC3

(4) AC4 in the midst of social fracture

AC4 is a large apartment complex composed of 21 apartment buildings with 850 apartment units and a shopping centre, located in the northeast of Seoul. It is the most peripheral among the six apartment complexes, being the farthest from the major job centres of Seoul. A low-rise apartment complex of five storey high with 800 apartment units was redeveloped to the current complex in the mid-2000s. With the redevelopment, leather factories lining the stream next to the complex disappeared, too. As the old apartment complex was composed of very small units, the majority of the natives were replaced by the current richer residents upon redevelopment in contrast to AC3. The complex is quite spacious. However, seven ground parking lots are occupying large space and there is no remarkable gardening as a result. The complex was completed a year after AC3 by the same developer.



Source: Author

Figure V-8 AC4 and the neighbourhood

Nevertheless, the quality of the open space in AC4 is lower than AC3 with less landscaped space and fewer places to stay outdoor (tables and benches), resulting from large on ground parking lots. Amenities of the complex is diverse with playgrounds, a badminton court, a gym, study rooms, a senior centre and a nursery school.

The apartment complex is built along a stream with riverside park. The strip park is one of the most remarkable features of the neighbourhood, being adapted to walking in well-manicured gardens with benches and outdoor exercise machines. The road separating the park and the complex is a designated carless zone every weekend. The complex directly faces all levels of schools in the north and west. The neighbouring complex in the south west is a public rental complex built in the 1990s where poverty is concentrated. Other apartment complexes in the neighbourhood are older than AC4 by fifteen years without any underground parking lot and some of them are public rental. All the interviewees mentioned the presence of public rental complexes and the difference between their residence and them. AC4 with new amenities and bigger apartment units is a rich island in the neighbourhood which was generally poor before the redevelopment of AC4. However, it is not a particularly high income apartment complex in Seoul.

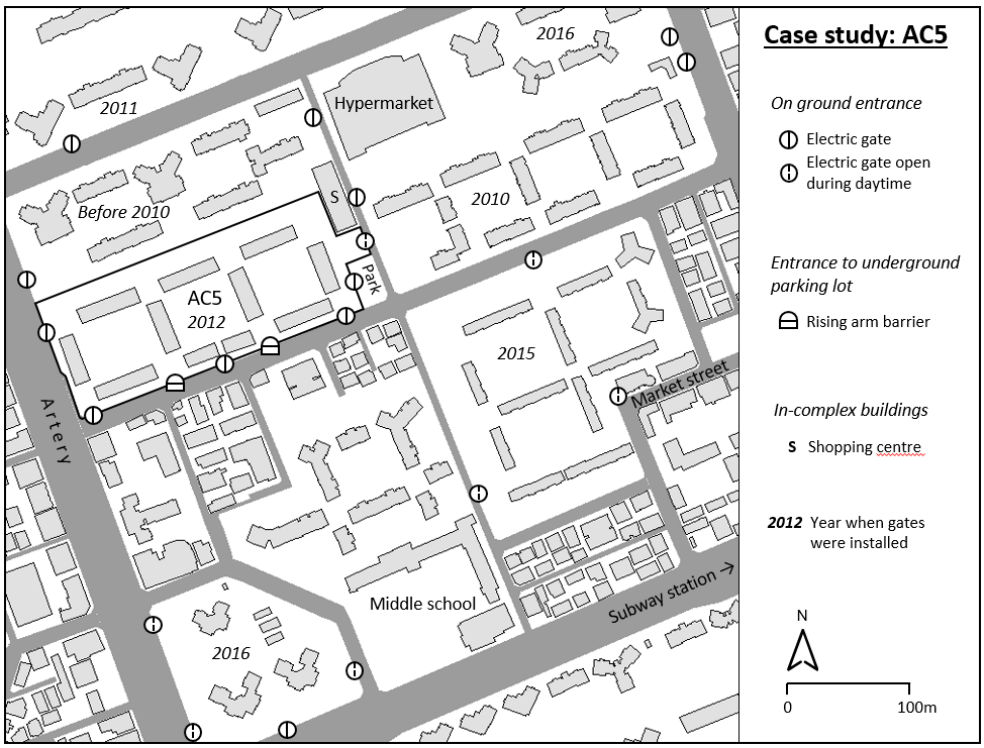
The apartment complex used to have seven entrances but the entrance next to the shopping centre is permanently blocked now. The entrances are well placed to facilitate both the north-south and the east-west foot-traffics but they are now gated except the two main entrances at the east. Entrances to underground parking lots are all located inside the complex. Students and residents from the eastern blocks used to go through AC5 to reach the riverside park and to take bus but the traffic was cut off by gates.

(5) AC5 in a gating cluster

AC5 is a medium sized complex composed of eleven apartment buildings with more than 700 apartment units and a shopping centre, located in the southeast of

Seoul. All the homes in the complex are small or medium sized less than 85m^2. Parking is all underground and the ground is devoted to gardens, playgrounds, a badminton court, a half basketball court, a senior centre and a nursery school. AC5 was designed as an open apartment complex with seven ground entrances but all of them have electric gates now. The main entrance is open during day but closed at night. It used to be always closed initially but the policy was changed to close it after 7 pm due to the grievance of inconvenienced residents. Control of the gates is strict that guards will not open them for anyone without keycard including the residents. It is actually one of the most security sensitive complexes in the neighbourhood, as other complexes in general have electric gates only at smaller entrances. There exist two entrances to the underground parking lots. They have pedestrian paths along vehicle lanes but the pedestrian access is not controlled, which made some of the survey respondents worried of this security hole.

AC5 occupies one of the most valuable land in Seoul due to its proximity to job centre and the best infrastructure available in the city. The complex is in the middle of several medium sized complexes redeveloped from the old apartment complex. It is an ideal residential neighbourhood with a good coverage of retail (market, hypermarket and department store) and all levels of schools. As the neighbourhood is sought after by parents with educational zeal, the streets are teeming with middle and high school students. The apartment complex was completed in the mid-2000s as one of the redevelopment projects replacing an old low-rise apartment complex. The old apartment complex was fragmented into three new complexes including AC5 in the redevelopment process due to differing interests between homeowners. As the neighbourhood is mostly composed of relatively new apartment complexes built in the 2000s, it is the most homogeneous neighbourhood in terms of socioeconomic demographics among the six cases. AC5 belongs to a renowned school district and the homes in the complex are relatively cheaper in the district due to their smaller sizes. The complex is sort of an ‘affordable’ housing for those who seek the best school district, though its level of rent is still very high in the city. Parents who cannot afford to purchase a home in the district move in the complex as



Source: Author

Note: Entrances of the complexes other than AC5 are marked, only if they are gated or blocked.

Figure V-9 AC5 and the neighbourhood

renters to prepare their children for prestigious universities. As many of them leave the complex after the entrance of their children to universities, pressured by the rent, the percentage of renters and the resident turn-over rate are both high in the complex.

The neighbourhood that AC5 belongs is the largest gating cluster in Seoul in terms of population. Most of the apartment complexes in the neighbourhood have at least one electric gate and gates have kept springing up throughout the 2010s in a chain reaction. The neighbourhood even appeared in national media for a couple of times for different gating incidents (Jang, 2014). All the interviewees were aware of the spread of gates in the neighbourhood. The gating most impacted them other than their own was the gating of the neighbouring complex located in the south east. They or their family members use the shortcut inside the south-east complex to reach the

market street, which became one of the reasons that provoked its gating. However, the complex has the gates open during day unlike AC5.

> The neighbouring complex had electric gates installed recently one or two years ago. They were installed because the residents didn't like the shortcut to the market through their complex. They didn't like people from other complexes come and go (through the complex).
>
> Spoken by a male resident of AC5 in his 40s

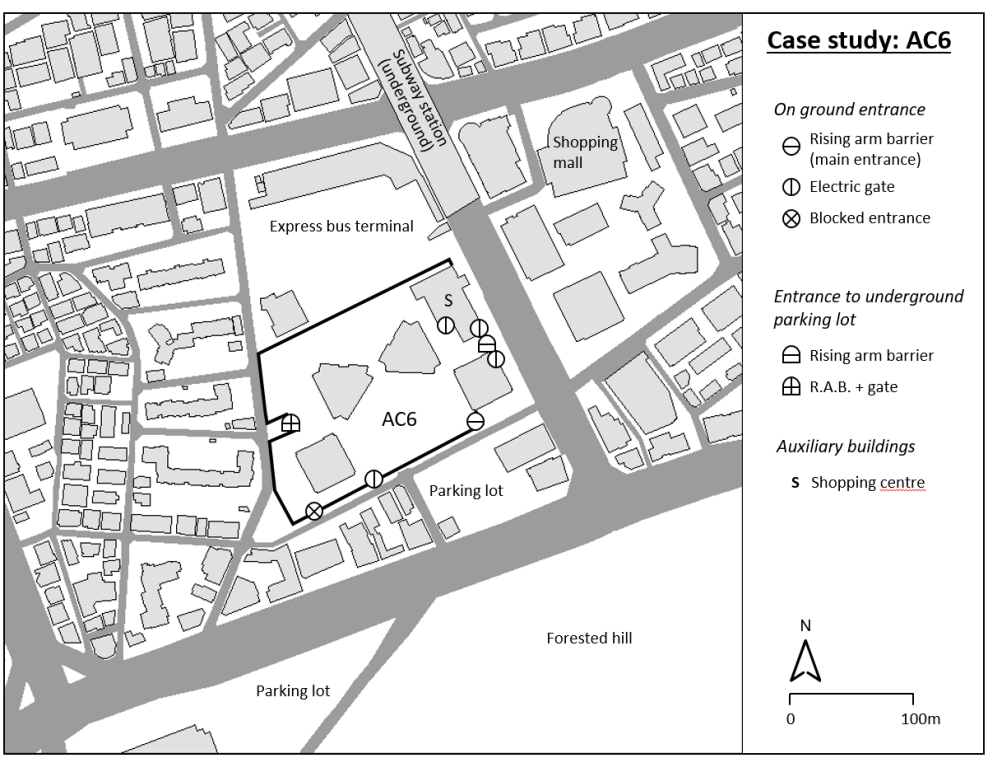
(6) AC6, a strongly homogenous community

AC6 is a mixed-use apartment complex composed of four apartment buildings with over 600 apartment units and a shopping centre combined with *officetels* (studio flats), located in the south-eastern Seoul near job centre. A wholesale market had originally been planned on the site but the land was sold to the Military Mutual Aid Association which implemented a real estate project of luxury condominium instead in the late 1990s. Every home in the complex is a very large unit over 200m^2. One of the towers is the highest building in the neighbourhood with 46 storeys which benefits from the mountain range in the south for a good view. The complex has a large green open space thanks to full underground parking and a playground. There is a large lawn in the centre and the rest of space is adorned with sculptures, fountains and trees. Unlike the crowded surroundings, the well-maintained complex is almost devoid of people. Exclusive indoor amenity is almost non-existent except lobbies at the ground floors of apartment buildings. As the complex is a mixed-use apartment complex, the developer was not obligated to build legally required amenities such as senior centre. Sports amenities are run as a private business at the shopping centre and open for any paying customer.

Well-served by public transport and cultural facilities, the neighbourhood has a mix of commercial and residential land uses. The apartment complex borders an express bus terminal in the north and a shopping mall specialised for electronics is

located across the east artery. The west of the complex is residential composed of small apartment complexes and multifamily homes. The largest culture complex in Seoul is located in the south-west of AC6. However, there is no school in the 500 meter radius from the complex, which reduces the younger population among residents.

The complex is one of the oldest All-restricted complexes in Seoul. Unlike above mentioned complexes, its gating against pedestrians occurred at the almost same time with the completion of the complex. The main entrance is open to pedestrians but five other entrances are either gated or blocked. An unofficial entrance exists in the shopping centre which has doors leading to both the exterior and interior of the complex. It is open during day and closed at night. Two underground parking entrances are equipped with rising arm barriers. While the east car entrance for



Source: Author

Figure V-10 AC6 and the neighbourhood

officetel residents is narrow and has no pedestrian path, the west car entrance for apartment residents is wide and has gated pedestrian paths alongside the vehicle lane. The western border is about five meter high from the street due to altitude change but the flat southern border is well decorated with sophisticated landscaping.

The ground floor of each apartment building resembles that of a hotel, a spacious lobby with tables and sofas and a reception desk attended by guards for 24 hours. The architectural grammar of defensive design commonly found in mixed use apartment complexes in Korea in which visitors should pass reception desk to reach elevator is applied here, too. It is the only complex among the six where a single keycard integrates the uses for not only ground floor door and gates but also home door.

It is a strongly homogenous community, a NORC where the majority of the respondents report themselves rich and elderly. Many of the residents are allegedly ex-generals and college professors (Park, 2006). They are also long-term residents who are owner-occupiers. More than half of the respondents of survey reported having lived there as soon as the complex was completed. No resident has wanted to participate in the interview and the number of respondents who left comments in the survey was less than half of the average of other complexes. The rejection of revealing themselves indicates the exceptionally private and closed nature of the residents living in AC6 in contrast to the residents of other complexes. A respondent of the complex aptly expressed the desire for privacy as follows.

> *Kin-like relationship between neighbours only exists in the past. As time goes by, one does not want to share his own life with others but wants quiet atmosphere at home.*
>
> Written by a male resident of AC6 in his 60s

Considering the socioeconomic status of the residents, AC6 could be a fully closed community but did not opt for it. The immediate installation of gates and the lavishness of border suggest that walls and gates of the complex exist for symbolism

as much as for practical reasons. The complex fits well the profile of prestige communities suggested by Blakely and Snyder (1997), considering its wealthy and homogenous inhabitants, prestigious location and decorative fence.

3. Reasons behind gates

The questionnaire presented eight possible choices to the question of the perceived reason of gates in an All-restricted complex. The choices came from the literature, memoranda of apartment complexes announcing gating decision and interviews with the residents living in or near apartment complexes having electric gates in Seoul (See Table V-10). Respondents could also suggest their own reasons. The choices are all probable reasons of gating but respondents could choose only up to three. A respondent chose 2.7 items on average.

The most frequent choices are fear of crime and urban nuisance. About 80% of the respondents chose these two factors. The prevention of through-foot traffic trails behind the two most favourite choices, selected by more than half of respondents. Substantial votes for avoidance of others is an unexpected result in the racially homogenous Korean society. 15.8% of the respondents chose protection of plants

Table V-10 Perceived reasons behind the installation of gates

Choice	Votes	% of choices from respondents
Fear of crime	112	84.2%
Nuisance caused by vendors, adolescents…	106	79.7%
Through foot-traffic	70	52.6%
Avoidance of others (non-residents)	29	21.8%
Protection of plants and properties	21	15.8%
Image of luxury housing and raising property value	11	8.3%
Contagion effect from other gated communities	6	4.5%
Other factors suggested by respondents	4	3.0%
Total	359	133 respondents

and properties as the reason. Abstract reasons were chosen least: less than 10% of the respondents chose image of luxury housing and contagion effect.

In the comment section of the survey, participants could either write whatever they wanted to tell or complemented what lacks in the multiple choices. 48 respondents wrote at least one sentence and many of these writings concerned the reason of gates. In the interview, fifteen residents of the same complexes presented their opinions on gates without being given multiple choices to pick. Opinions of the two interviewees who reside in Car-restricted complex were also considered to reflect the perspective of outsiders. The interview and the comment section of the survey present detailed reasons behind gates and the reasoning through the own words of residents. The interview and the survey comments also confirm the reliability of the survey design, as the reasons explained by their own words are remarkably coherent to the answers to the multiple-choice question in the survey.

The biggest reason is security and fear of crime which were mentioned by fifteen participants. Some just mentioned security concern and others elaborated fear of crime more in detail. Various kinds of urban nuisances were lumped together in the survey but the interview reveals which nuisances are the most decisive factors behind gating. Adolescent loitering is by far the biggest concern among problems, mentioned by ten participants, while noise, soliciting (leaflets, vendors and missionaries) and dirtiness (dog turd and littering) also concern participants. Traffic related concern is the third reason. Respondents were wary of outsiders using their complex as shortcut, crowdedness caused by traffic and walking safety when outsiders take bicycles and motorcycles in the complex. Protection of property and avoidance of others are also considered significant factors. Other concerns include protection of children, security cost reduction and prestige and property price and territoriality (See Table V-11).

Table V-11 Stated reasons of gates

Reason of gates	Interviewees and survey respondents (comments)										
Crime prevention	3M 70	3F 30	4M 60	5M 40	5M 40	CF 40	2M 50	1F 20	1F 40	3F 20	4M 30
Security	1F 20	4M 50	CF 40	3F 30							
Adolescent loitering	2M 40	3M 70	3F 30	3F 30	5M 60	2F 30	2F 30	5M 30	5M 50	6M 60	
Noise	2M 40	1F 20	CF 50	2F 30	4F 50	5M 50	5F 50				
Soliciting	1F 20	5M 40	5M 40	2F3 0							
Polluting	5M 40	2F 30	3M 70								
Disorder	3M 70										
Shortcutting	2M 40	4M 60	CF 40								
Crowdedness	3F 30	1F 20	5M 40								
Walking safety	2M 40	3F 30	5M 50								
Protection of property	3M 30	3M 70	2M 40	5M 50	5F 50						
Avoidance of others	1F 20	4M 50	5M 40	CF 40							
Privacy	6M 60										
Protection of children	2M 40	CF 40	2M 70								
Territoriality	4M 50	CF 40									
Prestige and property	5M 40	CF 40									
Cost reduction	5M 40	1M 70									
Exhausting budget	5M 60										
Contagion and fad	1F 20										

Note: 1. The profile of interviewee is composed of (complex number)+(gender)+(decennial age).

C: Car-restricted complex, M: Male, F: Female

2. Grey means interviewee and non-grey survey respondent (comment).

1) Fear of crime

It was hypothesised that major reasons of pedestrian gating in Korea would be protection of properties in common space before the survey and in the previous study of the researcher (Kim, 2015) mainly because gating is more pronounced in newer apartment complexes which have higher quality of common space than the old ones. Fear of crime was considered as a secondary gating motivation because Korea is much safer than the countries that frequently feature in the literature, notably the Americas and South Africa (See Table V-12). It was also predicted that private guards would already provide enough security service for apartment complexes[6]. Moreover, the apartment complexes surveyed have at least one open entrance through which potential criminals can enter freely. Nevertheless, the survey and interview results disprove the hypothesis by putting crime as the foremost reason behind the rise of gates regardless of gender, age, social status and location. The lower crime rate in Korean cities explains only the lower prevalence of full security gated communities in the country among countries with widespread gated communities.

When explaining the need for gates, interviewees were most fearful of theft among crimes but the probability of burglary in Korea is only 0.6% of America. It is a large difference even when taking into account of the possible underreporting in Korea. In

Table V-12 International crime statistics per 100,000 population

Country	Assault	Rape	Robbery	Burglary
South Korea	34.3	13.3	10.4	4.4
Chile	531.3	11.4	1,275.6	134.0
USA	786.7	30.2	146.4	714.4
South Africa	1,188.0	113.5	494.5	852.8

Source: Harrendorf, Heiskanen and Malby (2010)

Note: The statistics of the countries are from 2004 to 2006.

[6] It is estimated that there is one guard for every apartment complex on average in Seoul (Kwak, 2014:5).

line with the international statistics of crime rates, only 2.3% of respondents feel unsafe in their neighbourhoods and 63.2% feel safe or very safe, according to the survey. There is no notable difference of feeling safe in their neighbourhoods between genders, age groups and locations. The majority of the respondents (78.2%) find that gates make them feel safer, while they also understand gates in their complexes cannot prevent crime in practice.

> Concerning crime, it seems to be same before and after gates because one can enter using places like the (underground) parking lot.
>
> - Written by a male resident of AC5 in his 50s

These contradictions suggest that gates and the actual fear or risk of crime in the neighbourhood are unrelated. Three questions are raised on the reasoning of residents from observation of gates.

- Why do the residents of All-restricted complexes feel the need for gates to prevent crime when their country and neighbourhood are considered safe in reality and perception?
- Why do they believe that gates raise safety when criminals can easily neutralise walls and gates having many weaknesses?
- Everyone wants to avoid crime and gates are not overly expensive. If gates really help, why are not they built everywhere?

The questions cannot be answered with facts and reason because the reasoning behind the need for gates to prevent crime comes from emotional response rather than rational problem solving process. The presence of gates itself is assuring because gates are security in our imagery. The *raison d'être* of gates, wherever they are, is preventing others from entering and criminals as the most distant others are automatically incorporated in those others. It is not really important how easily

criminals can enter the complex with or without gates because gates are rooted in as the symbol of security (Kenna and Dunn, 2009).

> I feel safely protected because the gates block here. I know that burglars can enter, if they wish. They may jump over the gates. Despite it, I feel safer anyway.
>
> Spoken by a male resident of AC5 in his 40s

The crime feared by respondents are not the real crimes in their daily life but rather a constructed crime in their minds coming from the crime reports of media. They tend to be extreme and are more likely to originate from a poorer segment of the society (Salcedo and Torres, 2004). People obtain fear and anxiety over crime through the constant feeding of crime reports or rumours in the indirect victimisation process, although they have not been exposed to crimes in their neighbourhoods (Abdullah et al, 2011).

> I'm vigilant because there are many incidents and accidents nowadays. I don't act like all people are good. There exists danger wherever you are. (However,) If someone asks me about the security of only this neighbourhood, I can say it's 100% safe here.
>
> Spoken by a female resident in her 40s living in a car-restricted complex

The excerpt below told by a female Western expatriate living in Seoul demonstrates the effect of indirect victimisation in a reverse way. When she is in a foreign country where she cannot read news in a foreign language, she feels safer regardless of the actual crime risk.

> *Why do I feel so safe… because I don't read Korean. I'm in my own country, and I can read the newspapers… and I can read everything that happens… so I guess,*

Table V-13 Fear of crime in neighbourhood and support for gates

Safety felt in neighbourhood	Feeling neutral	Feeling safe	Feeling very safe	Total
% of gating supporters	63.0%	77.0%	82.6%	73.1%
Respondents	46	61	23	130

Note: The respondents feeling unsafe in the neighbourhood were excluded from the table because their number (3) is insignificant.

it's exactly the same thing here… and unless I don't read it, so we're like in a bubble. (Chang, 2012:204)

As the fear of crime is unrelated to the actual risk of crime, crime sensitive people actively seek safer neighbourhoods and want more crime prevention measures such as gates when they are already safe enough. As a result, people feeling safer in their neighbourhoods are more likely to support gates on the contrary to popular belief (See Table V-13).

2) Search for tranquillity

Four types of urban nuisances affecting gating decision are identified in the interview: adolescent loitering, noise, soliciting and polluting. Nuisances from vendors, delivery and adolescents were common problems regardless of complex, indicated as the major reason chosen by at least 70% of the residents in any complex. The survey result and the frequent mentioning of adolescent loitering by the interviewees tell us that the nuisance caused by adolescents is universally perceived problematic in Seoul as in other countries (Kenna et al, 2015 and Loudier-Malgouyres, 2007). Adolescents are portrayed to commit low level crimes by making noise and generating trash at night. Adolescents are considered the most threatening because their presence creates not only damage to the complex but also particularly negative emotional response of the residents. Their behaviours such as

drinking, smoking and obscenity do not conform to the morality of the residents and create the desire to control them in some way (Pain, 2001).

> This complex has well-landscaped gardens and most of the residents are the elderly. I often witness young men sneak in by jumping over the wall and smoke at the corners at night or couples enter the complex and behave obscenely. Without gates, corruption of public morals and strong backlash from the conservative elderly are expected.
>
> Written by a male resident of AC6 in his 60s

Gates are much more effective in reducing urban nuisance including disruption caused by the adolescents. Nuisance comes from opportunistic behaviours that happen spontaneously in weak spots, while crime is a purposeful behaviour actively looking for weak spots. Noise, especially at night, is the second serious concern. Polluting is another concern raised in the interview. It is understood that non-residents are less likely to pick up dog turd especially at night and non-resident children litter playgrounds.

> I witnessed that adolescents smoked and drank at the playgrounds at night. (Without gates) Juvenile delinquents could have come in more numbers. They should pass the main entrance to enter (the apartment complex). If they feel bothered, they will find (other) dim corners. That's why it's better to be closed in some degrees than to be completely open.
>
> Spoken by a female resident of AC3 in her 30s

Through-traffic makes the complex crowded and less safe due to incoming bicycles and motorcycles (See Figure V-11). The intensity of traffic related concern is different depending on complex. According to the survey, concern for the complex being used as a passage by the locals was the greatest in AC4 along with AC3 among

April 2012

October 2014

Source: Naver Geori View (Yeoksam-dong, Seoul)

Figure V-11 Electric gates for walking safety

Table V-14 Ratios of respondents who chose through traffic as the reason behind gates by complex

Complex	AC1	AC2	AC3	AC4	AC5	AC6	Average
% of selection	52.4%	44.4%	65.2%	**70.0%**	42.9%	42.9%	52.6%
Respondents	21	27	23	20	21	21	133

the six cases due to their strategic positions in the neighbourhoods, the well-placed entrances and the large areas (See Table V-14).

The result of the survey and interview are interlocked with a citywide survey. In the survey conducted in 2014 for 45,496 people, the Seoul citizens indicated seven serious problems disrupting life security in residential areas: disorderly parking (49.7%), abandoned trash (39.8%), crime and violence (33.7%), air pollution (33.3%), noise pollution (31.5%), lack of green space (28.6%) and water pollution (26.2%) (Byeon, Park and Kang, 2015: 44). New generation of apartment complexes with superior amenities and services solve three problems almost completely: disorderly parking, abandoned trash and lack of green space. Crime and noise problems are also solved there in a significant degree with the help of private guards and strict separate zoning. The rest of the problems including air and water pollutions can be solved only in citywide level. Reasons of gating found in the study show that

Table V-15 Residential problem solving at local and citywide levels

Major problems in the residential areas of Seoul	Problem solving at local and citywide levels		
	Private collective efforts at local level		Public efforts at citywide level
	By living in gated communities	By adding electric gates over GC	
Disorderly parking	+ +		+
Lack of green space	+ +		+
Abandoned trash	+ +	+	+
Crime and violence	+	+	+
Noise pollution	+	+	+
Air pollution			+ +
Water pollution			+ +

Source: List of the problems from Byeon et al (2015) and problem solving by the author
Note: + indicates effectiveness of the effort.

residents of apartment complexes want to further reduce some of the problems such as crime and violence, noise and trash by installing gates (See Table V-15).

Gated community residents find gates effective problem solvers. According to the survey, a large majority of respondents (88.7%) find gates effective in achieving the perceived purposes.

> After installation of the gates, non-resident children riding bicycles inside the complex, noise at late night and (prevention of) non-residents' entry were improved.
>
> Written by a male resident of AC5 in his 50s

In this regard, gating in Seoul is a form of localised efforts to create a flawless living environment. Gate communities are optimised to create a quiet social environment of 'between ourselves' (Le Goix and Webster, 2008; Loudier-Malgouyres, 2007) by removing undesirable urban elements through masterplan, discouraging passing traffic through defensible design (Charmes, 2010) and filtering

members through financial vetting. Gates are a complementary and ultimate measure to strengthen this social environment by adding another layer on top of the existing measures. Gates guarantee tranquillity by rooting out strangers who may destabilise the social environment.

However, the private collective local efforts to improve life condition through gates are not inclusive community efforts aiming to benefit the community as a whole. They are achieved through monetary contribution to private clubs of local public goods and installation of exclusionary devices benefitting only those who can afford clubs. This inward looking efforts even has possibility of exporting problems elsewhere without addressing the origin of problem. If delinquent youths are blocked by gates of apartment complexes, they will find their place of loitering in nearby traditional neighbourhoods.

Why are gates, which did not exist in the past, added over the existing social environment today then? Rising arm barriers were added because of parking space shortage due to the increased number of cars. However, conditions to build electric gates have not changed much over time. Adolescents always have been considered problematic by the adults since the antiquity and there is no proof that people litter more today. In terms of technological advance, the security technology enabled operation of gates without much cost obviously. Reduced tolerance on disorderliness is another key to understand the fortification of social environment against pedestrians.

‘Apartment markets’ are temporary market places set up in apartment complexes where traveling vendors sell produce and prepared food. They have existed for several decades but are something inconceivable for the residents of the complex studied. As anyone can come to the markets, the consequent crowd cannot help creating noise and trash.

Mother: Sellers can never enter here. Even market is not held here.

Son: They don’t host things like market in the complex.

Spoken by a family in AC4 (Mother in her 70s and son in his 50s)

The richer and the more sophisticated people become, the more they demand orderliness in their environment. Gated communities are the space that fulfil the desire for a perfectly orderly space everywhere in the world.

> *Three of these four suburban enclaves are appealing because they offer the closest replica of what all informants define as "the American style of living." In these communities, one generally finds row upon row of houses or apartment buildings that are identical in design and color, perfectly groomed lawns, and streets without a single piece of litter.*
>
> Üstüner and Holt (2010) on gated communities in Turkey

Increased income and sophistication make the middle class in Korea desire orderliness in their daily life, which leads to decreased tolerance on disorderliness. Although the middle class already escaped chaotic traditional neighbourhoods by moving into peaceful gated communities, decreased tolerance on disorderliness makes them build gates to reduce unwanted stimuli to the minimum.

> I agree on gates, as a house should have a gate. It is not bad to be free and open but there should be control over collective life. Suppose that things are let go free when there are this many people. This guy and that guy will enter. Food deliveries will come and go without restriction. Students will enter as they please just because it is closer. If we consider these, things should be controlled.
>
> Spoken by a male resident of AC3 in his 70s

Search for tranquillity by gated community residents largely answers the question why almost every All-restricted complex is an infill development which mingles with traditional neighbourhoods. The latter is the source of chaos and uncontrolled heterogeneity for them.

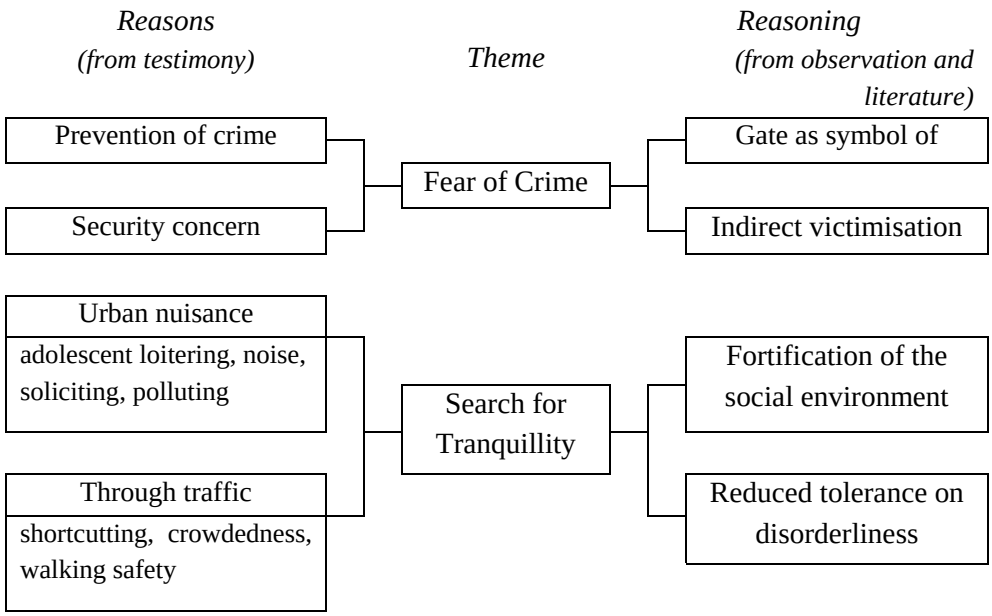


Figure V-12 Conceptual outlook of the reasons behind gates

3) Inconvenience and egoism

Three tier defence with doors and gates make residents feeling safer. In the meantime, it is also a source of annoyance. The first reasons opposing gates chosen by those who either oppose gates or have neutral opinion on them were inconveniences of passing through gates and making detours (See Table V-16). The word 'inconvenience (*bul-pyeon*)' was mentioned more than 100 times from interviewees including many proponents of gates. Opening gates and carrying a keycard are bothersome. Many gates require the use of both hands to be opened. When residents are carrying bags or umbrella, they need to put them down to open gates. This should happen three times at gate, ground floor door and home door. Many are also inconvenienced by carrying a keycard for gates and the detour that they should make when they forget keycards. The inconvenience was the major reason that the main entrance of AC5 remain open during day. It was always closed initially before complaints. Many respondents clamoured for password input system

Table V-16 Reasons opposing gates

Choice	Votes	% of choices
Inconvenience of passing through gates and using keys	24	27.6%
Inconvenience due to detour when the key is not available	17	19.5%
No or little effect of gates	13	14.9%
Inconvenience for receiving visitors	11	12.6%
Feeling of disapproval	10	11.5%
Disharmony with neighbours outside	8	9.2%
Others	4	4.6%
Total	87	36 respondents

or advanced technology such as authorisation by fingerprint or smartphone to escape from the inconvenience. However, passwords are not used in general due to their inevitable leak to the neighbourhood.

> My apartment complex had initially a very tight security but it made people who don't carry keycards inconvenient. They lodged a complaint against the security office. What is all this hassle for? They [guards] don't even open up the gates (for those who forgot keycards). The complaint made the gate open during day but strictly closed after 7 pm.
>
> Spoken by a male resident of AC5 in his 40s

This grievance is universal but not enough to dissuade the residents from supporting gates. Most of them want gates in place, as they are considered effective. 75.3% of the respondents believe the gates are effective for their perceived purposes and 14.0% very effective. A clearer sign is found in the questions of housing selection. 20.6% of the respondents considered gates for the selection of the current residence, but 66.3% intend to consider it in their next housing selection[7]. This result

[7] Respondents who had moved in before the installation of gates were excluded from the calculation.

shows exclusive communities are not a popularly known housing concept yet as shown in the audit result presenting a small percentage of *All-restricted* complexes among the total stock audited. Nevertheless, once moved in, residents obtain positive experience with gates (Blakely and Snyder, 1997:140; Low, 2001). The continued progress of technology such as facial recognition and RFID (radio-frequency identification) will reduce the inconvenience and raise the penchant for gates.

> I had negative opinions on the installation of gates at first. Once they were installed, trust on security has overweighed the inconvenience of gates.
>
> Written by a female resident of AC2 in her 30s

Two interviewees and two commentators were concerned by egoism. They do not see a great benefit in installing gates and find them ugly. Furthermore, they consider installation of gates as a manifestation of short-sighted egoism inherent in the society. An interviewee provides a convincing argument of opposition citing inefficient use of land caused by gates. As a resident of AC5 in a gating cluster, he understands accumulation of gates will be detrimental to the society as a whole. Although gating opponents are few in number, their opinions need to be heard because they consider not only the position of their own residences but also that of neighbours.

> If we demolish the walls, the flowers along the road can be everyone's. Making fences is reducing the efficiency of land. That's why I oppose it. Will the fences prevent burglars and broken windows? That's not true. (…)
>
> You don't need to act so, if it benefits others even though you sustain a small loss. Of course, we can monopolise it with the installation of fences while preventing other people's entry. I enter the apartment complexes of my friends a lot. (If I block them,) They will block me, too.
>
> Spoken by a male resident of AC5 in his 50s

4. Demographics behind gates

Approval of gates is high among the respondents with 19.5% strongly supporting, 53.4% supporting and 20.3% being neutral. Respondents against the measure are a mere 6.8% of the total. Respondents also find that gates are effectively fulfilling their purposes: 88.7% of them find gates effective, while 11.3% not. These two results show that gates are built and operated upon strong consensus of the residents and considered as effective. Once the overall support for gates is now confirmed, the next question leads to what types of people support gates. Knowing the demographics supporting is one of the clues to find out why gated communities are formed.

More aged are respondents, more likely to support (supporting + strongly supporting) gates, though gates in apartment complexes are relatively the latest inventions in the country. Elderly respondents over 59 years old are the strongest supporters of gates with more than 80% approval, while the respondents in their forties are the least sympathetic toward gates with 64.3% approval and 7.1% disapproval[8] (See Table V-17). The age gap in support for gates is a reasonable result considering the social conservatism inherent to the purposes of gates which seek stability over dynamism. The elderly tend to be more conservative everywhere in the world and Korea is not an exception.

Table V-17 Approval of gates by age

Age	19-29	30-39	40-49	50-59	60-69	70+
For	44.4%	70.0%	64.3%	77.8%	82.8%	83.3%
Neutral	22.2%	25.0%	28.6%	18.5%	13.8%	11.1%
Against	33.3%	5.0%	7.1%	3.7%	3.4%	5.6%
Respondents	9	20	28	27	29	18

[8] Respondents aged between 19 and 29 were not considered for this analysis because their number (9) is small both in absolute and relative terms. Their number is less than half of other age cohorts.

Number of family members is negatively correlated with approval of gates. Households with 1 or 2 members strongly support gates with 87.8% approval but the rate falls to 64.0% for households with 4 or more family members (See Table V-18). This is largely due to the fact that older respondents supporting gates have smaller household sizes without their children who formed independent households.

The universal notion of 'gated communities as an enclave for the elites' (Atkinson and Flint, 2004; Pow, 2007) is confirmed once more on top of the typological analysis. Jobs and skill levels of respondents are strongly correlated to the preference for gates. Respondents with jobs belonging to high echelons such as executives and professionals are significantly more likely to support gates compared to those belonging to lower echelons. Approval of gates is unanimous among managers and executives (100.0%) and high among professionals (81.3%) and retirees (80.0%) but significantly lower among clerks & engineers (60.9%) and salespersons and labourers & technicians (58.3%) (See Table V-19).

Table V-18 Approval of gates by number of family members

Family members	≤ 2	3	≥ 4
For	87.8%	70.0%	64.0%
Neutral	9.8%	17.5%	30.0%
Against	2.4%	12.5%	6.0%
Respondents	41	40	50

Table V-19 Approval of gates by job

Job	Managers Executives	Profess -ionals	Clerks Engineers	Salespers. Labourers	House-wives	Retirees
For	100.0%	81.3%	60.9%	58.3%	73.1%	80.0%
Neutral	0.0%	18.8%	26.1%	33.3%	19.2%	15.0%
Against	0.0%	0.0%	13.0%	8.3%	7.7%	5.0%
Respon.	12	32	23	12	26	20

However, the correlation between individual status and gating support is not directly translated to household income. While low and middle income households with monthly income less than 4 million wons and very high income households with monthly income more than 6 million wons support gates with the equal percentage of 78.1%, middle and high income households situated between the two groups are significantly less enthusiastic to gates with an approval rate of 59.4% (See Table V-20). Higher support for gates among the least income group seems to be influenced by the higher percentage of the elderly in this group. Therefore, the elderly support for gates is consistent while it is dependent on social status among the younger.

Although the majority approves of gates in every complex surveyed, there exist significantly different levels of eagerness for gates depending on apartment complex. AC5 and AC6 happen to be the richest among the surveyed complexes but their approval of gates significantly differs. While just over half of respondents in AC5 (52.4%) support gates, an almost unanimous support for gates exists in AC6 (95.2%). The very high level of support for gates in AC6 is readily explainable with its elderly high class residents who consider privacy and social homogeneity as essential factors in selection of housing.

However, it is much more difficult to explain the different rates of support for gates in other five complexes. While AC2 and AC4 have higher support rates for gates over 80%, residents in AC1 and AC5 are more lukewarm toward gates with approval ratings less than 60% (See Table V-21). A single factor that can explain this

Table V-20 Approval of gates by monthly household income

Monthly household income (million wons)	≤ 3.99	≥ 4 and ≤ 5.99	≥ 6
For	78.1%	59.4%	78.1%
Neutral	18.8%	34.4%	12.5%
Against	3.1%	6.3%	9.4%
60+ yrs old	43.8%	31.3%	31.3%
Respondents	32	32	64

Table V-21 Approval of gates by apartment complex

Complex	AC1	AC2	AC3	AC4	AC5	AC6
For	57.1%	81.5%	65.2%	85.0%	52.4%	**95.2%**
Neutral	38.1%	18.5%	21.7%	10.0%	33.3%	0.0%
Against	4.8%	0.0%	13.0%	5.0%	**14.3%**	4.8%
Elderly 60+ yrs old	33.3%	25.9%	43.5%	20.0%	15.8%	76.2%
Highly skilled job	14.3%	26.9%	21.7%	35.0%	55.6%	57.1%
Household income score	430	507	509	550	600	680
Respondents	21	27	23	20	21	21

Note: Highly skilled jobs include managers, executives and professionals.

difference was not found in the available data. Taking account into the case study, the differences may stem from various factors such as local contexts (gating pressure from the surroundings, socioeconomic composition of residents…), perceived effectiveness of gates and the level of inconvenience felt by residents in using gates. More complete explanation requires more cases and samples.

Factors that are not correlated with approval of gates are gender, ownership and length of stay in the current residence. The support comes from males (73.0%) and females (73.2%) equally. Ownership does not influence the degree of support, either; rather, the support is slightly higher among renters (76.9%) than owner-occupiers (71.7%) who are presumed to be more interested in protecting their properties. The length of stay in the current residence does not appear related with the support for gates. Considering people who have lived longer in the same place are more likely to be strongly attached to the communities, this result suggests that gates are not the product of sense of communities as already shown in other studies (Sakip, Johari and Salleh, 2012; Wilson-Doenges, 2003).

5. Gates and the neighbourhood

Interviewees chose the current residence mainly for accessibility, education and shopping. According to them, mass transit stops, schools and retail facilities are sought-after external amenities in residence selection. Ironically, they also create a large crowd and consequent nuisances which contradict the need for tranquillity. This contradictory stance toward essential amenities partly explain why gates rise more in wealthy areas which happen to have the best infrastructures.

Safety concern was not frequently mentioned for the reason of residence selection and no one chose the residence based on the existence of gates. However, choosing gated communities with or without gates over traditional neighbourhoods should be interpreted as an action of seeking safety. Jacob's (1992) 'eyes on the street' do not exist in today's traditional neighbourhoods of Seoul, according to the participants. They felt unsafe in the narrow alleys [*golmok*], the most common street type in traditional neighbourhoods. They were wary of dim lighting, too few people on the street and the kind of people living there.

> There is a somewhat dangerous area…That neighbourhood is composed of villas [multifamily homes]. People are different from those who live in my neighbourhood. Shift workers, unstable people and many elderly there. The atmosphere is somewhat different from here…When I left work at 7 or 8 pm, I walked down the street (in my neighbourhood) with fear. It was pitch dark and no one was there.
>
> Spoken by a female resident of a Car-restricted complex near AC3 in her 40s

Neighbour relation mainly comes from children, church gathering and sports activities. It is not necessarily confined in the boundary of complex, as the main sources of neighbour relation are the existing relation of family members (children, spouse...) and local associations (church, sports club…) both of which transcend apartment complex borders. Closer relationships tend to exist within the complex,

which could be the result of spatial proximity. Some men in working age had almost no neighbour relationship because they spend most of their time outside at work.

Social conflict from gates is not reported to be severe by the residents because erecting gates in private property is considered justifiable based on property right. For them, erecting gates is an exercise of power (Grant and Mittelsteadt, 2004) that should be respected by others. As the power is collectively exercised, individuals who may not agree are helpless in resisting it.

> Whatever they deplore, they can't do anything because it is not their land. They are only internally discontent. Erecting 'firewalls' in the complex is a collective action of the residents. The people who used to frequent before the walls can't help stopping. Once the walls are built, you have no choice but detouring.
>
> Spoken by a male resident of AC5 in his 40s

While some were fiercely protective of property rights, others tried to accommodate the needs of their neighbours beyond gates. They understood the inconvenience of detour for neighbours (See Figure V-13) and wished some flexibility in the operation of gates by opening them during certain hours and giving out keycards to the locals.

> It is the direct way through here [seeing the neighbourhood map centred on a full security community]. This doesn't seem much to walk on the map but it is actually very far. I go up there to exercise and it is somewhat annoying to come back down (making a detour).
>
> Spoken by a female resident in her 40s living in a car-restricted complex

Source: Dong-a Ilbo (2014)

Figure V-13 Children climbing over the fence to overcome the gate in an apartment complex in Yeoksam-dong, Seoul

I think gates of appropriate level are needed but children living outside nearby should be allowed to use playgrounds and parks (inside the apartment complex). If detours take too much time (for the locals), I think use of the road (inside the apartment complex) can be allowed within designated hours and areas.

Spoken by a female resident of AC2 in her 40s

The opinions collected in the study mostly come from the residents behind gates. The perception of neighbouring locals on gates and neighbourhoods may be different and need to be heard in consequent studies.

6. Conclusion

In this chapter, All-restricted complex barring both vehicles and pedestrians was studied in-depth because it is at the final stage of the evolution of apartment complexes in terms of physical exclusiveness that retains the traces of past types: Enclosed and Car-restricted complexes. Six All-restricted complexes running electric gates with at least one open entrance, completed between 2000 and 2010 and their residents, were observed through survey, interview and case study.

