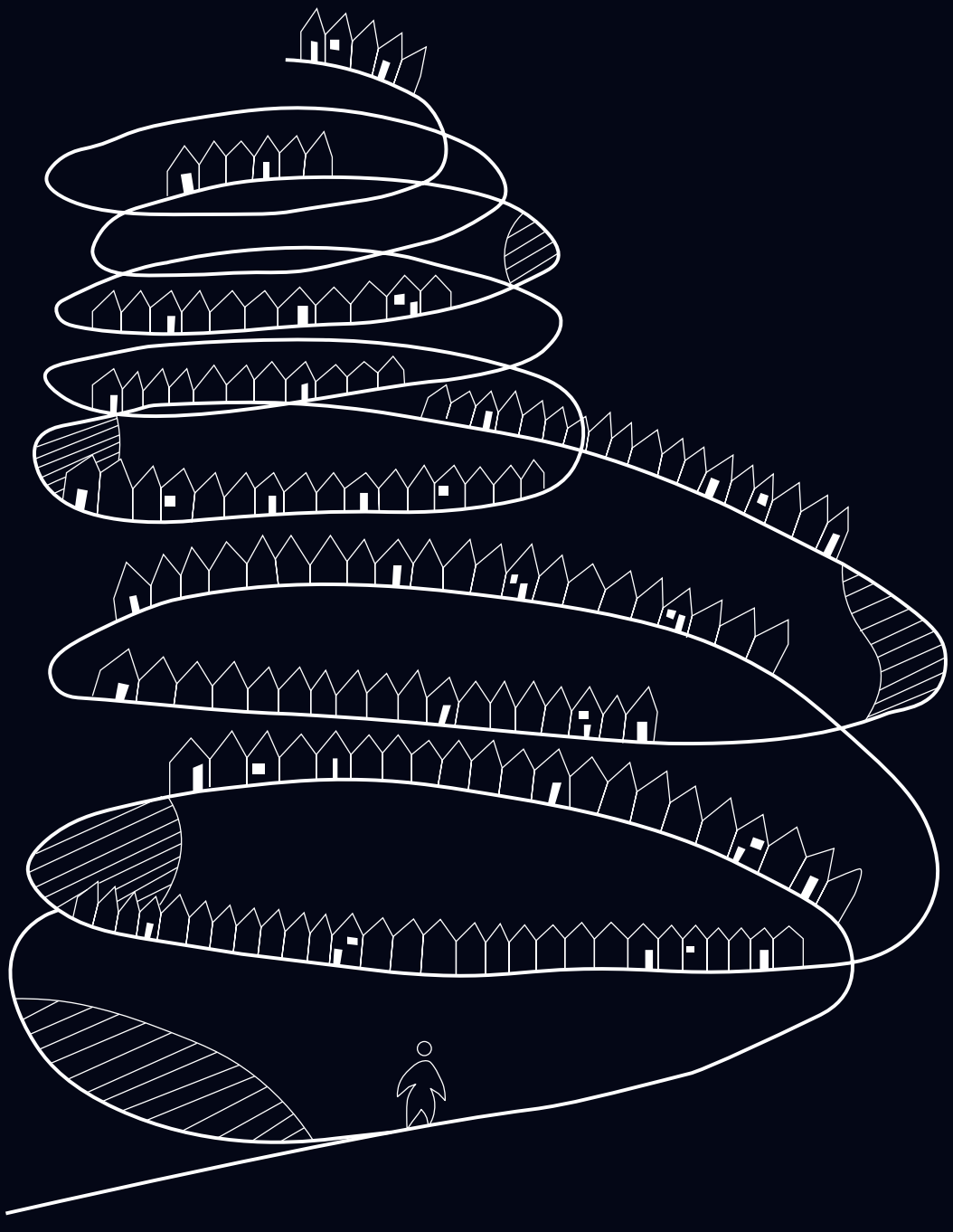
Vertical social connectivity

Inclusive high-rise design



Sylvan Muijlwijk
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Colophon

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Preface

In 2017 I attended a debate about the plans for the development of the Sluisbuurt on the Zeeburgereiland in Amsterdam (Debat Hoogbouw II, 28 march 2017, Tolhuistuin). In the urban plan for the Sluisbuurt a new high-rise district at the IJ would emerge, it was labelled as Vancouver at the IJ by the municipality (van Weezel, 2016). The public debate about the choice for high-rise or not fuelled a sequence of public debates like the one I attended. Architect and Urbanist Sjoerd Soeters presented his alternative to the proposed towers. according to Soeters a low-rise dense alternative could house just as many people, he referred to the density of Paris, and a low rise alternative could create a more lively and social neighbourhood. Arguments against high-rises he posed where partly of a practical nature, safety and construction measurements take up more space if buildings are taller and the costs are higher. Other arguments were from a more nostalgic nature or socially motivated, high-rises would cause social segregation (Soeters in Milikowski, 2018). After this debate I left with mixed feelings, the arguments of Soeters seemed valid however I could also understand the excitement surrounding the plans related to the skyline and a new perspective on the city of Amsterdam. Especially when I continued my studies in Urbanism the humanistic and human-scale approach was often discussed and advocated for.

As an urbanist it sparked my interest, how can the discipline contribute to the debate on high-rise developments in a constructive way. In what way can high-rise buildings actually contribute to the social workings of the city and its residents and could the role of the urban designer extent itself beyond volumes and the façade of high-rise buildings. As Schoorl (2017) noticed, the debate about the Sluisbuurt was about polarising views and it was not constructive.

It has been a very interesting process to be able to discover this alternative take on urban design and architecture. In the early stage of this project it became clear the historic understanding of the city and high-rise developments was essential to formulate new perspectives. While this approach could be regarded as a novelty in the field, the last century there have been various different interpretations of the social values and the design of high-rise architecture. The process of exploration within this project was well facilitated within the context of the studio the City of the Future. The freedom that was provided to find my own path helped me to thoroughly explore and associate to the topic. While the same freedom to associate has been a challenge in finding my focus during the project.

The team of mentors to guide me within this process which consisted of Maurice Harteveld, Igor Temples Moreno Pessoa and Roberto Cavallo, has been very helpfull along the way. The different perspectivies of the mentors from their disciplines turned out to be crucial to understand the topic which fundamentally crosses the boundaries of those disciplines. Maurice has been a good sparring partner who really inspired me to rethink the convential approaches and perspectives on the city. Igor helped me to better understand the sociologic nature of the topic his critical approach helped me to root the project. To guide me in the field of arhitecture the help of Roberto was crucial. This was also very much stimulated by the set-up of the studio with peer students from different master tracks and the theoretical help of Alper Alkan within the seminar.

I am gratefull to have received this guidance during the last year and to have the opportunity to explore the topic in this way.

Sylvan Muijlwijk

02.07.2020 *Utrecht*

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Abstract

This graduation project is focussed on a re-interpretation of the design of a high-rise building from an urban design perspective, to contribute to a more inclusive city. This is captured by the main research question:

In which manner could the design of a high-rise building in the context of the Binckhorst The Hague, from the perspective of urban design, contribute to the development of a more inclusive city?

The urgency of the subject follows on the trend of high-rise developments in Europe, The Netherlands and The Hague. The Hague is predicted to grow substancially in population untill 2040. The municipality has chosen a strategy of high-rise developments, to house the increasing population and to improve spatial quality. The Binckhorst plays an important role in this strategy. In the design of high-rise buildings there is a set of social challenges that should be accounted for: a ridgid structure, homogeneity; and vertical segregation. The lack of a humanistic approach and the high amount of residents per building create the urge to approach the design of high-rise buildings from an urban design perspective.

The Hague is dealing with a set of social challenges like segregation, loneliness, and social exclusion. This should be understood in the light of a hyper-diverse population with the nature of constantly changing needs and values of the residents.