Most of the All-restricted communities appear to be for upper class residents according to the statistical analysis carried out in the Chapter IV. The case study shows that gates also rise from lower middle income neighbourhoods when certain conditions are met. These local conditions mainly concern the characteristics of apartment complex and neighbourhood characteristics susceptible to drive crowd into the former. They include existence of convenient shortcuts for the locals inside apartment complex, its proximity to public amenities that attract crowd such as parks and markets and existence of the best open space in the neighbourhood inside apartment complex. Contagion of gates from nearby All-restricted complexes is another factor enticing gating, too.

Although fear of crime is cited as the foremost reason behind gates in all the six apartment complexes studied, crime rates are not figured among the local conditions for pedestrian control in Korean context. Risk of crime appears to be low throughout the neighbourhoods studied according to the self-assessment of crime risk by residents and observation of the sites by the researcher. Crime does not function as neighbourhood differentials. Fear of crime is created in the collective imaginary of residents by incessant portrayal of crimes by media in indirect victimisation process rather than from actual danger in neighbourhoods. Gates are rather an additional measure of protection against crime by those who are sensitive to crimes regardless of actual threat with doubtable practical value. It is especially so for the six apartment complexes as they have at least one open entrance. Their neighbourhoods and apartment complexes were already safe before gates, but they want to feel even safer by having gates.

Gates also target adolescent loitering, noise, soliciting and polluting. Unlike crime prevention, gates are practical in controlling these nuisances, as they are generated by opportunistic behaviours rather than planned acts that actively seek weak spots of gates. Gates overall strengthen the existing social environment designed by masterplans through the ultimate measure - physical removal of nuisances and threats originating from unwanted visitors. Therefore, gating can be considered as collective efforts at local level for solving various problems arising from urban life.

However, it is not a true community planning because it benefits only the paying members within the club rule and even has the possibility to export problems elsewhere.

Gates are not panacea without side effects even for gated community residents. They are the ones who suffer the inconvenience of gates at first hand. Carrying keys, going through gates and making occasional detours are bothersome, which make some of them oppose gates. However, the benefits of gates are perceived to offset the inconveniences for the many. Gates are supported by the majority of the residents and the support is stronger in the elderly population and those who with high social status.

The act of blocking others from one's areas of residence through installation of gates is justified with private property rights collectively held by residents. This power over territory finds more justification in that gating is not an action by a particular individual but a collective action taken by the many. In this way, the haves are entitled to monopolise land by the almightiness of gold, doubly backed by collective power.

Nevertheless, negation of gates also exists among the residents, albeit a minority view. The few opponents see gates as the materialisation of egoism inherent in the society where its members want to serve their own interests in disregard to the shared interests of the public. They point out the sum of fragmented benefits becomes a loss for the whole. Exclusive land use practices for different groups bog down the efficiency of citywide land use and utility of gating on one's land is offset by the sum of disutility caused by gating of others' lands which are far greater than one's land.

Chapter VI. CONCLUSIONS

The closure of a single laneway may appear innocent enough – indeed many pass entirely unnoticed – but in Ireland one has turned into 600, and this has had a considerable impact on the aesthetics of the city, on the experience of mobility throughout the city, and on the amount of open public space that is available.

Theresa Kenna et al (2015)

1. Conclusions

Most of the gated communities in Seoul are privately owned high-rise apartment complexes internalising collectively held common spaces with accompanied services. The study analysed the current manifestation of gating in Seoul and the evolutionary process behind at macro level. At micro level, it analysed the perception of gated communities by the residents. Various methods such as morphological typology, document analysis, case study, survey and interview were integrated in the methodology to analyse the physical forms of gated communities and the socioeconomic forces that created the forms.

Gated communities in Seoul could be classified into four types according to their degree of border permeability. The composition and spatial distribution of the types show that the current manifestation of gating in Seoul is characterised by the prevalence of gated communities exhibiting a relatively weak degree of exclusiveness that control only the vehicles. However, the All-restricted complexes that control not only vehicles but also pedestrians using signs and/or electric gates are slowly gaining foothold, especially in the southeast, the most affluent area of the city.

Temporal analysis of the types shows that gated communities have been diversified from a single type (Enclosed complex) to multiple types over time. Newer and more exclusive types (Car-restricted and All-restricted complexes) were

introduced by residents through the addition of exclusionary devices such as rising arm barriers and electric gates over the preceding type. The public authority introduced a less exclusive type (Demarcated complex) in the late 2000s to mitigate the increasing exclusiveness.

Socioeconomic factors behind the physical forms were identified through the analysis of the three actors of housing market – housing suppliers (developers), consumers and regulator (the state). The three have produced gated communities by forming a gating machine. Gated communities are developed and sold as a package of homes and infrastructure to home buyers. This made the development Korean state choose gated communities as the ideal housing type that can be mass-produced with decent infrastructure while minimising financial commitment. Newly built gated communities, in contrast to existing lower standard homes with poor infrastructure, also satisfied the needs of newly emerging middle-class Koreans who sought the comfort of modern life style. Developers in the middle could satisfy both the state and housing consumers by mass producing homes and infrastructures in gated communities while maximising their own financial profits in the process by packaging homes with infrastructure.

The profit seeking of each actor has created a seamlessly operating gating machine that brought in much economic success. Through the operation of gating machine, the Korean developmental state could concentrate its limited resource in the growth by entrusting the responsibility of providing decent homes and infrastructures to the private hands. The resultant economic progress in turn fuelled the growth of middle class who could afford gated communities. This process of enriching every member of the coalition has been so successful that privately owned high-rise apartment complexes dominate the cityscape and life of the citizens in Korea.

Nowadays this virtuous circle no longer works as smoothly as the past due to the evolution of gated communities led by consumers and developers and the attempts of the state to reverse its evolutionary direction. Whereas the state had offered a template of lesser exclusive gated communities with basic infrastructures, developers later added expensive extra amenities (novelty local public goods) that

cannot be provided by the public sector in traditional neighbourhoods to win over competition in the housing market. In the meantime, residents started retrofitting the existing gated communities to heighten exclusiveness against the wishes of local authorities. The increase of exclusiveness from Enclosed to Car-restricted complex has been accepted by both the society and the authority, as it was a justifiable action to cope with the imbalance between increasing number of cars and limited parking space. However, the next phase of evolution from Car-restricted to All-restricted complex barring non-resident pedestrians lacks convincing motives to obtain social consensus in a country with relatively low crime rates. Thus, it creates polemic and is resisted by the public, especially the municipalities.

This split between the public and the private within gating machine reflects the changes occurred in Korean society. As the income level of middle class keeps rising and their taste becomes more sophisticated due to the economic growth and globalisation, gated community residents seek to transform their residences into an artificial paradise where the danger and unpleasantness of urbanity is clinically removed without much consideration of the wider community beyond walls.

The existing apartment complexes with better infrastructure and security relative to traditional neighbourhoods already fulfil these wishes in large part. Nevertheless, residents of some gated communities go further to feel safer from the imagined threats of crime fed by mass media and construct even better social environments by physically removing outsiders from their yards. Gates here are the symbol of protection regardless of its actual usefulness against crime. However, gates are also practical tools to deter the anti-social behaviours of petty delinquents and remove the presence of unknown others that do not belong.

Despite considerable inconveniences caused by gates for the residents, they are highly satisfied by an additional layer of protection. Gates are especially popular among the elderly and those who with high social status. There does exist voices of concern for self-serving tendency expressed as gates within fortified communities but they remain as a minority that is not enough to change the tide.

Developers do not necessarily pursue physical exclusiveness especially when the planning authority requires more open design as a condition to building approval. However, their incessant innovation in private services offered in apartment complexes increases the worsening gap between residential areas maintained by the public and the private and fuels the desire to ban others from expensive private services.

The public, represented by the state, is concerned with the current evolutionary direction of apartment complexes that creates fragmentation of spaces and the society. Grid type road networks dominating traditional neighbourhoods are abruptly cut off by superblocks of apartment complexes with inward-looking design. When the Korean state is inching toward a welfare state keener to distribution and social justice amid increasing maturity of the country's economy and demography, citizens of different socioeconomic status are segregated according to the degree of residential exclusiveness that is bought by money.

The worry of the public has mostly manifested in the form of design interventions to lower exclusiveness of gated communities. Its design interventions have been largely successful in greenfield developments in the periphery where higher social homogeneity, lower density and rational planning make low exclusiveness more tolerable for the residents. However, the similar design interventions often encounter the resistance of residents in brownfield developments located in the inner cities, resulting to the continued increase of All-restricted complexes. Apartment complexes located in the inner cities designed with more entrances offering shortcuts to local people are often gated by residents who prefer tranquillity over urbanity.

Today the state increasingly pursues 'public city' where equal access and social mix are promoted, while gated community residents strive for 'private city' where club membership based on financial capacity creates discriminatory access and the resulting social segregation organises the urban space. At this juncture, the state is going through an internal contradiction, making gating machine slowed down (See Table VI-1). Financially benefiting from gating with liberal housing policy but objecting to further fortification of gates communities, the state has a limited range

of manoeuvre without undermining the housing development structure it created. Bold restructuring of the current housing system with more focus on equality and inclusion is necessary to cure the urban and social fragmentation caused by walls and gates.

Table VI-1 Rise and contradiction of gating actors in Korea

Sector	*Public*	*Private*	
Actor	REGULATOR	SUPPLIER	CONSUMER
Initial form	Developmental state inclined to growth	Mass home producer	Consumer of basic modernity
Motivation of gating	Mass production of homes and improvement of infrastructure without public investment	Maximisation of profit by selling homes, amenities and image as a package	Desire to live in modern homes
Role in gating	Institutional and policy supports to the gating system	Sophistication of club economy through diversification of amenities and branding	Driver of the evolution of gated communities
Internal contradiction ⬍		⬇	⬇
Stance toward fortification of gated communities	**Public city** : Attempts to regain the leading role to reverse the evolution of gated communities	**Enabler** : Able to adapt to the consumer needs but constrained by the state restriction of gating	**Private city** : Drive toward more exclusiveness to create an even better environment
Current form	Welfare state inclined to distribution and social justice	Lifestyle setter	Consumer of carefree life

2. Implications

1) Policy implication

Three future scenarios emerge from the possible policy paths that are available to the government. The first scenario involves keeping the current apartment complex system intact and tolerating gating. This scenario is financially attractive for the state and fair in terms of the cost-sharing in the production of local public goods due to the user payment principle. However, this path will not be able to solve any problem caused by gates and rather exacerbate it. While the first scenario addresses the continuation of the existing system of a 'private city', the second scenario aims instead for a 'public city'. This is totally new territory in South Korea. More radical scholars argue in favour of the abolition of the apartment complex system as a way of restoring urban flows and enhancing communication (I. S. Park 2013: 310; P. S. Park 2013: 266). But following this path would be expensive, and it is unlikely that the state will pay to maintain the public spaces within all apartment complexes, let alone purchase them. This scenario will only occur if the negative impacts of residential gating reach an unbearable level. The most feasible strategy in this scenario is to abolish the apartment complex system for future residential developments. However, ending such a firmly established system abruptly would require a catalytic event. Reducing the supply of apartment complexes and balancing it with the development of liveable open neighbourhoods can be a more realistic approach.

When we consider the cost of implementing any new strategy, and the current behaviour of the government, the most probable scenario in the near future will involve identifying solutions that reduce gating by improving the existing apartment complex system. This scenario may be already occurring through the anti-gating efforts of the municipalities, but central government is scarcely involved. The two arms of government need to act together, especially since the municipalities can do

little to affect the situation within the limitations imposed by institutions that have been established by central government.

If the principal role of municipalities is the imposition of design interventions and the issuance of administrative measures against gating, then central government should take on the role of moderating the rigid privatised structure of the apartment complex system in terms of ownership and maintenance responsibilities. For example, it could create a cost-sharing programme for those public spaces within apartment complexes that are regarded as strategically important to the wider neighbourhood. The municipality could also participate in the restructuring of the system. For instance, municipal aid that is currently provided for apartment complex repairs on an age-based system could be made dependent upon their openness to the public.

In terms of planning, planners and the municipality should not put naïve but serious efforts into planning pedestrian flows as much as mechanical flows. Placing public passages in the middle of private apartment complexes should be given especially much consideration with possible backlash from the residents in mind. Relaxing the strict separate zoning in apartment complexes is a way to reduce their exclusiveness and increase equality between gated and non-gated spaces in terms of absorbing externalities. Allowing more kinds of professional commercial activities in the ground floors of apartment complexes such as lawyer's offices and clinics can be considered. Presence of the clients of these activities will ease the resident only rule in apartment complexes. The homeowners of ground floors will be strong internal supporters of the measure for rent income and other residents can also benefit from it by imposing higher maintenance fee for commercial activities and from the proximity to services.

2) Academic implication

The study has revealed both the universal traits of gated communities and contextual particularities of gating phenomenon. Despite the singularities of Korean

gated communities such as the absolute dominance of dense high-rise communities, state-led gating and consequent fortification by the residents, the logic behind gates such as enclaves for the rich, fear of crime and search for tranquillity is remarkedly in parallel with the global gating phenomenon. This new case will enrich the discussion and the theory surrounding gating phenomenon.

The study has overcome the limit of speculative discussions on the diagnosis of gating phenomenon through the methodology combining macro and micro level analyses. It has proved that exclusiveness typology based on data could reveal the changing reality of gated communities in a city.

3. Limitations and future studies

Mail survey is an effective mean to approach respondents living in exclusive communities. However, it has a shortcoming that samples cannot evenly represent different segments of population, as people with busy schedules are less likely to respond. In consequence, the male elderly who are free from working participated in the survey substantially more. Limited number of samples is another weakness in the survey. Samples were enough to portray the overall opinion but insufficient for the analysis of subgroups within the samples. Residents in all types of gated communities could not be studied in detail and compared to each other for practical reasons.

Opinions of the inhabitants residing in multifamily homes in proximity of gates were not heard, although their opinion could much differ from or unexpectedly similar to that of apartment residents. As the internal working of gated communities was revealed in this study, future studies could explore the nature of relationship between the residents of gated and non-gated residences and its repercussion on the social sustainability of neighbourhoods.

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APPENDIX

Original questionnaire in Korean

설문지번호		시행	2016/05	페이지	1/4

아파트 단지보안문에 대한 설문 (18문항)

< 설문 답변 방법 >

- 본 설문은 만19세 이상의 성인이고 단지 거주자이면 누구나 답하실 수 있습니다.
- 선택하고자 하는 항목 왼쪽의 ❑에 V자 체크해주세요. 복수 선택이 가능하다고 표시된 문항은 문항에 따라 최대 2개 또는 3개까지 중요하다고 생각되는 항목들을 선택하셔도 됩니다.
- 의견에 맞는 적당한 항목이 없을 경우, 기타를 선택하시고 옆의 빈 칸에 의견을 적어주세요.
- 인터넷으로 답변을 원하시거나 아래 사진을 컬러로 보고 싶으신 경우 seoulapt.blogspot.kr 로 접속해주세요.
- 질문이 이해되지 않거나 기타 문의사항이 있다면 언제라도 아래 연락처로 문의 주십시오.

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< 단지보안문이란? >

목동롯데캐슬위너 아파트에는 정문을 제외한 모든 보행자 출입구에 외부인의 출입을 통제하는 시설이 설치되어 있습니다. 본 설문에 나오는 '**단지보안문**'이란 아래의 사진과 같이 단지입구에 설치되어 있는 외부인의 보행출입을 차단하는 문이나 바리케이드를 뜻하며, 차량차단기와 같은 차량통제시설과 아파트 1층 현관 보안문은 여기에서 제외됩니다.

뒷면에서 설문이 시작됩니다 ➔➔➔

설문지번호		시행	2016/05	페이지	2/4

1. 언제 본 단지로 이사오셨습니까? ..... 20____년 ____월
(참고로 목동롯데캐슬위너 아파트 단지는 2005년 6월에 입주가 시작되었습니다.)

2. 살고 계신 아파트 단지에서 단지보안문을 설치하여 외부인의 단지 내 진입을 차단하는 이유가 무엇이라고 보십니까? (최대 3개 항목까지 복수 선택 가능)
❑[a] 단지에서 단지 주민이 아닌 이질적인 사람들과 마주치게 되는 것을 방지
❑[b] 외부인이 단지를 길 삼아 가로질러 통행하는 것을 방지
❑[c] 잡상인, 배달원, 청소년 무리 등의 출입으로 인한 소란 방지
❑[d] 범죄 예방
❑[e] 단지 내 수목과 시설물 보호
❑[f] 고급 주택 이미지 창출 및 부동산 가치 상승
❑[g] 다른 단지들도 그렇게 하고 있으므로
❑[h] 기타 _____

3. 단지보안문이 선택하신 이유에 맞는 효과를 얼마만큼 거두고 있습니까?
❑ 매우 효과적 ❑ 효과적 ❑ 효과 없음 ❑ 역효과 ❑ 큰 역효과

4. 살고 계신 동네에서 범죄에 대한 불안감은 어느 정도입니까?
❑ 매우 낮음 ❑ 낮음 ❑ 보통 ❑ 높음 ❑ 매우 높음

5. 단지보안문이 설치되어 있어서 단지 내에서 더욱 안전하거나 불안하다고 느끼십니까?
❑ 훨씬 더 안전 ❑ 더 안전 ❑ 차이 없음 ❑ 더 불안함 ❑ 훨씬 더 불안함

6. 이사오실 때 단지보안문이 갖추어져 있다는 점이 본 단지를 선택하신 요인 중 하나였습니까?
❑ 예 ❑ 아니오 ❑ 이사올 당시에는 단지보안문이 없었음

7. 단지보안문이 설치된 것에 대하여 찬성 또는 반대하십니까?
❑ 매우 찬성 ❑ 찬성 ❑ 중립 ❑ 반대 ❑ 매우 반대

다음 장으로 이어집니다 ➔➔➔

8. [단지보안문 설치에 대해 '중립', '반대' 또는 '매우 반대'를 선택하신 경우] 문 설치를 찬성하시지 않는 이유는 무엇입니까? (최대 3개 항목까지 복수 선택 가능)

❑[a] 문 설치의 효과가 없거나 적다.

❑[b] 잠긴 문 또는 바리케이드 때문에 돌아가야 해서 불편하다.

❑[c] 단지에 들어올 때 문 통과와 키의 사용이 거추장스럽다.

❑[d] 손님이나 서비스 직원 방문 시 불편하다.

❑[e] 단지 입구에 문을 설치하는 것에 대해 거부감이 느껴진다.

❑[f] 단지 밖 이웃 주민들과의 불화가 우려된다.

❑[g] 기타 _____

9. 현재의 단지보안문 운영을 어떻게 개선해야 한다고 보십니까? (최대 2개 항목까지 복수 선택 가능)

❑[a] 단지보안문 운영을 원하지 않으므로 문 개방 또는 철거

❑[b] 현재의 운영 수준에 만족

❑[c] 설치된 문을 보다 철저하게 관리

❑[d] 현재는 단지보안문이 없는 정문에도 추가로 문 설치

❑[e] 기타 _____

10. 만약 다음에 이사하신다면 되도록이면 단지보안문이 설치된 단지로 가시겠습니까?

❑ 매우 그렇다 ❑ 그렇다 ❑ 보통 ❑ 그렇지 않다 ❑ 전혀 그렇지 않다

11. 추가 코멘트나 관련 정보가 있다면 작성 부탁 드리겠습니다. 사소한 정보라도 알려주시면 관련 지식 발전에 중요한 도움이 될 것입니다.

뒷면으로 이어집니다 ➔➔➔

설문지번호		시행	2016/05	페이지	4/4

아래의 질문들은 응답해주신 분의 사회경제적 상황과 답변 성향을 분석하기 위해 필요한 최소한의 정보입니다. 아래에서 나온 정보는 연구만을 위해 사용하고, 외부로 노출하지 않을 것임을 약속 드립니다.

12. 성별을 선택해주세요. ..... ❑ 남 ❑ 여

13. 만 나이 기준으로 어느 연령대에 속하십니까?
❑ 20대(19세 포함) ❑ 30대 ❑ 40대 ❑ 50대 ❑ 60대 ❑ 70대 이상

14. 어떤 직업에 종사하십니까?
❑ 전문 · 자유직 ❑ 경영 · 관리직 ❑ 사무 · 기술직 ❑ 판매 · 서비스직 ❑ 기능 · 노무직
❑ 전업주부 ❑ 학생 ❑ 무직 ❑ 퇴직 ❑ 기타 _____

15. 본인을 포함한 동거가족 구성원은 총 몇 명입니까?
❑ 1 인 ❑ 2 인 ❑ 3 인 ❑ 4 인 ❑ 5 인 이상

16. 동거가족 중에 19세 미만의 미성년자가 있습니까? ..... ❑ 예 ❑ 아니오

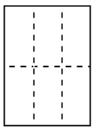
17. 지금 거주하시는 주택의 점유형태는 무엇입니까?
❑ 자가 ❑ 임차(전세 또는 월세) ❑ 기타 _____

18. 가구(동거가족 전체) 월평균 소득은 대략 어느 정도입니까?
❑ 199만원 이하 ❑ 200~399만원 이하 ❑ 400~599만원 이하 ❑ 600만원 이상

바쁘신 가운데도 귀중한 시간을 내주셔서 감사 드립니다. 본 주제와 관련된 인터뷰를 실시할 예정이오니, 인터뷰를 원하실 경우, 아래에 연락처를 남겨주십시오. 인터뷰는 원하시는 시간과 장소에서 본 설문 관련 내용으로 진행되며, 약 30~50분 정도가 소요됩니다. 인터뷰에 응해주신 분께는 감사의 표시로 백화점상품권을 지급하여 드립니다.

▪ 연락처 (전화번호 또는 이메일 주소): _____

✉ 회신봉투의 크기에 맞추어 설문지를 우측 그림과 같이 접어서 회신봉투에 넣으신 후, 우편으로 보내주시면 감사 드리겠습니다. (만약에 설문지가 반송되더라도 불편이 없으시도록 회신봉투의 보내는 사람 주소에는 연구자 개인 주소가 기재되어 있습니다.)



ABSTRACT IN KOREAN

국 문 초 록

빗장주거단지의 형성과 거주자 인식에 관한 연구: 서울의 아파트 단지를 사례로

김희석

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빗장주거단지(gated community)는 사적으로 통제하는 공동공간에 외부인의 출입을 제한하는 경계가 분명한 주거단지이다. 빗장주거단지에서는 도로 유지와 방범 같은 보통 공공이 공급하는 서비스들이 사유화되어 있다. 단지 주민들은 사적 인프라와 관리를 위한 비용을 지불하는 대신, 자신들의 주거 영역을 지배하고 구성원이 아닌 자를 배재할 권리를 획득한다. 부동산 상품 또는 범죄와 성가심에 대한 방어기제로서 빗장주거단지는 많은 나라에서 확산되고 있으며 우리나라도 예외는 아니다.

우리나라에서 고층민간아파트 단지는 이러한 빗장주거단지의 모든 특성을 지니고 있다. 지난 수십년간 아파트 단지는 질과 양의 측면에서 괄목할만한 발전을 이루었으며, 오늘날 빗장주거는 중산층 생활 양식의 일부분이다. 본 연구는 도시 공간 내 빗장지르기(gating)의 현실을 진단하고, 진화과정을 추적하며, 진화를 이끌어온 사회경제적 힘을 밝혀내고자 한다. 이를 위해 빗장주거단지의 유형화, 빗장지르기 행위자 분석, 주민 인식 분석이라는 세 가지 접근법을 채택하였다.

서울의 일천 개 아파트단지를 대상으로 외부인을 통제하는 물리적 장치의 조사를 통해 나온 경계 투과성에 의한 유형화는 물리적 배제성의 정도에 따른 네 가지 유형(경계형, 담장형, 차량통제형, 완전통제형)을 도출하였다. 가장 빗장지르기가 심한 유형인 완전통제형 단지는 차량과 보행자 모두를 통제하며 서울의 가장 부유한 지역에 집중되어 있다. 유형 간 평균 주택 가격과 주택 면적 분석은 부유한 사람일수록 보다 배제성이 강한 단지에 사는 경향이 있음을 보여준다. 이 데이터를 단지에 속하지 않은 공동주택 유형의 데이터에 결합하면 서울 인구의 대부분을 포함할 정도로

주거와 부의 스펙트럼이 확장된다. 이 스펙트럼에서 단지에 속하지 않은 공동주택 주민들은 가장 경제적으로 혜택을 받지 못한 집단을 형성한다. 이러한 결과는 빗장주거지를 '금칠한 게토(golden ghetto)'로 보는 종래의 개념을 넘어서는 것이다. 민간 자본에 의한 아파트 단지의 끊임없는 진화와 불충분한 공공 인프라에 의존하는 전통적 주거지의 정체는 금전으로 구입한 배제성에 의해 구성된 위계적 주거 공간을 만들어내고 있다.

네 가지 유형은 고정된 것이 아니며 끊임없이 진화하고 있다. 1990년대 이전에는 담장은 있으나 단지 입구에는 배제 장치가 없는 담장형 단지가 유일한 빗장주거단지 유형이었다. 차량 증가에 따른 주차공간의 부족은 빗장주거단지 주민들로 하여금 단지 입구에 차량차단기를 설치하도록 만들었으며, 이는 개조를 통한 담장형 단지의 차량통제형 단지로의 전환을 뜻한다. 이후 주민들의 개조는 그 후 지어지는 아파트 단지의 설계에 반영되었으며, 차량통제단지는 오늘날 가장 흔한 유형이 되었다. 차량통제형 단지의 완전통제형 단지로의 전환은 이전 전환만큼 매끄럽게 이루어지고 있지 않다. 지방자치단체의 계획당국은 보행자를 통제하는 자동문을 포함시킨 단지 설계의 건축허가를 거부하고 있다. 그럼에도 불구하고 일부 열성적 빗장주거단지 주민들은 건축허가를 득한 후 단지 전환에 나서고 있다. 공공이 깊이 개입한 택지개발지구에 건설된 낮은 담장을 설치한 경계형 단지는 배제성을 줄이려는 공공의 의지에서 나온 것이다.

빗장주거단지 주민들은 이미 단지와 동네에서 안전하다고 느끼고 있으면서도 추가적인 방범 조치를 찾아 나서고 있다. 보행자 차단문을 원하는 사람들은 다른 사람들에 비해 안전에 대해 예민하며, 이들의 범죄에 대한 두려움은 실존하는 위협보다는 끊임없는 범죄 보도에 의해 부풀려진다. 차단문은 범죄자가 따라들어가기와 같은 간단한 방법만으로도 피해 갈 수 있기 때문에 주로 상징적 안정감을 제공한다. 그러나 차단문은 서성임과 오물투기 같은 외부인들의 기회주의적인 행동을 제거함으로써 기존의 빗장주거단지 내 사회적 환경을 강화하는 데에 실질적인 힘을 발휘하며 효과적이다. 이러한 점에서 차단문은 생활 환경을 개선하려는 지역적 노력의 일환으로 이해될 수 있다. 그러나 이러한 노력의 내향적 성격과 교류와 협력보다는 회피와 배제에 의존하는 문제해결 방식 때문에 이러한 노력은 시민사회에 반하며 반(反)도시적이다.

빗장주거단지의 생산에는 건설사, 주택 소비자, 국가의 세 주요 행위자가 결부되어 왔다. 각 행위자는 민간 자금에 의한 현대적 인프라를 내재화한 아파트 단지의 개발로부터 큰 이득을 얻어 왔으며, 이는 도시 내에 아파트 단지의 확산으로 이어졌다. 빗장주거단지의 원형을 제공하고 생산 과정을 체계화한 국가는 빗장주거단지 생산의 선순환에서 가장 중요한 역할을 수행해왔으며, 이러한 과정 속에서 공공자금 투입없이 인프라 개선을 이룸으로써 재정적 이득을 취할 수 있었다. 그러나 오늘날 한국 주택 시장의 소위 '빗장 기제(growth machine)'는 공공과 민간의 이익이 충돌하는 중요한 분기점에 들어섰다. 빗장주거단지 주민들은 그들 자신을 위하여 성가시다고 인식되는 것들로부터 벗어나기 위해 물리적 배제성을 강화하고 싶어한다. 반면 국가는 다수를 위하여 차단문이 존재하지 않는 걷기 좋고 보다 평등한 도시를 추구한다. 평등과 포용에 초점을 두고 국가가 현재의 주택 체계를 과감히 구조조정하는 것이 담장과 차단문이 초래하는 도시적, 사회적 파편화의 치유를 위한 첫걸음이 될 것이다.

주요용어: 빗장주거단지의 형성, 빗장주거단지의 인식, 빗장주거단지의 유형화, 아파트 단지, 서울

Acknowledgement

I am blessed with not a single but two advisors to complete this dissertation. Professor Kim, Kwang-Joong has given me essential feedback to set the scope and establish the foundation of the dissertation. It was him as an urban morphologist who had suggested me to make the typology of apartment complexes based on border permeability. The typology has resulted to informed understating of gating in Seoul. He deserves credit for the dissertation more than any other but it is unfortunate that this cannot be done for the official record.

After the departure of Professor Kim, Professor Lee, Young-Sung gladly accepted me as one of his students, for which I am very grateful. As an urban economist, his view on the subject could be quite different from the former professor, but he largely respected the existing framework. He met me weekly with other students and these regular meetings provided me much needed answers and propulsion toward the goal. Moreover, he paved a way for me to get funding for the future study on Korean gated communities.

I thank the examining committee, presided by Professor Lee, Hee-Yeon, for their time and feedback, especially when my examining period was longer than usual. Last but not least, I cannot thank enough all the respondents and interviewees who offered their valuable time to help and contribute out of good will.

도시계획학박사 학위논문

Formation and Resident Perception of Gated Communities:

the Case of Apartment Complexes in Seoul

빗장주거단지의 형성과 거주자 인식에 관한 연구:

서울의 아파트 단지를 사례로

2018 년 2 월

서울대학교 대학원

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2018 년 1 월

위 원 장 _____ (인)

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Abstract

Formation and Perception of Gated Communities:

the Case of Apartment Complexes in Seoul

Gated communities are clearly bounded residential estates that limit the access of non-residents to privately controlled common spaces. Services such as street maintenance and policing that are usually provided by the public authority are privatised there. In return for funding the private infrastructure and its upkeep, residents acquire the rights to govern their residential territory and exclude those who are not members. As a real estate product or defensive mechanism against crime and nuisances, gated communities proliferate in many countries. South Korea is no exception of the global gating phenomenon.

In the country, privately owned high-rise apartment complexes possess all the characteristics of gated communities. Apartment complexes progressed in a great deal both in quantity and quality during the last decades and gated living is a part of middle class life styles today. The study aims to diagnose the current status of gating in urban space, track its evolutionary process and identify the socioeconomic forces behind the evolution. Three approaches were adopted for this purpose: typology of gated communities, gating actor analysis and analysis of residents' perception.

Typology of border permeability through the audit of physical barriers against outsiders in thousand apartment complexes in Seoul has produced four types by the degree of physical exclusiveness: *Demarcated*, *Enclosed*, *Car-restricted* and *All-restricted complexes*. The most highly gated type, All-restricted complexes that control both cars and pedestrians, is concentrated in the most affluent area of Seoul. Analysis of the average home prices and home sizes between types demonstrates that people with more financial means tend to live in more exclusive communities. Combination of the data with that of non-gated collective housing types extends the

spectrum of housing and wealth to cover the majority of Seoul population. In the spectrum, residents of non-gated collective housing constitute the least economically privileged group. These results go further than the conventional notion of gated communities as ‘golden ghettos’. The incessant evolution of apartment complexes by private funding and the stagnation of traditional neighbourhood with insufficient public infrastructure create a hierarchical residential space in Seoul, organised by exclusiveness bought by money.

The four types are not fixed and have been constantly evolving. Before the 1990s, Enclosed complexes with walls but without any barrier at complex entrances were the only type of gated communities. Increase of cars and consequent lack of parking space made gated community residents install rising arm barriers at entrances, thus converting Enclosed complexes into Car-restricted complexes through retrofitting. The residents’ retrofitting has since been integrated in the design of consequent apartment complexes. Thus, Car-restricted complexes are the most prevalent type today. Conversion of Car-restricted complex from All-restricted complex is not as smooth as the precedent conversion. Municipality planners refuse to approve of design integrating electric gates against pedestrians. Nonetheless, some zealous residents of gated communities still proceed to the conversion after obtaining the approval. Demarcated complexes with low walls built in new towns with heavy public intervention come from the will of the public to reduce exclusiveness.

Although gated community residents already feel safe in their apartment complexes and neighbourhoods, they seek an extra measure of protection from crime. People who want electric gates have heightened sense of safety compared to others and their fear of crime is inflated from the incessant media reports of crime rather than actual threat. Gates mostly offer symbolic comfort to the residents when the device can be easily circumvented by criminals with a gimmick as simple as tailgating. However, gates are practical and effective in strengthening the social environment of gated communities by removing opportunistic behaviours by non-residents such as loitering and littering. In this manner, gates can be understood as localised efforts to improve living conditions. However, these efforts are anti-civic

and anti-urban due to their inward-looking nature and their problem-solving resorting to avoidance and exclusion rather than exchanges and collaboration.

The production of gated communities has involved three major actors: developers, housing consumers and the state. Each actor has greatly benefitted from the process of developing apartment complexes internalising modern infrastructure by private funding, thus their proliferation in cities. The state has been paramount in the virtuous circle of the production of gated communities which presented the prototype and systemised the production process, while financially benefitting from the process through upgrade of infrastructure without public investment. Today, however, the so-called 'gating machine' in the Korean housing market reached a critical juncture where public and private interests collide. Residents of gated communities want to strengthen physical exclusiveness to escape from the perceived nuisances for themselves but the state strives for a walkable and more equitable city without gates for the many. Bold restructuring of the current housing system with more focus on equality and inclusion on the part of the state will be the first step to cure the urban and social fragmentation caused by walls and gates.

Keywords: formation of gated communities, perception of gated communities, typology of gated communities, apartment complex, Seoul

Student number: 2010-30703

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Chapter I. INTRODUCTION

Once gating is conceived of as a variable, it can become a more complex and contradictory process, one that requires research, interpretation and debate.

Saskia Sassen (2015)

1. Objective

South Korean cities saw a rapid expansion of apartment complexes during the last decades thanks to their mass-producibility, comfort of modern living they offer and their profitability as an investment (Gelézeau, 2003). According to the population and housing census of KOSIS (Korean Statistical Information Service), the share of apartments among the total housing stock rapidly increased from 7% in 1980 to 59% in 2010. The growth of apartment complexes in Korean cities is not limited to quantity. Apartment complexes were relatively modest in architecture and their amenities were simple, composed of playgrounds and some trees. In contrast, today's apartment buildings are designed by renowned architects and colour experts. Their amenities include wholly pedestrianised green space with themed gardens, swimming pools and guesthouses, which upgrade new apartment complexes to luxury condominiums.

Korean apartment complexes are typical gated communities which limit access of non-residents to privately controlled common spaces by making boundaries. Behind the spectacular growth in quantity and quality, apartment complexes are increasingly fortified. Entrances of apartment complexes used to be only an intersection of access roads and walls surrounding apartment complexes without installations. As time went on, guard posts, rising arm barriers and imposing arches have been added at entrances. As the last step, electric gates with keycard system are being installed at

the entrances of apartment complexes to completely control the access of non-residents.

Making barriers along the borders of housing estates against outsiders is termed ‘gating’ and is not limited to Korean cities. It is an urban phenomenon reported from all corners of the world with varying contexts such as neoliberal America, post-communist states in Eastern Europe and post-apartheid South Africa (Grant and Mittelsteadt, 2004; Low, 2003:16; Townshend, 2006). Gating occurs because it is perceived to be beneficial for those who live inside gates for various reasons such as better security, pursuit of particular lifestyles, manifestation of social status or escape from unknown others (Blakely and Snyder, 1997; Low, 2001).

Gating may benefit those who living inside the walls but their proliferation in urban space is reported to be largely negative at the levels of neighbourhoods and the society according to the existing literature (Blakely and Snyder, 1997; Lemanski, 2006; Roitman, 2010). At the opposite of walkable city, disruption of movements caused by gating makes children climbing over walls to go to school. Urban fragmentation results to social fragmentation between ‘the gated-in’ and ‘the gated-out’. Glittering gates in front of neighbours’ eyes are a visible symbol of social segregation and is a potential point of contention between groups (Atkinson and Flint, 2004; Blakely and Snyder, 1997:121; Blandy and Lister, 2005).

What distinguishes Korea from other countries in terms of gating is the extensiveness of gated life style. Unlike other countries where non-gated communities outweigh those gated significantly, life in gated communities is a *fait accompli* in Korea. As a result of the state policy having encouraged the construction of communities with private infrastructures, they exist in every corner of cities. Due to the overwhelming presence of gated communities, many people do not even recognise their life style behind walls is something special. Thus, the focus of gating phenomenon in Korea should be why existing gated communities are becoming more exclusive rather than why they spread.

Worries over deepening gating of apartment complexes are gaining recognition from the Korean society, as can be seen in media reports over gates (Jang, 2014;

Jeon, 2013; Kang, 2015; Seong, 2010) and anti-gating measures devised by the municipalities. Although a systematic analysis on the working of gating is essential to tackle its problems just like any other attempt to deliver a remedy for malady, there have not been proof-based efforts to answer where the Korean apartment complexes are situated in terms of *gatedness* and what process cities have been going through in terms of gating. Major tasks in order to achieve this analysis are threefold. The current level of gating in urban space should be analysed first. Then, the evolutionary process to reach the current status should be revealed. Finally, socioeconomic factors that have propelled the evolutionary process should be identified. These three tasks are translated to the research questions below.

- How does gating phenomenon manifest in urban space?
- What evolutionary process has resulted to the current manifestation of gating phenomenon?
- What are the socioeconomic factors that have propelled the evolutionary process?

Identification of manifestation and evolution of gating phenomenon is achieved through typology of gated communities in Seoul. The foremost South Korean metropolis lived by ten million inhabitants, is a site adapted to construct a typology of gated communities due to the abundant quantity of apartment complexes and the better traceability of their evolution, resulting from the higher availability of data than other cities. The level of visible exclusionary devices at the edges is traceable through the audit of apartment complexes built in different eras with the help of geotagged digital image archives. The audit results to a typology based on individual cases with time and spatial information. Unlike the existing ideal typologies, the typology with attributes enables patterns and relationships between types to be analysed both spatially and chronologically. The result of analysis provides a concrete description of the current status and evolution of gated communities in urban space.

The narrative behind the phenomenon is constructed from the analysis of socioeconomic forces that have produced apartment complexes in Korea. Developers, housing consumers and the state are the three actors of housing market and each has sought its own benefits under the capitalistic system. They found their common interests in producing apartment complexes and their actions have naturally influenced gating in the process.

Increasing physical exclusiveness of the existing gated communities have been initiated by housing consumers' retrofitting rather than suppliers' innovation. Residents had retrofitted existing apartment complexes for new needs and developers later applied retrofits devised by consumers to new apartment complex designs. As the main driver of residential fortification today, housing consumers need to be investigated in-depth through survey and interview.

The three approaches of typology, actor analysis and perceptual analysis will be able to systematically reveal the working of gated communities in Korea and its structural problems.

2. Methodology

Mixed methodology combining quantitative and qualitative approaches is used in the study. The main methodology consists of three methods: audit by street view and survey and interviews for exclusive apartment complex residents. The former is used to establish a typology and the latter two are used to find the meaning of the typology. The 'boundary permeability' (Townshend, 2006) of a large number of apartment complexes can be effectively measured by using street view services on the internet which shows walls and gates along streets in a consistent manner. The result provides a diagnosis on gating phenomenon in Seoul and a typology of gating. Residents of selected apartment complexes from the audits are surveyed by mail to find out the perceived reasons and approval of gating. Respondents of the survey who volunteer are interviewed to identify their perception on gating in more detail and depth.

Table I-1 Methodological process of the study

Method	Steps to take
1. Audit	1) Fix a list of apartment complexes to be audited 2) Establish criteria of the audit through a pilot audit by street view 3) Conduct the principal audit by street view 4) Analyse characteristics of each type and relationship between types
2. Survey	1) Fix a list of apartment complexes to be surveyed based on the outcome of the audit 2) Conduct pilot interviews 3) Prepare questions based on literature review, the outcome of the audit and the pilot interviews 4) Conduct a pilot survey to test the feasibility of mail survey 5) Perform the main survey by mail 6) Analyse the survey result
3. Interview	1) Prepare questions based on literature review, the outcome of the survey and the pilot interviews 2) Perform the main interview 3) Transcribe the interviews 4) Analyse the interviews and the comments from the survey together.

These interconnected methods are processed as in the Table I-1. Other complementary methods include field observation, formal or impromptu interviews with municipality officials, housing product developers and real estate agents and content analysis of various documents such as the academic literature, news articles, civil petitions and memoranda issued by residents' councils of apartment complexes. The three main methods are detailed in the beginnings of relevant chapters (Chapters IV and V).

3. Structure

The study is in the form of reverse pyramid. The study starts from macro level which deals with gated communities all over Seoul and every type found from them but ends up narrowed in micro level that focuses on a single type and several cases of gated communities found in it (See Figure I-1).

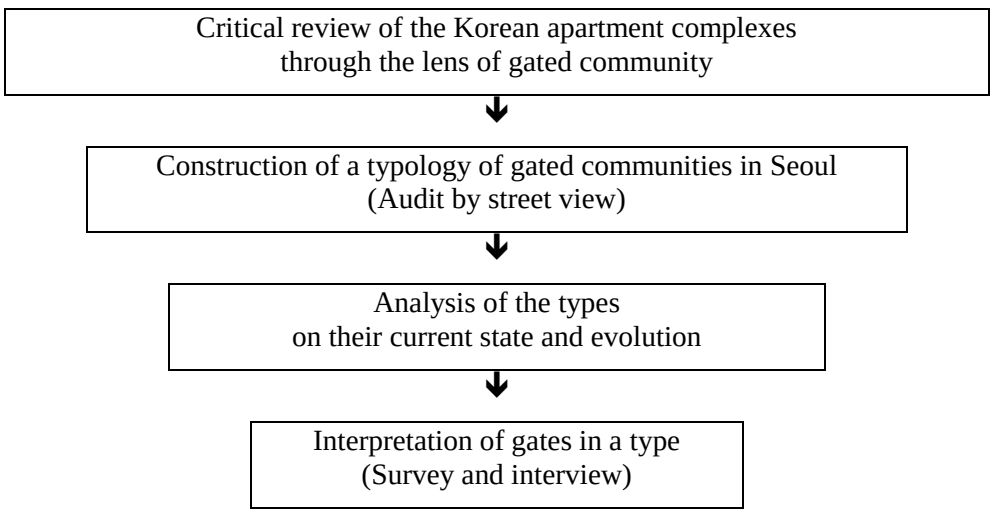


Figure I-1 Research flow

The dissertation consists of six chapters. This first chapter presents the contents and methodology of the dissertation and sets its orientation. Chapter II defines gated communities for the study and lays down the theoretical framework on which the dissertation develops through the analysis and critique of the literature on gated communities both from global and domestic contexts. Images are used to show the linkage between global and Korean contexts of gating phenomenon. Chapter III critically review the logic and development of Korean apartment complexes formed by gating machine of the state, developers and housing consumers. The chapter discusses self-sufficiency of apartment complexes which have been supported by the Korean state through privately funded residential developments and self-sufficient

setup of the internal structure of apartment complexes. It also examines the spatial impact of gated communities and the anti-gating measures introduced by the Korean state. Chapter IV establishes a typology of apartment complexes in Seoul classified by their border permeability through audit by street view services. It then analyses spatial manifestation and evolutional interconnectedness of types and discusses possible factors influencing exclusiveness of gated communities. Chapter V explores the meaning of gates perceived by residents living in exclusive communities through survey and interview. The chapter seeks the motivations of residents behind strengthening exclusiveness and also analyses which segments of population support gates. Chapter VI discusses and summarises major subjects of the dissertation to draw conclusions and implications.

Some parts of the study were published in Kim (2015) prior to the completion of this dissertation. Those parts were further developed in the dissertation. The parts concerned are Regulator perspective in Chapter II, Chapter III and Policy implication in Chapter VI.

Chapter II. GATED COMMUNITY DEBATES

1. Definition of terms

In the study, gated communities are defined as clearly bounded residential estates that limit the access of non-residents to privately controlled common spaces (Blakely and Snyder, 1997:2; Grant and Mittelsteadt, 2004; Raposo, 2006). A gated community requires substantial area accommodating both private and common space devoted for residences and amenities, though the exact area cannot be fixed. This means that a single high-rise residential building with full security is not a gated community, while it can have hundreds of households (Blakely and Snyder, 1997:2). The access to gated communities is either physically controlled by walls, gates, road configuration, natural barriers such as mountains and rivers or psychologically controlled by low fences, community name signs and warning signs (Grant and Mittelsteadt, 2004).

The two words constructing the term 'gated community' reflect its two major characteristics respectively. First, it is a spatial *community* whose members are bound by shared common spaces. While public space and services in non-gated neighbourhoods are publicly owned and managed, common spaces and services in gated communities are owned and managed by residents themselves and exclusive to them in varying degrees. Residents form an association to manage amenities and share the cost of maintenance. The association create rules governing the communal life within gated communities and exercise private planning power by transforming common areas for the needs of residents. This characteristic can be more accurately expressed as 'self-sufficiency' (Marcuse, 1997), an economic and political autonomy of micro space based on privatisation. As only certain categories of people can pay for common ground and services offered in gated communities, their members tend to be homogenous in terms of income and other socioeconomic characteristics (Low, 2003:71; Roitman, 2010). Geographical proximity and

homogeneity in membership are seemingly ideal nutrients for the growth of a true community where there exist 'sense of mutual responsibility, significant interaction, and cooperative spirit' (Blakely and Snyder, 1997:34). Nevertheless, there is no proof that gated communities incubate sense of community. Rather, gated communities are known to have zero or even negative influence on the sense of community (Wilson-Doenges, 2000; Lemanski, 2006).

Second, the word '*gated*' implies a clear border and exclusiveness. Unlike ordinary neighbourhoods whose extents are blurred and overlapped with others, gated communities have distinct borders marked by walls or natural barriers that clearly separate the inside and the outside. Permeability of the border is selectively applied to residents and non-residents in varying degrees depending on each individual gated community. Some borders are mere demarcations, thus hardly discriminating non-resident access, while others are heavily applied of security measures, thus actively excluding non-residents (Brabec and Machala, 2015; Grant and Mittelsteadt, 2004; Lemanski, 2006). This characteristic can be more accurately expressed as 'territoriality', a strategy of spatial separation and control (Sack, 1983) (See Figure II-1).

The shared attribute between the two characteristics of self-sufficiency and territoriality is the exclusiveness against non-residents which happens to be the most salient feature of gated communities. Exclusiveness is born from the fact that common spaces within gated communities are privately and collectively owned. Like

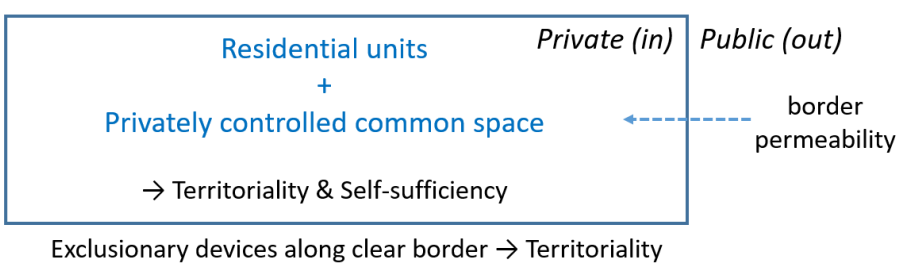


Figure II-1 Definition and characteristics of gated community

any owner of private commodities, gated community residents want to use them exclusively.

However, it should be noted that all communities considered as ‘gated’ do not satisfy all the two characteristics: self-sufficiency and territoriality. While master-planned gated communities embedded with planned amenities satisfy both characteristics, retrofitted gated communities or security zone communities, which were originally ordinary neighbourhoods but later modified to be gated by a collective action of residents, only satisfy territoriality as they include publicly managed roads and other spaces supported by the public in their territory (Blakely and Snyder, 1007:99; Kenna, Lineham, Brady and Hall, 2015; Landman, 2006; Milian Avila and Guenet, 2015:188). Exclusiveness here is mostly a defensive mechanism against external threats perceived to be brought in by non-residents such as crimes and other nuisances in reality or in the imagination of gated community residents. As these external threats are present in any urban space, the exclusiveness found in master-planned gated communities plays the role of defence against external threats as well as protection of the membership to amenities at the same time. In this study, gated communities indicate master planned communities.

2. Formation of gated communities

Logics behind the phenomenon of residential gating are multiple, formed by the interplay of socioeconomic, political and urban changes. Systematic understanding on the emergence of gated communities can be done either in terms of housing economics or social changes. In economic terms, gating is a product of interaction between supply (developers) and demand (house buyers) sides of housing market and their regulator (government) (Brabec and Machala, 2015).

House is a basic human right first of all (UN Habitat, 1996) but also a commodity under capitalist system where houses are exchanged through monetary transactions in the housing market. Master-planned gated communities are a sophisticated

housing commodity or a real estate product more specifically (Raposo, 2006) combining houses and attached amenities as a package, planned and marketed for a certain category of people. Major actors of the housing market – supplier, consumer and regulator – have different roles in the production and consumption of gated communities in our cities. Therefore, causes of residential gating can be analysed from the perspective of each actor and the respective behaviour in the housing market (Cséfalvay and Webster, 2012; Le Goix, 2005; McKenzie, 2003). When the three actors find the common benefits from building gated communities, their socioeconomic alliance forms 'gating machine' and accelerates gating in the process of profit taking (Kenna and Dunn, 2009; La Grange, 2014; Vesselinov, Cazessus and Falk, 2007). South Korea has seen prospering gating machine after the introduction of liberal housing policy by the developmental state striving for state-led economic development.

1) Supplier perspective

Housing suppliers strive to raise their profits by maximising house price from a given land. According to hedonic pricing model (Rosen, 1974), house price can be broken down into endogenous factors inherent to houses including size, age and architectural quality and exogenous factors inherent to neighbourhoods including location and local amenities. When the endogenous factors such as gross floor area, bound by limited available land and planning regulations, cannot be easily modified, the improvement of exogenous factors through the addition of amenities and creation of desirable image are one of the solutions to significantly raise house price. Housing suppliers create artificial neighbourhoods with exclusive amenities in order to raise profits from selling houses within and these neighbourhoods are none other than gated communities. Amenities provided for gated communities range from basic infrastructures such as roads, gardens and playgrounds to luxury amenities mostly destined for leisure activities such as club house, gym, swimming pool and golf course. These amenities are provided either by the public or the private sector in non-

gated residential areas. However, their availability is not always guaranteed in optimal level especially for consumers with higher needs due to the lack of land or funding by the public or insufficient needs for the private sector to be profitable. Inclusion of the amenities in gated communities is a way to overcome the market failure (Cowen, 1988 as cited in Cséfalvay, 2011) by making convenient services instantly available and continuously provided with a reduced cost thanks to 'club economy' in which the production costs of services are shared by members who own and consume the services at the same time (Buchanan, 1965; Glasze, 2005). Even though all amenities in gated community are not actively used, their availability itself is an advantage over non-gated residences, thus works as a hedge against the devaluation of properties (Brabec and Machala, 2015).

Image is another marketing tool for gated communities. The image of a planned gated community derives from multiple elements including the surroundings, amenities, architecture and landscape architecture, securitisation and branding by developers. Developers promote the images highlighting its commodifiable aspects in the process of 'aestheticisation of commodities' to make the product more attractive and to stimulate new needs (Raposo, 2006; Wu, 2010). These needs are not basic housing needs but sophisticated wishes and expectation of individual clients that can be expanded and influenced by marketing (Brabec and Machala, 2015). Some of the most frequent images for aetheticisation include verdure, ecology, liveability, luxury and exoticism (Wu, 2010). For larger developers, the image transcends a single instance of development to be perpetuated through the creation of unique brands that guarantees the same level of satisfaction and reputation with their existing realisations for new gated communities (See Figure II-2).

Developers of gated communities promise to offer comfort through private amenities, safety by walls and gates and satisfaction of living in an attractive place to potential buyers in a higher price. The high price, in turn, functions as an access barrier for the have-nots preventing for residents to live next to poorer neighbours, thus raising the attractiveness of the gated community even further for those who want to live in 'golden ghettos' (Grant and Mittelsteadt, 2004; Raposo, 2006;

The main brand: ‘Prugio’ for private apartment complexes developed by Daewoo

The sub-brand: ‘Uz center’ for Prugio’s amenities

Source: Daewoo E&C

Figure II-2 An example of the branding of gated communities

Townshend, 2002, Üstüner and Holt, 2010). The superior quality of physical environment and the removal of ‘the undesirables’ make gated communities effectively a physically and socially sanitised place of living where artificial niceness and homogeneity bury the inevitable roughness and diversity of urban life (Kenna et

al, 2015: 117; Walks, 2006). Thus, a gated community is a physical and social environment maintained by exclusiveness.

This sanitised living space does not need to be situated in already a 'clean' area. Another advantage of gated communities lies in the relative freedom of location selection for development. As gated communities self-sustain residential infrastructures, they can attract middle class buyers to *nowheres* with scarce infrastructures such as green fields and impoverished brown fields (See Figure II-3). Building gated communities in the periphery reduces the land acquisition cost which constitutes one of the largest expenses in any development. Stark contrasts between gated communities and nearby non-gated neighbourhoods reported from all over the world (Caldeira, 2000; Lemanski, 2006; Salcedo and Torres, 2004) result from the availability of cheap land in the periphery and their transformation into middle class residential areas by developers of gated communities. Their 'colonisation' of the

Source: Daelim

Note: The apartment complex in Yongin, Gyoenggi is planned for 6,725 households

Figure II-3 Example of an out of nowhere gated community

periphery results to a ‘citadel gentrification’ (Atkinson and Flint, 2004) in which a gentrifying unit constitutes an entire estate in contrast to typical incremental gentrification occurring plot by plot.

The gated community as a development model is diffused nationally and internationally, usually from the core (metropolises / the West, especially USA) to the periphery (regional cities / developing countries), by housing suppliers who learn or copy the model from other developers and apply it in their developments with adoptive measures that fit the context to maximise profit and win over competition (Atkinson and Flint, 2004; Coy, 2006; Leisch, 2002; Webster, Glasze and Frantz, 2002). The process of copying and innovation by developers is led to multiplication and sophistication of gated communities both at national and international levels.

2) Regulator perspective

The supplier perspective is the first step to understand gating in capitalist housing system but cannot explain the different levels of their prevalence among countries (Cséfalvay and Webster, 2012) because all developers pursuit the maximum profit regardless of the country where they are situated. The difference largely comes from the different stances of the housing market regulator toward gating who may encourage or discourage it purposefully or unwittingly. Regulator creates and manages institutional settings of the housing market. As the housing market regulator is central and municipal governments, it also plays an essential role of sculpting the socioeconomic context in which the housing market is situated. In this regard, the role of the regulator in gating is twofold: an indirect role in guiding the socioeconomic development of the country, thus creating the conditions positive or negative for gating; and the direct role of establishing housing policy and using planning measures to influence gating (Grant, 2005).

The regulator in weak states tend to promote urban gating due to their incapacity to support the optimum functioning of cities (Cséfalvay, 2011). A city is mainly composed of private actors – households and businesses – but it needs public services

for its private actors to function. Public services are provided by government, and these include policing, public transport, waste removal, parks, education and cultural facilities. These services are unevenly distributed in the urban space because each neighbourhood has different levels of access to public goods (Webster, 2003). These goods, whose qualities depend on location, are called 'local public goods' (Tiebout, 1956).

In weak states that do not provide sufficient local public goods, the well-to-do class (primarily, though not exclusively) will try to buy them from the market (Glasze, 2005) by joining a club economy that shares public services only among paying members (Buchanan, 1965; Manzi and Smith-Bowers, 2005). The weakness of the state in providing public services is either forced by under-development or deliberate due to neo-liberal privatisation policies (Kenna and Dunn, 2009). The physical manifestation of the club economy is the gated community, whose exclusionary mechanisms prevent outsiders from using privately provided public services. Gating that results from fear of crime is, in fact, a private production of a particular local public good (security) and is caused by residents' distrust of the police service provided by government (Costa Vargas, 2006). Private production of security is a global phenomenon amid fragmentation and delegation of policing function to various 'mass private properties' including shopping malls, business improvement districts (BID) and university campuses as well as gated communities (Schuilenburg, 2015:30-31).

Some laisser-faire governments even go further by actively encouraging gating in order to enjoy the financial benefits that are generated by gated communities which pay taxes, but which are self-sufficient in the provision of public services and therefore do not burden the public finance (Grant and Mittelsteadt, 2004; Le Goix, 2005; Libertun de Duren, 2006; Low, 2006:59). These governments essentially see citizens living in gated communities as consumers from whom a lucrative trade is made (Wu, 2005). Las Vegas is an extreme case of institutional gating, and one that has occurred against the will of its residents in the form of the installation of walls around traditional neighbourhoods; as well as encouraging gated developments in an

effort to widen the tax base while simultaneously reducing expenditure (McKenzie, 2005).

The motivations of pro-gating states are also political, using gated communities as a space of control. The Chinese government uses privatised security within well-defined walls as an effective tool for maintaining social order over a heterogeneous population (Huang, 2006; Tomba, 2010:31). Although the Singaporean state has provided decent public housing for the majority of its people, middle class Singaporeans started to seek better residential amenities. In response to this demand, the state made gated condominiums an integral part of its housing policy to satisfy 'the rising aspirations of middle class home buyers' and to maintain the government's control of these aspirations (Pow, 2009).

3) Consumer perspective

Consumer perspective sees gating as the result of conscious choice of house buyers and renters, based on their individual motives (Kenna and Dunn, 2009). The motives of gating in consumer perspective are mostly social. Housing consumers' social motives behind seeking gated communities are converted to economic and political motives by suppliers and the regulator as they seek their own benefits by catering to the needs of consumers. The discourses on the detrimental social impact of gated communities are concentrated on the consumers who exploit walls as the protector of their personal interests but disregard the wider community beyond walls. In Marxist and postmodernist thoughts on urban space, walls of gated communities are 'social boundaries' (Davis, 1990:223) that give the dwellers inside the power to reorganise the space by differentiating and controlling people living in proximity. In other words, walls help to exclude the undesirable others and choose those whom to live together with (Lynch, 2001). Housing costs and implicit or explicit discrimination have served the similar function throughout the history. Today walls and gates are more effective social filters that can eliminate both the poor neighbours and the occasional others such as passers-by, unruly youths and solicitors (Blakely

and Snyder, 1997:153). Distancing oneself from the undesirables is triggered when they are regarded as threat or nuisance (crime, anti-social behaviour, unwanted traffic…) or that they are just different and unfamiliar (race and income level).

Consumer factors influencing gating are many but fear of crime is by far the most recurring theme in the literature (Cséfalvay and Webster, 2012; Roitman, 2010). Fear of crime is defined as 'the wide range of emotional and practical responses to crime and disorder made by individuals and communities' (Pain, 2001) and seeking gated communities is one of the responses. The focus of gated communities in security is evident in their design principles: defensible space formed by cul-de-sac streets and CPTED (Crime Prevention Through Environmental Design) and militarisation of space with walls, gates and guard posts. People look for safety inside the walls of gated community because of the real threat of crime or over-sensitisation to crime due to incessant mediatisation of crime at national level regardless of actual low crime rate at local level (Blakely and Snyder, 1997:100; Low, 2003:130). Fear of crime explains why low and middle income gated communities exist, since people of all income levels are afraid of crime. However, effect of gates on fear of crime is inconclusive according to empirical researches on the topic. While fear of crime among gated community residents appeared similar to that of non-gated community residents in America (Sanchez, Lang and Dhavale, 2005), residents living in more heavily fortified communities in South Korea felt safer than their counterparts (Kim, 2011). In contrast, gated community residents felt less safe than non-gated community residents in Malaysia (Abdullah, Salleh and Sakip, 2011).

Urban nuisance is a lower level threat than crime with little bodily harm but is much more of an everyday affair. It is unpleasant but inevitable products of urban life including noise, vandalism, uncleanness, crowdedness and disruption, caused by anti-social behaviour, solicitation and traffic. As in the crime prevention function of gated communities, cul-de-sacs and gates are used to channel traffic and problem makers to somewhere else. (See Figure 8) Walls and gates are more effective for this goal than prevention of crime because makers of nuisance are a lot less purposeful in their action than criminals who may actively find cracks in defence and achieve

their purpose (Blakely and Snyder, 1997:87). As prevention of urban nuisance is an easier justification than other ideologically loaded justifications for gating, it is also employed as a diversion tactic to hide the real intention of gating such as segregation or social control (Kenna et al, 2015). Ultimately, gating as a response to social problems is a proactive measure that does not resolve the problems (Beckett and Herbert, 2008) but export them outside. Since gating benefits members by externalising threats, it cannot avoid creating externalities for others by concentrating problems outside the walls. In this regard, residential gating is a form of civic disengagement and NIMBYism (Lemanski, 2006).

'The others' may cause disruption and be untrusted but they are not completely dispensable in gating. There should exist the others as someone to covet the life in gated communities and recognise its value and prestige. High-income gated communities are prestigious addresses that serve as a social marker and a guarantee for house price. Walls and gates in this type of the community have the double function of defence against external threats and being a status symbol, thus they tend to be more ornamental and luxurious in appearance (Blakely and Snyder, 1997:75).

'Us' inside walls in the opposite of 'the others' is like-minded people who share similar social status and interests. Globalisation has increased social heterogeneity in urban space by creating polarised and multicultural societies resulting from heightened competition at international level and transnational movement of people. Fear of different others and longing for stability make gated communities veritable sanctuaries from increasing social heterogeneity. Life in gated community is reassuring for them because it recreates a safe environment where only familiar faces with similar social status inhabit (Low, 2001). The guarantee of social homogeneity inside gated communities mostly comes from the cost barrier to live there (Kenna and Dunn, 2009), though some of them, especially age-restricted communities, have extra eligibility conditions.

The ultimate reason for living in gated communities is the carefree life they offer (Chase, 2008). It is a total package including leisure, well-being, tranquillity and privacy (Kenna and Dunn, 2009), although the contents of the package vary

depending on the price. Various amenities and services in gated communities support this lifestyle and residents buy homes and the attached lifestyle at a reasonable price without hassles to organise them by themselves. There exist even customized gated communities that provide particular lifestyles for special needs such as golf club communities (Duca, 2015) and retirement communities. People learn the existence of such lifestyle from media, overseas travel and the global elites who already had the experience in other countries (Üstüner and Holt, 2010), let alone the marketing of gated community developers.

The rise of sophisticated gated communities for high income earners is essentially a product of globalisation. The post-fordist upper-middle class who seek gated communities was formed by the economic order of globalisation that requires highly skilled labour (Kenna and Dunn, 2009; Roitman, 2010). They are more wealthy and mobile than the conventional middle class under the fordist system who were more numerous but earned less. Gated communities fulfil their need for a vastly improved infrastructure (Roitman, 2010) and provide standardised and readymade services regardless of local contexts for the elites who constantly move within and between countries (Chang and Kim, 2016). Thus, gated communities are not only spaces of living but also 'spaces of consumption' (Wu, 2005).

The analysis of the literature shows that gated communities are advantageous for those who live inside and for those who build them but mostly dysfunctional for the society as a whole. Some advocate the positive function of gated communities making it possible for the have and the have-nots to coexist in proximity and achieve social mix through micro-segregation (Lemanski, 2006; Salcedo and Torres, 2004). However, it should be noted that the advantage is only a by-product of gating in the consumer perspective. Gated community dwellers do not necessarily intend to live in socially mixed environment. Those gated communities with advantages such as proximity to job centre or cheaper house price just happen to be islands in the centre of poverty, usually in the context of gentrification.

Despite surprisingly many consensus and commonalities found in the studies conducted in different parts of the world, a significant portion of the claims introduced here are not empirically proved enough and the need for empirical examination of the claims has been raised (Kenna and Dunn, 2009). The present study tries to overcome the text based analysis of the gating phenomenon in consumer side by directly hearing the voice of gated community dwellers.

3. Typology of gated communities

Although the first modern gated communities appeared in America already in the late 1800s, they remained as a marginal form of housing limited to some elites for more than one and half centuries. Gated communities became prevalent only from the 1960s in America (Blakely and Snyder, 1997:4) and the rest of the world began to be subject to gating later in the last few decades (Cséfalvay and Webster, 2012). In the 1990s in America, gated communities entrenched enough in cities to be studied (Le Goix and Webster, 2008; Roitman, 2010). One of the first attempts to analyse gated communities was achieved by creating a typology.

Blakely and Snyder (1997) proposed three ideal types of gated communities according to the major goal of gating: lifestyle, prestige and security zone communities. Lifestyle communities are developed for the residents to fully enjoy particular lifestyles such as leisure oriented life, retirement or suburban life. These developments are equipped with amenities to support particular lifestyles. Lifestyle communities are the most merchandised housing type among the three due to the differentiated consumer base and the presence of specialised amenities. While the wall of lifestyle communities is the boundary marker of their own world, that of prestige communities is the symbol of status. The wall of prestige communities implies the people and their houses inside are the privileged few. The residents may be really the selected few in the society or those who want to be projected as such by living inside walls. The image projected from walls is further enhanced by

imposing architecture and well-manicured gardens. The image also protects property value by tagging the kind of people who can afford the address. In security zone communities, walls have the most practical role of defending residents from unwanted traffic and potential criminals. Walls are retrofitted when residents feel threatened by outside regardless of the real existence of threats. Unlike lifestyle and prestige communities, security zone communities are also produced in poor neighbourhoods located in crime rampant areas. Walls and gates are present in all the three types of communities but their meanings differ according to the intended goal of communities.

As the three types are not mutually exclusive, most gated communities have characteristics belonging to multiple types (Hook and Vrdoljak, 2002; Leisch, 2002; Pow, 2009). In effect, the typology portrays inherent characteristics of gated communities found anywhere in the world and explains their formation process in the consumer perspective. Thus, this typology, despite its origin from a particular country, has been continuously reproduced in the narrative of gating phenomenon not only from America but also from all corners of the globe, situated in different contexts (Le Goix, 2005; McGuirk and Dowling, 2007; Townshend, 2006; Wu, 2005). As evidenced in the apparent universality of the typology, it is not a working typology that can categorise a particular stock of gated communities except for some regions in America (Richter and Goetz, 2007). It is an ideal typology to reveal the recurring characteristics found in gated communities as a mode of development. As it is impossible to create a single working typology to fit for various places in the world having different urban and socioeconomic conditions (Townshend, 2006), it is the role of local researchers to develop working typologies adapted to localities. Hence, working typologies of gated communities in a country or a city have been proposed using various criteria such as type of housing estate (Breitung, 2012; Glasze and Alkhayyal, 2002; Thuillier, 2005), affordability (Almatarneh, 2013), application of master plans (Landman, 2003) and the degree of physical exclusiveness (Grant and Mittelsteadt, 2004; Loudier-Malgouyres et al, 2010; Townshend, 2006). Grant and Mittelsteadt (2004) made a synthesis of typologies

with differing criteria, a model of working typologies that functions as a framework to produce local working typologies. They systematically analysed the ideal typology of Blakely and Snyder (1997) and developed a more thorough typology with broader criteria through the observation of enclaves in Canada. These eight criteria include tenure, location, size, policy context and type of residents on top of the criteria developed by Blakely and Snyder (1997): functions of enclosure, security features and barriers and in-community amenities and facilities. Although all the criteria were explored in detail, only one criterion – security features and barriers ended up as a typology with precise definitions of each type.

1) Physical exclusiveness

Researchers most often use the degree of exclusiveness as the criteria of classification of gated communities because it is the clearest measure to classify and the most distinguished features of gated communities. In the most basic level, they are classified into implicitly and explicitly gated communities. Implicitly gated communities are lightly equipped with partial walls and symbolic gates and allow uncontrolled access. In contrast, explicitly gated communities are heavily equipped with secure gates, guards, high walls and access to compound is strictly controlled (Townshend, 2006). In Ile-de-France, more differentiated typology was developed based on the analysis of wordings appeared in gated community housing advertisements. The four types are 'private', 'enclosed', 'enclosed+secured' and 'closed+controlled access' in the ascending order of exclusiveness (Loudier-Malgouyres et al., 2010:39).

Grant and Mittelsteadt (2004) created by far the most differentiated typology of exclusiveness for Canadian gated communities. Eight types were established according to the defensiveness of the boundary and the entrances of gated communities. In this typology, a gated community ranges from much open types having only ornamental gates without marked boundary to strictly closed developments with walls, closed gates and guards. Table II-1 compares different

Table II-1 Relative positioning of working typologies based on the physical exclusiveness of gated communities

Canada Townshend (2006)	France L.-M. et al (2010)	Canada Grant and Mittelsteadt (2004)
• Implicit	• Private	• Ornamental gating
	• Enclosed	• Walled subdivisions
		• Faux-gated entries
	• Enclosed + secured	• Barricaded streets
		• Partially gated roads
• Explicit	• Closed + controlled access	• Fully gated roads
		• Restricted entry, bounded areas
		• Restricted entry, guarded areas

categorisations performed, based on the physical exclusiveness. It shows that implicit gated communities are more numerous in terms of categorisation, opposed to the dominant image of full security communities among the public.

2) Typology of gated communities for Korea

The typology of the present study is a working typology of gated apartment complexes in Seoul whose criterion for classification is the degree of physical exclusiveness in line with the above mentioned typologies. At the same time, it tries to fill gaps found in existing typologies. As Loudier-Malgouyres' (2010) typology depends only on the words of designers, it overlooks retrofitting that may have happened by residents after the completion of projects. Grant and Mittelsteadt's (2004) typology is clear and meticulous but remains as an ideal type. Their typology does not have information to understand them better such as their order of appearance, ratio of each type relative to the total stock and interaction between types in a context. As the typologies in the literature have come out from non-systematic observation or secondary sources, they have the risk of being non-exhaustive, creating discrepancies with the reality and not mutually exclusive. Moreover, there is no interpretation of types on how the types came into life and how they are perceived by residents.

The present study typifies apartment complexes in Seoul into Demarcated, Enclosed, Car-restricted and All-restricted apartment complexes according to the intended targets of exclusion and type of exclusionary devices. The typology presented in the current research, based on systematic observation through the audit of existing housing stock increases accuracy and exhaustiveness of types. Clear mutual exclusiveness between types and the knowledge of the attributes attached to types not only produce a typology but also make emerge the evolution and interaction between types. The construction of this typology is featured in Chapter IV and an in-depth interpretation of a type through survey and interviews is found in Chapter V.

4. Domestic debates

It was during the 2010s that incremental gating of apartment complexes acquired enough momentum to capture the attention of scholars who study Korean apartments. Before that time, exclusiveness of apartment complexes was not studied as the main subject but was occasionally mentioned in related works. It was understood by the 1990s that isolated apartment complexes from the environs have problems of separated road networks between apartment complexes and the surroundings and loss of the sense of belonging to the local community by apartment residents resulting from inward looking structure of their residences. Clearer physical exclusiveness of apartment complexes such as the existence of walls at the edges and blocking of the entrances were also considered problematic (Kim, Ahn, On and Lee, 1997: 29-35). It took eventually two decades for these distinct gating features to be discussed in the paradigm of gating. Gated communities were recognised as a foreign phenomenon that occurred outside of South Korea until the 2000s, and as such they were understood as a potential type of housing for the future (Choi, 2007) or as a limited occurrence that was at its inception (Nam, 2006).

Understanding of the *gatedness* of Korean apartment complexes reached a turning point in the 2010s with a series of studies that analysed the gated features of ordinary apartment complexes through anthropological (Jung, 2012), criminological (Kim, 2011) and planning (C. S. Park, 2013; I. S. Park, 2013; Kim, 2015; Kim and Choi, 2012) approaches. A consensus of viewing Korean apartment complexes as a fortified residence was reached among various authors from different disciplines. The sudden increase of the literature on the subject suggests that the impact of the gating of apartment complexes over the society and cities reached a tipping point during this period as it had happened in the late nineties of America with the publication of important works of gated communities (Blakely and Snyder, 1997; Low, 2003).

The debate starts from how different types of collective housing in Korea fit into the framework of gated community that have been developed in international debates of gating (Jung, 2012). In the next step, exclusiveness of apartment complexes is quantified to explore its relation with other meaningful variables. The exclusiveness is measured by a point system checking the availability of exclusionary device components such as security cameras, keycard system, rising arm barriers, guard posts and guards in apartment complexes. According to the study results, the degree of exclusiveness is correlated to housing type, apartment unit size (Kim, 2011), age of apartment complex and housing prices (Kim and Choi, 2012). The physical exclusiveness is positively correlated with apartment unit size and housing price but negatively correlated with the age of apartment complex, which effectively means the haves prefer to live behind gates and newer apartment complexes are more heavily equipped with exclusionary devices. Measurement of the impact of exclusiveness on neighbourliness within apartment complexes shows mixed results. While exclusiveness promotes neighbourliness in a survey for wealthy apartment complex residents (Kim and Choi, 2012), it is the opposite in a countrywide survey (Kim, 2011).

Structural and morphological approaches from the planning literature seek the structural cause of the gatedness of contemporary apartment complexes in the nation

and blame the privatised development under neoliberal housing supply system for mass production, embraced by the state. This type of housing regime is beneficial for the state finance but distorts the urban structure with closed residential islands where public space is not shared but privatised (Kim, 2015; C. S. Park 2013; I. S. Park 2013). A well-publicised case of gating in a satellite city of Seoul in 2012 illustrates the problem more clearly because gates were systematically installed in an unprecedented scale to prevent foot traffic belonging to non-residents (Kim, 2015). The next chapter is developed from this previous study of the author (Kim, 2015). By expanding the number of cases citywide and typifying them both in space and time scale, the present study tries to overcome the limit of the previous study as a single case analysis, whose efforts are only concentrated on the role of state in gating and club economy of apartment complexes.

Chapter III. FORMATION OF THE GATED COMMUNITIES IN KOREA

Self-sufficiency and security are bound to create exclusiveness. As residents can live comfortably without venturing out to the external world, self-sufficient arcology is structurally exclusive. It is also functionally exclusive because outsider access should be controlled to maintain security.

Bok, Geo-Il (2002)

1. Definition of gated communities in Korea

Korean gated communities featured in the study are an amalgam of master planning and retrofitting. As the closure of public roads for private appropriation is forbidden in the country unlike others such as Ireland, South Africa and USA, all Korean gated communities are master planned communities having private amenities and clear borders. At the same time, many of them are retrofitted to strengthen physical exclusivity than the original design through the addition of exclusionary devices by residents such as guard posts, rising arm barriers and electric gates.

In terms of morphology, a large majority of them happen to be high-rises. While residential tower blocks are the symbol of poverty in the West, especially in Western Europe, high-rises in Korea are mostly privately owned and built for the middle and upper classes. There exist enclaves of low-rise town houses in Seoul (Jung, 2012) but their occurrence is insignificant relative to high-rise enclaves and most of them are too small in land area to have private amenities and impact on neighbourhoods. High-rise housing estates are called a-pa-t danji (apartment complex) in Korea regardless of the type of tenure whether they are privately owned, public rental or mixed. Privately owned apartment complexes are in effect condominiums which is a type of collective housing whose land and housing units are separately owned and

<table>
<tr><td colspan="4">Gated community (master-planned)</td></tr>
<tr><td>Luxury townhouse</td><td colspan="3">Apartment complex</td></tr>
<tr><td>Privately owned</td><td>Privately owned</td><td>Mixed tenure</td><td>Public rental</td></tr>
<tr><td></td><td colspan="3">Objects of the study</td></tr>
</table>

Figure III-1 Clarification of gated community and apartment complex in the Korean context of the study

common space and amenities are jointly owned. The term 'apartment complex' is used here instead of condominium to reflect the local custom as in another study of gated communities of Seoul written in English (Woo and Webster, 2013). Unless specified otherwise, apartment complexes mean privately-owned and mixed tenure complexes in the study. Since rental units are usually a minority in mixed tenure apartment complexes, they were grouped with privately owned ones rather than public rental ones (See Figure III-1). As all such apartment complexes in Korea have the characteristics of gated communities, the terms, apartment complex and gated community, are used interchangeably in the Korean context.

2. Working of gated communities

1) Development system

South Korea suffered a severe housing shortage from the mid-1960s until the early 1990s when the government's Two Million Home Construction Drive created a housing glut. The main culprit of the housing shortage was rural migration to the cities as well as the rapid industrialisation of the country under a developmental Korean state that pursued state-led industrialisation in alliance with *chaebols* (conglomerates) (Lee and Han, 2006). When a large number of homes had to be supplied quickly to meet burgeoning housing demand in the cities, apartments were chosen by the state as the main form of housing on account of the ease with which

they could be mass produced to modern housing standards. Unlike contemporary Western governments, which provided public rental apartments, the much poorer Korean government stopped providing these (Gelézeau, 2008; Jun, 2009:38) and instead chose to allow private developers and public developers such as Korea National Housing Corporation to construct privately owned apartments. The existing literature blames the low funding priority given by the state to housing development on the characteristics of a Korean state that concentrated its resources in pursuit of a growth policy centred on industrial development rather than following a distributive policy based on housing development (Park, 1998; Doling, 1999). Public money saved on housing was maximised by the state's requirement that apartment buyers pay for the construction and maintenance of their own residential infrastructure on top of paying for the construction of the apartment buildings.

The expansion of apartment stock came from either 'new town' greenfield development, or from brownfield redevelopment. The latter consists of the redevelopment of traditional neighbourhoods and old low-rise apartment complexes. The state minimised its financial engagement in both greenfield and brownfield developments, but the latter received even smaller amounts of assistance and contributions from the state. While new towns have been built as part of state initiatives, and while there have been city-wide masterplans that have been elaborated by the state, sporadic residential redevelopments have occurred as the result of private initiatives planned by private developers. Thus, the financial detachment of the state and *laisser-faire* home building schemes are more pronounced in the redevelopment process. The current redevelopment scheme came into being in 1983. Prior attempts at public redevelopment had failed due to the lukewarm attitude of the government towards making a financial commitment. But unlike these prior redevelopment schemes in which the public took the lead, the homeowners of the sites now to be redeveloped became autonomous project operators by forming Homeowners' Unions for Redevelopment under the provisions of the Joint Redevelopment Scheme of 1983. At this point, redevelopment had to proceed with the homeowners providing their own resources and assuming all the

construction risk; the government, meanwhile, only had an obligation to provide the necessary legal framework and approvals for the project. Private developers became intermediaries between homeowners and the government, coordinating the differing demands of the two while extracting their own profit from the project.

The scheme has been successful because all three actors – the homeowners, the government and the developers – greatly benefited from redevelopment whenever real estate boom comes up. Under the scheme, homeowners can obtain new and bigger homes with better infrastructure at below-market prices by selling additional homes constructed through vertical redevelopment to outside buyers. Their gain is not limited to obtaining new homes. The price of the new homes increases significantly soon after redevelopment due to improved living conditions and speculative forces. Developers also benefit from the scheme because residential redevelopment guarantees a risk free business in which their construction costs are always repaid by the sale of additional homes that are sold at high prices. The pre-sale system of apartment complexes before completion orchestrated by the state reduce the financial risk of developers by making home buyers fund the construction of their home throughout the duration of construction who pay the price of their homes in several instalments for two or three years.

The apartment complex system has played a vital role in the operation of this particular redevelopment scheme (Ha and Kim, 2003:56). The construction of high-rise apartment complexes has made it possible to build extra housing units to sell to external buyers, to provide open space, and all without the need to reduce the number of apartments available (I. S. Park, 2013:87). Since the infrastructure created – including electricity, water, parks and roads – was internalised within the apartment complexes and sold to homeowners as a package that included the apartment unit itself, the scheme could be totally self-sufficient without much recourse to public funding. The total self-sufficiency of the scheme enabled financial gains from the project to be allocated also to the government, since it was able to oversee a modernisation of the housing stock and its associated infrastructure with little investment from its own coffers (Ha and Kim, 2003: 55; C. S. Park, 2013:145). This

mode of residential development almost entirely based on private investment with minimised public input has become the economic and planning base of self-sufficiency found in Korean apartment complexes.

2) Design

The design principles of apartment complexes in Korea are based on Clarence Perry's neighbourhood unit to plan a self-sufficient residential neighbourhood where residents can live safe and feel a sense of belonging (Isaacs, 1948). The neighbourhood unit is not only a common planning practice but also an institutionalised requirement for creation of apartment complexes in the country. The municipal ordinance of Seoul on planning apartment complex districts (SMG, 2000) commands to create a neighbourhood unit of 400 meter radius where between 1,000 and 3,000 households live in apartment buildings of five floors or more. It should have an amenity centre in a location with good accessibility for the residents. Roads should have a hierarchy of artery roads, local roads, roads within neighbourhood units and pedestrian only paths. The artery roads cannot penetrate neighbourhood units. A neighbourhood unit should have at least one park whose area is 10,000m^2 in minimum or equivalent to 30 percent or more of the neighbourhood unit area. The neighbourhood unit was duly applied in clusters of apartment complexes along the large swathe of land reclaimed from the southern river bed of the Han and Mok-dong New Town in southwestern Seoul during the 1970-80s. It cannot be literally applied to smaller complexes due to the size limit but they are designed as miniaturised neighbourhood units having essential amenities such as green space, playgrounds, indoor amenities and private roads. Therefore, an apartment complex in Korea is usually a residential unit bordered by artery roads, composed of high-rise apartment buildings and amenity buildings. Open space between buildings are devoted to in-complex roads, parking space and parks where through-traffic from the outside is actively discouraged.

In the planning of apartment complexes, the Perrian and even Corbusian features in a stark contrast to the characteristics of traditional urban tissue have strengthened through time. Large apartment complexes built in the 1970s and 80s were built with more urban characters such as street walls formed by bar type apartment buildings, shopping centres in the middle of complex and limited use of pedestrian only paths. In newer apartment complexes, resident-only amenity centre (colloquially 'community centre') is located in the middle but shopping centres where external visitors can access are planned at the edge. With the introduction of the Corbusian principle of modern city, the whole complex is planned as 'towers in a park' where pedestrian only paths are crisscrossing a single large private park between towers, whereas cars go underground (See Figure III-2).

1. Community centre 2. Shopping centre 3. Entrance to underground parking

Source: Hyundai Development Company

Note: Apt. complex for 1,066 households, completed in 2015 in Goyang, Gyeonggi

Figure III-2 Example of a wholly pedestrianised apartment complex

The current manifestation of the neighbourhood unit in high rise apartment complexes in the twenty first century Korea cannot avoid concerns raised by Reginald Isaacs (1948) twenty years later the invention of the theory. He saw the neighbourhood unit as an attempt to revive rural villages in modern cities by means of planning. Ignoring radically different social structures between a rural village bound by territorial and blood ties and an urban neighbourhood characterised by the heterogeneity of members, the neighbourhood unit is likely to promote a pseudo community based on urban homogeneities such as income and race. The neighbourhood unit principle and the social segregation as the result are shared by suburbs and gated communities all over the world. However, Korean cities are particularly hard hit by their problems because Korean apartment complexes are omnipresent regardless of in inner city and suburbs. Perry presented the dual role of the neighbourhood unit in a city by saying that 'an urban neighbourhood should be regarded both as a unit of a larger whole and as a distinct entity itself' (Perry, 1929). However, the second role overwhelms the first one in most cases of apartment complexes in Korean cities, especially when they are not built as an organic part of global master plan but constructed with only a master plan at complex level disregarding the surrounding.

3) Service provision

Everything within an apartment complex parcel, including the apartment units, amenities, parking lots and streets, minus the in-complex shopping centre, are the collective private property of the apartment owners. The maintenance and management of these private properties is the responsibility of the apartment residents. Local public goods that are run at the expense of the apartment residents consist of parking, security, street maintenance – including lighting and cleaning – and maintenance of amenities such as parks, senior centres and playgrounds. Most of the services provided in apartment complexes except special amenities are also provided by the district offices and the national police using tax money for residents

who live in traditional neighbourhoods. Apartment complex dwellers are thus burdened with double payment for the provision of local public goods, since their tax burden is not reduced as a result of their privately providing certain local public goods (Lee, 2000). As the costs of service provision are divided among the households in proportion to the size of apartment units held, and since larger apartment complexes have more diverse local public goods, homeowners are driven to larger apartment complexes to obtain economies of scale (C. S. Park, 2013:138). Due to these advantages, apartment complexes comprising thousands of households are a familiar urban scene in South Korea[1].

Local public goods offered in apartment complexes saw diversification and upgrades since the late 1990s. This period was an important turning point in the design of the open spaces and amenities of apartment complexes, which had previously been considered unimportant relative to that of apartment units themselves. The large numbers of unsold apartments caused by the housing glut of the mid-1990s and the Asian financial crisis of 1997 propelled developers to differentiate their products from those of their rivals. Coincidentally, the institutional barriers that had previously hindered product differentiation also disappeared in the late 1990s with the abolition of price caps on new apartments in 1999. As a result, developers began to compete by enhancing not only their apartment units, but also the amenities and open spaces within the complexes (Choi, 2005). Green spaces were upgraded to parks; and in an effort to attract homebuyers, parking spaces and amenities that exceeded the legal requirements of the Housing Act were built.

Today local public goods offered within apartment complexes can be categorised into three groups according to their relationship with public and private sectors that provide services. Essential goods are the services for every citizen that must be provided by the public but enhanced within apartment complexes with better quality. For instance, CCTVs and security guards in apartment complexes locally improve

[1] A huge apartment complex with 9,510 households will be completed in the late 2018 in Seoul, which will be the largest complex ever in the city.

the security service provided by the national police. Substitute goods are the basic everyday services produced within apartment complexes that are provided by either the public or the private sector in traditional neighbourhoods. Services available in older apartment complexes largely substituted only the ones offered by the public but later apartment complexes incorporated more services that had been offered by neighbourhood businesses open to any paying customers such as gym, sauna and café.

Novelty goods such as guesthouse and water park are distinctive services that are usually provided by neither the public nor the neighbourhood businesses. They are mostly available in bigger complexes where economies of scale exists or in luxury complexes whose residents can pay for higher maintenance costs (See Table III-1). Both the substitute and novelty goods are the major marketing tool of developers to entice homebuyers. They also transformed developers from mere mass producers of housing to life style setter that create ever sophisticating needs for services and amenities.

Table III-1 Category of local public goods offered in apartment complexes

<table>
<tr><th>Category</th><th colspan="2">Example</th><th>Period</th></tr>
<tr><td>Essential LPG</td><td colspan="2">Security (better surveillance within apartment complexes), garbage collection (better hygiene within apartment complexes), street maintenance (enhanced walking safety and cleanliness within apartment complexes)…</td><td rowspan="2">1960s and onward</td></tr>
<tr><td rowspan="2">Substitute LPG</td><td>Substituting the public sector</td><td>Neighbourhood parks, playgrounds, outdoor sports grounds, senior centre, library…</td></tr>
<tr><td>Substituting the private sector</td><td>Indoor sports facilities, swimming pool, sauna, reading room, café, play room for kids, atelier…</td><td rowspan="2">Late 1990s and onward</td></tr>
<tr><td>Novelty LPG</td><td colspan="2">Garden with sophisticated landscape architecture, banquet hall, dining hall, guesthouse, observation deck, water park, spa, kayak pond…</td></tr>
</table>

Note: LPG = local public goods

The continued increase of amenities in quantity and quality in apartment complexes has strengthened self-sufficiency even more by reducing the dependence of residents on the outside for their daily needs (Grant and Mittelsteadt, 2004). The private funding of infrastructure upgrades by homebuyers solidified the position of apartment complexes as the residences of the middle classes. In contrast, the low-rise neighbourhoods where infrastructures are maintained by the state have seen a deterioration in their liveability and reputations as a result of increase in density without corresponding infrastructure upgrades (C. S. Park, 2013:119–23). The gap in environmental quality between gated and non-gated parts of the city creates social fragmentation on top of the physical fragmentation by walls and disjointed roads resulting from gated communities.

4) Governance

Amenities within apartment complexes are not only owned by residents but also governed by themselves. The Housing Act prescribes that a residents' council should be elected by the residents of any apartment complex having 300 households or more, so that the shared properties of the apartment complex and other affairs can be managed by the residents themselves. By the Collective Housing Management Act, the residents' council has competence in creation and modification of rules, fixing utilisation fees for amenities, employment of management staffs, repair of shared space, allowing or disallowing non-residents' using amenities and keeping order in the community life among others.

Election of the residents' council is the smallest scale of residency based voting in the country. However, club membership is strictly applied to the eligibility for residents' council unlike other types of elections. Participation in the residents' council requires not only residency but also ownership. Renters residing in public rental units in apartment complexes of mixed tenures have no right to vote or be elected for residents' council, while renters of private units can (See Figure III-3). Today affairs of apartment complexes are actively discussed on internet as well as

in residents' council sessions but the internet forums are also strictly residents only. Non-residents including the authority cannot read the contents of the forum, let alone writing, unless the residents allow them to do so. Strict restriction in the membership and secrecy mean that its decision processes are open to neither the general public nor the authority.

The opaqueness of the decision process of residents' council results to a private power to which checks and balances are not applied unlike public power whose operation should be transparent and their competences are held by different bodies. No checks and balances on the power of residents' councils is led to corruption scandals and conflicts but no fundamental changes to the current private governance structure was made yet (Choi, 2016). Matters having impact on the whole neighbourhood including installation of gates are solely decided by the residents of apartment complexes in the current private and exclusive governance structure without consultation with the authority and neighbours outside the complex.

Source: Naver Geori View (2014)

Note: The placard reads 'The rights of renters are annihilated by self-righteousness of the president of residents' council. Unite and get our stolen rights back! – Keeper of renters' rights'

Figure III-3 A placard of renters living in public rental units in a mixed tenure complex in Seoul criticising the residents' council

The authority intervenes when their decisions turn problematic but it can only 'recommend' modifying the decisions under the current legal setting that guarantees the autonomy of residents. The Ministry of Land, Infrastructure and Transport is running the Conciliation Committee for Conflicts in Collective Housing since 2016. It is the response of the government to various problems caused by the private governance of apartment complexes. It has no power to monitor the decision process, thus can only intervene after appearance of problems. Its decision is legally binding only when the both sides of contention agree to accept it.