The main design value is *inclusivity*, as a part of the Sustainable Development Goals of the United Nations, it answers to the most fundamental ethnical consideration for the development of our cities. Related to the theories of Just Diversity and the Open-City, the sub-design values that contribute to a more inclusive city and answer to the social context of The Hague are formulated. The design values taken from these theories are *recognition*, *encounter* and *adaptability*. Recognition adresses the different needs and values of people, adaptability responds to the changing needs and values and encounter is aimed at facilitating interaction between like and unlike individuals.

Continuing on the design values a set of urban design principles and related elements guide the projects towards a more concrete form. These principles are tested by observations in and around existing high-rise buildings in The Hague and interviews with residents.

The project concludes in a high-rise design in the Binckhorst The Hague. The design consists of urban design elements like a vertical living street, public spaces (pockets) along the route and a configuration of volumes and program.

This project has set a clear framework of design values and principles that contribute to an inclusive high-rise design. While the fieldwork and the design constituted to an evaluation of these principles, more experiments in design or a wider targetgroup for interviews could help better ground the principles. Here an extensive research in the context of one or a few of the innovative projects mentioned could help to better understand the social implications of design decisions taken. Next to the academic work there remains a need for visionairy and experimental high-rise projects to explore new design approaches.

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Introduction

Vertical social connectivity

Due to globalisation and migration cities have become more diverse. An international city like The Hague exemplifies this and its population can be regarded as *hyperdiverse*. However, the city is claimed to be one of the most segregated in The Netherlands. Neighbourhoods differ substantially in their social layout regarding socio-econonoic or ethinic characteristics. Parrallel to this there are social challenges like loneliness and social exclusion.

While these challenges exists, The Hague is predicted to grow substantially in the following decades. To house the predicted population growth in The Hauge, the municipality has chosen a central high-rise development strategy as a means to density and achieve urban qualities. The new residential neighbourhood The Binckhorst is one of the central areas appointed for high-rise development.

The scale of these buildings result in an amount of residents compareable to a neighbourhood on itself. There lies a responsibility for designers to facilitate the existing diversity within the new high-rises without amplifiying the social challenges of the city. The goal should be to achieve an inclusive city.

For this to succeed there is a need to understand the building as a neighboorhood in itself and in its integration in the city. This project provides an alternative approach in the design of a high-rise structure from the perspective of urban design to achieve a more inclusive city. The research question of this project follows on these design aims:

In which manner could the design of a high-rise building in the context of the Binckhorst The Hague, from the perspective of urban design, contribute to the development of a more inclusive city?

Living in high-rises is a relative new concept in human history and has since its origin been grounded in societal beliefs. The first part of this report (chapter 1) gives insight in the history of high-rise developments from a global perspective and within The Hague. This is followed by an analysis of the social challenges which define the city of The Hague (chapter 2). The report continues with the description of the methodology (chapter 3), design principles (chapter 4) and the results of the fieldwork (chapter 5). The last two chapters are related to the design in the context of the Binckhorst. First the Location analysis (chapter 6) and finally the Vision and Design of the project (chapter 7). The report ends with the Reflection and conclusion.

1.

The residential high-rise

Historic perspective

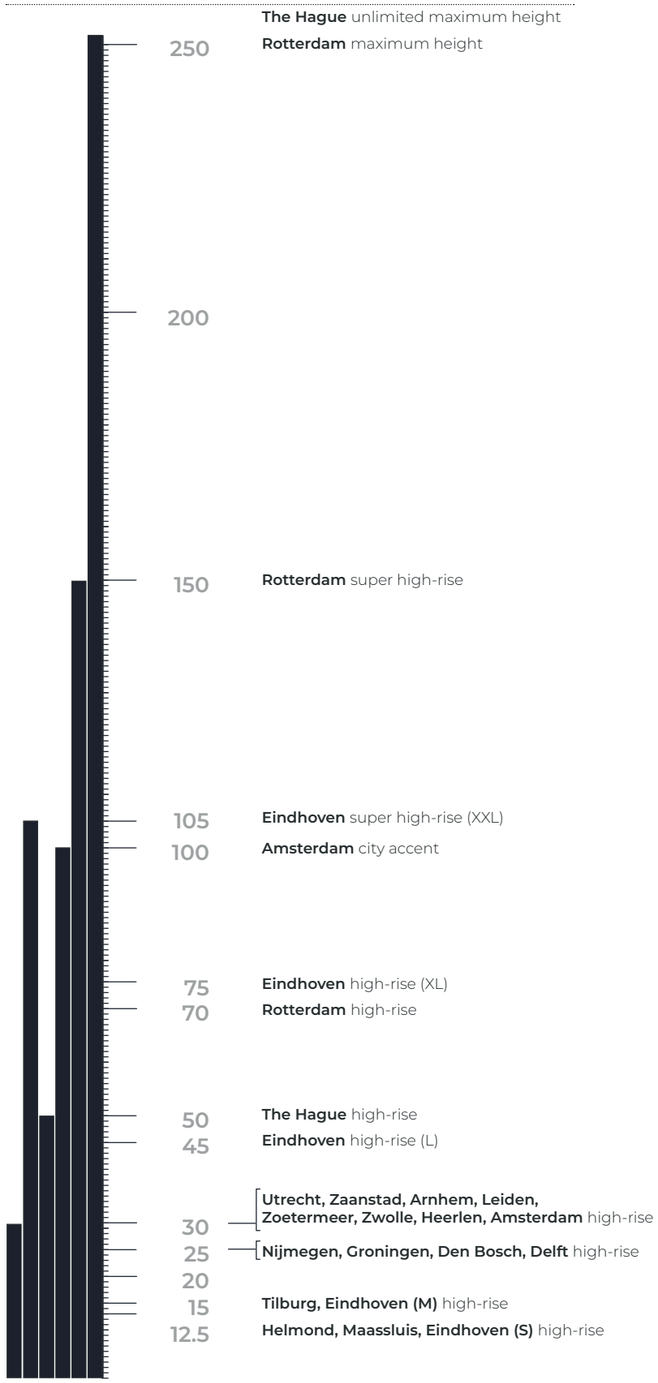
1.1 Introduction

In an attempt to understand the reasons behind and the way in which residential high-rises developed in the global, European and The Hague's context, the first chapter highlights some important historic aspects.

The chapter starts with the relative definition of a high-rise structure (1.2). The history of high-rise living (1.3) starts already in Roman times when higher floors were occupied by lower classes. Since supportive technologies like the elevator or the steel frame helped to build higher and resulted in a social turnaround, the upper floors became attractive to the privileged. The city of The Hague (1.3) could be regarded a flat city until the 20th century, however the first residential high-rise buildings of The Netherlands, the woonhotels, emerged here. After World War II the housing shortage made resulted in a peak in residential high-rise constructions, due to suburbanisation this stabilised in the last part of the 20th century and after the millennium the tower production peaked again. In this ongoing developments the human scale and spatial quality or advocated for by the municipality. This re-emerge of residential high-rises can be seen throughout Europe (1.4) and next to achieving spatial quality and solving housing shortages, financial interest play a relevant role in this trend.