3. Impact of gated communities

1) Fragmentation and two-tier spaces

Although there is no specific statistics on the subject, it is roughly estimated that more than half of households in Seoul live in gated communities, while the rest live in non-gated traditional neighbourhoods, based on housing type statistics (See Table III-2). One of the most serious consequences from the prevalence of private apartment complexes is the fragmentation of urban space where privatised residential islands mechanically exist without forming an organic connection with the existing urban tissue and functions (Wu, 2005). Since apartment complexes are designed according to the principles of a self-contained neighbourhood, their internal organisation promotes the autonomous functioning of the complex rather than harmonised cooperation within the wider neighbourhood (C. S. Park 2013: 141–5).

Table III-2 Housing stock in Seoul by types

Gating	Housing type	Stock	Percentage
Gated	Apartment	1,636,896	58.6%
Non-gated	Detached home	88,163	3.2%
	Multifamily home	871,988	31.2%
	Town house	117,235	4.2%
	Mixed use (RC*) building	49,260	1.8%
	Non-residential building	29,702	1.1%
	Sub-total	1,156,348	41.4%
Total		2,793,244	100.0%

* Residential and commercial

Source: Gating category added by the author on top of the data from Seoul Open Data Plaza (2017)

Note: A marginal number of apartments in the statistics are non-gated when they do not belong to a substantial size of estate. This reversely applies to town houses, too.

This rupture is the most evident in the uncoordinated road networks between apartment complexes and their environs. Most of the older low-rise neighbourhoods in Korean cities have grid pattern streets that were formed by land readjustment schemes between the 1930s and the early 1980s. The inward-oriented road networks of the apartment complexes (I. S. Park 2013: 103) only allow for a limited number of entrances. They ignore the easily navigable street patterns to be found in the surrounding areas, and effectively disrupt both vehicular and human movement in the wider neighbourhood (Figure III-4). Detour of cars drive potential through-traffic from apartment complexes to traditional neighbourhoods which suffer congestion and unsafe walking environment. The recent phenomenon of pedestrian control creates social conflicts between the controllers (gated apartment complex residents) and those who are robbed of shortcuts by the controllers. The issue of the right to walk through apartment complexes is frequently featured in Korean media (Jeon, 2013).

L: 1995 (before redevelopment) R: 2009 (after redevelopment)

Source: Park, Jeong, Park, Lee and Ki (2009)

Figure III-4 Continuance of cul-de-sacs in apartment complexes and grid pattern streets in traditional neighbourhoods in Jamsil, Seoul

Disconnection does not stop at the physical gap. The more serious problem stems from the life quality between the private oases and the public deserts. Parking, green space and security are the privately provided services in apartment complexes far superior to the ones provided in traditional neighbourhoods by the public. While strict regulation exists for developers to build enough parking lots for apartment complexes, the same rule has gone through repeated deregulations for multifamily homes[2] in traditional neighbourhoods, which results to difficulty of parking and danger of walking in narrow residential streets. Moreover, apartment complexes improve both the quantity and quality of parking by burying parking lots underground pedestrianizing a large part of in-complex open space and creating a safe environment for children. Green space creates another visible contrast between the two spaces. As traditional neighbourhoods are either naturally formed or planned minimising public investment, parks and open spaces are rare in many of them.

[2] Multifamily homes are residential buildings usually less than five floors for multiple households. Some of them form small complexes but the majority stands alone. They are colloquially called ‘villas’ in Korea. Although villas mean luxury homes in other countries, most of the villas in Korea are for low and middle income households.

Conversion of detached house to multifamily homes almost completely removed greenery there due to the disappearance of private gardens accompanied in the conversion process. However, apartment complexes are in the opposite direction as their open spaces widens thanks to the adoption of pedestrianisation and sophisticated landscaping as marketing strategies to sell (See Figure III-5). Crime is an invisible contrast between the two spaces. Thanks to private security, defensive road layout, application of CPTED and the composition of residents mainly from middle class background, apartment complexes are acknowledged as the most secure type of residence among the general public and the police according to a study on crime prevention (Lee, 2014: 101, 129). In the same study, multifamily homes in traditional neighbourhoods are indicated as the most vulnerable housing type both by the police and the public.

The gaps between the two types of residential areas create two tier spaces and the irregular mix of the two spaces is led to fragmentation of urban space. Gating of apartment complexes creates more imbalance by giving more power over space to apartment complex dwellers. Their spatial power is monetarily obtained from their

Source: Naver Map

Figure III-5 Spatial contrast between a superblock of apartment complex and a traditional neighbourhood in Seocho-gu, Seoul

investment in land and protected by the guarantee of private ownership under capitalist system. Conversely, those living in traditional neighbourhoods have less means for physical or political control on space. Unlike countries like Ireland, South Africa and USA, there is no procedure to close off public roads in residential areas in South Korea. In traditional neighbourhoods, as roads belong to the state, residents cannot do anything to through car traffic exploiting the grid type road network especially in rush hours. It is also more difficult for them to raise a unified voice for their interests when an official self-governance structure such as residents' councils do not exist in their neighbourhoods.

The loss of liveability in traditional neighbourhoods and the rise of privatised spaces of living are not confined to Korea. The rise of the private at the expense of declining public is becoming a new spatial order in countries with neo-liberal housing policy as the withdrawal of the state from service provision continues and the faith in public services erodes (Kenna and Dunn, 2009). In America, flourishing private streets, services and government drive traditional neighbourhoods with public services to 'forced obsolescence' (McKenzie, 2006:14-15), which creates a vicious cycle of the decline of trust in public services and more desire to resort to private services among housing consumers. The hierarchical shift of orders within residential spaces is finalised through the widespread acceptance of privatised public spaces by the upper class (Caldeira, 2000:259).

> *The transformation of fortified enclaves into prestigious spaces {"spaces of representation"} has demanded some important changes in the values of the upper classes. Firstly, collective residences got priority over individual ones… Secondly, distant, isolated, and non-urbanized areas were transformed into spaces which were more valuable than the traditional neighborhoods with good infra-structure.*

2) State control over gating

The continued operation of gating machine in Korea resulted to the well-established gated communities in large Korean cities including Seoul. The magnitude of gated communities makes the government realise the physical and social ruptures created by them as urgent problem to cope with. As a result, the state is emerging as the only actor of gating allies that wants to decelerate gating. Although it was central government that established the current apartment complex system, it has been primarily the municipal governments that have tried to mitigate the negative impacts of the system. The municipalities, as the authorities that approve and control apartment complexes, are increasingly seeking '*publicness*' in their design criteria; although reforming the fundamental root of the '*privateness*' of apartment complexes, which originates from the private ownership of public spaces, is beyond their capacity. Manoeuvring of municipal governments is limited when the central government maintains the privatised development and management system of apartment complexes. Its main intervention method depends on the good will of apartment residents, while avoiding any financial commitment.

The Movement for the Demolition of Walls, which aims to replace walls with green space in government complexes, schools, detached houses and apartment complexes, was started by Korea's fourth largest city, Daegu, in 1996, and soon spread to other cities. In 2012, the campaign was upgraded to the No Walls Movement, which intervenes in the design stage to create wall-less apartment complexes. The city council of Seongnam, a city of one million population in Seoul Capital Region, created an ordinance to stop subsidising maintenance of the apartment complexes which block non-residents' access by installing physical barriers (City Council of Seongnam, 2004). It is one of the maximum municipal measures against gating when the prohibition of gates is impossible within the current legal system. Similar measures were discussed more importantly seven years later in Gwangmyeong and Council members asked planning officials to consider

carefully pedestrian network when they approve of the design of apartment complexes (Gwangmyeong City Council, 2011).

The Seoul Metropolitan Government (hereafter SMG) established its own Guide for District Plan concerning apartment complex redevelopment in 2004. The Guide discourages developers from abolishing existing roads and merging lots to create apartment complexes that are too large (SMG, 2004), a common practice in the establishment of self-sufficient apartment complexes. The intervention of the SMG in the design of apartment complexes took a leap 2012 with the introduction of 'public architects'. The public architect system was created to enable the SMG to be involved at the architectural design stage of residential redevelopment projects. Public architects, as representatives of the public, influence apartment complex projects to reflect the interests of the whole city rather than merely to maximise the profits to be gained under the Joint Redevelopment Scheme (See Figure III-6). It is a trial scheme that is aimed at moving the planning of apartment complexes out of private and into public hands. The redevelopment plan of the Garak Siyeong

Source: Hyundai Development Company

Figure III-6 Park Band: a strip park open for outsiders as well as residents within the planned redevelopment of Garak Siyeong Apt. Complex in Seoul

Apartment Complex in Seoul is the first outcome of the seemingly incompatible combination of the public architect and the Joint Redevelopment Scheme (interview with the public architect in charge of Garak Siyeong in 2013). Announcing its redevelopment plan, the SMG also declared that it would henceforth prohibit the construction of walls in any apartment complex with more than 2,000 households.

Prevention of gating through planning was concretised by the central government and the Seoul Metropolitan Government. The central government introduced the Public Pedestrian Path in its Guide for District Plan in 2000. Designation of a Public Pedestrian Path by the planning authority makes pedestrian access to a newly developed lot whose size is considered to be excessively large, possible (Ministry of Land, Infrastructure and Transport, 2000). However, even the Public Pedestrian Path is not free from gating incidents because it is designated on private land within apartment complexes. Rather, it is often the source of conflict. While the residents

Source: Yonhap News, 2015

Note: The entrance of an apartment complex in Gwanggyeo New City is currently repaired and open after several months of purposeful abandon under the guise of repair as could be seen in the photo (Kang, 2015)

Figure III-7 A public pedestrian path sabotaged by the residents

unwillingly allowing public access do not want noise and traffic, the neighbouring locals need it as a shortcut for their daily life (Kang, 2015) (See Figure III-7).

Contradictory stances towards gating emerge in the attitudes of the state as a proponent and opponent of gating at the same time. This dualism stems from the fact that gated communities generate both gains and costs for the state. First, the state gains financial benefits from gated projects due to their autonomous provision of local public services without the need for public funding. However, gating is accompanied by hidden costs to society, such as the disruption of traffic flows and the intensification of social segregation. The dual impacts of gating drive the state to consider whether to choose benefit seeking over cost aversion.

The Korean state is no exception in this dilemma; it has chosen the benefit seeking path by taking a direct role in the institutionalisation and promotion of self-sufficient apartment complexes on a large scale when it was a developmental state concentrating its resources in economic growth while neglecting distributive policies such as construction of public housing. Today it is inching toward welfare state committed to social and economic wellbeing of citizens that cannot ignore the proliferation of gating in Korean cities and its increasing repercussions on urban spaces and social relations. The Korean state increasingly adopt more cost aversion policies – including planning interventions that are aimed at reducing gating while at the same time preserving the current system of private development and maintenance of apartment complexes. Unfortunately, its efforts have had only limited effects and often create backlash from residents when the basic economic structure of apartment complexes founded on self-sufficiency cannot be reformed. The measures taken by the state to tackle physical gating can be understood as an expression of the state's concern over its loss of control, which implies that the initiative of the evolution of gated communities in terms of exclusiveness was effectively transferred from the public to the private sector.

Table III-3 Gating features and their initiators for different periods

Features of gated communities		Initiator	Period		
			Before 1990s	Since 1990s	Since 2000s
Eco-nomic	Private production and exclusive consumption of local public goods	State & developer	Obligatory amenities designated by the state	Diversifi-cation of amenities began by developers.	Continued diversify-cation by developers
Political	Private governance over in-complex affairs	State & residents	Residents' council by the state	Residents' council	R.C. and internet forum by residents
Physical	Exclusionary devices	Residents	Non-existent	Advent of rising arm barriers	Generalisation of R.A.B. and advent of electric gates

4. Conclusion

All gated communities in Korea are masterplanned communities having private amenities and clear borders. On top of the planned borders, many of them are retrofitted to strengthen physical exclusivity than the original design through the addition of exclusionary devices by residents such as guard posts, rising arm barriers and electric gates. They are privately owned mostly by the middle and upper class citizens. In terms of morphology, a large majority of them happen to be apartment complexes with high-rises.

Apartment complexes embedded with private infrastructures have been constructed en masse by private funding to overcome acute housing shortage while minimising public investment in infrastructure. This *laisser-faire* housing policy is one of the economic policies born from the Korean developmental state that prioritises economic growth over redistribution of wealth. The policy was so successful that the

gating machine formed by the triple alliance of developers, the state and home buyers have produced gated communities in an unprecedented scale in South Korea, each ally pursuing its own interests. The influence of the state among the three actors was paramount in the Korean gating machine because the state established the basis of private apartment complexes including their design, service provision and governance structure.

The design principles of apartment complexes in Korea are based on Clarence Perry's neighbourhood unit to plan a self-sufficient residential neighbourhood. For its nationwide application, his design principle was concretised and codified by the Korean state to be adapted for apartment complexes. Thus, an apartment complex in Korea is a housing estate bordered by artery roads and walls, composed of high-rise apartment buildings and amenity buildings. Open space between buildings are devoted to in-complex roads, parking space and parks where through-traffic from the outside is actively discouraged. Apartment complexes as distinct physical and social entities promote pseudo communities based on urban homogeneities such as income and race.

Everything within an apartment complex parcel, including the apartment units, amenities, parking lots and streets, minus the in-complex shopping centre, are the collective private property of the apartment owners. They are collectively owned by homeowners and run at the expense of residents. Amenities within apartment complexes produce various local public goods and they have been diversified and upgraded as a marketing tool of developers. In contrast, low-rise neighbourhoods suffer deterioration of infrastructures because they have been densified without proportionate public investment in infrastructures. Thus, the already existing gulf between gated and non-gated residential areas resulting from contrasting environmental qualities are being widened.

The Housing Act prescribes that a residents' council should be elected by the residents of any apartment complex having 300 households or more, so that the shared properties of the apartment complex and other affairs can be managed by the residents themselves. It is by far the smallest residency based governance structure

in the country. Guarantee of self-determination by election of representatives is democratic on the surface. However, strict application of membership based on homeownership and opaqueness in decision-making make residents' councils an apparatus to serve self-interests rather than wider civic interests.

The self-sufficiency in development, design, service provision and governance of apartment complexes improved living environments for the middle class citizens in a relatively short time without burdening the state finance. However, it also produced considerable negative impacts, which can be summed up as physical and social fragmentations of the city and the society. Cul-de-sac road pattern and walls of gated communities result to uncoordinated road network, which disrupts vehicular and human movements sending congestion to traditional neighbourhoods with grid road networks and creating dead-ends and detours for pedestrians. Private funding of infrastructure as well as homes in gated community means ever-diverging living qualities between gated and non-gated areas and consequent filtering of residents based on income. Private governance of gated communities leads to formation of microstates that can freely shut themselves off from the outside. The capitalist system behind gated communities privatising spaces effectively justifies monetary rule of the haves over territory.

The negative impacts of gated communities by private actors of gating machine pursuing more privatisation become contentious social issues. In consequence, the public actor - municipal governments are trying to mitigate the negative impacts through planning and financial measures to promote sharing of spaces within apartment complexes with the neighbouring locals. However, their move contradicts the unchanging organisational rule of apartment complexes based on privatisation of everything. Today the Korean state is sandwiched between the desire to keep improving infrastructures by private funding and the worry of losing control over spatial and social orders that it can no longer maintain as it wants.

Chapter IV. MANIFESTATION AND EVOLUTION OF THE GATED COMMUNITIES IN SEOUL

Typologies alone do not constitute theory; indeed, in seeking to facilitate description, they simplify complex realities. At the same time, though, they provide an important step in the process of theory building around new urban forms by offering a framework for observation and a lens for analysis.

Grant and Mittelsteadt (2004)

Economic self-sufficiency of gated communities necessitates physical exclusiveness for residents to monopolise the spaces and services available within enclaves by blocking free riders. Micro planning power derived from political self-sufficiency enables measures to maintain physical exclusiveness. This chapter identifies types of control used at the border of apartment complexes in Seoul to maintain exclusiveness, based on the evaluation of border permeability at each gated community. Analysis of the types reveals the degree of exclusiveness globally and locally in Seoul. The evolutional process to reach the current exclusiveness can be traced back using the age of each complex. Social and urban factors influencing the different degrees of exclusiveness can be identified using other available data attached to the apartment complexes.

1. Audit of apartment complexes

1) Selection of apartment complexes for audit

An audit of apartment complexes is necessary to create a typology based on border permeability, as there exists no record of the physical exclusiveness of apartment complex borders in the country. The first task of the audit was to obtain a reliable list of apartment complexes in Seoul. On the request of public information by the researcher, the Seoul Metropolitan Government (SMG) offered a list of collective

housing complexes in Seoul completed until 2013 with their names, addresses, number of households, unit sizes, areas and dates of completion. Omitted and erroneous information in the list was complemented by Seoul Real Estate Information, an online database run by the SMG.

Apartment complexes fully composed of public rental housing were excluded from the audit. Although they look similar to privately owned apartment complexes in appearance, they cannot be considered as gated communities because they are owned by the public and about 70% of them are not managed by residents themselves but by public housing companies (Ryu, 2016). As the study is most interested in exclusive communities barring pedestrians, only the period in which such apartment complexes had appeared was chosen. As there is no record of tracking this development, the most likely areas in Seoul to have the most concentration of exclusive communities barring pedestrians were chosen for a pilot audit. The pilot audit of Gangnam-gu and Seocho-gu in southeast of Seoul was performed on all the apartment complexes regardless of completion dates. The earliest completion year of apartment complexes barring pedestrians in those areas is 1998. Thus, 1997 was chosen as the starting year of the main audit in case other gu's have earlier case of pedestrian gating. 2011 was chosen as the last completion year considering that it takes some years for a newly built apartment complex to be equipped with gates.

Through the pilot audit, the researcher could set categories to classify apartment complexes and the minimum area of apartment complex to be included in the study. At first, a minimum of 300 households in an apartment complex was used as the threshold as in another study of gated communities in Seoul (Kim and Choi, 2012) which have adopted the legal minimum number of households for a mandatory residents' council as the threshold. However, it was found that the minimum number of household does not reflect the territoriality of gated communities in the pilot audit. Some high-rise apartment complexes have more than 300 households but they occupy little land with little impact on the surroundings. Some low-rise apartment complexes have less than 300 households but they occupy significant amount of land.

Thus, land area was deemed to be a more rational threshold than the number of households for the study.

There is no official minimum land area requirement for an apartment complex in Korea, while a minimum area of 4,000 m^2 for condominium exists in the Singaporean planning regulation (Urban Redevelopment Authority, 2006). According to the observation of pilot audit, 7,000 m^2 turns out to be the threshold area in which an apartment complex can have basic amenities including green space and a playground. It is also an enough size that can hinder traffic flow of a grid type neighbourhood. For easier understanding of the scale, 7,000 m^2 happens to be the size of a soccer field. Filtering by the year of completion and land area resulted to 1,035 apartment complexes in Seoul to audit out of 4,256 in total (Seoul Open Data Plaza, 2017). Thus, one fourth of the apartment complexes in Seoul are covered in the audit and they are the objects of typology.

2) Street view

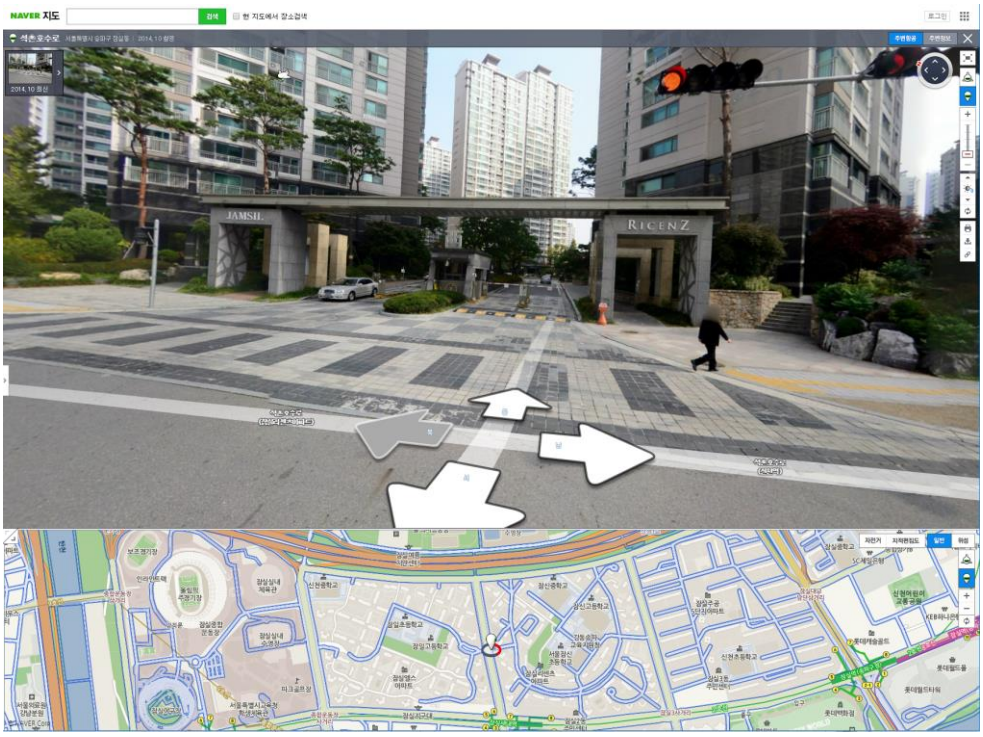
Street view is the tool of the audit of apartment complexes liberating the observer from time consuming and costly field trips. The service as a part of internet map components offers panoramic views along streets that can be zoomed and freely rotated. It is useful to audit built environments as if you do it at the site but with much less effort and time. It is also useful in studying the past of cities because the views are constantly updated and archived. However, as it usually shows views only along streets where cars can enter, views from narrow paths, pedestrian squares and some private streets are not entirely covered. Important spots not covered by street view were visited in person and photographed to overcome this limit.

Seoul is the best place to employ the street view service because the streetscape of the capital has been most extensively covered and most frequently updated in the country. Seoul is currently covered by three different street view services: two domestic and one international. The study used two domestic services: Naver Geori View and Daum Road View, due to their wider coverage than Google Street View

which skip some small streets. In addition to the street view, satellite images were used to find out the horizontal configuration of apartment complexes when necessary.

Apartment complexes were located in the internet map using the address in the list of SMG. Once located on the map, their edges were checked for border permeability using the street view (See Figure IV-1). Entrances and walls were employed as the indicators of the degree of border permeability. The criteria of classification of entrances and walls were established in the pilot audit and were finalised in the principal audit. The list of collected data is figured in Table IV-1.

Thanks to the convenience of these services, a single researcher could check several hundred kilometres of apartment walls in Seoul in a relatively short time. It also made possible to estimate the approximate dates of retrofitting with pedestrian gates in some apartment complexes whose gates were installed after the launching



Source: Naver Geori View

Figure IV-1 Interface of a street view service

Table IV-1 List of data produced from the audit of apt. complexes in Seoul

Source	Category	Attributes
Known attributes in the list given by the SMG	Housing	Name, address, year and month of completion, number of households by apartment unit size category, land area
Attributes obtained from observation, other records and calculation	Housing	Type of housing, division of complexes by public roads, percentage of apartment units smaller than 85m^2 by complex, officially assessed land price and house price
	Gating	Type of wall, type of access control, blocked entrances
	Gating against pedestrians	Date when gates did not exist, date when gates existed, time required for retrofitting

of street view services (2010 for Naver and for 2009 for Daum). However, street view was not practical to estimate dates of retrofitting with rising arm barriers because many of them had already been installed prior to the launching of the service. Existence of two competing services helped narrowing down the timing of retrofitting because their street views were taken on different dates. The oldest street view images available are from November 2008.

2. Typology of exclusiveness

1) Classification

The border permeability of an apartment complex is the criteria of typology and is measured by physical exclusiveness of walls surrounding apartment complexes and the degree of access control at entrances. Classification by border permeability is a clear measure to produce distinct types from a stock of gated communities when their exclusiveness exists as a continuum in reality.

(1) Walls

Walls have been one of the default elements of Korean apartment complexes since its inception. Although entrances were open without any device in the first generation of apartment complexes, the existence of walls helped later generations of apartment complexes to easily implement retrofitted access control over entrances. Most of the apartment complex walls are not threatening. Barbed wires and excessively high walls on purpose are rare. Walls are usually lower than the eye level of adults but they become higher at some edges where the interior of ground floor apartment units can be seen from outside. The height of walls also changes depending what type of roads they face. The visual permeability of walls in general lessens when they face wide arteries having more noise and strangers. Apartment complexes located on hills have manmade cliffs as walls, created by level gaps between the ground platforms of apartment complexes and the outside (Kim, Kim and Nam, 2015). Other types of barriers bordering an apartment complex include mountains, sound barriers, planted buffer zones, back of buildings and railroads.

As purposeful variation of wall heights is weak between complexes, walls are classified by material. *Hard walls* have been built since the 1960s using artificial materials such as concrete, bricks and iron grills. Walls entirely made of grills are almost non-existent. Walls either have grills at the upper part, thus visually permeable; or are completely solid of concrete or bricks, thus visually closed.

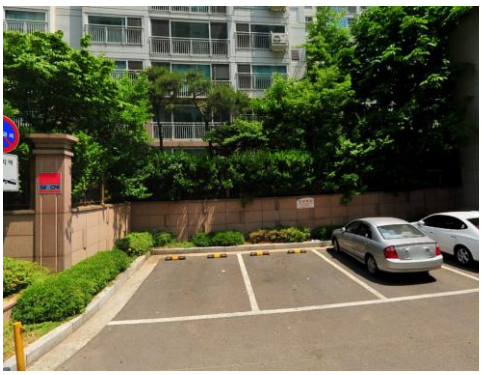
In the 2000s, *Green fences* made of natural elements such as plants, rocks and wood came to the fore, propelled by municipal policies. These policies aim to convert the existing Hard walls into Green fences in order to increase urban green space and improve walking conditions (Kim and Jeong, 2013) (See Figure IV-2). The policy has generated 207,325m^2 of green space in 179 apartment complexes in Seoul until today (Seoul Open Data Plaza, 2017). For newly built apartment complexes, green fences are encouraged from the design stage by the planning authority for the same purpose with wall conversion.

Source: Yeongdeungpo-gu Office, 2006

Figure IV-2 Wall conversion of an apt. complex in Yeongdeungpo-gu, Seoul

Although the policy of Seoul Metropolitan Government was titled as 'Project of Making Open Green Space at Apartment Complexes' (2005), Green fences are hardly more open than Hard walls in practice. Since plants, mostly trees and bushes, are densely planted on rock bases, the new green walls are neither lower in height nor visually more permeable, compared to their Hard wall counterparts in many cases. Plants are also used to lower visual permeability of Hard walls by being densely planted along the grills of Hard walls (See Figure IV-3). The spread of Green fences is a success in aesthetics but not making much change in terms of exclusiveness.

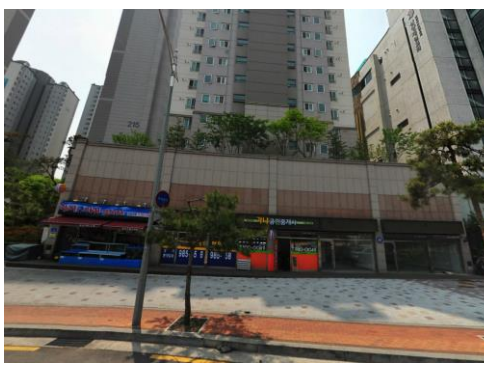
Noticeable changes of walls only occurred in a limited number of apartment complexes built in new towns. These apartment complexes surrounded by only *Low bush* without rock bases. These complexes are fully exposed to the eyes of passers-by. Low bush is easily passable, albeit still functioning as a clear marker of boundary. However, this wall of low exclusivity is only applied in apartment complexes in new towns through the intervention of the planning authority. None of the existing apartment complexes which applied for the scheme of greening of Hard walls chose Low bush over Green fences.



Hard wall reinforced by dense plants

Green fence

Low bush



Wall-building

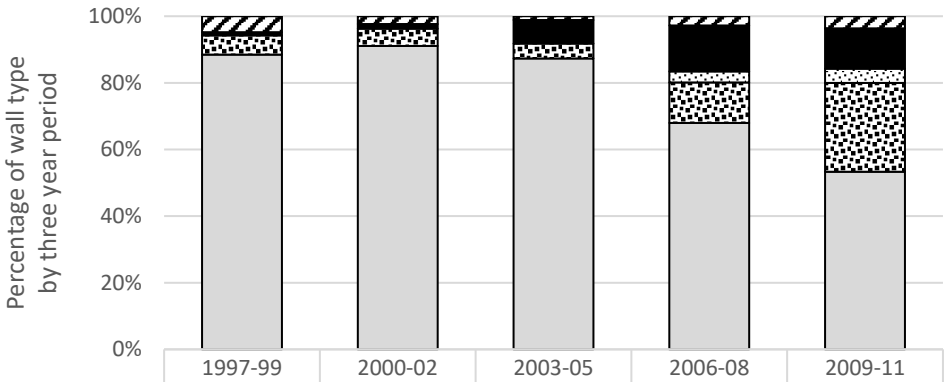
Source: Naver Geori View

Figure IV-3 Different types of walls

Apartment complexes having *Buildings* as walls are either having inner courts surrounded by buildings or built over podiums. Buildings as walls are double-edged as an exclusionary device. They are completely impermeable visually and physically and much higher than other types of walls, thus, create the most severe separation between apartment complexes and the outside. This is the most evident in apartment complexes built over podiums where their ground level is artificially far higher than that of the surroundings. On the other hand, they increase social interaction between the two separate spaces when the wall-buildings have shops on the ground floor, contributing to better cityscape and convenience for non-residents as well as residents (Table IV-2).

Table IV-2 Characteristics of wall types

Category	Low bush	Green fence	Hard wall	Building
Visual permeability	High	Medium	Medium	None
Social interaction	Medium	Low	Low	High



	1997-99	2000-02	2003-05	2006-08	2009-11
Others	4.8%	2.3%	1.1%	2.8%	3.6%
Building	1.0%	1.4%	7.1%	13.8%	12.1%
Low bush	0.0%	0.0%	0.0%	3.3%	4.2%
Green fence	5.8%	5.2%	4.5%	12.2%	26.7%
Hard wall	88.5%	91.1%	87.3%	68.0%	53.3%

Note: Years denote the completion years of apartment complexes

Figure IV-4 Differentiation of complex wall types over time

Overall, types of walls have been diversified over the time from monotype (Hard wall) to multi-types due to the city greening efforts and the appearance of new types of housing such as apartment complexes on podiums. The majority of apartment complexes completed between 1997-99 have Hard wall (88.5%) but the latter's share significantly decreases in the period between 2009-11 to just over half (53.3%). In contrast, the share of Green fence increased from 5.8% to 26.7% between the same periods (See Figure IV-4). As a result, a single apartment complex often has multiple types of walls today.

(2) Access control at entrances

Access control at entrances is practised for most of the observed apartment complexes with varying degree of intensity. It is achieved by physical devices, design including road configuration and different colours of pavement between in and outside of the complex or the presence of guards. The audit observed only the access control by physical devices as they are the most durable and quantifiable markers of control and well reflect the will of residents to exclude outsiders.

The access control by physical devices is either indiscriminative (blocking) or discriminative against non-residents (devices). Blocking is applied indiscriminately to both the residents and non-residents by installing car barriers leaving room for pedestrians (bollards, plant pots or barricade), total barricades or permanently closed gates. Older apartment complexes tend to resort to blocking strategic entrances where unwanted traffic flows in. Creating a cul-de-sac by blocking one entrance to prevent through-traffic is the best example of the practice (See Figure IV-5).

Source: Daum Road View

Figure IV-5 A total barricade installed to form a cul-de-sac in an apartment complex in Gangnam-gu, Seoul

As blocking is inconvenient for the residents as well, the number of blocking within an apartment complex is limited. In contrast, discriminative control used by newer apartment complexes lets only the residents use the entrances where it is applied. Most frequently used discriminative exclusionary devices are rising arm barriers, warning signs, electronic gates and resident only elevators. In rare cases, guards also vet visitors on top of the physical devices. As discriminative control is inconvenient only for the non-residents, it can be applied for all entrances. Access control in apartment complexes is evolving from indiscriminative blocking to discriminative control. Although indiscriminative blocking was recorded in the audit, the typology in the study is based on discriminative control which is more thorough, systematic and socially polemic, compared to indiscriminative control.

There are two types of moving objects subject to access control at complex entrances: vehicles and pedestrians. Some apartment complexes, mostly old ones, are enclosed by walls but entrances are open both to outside vehicles and pedestrians without physical exclusionary devices. Parking by outsider cars are controlled by unauthorised parking prohibition signs, manual surveillance and private punishment for violators. However, apartment complexes allowing outside traffic in are becoming rare, nowadays vehicular access is controlled at entrances by rising arm barriers in the majority of apartment complexes. The most primitive rising arm barriers are manually controlled by guards. Resident vehicles are issued with windshield stickers proving residency and guards manually vet residents by checking the residency stickers. Today's automated rising arm barriers vet resident vehicles by reading windshield tags or registration plates. Enforcement of the vehicle control varies depending on the availability of parking space and security concern of residents. If parking is abundant and security is lax, rising arm barriers are always up or go up for every vehicle without vetting process. In security sensitive apartment complexes, guards check with the host resident to verify the identity of visitors. When parking space cannot accommodate even the residents' vehicles, visitor parking may be subject to parking fee.

Some apartment complexes go further by controlling non-resident pedestrians as well, using a variety of means such as no trespassing signs, electric gates and manual vetting by guards. At the most extreme, common space of an apartment complex goes up on podium. The common space on podium is completely hidden from the eyes of passers-by and the access to it is controlled by resident only elevators managed by guards or electronic means.

The use of the exclusionary devices is intended for indirect psychological or direct physical effects. Rising arm barriers which get opened for any car, no trespassing signs and gates ajar psychologically deter outsiders from entering but are not physically binding. Manned rising arm barriers which check thoroughly the

Table IV-3 Methods of discriminative access control

Objects of access control	Exclusionary device	Description
Non-resident vehicles	None or warning sign	As no exclusionary device is installed at entrances, cars owned by non-residents can freely enter. Parking is controlled by manual surveillance and 'Non-resident parking prohibited' signs.
	Rising arm barrier	Rising arm barriers vet outsider cars by recognising electronic tags or vehicle registration plates.
Non-resident pedestrians	No trespassing sign	'No entry for outsiders' sign is not physically binding but creates feelings of being unwelcomed, thus deters outsiders psychologically.
	Open gates	Entrances are equipped with gates but they are either always open or closed at night.
	Narrow opening	Smaller entrances are closed by gates but main entrances remain open with or without gates.
	Closed gates	All entrances are closed by gates.
	Reserved elevator	Only residents can go up on the podium terrace through reserved elevators.

identities of non-resident drivers and closed gates deter non-residents' entering both psychologically and physically. Different methods of discriminative access control are detailed in Table IV-3.

2) Typology

After the analyses on patterns of exclusiveness found in walls and entrances of private apartment complexes in Seoul, they could be categorised into four types according to the combined degree of exclusiveness of walls and entrances. The typology classifies apartment complexes in Seoul into Demarcated, Enclosed, Car-restricted and All-restricted apartment complexes according to the intended objects of exclusion and type of exclusionary devices (See Table IV-4). Entrances to apartment complexes of the four types are located alongside public roads. Apartment complexes with elevated ground level on podiums accessed by reserved elevators were excluded from the typology because their entrances to ground cannot be observed from outside and that spatial composition is significantly dissimilar to ordinary apartment complexes due to the ground level being elevated. Thus, the number of apartment complexes subject to typology is 1,015 excluding the ones with podiums.

This typology is one of the first working typology of gated apartment complexes in a city whose criterion for classification is border permeability in line with the existing conceptual typologies of exclusiveness developed (Grant and Mittelsteadt, 2004; Townshend, 2006). This typology, based on systematic observation through the audit of housing stock, significantly increases accuracy and exhaustiveness of types. Clear mutual exclusiveness between types and the attached attributes not only produce a typology but also make emerge the evolution and causation of types.

Table IV-4 Matrix of the typology of border permeability

<table>
<tr><th colspan="2">Entrance</th><th colspan="2">Edge</th></tr>
<tr><th>Object of physical control</th><th>Exclusionary device</th><th>Low bush</th><th>Walls*</th></tr>
<tr><td>None or cars</td><td>None or ‘no parking’ signs</td><td rowspan="3">Demarcated</td><td>Enclosed</td></tr>
<tr><td rowspan="2">Cars</td><td rowspan="2">Rising arm barriers</td><td>Car-restricted</td></tr>
<tr><td rowspan="3">All-restricted</td></tr>
<tr><td rowspan="2">Pedestrians</td><td>No trespassing signs</td><td></td></tr>
<tr><td>Electric gates</td><td></td></tr>
</table>

* Walls include Hard walls, Green fence and Buildings.

Nevertheless, it should be noted that the visual permeability is not necessarily equal to the actual permeability because invisible methods of control such as the number of guards and the different degrees of thoroughness in enforcing access control are not accounted in this typology. It cannot address different urban contexts and complex designs in which each apartment complex is situated, either. Some apartment complexes have fewer entrances than the average due to topology or the surrounding urban tissue. Others, especially some older apartment complexes completed before mid-2000s, were simply designed to have fewer entrances due to more *laisser-faire* planning decision made by the planning authority. It once allowed apartment complexes facing lots directly without planning streets to separate them or those featuring strongly inward-looking design with a very limited number of entrances. In these sorts of apartment complexes, less number of entrances have the same role as gates in other complexes, thus their permeability at the edge can be actually lower than the ones with gates. This fact was observed by one of the interviewees who live in a community with electric gates.

> In my apartment complex, visitors who are acquainted with residents can anyhow enter the complex through the gates with the help of the residents… In some new large apartment complexes, in contrast, there are no entrances at the back. You need a detour of 10 to 20 minutes to reach the main entrance (from there)… This type of apartment complexes is isolated from the outside. The residents come and go only through the main entrance.
>
> Spoken by a male resident of All-restricted complex in his 50s

The exclusiveness of the apartment complexes with few entrances by design is not addressed in the typology because the typology focuses on the process of growing exclusiveness by the retrofitting of entrances by residents. It is the limit of the typology that such apartment complexes are classified as lower exclusiveness types when their limited number of entrances function as barriers against outsiders.

(1) Enclosed complex

Enclosed apartment complexes are surrounded by walls but entrances are open without physical exclusionary devices. Most of them are old apartment complexes built before 2000s but some of new apartment complexes not using installed rising arms were also classified to this type. Guard posts are located on the ground floor of each apartment building to control those who enter apartment buildings. Entrances usually bear columns or stone plates marking the name of apartment complex without much decoration. They tend to remain in place in the periphery where population density is lower and land value is low, which make them retrofitted with exclusionary devices unnecessary. They are often surrounded by natural or artificial barriers that make the complexes dead-end.

Source: Drawn by author with elements downloaded from Flaticon.com (same for the other three illustrations of types)

Figure IV-6 Edge of Enclosed complex

Source: The Kyunghyang Shinmun, 1992

Note: The sign reads ‘Warning: If you park your cars in our apartment complex without permission, you will be charged or your cars will be painted in red. – Management Office Chief’

Figure IV-7 Warning sign for parking violators in an apartment complex in Seoul in the 1990s

Although non-resident cars can enter the complex, through traffic is usually discouraged by erecting car barricades when the complex is not designed with cul-de-sac or loop road network. Illegal parking is warned by signs and monitored by guards and vehicles parked without approval are subjected to private penalties such as verbal warning, sticky tickets and wheel locks (See Figure IV-7). Today newly built apartment complexes are equipped with rising arm barriers from the start and older apartment complexes have been retrofitted to have them. Thus, this type is gradually replaced by Car-restricted apartment complexes through retrofitting or redevelopment.

(2) Car-restricted complex

Car-restricted apartment complexes are surrounded by walls and major entrances have rising arm barriers to preserve parking space for residents and prevent through traffic. Guard posts are built at major entrances alongside rising arm barriers to control car access. Guard posts having been located at ground floors of apartment buildings are usually replaced by electric doors with keycard system. Given a new function and installations, main entrances of newly built car-restricted complexes are becoming increasingly extravaganza with large arches and ornamentation, coupled with the need to make apartment complexes standing out for property value. The arches inadvertently became a stepping stone to All-restricted complex functioning as frames to attach gates. Some of the walls became Green fences by design or conversion from Hard walls by policy shift. Security of underground parking was strengthened. While underground parking lots had open stairways from underground to on-ground in the age of Enclosed complex but they were removed in new Car-restricted complex and replaced by the exits to the underground level of apartment buildings that are locked by keycard just like the ground floor doors.

Car-restricted complexes originally started as retrofitted Enclosed complexes which had rising arm barriers and attached guard posts built by residents who wanted to preserve parking space and prevent through traffic (See Figure IV-9). Developers later integrated the retrofitting in their design of new apartment complexes to

Note: Raemian is one of the most reknowned private housing brands in Korea.

Figure IV-8 Edge of Car-restricted complex

Source: Naver Geori View

Note: The sign reads 'This road is a private property of Hanshin Hanjin Apartment Complex. Outsider vehicles should NEVER travel in the complex. (Access of vehicles to be controlled with the installation of rising arm barriers) – President of the residents' council' (April 2012, Seoul)

Figure IV-9 Notice of planned retrofitting with rising arm barriers in an apartment complex

respond to the new consumer need. Thus, newly built apartment complexes today are either Demarcated, Car-restricted or Elevated. As the presence of Demarcated and Elevated complexes is marginal, Car-restricted complex is currently the most prevalent type of exclusiveness and found almost anywhere in Seoul.

(3) All-restricted complex

All-restricted apartment complexes are surrounded by walls and entrances have either electric gates and/or 'no trespassing' signs as well as rising arm barriers. Apartment complexes having only blocked entrances without discriminative access devices or those having only one entrance due to geographical or planning reasons are excluded from this type and are classified into Enclosed or Car-restricted complex. While guard posts are located a few meters inside the edge for some Car-restricted complexes, they are located right beside the entrances for All-restricted apartment complexes for close surveillance of visitors on foot. Although many All-

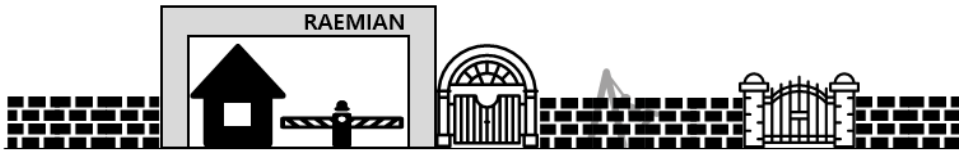


Figure IV-10 Edge of All-restricted complex

restricted complexes were built at the time when green walls were encouraged, all of them with only one exception have Hard walls.

There exist three sub-types of All-restricted complex. No trespassing signs are used mostly for larger apartment complexes that are harder to implement gates than smaller ones. Electric gates against pedestrians are used for middle and small complexes. Gates are either partially open or completely closed (full security community). Gates are usually opened with keycards. In some complexes, you also need them to go out as well as to come in. A single keycard usually integrates the functions of opening perimeter gates and doors on the ground floor of apartment buildings. While ground floors are opened with passwords as well as keycards, gates are usually only opened with keycards to prevent for passwords to float around the neighbourhood. In practice, functioning of electric gates are far from being perfect. They are often left ajar and subject to tailgating. They also get easily broken and become the target of vandalism by those who feel inconvenienced by them.

The type is retrofit only and cannot be newly built because the planning authority does not approve of electric gates in design stage (interviews with a developer and a municipal official of Gangnam-gu). Residents either immediately install gates after completion of the complex, especially for prestige communities, or after several years when the need arises. Building gates is relatively easy once the consensus among residents is reached. Construction of columns and arches to attach gates requires building permit, since the act is considered as a modification of the approved construction. However, once columns exist, gates can be freely installed by residents without consultation with municipality (interview with the above mentioned municipal official). The construction does not require extra financial contribution from residents because the construction fee is paid from the obligatory maintenance

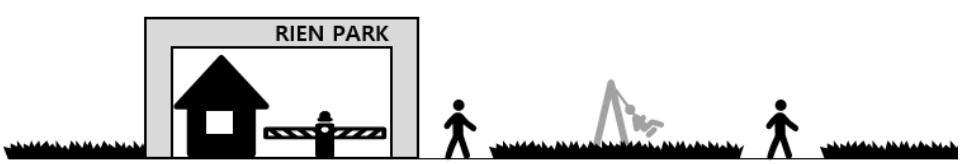
fund or the profit of redevelopment. Gates are perceived to reduce maintenance expenditure by reducing labour cost for guards.

The type occurs only in infill apartment complexes with no district-level master plan. While their number is steadily increasing, they are still a minority and concentrated in the wealthy south-east of Seoul. Due to its increased exclusiveness and evolutional importance, the type is explored more in detail in Chapter V.

(4) Demarcated complex

Unlike other types, *Demarcated* apartment complexes do not have walls at the edge but only a demarcation lined with *Low bush* less than one-meter-high or just lawn. Consequently, visual permeability is greatly improved in this type. They allow non-residents' pedestrian access but bar car access. A minority of them allow car access by not using installed rising arm barriers. It is more complicated, albeit not impossible, to implement pedestrian restriction in this type of apartment complexes because gates as well as walls should be added for retrofitting.

This type is found only in publicly planned new towns and represents the recent efforts of the authority to create more open neighbourhoods through planning intervention since the late 2000s. For example, walls of apartment complexes were included as one of the five physical elements to be eradicated in the design guideline of Eunpyeong New Town, along with level differences, retaining walls, utility poles and commercial signs (Seoul Solution, 2016). As new towns do not have substandard



Note: Rien Park is one of the housing brands belonging to public developers in Korea.

Figure IV-11 Edge of Demarcated complex

May 2010 July 2011

Source: Daum Road View

Figure IV-12 Retrofitting from Demarcated to All-restricted complex in Gwangmyeong, Geyonggi

houses as in old cities, the neighbourhoods this type belong to are more homogenous in socioeconomic composition, which makes lowered wall to be maintained possible. However, Demarcated complexes are not retrofit free. An apartment complex newly built in the middle of older urban tissues with no wall policy enforced by the authority in Gwangmyeong, a city bordering south west of Seoul, had walls retrofitted by the residents (Kim, 2015) (See Figure IV-12).

3. Current manifestation

Composition of the exclusiveness types is close to standard normal distribution with the medium exclusiveness type (Car-restricted) constituting 74.7% of the total (1,015 apartment complexes). Low exclusiveness types (Demarcated + Enclosed at 20.5%) are almost five times numerous than high exclusiveness types (All-restricted at 4.4%) proving that residential areas of Seoul are still far from the domination of heavily gated communities. In the perspective of drivers, the level of exclusiveness is very high with almost 80% of the complexes barring non-resident car access (Car-restricted + All-restricted). In the perspective of pedestrians, the level of exclusiveness is relatively low with less than 5% of the complexes barring non-

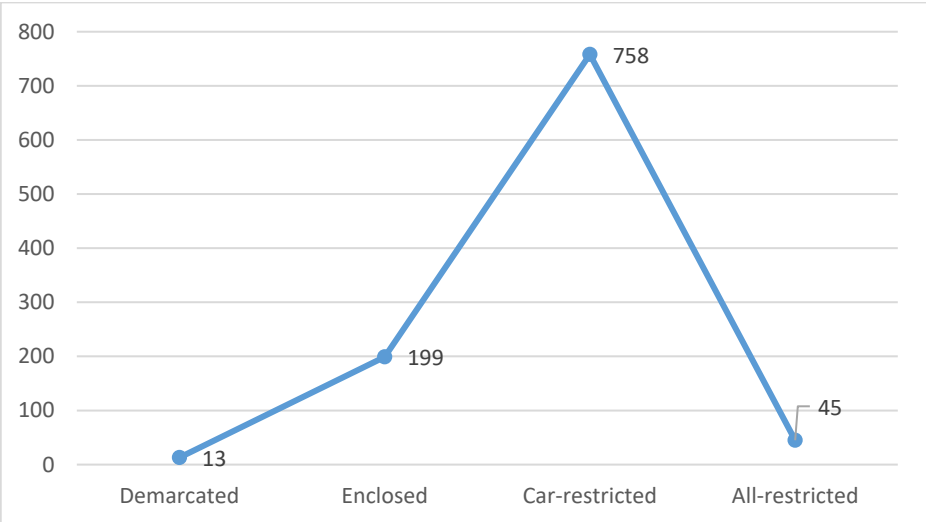


Figure IV-13 Distribution of types in the order of exclusiveness

resident foot access (See Figure IV-13). As older complexes tend to be more open, the current bell-curve's left bulge from more open types will be more pronounced for the total stock of apartment complexes in Seoul for all periods (the audit was performed only for the apartment complexes in Seoul, completed between 1997 and 2011).

1) Spatial distribution of the types

(1) Global distribution

Cities in developed countries in general have inner cities that were developed before the generalisation of gated communities and have sufficient public infrastructures. The gated communities having appeared after the maturity of inner cities are concentrated in the periphery where land is available and institutional and civil resistances against the development of large scale exclusive communities are weak. Thus, inner cities composed of traditional neighbourhoods are circumscribed by cul-de-sac suburbs and gated communities (Townshend, 2006). In contrast, cities of developing countries have inner cities that were developed or redeveloped to

modern standard later than those in developed countries, coinciding with global gating phenomenon. As their national policies are more geared toward growth and development, opposition to gated communities can be more easily circumvented. Therefore, the temporal and spatial analyses of gating process often come from developing countries, especially Latin America where gates are entrenched in cities so wide and deep that gating is an important key to understand the evolution of cities (Coy, 2006; Janoschka and Borsdorf, 2004).

South Korea, as a country having obtained developed status recently, does not have the proliferation of full security communities found in some developing countries. However, gated communities with weaker degree of exclusiveness are widely distributed throughout the core and the periphery of Seoul (Kim and Choi, 2012). They are distributed in built areas in an indiscriminative fashion with few

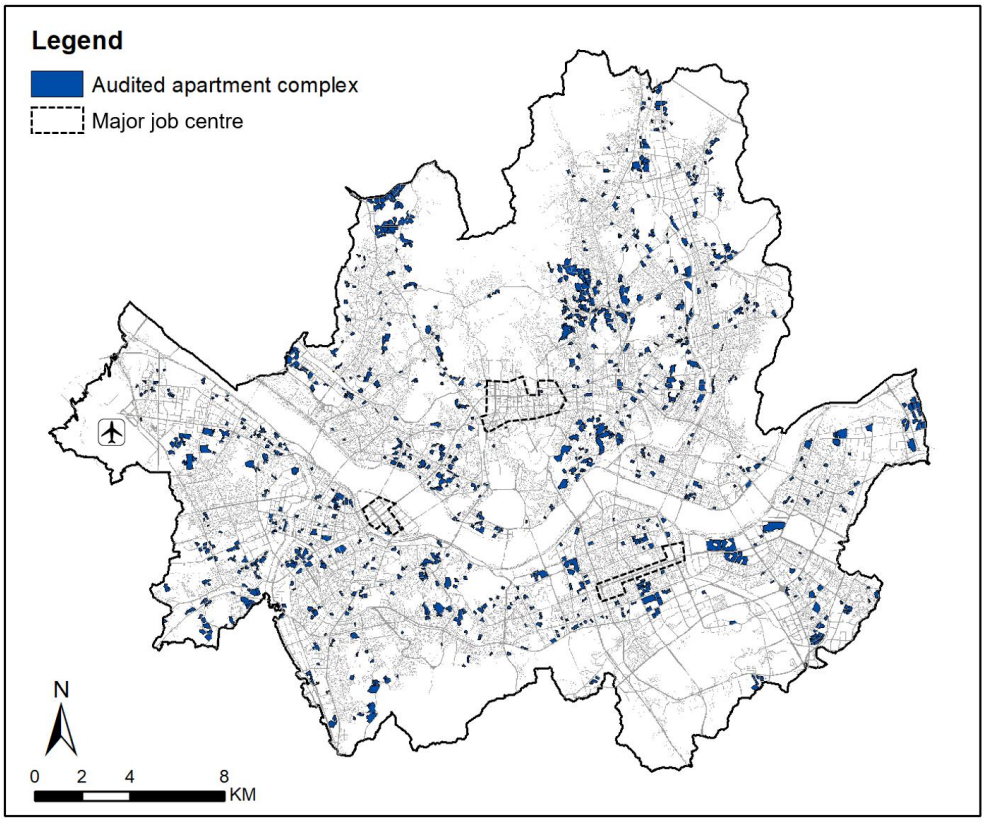


Figure IV-14 Spatial distribution of the gated communities audited

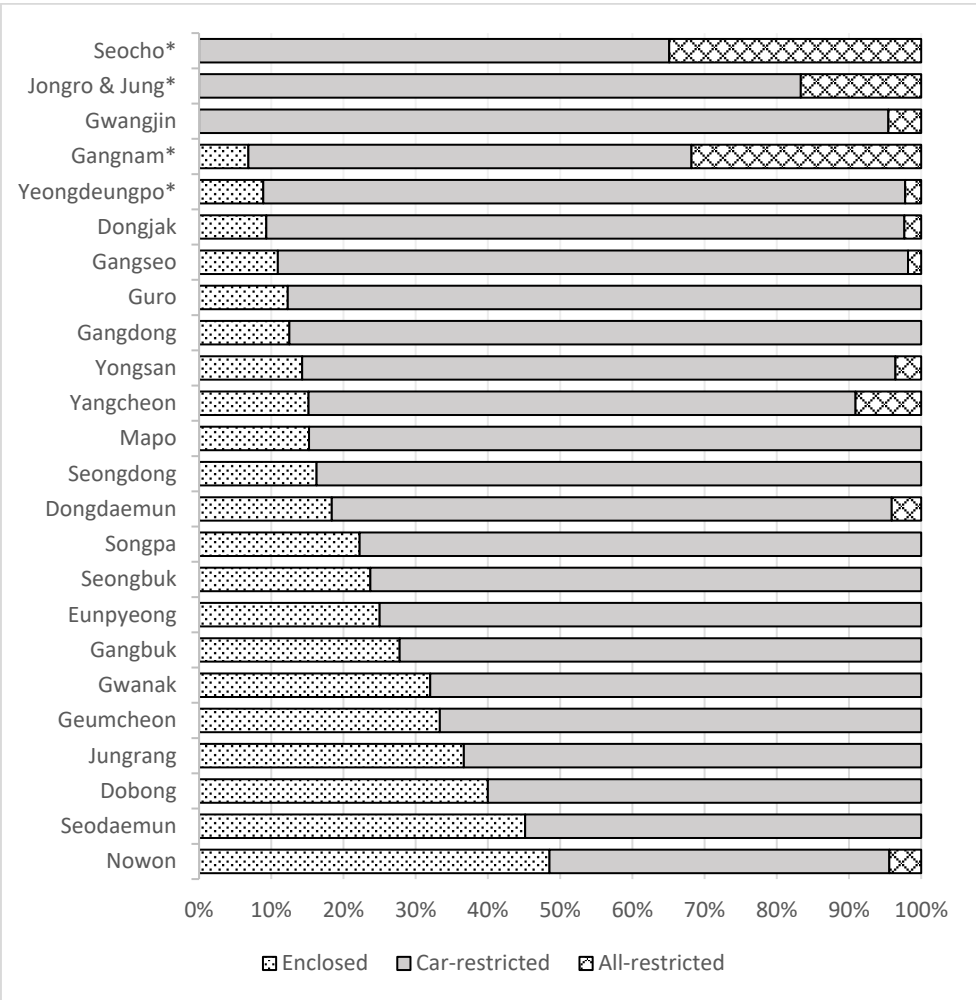
exceptions (See Figure IV-14). This is largely because development of green fields and redevelopment of brown fields have been mainly achieved through building apartment complexes. Only the historic core of Seoul in the north and the area adjacent to the airport at the southwestern end of the city could be spared from apartment complexes for the protection of heritage sites and air traffic safety respectively. The omnipresence and relatively even distribution of gated communities make them a ubiquitous force shaping the space in Seoul and their repercussion will be proportionate to the scale.

(2) Distribution by type

Unlike the indiscriminate global distribution, each exclusiveness type of gated communities has distinct locational characteristics except Car-restricted complexes which are evenly distributed as the most prevalent type. Demarcated complexes are located in new towns at the edge of Seoul, especially in Eunpyeong New Town in northwest, as they have occurred only in green field new towns. Enclosed complexes are the indicator of crowdedness. Four out of top five gu's with the least percentage of Enclosed complexes have the three major jobcentres of Seoul in their territories. The four gu's are Jongro & Jung-gu, Gangnam, Seocho and Yeongdeungpo (See Figure IV-15). Faster extinction of the Enclosed near jobcentres is not only influenced by lower housing affordability due to high land prices but also more traffic and crowd drawn by jobcentres.

About 60% of All-restricted complexes are located in Gangnam-gu and Seocho-gu - Seoul's most expensive areas, which shows residential exclusiveness is one of the indicators of wealth (See Figure IV-16). The concentration of more exclusive communities in the same high income areas in Seoul is also attested by the finding of Kim and Choi (2012). Some of the All-restricted complexes form four clusters in Gangnam-gu and Seocho-gu near the jobcentre. While Seocho clusters are located in the middle of low-rise neighbourhoods, Samseong and Yeoksam clusters exist within group of apartment complexes (See Figure IV-17). The latter two are going

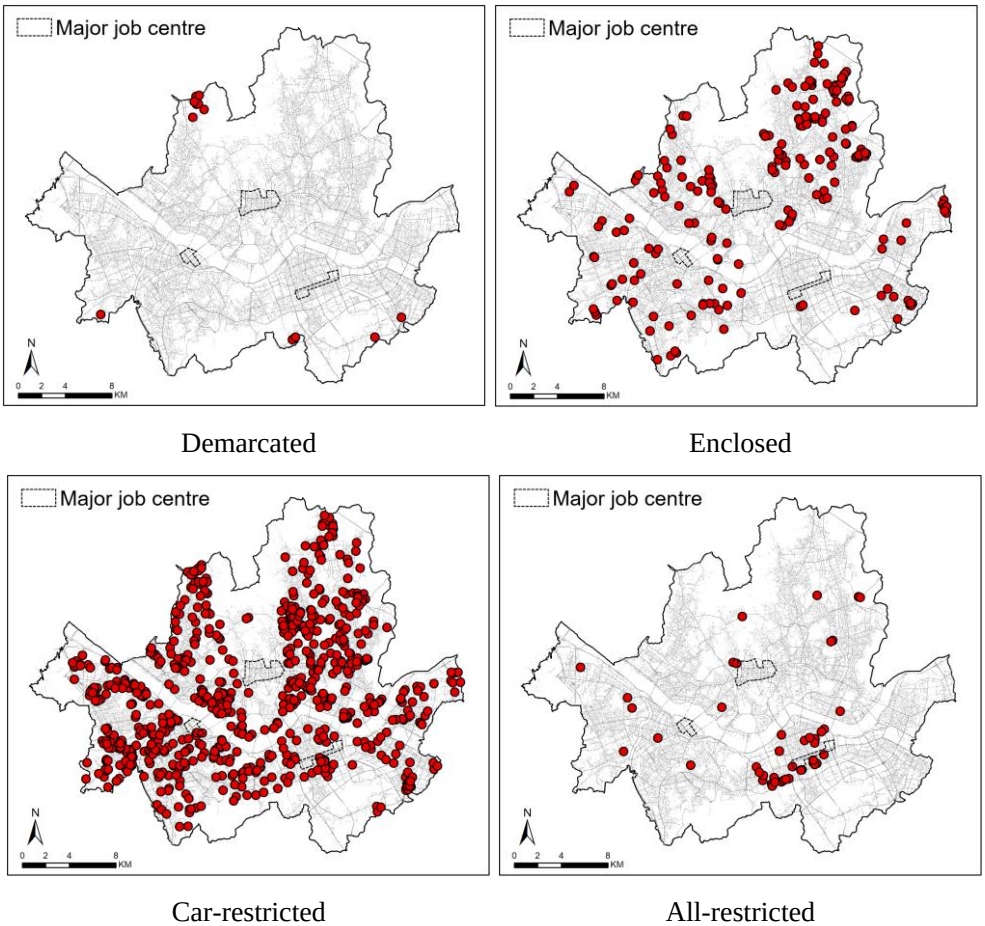
through contagion of gating in which two Car-restricted complexes were retrofitted to All-restricted as recently as 2016. The process of copying and multiplication of gates manifests in official announcements of the residents' council explaining their decision of building gates.



* A major jobcentre is located inside the gu.

Note: 1. Apartment complexes in new towns are not represented in the graph to eliminate the influence of public planning. 2. As the number of gated communities of Jung-gu is less than 10, it was merged with the adjacent Jongro-gu which accomodates the same jobcentre with the former. All other gu's have at least 10 gated communities.

Figure IV-15 Percentage of exclusiveness types by gu in Seoul



Demarcated Enclosed

Car-restricted All-restricted

Figure IV-16 Spatial distribution of each type

Neighbouring apartment complexes strictly control outsiders by installing gates. However, our apartment complexes have no gates and more outsiders than the residents use the complex as a passage. The complex is completely exposed to them without any defence.

Official announcement of a residents' council in Yeoksam cluster (2014)

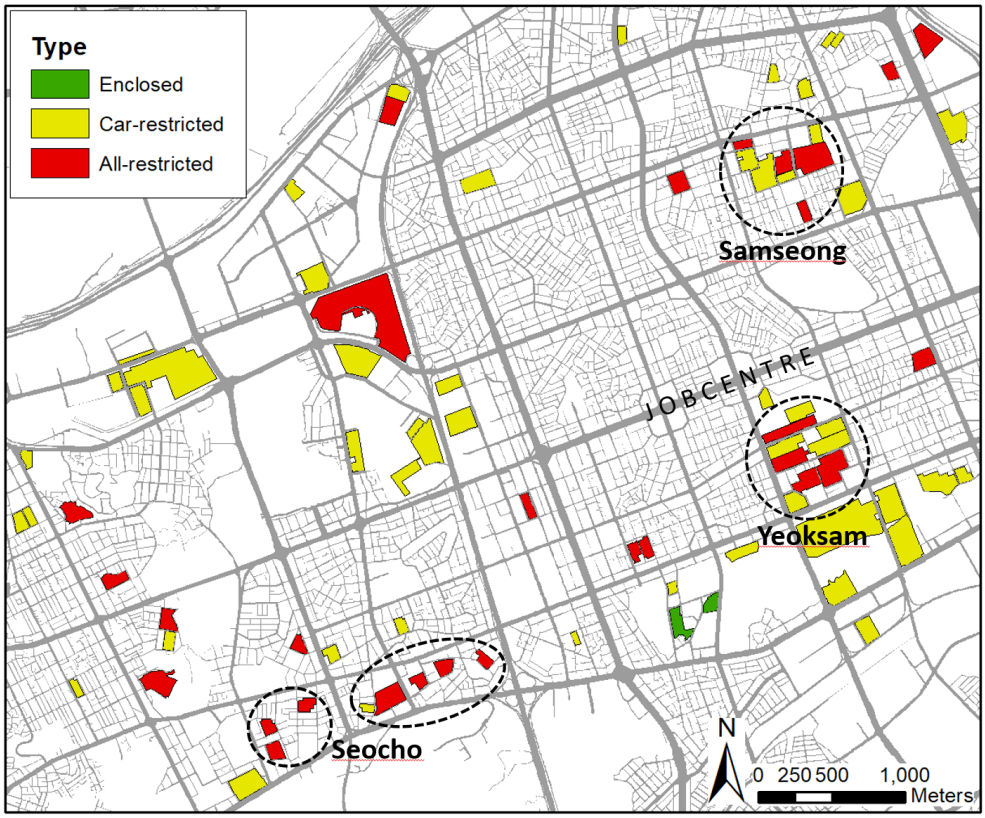


Figure IV-17 Clusters of All-restricted complexes in Gangnam and Seocho

2) Factors of exclusiveness

Three factors influencing exclusiveness of the gated communities in Seoul were identified with available data. Socioeconomic status of residents appears to be the primary factor in determining the exclusiveness level of a gated community, while mode of development and estate size are secondary factors.

(1) Socioeconomic status of residents

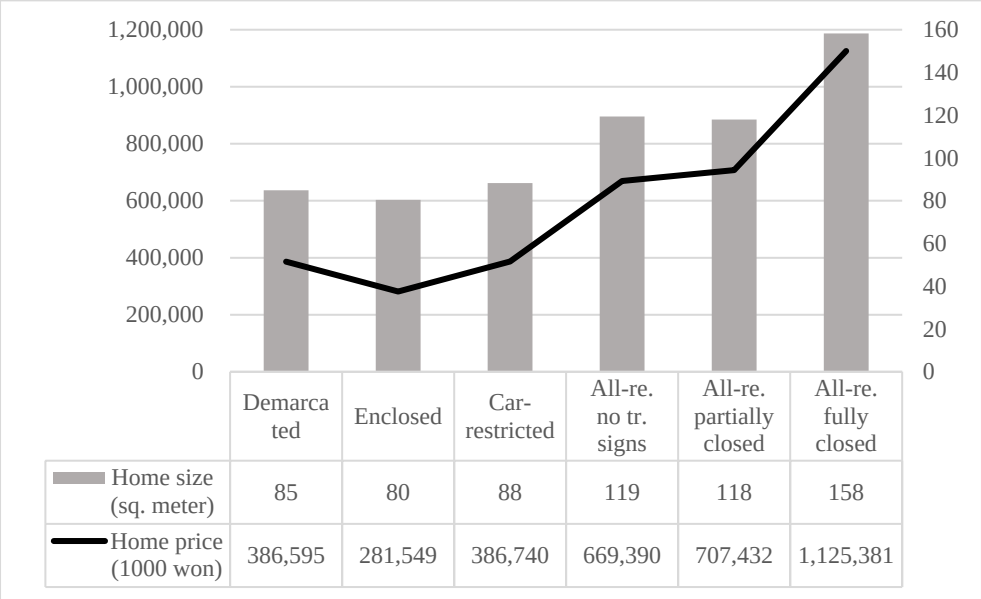
Although there exist studies that gated communities are lived by not only the rich but also poorer residents (Sanchez, Lang and Dhavale, 2005), they are primarily known as the residences for the haves (Roitman, 2010). Insertion of socioeconomic

indicators into the typology of gated communities in Seoul has produced a result that clearly supports the latter proposition in which the more exclusive gated communities are, the richer the residents are.

Common indicators of socioeconomic status include income, occupation and level of education (Geyer and Peter, 2000). As statistics on these indicators per apartment complex are not available in South Korea, housing statistics can be used to substitute income statistics. Home price is one of the alternative indicators of social status, linked to the housing purchase and rental affordability of individuals with different financial capacities. Home size is another alternative indicator of social status that measures housing maintenance affordability and the prestige attached to luxury housing. In Korea, apartment units larger than 85m^2 are subject to harsher acquisition tax and VAT and their maintenance fees are higher than smaller units. According to National Housing Survey (Ministry of Land Infrastructure and Transport, 2014:72), the middle class households occupy homes of 72.7m^2 in floor area on average while their upper class counterparts occupy 94.9m^2 on average.

Average home prices and home sizes of each gated community in the audit were calculated using the housing data of SMG in 2016. These values were sorted into exclusiveness types that include the three subtypes of All-restricted complexes to find out whether a pattern between average home prices and home sizes of each type and degrees of exclusiveness exists. The result indicates that the average home price and home size of a gated community tend to be higher and larger in more exclusive types (See Figure IV-18).

The correlation is especially evident in the types in which evolutionary relationship through retrofitting exists: Enclosed, Car-restricted and All-restricted complexes. Enclosed is the most affordable type with an average home price of 282 million wons and home size of 80m^2. Despite its lowest housing value among the types, the average housing value of Enclosed is slightly above the average of the total collective housing in Seoul (See Table IV-5). The average home size of Car-restricted (88m^2) is 10% larger than that of Enclosed but its average home price (387 million wons) is much higher by 38%. Apartments in All-restricted with no



Note: 1. The home size is net (usable) area excluding common area.
2. The home prices are officially evaluated prices by the government.
1and 2 are also applied for the other tables containing the home prices and sizes.

Figure IV-18 Types of gated communities by income indicators in housing

Table IV-5 Home prices and sizes of collective housing in Seoul

Gated-ness	Housing types	Home price (1000 won)	Home size (m^2)	Price per m^2 (1000 won)	Number of homes
Non-gated	Multifamily home	122,138	48	2,520	630,619
	Town house	200,619	74	2,706	108,467
	Sub-total	133,656	52	2,558	739,086
Gated	Apartment	352,534	79	4,462	1,492,220
Total	Collective housing	280,034	70	3,993	2,231,306

Note: The table excludes homes with no data.

trespassing signs (669 million wons for 119 m^2) and partially closed gates (707 million wons for 118 m^2) have similar home prices and sizes but are much more expensive than Car-restricted by more than 70%. All-restricted with fully closed gates is the least affordable type with an average home size of 158 m^2 and home

price of 1.13 billion wons. The subtype is located in the same space with other All-restricted subtypes in view of the similar land prices between them (See Table IV-6) but its significantly larger home sizes produce an equally significant difference in home price from other subtypes.

Another difference between the three subtypes of All-restricted complexes lies on the average time that took for them to be retrofitted with gates or no trespassing signs. 23 cases of retrofitting could be tracked down for their timing with the help of street view services and the survey result. While it took 5.1 years for no trespassing signs and partially closed types to be retrofitted, it took 3.4 years for the fully closed type. This indicates that the residents of partially closed type decided to install gates to cope with threats felt after moving in but the wealthier residents of fully closed type had gates in their mind for existential purposes from the time they moved in. Although all three types are inhabited by wealthy residents, no trespassing sign and partially closed types are closer to the security zone community under the typology of Blakely and Snyder (1997) where gates are a defence mechanism against external threats. On the other hand, fully closed type is closer to the prestige community where gates are the symbol of prestige and protector of privacy (See Figure IV-19).

Table IV-6 Land price for each exclusiveness type

Type / Subtype		Average land price (won/m^2)	Designated land use by zoning	
			Residential	Commercial
Demarcated		4,325,333	100.0%	0.0%
Enclosed		3,592,862	100.0%	0.0%
Car-restricted		4,659,443	95.9%	4.1%
All-restricted	No trespassing sign	6,290,429	71.4%	28.6%
	Partially closed	8,411,963	92.6%	7.4%
	Fully closed	8,062,909	90.9%	9.1%
AVERAGE		4,726,160	94.7%	5.3%

Gate of security zone type (partially closed) in Gangseo-gu in May 2012

Gate of prestige type (fully closed) in Seocho-gu in June 2016

Source: Naver Geori View

Figure IV-19 Example of security zone vs prestige communities in Seoul

Demarcated complexes deviate from the general tendency existing between home value and exclusiveness due to their different planning from the rest of types. Apartments in Demarcated (387 million wons for 85 m^2) are as expensive as Car-restricted (387 million wons for 88 m^2) because they are located in new towns with better infrastructure, albeit in periphery.

The comparison of average home prices and home sizes between types can be expended to all collective housing in Seoul. First, the types can be reorganised into two groups with and without pedestrian access control considering the large gap in housing value between the types that allow non-resident pedestrian access and those not. Second, non-gated collective housing of Seoul is added for a comparison between the non-gated, the lesser gated and the highly gated residential areas to see the bigger picture.

Average home price and home size of each group increase as the degree of gatedness and exclusiveness go higher (See Table IV-7). The significant difference of home prices and sizes of the groups make them social groups due to affordability differentials of the different category of homes. Non-gated group is composed of town houses and multifamily homes. Multifamily homes are small scale residential

Table IV-7 Social status by exclusiveness of collective housing in Seoul

Housing and social group by gatedness	Home size (m^2)	Home price (1000 won)	Price per m^2 (1000 won)
Non-gated: no or very small housing estate	52	133,656	2,558
Lowly-gated: no pedestrian restriction	87	364,943	4,195
Highly-gated: pedestrian restriction	128	770,063	6,016
Total collective housing	70	280,034	3,993

Note: Values for 'non-gated' and 'total collective housing' were obtained from general statistics but those for 'Lowly-gated' and 'Highly-gated' were calculated only from the apartment complexes included in the audit of the present study using the same source of statistics. As the apartment complexes in the audit do not include pre-1997 constructions, their average home value might be higher than that of the total stock including constructions of all period.

buildings not belonging to housing estates. Town houses often form housing estates but their sizes are usually a lot smaller than apartment complexes and town house complexes rarely contain amenities except parking lots. Multifamily homes are more numerous than town houses by more than seven times. Their average home size (52 m^2) and price (134 million wons) are by far the smallest among the three and well below the average of all collective housing. Lowly-gated group combines the gated community types that do not control pedestrian access: Demarcated, Enclosed and Car-restricted. Its average home price (365 million wons for 87 m^2) is far higher than that of the non-gated group by more than twice. Highly-gated group is the exclusiveness type that controls pedestrian access: All-restricted complexes. Its average home price (770 million wons for 128 m^2) is higher than that of the lowly-gated group by twice.

The correlation between residents' income and physical exclusiveness reaffirms the perception of gated community as a place for the haves. The large gap in housing value between the non-gated and the gated is translated to social stratification between those who can afford gated life and those not. Differentiation of wealth levels also exists between the gated community residents: those who are satisfied with no pedestrian control and those who are mindful of the heightened pedestrian

control. The two kinds of gap between the three groups show that walls and gates are not the issue limited to certain category of people but concern the whole income spectrum. Inhabitants of Seoul look for gated residences and the attached life style, which drives up the price of homes in gated compounds relative to those outside. If they can afford enough, they want gated communities with more gates and control. The significant gap of apartment prices and sizes between apartment complexes open for non-resident pedestrians and those not highlights the fact that control of foot traffic is the core exclusionary elements of the gated communities lived by the upper class citizens. People with means have more need to control residential territories for tranquillity, safety and other reasons. Thus, they either move in gated communities with more control or add exclusionary devices on their current residences through retrofitting. Their exclusive residences happen to be more expensive due to their higher housing affordability.

The result may be understood in the opposite way that exclusionary devices hike up home prices among gated communities. However, this way of reasoning is not feasible considering the tremendous zeal of homeowners to raise their asset prices. If it were the case, far more apartment complexes would be equipped with rising arm barriers and pedestrian gates as an effort of the homeowners to increase their asset value with a relatively small investment and maintenance. Highly exclusionary devices are installed not to drive up home price but to satisfy certain life needs of the upper classes. These needs are explored in detail in Chapter V.

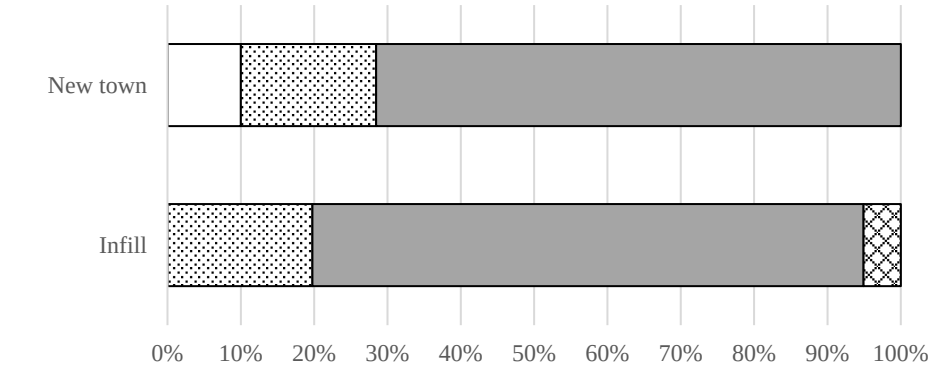
(2) Mode of development

A contrast between apartment complexes designed to be more open in publicly planned new towns and infill apartment complexes with less of such consideration in less planned areas is evident. While both types of apartment complexes are privately owned and free to install exclusionary devices, apartment residents in new towns are less likely to do so. Demarcated complexes are consequently found only in new towns. In contrast, All-restricted complexes are found only among the infill

apartment complexes. The ratios of Enclosed (19.3% in new towns and 18.5% in infill) and Car-restricted (73.5% in new towns and 71.5% in infill) are similar in both developments (See Figure IV-20).

Apartment complexes in Seoul are developed by either public or private initiatives. The public initiative drives the creation of new towns. New towns are either built over green field (development after expropriation in the periphery) or brown field (public orchestration of multiple redevelopments in blighted areas of the inner city) (See Table IV-8). Apartment complexes in new towns form tightly knit clusters unlike infill apartment complexes which are usually developed alone in the middle of existing urban tissue.

Master plans of new towns consider not only working of each apartment complex but also that of the wider neighbourhoods. Both the pedestrian and car movements in neighbourhoods are planned without being cut off (See Figure IV-21) and each apartment complex is encouraged to be designed more open since the late 2000s (See Figure IV-22). In terms of socio-economic conditions, new towns tend to have more



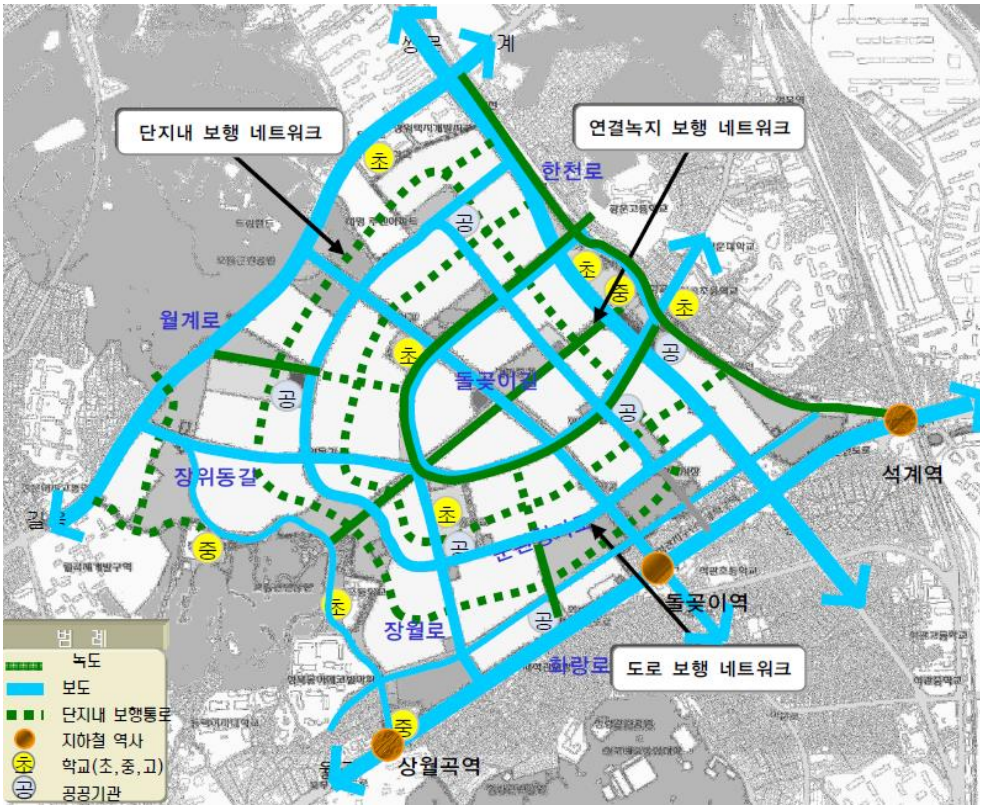
	Infill	New town
Demarcated	0	13
Enclosed	175	24
Car-restricted	665	93
All-restricted	45	0

Figure IV-20 Exclusiveness types by mode of development

Table IV-8 New towns of Seoul included in the audit

Type of site	Name of development
Green field (115)	Balsan RD (8), Cheonwang UD (6), Eunpyeong New Town (35), Gangil UD (12), Gangnam Bogeumjari RD (5), Geoyeo RD (4), Jangji RD (13), Macheon RD (2), Sangam RD (10), Sangye Jangam UD (2), Sinjeong RD (1), Sinjeong 2 RD (3), Sinjeong 3 RD (5), Sinnae 2 RD (2), Sinturi RD (4), Wumyeon 2 Bogeumjari RD (3)
Brown field (15)	Gajaeul New Town (2), Gileum New Town (10), Mia New Town (3)

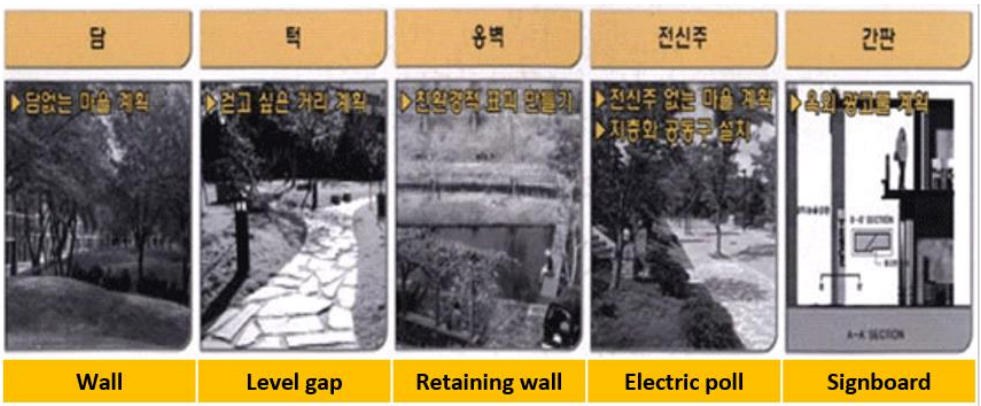
Note 1. RD = Residential Development, UD = Urban Development 2. Numbers inside brackets denote the numbers of apartment complexes included in the audit from each new town.



Source: Seongbuk-gu Office, 2007

Note: Pedestrian paths within apartment complexes are planned and marked in green dots.

Figure IV-21 Pedestrian network plan of Jangwi New Town in Seoul



Source: Seoul Solution (translation added by the author)

Figure IV-22 Five elements to eradicate in the design guideline of Eunpeyong New Town

pay the cost of living in new apartments. Younger population are more mobile to move to new developments and they are attracted to planned cities to raise their young. Rational planning and homogeneous population help the planned low exclusiveness maintained with the least retrofitting by the residents.

In contrast, design of infill apartment complexes by private initiatives in the inner city and periphery are relatively, if not completely, free from a higher level of master plans. As a result, they often form islands with their own logic: road layouts are not always smoothly connected to the outside and disrupt the existing flows in some cases. As these ‘less planned’ neighbourhoods are the mixture of heterogeneous elements including commercial zones, civic centres and residential areas of different socio-economic status, spatial and social conflicts are more likely to arise here than in new towns. Common spaces in apartment complexes are valued not only by the residents but also by their neighbours outside and are prone to be subject to conflicts. These spaces are shortcuts to reach schools, subway stations and municipal offices and children’s playgrounds. News reports and civil petitions concern these conflicts over the spaces belonging to privately owned apartment complexes but also being useful for non-residents.

Please stop the installation of gates opened with keycard in the apartment complexes. Redeveloped apartment complexes in my neighbourhood have no [public] roads between them. Now my children should take a long and dangerous detour to go to school.

A civil complaint filed to Dongjak-gu Office, Seoul (2013)

This dichotomy of planned versus unplanned spaces suggests that gating in the inner city is induced by various conflicts caused by fragmented spaces with heterogeneous urban compositions and populations. In turn, gating fragments already fragmented spaces more by strengthening physical divides. However, it should be noted that planning is not a foolproof method to create less exclusive neighbourhoods. Without a careful examination between planned pedestrian flows inside apartment complexes and possible backlashes, planning can provoke gating rather than preventing it (Kim, 2015) (See Figure IV-23).

Source: Ajou University Facebook Forum

Note: The banner reads ‘We wish for the students going to Ajou University to use the roads outside the apartment complex instead of coming inside. – Residents’ council’. (Gwanggyo New City, Gyeonggi)

Figure IV-23 No trespassing sign against shortcutting university students in an apartment complex

(3) Estate size

Although a minimum land area was set for the inclusion of apartment complexes in the audit, there still exists a considerable variation of land area among them. The average number of households and complex land area from the audit are 588 households and 24,915m^2. The biggest apartment complex is 40 times larger in area and 114 times more numerous in number of households than the smallest one (See Table IV-9). Despite this size variation, no gated community in Seoul constitutes an independent city incorporating exclusive schools and shopping malls as in America. For example, Coto de Caza in Orange, California, a lifestyle community with golf courses in its centre is much larger than the biggest gated community in Seoul by more than 70 times (20.65km^2), while the number of households are smaller (4,853)[3], as it is entirely composed of detached houses. The largest urban unit that a gated community in Seoul reaches is a neighbourhood.

The average land area of the apartment complexes audited is roughly equivalent to three soccer fields combined. The average land areas of Demarcated (25,499 m^2), Enclosed (25,124 m^2) and Car-restricted complexes (25,177 m^2) are about the same as the total average (24,915 m^2). However, apartment complexes equipped with gates against pedestrians (18,762 m^2 for partially closed gates and 20,642 m^2 for fully closed gates) tend to be smaller than the total average (See Table IV-10). Small size is not a prerequisite for gates but large size is an inhibitor against gates in general.

Table IV-9 Numbers of households and land areas of the audited apt. complexes

Category	Minimum	Average	Maximum
Nbr. of households	60	588	6,864
Complex area	7,006m^2	24,915m^2	279,928m^2

[3] As of 2010 (source: US Census Bureau)

Table IV-10 Estate size by type

Type / subtype		Average land area (m^2)	Average households	Number
Demarcated		25,499	377	13
Enclosed		25,124	633	199
Car-restricted		25,177	591	758
All-restricted	No trespassing signs	48,503	869	7
	Partially closed gates	18,762	414	27
	Fully closed gates	20,642	321	11
Total / Average		24,915	588	1,015

A huge apartment complex over 10 hectares in land area often constitutes a neighbourhood alone. Such complexes form superblocks and are well separated from the surroundings by wide arteries or other barriers, which function as gates in effect (See Figure IV-24). The likelihood of outsiders' entering the apartment complexes is reduced, as they are bothered by crossing wide roads or simply have no business out of their own neighbourhoods. However, larger complexes are not completely immune from outsiders' entry, especially when they serve as shortcuts or their high quality open spaces attract visitors. Even when the residents of larger complexes want gates, it is harder to implement them because gates over the whole neighbourhood garner more attention and backlash from outside as well as inside.

Some residents of a large landmark apartment complex in Seocho-gu wanted to install gates to prevent the influx of visitors to their parks due to the problem of dog turd not picked up by dog owners but faced internal resistance from the residents who were against the idea. Moreover, their move was mediatised in a national newspaper even before executing it (Seong, 2010), as the complex was nationally famous. As a result, they had to be satisfied with putting up no trespassing signs against non-residents and their dogs (interview with the management office). There is another similar case of large apartment complex with no trespassing signs in Seoul and the two complexes make the average land area of the complexes with no

Source: Park et al (2009)

Figure IV-24 Apt. complexes forming superblocks in Jamsil-dong, Seoul

trespassing signs (48,503m^2) twice larger than the average (24,915m^2) (See Table IV-10).

Combination of large land area and topographic relief reduce exclusiveness in a great deal. Although there are not many cases, relief makes private roads to semi-public roads in large complexes on hills. They have in-complex bus stops because it is physically exhausting for residents to navigate a large hilly area without resorting to private cars or public transports (See Figure IV-25). As not everyone drives cars, the residents allow public buses linked to the outside serving inside their private territories despite the problems of noise and more frequentation of outsiders.

Source: Daum Road View (December 2014)

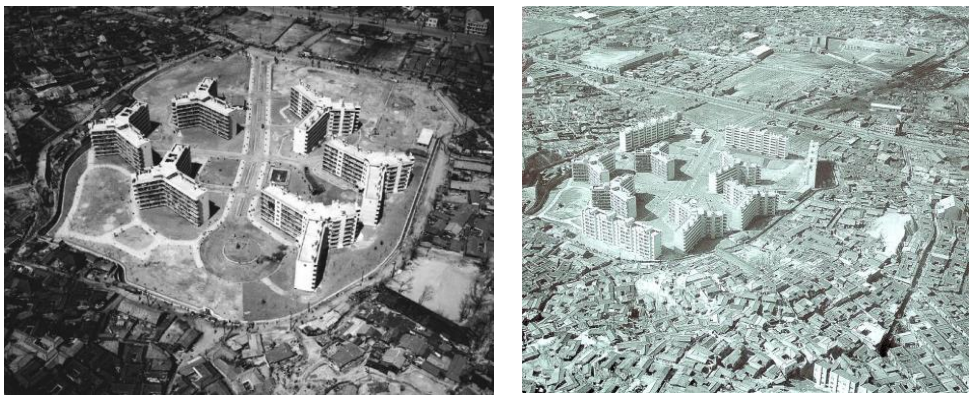
Note: This apartment complex on steep hills in Seoul has a land area of 18 *ha* with 3,929 households.

Figure IV-25 A bus stop inside an apartment complex in Seoul

4. Evolutionary process

1) Evolutionary tales

A decade before the demolition of Pruitt Igoe in Saint Louis and the end of Corbusian model of planning in the West (Hall, 1996), Mapo Apartment Complex in western Seoul was inaugurated with much fanfare in the presence of the head of state in 1962. In contrast to Pruitt Igoe (1956-1972), an apartment complex remembered as the symbol of a failed planning, Mapo Apartment Complex became the proto type of later Korean apartment complexes which have become a great success. The apartment complex shows a distinctive defensible design characterised by the central cul-de-sac, a clear demarcation between in and outside of the complex and total disregard for the existing urban tissue in consequence (See Figure IV-26). It had a symbolic event in which the residents demanded installation of barbed wires



Source: National Archives of Korea

Figure IV-26 Aerial views of Mapo Apartment Complex in 1963

only after a year from the completion, being worried of crimes due to their apartments standing out in the traditional low-rise neighbourhood (Song, 2011). Barbed wires are not a norm in later Korean apartment complexes but the episode manifests their gating tendency and the ease of implementation of doing so from their very start.