1. The residential high-rise

1.2 High-rise defined



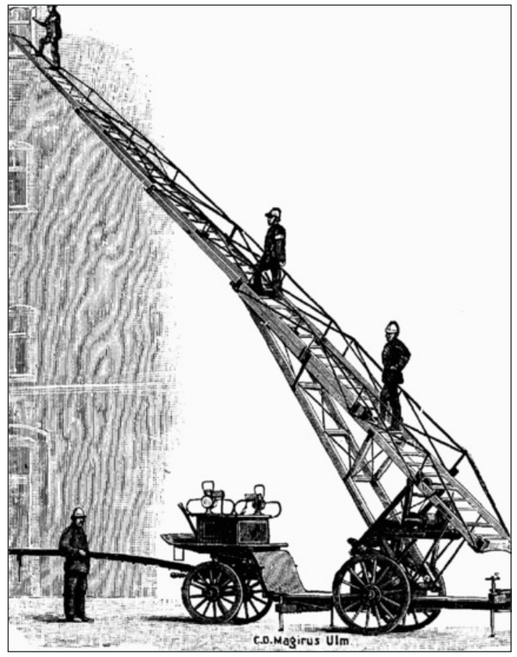


Figure 2. Fire brigade and height
by C.D. Magrius Ulm
in Lueger, 1904

National Buildings Decree *Bouwbesluit*

70 **Fire regulations** e.g. sprinklers

50 **Fire regulations** elevator shaft

20 **Fire regulations** fire brigade assistance

13 **Fire regulations** 120 min. fire resistance

12.5 **Accessibility** elevator required

Fluid definition

The definition of high-rise buildings is a relative concept, throughout different contexts, scales and time-periods it may change (Zandbelt, 2012). This can be related to the average building height in an area, the technical building advancements of the time (e.g. fire safety, construction, accessibility) or the visual perception or impact on the surroundings of height (figure 1) (Zandbelt&vandenBerg, 2008). Based on one or more of these characteristics the definition of high-rise may be given to a certain amount of floors or elevation. The international research institute Emporis (n.d.) defines a multi-storey building in three categories: low-rise (< 35m); high-rise (> 12 stories or 35m); and skyscraper (> 100m). This is by no means a generic definition, as is illustrated by the various definitions of Dutch municipalities.

Building regulations

The definition of high-rises in the Dutch context differs for each municipality. In contrast, Rotterdam defines a high-rise from 70 meters in height, while Tilburg defines a high-rise from 15 meters in height (figure 1) (Zandbelt&vandenBerg, 2008). One of the parameters on which the definition can be based is the national Building Decree, the Bouwbesluit (Rijksoverheid, 2011). The first regulation starts at 12.5 meters in height with the requirement of an elevator and the most far-reaching implications related to fire safety at 70 meters in height (Zandbelt&vandenBerg, 2008).

Perception

100 **City accent**

50 **Allignment inner city**

30
25 **2x Averge building height**

15 **Averge building height or tree height**

12.5 **Neighborhood accent**

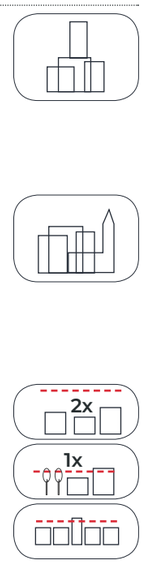


Figure 1. High-Rise Defintion
by Zandbelt&vandenBerg, 2008
additional sources:
Gemeente Amsterdam, 2011; Gemeente Eindhoven, 2017; Gemeente Den Haag, 2017
(edited by author)

Context

Other arguments elaborated on in the high-rise visions of Dutch municipalities about the definition of a high-rise can be related to the existing building height in the city. This can relate to the experience of height from the street or the city and the preservation of a historic skyline (Gemeente Den Haag, 2017). These aspects are in some cases viewed from different urban scales, the municipalities of Amsterdam and Eindhoven are examples of this (Gemeente Amsterdam, 2011; Gemeente Eindhoven, 2017). In Eindhoven a clear division is made between high-rise of the size S, M, L, XL and XXL. Size S rises above the average neighbourhood height of 3 floors and XL from 75 meter defines the skyline of the city to its surroundings.

Social understanding of a high-rise

It is difficult to give a generic definition of what we should understand as a high-rise. The urban context and the vision of the municipality play an important role in what is defined as a high-rise, and both of those will keep changing over time. For The Hague a high-rise is any building above 50 meters (Gemeente Den Haag, 2017), however in 1993 this was 25 meters (Gemeente Den Haag, 1993). While these definitions take the experience of a high-rise from the street or city perspective into account, the social impact on its residents is not included in the definition. While scholars have attempted to grasp this impact (e.g. Barros et al., 2019; Baxter, 2017; Gifford, 2007; Larcombe et al., 2019), the results are not linear nor conclusive. A relative recent phenomenon in human history is the elevator, this and other technical advancements related to construction enable us to live on higher floors. Our social structures of living on this height are therefore on this timescale quite new (Gifford, 2007). For this reason the requirement of an elevator will be used here as the definition of a high-rise. In the Dutch context this includes buildings that have accessible residential floors above the 4th floor or above 12,5 meter (Rijksoverheid, 2011).

1. The residential high-rise

1.3 A short history of high-rise living

Ancient high-rises

The first high-rise structures can be related to religion (e.g. pyramids of Giza, Gothic cathedrals, mosque minarets), or to defence purposes (e.g. castle towers). Residential high-rise buildings, apart from the mythic story of the tower of Babel, be traced back to the Roman Empire (Gifford, 2007). In big cities like Rome most people lived in apartment blocks, the *insulae* (figure 3a). Aldrete (2004) describes some of those buildings could reach up to ten stories. The higher floors of the *insulae* were mainly inhabited by the lower classes because the structures were dark, dirty, crowed, and badly built (Aldrete, 2004, p. 209). Frequently the buildings collapsed, as a result, Roman emperors issued height limits for the *insulae* on several occasions. Those limits where usually around of 20-25 meters (Aldrete, 2004, p. 78). Throughout history more residential high-rises emerged (e.g. Tulou, 16th century, 5 stories; Shibam, 16th century, 7 stories) (figure 3b) (Khan, 2017; O'Neill, 2015), however they all had similar constraints. Even when Hausmann redesigned Paris between 1853 and 1870 the buildings reached up to 6 stories or 20 meters. The higher the floor level got the lower the class, and the attic was reserved for servants (Sennett, 2018).

Technologic advancements

After centuries of reaching for the sky, the emerge of new technologies in Europe like the steam powered elevator and the steel frame made high-rise living safer and more attractive, this time also for higher income groups. In Chicago the steam powered elevator (1864) and later the hydraulic elevator (1870) made higher floors more accessible for people and for the transport of goods to higher floors (figure 4a) (Condit, 1964, p. 21). However, next to the safety of the elevator, the construction still constrained the height of buildings. As Condit (1964, p. 22) describes the highest building constructed in masonry walls in Chicago was 16 stories with 72 inches walls at the base (figure 4b), building higher would require even thicker walls with related lighting problems. The steel frame made the exterior unnecessary as a bearing construction (figure 4c; 4d) (The Goodspeed Publishing Company, 1891). With these technologies the first skyscraper emerged in the second half of the 19th century in Chicago and New York (Drozdz, Appert, & Harris, 2018; Koolhaas, 1994). The first skyscraper was the Home Insurance Building in Chicago opened in 1885 (The Goodspeed Publishing Company, 1891). The first residential high-rises where meant for the wealthy. However, the poor living conditions of middle class workers in city centres around the start of the 20th century created a reason for subsidised housing plans. With the invention of reinforced concrete, first used in the Ingalls Building in 1904 (figure 4e), publicly subsidised residential high-rises emerged and mass housing projects for the middle class followed based on modernist utopian ideals (Cizek, 2013).

Roman insulae

Rome - 30 BC

Figure 3a. Reconstruction of a Roman insulae
by A. Aldrete, Phaeton group, Scientific Graphic Services Division
in Adrete, 2004, p. 79 (edited by author)

Mud brick tower houses

Shibam - 16th century

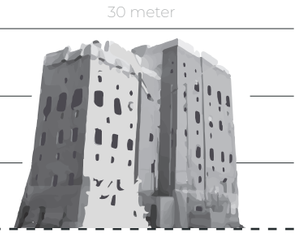


Figure 3b. Mud brick tower houses
by Alamy
in McKernan, 2019 (edited by author)

The elevator

1854

Figure 4a. Passenger elevator presentation
by unknown
in Koolhaas, 1994, p. 24

The steel frame

1885

Image 4c. Home Insurance Building
by The Chicago Tribune
in Chicagology, n.d.