Today 3,794 apartment complexes in Seoul (100km^2) occupy 28 percent of the urbanised area (363km^2) and 45 percent of the residential zone of the city (223km^2) as of 2012. The total length of the walls of these apartment complexes is 637.7km (8 percent of the total length of roads in Seoul in 2005). Their physical enclosure stems from the self-sufficiency of apartment complexes. The economic self-sufficiency justifies the self-rule of the territory belonging to apartment complexes and erection of walls and gates is included in the domain of such rule. The increasing exclusiveness of apartment complexes has manifested in three phases: gating of parking space, gating of common indoor space and gating of common outdoor space.

Control of space in apartment complexes started being applied to vehicles. With the increase of cars in the 1980s, vehicular access to apartment complexes by non-residents has been increasingly blocked since the 1990s in order to guarantee parking spaces for residents and prevent unwanted traffic (Kim and Choi, 2012). Although controlling non-residents' vehicles in apartment complexes is an established practice now, it was not so at the beginning. In a piece written by a newspaper reader who

parked his car for a while in an apartment complex as a non-resident and had to go to police station for that matter in the 1990s, the reader deplores heartlessness of the society that does not know sharing space with others (Park, 1995). This gating against cars became a stepping stone to gating against pedestrians by relocating guard posts from the ground floors of apartment buildings to the entrances of the complexes. Old guard posts of the ground floors were replaced by electric security doors. With the relocation of guard posts from building entrances to complex entrances, the focus of surveillance was expanded from common indoor space in apartment buildings to much wider common outdoor space.

If the prohibition of outside vehicles was indicative of the first wave of gating, newer apartment complexes built since the 2000s have marked a second wave of gating by prohibiting outsiders from using their indoor amenities – such as gym, sauna, study room and café – by putting up 'reserved for residents' signs and even installing electric doors opened with keycard. Amenities were located inside shopping centres in older apartment complexes, thus anyone willing to pay for services could use them. Nowadays, the shopping centres in apartment complexes become mostly retail while amenities are accommodated within an independent space, usually called 'community centre' which functions as a club house in American gated communities. Amenities inside community centres are strictly for residents. Use of these amenities require keycards which are also used to open individual apartment doors. The keys function as a resident identity card. Basic service fees are included in maintenance fee for every resident while selective service fees are charged upon the keycard.

Unlike vehicular access, foot access to apartment complexes regardless of residency has been allowed in most of the apartment complexes (Gelézeau, 2008). However, some apartment complexes also started controlling foot access in the third wave of gating from the 2000s. Although it has not been rare to block a couple of entrances in the past, today's more exclusive apartment complexes strive to a more systematic approach discouraging non-resident pedestrians entering through a thorough application of exclusionary devices. These apartment complexes have been

retrofitted by residents to control foot access through installation of no trespassing signs or electric gates. Table IV-11 summarises development of gating by periods and the affected spaces in apartment complexes.

Although the social consensus over restricting pedestrians in apartment complexes is not established yet, the control of pedestrians is accomplished within or through the loophole of the existing legal framework. As no Korean law stipulates the legality of gates and they are installed within private properties, municipalities could not help recognising the self-determination of apartment residents on erecting gates over the right to walk in neighbourhood whenever complaints against the construction of gates were raised by concerned citizens (Dongjak-gu, 2013; Gwangmyeong, 2011).

Table IV-11 Major developments of gating since the 1970s

Feature	1970-80s	1990s	2000s-present
Indoor amenities	Shopping centre and senior centre	Addition of resident only amenities such as sauna and gym	Diversification and upgrade of resident only amenities such as café and swimming pool
Outdoor amenities	Greenery at the periphery	Park in the centre	Park everywhere and sophisticated landscaping
Pedestriani-zation	Ground parking at the centre	Mix of underground and ground parking	Underground parking only
Rising arm barriers	None	Retrofitting begins	Installed by developers
Guard post	At apartment building entrances	Retrofitted guard posts begin to be installed at estate entrances.	Constructed at estate entrances by developers (building entrances are guarded by electric doors)
Gating against pedestrians	Some estate entrances are blocked by the residents both against themselves and outsiders.		Systemic gating against pedestrians by electric gates appears, allowing only the residents to enter.

2) Evolutionary relationship of types

The average age of apartment complexes belonging to each type decreases in the order of Enclosed (15.2 years), Car-restricted (12.4 years), All-restricted (11.0 years) and Demarcated (7.0 years) as of 1 January 2017. As architectural records pertaining to installation of exclusive devices are sparse, the average age helps to reconstruct the evolution of types. Enclosed complexes have been the only type between 1970's and 1980's. The rapid increase of cars in the 1980s and the consequent problem of in-complex parking by non-residents' cars brought in Car-restricted complexes equipped with rising arms. Starting as a retrofitted type from Enclosed complexes in the 1990s, the Car-restricted complex became a standard of apartment complex design by the 2000s. The retrofitting from Enclosed to Car-restricted has been a long incremental process. For example, a large apartment complex with more than 5,000 households in southeastern Seoul decided to install rising arm barriers in 2015 after 26 years since the completion.

The 2000s also saw the long-held consensus on allowing non-resident pedestrians into apartment complexes crumbling. Some Car-restricted complexes in the upper middle income neighbourhood were retrofitted to transform into All-restricted complexes. It is impossible to know the exact date of first retrofitting due to the lack of data but it began in earnest in the mid-2000s at latest. It took about four years on average for Car-restricted complexes to be retrofitted to All-restricted after the completion of complex among confirmed cases. Some complexes found an adequate level of exclusiveness at a single trial but others went through multiple stages of physical gating to find an equilibrium with the surrounding and the best technical solution. For example, an apartment complex in the southwestern Seoul had only rising arms at first, then no trespassing signs and gates were consequently added (See Figure IV-27). Most of them took the path of intensification of exclusion but a minority of them have reverted from All-restricted back to Car-restricted after a trial. In the 2000s, Elevated complexes began spreading becoming the most closed type of housing estate in the country. In the late 2000s, Demarcated complexes were

introduced by the public authority in new towns to mitigate deepening gating (See Table IV-12).

Exclusiveness types were grouped to five periods of completion dates spanning three years each between 1997 and 2011 to analyse their evolution. The two more exclusive types, All-restricted and Elevated, constitute only 1.0% among apartment complexes completed between 1997 and 1999 but the ratio increases to 8.5% among those completed between 1999 and 2011. The ratio goes up to 14.9% among infill developments of the same period. The percentage of Car-restricted complexes among the total stock also increases from 56.3% between 1997 and 1999 to 73.3% between 1999 and 2011. In contrast, the percentage of Enclosed complexes among the total stock decrease from 42.8% between 1997 and 1999 to 13.9% between 1999 and 2011.

The public authority delivered Demarcated complexes for the first time in new towns in 2008 as a counter measure to the deepening exclusiveness of apartment complexes. New towns also saw the revival of Enclosed complexes where residents do not feel the need to use rising arm barriers included in design. The marked reversal of increase of more exclusive types and decrease of more open types between 1997-99 and 2009-11 is largely due to the design intervention of the public authority in

Table IV-12 Formation of types by period

<table>
<tr><th>Type</th><th>1970-1980s</th><th>1990s</th><th>Early 2000s</th><th>Late 2000s –</th></tr>
<tr><td>Enclosed</td><td>Only type</td><td>Retrofitting to car-restricted begins.</td><td>Retrofitted or redeveloped to car-restricted</td><td>No longer built as infill but revived in new towns</td></tr>
<tr><td>Car-restricted</td><td rowspan="3"></td><td>Retrofitted from enclosed</td><td colspan="2">Retrofitted from enclosed or newly built</td></tr>
<tr><td>All-restricted</td><td colspan="2">Retrofitted from car-restricted (Electric gates cannot be included in design)</td></tr>
<tr><td>Demarcated</td><td colspan="2"></td><td>Newly built in new towns as a counter reaction to deepening gating</td></tr>
</table>

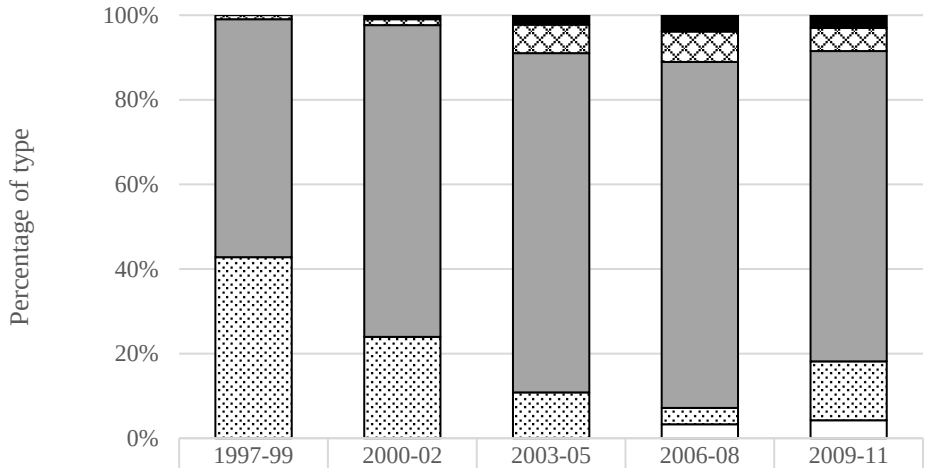
First phase: rising arm barriers in October 2010

Second phase: no trespassing signs added in April 2012

Third phase: gate (left) and fence (right) added in 2013

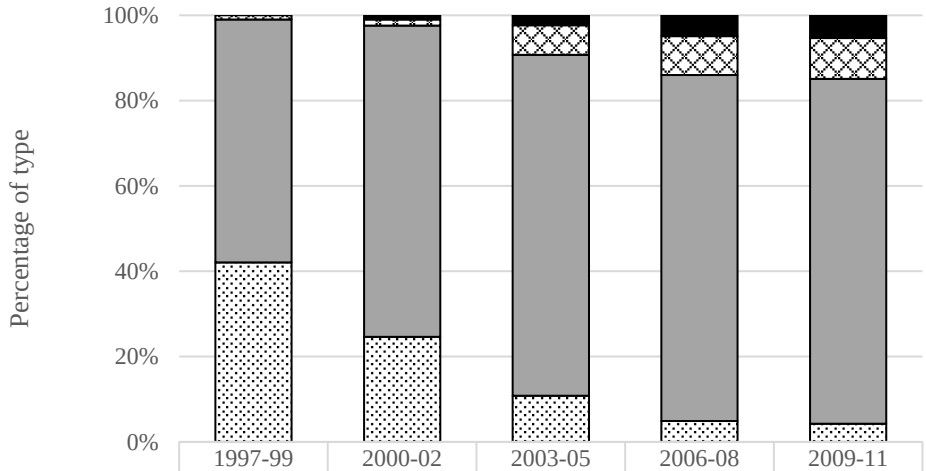
Source: Naver Geori View and Daum Road View

Figure IV-27 Increasing defensive measures over time in AC3



	1997-99	2000-02	2003-05	2006-08	2009-11
Elevated	0.0%	0.9%	2.2%	3.9%	3.0%
All-restricted	1.0%	1.4%	6.7%	7.2%	5.5%
Car-restricted	56.3%	73.7%	80.2%	81.8%	73.3%
Enclosed	42.8%	23.9%	10.8%	3.9%	13.9%
Demarcated	0.0%	0.0%	0.0%	3.3%	4.2%

Figure IV-28 Composition of types by period: all stock (private + public planning)



	1997-99	2000-02	2003-05	2006-08	2009-11
Elevated	0.0%	1.0%	2.3%	4.9%	5.3%
All-restricted	1.0%	1.4%	6.9%	9.1%	9.6%
Car-restricted	56.9%	72.9%	79.9%	81.1%	80.9%
Enclosed	42.1%	24.6%	10.8%	4.9%	4.3%

Figure IV-29 Composition of types by period: infill (private planning only)

new towns. Among infill developments, such reversal did not occur, although the pace of increase of more exclusive types decelerated between 1997-99 and 2009-11 (See Figure IV-28 and Figure IV-29).

Since local contexts producing gated communities constantly change, the exclusiveness typology is not static. Types of gated communities can either converge (Townshend, 2006) or diverge (Thuillier, 2006) as a part of the evolution process of a city. For Seoul, the typology is evolving toward diversification reflecting the increasing complexity and fragmentation of the metropolis. The typology remained stable for three decades dominated by a low degree of exclusiveness type but has differentiated relatively fast from the 1990s to today through the interaction of private and public forces. The evolution oriented toward more exclusiveness until early 2000s by urban and societal pressures but the public intervention started weakening the exclusion drive from the late 2000s through the delivery of more openly planned new towns (See Figure IV-30). The public intervention was effective in turning the tide in the global picture but open design complexes are limited to the periphery, unable to influence private infill developments in the inner city.

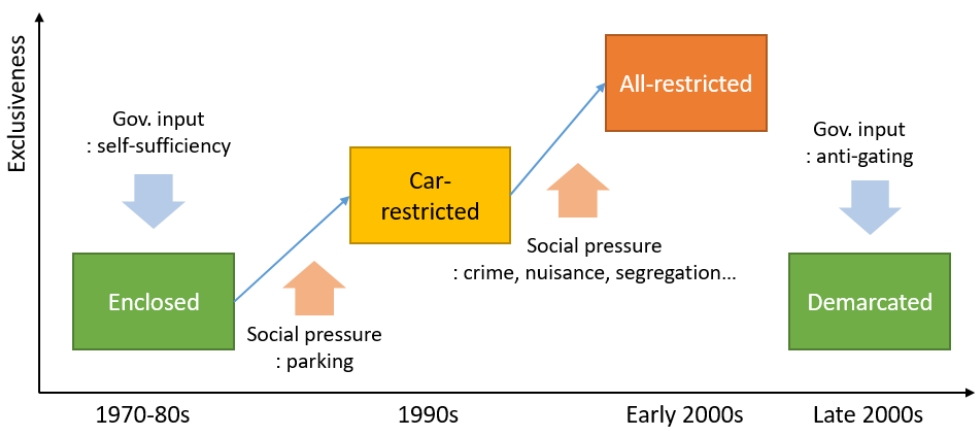


Figure IV-30 Evolution of types

5. Conclusion

An audit of privately owned apartment complexes in Seoul completed between 1997 and 2011 whose land areas exceed 7,000m^2 was carried out to create a typology based on border permeability through indirect observation of apartment complex borders using street view services. Types of walls and access control at entrances of apartment complexes were identified in the audit over one thousand apartment complexes. Walls are made of vegetation or hard materials such as concrete and bricks. Apartment buildings or shopping centres at the edge sometimes function as walls. Physical access control at entrances is either non-existent, for vehicles or for both the vehicles and pedestrians. Devices used for the control include rising arm barriers, warning signs, electric gates and reserved elevators to terrace level.

Types of wall and access control were combined to produce four exclusiveness types: Enclosed, Car-restricted, All-restricted and Demarcated complexes. *Enclosed* apartment complexes are surrounded by walls but entrances are open without physical exclusionary devices. *Car-restricted complexes* are surrounded by walls and major entrances have rising arm barriers to preserve parking space for residents and prevent through traffic. Guard posts are built at major entrances alongside rising arm barriers to control car access. *All-restricted complexes* are surrounded by walls and entrances have either electric gates and/or 'no trespassing' signs as well as rising arm barriers. Guard posts are located right beside the entrances for close surveillance of visitors on foot. Unlike other types, *Demarcated complexes* do not have walls at the edge but only a demarcation lined with *Low bush* less than one-meter-high or just lawn. The type is the result of public design intervention to lower exclusiveness of apartment complexes in new towns.

The typology does not remain as a mere classification. Their interrelationship and evolution become a tool to understand the reason and dynamics of gating phenomenon. Distinct patterns and evolutionary tracks of types emerge from the correlation between types and their attributes. Major attributes of the types include home price and size, mode of development, estate size, location and age.

Seoul's gating geography is characterised by indiscriminate distribution of gated communities in both the inner city and the periphery. While Car-restricted complexes as the most prevalent type are evenly distributed, other types are concentrated in certain parts of the city. Enclosed complexes survive farther away from jobcentres, which produce crowdedness, without becoming Car-restricted. All-restricted complexes are concentrated in better-off areas as the residence of the wealthy. Demarcated complexes are located in new towns in the periphery.

The primary factor determining the degree of exclusiveness of gated communities in Seoul appears to be socioeconomic status of residents. As statistics on income, occupation and level of education per apartment complex are not available in South Korea, housing statistics were used to substitute income statistics for an analysis on the relationship between residents' socioeconomic status and exclusiveness of their homes. The result of analysis indicates that home price and home size of a gated community tend to be higher and larger in more exclusive types. In the same token, collective housing units in gated communities are more expensive and larger than their counterparts in non-gated areas. The two analyses show that the housing market in Seoul is stratified by exclusiveness and the wealthy actively seek gated life style.

Secondary factors determining the degree of exclusiveness of gated communities in Seoul are mode of development and estate size. Apartment complexes in planned districts where the public intervened in design tend to be more open due to rational planning and relatively homogenous population. In contrast, apartment complexes built as infill in the middle of existing urban tissue tend to be more exclusive due to spatial and social conflicts with the surroundings. Although there is no coherent correlation between estate size and exclusiveness, large estate size does hinder the attempt to control pedestrians. Large apartment complexes as independent neighbourhoods have less unwanted visitors from the outside and it is harder to find consensus of installing gates from a large number of residents.

Enclosed complex was the first and unique type of apartment complexes and guided by the design of the government which wanted to create a self-sufficient housing estate. Car-restricted complex emerged in the 1990s as parking became

scarce resources in urban space amid rapidly rising car ownership. All-restricted complex began appearing in the early 2000s as an ultimate way to remove crime and nuisances in residence by controlling pedestrian entry as well as vehicle entry. Demarcated complex was also introduced by the government in the late 2000s, but as a counter measure of the deepening gating phenomenon.

There exists an evolutionary relationship between Enclosed, Car-restricted and All-restricted complexes because Car-restricted and All-restricted appeared as the retrofitted form of each preceding type. The retrofitting by installing more exclusionary devices has been led by residents among the three actors of gating – developers, the state and home buyers. As a result, the ratio of more exclusive gated communities has kept increasing among the infill apartment complexes that are relatively free from public design intervention. Therefore, increase of exclusiveness in gated communities is a voluntary evolution for the residents to adapt to the changing urban environment.

Chapter V. RESIDENT PERCEPTION OF GATED COMMUNITIES

The walls and gates of the community reflect this splitting physically as well as metaphorically, with 'good' people (the good part of us) inside, and the 'bad' remaining outside.

Setha Low (2003)

Whereas Chapter III and IV approach the gating phenomenon from the perspectives of the state and developers at citywide macro level, this chapter does the same from the perspectives of housing consumers at neighbourhood micro level, pinpointing several cases of All-restricted complexes barring both vehicles and pedestrians. First, urban and social characteristics of All-restricted complexes are explored through case study. Second, perception of gates and neighbourhood by residents and the profile of gating proponents are analysed through survey and interview. The result of the analyses reveals working, causation and contradiction of gated communities.

1. Survey and interview

1) Survey

Mail survey was conducted to find out the perceived reasons behind gating, acceptance of gates and the level of satisfaction of gating for six apartment complexes controlling pedestrian access, denoted as from AC1 to AC6 (See 5.2 for the selection process of apartment complexes to be surveyed). The questions are all close-ended except the last question. Respondents were asked either to choose maximum two or three answers from multiple choices or to assess the degree of opinion by five-level Likert scale including a neutral (zero) level. Respondents could describe their own choice in multiple choice questions and comment whatever they wanted in the last question. The number of questions was minimised to essentials to

prevent respondents' getting tired of a long list of questions. The survey questions are as follows and the original questionnaire in Korean is found in the Appendix.

Table V-1 Survey questions and answers

Main Questions	Answers
1. When did you move into the current residence?	1. YYYY / MM
2. Why do you think gates are installed in your apartment complex to control the access of non-residents?	2.a) Prevention of encountering non-residents in the complex b) Prevention of shortcutting the complex by outsiders c) Prevention of nuisance caused by vendors, deliverymen and adolescents d) Prevention of crime e) Protection of plants and facilities in the complex f) Image of luxury homes and raising property value g) Other complexes already have one. h) Others:
3. How effective are the gates for the reasons selected above?	3. very efficient – efficient – no effect – reverse effective – very reverse effective
4. How much are you afraid of crime in your neighbourhood?	4. very low – low – normal – high – very high
5. Do you feel more secure or insecure in your apartment complex due to the gates?	5. much safer – safer – no difference – more unsafe – much more unsafe
6. Were the gates one of the reasons in choosing the current residence?	6. Yes – No – Gates were not there then.
7. Do you approve of the gates in your apartment complex?	7. strong yes – yes – neutral – no – strong no
8. If you are neutral to, against or very against the gates, why do you disapprove of them?	8. a) Effect of gates is null or little. b) Inconvenienced by detour caused by gates or barricades c) Passage of gates and use of key are cumbersome. d) Inconvenient when guests or service agents visit e) Repulsed by installing gates at entrances f) Worried of disharmony with the neighbours outside g) Others:
9. How should the operation of gates be improved?	9. a) Opening or demolishing gates as I don't want gates b) Satisfied by the current method c) Manage the gates more thoroughly d) Install gates at the main entrance which is currently open e) Others:
10. If you move to another apartment complex in the future, will you move to one having gates?	10. strong yes – yes – neutral – no – strong no
11. If any, please leave your comments on the subject.	

Socioeconomic Questions	Answers
- Individual: gender, decennial age group and profession - Household: number of family, existence of minority in family, housing tenure and income	- Profession: Professionals - Senior managers - Clerks and engineers - Sales and service - Labourers and technicians – Homemakers – Students – Unemployed – Retirees - Tenure: owner occupier – renter – other: - Income (won): 1.99 million or less - 2 to 3.99 million or less – 4 to 5.99 million or less – 6 million or more

Since the only available contact information was home address, the survey could be conducted either face-to-face on site or by mail. However, conducting a face-to-face survey is difficult in certain complexes without an explicit permit from the president of residents' association, which is almost impossible to obtain without a prior personal relationship. Thus, mail survey was the best mean to conduct the survey in the circumstances. Planning and implementation of the survey followed the methods presented in Dillman, Smyth and Christian (2008) to conduct a reliable survey and improve the response rate.

A pilot survey was conducted before the main survey to test the feasibility of mail survey for exclusive apartment complex residents in Seoul. Each mail included a copy of questionnaire, a cover letter signed by the researcher, a return envelope with stamp and a national lottery ticket valued 1,000 wons as a token of gratitude. Each questionnaire was identified with a four-digit serial number to track down respondents. 5 out of 30 questionnaires sent to an apartment complex (AC2) were returned in a single mailing, which corresponds to a response rate of 16.7%. The response rate was deemed to be enough to adopt the methodology. The pilot survey helped to rectify some problems of the survey such as conceptual confusion of respondents between complex gates and building security doors, mainly resulting from the fact that a single Korean word (*mun*) denotes both gates and doors. The result of the pilot survey is not included in the analysis because some questions and choices were rephrased for the main survey. However, the patterns of response to

major questions such as reasons and approval of gating are similar between the two surveys.

In the main survey, despite the difference in population size, each complex was weighted equally in determining the number of questionnaires to be sent in order to avoid possible idiosyncrasies resulting from a single large complex. Within a complex, 100 households were randomly chosen with the help of Excel spreadsheet, while keeping the distribution of different unit sizes same to the population, considering income gap between households living in different unit sizes. Envelopes sent in the first mailing had the same content to that of the pilot survey. As people only receive mail but rarely send it due to numerous means of communication today, methods to raise response rates were sought. The cover letter informed respondents the location and the telephone number of the nearest post office and post boxes. An online version of the survey was set up using Google Forms for those who are tech-savvy and the address to the online survey was indicated in the cover letter. 13 out of 133 people used the online survey instead of returning the questionnaire by mail. The response rate of the first mailing was 16.7%, inferior to the minimum response rate set at 20%. 408 questionnaires were sent again to those who had not responded in any way either by returning questionnaires or unopened envelops except to those who residing in AC1 who had fulfilled the required response rate of 20% in the first mailing. In the second mailing, the cover letter asked residents to return the questionnaire once more but the national lottery ticket was not resent.

The interval between two mailings was one month and the total response rate of the survey reached 22.2% (133 respondents) after two mailings (See Table V-2). The actual response rate would have been higher, considering occasional loss of mail during delivery process. In fact, a respondent reported having filled out the questionnaire twice due to the delivery loss. Response rates among different complexes are relatively even from minimum 19% to maximum 26%. Survey results were coded using IBM SPSS Statistics 23.

Table V-2 Survey response rates

Category		1st mailing on 26 April	2nd mailing on 26 May	Total	Total percent
Valid responses		100	33	133	22.2%
No or invalid responses	Invalid responses*	1	0	1	0.2%
	Returned unopened	14	27	41	6.8%
	No reaction	492	348	425	70.8%
Total		600	408	600	100.0%

* Questionnaire returned with major questions unanswered.

2) Interview

The interview was conducted to hear the opinion of residents directly and to obtain information on the complex for case study and working of gates. It also aimed to verify validity in the design of the survey and complement it. The interview was planned, conducted and analysed based on the guidance of Merriam (2009) on qualitative research. Semi-structured interview was chosen to guarantee comparability between interviews and flexibility for individual context. A set of questions had been prepared but its order was adjusted for what the interviewee said. Complementary questions were spontaneously asked in particular situations. The question set was composed of four categories. With meaning of the gate as the main subject, background of interviewee, community life and information on the complex were also asked. The question set is featured in Table 5. Group interview was not planned but unplanned participation of family member occurred once.

Two people were interviewed to help the design of the survey in 2014. They were contacted through personal relationship or online announcement. At the end of the survey in 2016, survey respondents were encouraged to volunteer for interviews with a promise of small monetary compensation – gift certificate with no mention of the amount. The amount was not specified in order to encourage the willingness of the participants for social contribution and good deeds to helping others. 19.5% of the respondents (26) left either their telephone number or email address on the

questionnaire. However, some of them could not be contacted or declined interview when asked. Snowballing of interviewees had been expected from initial volunteers as in other qualitative studies of gated communities but turned out to be difficult in practice. Snowballing was not easy due to lack of neighbourhood relationship or unwillingness to intervene. Thus, more volunteers were sought among those who had participated in the survey but not left their personal contacts for interview. Letters were sent to them once more to ask volunteering for interview. The mail contained a letter of gratitude and promotion of interviews with a five-page summary of the survey results customised for each apartment complex. This effort could recruit more volunteers.

Interviews took place in places and times where interviewees were most comfortable and free. Most of the places of the interviews were the cafes near their homes and workplaces and gardens inside apartment complexes. Some older male interviewees invited the researcher to their homes, which came as a surprise considering that the interviewer had neither intermediaries nor prior face-to-face contact with them. Two people didn't want to face the interviewer and talked on the telephone for shyness or lack of time. Interviews took for half an hour on average. All the interviews were recorded with the permission of interviewee under the guarantee of anonymity from the researcher. Interviewees were given the promised gift certificate with the amount of 10,000 wons at the end of interviews, although some of them declined it as a gesture of good will.

Every interview was transcribed using Express Scribe Transcription. Transcription was merged with the comments from the survey. Notes briefly explaining the meaning of passages to the study were added in the merged transcription using word processor. When the notes were finished, they were assigned into categories (See Table V-11). Categorisation produced two types of contents: testimony and observation. Testimonial information includes facts and experiences revolving around gates, while observation includes insight on the complex, the neighbourhood, gating phenomenon and the society. Testimonies were used alongside the survey result to describe the phenomenon, while observations intersected with the literature

Table V-3 Interview questions

Category	Question
1. Background of interviewee	1.1. What kind of housing did you occupy before moving to the current residence? 1.2. Why did you choose the current apartment complex? 1.3. What are your satisfactions and dissatisfactions of the complex? 1.4. Please introduce your family.
2. Community	2.1. Do you know any neighbour? Where do they live? How close are you to them? 2.2. Do you participate in the community activities of the complex?
3. Information on the complex	3.1. What kind of amenities exist in the complex? 3.2. What sort of residents live in the complex? (age, job, tenure, turn-over…) 3.3. What had existed before the current apartment complex built? 3.4. Do you know the story behind the installation of gates? 3.5. Please explain how the gates are operated for the residents and visitors.
4. Meaning of the gate	4.1. Why do you think gates are operated in your apartment complex? 4.2. How different are the degrees of safeness you feel inside and outside of the complex in the neighbourhood? 4.3. Why do you think the gates contribute to crime prevention although the main entrance is open? 4.4. What kind of change in your daily life was brought by the installation of gates? 4.5. Have you heard of any problem or conflict with the residents living outside the gates? 4.6. What do you think of the existence of gates in your complex? Do you agree or disagree? 4.7. How much are you satisfied with the current method of gating? What kind of extra measures are needed? 4.8. Do you think the main entrance should be closed, too? If yes, then why? 4.9. If you move in the future, do you want to move to an apartment complex with gates? If yes, then why?
5. Other	5.1. Do you have any extra comment?

in the analysis of the phenomenon. A similar testimony from more than two participants were considered important, but such distinction was not applied for observations because they were rarer and more diverse than testimonies.

The researcher has lived both in gated and non-gated residences in Seoul and was living in a gated community in the city at the time of research. However, he has lived neither in nor near more exclusive gated communities where the access of pedestrians into compounds is physically controlled.

3) Participants of the study

(1) Survey respondents

133 out of 600 households returned the questionnaire. Younger population is underrepresented in the survey, though any adult more than 18 years old could respond. Questionnaires were filled out more by the retirees who tend to be less busy and AC6 turned out to be a NORC (naturally occurring retirement community). More interests for the survey from older male cohorts make males (57.0%) more represented than females (43.0%) (See Table V-4). The average number of household members is estimated to be more than 3, significantly higher than the Seoul average of 2.53 (Kosis, 2015). It is because private apartment complexes in general and the ones in the survey do not have small apartment units for single-

Table V-4 Age and gender of respondents

Age	Male	Female	All
19-29	16	1	17
30-39	20	9	29
40-49	17	10	27
50-59	8	20	28
60-69	9	11	20
≥ 70	4	5	9
Total	74	56	130

person households. 27.6% of the respondents reported having minors whose age is less than 19 years old in their family. Respondents have lived in the current residence for 6.6 years on average.

Many of the respondents belong to the high echelon of the society. Respondents having highly skilled jobs such as professionals and senior managers constitute 34.4% of the total (See Table V-5). Accordingly, the household income is high with 50.0% of households earning more than 6 million won per month (See Table V-6). Such high-income households were found out to constitute only 10.9% of the Seoul households from a citywide survey conducted in 2014 (Byeon, Park and Kang, 2015). This comes from the fact that these residences are relatively new and some of them located in well-off residential areas. High rise apartments are also a housing type for the middle and upper classes in Korea. 70.2% of the households surveyed are owner-occupiers and 29.8% renters. The ratio of owner-occupiers among respondents is significantly higher than the Seoul average of 41.2% (Byeon, Park and Kang, 2015:33).

Table V-5 Professions of the respondents

Profession group	Male	Female	Total
Professionals	19	13	32
Senior managers	11	1	12
Clerks and engineers	14	9	23
Sales and service	8	2	10
Labourers and technicians	2	0	2
Homemakers	0	26	26
Students	1	3	4
Retirees	18	1	19
Unemployed	0	0	0
Total	73	55	128

Note: The total in the table does not match the total number of respondents (133) because this question was skipped by some respondents out of rejection or negligence. This applies to other tables from the survey.

Table V-6 Household income distribution

Monthly household income (million wons)	≤1.99	2.00-3.99	4.00-5.99	≥6.00	Total
Nbr. of households	5	27	32	64	128

(2) Interviewees

Unlike surveys, social relationship between the researcher and subjects could not be erased in interviews. A disproportionate number of men relative to women from survey volunteered for interviews. It is assumed that female respondents of the survey may have hesitated more to see an unknown male interviewer (The gender of researcher could be deduced from the name). The number of interviewees was proportionate to the number of households in apartment complex by and large except AC6 where no one among the survey respondents volunteered to talk. 18 interviewees are all Korean nationals and their brief profiles are summarised in Table V-7.

Table V-7 Profiles of the interviewees

Commu-nity	Gender	Age cohort	Job category	Approval of gates	Participation
AC1	Female	20s	Student	Yes	From survey
AC1	Female	40s	Sales and service	Yes	From survey
AC2	Male	40s	Clerk & engineer	Yes	From survey
AC2	Male	50s	Retiree	No	From survey
AC3	Male	30s	Clerk & engineer	Yes	From survey
AC3	Male	60s	Labourer & technician	Yes	From survey
AC3	Male	70s	Retiree	Yes	From survey
AC3	Female	30s	Professional	No	Pers. relation
AC3	Female	30s	Homemaker	Yes	Snowballed
AC4	Male Female	50s 70s	Labourer & technician Retiree	Yes	From survey His mother
AC4	Male	60s	Professional	Yes	From survey

AC4	Female	40s	Homemaker	Yes	From survey
AC5	Male	40s	Professional	Yes	From survey
AC5	Male	40s	Professional	Yes	From survey
AC5	Male	60s	Clerk & engineer	No	From survey
AC6	Female	60s	Homemaker	Yes	Pers. relation
CC near AC3	Female	40s	Homemaker	Yes	Online announcement
CC near AC1	Female	50s	Sales and service	Yes	Snowballed

Note: CC near ACn = Car-restricted complex about 1 kilometre apart from ACn (not in the same neighbourhood)

2. Description of the cases

1) Selection of type and sites

All-restricted complex barring both vehicles and pedestrians is studied in-depth because it is at the final stage of the evolution of apartment complexes in terms of physical exclusiveness which retains the traces of past types: Enclosed and Car-restricted complexes. It is also the most polemic form of gated communities in Korea barring outsider pedestrians by the will of residents, thus requires a further analysis to understand the contexts. There is less need for survey for apartment complexes where only rising arm barriers are installed as their motivation is evident (preservation of parking space and prevention of vehicular through traffic) and control over cars is almost an accepted custom in the society unlike control over pedestrians. The case study was conducted taking notable cases having gates against pedestrians while maintaining main entrances open. Study of those communities can reveal not only practical role of the gates but also their symbolic meaning from the fact that some entrances are physically closed while others are psychologically closed toward outsiders.

Eligible apartment complexes should not be completely gated for the researcher to ask the residents whether they want more control on their borders. Full security communities maintaining every gate closed were excluded also for representability.

They are likely to represent only a fraction of the Seoul population, as they are mostly composed of large luxury homes. The eligible complexes should have more than two complex entrances of which minor entrances are controlled by electric gates, while major entrances have only rising arm barriers. Finally, they must have enough residents not to make every household receive the questionnaire. When it happens, the survey mail can be mistaken as junk mail. At the worst, it can become a suspicious matter of the community, which may lead to a boycott. Gaining an official approval on the survey from management offices or residents' councils to prevent boycott without personal relationship is very difficult considering the sensitivity of the issue and general unwillingness to participate in academic studies. The criteria for eligibility is summarised as follows.

- The eligible apartment complexes should not be divided by public roads[4].
- There are more than two entrances by the design but smaller pedestrian entrances are gated through retrofitting while the main entrance remains open.
- The eligible apartment complex should have more than 200 households to avoid every household receiving the questionnaire.

The survey and interview are interested in different responses depending on various circumstances of apartment complexes. At the same time, the number of apartment complexes had to be less than ten for easier comparison and limitation of the study budget. Six was chosen because 100 questionnaires sent to 6 complexes could warrantee at least 100 filled out questionnaires, even if the response rate dips below 20%. They were chosen from different areas scattered in Seoul to prevent geographical bias and to observe different thoughts of residents depending on local context. Four complexes were the only complexes that met the eligibility in their areas (gu's) and the rest two had to be chosen in the south-east of Seoul where

[4] 5.8% of the audited apartment complexes are divided by public roads.

eligible complexes were multiple. A larger and more distinctively gated complex was chosen from each of two gu's in the south-east.

Application of the criteria produced a list of six apartments totalling 3,951 households which are located in different gu's from each other. They are relatively new, all having been built in the 2000s. As gating of apartment complexes is a socially contentious issue, anonymity of the apartment complexes was guaranteed to the participants of the survey. The cases are denoted as from AC(All-restricted Complex)1 to AC6 in the order of average income level obtained from the survey for easier understanding of the survey and interview result.

Table V-8 Housing attributes of the All-restricted complexes studied

Category	AC1	AC2	AC3	AC4	AC5	AC6
Year completed	2000	2010	2005	2006	2006	2003
Year gated	2009	2011	2011	2008	2012	2003
Number of households	265	386	1,067	850	738	645
Estate area (m^2)	8,022	19,586	43,007	50,908	24,001	27,115
% of homes less than $85m^2$	89%	60%	74%	73%	100%	0%
Average home size (m^2)	77.4	97.2	92.1	90.9	72.4	183.2
Land price** (1,000 won/m^2)	2,957	4,009	4,340	2,640	9,899	10,500

* The year when electric gates were installed. ** As of 2015
Source: Statistics of Seoul Metropolitan Government

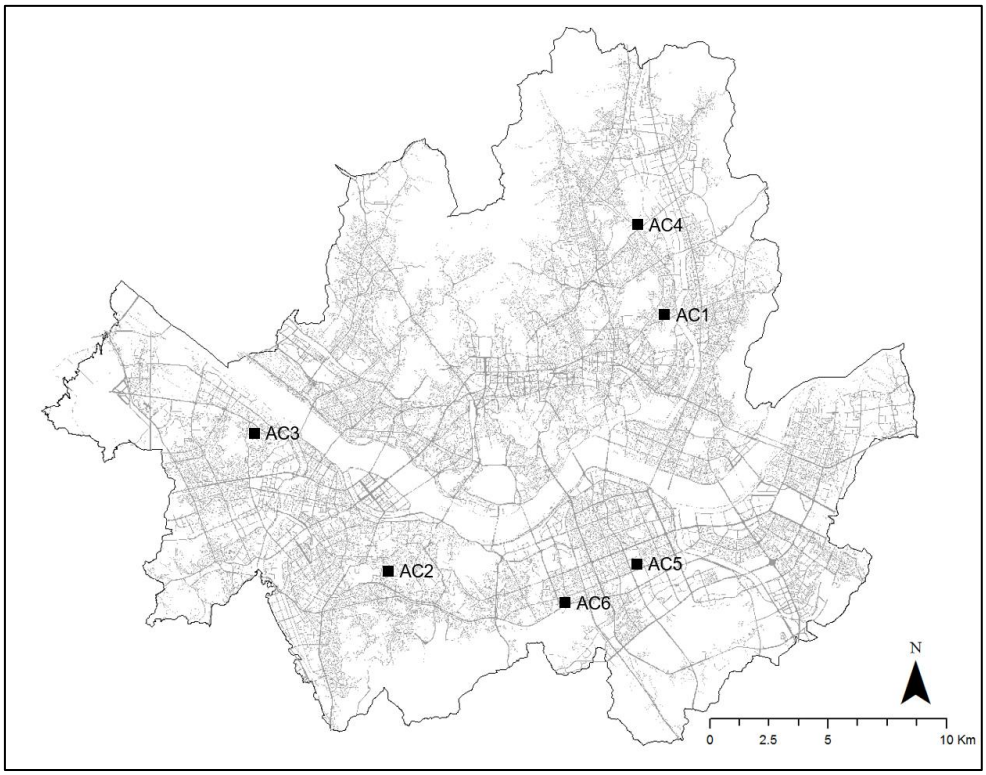
Table V-9 Socioeconomic attributes of the All-restricted complexes studied

Category	AC1	AC2	AC3	AC4	AC5	AC6	Avrg.
Average age of residents*	51.7	49.8	52.8	48.0	48.7	65.5	52.7
Average household size	2.86	2.96	3.26	3.50	3.26	2.71	3.08
Average years of residence**	7.5	3.6	7.8	5.7	5.6	10.2	6.6
Average household income (million won)*	4.30	5.07	5.09	5.50	6.00	6.80	5.42
Ratio of highly skilled job (%)***	14.3	26.9	21.7	35.0	55.6	57.1	34.1
Ratio of renters (%)	24.0	29.6	30.4	35.0	52.6	9.5	29.8

* Average of the median values of cohorts ** As of 15 June 2016

*** Highly skilled jobs include managers, executives and professionals.
Source: survey of the study

This section describes the six selected communities for locational characteristics, socioeconomic situation and mode of gating. The description serves both for a micro level analysis of All-restricted complexes and background analysis of the survey and the interview. The cases illustrate various contexts in which gates have sprung up. Numerical data describing these communities are summarised in the Table V-8 and Table V-9; their locations in Seoul are presented in Figure V-1. In the description of apartment complexes to follow, artery means wider roads having pavements while street means narrower alleys less than 18 metre wide without pavement. In every case, main entrances are facing arteries.



Source: Author

Figure V-1. Location of the apartment complexes studied in Seoul

2) Characteristics of the sites

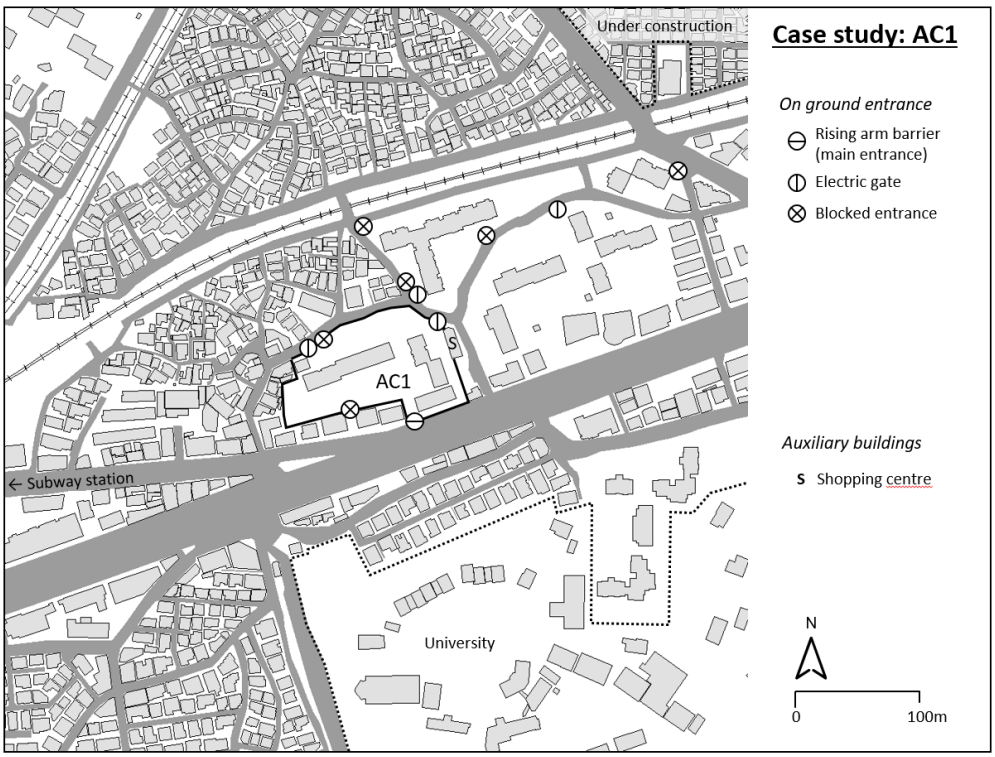
(1) AC1 in a gentrifying neighbourhood

AC1 is a small complex composed of two apartment buildings with 265 housing units and a shopping centre, located in mid-eastern Seoul. Almost 90% of the homes in the complex are small or medium sized less than 85m^2. As a small and old apartment complex built in 2000, it does not have much amenity except a playground and a senior centre. Much of the space is occupied by parking lots and there is no garden. AC1 is one of the first generation of apartment complexes built in the area. It is surrounded by two other small apartment complexes in the east and degraded multifamily homes and houses in the west. The immediate neighbourhood of AC1 is not exactly an ideal residential area, being sandwiched between railway in the north

and an artery road in the south on a 150m wide strip stretching east-west. The area had been composed of small houses with irregular street networks, severely lacking infrastructure and amenities except a subway station (450m to the west from AC1) until the 2000s with few parks, schools and retail places. It has since been being actively transformed into a jumble of small and medium sized apartment complexes which replace the old tissue in an irregular manner. As the size of developments were relatively small and independent from each other, the overall infrastructure of the neighbourhood was barely improved through redevelopments. The average income of the residents surveyed in AC1 are the lowest among the six apartment complexes with a significant margin. It has a high portion of the elderly residents who started living here before the redevelopment.