Reinforced concrete

1903

Figure 4e. Ingalls Building
by unknown
in Bob Moore Construction n.d.

Masonry construction

untill 1891

Figure 4b. The Monadnock Building
by Burnham and Root; Historic America Buildings Survey
in Douglass-Jaimes, 2015 (edited by author)

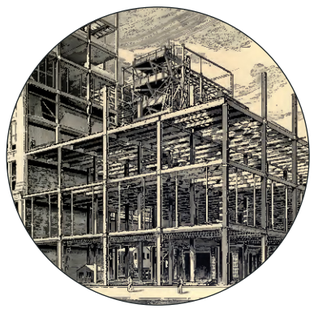


Image 4d. The Fair Building Steel Frame
by The Goodspeed Publishing Company
in The Goodspeed Publishing Company, 1891

Glass and steel

1919

Figure 4f. Glass and steel
by M. van der Rohe
in Rawn, 2020

Vertical Utopia?

Koolhaas (1994, p. 88) describes the early 20th century skyscrapers of Manhattan, as a branch of utopian real estate which reproduced the world in a brutal skyward extrusion. This market-led ideal is illustrated by the theorem of Walker of 1909 (figure 5), as described by Koolhaas (1994, pp. 82–85), he viewed the utopian high-rise as collection of private independent horizontal domains. The mass public housing trend led by modernists ideals was, in contrast to the privatised North American model, characterized by a culture of large-scale and top down urban planning. The goal was to provide equity in housing (Cizek, 2013). Le Corbusier's redevelopment plan for Paris, Plan de Voisin, illustrates this well (figure 6). In Europe the first residential high-rise peak took place after World War II in the 60s and 70s (Drozdz et al., 2018).

Stacked private domains

1909

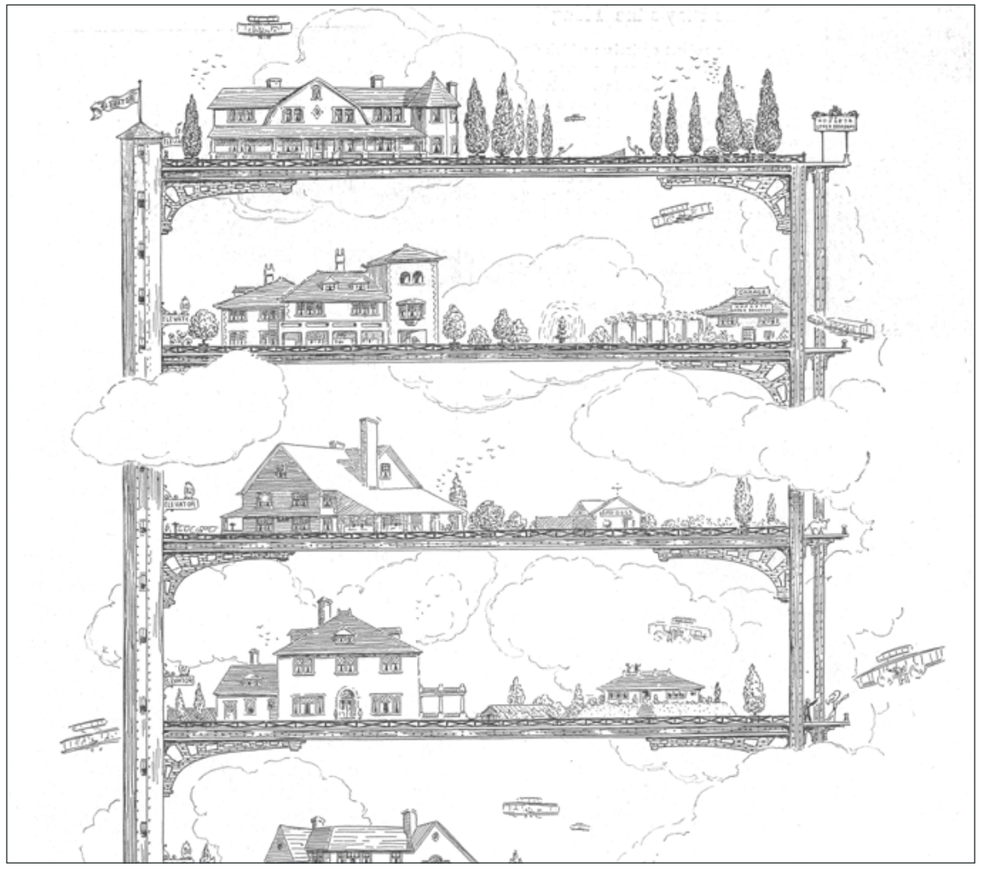


Figure 5. Skyscraper Utopia
by A.B. Walker
in Koolhaas, 1994

Le Corbusier's Plan de Voisin

1925

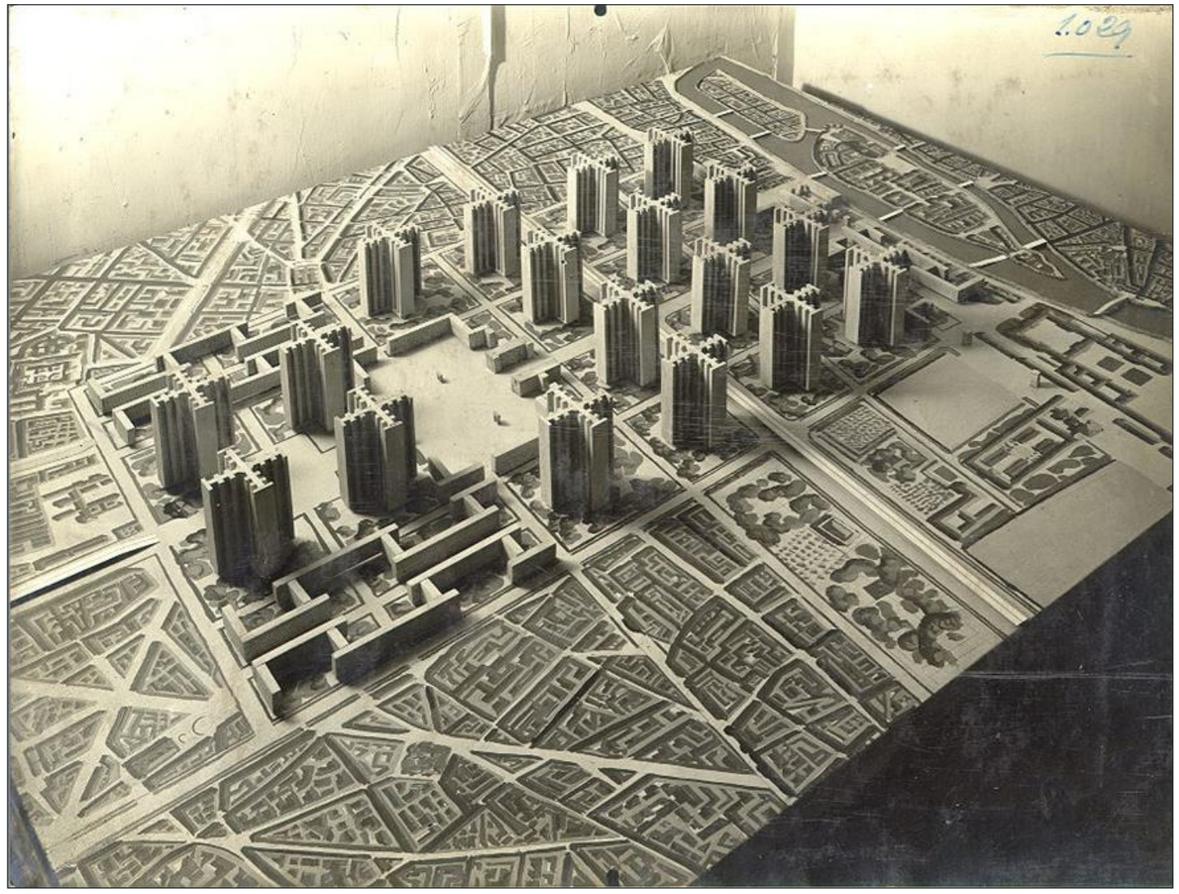


Figure 6. Le Corbusier's Plan Voisin
by Le Corbusier; photo by FLC/ADAGP
in AGA Systems, n.d.