The complex has four entrances, of which the main entrance to the artery road is open to pedestrians, a small pedestrian only entrance leading to the artery road is blocked and two entrances to the street are gated with keycard system. The rising arm barriers without an attached guard post at the main entrance[5] indicates that they were not included in the design stage but added later by the residents. The complex would have started as an Enclosed complex and gone through Car-restricted and All-restricted complex in order with erection of rising arms barrier and electric gates. AC1 and three nearby apartment complexes, equipped with at least one gate, form a cluster of All-restricted complexes in a rather unusual location for gates to emerge, considering that other clusters are typically situated in affluent areas. All-restricted complexes in the area demonstrate that advanced gating is not limited in wealthy areas.

[5] A guard post exists five meter inside from the rising arm barriers.

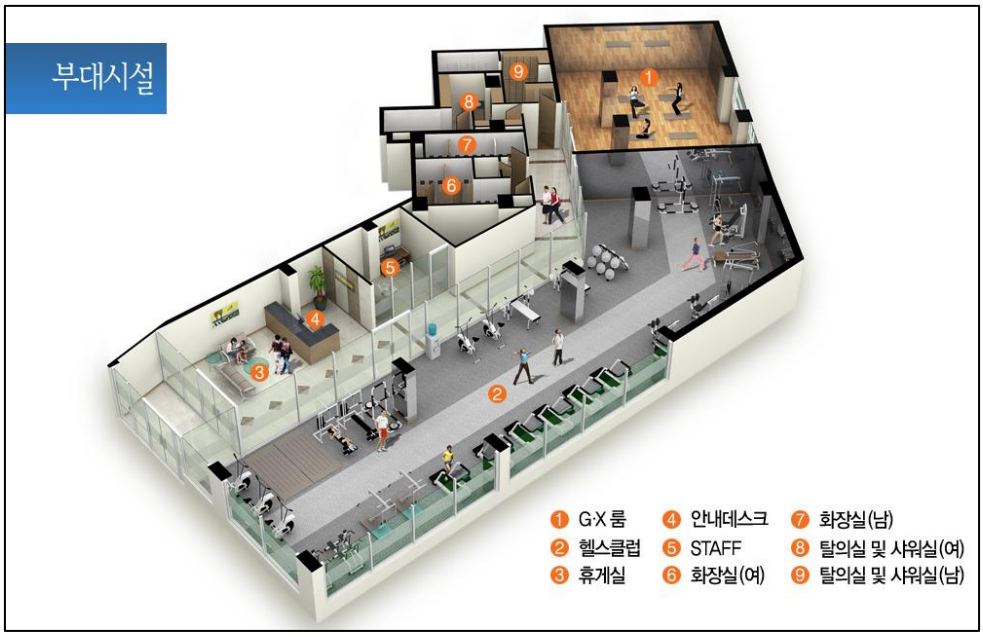


Note: Entrances of the complexes other than AC1 are marked, only if they are gated or blocked.
Source: Author

Figure V-2. AC1 and the neighbourhood

(2) AC2, reversing design progress

AC2 is a small complex composed of eight apartment buildings with 386 housing units, located in the south west of Seoul. As a new apartment complex built in 2010, all the parking space exists underground while the ground is dedicated to pedestrian ways and green space. Its amenities include themed gardens, playgrounds and a gym (See Figure V-3). The apartment complex straddles a hill whose heights increase from west to east. Using the slope, shops and the gym are designed to be partially underground whose facades face the artery road but their roof forms the ground of the apartment buildings. The complex also has a senior centre, study rooms and a library.



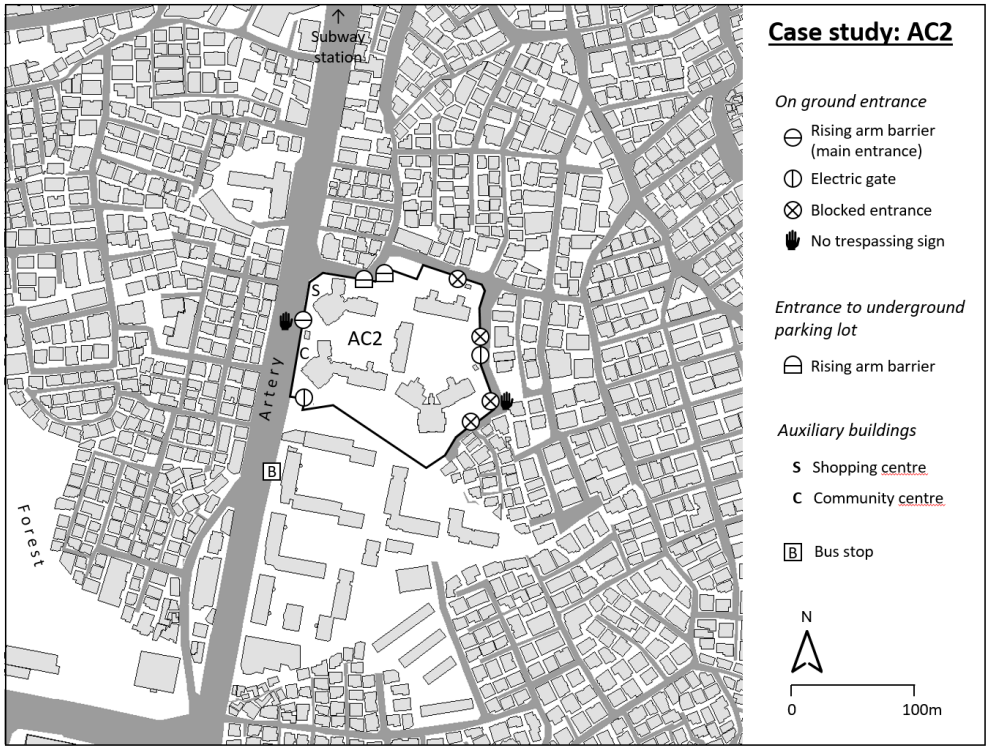
Source: Samho International Co. Ltd.

Figure V-3. Gym in AC2

It borders an artery road to the west and an older apartment complex of 710 households completed in 1996 to the south which, in turn, borders another small apartment complex to the south. The neighbourhood to the north and east of AC2 is composed of low-rise multifamily homes with irregular road network. The three apartment complexes in the area are not separated by streets but by walls, thus form an impermeable area stretching from north to south by 400m, blocking shortcuts to the artery road for eastern dwellers to the apartment complexes. There is no school in 500 meter radius from the complex. The area is similar to that of AC1 that the urban tissue was formed without planning, but the gentrification process of creating apartment complexes is more subdued.

Car and pedestrian traffics are completely separated in the complex. There are two car entrances to underground parking lot and six pedestrian entrances. The main entrance to the artery road is open but is under the close surveillance of guard post. Visitors can go through but are warned by the no trespassing sign saying ‘Non-

residents' entry is prohibited' which was put up in 2015. Another entrance to the artery road is gated. The four entrances to the streets in the north and east had been blocked by low barricades in 2011 until three of them were upgraded to gates in 2015,



Source: Author

Figure V-4. AC2 and the neighbourhood

Barricade in October 2014

Electric gate in August 2016

Source: Daum Road View

Figure V-5 Conversion from barricade to gate in AC2

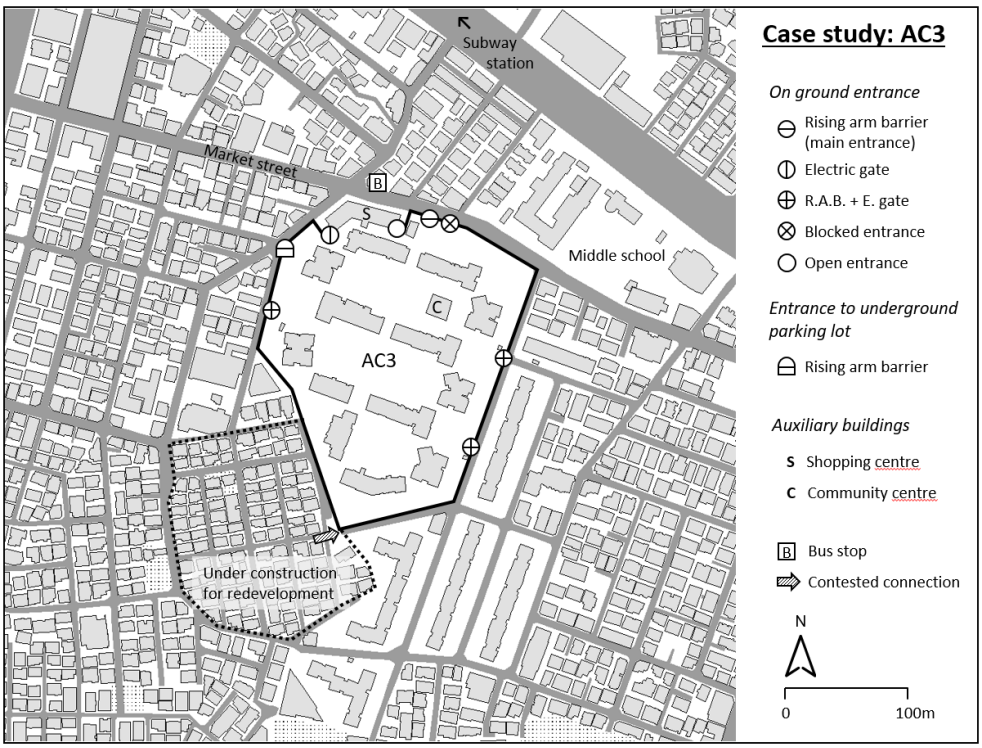
of which two are permanently closed except for special occasions such as moving and emergency gates (See Figure V-5). The other entrance in the centre has an electric gate for pedestrians and a permanently closed gate. However, the enforcement of gates is lax. As the surroundings look clean and are filled with newly built multifamily homes, it is puzzling to see the continued increase of physical defence and no trespassing signs at AC2.

Evidenced by the relatively large number of pedestrian entrances for its size, the apartment complex was designed as an open apartment complex offering a pedestrian shortcut between the eastern area and the artery road with bus stops. Now the shortcut is unavailable for non-residents due to the gates erected by the residents of AC2. It is a lone All-restricted complex where nearby apartment complexes are not gated against pedestrians. However, the neighbouring apartment complex to the south has no entrances toward streets in the east by design. Some older generation of apartment complexes in Seoul were built to border neighbouring buildings without creating roads separating them, thus they have only the entrances to artery roads. The design progress of AC2 in contrast to the uninviting design of the neighbouring complex, a departure from the old planning without consideration of the surroundings, was effectively nullified by the gates erected by the residents.

(3) AC3, a fenced island in fine-grained urban tissue

AC3 is a large apartment complex composed of thirteen apartment buildings with one thousand households, located in the south-west of Seoul. The apartment complex was completed in the mid-2000s as a redevelopment replacing an old apartment complex of 890 households that had been built in the early 1980s. A significant number of residents have lived here since the time of the old apartment complex for more than thirty years and form a community within community.

Since most of the parking space is located underground, all the open space is devoted to amenities including gardens, playgrounds, a basketball court and a tennis court. Gardens are well-maintained and the main garden with ponds facing the main



Source: Author

Figure V-6. AC3 and the neighbourhood

entrance is especially impressive. The gardens and playgrounds are well-suited to children's activities, thus you can always see many children playing there with their parents. It also has a promenade fitted with exercise machines. The complex has by far the best open space both in quantity and quality in the neighbourhood where open space offered by the public is almost non-existent. The large gap in the quality of open space between inside and outside the complex is one of the reasons attracting outsiders.

> My apartment complex is the best one in this neighbourhood… Outsiders visit here for the landscaping… As you know, the neighbourhood is mostly multifamily homes without other apartment complexes. There are some apartment complexes but their landscaping is not good.
>
> Spoken by a male resident of AC3 in his 30s

The complex forms a superblock of 4*ha* in the middle of a fine-grained residential neighbourhood having a grid-type road network. The north of AC3 has a busy market street, a bus stop and a street leading to subway station, generating a large crowd. The remaining surrounding area is residential and quiet relative to the northern side. Another apartment complex of 495 households, redeveloped three year earlier, is adjacent to the south-east. Unlike AC3, it is divided into five blocks by public roads. There is an ongoing project of converting eleven residential blocks into an apartment complex to the south-west. The neighbouring apartment complex and multifamily homes are relatively well maintained, but they do not possess the quality infrastructure found in AC3.

It is one of the largest apartment complexes in Seoul directly controlling foot traffic with gates. The complex has eight entrances. The main entrance at the north has a rising arm barrier with a permanently manned guard post and an adjacent pedestrian only entrance – originally a part of the main entrance – is blocked. However, the less visible entrance between the guard post and the shopping centre is open without any device installed. Two entrances at the east and other two at the west have rising arm barriers and electric gates. Delivery motorcycles cannot enter the complex and should be parked in a designated place next to the complex wall. Then, the resident should come to the gate to get food or the delivery person enters the complex on foot (See Figure V-7-L). Prohibition of food delivery within compound stems from safety concern from motorcycles and food smell. As a result, some local restaurants stopped delivering food to AC3.

With the installation of gates at the east and west, AC3 and the south-western part of the adjacent apartment complex effectively partition the neighbourhood into two by forming an impermeable area which stretches from north to south by 350 meters. Before the gates, the middle school students and other non-residents used to take a shortcut and more pleasant route through AC3. It is planned that the dead-end street separating AC3 and the south-east apartment complex is connected to the south-western redevelopment project. When the project is complete, the connection can function as the east-west corridor of the neighbourhood, unless the new apartment

complex also erects gates. However, the plan is already contested by the residents of AC3 due to security and privacy concern.

Security does not seem to have been a major concern in the design stage of AC3, which is evidenced by the sufficient number of entrances to complex and exposed mail boxes. Mail boxes in AC3 have almost no security measures. They are located outside the ground floor lobbies and each mail box is not locked, thus anyone can have access to any mail (See Figure V-7-R). The current state of mail box suggests that security is still not really a serious problem in AC3. However, the lack of concern for security in design was rejected by the residents. The apartment complex went through a gradual gating consisting of three stages. At first, it was designed as a Car-restricted complex with rising arm barriers for mixed entrances and no barrier for pedestrian entrances. By 2011, no trespassing signs were erected in the middle of pedestrian entries and they were replaced by electric gates by 2013 (See Figure IV-27). The apartment complex does not belong to a cluster of All-restricted complexes but there exists a full security community of 276 households to 900 meter south-east.

L) Designated parking place outside the complex for delivery motorcycles

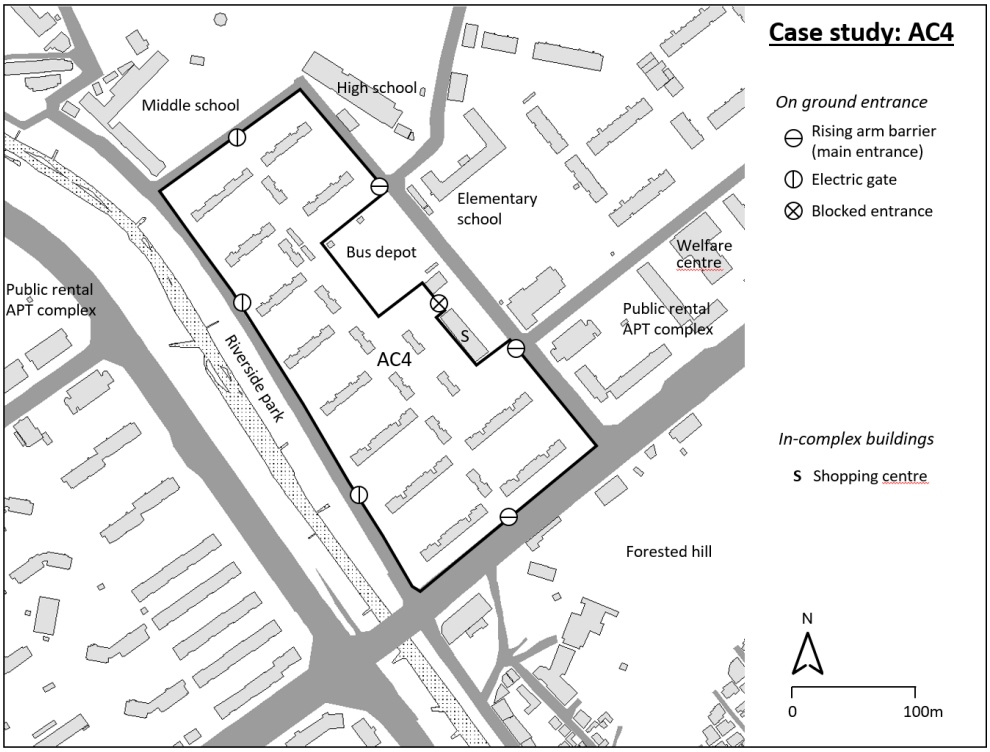
R) Exposed mail box

Source: Author

Figure V-7. Photos of AC3

(4) AC4 in the midst of social fracture

AC4 is a large apartment complex composed of 21 apartment buildings with 850 apartment units and a shopping centre, located in the northeast of Seoul. It is the most peripheral among the six apartment complexes, being the farthest from the major job centres of Seoul. A low-rise apartment complex of five storey high with 800 apartment units was redeveloped to the current complex in the mid-2000s. With the redevelopment, leather factories lining the stream next to the complex disappeared, too. As the old apartment complex was composed of very small units, the majority of the natives were replaced by the current richer residents upon redevelopment in contrast to AC3. The complex is quite spacious. However, seven ground parking lots are occupying large space and there is no remarkable gardening as a result. The complex was completed a year after AC3 by the same developer.



Source: Author

Figure V-8 AC4 and the neighbourhood

Nevertheless, the quality of the open space in AC4 is lower than AC3 with less landscaped space and fewer places to stay outdoor (tables and benches), resulting from large on ground parking lots. Amenities of the complex is diverse with playgrounds, a badminton court, a gym, study rooms, a senior centre and a nursery school.

The apartment complex is built along a stream with riverside park. The strip park is one of the most remarkable features of the neighbourhood, being adapted to walking in well-manicured gardens with benches and outdoor exercise machines. The road separating the park and the complex is a designated carless zone every weekend. The complex directly faces all levels of schools in the north and west. The neighbouring complex in the south west is a public rental complex built in the 1990s where poverty is concentrated. Other apartment complexes in the neighbourhood are older than AC4 by fifteen years without any underground parking lot and some of them are public rental. All the interviewees mentioned the presence of public rental complexes and the difference between their residence and them. AC4 with new amenities and bigger apartment units is a rich island in the neighbourhood which was generally poor before the redevelopment of AC4. However, it is not a particularly high income apartment complex in Seoul.

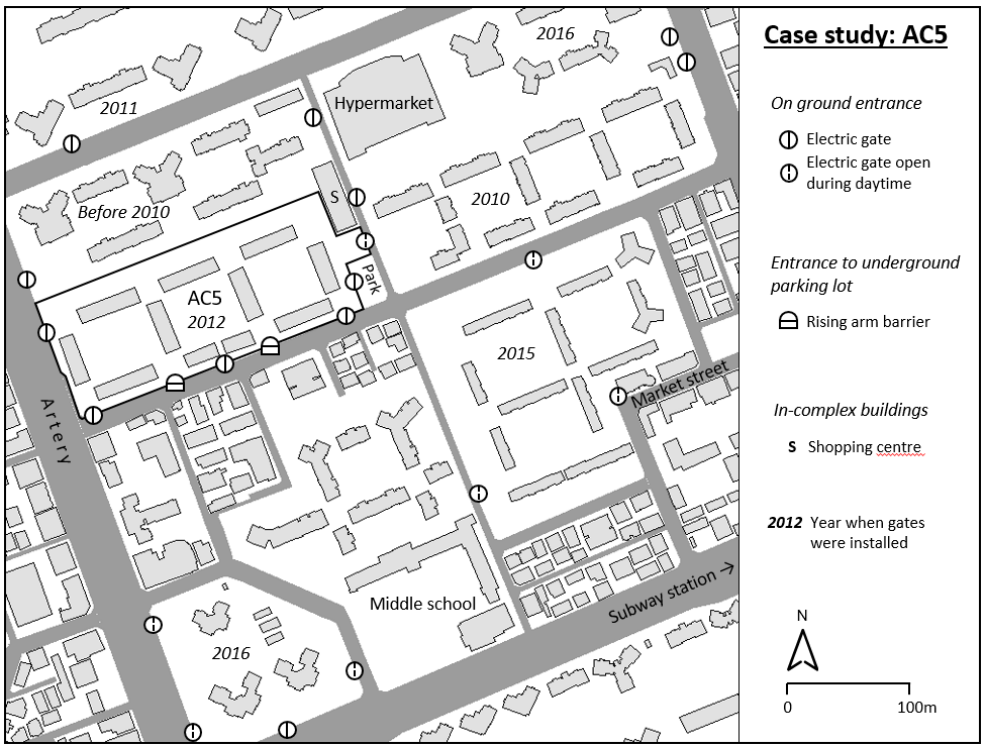
The apartment complex used to have seven entrances but the entrance next to the shopping centre is permanently blocked now. The entrances are well placed to facilitate both the north-south and the east-west foot-traffics but they are now gated except the two main entrances at the east. Entrances to underground parking lots are all located inside the complex. Students and residents from the eastern blocks used to go through AC5 to reach the riverside park and to take bus but the traffic was cut off by gates.

(5) AC5 in a gating cluster

AC5 is a medium sized complex composed of eleven apartment buildings with more than 700 apartment units and a shopping centre, located in the southeast of

Seoul. All the homes in the complex are small or medium sized less than 85m^2. Parking is all underground and the ground is devoted to gardens, playgrounds, a badminton court, a half basketball court, a senior centre and a nursery school. AC5 was designed as an open apartment complex with seven ground entrances but all of them have electric gates now. The main entrance is open during day but closed at night. It used to be always closed initially but the policy was changed to close it after 7 pm due to the grievance of inconvenienced residents. Control of the gates is strict that guards will not open them for anyone without keycard including the residents. It is actually one of the most security sensitive complexes in the neighbourhood, as other complexes in general have electric gates only at smaller entrances. There exist two entrances to the underground parking lots. They have pedestrian paths along vehicle lanes but the pedestrian access is not controlled, which made some of the survey respondents worried of this security hole.

AC5 occupies one of the most valuable land in Seoul due to its proximity to job centre and the best infrastructure available in the city. The complex is in the middle of several medium sized complexes redeveloped from the old apartment complex. It is an ideal residential neighbourhood with a good coverage of retail (market, hypermarket and department store) and all levels of schools. As the neighbourhood is sought after by parents with educational zeal, the streets are teeming with middle and high school students. The apartment complex was completed in the mid-2000s as one of the redevelopment projects replacing an old low-rise apartment complex. The old apartment complex was fragmented into three new complexes including AC5 in the redevelopment process due to differing interests between homeowners. As the neighbourhood is mostly composed of relatively new apartment complexes built in the 2000s, it is the most homogeneous neighbourhood in terms of socioeconomic demographics among the six cases. AC5 belongs to a renowned school district and the homes in the complex are relatively cheaper in the district due to their smaller sizes. The complex is sort of an ‘affordable’ housing for those who seek the best school district, though its level of rent is still very high in the city. Parents who cannot afford to purchase a home in the district move in the complex as



Source: Author

Note: Entrances of the complexes other than AC5 are marked, only if they are gated or blocked.

Figure V-9 AC5 and the neighbourhood

renters to prepare their children for prestigious universities. As many of them leave the complex after the entrance of their children to universities, pressured by the rent, the percentage of renters and the resident turn-over rate are both high in the complex.

The neighbourhood that AC5 belongs is the largest gating cluster in Seoul in terms of population. Most of the apartment complexes in the neighbourhood have at least one electric gate and gates have kept springing up throughout the 2010s in a chain reaction. The neighbourhood even appeared in national media for a couple of times for different gating incidents (Jang, 2014). All the interviewees were aware of the spread of gates in the neighbourhood. The gating most impacted them other than their own was the gating of the neighbouring complex located in the south east. They or their family members use the shortcut inside the south-east complex to reach the

market street, which became one of the reasons that provoked its gating. However, the complex has the gates open during day unlike AC5.

> The neighbouring complex had electric gates installed recently one or two years ago. They were installed because the residents didn't like the shortcut to the market through their complex. They didn't like people from other complexes come and go (through the complex).
>
> Spoken by a male resident of AC5 in his 40s

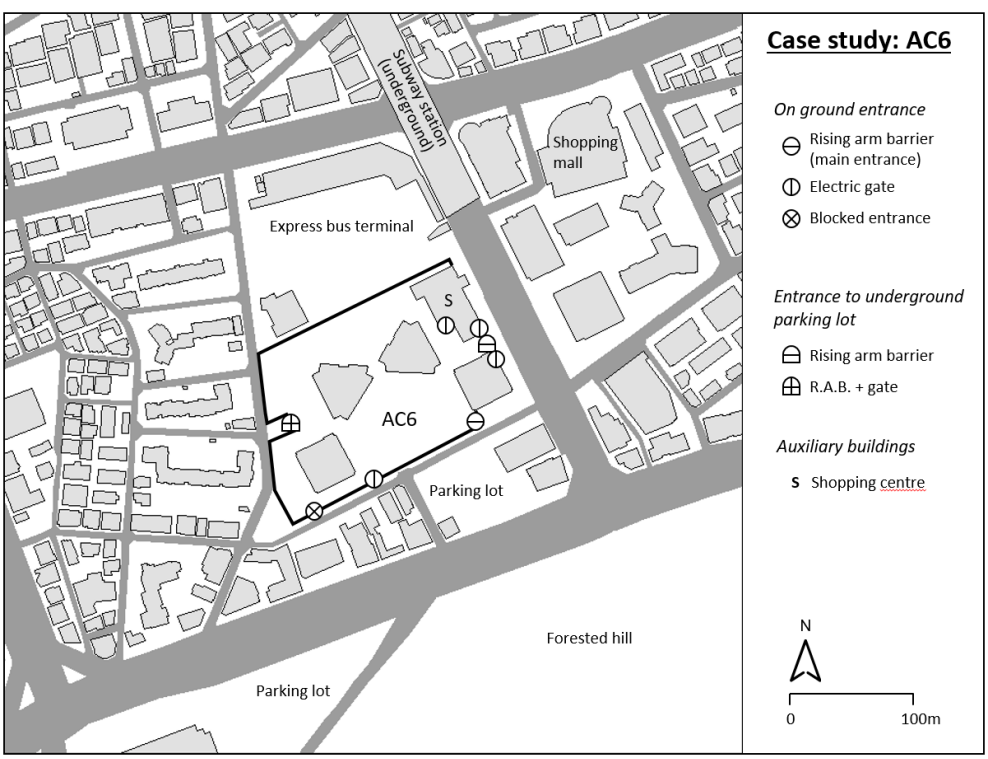
(6) AC6, a strongly homogenous community

AC6 is a mixed-use apartment complex composed of four apartment buildings with over 600 apartment units and a shopping centre combined with *officetels* (studio flats), located in the south-eastern Seoul near job centre. A wholesale market had originally been planned on the site but the land was sold to the Military Mutual Aid Association which implemented a real estate project of luxury condominium instead in the late 1990s. Every home in the complex is a very large unit over 200m^2. One of the towers is the highest building in the neighbourhood with 46 storeys which benefits from the mountain range in the south for a good view. The complex has a large green open space thanks to full underground parking and a playground. There is a large lawn in the centre and the rest of space is adorned with sculptures, fountains and trees. Unlike the crowded surroundings, the well-maintained complex is almost devoid of people. Exclusive indoor amenity is almost non-existent except lobbies at the ground floors of apartment buildings. As the complex is a mixed-use apartment complex, the developer was not obligated to build legally required amenities such as senior centre. Sports amenities are run as a private business at the shopping centre and open for any paying customer.

Well-served by public transport and cultural facilities, the neighbourhood has a mix of commercial and residential land uses. The apartment complex borders an express bus terminal in the north and a shopping mall specialised for electronics is

located across the east artery. The west of the complex is residential composed of small apartment complexes and multifamily homes. The largest culture complex in Seoul is located in the south-west of AC6. However, there is no school in the 500 meter radius from the complex, which reduces the younger population among residents.

The complex is one of the oldest All-restricted complexes in Seoul. Unlike above mentioned complexes, its gating against pedestrians occurred at the almost same time with the completion of the complex. The main entrance is open to pedestrians but five other entrances are either gated or blocked. An unofficial entrance exists in the shopping centre which has doors leading to both the exterior and interior of the complex. It is open during day and closed at night. Two underground parking entrances are equipped with rising arm barriers. While the east car entrance for



Source: Author

Figure V-10 AC6 and the neighbourhood

officetel residents is narrow and has no pedestrian path, the west car entrance for apartment residents is wide and has gated pedestrian paths alongside the vehicle lane. The western border is about five meter high from the street due to altitude change but the flat southern border is well decorated with sophisticated landscaping.

The ground floor of each apartment building resembles that of a hotel, a spacious lobby with tables and sofas and a reception desk attended by guards for 24 hours. The architectural grammar of defensive design commonly found in mixed use apartment complexes in Korea in which visitors should pass reception desk to reach elevator is applied here, too. It is the only complex among the six where a single keycard integrates the uses for not only ground floor door and gates but also home door.

It is a strongly homogenous community, a NORC where the majority of the respondents report themselves rich and elderly. Many of the residents are allegedly ex-generals and college professors (Park, 2006). They are also long-term residents who are owner-occupiers. More than half of the respondents of survey reported having lived there as soon as the complex was completed. No resident has wanted to participate in the interview and the number of respondents who left comments in the survey was less than half of the average of other complexes. The rejection of revealing themselves indicates the exceptionally private and closed nature of the residents living in AC6 in contrast to the residents of other complexes. A respondent of the complex aptly expressed the desire for privacy as follows.

> *Kin-like relationship between neighbours only exists in the past. As time goes by, one does not want to share his own life with others but wants quiet atmosphere at home.*
>
> Written by a male resident of AC6 in his 60s

Considering the socioeconomic status of the residents, AC6 could be a fully closed community but did not opt for it. The immediate installation of gates and the lavishness of border suggest that walls and gates of the complex exist for symbolism

as much as for practical reasons. The complex fits well the profile of prestige communities suggested by Blakely and Snyder (1997), considering its wealthy and homogenous inhabitants, prestigious location and decorative fence.

3. Reasons behind gates

The questionnaire presented eight possible choices to the question of the perceived reason of gates in an All-restricted complex. The choices came from the literature, memoranda of apartment complexes announcing gating decision and interviews with the residents living in or near apartment complexes having electric gates in Seoul (See Table V-10). Respondents could also suggest their own reasons. The choices are all probable reasons of gating but respondents could choose only up to three. A respondent chose 2.7 items on average.

The most frequent choices are fear of crime and urban nuisance. About 80% of the respondents chose these two factors. The prevention of through-foot traffic trails behind the two most favourite choices, selected by more than half of respondents. Substantial votes for avoidance of others is an unexpected result in the racially homogenous Korean society. 15.8% of the respondents chose protection of plants

Table V-10 Perceived reasons behind the installation of gates

Choice	Votes	% of choices from respondents
Fear of crime	112	84.2%
Nuisance caused by vendors, adolescents…	106	79.7%
Through foot-traffic	70	52.6%
Avoidance of others (non-residents)	29	21.8%
Protection of plants and properties	21	15.8%
Image of luxury housing and raising property value	11	8.3%
Contagion effect from other gated communities	6	4.5%
Other factors suggested by respondents	4	3.0%
Total	359	133 respondents

and properties as the reason. Abstract reasons were chosen least: less than 10% of the respondents chose image of luxury housing and contagion effect.

In the comment section of the survey, participants could either write whatever they wanted to tell or complemented what lacks in the multiple choices. 48 respondents wrote at least one sentence and many of these writings concerned the reason of gates. In the interview, fifteen residents of the same complexes presented their opinions on gates without being given multiple choices to pick. Opinions of the two interviewees who reside in Car-restricted complex were also considered to reflect the perspective of outsiders. The interview and the comment section of the survey present detailed reasons behind gates and the reasoning through the own words of residents. The interview and the survey comments also confirm the reliability of the survey design, as the reasons explained by their own words are remarkably coherent to the answers to the multiple-choice question in the survey.

The biggest reason is security and fear of crime which were mentioned by fifteen participants. Some just mentioned security concern and others elaborated fear of crime more in detail. Various kinds of urban nuisances were lumped together in the survey but the interview reveals which nuisances are the most decisive factors behind gating. Adolescent loitering is by far the biggest concern among problems, mentioned by ten participants, while noise, soliciting (leaflets, vendors and missionaries) and dirtiness (dog turd and littering) also concern participants. Traffic related concern is the third reason. Respondents were wary of outsiders using their complex as shortcut, crowdedness caused by traffic and walking safety when outsiders take bicycles and motorcycles in the complex. Protection of property and avoidance of others are also considered significant factors. Other concerns include protection of children, security cost reduction and prestige and property price and territoriality (See Table V-11).

Table V-11 Stated reasons of gates

Reason of gates	Interviewees and survey respondents (comments)										
Crime prevention	3M 70	3F 30	4M 60	5M 40	5M 40	CF 40	2M 50	1F 20	1F 40	3F 20	4M 30
Security	1F 20	4M 50	CF 40	3F 30							
Adolescent loitering	2M 40	3M 70	3F 30	3F 30	5M 60	2F 30	2F 30	5M 30	5M 50	6M 60	
Noise	2M 40	1F 20	CF 50	2F 30	4F 50	5M 50	5F 50				
Soliciting	1F 20	5M 40	5M 40	2F3 0							
Polluting	5M 40	2F 30	3M 70								
Disorder	3M 70										
Shortcutting	2M 40	4M 60	CF 40								
Crowdedness	3F 30	1F 20	5M 40								
Walking safety	2M 40	3F 30	5M 50								
Protection of property	3M 30	3M 70	2M 40	5M 50	5F 50						
Avoidance of others	1F 20	4M 50	5M 40	CF 40							
Privacy	6M 60										
Protection of children	2M 40	CF 40	2M 70								
Territoriality	4M 50	CF 40									
Prestige and property	5M 40	CF 40									
Cost reduction	5M 40	1M 70									
Exhausting budget	5M 60										
Contagion and fad	1F 20										

Note: 1. The profile of interviewee is composed of (complex number)+(gender)+(decennial age).

C: Car-restricted complex, M: Male, F: Female

2. Grey means interviewee and non-grey survey respondent (comment).

1) Fear of crime

It was hypothesised that major reasons of pedestrian gating in Korea would be protection of properties in common space before the survey and in the previous study of the researcher (Kim, 2015) mainly because gating is more pronounced in newer apartment complexes which have higher quality of common space than the old ones. Fear of crime was considered as a secondary gating motivation because Korea is much safer than the countries that frequently feature in the literature, notably the Americas and South Africa (See Table V-12). It was also predicted that private guards would already provide enough security service for apartment complexes[6]. Moreover, the apartment complexes surveyed have at least one open entrance through which potential criminals can enter freely. Nevertheless, the survey and interview results disprove the hypothesis by putting crime as the foremost reason behind the rise of gates regardless of gender, age, social status and location. The lower crime rate in Korean cities explains only the lower prevalence of full security gated communities in the country among countries with widespread gated communities.

When explaining the need for gates, interviewees were most fearful of theft among crimes but the probability of burglary in Korea is only 0.6% of America. It is a large difference even when taking into account of the possible underreporting in Korea. In

Table V-12 International crime statistics per 100,000 population

Country	Assault	Rape	Robbery	Burglary
South Korea	34.3	13.3	10.4	4.4
Chile	531.3	11.4	1,275.6	134.0
USA	786.7	30.2	146.4	714.4
South Africa	1,188.0	113.5	494.5	852.8

Source: Harrendorf, Heiskanen and Malby (2010)

Note: The statistics of the countries are from 2004 to 2006.

[6] It is estimated that there is one guard for every apartment complex on average in Seoul (Kwak, 2014:5).

line with the international statistics of crime rates, only 2.3% of respondents feel unsafe in their neighbourhoods and 63.2% feel safe or very safe, according to the survey. There is no notable difference of feeling safe in their neighbourhoods between genders, age groups and locations. The majority of the respondents (78.2%) find that gates make them feel safer, while they also understand gates in their complexes cannot prevent crime in practice.

> Concerning crime, it seems to be same before and after gates because one can enter using places like the (underground) parking lot.
>
> - Written by a male resident of AC5 in his 50s

These contradictions suggest that gates and the actual fear or risk of crime in the neighbourhood are unrelated. Three questions are raised on the reasoning of residents from observation of gates.

- Why do the residents of All-restricted complexes feel the need for gates to prevent crime when their country and neighbourhood are considered safe in reality and perception?
- Why do they believe that gates raise safety when criminals can easily neutralise walls and gates having many weaknesses?
- Everyone wants to avoid crime and gates are not overly expensive. If gates really help, why are not they built everywhere?

The questions cannot be answered with facts and reason because the reasoning behind the need for gates to prevent crime comes from emotional response rather than rational problem solving process. The presence of gates itself is assuring because gates are security in our imagery. The *raison d'être* of gates, wherever they are, is preventing others from entering and criminals as the most distant others are automatically incorporated in those others. It is not really important how easily

criminals can enter the complex with or without gates because gates are rooted in as the symbol of security (Kenna and Dunn, 2009).

> I feel safely protected because the gates block here. I know that burglars can enter, if they wish. They may jump over the gates. Despite it, I feel safer anyway.
>
> Spoken by a male resident of AC5 in his 40s

The crime feared by respondents are not the real crimes in their daily life but rather a constructed crime in their minds coming from the crime reports of media. They tend to be extreme and are more likely to originate from a poorer segment of the society (Salcedo and Torres, 2004). People obtain fear and anxiety over crime through the constant feeding of crime reports or rumours in the indirect victimisation process, although they have not been exposed to crimes in their neighbourhoods (Abdullah et al, 2011).

> I'm vigilant because there are many incidents and accidents nowadays. I don't act like all people are good. There exists danger wherever you are. (However,) If someone asks me about the security of only this neighbourhood, I can say it's 100% safe here.
>
> Spoken by a female resident in her 40s living in a car-restricted complex

The excerpt below told by a female Western expatriate living in Seoul demonstrates the effect of indirect victimisation in a reverse way. When she is in a foreign country where she cannot read news in a foreign language, she feels safer regardless of the actual crime risk.

> *Why do I feel so safe… because I don't read Korean. I'm in my own country, and I can read the newspapers… and I can read everything that happens… so I guess,*

Table V-13 Fear of crime in neighbourhood and support for gates

Safety felt in neighbourhood	Feeling neutral	Feeling safe	Feeling very safe	Total
% of gating supporters	63.0%	77.0%	82.6%	73.1%
Respondents	46	61	23	130

Note: The respondents feeling unsafe in the neighbourhood were excluded from the table because their number (3) is insignificant.

it's exactly the same thing here… and unless I don't read it, so we're like in a bubble. (Chang, 2012:204)

As the fear of crime is unrelated to the actual risk of crime, crime sensitive people actively seek safer neighbourhoods and want more crime prevention measures such as gates when they are already safe enough. As a result, people feeling safer in their neighbourhoods are more likely to support gates on the contrary to popular belief (See Table V-13).

2) Search for tranquillity

Four types of urban nuisances affecting gating decision are identified in the interview: adolescent loitering, noise, soliciting and polluting. Nuisances from vendors, delivery and adolescents were common problems regardless of complex, indicated as the major reason chosen by at least 70% of the residents in any complex. The survey result and the frequent mentioning of adolescent loitering by the interviewees tell us that the nuisance caused by adolescents is universally perceived problematic in Seoul as in other countries (Kenna et al, 2015 and Loudier-Malgouyres, 2007). Adolescents are portrayed to commit low level crimes by making noise and generating trash at night. Adolescents are considered the most threatening because their presence creates not only damage to the complex but also particularly negative emotional response of the residents. Their behaviours such as

drinking, smoking and obscenity do not conform to the morality of the residents and create the desire to control them in some way (Pain, 2001).

> This complex has well-landscaped gardens and most of the residents are the elderly. I often witness young men sneak in by jumping over the wall and smoke at the corners at night or couples enter the complex and behave obscenely. Without gates, corruption of public morals and strong backlash from the conservative elderly are expected.
>
> Written by a male resident of AC6 in his 60s

Gates are much more effective in reducing urban nuisance including disruption caused by the adolescents. Nuisance comes from opportunistic behaviours that happen spontaneously in weak spots, while crime is a purposeful behaviour actively looking for weak spots. Noise, especially at night, is the second serious concern. Polluting is another concern raised in the interview. It is understood that non-residents are less likely to pick up dog turd especially at night and non-resident children litter playgrounds.

> I witnessed that adolescents smoked and drank at the playgrounds at night. (Without gates) Juvenile delinquents could have come in more numbers. They should pass the main entrance to enter (the apartment complex). If they feel bothered, they will find (other) dim corners. That's why it's better to be closed in some degrees than to be completely open.
>
> Spoken by a female resident of AC3 in her 30s

Through-traffic makes the complex crowded and less safe due to incoming bicycles and motorcycles (See Figure V-11). The intensity of traffic related concern is different depending on complex. According to the survey, concern for the complex being used as a passage by the locals was the greatest in AC4 along with AC3 among

April 2012

October 2014

Source: Naver Geori View (Yeoksam-dong, Seoul)

Figure V-11 Electric gates for walking safety

Table V-14 Ratios of respondents who chose through traffic as the reason behind gates by complex

Complex	AC1	AC2	AC3	AC4	AC5	AC6	Average
% of selection	52.4%	44.4%	65.2%	**70.0%**	42.9%	42.9%	52.6%
Respondents	21	27	23	20	21	21	133

the six cases due to their strategic positions in the neighbourhoods, the well-placed entrances and the large areas (See Table V-14).

The result of the survey and interview are interlocked with a citywide survey. In the survey conducted in 2014 for 45,496 people, the Seoul citizens indicated seven serious problems disrupting life security in residential areas: disorderly parking (49.7%), abandoned trash (39.8%), crime and violence (33.7%), air pollution (33.3%), noise pollution (31.5%), lack of green space (28.6%) and water pollution (26.2%) (Byeon, Park and Kang, 2015: 44). New generation of apartment complexes with superior amenities and services solve three problems almost completely: disorderly parking, abandoned trash and lack of green space. Crime and noise problems are also solved there in a significant degree with the help of private guards and strict separate zoning. The rest of the problems including air and water pollutions can be solved only in citywide level. Reasons of gating found in the study show that

Table V-15 Residential problem solving at local and citywide levels

Major problems in the residential areas of Seoul	Problem solving at local and citywide levels		
	Private collective efforts at local level		Public efforts at citywide level
	By living in gated communities	By adding electric gates over GC	
Disorderly parking	+ +		+
Lack of green space	+ +		+
Abandoned trash	+ +	+	+
Crime and violence	+	+	+
Noise pollution	+	+	+
Air pollution			+ +
Water pollution			+ +

Source: List of the problems from Byeon et al (2015) and problem solving by the author
Note: + indicates effectiveness of the effort.

residents of apartment complexes want to further reduce some of the problems such as crime and violence, noise and trash by installing gates (See Table V-15).

Gated community residents find gates effective problem solvers. According to the survey, a large majority of respondents (88.7%) find gates effective in achieving the perceived purposes.

> After installation of the gates, non-resident children riding bicycles inside the complex, noise at late night and (prevention of) non-residents' entry were improved.
>
> Written by a male resident of AC5 in his 50s

In this regard, gating in Seoul is a form of localised efforts to create a flawless living environment. Gate communities are optimised to create a quiet social environment of 'between ourselves' (Le Goix and Webster, 2008; Loudier-Malgouyres, 2007) by removing undesirable urban elements through masterplan, discouraging passing traffic through defensible design (Charmes, 2010) and filtering

members through financial vetting. Gates are a complementary and ultimate measure to strengthen this social environment by adding another layer on top of the existing measures. Gates guarantee tranquillity by rooting out strangers who may destabilise the social environment.

However, the private collective local efforts to improve life condition through gates are not inclusive community efforts aiming to benefit the community as a whole. They are achieved through monetary contribution to private clubs of local public goods and installation of exclusionary devices benefitting only those who can afford clubs. This inward looking efforts even has possibility of exporting problems elsewhere without addressing the origin of problem. If delinquent youths are blocked by gates of apartment complexes, they will find their place of loitering in nearby traditional neighbourhoods.

Why are gates, which did not exist in the past, added over the existing social environment today then? Rising arm barriers were added because of parking space shortage due to the increased number of cars. However, conditions to build electric gates have not changed much over time. Adolescents always have been considered problematic by the adults since the antiquity and there is no proof that people litter more today. In terms of technological advance, the security technology enabled operation of gates without much cost obviously. Reduced tolerance on disorderliness is another key to understand the fortification of social environment against pedestrians.

‘Apartment markets’ are temporary market places set up in apartment complexes where traveling vendors sell produce and prepared food. They have existed for several decades but are something inconceivable for the residents of the complex studied. As anyone can come to the markets, the consequent crowd cannot help creating noise and trash.

Mother: Sellers can never enter here. Even market is not held here.

Son: They don’t host things like market in the complex.

Spoken by a family in AC4 (Mother in her 70s and son in his 50s)

The richer and the more sophisticated people become, the more they demand orderliness in their environment. Gated communities are the space that fulfil the desire for a perfectly orderly space everywhere in the world.