1. The residential high-rise

A city within a city

The reproduction of the world can be seen as a common characteristic for all high-rises. This causes single buildings to gain more users and functions. Koolhaas (1994, p. 89) described that the early skyscrapers of Manhattan like the Equitable Building (figure 7a) strived to be: “a City within a City”. On the European continent modernists designs of residential high-rises, like the Unite d’Habitation (figure 7b) aimed, in their own way, for the same principle of becoming a city within a city (Kroll, 2010) or a Vertical City (Meyer & Zandbelt, 2012, p. 10). The understanding of a building as a city on itself has been around since the emerge of high-rise buildings and in contemporary architecture it remains a relevant theme. In the Dutch context De Rotterdam (figure 7c), the biggest building in volume of Europe, is probably the best recent example of this theme. Be-Proud (figure 7d) in the Binckhorst, which is planned to start construction in 2020, proves it continuation.

Equitable Building

1915
New York
Office
1,600 users
Erbest R. Graham

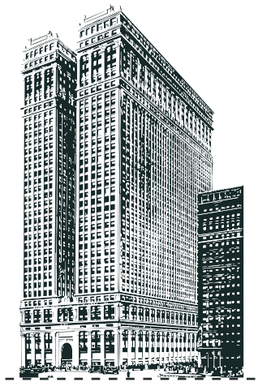


Figure 7a. Equitable Building
by M. King
in Koolhaas, 1994, p. 86 (edited by author)

Unité d’Habitation

1952
Marseille
Residential
1,600 users
Le Corbusier

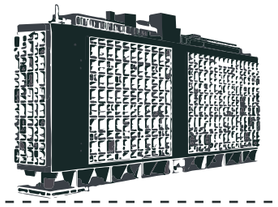


Figure 7b. Unité d’Habitation
by Le Corbusier
in Cohen & Benton, 2008 (edited by author)

De Rotterdam

2013
Rotterdam
Mixed-use
5,000 users
OMA

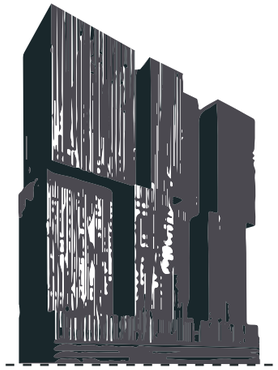


Figure 7c. De Rotterdam
by B. van Hoek
in Architectuur.org, n.d. (edited by author)

Be-Proud

2020
The Hague
2,500 users
OZ-Architect

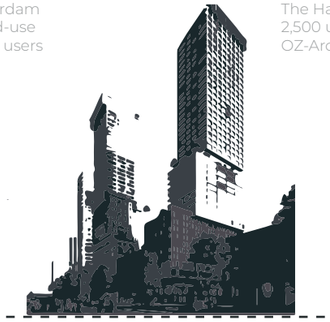


Figure 7d. Be-Proud
by OZ-Architect
in Local Ontwikkeling & OZ-Architect, 2019 (edited by author)

High-rise regulations

The enormous mass of high-rise buildings in Manhattan at the beginning of the 20th century was built within the grid structure of the city which was established in 1811. Only the grid was never intended to facilitate these colossal buildings. The towers had some negative side effects, like cutting of light from other buildings, street congestion, and worse conditions for street life. This made the case for the Zoning Law of New York in 1916, which regulated the height, size and arrangement of buildings (Dunlap, 2016). To enable street lighting, set-back towers could only occupy 25 percent of the plot but they were unlimited in height. For developers, to be as profitable as possible, this resulted in slim and even higher towers as opposed to the earlier total plot extrusions (Koolhaas, 1994, p. 107) (figure 8b). The rest of the plot was restricted to a ratio of the street width (Dunlap, 2016) (figure 8a). A similar zoning law was issued in Chicago in 1923 with a restricted height of 80 meter (Zandbelt&vandenBerg, 2008). As opposed to the United States, where high-rises are the economic product of high land values, in the Dutch context the market mechanism can work the opposite way, the municipalities owned more land and posed a desired building volume (Klerks, 2009). In The Netherlands the high-rise developments fit in the national policy of the compact city (Zandbelt&vandenBerg, 2008). High-rise policies like the one in Rotterdam (Gemeente Rotterdam, 2019) (figure 8c) or The Hague (Gemeente Den Haag, 2017) appointed specific zones for high-rise developments.

New York City Zoning Resolution

1916

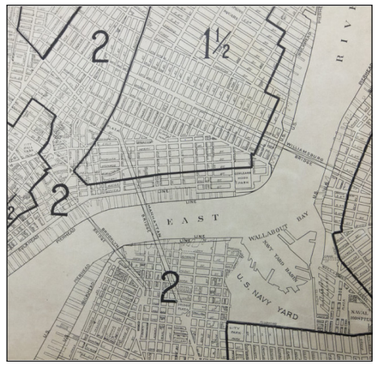


Figure 8a. New York City Zoning Resolution 1916
by S. Mejia
in Dunlap, 2016

Theoretical building envolope

1916

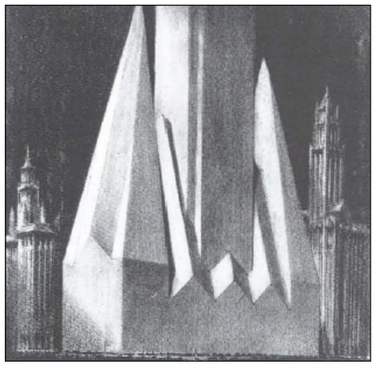


Figure 8b. Theoretical envelope of the 1916 zoning law
by H. Ferriss
in Koolhaas

Rotterdam high-rise Zone

2011

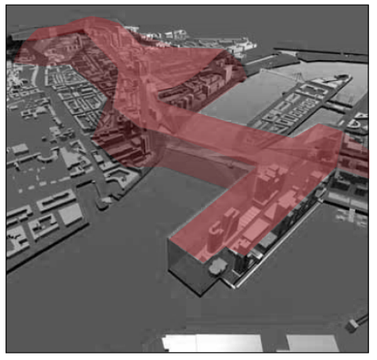


Figure 8c. Rotterdam High-rise Zone
by Gemeente Rotterdam
in Gemeente Rotterdam & dS+V afdeling Stedenbouw, 2011 (edited by author)

A flat city

While skyscrapers started to dominate the skylines of Chicago and New York in the 19th century, The Netherlands was hesitant to reach for the sky. The main reason for this, according to van Bergeijk (2018), were the soil conditions. The instable peat soil created issues regarding the foundation, the foundation piles were not long enough and to make them strong enough for towers it was too expensive. The city skylines where long dominated by church towers built on sandy soils. For the period of 1382 to 1968 the Domtoren in Utrecht was the highest building in The Netherlands (Zandbelt&vandenBerg, 2008).

Another reason for the Dutch cities to withhold high-rise constructions was related to the historic city skyline, like Amsterdam (van Bergeijk, 2018), The Hague was protective of its heritage. Except for its churches, the Prinsenhof, the Ridderzaal (figure 10) and the Stadhouderstoren, The Hague was in 1900 a relative flat city within the Dutch context. Buildings where rarely built higher than 3 floors, while in Amsterdam, 4 or 5 floors were common (Gemeente Den Haag, 2017).

De Ridderzaal

Figure 10. De Ridderzaal
by unkown
in van Grieken, 2015

International ambtions

After 1900 more towers emerged in The Hague, from the symbolic nature the focus shifted towards a more functional dimension. The new towers related to the ambition of The Hague to house international organisations (e.g. the Vredespaleis) and international companies (e.g. de Rode Olifant) (Blauw, 2008, p. 24; Gemeente Den Haag, 2017)

Nirwana Woonhotel

Figure 11. Nirwana Woonhotel
by P.G. Kempff
in Haags Gemeentearchief, 1990

Stacked housing

At the start of the 20th century The Hague was dealing with an explosive population growth. In the expansion plan of Berlage from 1908 (executed between 1910-1930) the housing standard remained a building height 3 floors. Stacked housing was, due to municipal building regulations, almost exclusively consisting of *portiekwoningen* with open stairs and porches visible from the public road. These public stairs were considered unhygienic, flammable, and socially unsafe (Gemeente Den Haag, 2017).

Stacked housing became more popular for the wealty in the Hague with the emerge of luxureous *woonhotels*, the staircases of these apartment buildings where closed off and facilities could be shared collectively as an alternative to the shortage of servants (Gemeente Den Haag, 2017).
The *woonhotel* Nirwana of 1929 in The Hague is considered the first residential high-rise of The Netherlands with 7 floors and 25 meter in height (figure 11) (Zandbelt&vandenBerg, 2008). The original design, inspired by the American Apartment building, aimed for 60 meters in height (Metz, 1992). The height was adjusted because the buildings with elevators of medium height were economically only feasible (Gemeente Den Haag, 2017). The Hague was the city of *woonhotels*, with 34 buildings, compared to 3 in Amsterdam and 1 in Rotterdam. The *woonhotels* had transparent facades and a public character on the ground floor, making them blend in the surrounding urban fabrics (Gemeente Den Haag, 2017). These new *woonhotels* and new height accents along squares and main roads raised the new *stedelijke maat* at the end of the 1920s to 20 meters, which was also characterised by bigger building volumes and wider streets (Gemeente Den Haag, 2017).

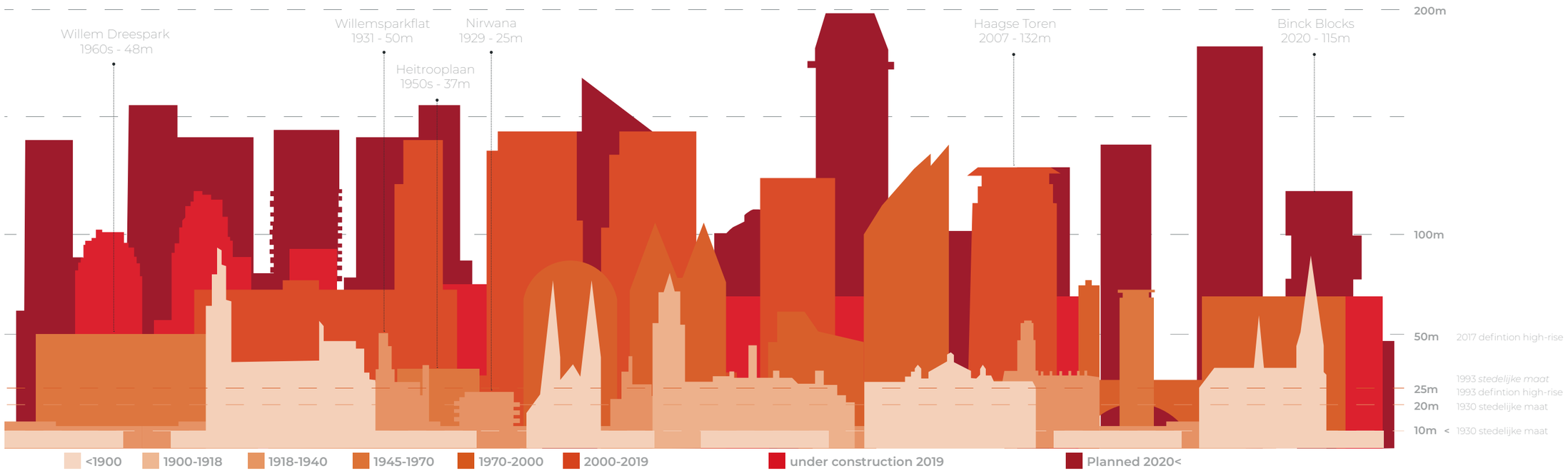


Figure 9. The Hague skyline timeline
by author
(Gemeente Den Haag, 2017; Haagsehoogbouw.nl, n.d.)
*inspired by Gemeente Rotterdam, 2019

1. The residential high-rise

Willem Dreespark

Figure 12. Willem Dreespark
by Dienst voor de Stadsontwikkeling
in Haags Gemeentearchief, 1970

Reconstruction and Baby-Boom

After the second World War the Structuurplan Groot 's Gravenhage (Dudok, 1948) aimed to reconstruct parts of the city and expand to facilitate the baby-boom population expansion. The open portiekflat became prohibited in 1949 and the building height in middleclass neighbourhoods like Moerwijk and Morgenstond did not exceed 4 floors. This was due to the fact that building regulations required an elevator for buildings of 5 floors. In an attempt to develop qualitative residential high-rises according to the principle *licht, lucht en ruimte*, the first flats were built in the neighbourhood Meer & Bosch at the end of the 1950s (e.g. Heitrooplaan). The emphasis changed soon after this from quality to quantity, fuelled by national subsidies for assembled stacked housing. In the neighbourhoods Moerwijk en Morgenstond mass housing flats with blind facades, abundant street carparking and unattractive streets emerged in the 1960s (figure 12) (Blauw, 2008, p. 49; Gemeente Den Haag, 2017).

Return to the human-scale

The post-war population growth reached its height in the beginning of the 1960s with 606,000 residents. The following period the population shrinked to 441,000 in 1999 due to sub-urbanisation of mainly middle class families. The older neighbourhoods had received no attention during the reconstruction period and the increased traffic flows where not accounted for. Large scale demonlishments and restructing plans like van Grijs naar Groen for the Schilderswijk where rejected due to neighbourhood protests. In the second half of the 1980s there was again attention for city herritage views, the plinth and the liveablity of public spaces (e.g. Vailantlaan). Since the end of the 1980s the municipality aimed for a compact city development (Gemeente Den Haag, 2017).

Central Business District

From the 1980s more office towers where developed around the Central Station (e.g. Haagse Poort). The height limit at the time was 70 meter (Gemeente Den Haag, 1993). The first high-rise vision followed in 1993 and aimed to regulate high-rise developments in the city, the height limit was first streched to 120 meter and in the high-rise vision of 2001 to 140 meter. From the beginning of the 2000s the population started to grow again and residential towers (e.g. de Haagse Toren) (figure 13) and mixed-use towers emeged (e.g. New Babylon) (Gemeente Den Haag, 2017).

High-rise to improve quality

From 2009 the attention shifted from the regulation of height towards the used of high-rises as a means to densify and achieve urban qualities (Gemeente Den Haag, 2017). The latest high-rise vision of 2017, Eyeline-Skyline (Gemeente Den Haag, 2017) follows this trend. The focus of residential high-rises is put along public transport hubs. High-rises are meant to form ensembles, there are rules for the urban layer and the plinth, there should be interaction between the indoors and outdoors (the eyeline) to ensure an attractive and lively public space. To aim for social mixing regulations enforce a ratio of at least two different apartment types. Reflecting on history the municipality relates to the woonhotels, which turned out to be well embedded in the urban fabric (Gemeente Den Haag, 2017).

Strijkijzer

Figure 13. Haagse Toren "Strijkijzer"
by AAArchitecten
in AAArchitecten, n.d.