> *Three of these four suburban enclaves are appealing because they offer the closest replica of what all informants define as "the American style of living." In these communities, one generally finds row upon row of houses or apartment buildings that are identical in design and color, perfectly groomed lawns, and streets without a single piece of litter.*
>
> Üstüner and Holt (2010) on gated communities in Turkey

Increased income and sophistication make the middle class in Korea desire orderliness in their daily life, which leads to decreased tolerance on disorderliness. Although the middle class already escaped chaotic traditional neighbourhoods by moving into peaceful gated communities, decreased tolerance on disorderliness makes them build gates to reduce unwanted stimuli to the minimum.

> I agree on gates, as a house should have a gate. It is not bad to be free and open but there should be control over collective life. Suppose that things are let go free when there are this many people. This guy and that guy will enter. Food deliveries will come and go without restriction. Students will enter as they please just because it is closer. If we consider these, things should be controlled.
>
> Spoken by a male resident of AC3 in his 70s

Search for tranquillity by gated community residents largely answers the question why almost every All-restricted complex is an infill development which mingles with traditional neighbourhoods. The latter is the source of chaos and uncontrolled heterogeneity for them.

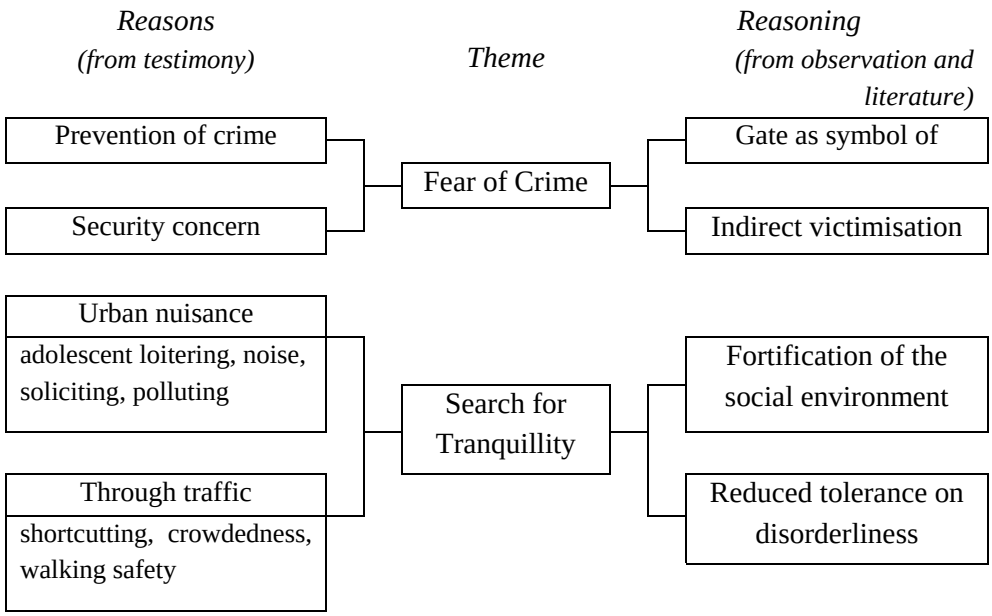


Figure V-12 Conceptual outlook of the reasons behind gates

3) Inconvenience and egoism

Three tier defence with doors and gates make residents feeling safer. In the meantime, it is also a source of annoyance. The first reasons opposing gates chosen by those who either oppose gates or have neutral opinion on them were inconveniences of passing through gates and making detours (See Table V-16). The word 'inconvenience (*bul-pyeon*)' was mentioned more than 100 times from interviewees including many proponents of gates. Opening gates and carrying a keycard are bothersome. Many gates require the use of both hands to be opened. When residents are carrying bags or umbrella, they need to put them down to open gates. This should happen three times at gate, ground floor door and home door. Many are also inconvenienced by carrying a keycard for gates and the detour that they should make when they forget keycards. The inconvenience was the major reason that the main entrance of AC5 remain open during day. It was always closed initially before complaints. Many respondents clamoured for password input system

Table V-16 Reasons opposing gates

Choice	Votes	% of choices
Inconvenience of passing through gates and using keys	24	27.6%
Inconvenience due to detour when the key is not available	17	19.5%
No or little effect of gates	13	14.9%
Inconvenience for receiving visitors	11	12.6%
Feeling of disapproval	10	11.5%
Disharmony with neighbours outside	8	9.2%
Others	4	4.6%
Total	87	36 respondents

or advanced technology such as authorisation by fingerprint or smartphone to escape from the inconvenience. However, passwords are not used in general due to their inevitable leak to the neighbourhood.

> My apartment complex had initially a very tight security but it made people who don't carry keycards inconvenient. They lodged a complaint against the security office. What is all this hassle for? They [guards] don't even open up the gates (for those who forgot keycards). The complaint made the gate open during day but strictly closed after 7 pm.
>
> Spoken by a male resident of AC5 in his 40s

This grievance is universal but not enough to dissuade the residents from supporting gates. Most of them want gates in place, as they are considered effective. 75.3% of the respondents believe the gates are effective for their perceived purposes and 14.0% very effective. A clearer sign is found in the questions of housing selection. 20.6% of the respondents considered gates for the selection of the current residence, but 66.3% intend to consider it in their next housing selection[7]. This result

[7] Respondents who had moved in before the installation of gates were excluded from the calculation.

shows exclusive communities are not a popularly known housing concept yet as shown in the audit result presenting a small percentage of *All-restricted* complexes among the total stock audited. Nevertheless, once moved in, residents obtain positive experience with gates (Blakely and Snyder, 1997:140; Low, 2001). The continued progress of technology such as facial recognition and RFID (radio-frequency identification) will reduce the inconvenience and raise the penchant for gates.

> I had negative opinions on the installation of gates at first. Once they were installed, trust on security has overweighed the inconvenience of gates.
>
> Written by a female resident of AC2 in her 30s

Two interviewees and two commentators were concerned by egoism. They do not see a great benefit in installing gates and find them ugly. Furthermore, they consider installation of gates as a manifestation of short-sighted egoism inherent in the society. An interviewee provides a convincing argument of opposition citing inefficient use of land caused by gates. As a resident of AC5 in a gating cluster, he understands accumulation of gates will be detrimental to the society as a whole. Although gating opponents are few in number, their opinions need to be heard because they consider not only the position of their own residences but also that of neighbours.

> If we demolish the walls, the flowers along the road can be everyone's. Making fences is reducing the efficiency of land. That's why I oppose it. Will the fences prevent burglars and broken windows? That's not true. (…)
>
> You don't need to act so, if it benefits others even though you sustain a small loss. Of course, we can monopolise it with the installation of fences while preventing other people's entry. I enter the apartment complexes of my friends a lot. (If I block them,) They will block me, too.
>
> Spoken by a male resident of AC5 in his 50s

4. Demographics behind gates

Approval of gates is high among the respondents with 19.5% strongly supporting, 53.4% supporting and 20.3% being neutral. Respondents against the measure are a mere 6.8% of the total. Respondents also find that gates are effectively fulfilling their purposes: 88.7% of them find gates effective, while 11.3% not. These two results show that gates are built and operated upon strong consensus of the residents and considered as effective. Once the overall support for gates is now confirmed, the next question leads to what types of people support gates. Knowing the demographics supporting is one of the clues to find out why gated communities are formed.

More aged are respondents, more likely to support (supporting + strongly supporting) gates, though gates in apartment complexes are relatively the latest inventions in the country. Elderly respondents over 59 years old are the strongest supporters of gates with more than 80% approval, while the respondents in their forties are the least sympathetic toward gates with 64.3% approval and 7.1% disapproval[8] (See Table V-17). The age gap in support for gates is a reasonable result considering the social conservatism inherent to the purposes of gates which seek stability over dynamism. The elderly tend to be more conservative everywhere in the world and Korea is not an exception.

Table V-17 Approval of gates by age

Age	19-29	30-39	40-49	50-59	60-69	70+
For	44.4%	70.0%	64.3%	77.8%	82.8%	83.3%
Neutral	22.2%	25.0%	28.6%	18.5%	13.8%	11.1%
Against	33.3%	5.0%	7.1%	3.7%	3.4%	5.6%
Respondents	9	20	28	27	29	18

[8] Respondents aged between 19 and 29 were not considered for this analysis because their number (9) is small both in absolute and relative terms. Their number is less than half of other age cohorts.

Number of family members is negatively correlated with approval of gates. Households with 1 or 2 members strongly support gates with 87.8% approval but the rate falls to 64.0% for households with 4 or more family members (See Table V-18). This is largely due to the fact that older respondents supporting gates have smaller household sizes without their children who formed independent households.

The universal notion of 'gated communities as an enclave for the elites' (Atkinson and Flint, 2004; Pow, 2007) is confirmed once more on top of the typological analysis. Jobs and skill levels of respondents are strongly correlated to the preference for gates. Respondents with jobs belonging to high echelons such as executives and professionals are significantly more likely to support gates compared to those belonging to lower echelons. Approval of gates is unanimous among managers and executives (100.0%) and high among professionals (81.3%) and retirees (80.0%) but significantly lower among clerks & engineers (60.9%) and salespersons and labourers & technicians (58.3%) (See Table V-19).

Table V-18 Approval of gates by number of family members

Family members	≤ 2	3	≥ 4
For	87.8%	70.0%	64.0%
Neutral	9.8%	17.5%	30.0%
Against	2.4%	12.5%	6.0%
Respondents	41	40	50

Table V-19 Approval of gates by job

Job	Managers Executives	Profess -ionals	Clerks Engineers	Salespers. Labourers	House-wives	Retirees
For	100.0%	81.3%	60.9%	58.3%	73.1%	80.0%
Neutral	0.0%	18.8%	26.1%	33.3%	19.2%	15.0%
Against	0.0%	0.0%	13.0%	8.3%	7.7%	5.0%
Respon.	12	32	23	12	26	20

However, the correlation between individual status and gating support is not directly translated to household income. While low and middle income households with monthly income less than 4 million wons and very high income households with monthly income more than 6 million wons support gates with the equal percentage of 78.1%, middle and high income households situated between the two groups are significantly less enthusiastic to gates with an approval rate of 59.4% (See Table V-20). Higher support for gates among the least income group seems to be influenced by the higher percentage of the elderly in this group. Therefore, the elderly support for gates is consistent while it is dependent on social status among the younger.

Although the majority approves of gates in every complex surveyed, there exist significantly different levels of eagerness for gates depending on apartment complex. AC5 and AC6 happen to be the richest among the surveyed complexes but their approval of gates significantly differs. While just over half of respondents in AC5 (52.4%) support gates, an almost unanimous support for gates exists in AC6 (95.2%). The very high level of support for gates in AC6 is readily explainable with its elderly high class residents who consider privacy and social homogeneity as essential factors in selection of housing.

However, it is much more difficult to explain the different rates of support for gates in other five complexes. While AC2 and AC4 have higher support rates for gates over 80%, residents in AC1 and AC5 are more lukewarm toward gates with approval ratings less than 60% (See Table V-21). A single factor that can explain this

Table V-20 Approval of gates by monthly household income

Monthly household income (million wons)	≤ 3.99	≥ 4 and ≤ 5.99	≥ 6
For	78.1%	59.4%	78.1%
Neutral	18.8%	34.4%	12.5%
Against	3.1%	6.3%	9.4%
60+ yrs old	43.8%	31.3%	31.3%
Respondents	32	32	64

Table V-21 Approval of gates by apartment complex

Complex	AC1	AC2	AC3	AC4	AC5	AC6
For	57.1%	81.5%	65.2%	85.0%	52.4%	**95.2%**
Neutral	38.1%	18.5%	21.7%	10.0%	33.3%	0.0%
Against	4.8%	0.0%	13.0%	5.0%	**14.3%**	4.8%
Elderly 60+ yrs old	33.3%	25.9%	43.5%	20.0%	15.8%	76.2%
Highly skilled job	14.3%	26.9%	21.7%	35.0%	55.6%	57.1%
Household income score	430	507	509	550	600	680
Respondents	21	27	23	20	21	21

Note: Highly skilled jobs include managers, executives and professionals.

difference was not found in the available data. Taking account into the case study, the differences may stem from various factors such as local contexts (gating pressure from the surroundings, socioeconomic composition of residents…), perceived effectiveness of gates and the level of inconvenience felt by residents in using gates. More complete explanation requires more cases and samples.

Factors that are not correlated with approval of gates are gender, ownership and length of stay in the current residence. The support comes from males (73.0%) and females (73.2%) equally. Ownership does not influence the degree of support, either; rather, the support is slightly higher among renters (76.9%) than owner-occupiers (71.7%) who are presumed to be more interested in protecting their properties. The length of stay in the current residence does not appear related with the support for gates. Considering people who have lived longer in the same place are more likely to be strongly attached to the communities, this result suggests that gates are not the product of sense of communities as already shown in other studies (Sakip, Johari and Salleh, 2012; Wilson-Doenges, 2003).

5. Gates and the neighbourhood

Interviewees chose the current residence mainly for accessibility, education and shopping. According to them, mass transit stops, schools and retail facilities are sought-after external amenities in residence selection. Ironically, they also create a large crowd and consequent nuisances which contradict the need for tranquillity. This contradictory stance toward essential amenities partly explain why gates rise more in wealthy areas which happen to have the best infrastructures.

Safety concern was not frequently mentioned for the reason of residence selection and no one chose the residence based on the existence of gates. However, choosing gated communities with or without gates over traditional neighbourhoods should be interpreted as an action of seeking safety. Jacob's (1992) 'eyes on the street' do not exist in today's traditional neighbourhoods of Seoul, according to the participants. They felt unsafe in the narrow alleys [*golmok*], the most common street type in traditional neighbourhoods. They were wary of dim lighting, too few people on the street and the kind of people living there.

> There is a somewhat dangerous area…That neighbourhood is composed of villas [multifamily homes]. People are different from those who live in my neighbourhood. Shift workers, unstable people and many elderly there. The atmosphere is somewhat different from here…When I left work at 7 or 8 pm, I walked down the street (in my neighbourhood) with fear. It was pitch dark and no one was there.
>
> Spoken by a female resident of a Car-restricted complex near AC3 in her 40s

Neighbour relation mainly comes from children, church gathering and sports activities. It is not necessarily confined in the boundary of complex, as the main sources of neighbour relation are the existing relation of family members (children, spouse...) and local associations (church, sports club…) both of which transcend apartment complex borders. Closer relationships tend to exist within the complex,

which could be the result of spatial proximity. Some men in working age had almost no neighbour relationship because they spend most of their time outside at work.

Social conflict from gates is not reported to be severe by the residents because erecting gates in private property is considered justifiable based on property right. For them, erecting gates is an exercise of power (Grant and Mittelsteadt, 2004) that should be respected by others. As the power is collectively exercised, individuals who may not agree are helpless in resisting it.

> Whatever they deplore, they can't do anything because it is not their land. They are only internally discontent. Erecting 'firewalls' in the complex is a collective action of the residents. The people who used to frequent before the walls can't help stopping. Once the walls are built, you have no choice but detouring.
>
> Spoken by a male resident of AC5 in his 40s

While some were fiercely protective of property rights, others tried to accommodate the needs of their neighbours beyond gates. They understood the inconvenience of detour for neighbours (See Figure V-13) and wished some flexibility in the operation of gates by opening them during certain hours and giving out keycards to the locals.

> It is the direct way through here [seeing the neighbourhood map centred on a full security community]. This doesn't seem much to walk on the map but it is actually very far. I go up there to exercise and it is somewhat annoying to come back down (making a detour).
>
> Spoken by a female resident in her 40s living in a car-restricted complex

Source: Dong-a Ilbo (2014)

Figure V-13 Children climbing over the fence to overcome the gate in an apartment complex in Yeoksam-dong, Seoul

I think gates of appropriate level are needed but children living outside nearby should be allowed to use playgrounds and parks (inside the apartment complex). If detours take too much time (for the locals), I think use of the road (inside the apartment complex) can be allowed within designated hours and areas.

Spoken by a female resident of AC2 in her 40s

The opinions collected in the study mostly come from the residents behind gates. The perception of neighbouring locals on gates and neighbourhoods may be different and need to be heard in consequent studies.

6. Conclusion

In this chapter, All-restricted complex barring both vehicles and pedestrians was studied in-depth because it is at the final stage of the evolution of apartment complexes in terms of physical exclusiveness that retains the traces of past types: Enclosed and Car-restricted complexes. Six All-restricted complexes running electric gates with at least one open entrance, completed between 2000 and 2010 and their residents, were observed through survey, interview and case study.

Most of the All-restricted communities appear to be for upper class residents according to the statistical analysis carried out in the Chapter IV. The case study shows that gates also rise from lower middle income neighbourhoods when certain conditions are met. These local conditions mainly concern the characteristics of apartment complex and neighbourhood characteristics susceptible to drive crowd into the former. They include existence of convenient shortcuts for the locals inside apartment complex, its proximity to public amenities that attract crowd such as parks and markets and existence of the best open space in the neighbourhood inside apartment complex. Contagion of gates from nearby All-restricted complexes is another factor enticing gating, too.

Although fear of crime is cited as the foremost reason behind gates in all the six apartment complexes studied, crime rates are not figured among the local conditions for pedestrian control in Korean context. Risk of crime appears to be low throughout the neighbourhoods studied according to the self-assessment of crime risk by residents and observation of the sites by the researcher. Crime does not function as neighbourhood differentials. Fear of crime is created in the collective imaginary of residents by incessant portrayal of crimes by media in indirect victimisation process rather than from actual danger in neighbourhoods. Gates are rather an additional measure of protection against crime by those who are sensitive to crimes regardless of actual threat with doubtable practical value. It is especially so for the six apartment complexes as they have at least one open entrance. Their neighbourhoods and apartment complexes were already safe before gates, but they want to feel even safer by having gates.

Gates also target adolescent loitering, noise, soliciting and polluting. Unlike crime prevention, gates are practical in controlling these nuisances, as they are generated by opportunistic behaviours rather than planned acts that actively seek weak spots of gates. Gates overall strengthen the existing social environment designed by masterplans through the ultimate measure - physical removal of nuisances and threats originating from unwanted visitors. Therefore, gating can be considered as collective efforts at local level for solving various problems arising from urban life.

However, it is not a true community planning because it benefits only the paying members within the club rule and even has the possibility to export problems elsewhere.

Gates are not panacea without side effects even for gated community residents. They are the ones who suffer the inconvenience of gates at first hand. Carrying keys, going through gates and making occasional detours are bothersome, which make some of them oppose gates. However, the benefits of gates are perceived to offset the inconveniences for the many. Gates are supported by the majority of the residents and the support is stronger in the elderly population and those who with high social status.

The act of blocking others from one's areas of residence through installation of gates is justified with private property rights collectively held by residents. This power over territory finds more justification in that gating is not an action by a particular individual but a collective action taken by the many. In this way, the haves are entitled to monopolise land by the almightiness of gold, doubly backed by collective power.

Nevertheless, negation of gates also exists among the residents, albeit a minority view. The few opponents see gates as the materialisation of egoism inherent in the society where its members want to serve their own interests in disregard to the shared interests of the public. They point out the sum of fragmented benefits becomes a loss for the whole. Exclusive land use practices for different groups bog down the efficiency of citywide land use and utility of gating on one's land is offset by the sum of disutility caused by gating of others' lands which are far greater than one's land.

Chapter VI. CONCLUSIONS

The closure of a single laneway may appear innocent enough – indeed many pass entirely unnoticed – but in Ireland one has turned into 600, and this has had a considerable impact on the aesthetics of the city, on the experience of mobility throughout the city, and on the amount of open public space that is available.

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1. Conclusions

Most of the gated communities in Seoul are privately owned high-rise apartment complexes internalising collectively held common spaces with accompanied services. The study analysed the current manifestation of gating in Seoul and the evolutionary process behind at macro level. At micro level, it analysed the perception of gated communities by the residents. Various methods such as morphological typology, document analysis, case study, survey and interview were integrated in the methodology to analyse the physical forms of gated communities and the socioeconomic forces that created the forms.

Gated communities in Seoul could be classified into four types according to their degree of border permeability. The composition and spatial distribution of the types show that the current manifestation of gating in Seoul is characterised by the prevalence of gated communities exhibiting a relatively weak degree of exclusiveness that control only the vehicles. However, the All-restricted complexes that control not only vehicles but also pedestrians using signs and/or electric gates are slowly gaining foothold, especially in the southeast, the most affluent area of the city.

Temporal analysis of the types shows that gated communities have been diversified from a single type (Enclosed complex) to multiple types over time. Newer and more exclusive types (Car-restricted and All-restricted complexes) were

introduced by residents through the addition of exclusionary devices such as rising arm barriers and electric gates over the preceding type. The public authority introduced a less exclusive type (Demarcated complex) in the late 2000s to mitigate the increasing exclusiveness.

Socioeconomic factors behind the physical forms were identified through the analysis of the three actors of housing market – housing suppliers (developers), consumers and regulator (the state). The three have produced gated communities by forming a gating machine. Gated communities are developed and sold as a package of homes and infrastructure to home buyers. This made the development Korean state choose gated communities as the ideal housing type that can be mass-produced with decent infrastructure while minimising financial commitment. Newly built gated communities, in contrast to existing lower standard homes with poor infrastructure, also satisfied the needs of newly emerging middle-class Koreans who sought the comfort of modern life style. Developers in the middle could satisfy both the state and housing consumers by mass producing homes and infrastructures in gated communities while maximising their own financial profits in the process by packaging homes with infrastructure.

The profit seeking of each actor has created a seamlessly operating gating machine that brought in much economic success. Through the operation of gating machine, the Korean developmental state could concentrate its limited resource in the growth by entrusting the responsibility of providing decent homes and infrastructures to the private hands. The resultant economic progress in turn fuelled the growth of middle class who could afford gated communities. This process of enriching every member of the coalition has been so successful that privately owned high-rise apartment complexes dominate the cityscape and life of the citizens in Korea.

Nowadays this virtuous circle no longer works as smoothly as the past due to the evolution of gated communities led by consumers and developers and the attempts of the state to reverse its evolutionary direction. Whereas the state had offered a template of lesser exclusive gated communities with basic infrastructures, developers later added expensive extra amenities (novelty local public goods) that

cannot be provided by the public sector in traditional neighbourhoods to win over competition in the housing market. In the meantime, residents started retrofitting the existing gated communities to heighten exclusiveness against the wishes of local authorities. The increase of exclusiveness from Enclosed to Car-restricted complex has been accepted by both the society and the authority, as it was a justifiable action to cope with the imbalance between increasing number of cars and limited parking space. However, the next phase of evolution from Car-restricted to All-restricted complex barring non-resident pedestrians lacks convincing motives to obtain social consensus in a country with relatively low crime rates. Thus, it creates polemic and is resisted by the public, especially the municipalities.

This split between the public and the private within gating machine reflects the changes occurred in Korean society. As the income level of middle class keeps rising and their taste becomes more sophisticated due to the economic growth and globalisation, gated community residents seek to transform their residences into an artificial paradise where the danger and unpleasantness of urbanity is clinically removed without much consideration of the wider community beyond walls.

The existing apartment complexes with better infrastructure and security relative to traditional neighbourhoods already fulfil these wishes in large part. Nevertheless, residents of some gated communities go further to feel safer from the imagined threats of crime fed by mass media and construct even better social environments by physically removing outsiders from their yards. Gates here are the symbol of protection regardless of its actual usefulness against crime. However, gates are also practical tools to deter the anti-social behaviours of petty delinquents and remove the presence of unknown others that do not belong.

Despite considerable inconveniences caused by gates for the residents, they are highly satisfied by an additional layer of protection. Gates are especially popular among the elderly and those who with high social status. There does exist voices of concern for self-serving tendency expressed as gates within fortified communities but they remain as a minority that is not enough to change the tide.

Developers do not necessarily pursue physical exclusiveness especially when the planning authority requires more open design as a condition to building approval. However, their incessant innovation in private services offered in apartment complexes increases the worsening gap between residential areas maintained by the public and the private and fuels the desire to ban others from expensive private services.

The public, represented by the state, is concerned with the current evolutionary direction of apartment complexes that creates fragmentation of spaces and the society. Grid type road networks dominating traditional neighbourhoods are abruptly cut off by superblocks of apartment complexes with inward-looking design. When the Korean state is inching toward a welfare state keener to distribution and social justice amid increasing maturity of the country's economy and demography, citizens of different socioeconomic status are segregated according to the degree of residential exclusiveness that is bought by money.

The worry of the public has mostly manifested in the form of design interventions to lower exclusiveness of gated communities. Its design interventions have been largely successful in greenfield developments in the periphery where higher social homogeneity, lower density and rational planning make low exclusiveness more tolerable for the residents. However, the similar design interventions often encounter the resistance of residents in brownfield developments located in the inner cities, resulting to the continued increase of All-restricted complexes. Apartment complexes located in the inner cities designed with more entrances offering shortcuts to local people are often gated by residents who prefer tranquillity over urbanity.

Today the state increasingly pursues 'public city' where equal access and social mix are promoted, while gated community residents strive for 'private city' where club membership based on financial capacity creates discriminatory access and the resulting social segregation organises the urban space. At this juncture, the state is going through an internal contradiction, making gating machine slowed down (See Table VI-1). Financially benefiting from gating with liberal housing policy but objecting to further fortification of gates communities, the state has a limited range

of manoeuvre without undermining the housing development structure it created. Bold restructuring of the current housing system with more focus on equality and inclusion is necessary to cure the urban and social fragmentation caused by walls and gates.

Table VI-1 Rise and contradiction of gating actors in Korea

Sector	*Public*	*Private*	
Actor	REGULATOR	SUPPLIER	CONSUMER
Initial form	Developmental state inclined to growth	Mass home producer	Consumer of basic modernity
Motivation of gating	Mass production of homes and improvement of infrastructure without public investment	Maximisation of profit by selling homes, amenities and image as a package	Desire to live in modern homes
Role in gating	Institutional and policy supports to the gating system	Sophistication of club economy through diversification of amenities and branding	Driver of the evolution of gated communities
Internal contradiction ⬍		⬇	⬇
Stance toward fortification of gated communities	**Public city** : Attempts to regain the leading role to reverse the evolution of gated communities	**Enabler** : Able to adapt to the consumer needs but constrained by the state restriction of gating	**Private city** : Drive toward more exclusiveness to create an even better environment
Current form	Welfare state inclined to distribution and social justice	Lifestyle setter	Consumer of carefree life

2. Implications

1) Policy implication

Three future scenarios emerge from the possible policy paths that are available to the government. The first scenario involves keeping the current apartment complex system intact and tolerating gating. This scenario is financially attractive for the state and fair in terms of the cost-sharing in the production of local public goods due to the user payment principle. However, this path will not be able to solve any problem caused by gates and rather exacerbate it. While the first scenario addresses the continuation of the existing system of a 'private city', the second scenario aims instead for a 'public city'. This is totally new territory in South Korea. More radical scholars argue in favour of the abolition of the apartment complex system as a way of restoring urban flows and enhancing communication (I. S. Park 2013: 310; P. S. Park 2013: 266). But following this path would be expensive, and it is unlikely that the state will pay to maintain the public spaces within all apartment complexes, let alone purchase them. This scenario will only occur if the negative impacts of residential gating reach an unbearable level. The most feasible strategy in this scenario is to abolish the apartment complex system for future residential developments. However, ending such a firmly established system abruptly would require a catalytic event. Reducing the supply of apartment complexes and balancing it with the development of liveable open neighbourhoods can be a more realistic approach.

When we consider the cost of implementing any new strategy, and the current behaviour of the government, the most probable scenario in the near future will involve identifying solutions that reduce gating by improving the existing apartment complex system. This scenario may be already occurring through the anti-gating efforts of the municipalities, but central government is scarcely involved. The two arms of government need to act together, especially since the municipalities can do

little to affect the situation within the limitations imposed by institutions that have been established by central government.

If the principal role of municipalities is the imposition of design interventions and the issuance of administrative measures against gating, then central government should take on the role of moderating the rigid privatised structure of the apartment complex system in terms of ownership and maintenance responsibilities. For example, it could create a cost-sharing programme for those public spaces within apartment complexes that are regarded as strategically important to the wider neighbourhood. The municipality could also participate in the restructuring of the system. For instance, municipal aid that is currently provided for apartment complex repairs on an age-based system could be made dependent upon their openness to the public.

In terms of planning, planners and the municipality should not put naïve but serious efforts into planning pedestrian flows as much as mechanical flows. Placing public passages in the middle of private apartment complexes should be given especially much consideration with possible backlash from the residents in mind. Relaxing the strict separate zoning in apartment complexes is a way to reduce their exclusiveness and increase equality between gated and non-gated spaces in terms of absorbing externalities. Allowing more kinds of professional commercial activities in the ground floors of apartment complexes such as lawyer's offices and clinics can be considered. Presence of the clients of these activities will ease the resident only rule in apartment complexes. The homeowners of ground floors will be strong internal supporters of the measure for rent income and other residents can also benefit from it by imposing higher maintenance fee for commercial activities and from the proximity to services.

2) Academic implication

The study has revealed both the universal traits of gated communities and contextual particularities of gating phenomenon. Despite the singularities of Korean

gated communities such as the absolute dominance of dense high-rise communities, state-led gating and consequent fortification by the residents, the logic behind gates such as enclaves for the rich, fear of crime and search for tranquillity is remarkedly in parallel with the global gating phenomenon. This new case will enrich the discussion and the theory surrounding gating phenomenon.

The study has overcome the limit of speculative discussions on the diagnosis of gating phenomenon through the methodology combining macro and micro level analyses. It has proved that exclusiveness typology based on data could reveal the changing reality of gated communities in a city.

3. Limitations and future studies

Mail survey is an effective mean to approach respondents living in exclusive communities. However, it has a shortcoming that samples cannot evenly represent different segments of population, as people with busy schedules are less likely to respond. In consequence, the male elderly who are free from working participated in the survey substantially more. Limited number of samples is another weakness in the survey. Samples were enough to portray the overall opinion but insufficient for the analysis of subgroups within the samples. Residents in all types of gated communities could not be studied in detail and compared to each other for practical reasons.

Opinions of the inhabitants residing in multifamily homes in proximity of gates were not heard, although their opinion could much differ from or unexpectedly similar to that of apartment residents. As the internal working of gated communities was revealed in this study, future studies could explore the nature of relationship between the residents of gated and non-gated residences and its repercussion on the social sustainability of neighbourhoods.

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APPENDIX

Original questionnaire in Korean

설문지번호		시행	2016/05	페이지	1/4

아파트 단지보안문에 대한 설문 (18문항)

< 설문 답변 방법 >

- 본 설문은 만19세 이상의 성인이고 단지 거주자이면 누구나 답하실 수 있습니다.
- 선택하고자 하는 항목 왼쪽의 ❑에 V자 체크해주세요. 복수 선택이 가능하다고 표시된 문항은 문항에 따라 최대 2개 또는 3개까지 중요하다고 생각되는 항목들을 선택하셔도 됩니다.
- 의견에 맞는 적당한 항목이 없을 경우, 기타를 선택하시고 옆의 빈 칸에 의견을 적어주세요.
- 인터넷으로 답변을 원하시거나 아래 사진을 컬러로 보고 싶으신 경우 seoulapt.blogspot.kr 로 접속해주세요.
- 질문이 이해되지 않거나 기타 문의사항이 있다면 언제라도 아래 연락처로 문의 주십시오.

김희석 연구원 Tel.: 010-[redacted] E-mail: [redacted]@snu.ac.kr

< 단지보안문이란? >

목동롯데캐슬위너 아파트에는 정문을 제외한 모든 보행자 출입구에 외부인의 출입을 통제하는 시설이 설치되어 있습니다. 본 설문에 나오는 '**단지보안문**'이란 아래의 사진과 같이 단지입구에 설치되어 있는 외부인의 보행출입을 차단하는 문이나 바리케이드를 뜻하며, 차량차단기와 같은 차량통제시설과 아파트 1층 현관 보안문은 여기에서 제외됩니다.

뒷면에서 설문이 시작됩니다 ➔➔➔

설문지번호		시행	2016/05	페이지	2/4

1. 언제 본 단지로 이사오셨습니까? ..... 20____년 ____월
(참고로 목동롯데캐슬위너 아파트 단지는 2005년 6월에 입주가 시작되었습니다.)

2. 살고 계신 아파트 단지에서 단지보안문을 설치하여 외부인의 단지 내 진입을 차단하는 이유가 무엇이라고 보십니까? (최대 3개 항목까지 복수 선택 가능)
❑[a] 단지에서 단지 주민이 아닌 이질적인 사람들과 마주치게 되는 것을 방지
❑[b] 외부인이 단지를 길 삼아 가로질러 통행하는 것을 방지
❑[c] 잡상인, 배달원, 청소년 무리 등의 출입으로 인한 소란 방지
❑[d] 범죄 예방
❑[e] 단지 내 수목과 시설물 보호
❑[f] 고급 주택 이미지 창출 및 부동산 가치 상승
❑[g] 다른 단지들도 그렇게 하고 있으므로
❑[h] 기타 _____

3. 단지보안문이 선택하신 이유에 맞는 효과를 얼마만큼 거두고 있습니까?
❑ 매우 효과적 ❑ 효과적 ❑ 효과 없음 ❑ 역효과 ❑ 큰 역효과

4. 살고 계신 동네에서 범죄에 대한 불안감은 어느 정도입니까?
❑ 매우 낮음 ❑ 낮음 ❑ 보통 ❑ 높음 ❑ 매우 높음

5. 단지보안문이 설치되어 있어서 단지 내에서 더욱 안전하거나 불안하다고 느끼십니까?
❑ 훨씬 더 안전 ❑ 더 안전 ❑ 차이 없음 ❑ 더 불안함 ❑ 훨씬 더 불안함

6. 이사오실 때 단지보안문이 갖추어져 있다는 점이 본 단지를 선택하신 요인 중 하나였습니까?
❑ 예 ❑ 아니오 ❑ 이사올 당시에는 단지보안문이 없었음

7. 단지보안문이 설치된 것에 대하여 찬성 또는 반대하십니까?
❑ 매우 찬성 ❑ 찬성 ❑ 중립 ❑ 반대 ❑ 매우 반대

다음 장으로 이어집니다 ➔➔➔

8. [단지보안문 설치에 대해 '중립', '반대' 또는 '매우 반대'를 선택하신 경우] 문 설치를 찬성하시지 않는 이유는 무엇입니까? (최대 3개 항목까지 복수 선택 가능)

❑[a] 문 설치의 효과가 없거나 적다.

❑[b] 잠긴 문 또는 바리케이드 때문에 돌아가야 해서 불편하다.

❑[c] 단지에 들어올 때 문 통과와 키의 사용이 거추장스럽다.

❑[d] 손님이나 서비스 직원 방문 시 불편하다.

❑[e] 단지 입구에 문을 설치하는 것에 대해 거부감이 느껴진다.

❑[f] 단지 밖 이웃 주민들과의 불화가 우려된다.

❑[g] 기타 _____

9. 현재의 단지보안문 운영을 어떻게 개선해야 한다고 보십니까? (최대 2개 항목까지 복수 선택 가능)

❑[a] 단지보안문 운영을 원하지 않으므로 문 개방 또는 철거

❑[b] 현재의 운영 수준에 만족

❑[c] 설치된 문을 보다 철저하게 관리

❑[d] 현재는 단지보안문이 없는 정문에도 추가로 문 설치

❑[e] 기타 _____

10. 만약 다음에 이사하신다면 되도록이면 단지보안문이 설치된 단지로 가시겠습니까?

❑ 매우 그렇다 ❑ 그렇다 ❑ 보통 ❑ 그렇지 않다 ❑ 전혀 그렇지 않다

11. 추가 코멘트나 관련 정보가 있다면 작성 부탁 드리겠습니다. 사소한 정보라도 알려주시면 관련 지식 발전에 중요한 도움이 될 것입니다.

뒷면으로 이어집니다 ➔➔➔

설문지번호		시행	2016/05	페이지	4/4

아래의 질문들은 응답해주신 분의 사회경제적 상황과 답변 성향을 분석하기 위해 필요한 최소한의 정보입니다. 아래에서 나온 정보는 연구만을 위해 사용하고, 외부로 노출하지 않을 것임을 약속 드립니다.

12. 성별을 선택해주세요. ..... ❑ 남 ❑ 여

13. 만 나이 기준으로 어느 연령대에 속하십니까?
❑ 20대(19세 포함) ❑ 30대 ❑ 40대 ❑ 50대 ❑ 60대 ❑ 70대 이상

14. 어떤 직업에 종사하십니까?
❑ 전문 · 자유직 ❑ 경영 · 관리직 ❑ 사무 · 기술직 ❑ 판매 · 서비스직 ❑ 기능 · 노무직
❑ 전업주부 ❑ 학생 ❑ 무직 ❑ 퇴직 ❑ 기타 _____

15. 본인을 포함한 동거가족 구성원은 총 몇 명입니까?
❑ 1 인 ❑ 2 인 ❑ 3 인 ❑ 4 인 ❑ 5 인 이상

16. 동거가족 중에 19세 미만의 미성년자가 있습니까? ..... ❑ 예 ❑ 아니오

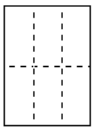
17. 지금 거주하시는 주택의 점유형태는 무엇입니까?
❑ 자가 ❑ 임차(전세 또는 월세) ❑ 기타 _____

18. 가구(동거가족 전체) 월평균 소득은 대략 어느 정도입니까?
❑ 199만원 이하 ❑ 200~399만원 이하 ❑ 400~599만원 이하 ❑ 600만원 이상

바쁘신 가운데도 귀중한 시간을 내주셔서 감사 드립니다. 본 주제와 관련된 인터뷰를 실시할 예정이오니, 인터뷰를 원하실 경우, 아래에 연락처를 남겨주십시오. 인터뷰는 원하시는 시간과 장소에서 본 설문 관련 내용으로 진행되며, 약 30~50분 정도가 소요됩니다. 인터뷰에 응해주신 분께는 감사의 표시로 백화점상품권을 지급하여 드립니다.

▪ 연락처 (전화번호 또는 이메일 주소): _____

✉ 회신봉투의 크기에 맞추어 설문지를 우측 그림과 같이 접어서 회신봉투에 넣으신 후, 우편으로 보내주시면 감사 드리겠습니다. (만약에 설문지가 반송되더라도 불편이 없으시도록 회신봉투의 보내는 사람 주소에는 연구자 개인 주소가 기재되어 있습니다.)



ABSTRACT IN KOREAN

국 문 초 록

빗장주거단지의 형성과 거주자 인식에 관한 연구: 서울의 아파트 단지를 사례로

김희석

서울대학교 환경대학원 환경계획학과 도시및지역계획 전공

빗장주거단지(gated community)는 사적으로 통제하는 공동공간에 외부인의 출입을 제한하는 경계가 분명한 주거단지이다. 빗장주거단지에서는 도로 유지와 방범 같은 보통 공공이 공급하는 서비스들이 사유화되어 있다. 단지 주민들은 사적 인프라와 관리를 위한 비용을 지불하는 대신, 자신들의 주거 영역을 지배하고 구성원이 아닌 자를 배재할 권리를 획득한다. 부동산 상품 또는 범죄와 성가심에 대한 방어기제로서 빗장주거단지는 많은 나라에서 확산되고 있으며 우리나라도 예외는 아니다.

우리나라에서 고층민간아파트 단지는 이러한 빗장주거단지의 모든 특성을 지니고 있다. 지난 수십년간 아파트 단지는 질과 양의 측면에서 괄목할만한 발전을 이루었으며, 오늘날 빗장주거는 중산층 생활 양식의 일부분이다. 본 연구는 도시 공간 내 빗장지르기(gating)의 현실을 진단하고, 진화과정을 추적하며, 진화를 이끌어온 사회경제적 힘을 밝혀내고자 한다. 이를 위해 빗장주거단지의 유형화, 빗장지르기 행위자 분석, 주민 인식 분석이라는 세 가지 접근법을 채택하였다.

서울의 일천 개 아파트단지를 대상으로 외부인을 통제하는 물리적 장치의 조사를 통해 나온 경계 투과성에 의한 유형화는 물리적 배제성의 정도에 따른 네 가지 유형(경계형, 담장형, 차량통제형, 완전통제형)을 도출하였다. 가장 빗장지르기가 심한 유형인 완전통제형 단지는 차량과 보행자 모두를 통제하며 서울의 가장 부유한 지역에 집중되어 있다. 유형 간 평균 주택 가격과 주택 면적 분석은 부유한 사람일수록 보다 배제성이 강한 단지에 사는 경향이 있음을 보여준다. 이 데이터를 단지에 속하지 않은 공동주택 유형의 데이터에 결합하면 서울 인구의 대부분을 포함할 정도로

주거와 부의 스펙트럼이 확장된다. 이 스펙트럼에서 단지에 속하지 않은 공동주택 주민들은 가장 경제적으로 혜택을 받지 못한 집단을 형성한다. 이러한 결과는 빗장주거지를 '금칠한 게토(golden ghetto)'로 보는 종래의 개념을 넘어서는 것이다. 민간 자본에 의한 아파트 단지의 끊임없는 진화와 불충분한 공공 인프라에 의존하는 전통적 주거지의 정체는 금전으로 구입한 배제성에 의해 구성된 위계적 주거 공간을 만들어내고 있다.

네 가지 유형은 고정된 것이 아니며 끊임없이 진화하고 있다. 1990년대 이전에는 담장은 있으나 단지 입구에는 배제 장치가 없는 담장형 단지가 유일한 빗장주거단지 유형이었다. 차량 증가에 따른 주차공간의 부족은 빗장주거단지 주민들로 하여금 단지 입구에 차량차단기를 설치하도록 만들었으며, 이는 개조를 통한 담장형 단지의 차량통제형 단지로의 전환을 뜻한다. 이후 주민들의 개조는 그 후 지어지는 아파트 단지의 설계에 반영되었으며, 차량통제단지는 오늘날 가장 흔한 유형이 되었다. 차량통제형 단지의 완전통제형 단지로의 전환은 이전 전환만큼 매끄럽게 이루어지고 있지 않다. 지방자치단체의 계획당국은 보행자를 통제하는 자동문을 포함시킨 단지 설계의 건축허가를 거부하고 있다. 그럼에도 불구하고 일부 열성적 빗장주거단지 주민들은 건축허가를 득한 후 단지 전환에 나서고 있다. 공공이 깊이 개입한 택지개발지구에 건설된 낮은 담장을 설치한 경계형 단지는 배제성을 줄이려는 공공의 의지에서 나온 것이다.

빗장주거단지 주민들은 이미 단지와 동네에서 안전하다고 느끼고 있으면서도 추가적인 방범 조치를 찾아 나서고 있다. 보행자 차단문을 원하는 사람들은 다른 사람들에 비해 안전에 대해 예민하며, 이들의 범죄에 대한 두려움은 실존하는 위협보다는 끊임없는 범죄 보도에 의해 부풀려진다. 차단문은 범죄자가 따라들어가기와 같은 간단한 방법만으로도 피해 갈 수 있기 때문에 주로 상징적 안정감을 제공한다. 그러나 차단문은 서성임과 오물투기 같은 외부인들의 기회주의적인 행동을 제거함으로써 기존의 빗장주거단지 내 사회적 환경을 강화하는 데에 실질적인 힘을 발휘하며 효과적이다. 이러한 점에서 차단문은 생활 환경을 개선하려는 지역적 노력의 일환으로 이해될 수 있다. 그러나 이러한 노력의 내향적 성격과 교류와 협력보다는 회피와 배제에 의존하는 문제해결 방식 때문에 이러한 노력은 시민사회에 반하며 반(反)도시적이다.

빗장주거단지의 생산에는 건설사, 주택 소비자, 국가의 세 주요 행위자가 결부되어 왔다. 각 행위자는 민간 자금에 의한 현대적 인프라를 내재화한 아파트 단지의 개발로부터 큰 이득을 얻어 왔으며, 이는 도시 내에 아파트 단지의 확산으로 이어졌다. 빗장주거단지의 원형을 제공하고 생산 과정을 체계화한 국가는 빗장주거단지 생산의 선순환에서 가장 중요한 역할을 수행해왔으며, 이러한 과정 속에서 공공자금 투입없이 인프라 개선을 이룸으로써 재정적 이득을 취할 수 있었다. 그러나 오늘날 한국 주택 시장의 소위 '빗장 기제(growth machine)'는 공공과 민간의 이익이 충돌하는 중요한 분기점에 들어섰다. 빗장주거단지 주민들은 그들 자신을 위하여 성가시다고 인식되는 것들로부터 벗어나기 위해 물리적 배제성을 강화하고 싶어한다. 반면 국가는 다수를 위하여 차단문이 존재하지 않는 걷기 좋고 보다 평등한 도시를 추구한다. 평등과 포용에 초점을 두고 국가가 현재의 주택 체계를 과감히 구조조정하는 것이 담장과 차단문이 초래하는 도시적, 사회적 파편화의 치유를 위한 첫걸음이 될 것이다.

주요용어: 빗장주거단지의 형성, 빗장주거단지의 인식, 빗장주거단지의 유형화, 아파트 단지, 서울

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