The Hague high-rise typology

Building block

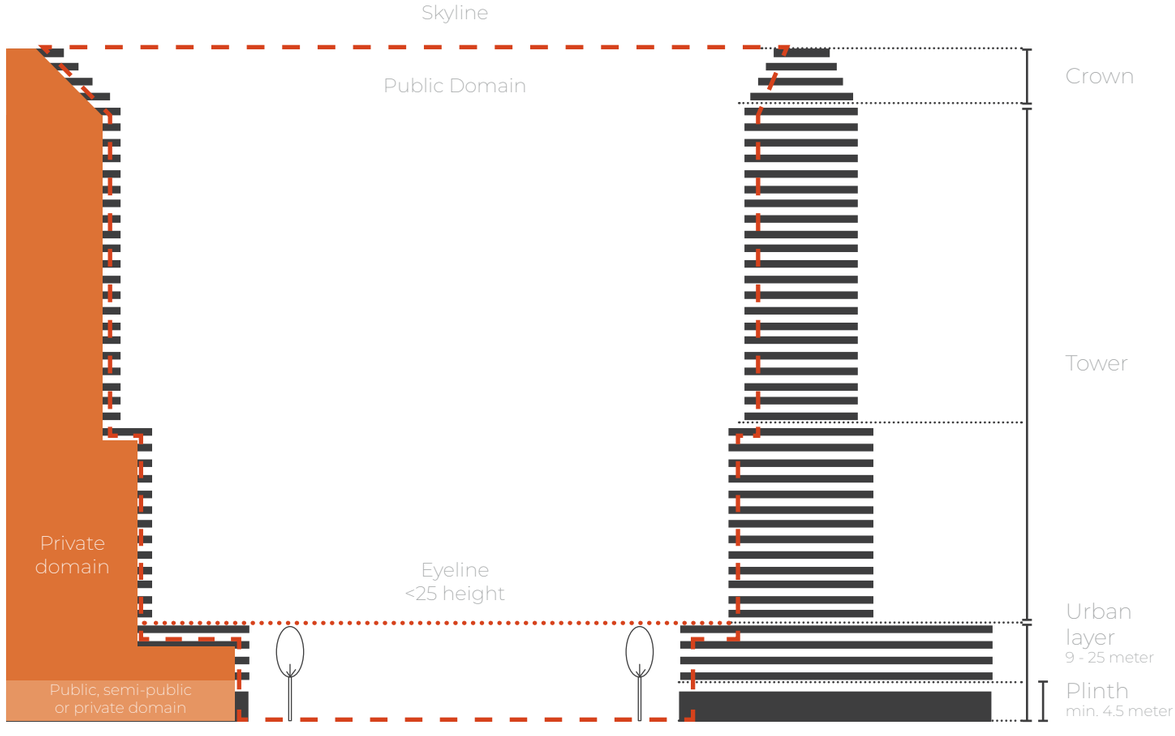


Figure 14. The Hague high-rise typology
by Gemeente Den Haag, 2017
(edited by author)

Europe

Since the turn of the millennium, European cities have attributed a prominent role to high-rise developments. The construction of residential high-rises of this period has exceeded the post-war peak period (Drozdz et al., 2018). The new developments are focused on densification and often private and focused on central locations in the city centres (Meyer & Zandbelt, 2012). This provides an answer to the trend of urbanisation in European cities, as the predictions point towards 85% of the European population living in cities in 2050 (United Nations, Department of Economic and Social Affairs, 2019). Drozdz et al. (2018) explain this trend by a renewed interest in the architectural and engineering qualities of high-rises, the globalization and financialization of real estate and an involvement of politics in international property markets.

The Netherlands

This re-emerge of vertical urbanisation has found fertile ground in The Netherlands. Regarding the posed housing demand of 1 million new homes to be built until 2030, van Gameren sees vertical urbanisation as an unavoidable choice to increase density in the low-dense Dutch context (in Jongeneel, 2018). De Graaf (2018) aligns with this view; the low availability of land; a growing wish of the Dutch population to live in cities; a trend of shrinking household sizes; and more acceptance of the population to live in high-rise apartments (by BPD defined as >8 stories)(BPD, 2016), would make high-rise the contemporary solution of urban development.

The Hague

One of the cities which has undoubtedly embraced the solution of central urban high-rise developments is The Hague. In their high-rise policy, Eyeline en Skyline, the municipality articulates the choice for high-rise developments as a means and not as a goal on itself. The goal is to deal with limited available space within the city to create sufficient living (50,000 dwellings) and working spaces to achieve spatial quality, sustainability and a strong business climate. The predicted growth until 2040 in population entails 50,000 – 80,000 new inhabitants, which accounts for a relative growth of around 15% of the total population (Gemeente Den Haag, 2016, 2017).

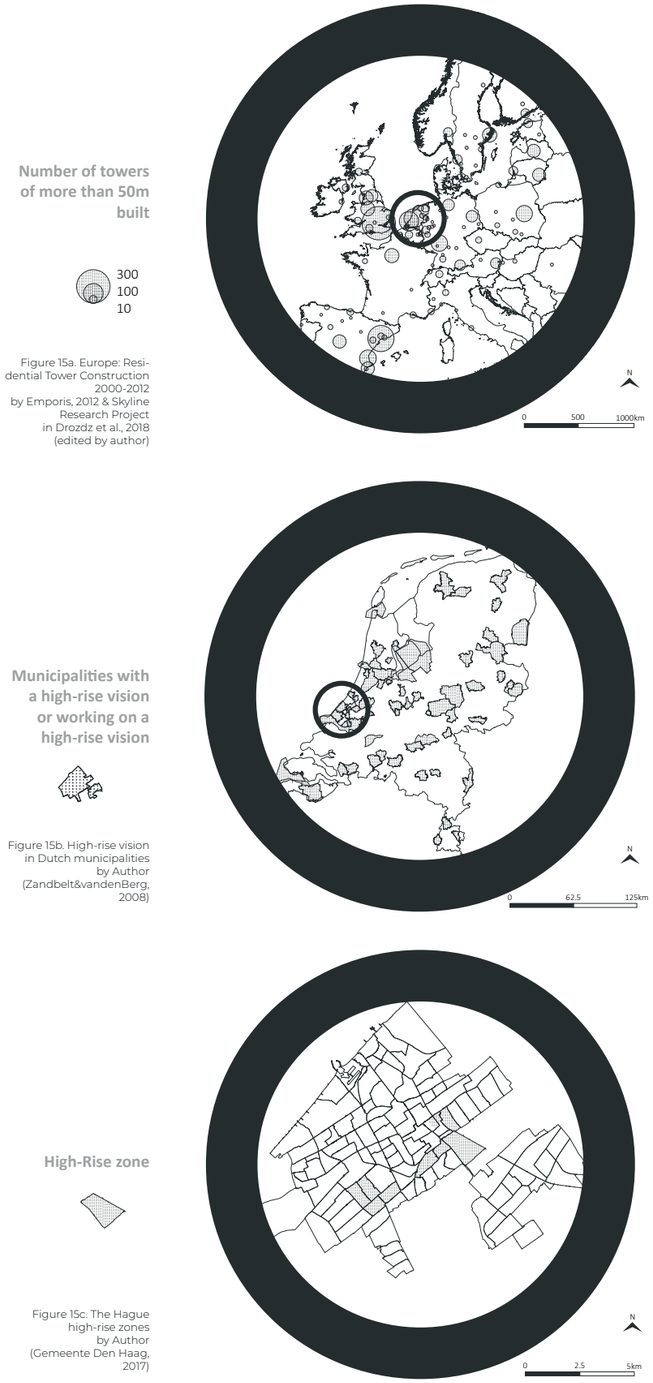
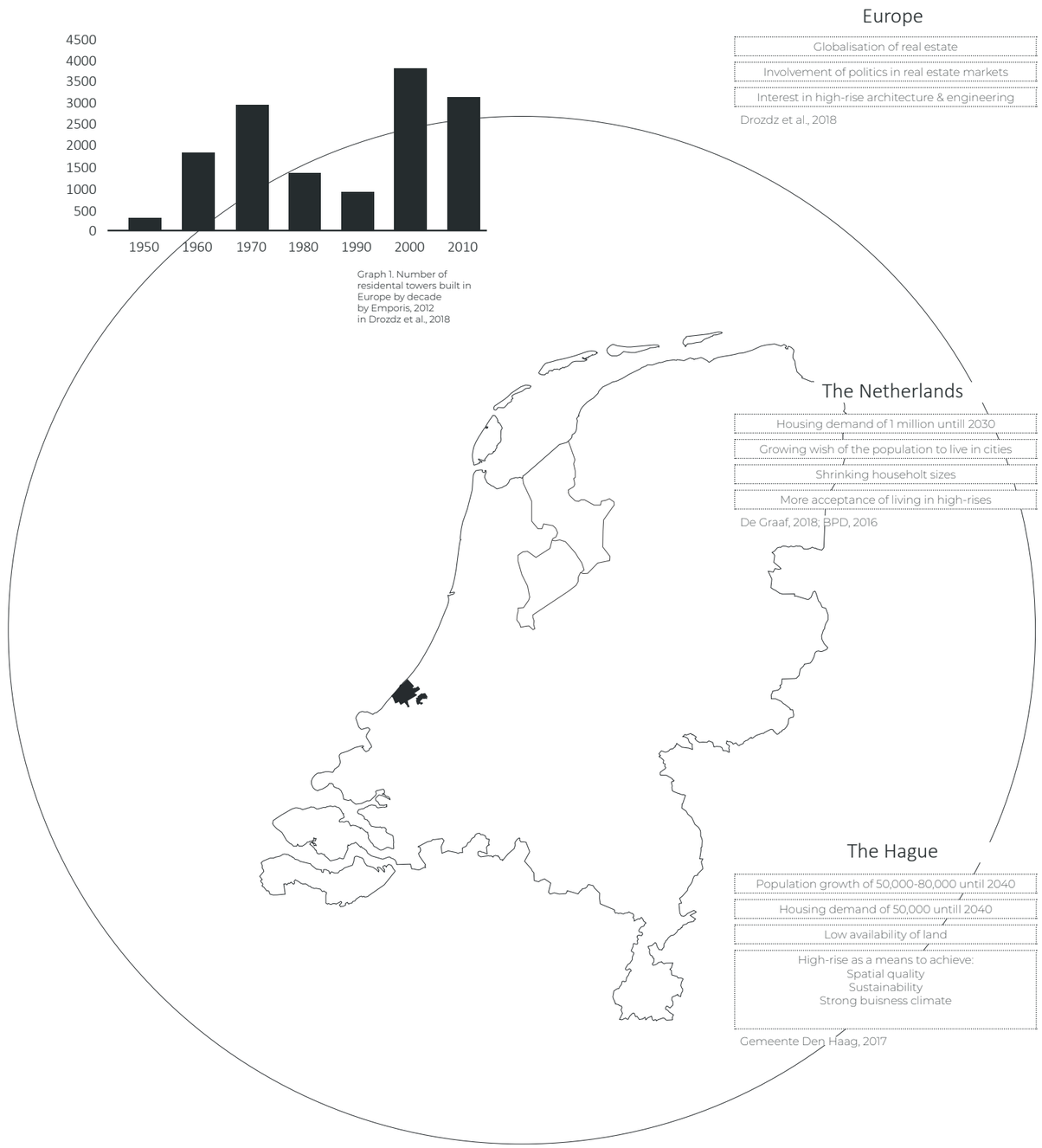


Figure 15a. Europe: Residential Tower Construction 2000-2012 by Emporis, 2012 & Skyline Research Project in Drozdz et al., 2018 (edited by author)

Figure 15b. High-rise vision in Dutch municipalities by Author (Zandbelt&vandenBerg, 2008)

Figure 15c. The Hague high-rise zones by Author (Gemeente Den Haag, 2017)

Graph 1. Number of residental towers built in Europe by decade by Emporis, 2012 in Drozdz et al., 2018



High-rise causal factors

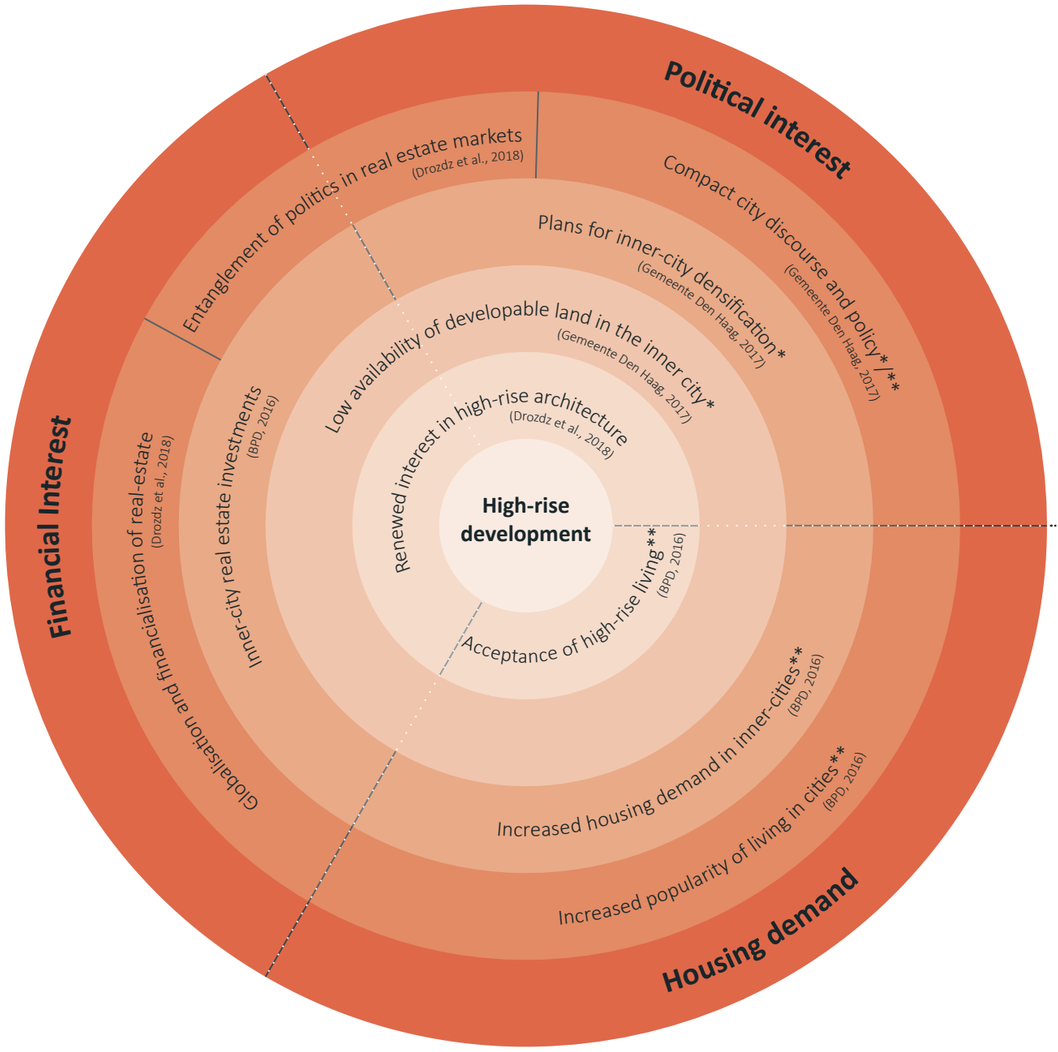


Figure 16a. Diagram high-rise causal factors
by Author
(References stated inside the figure)

** The Netherlands
** The Hague

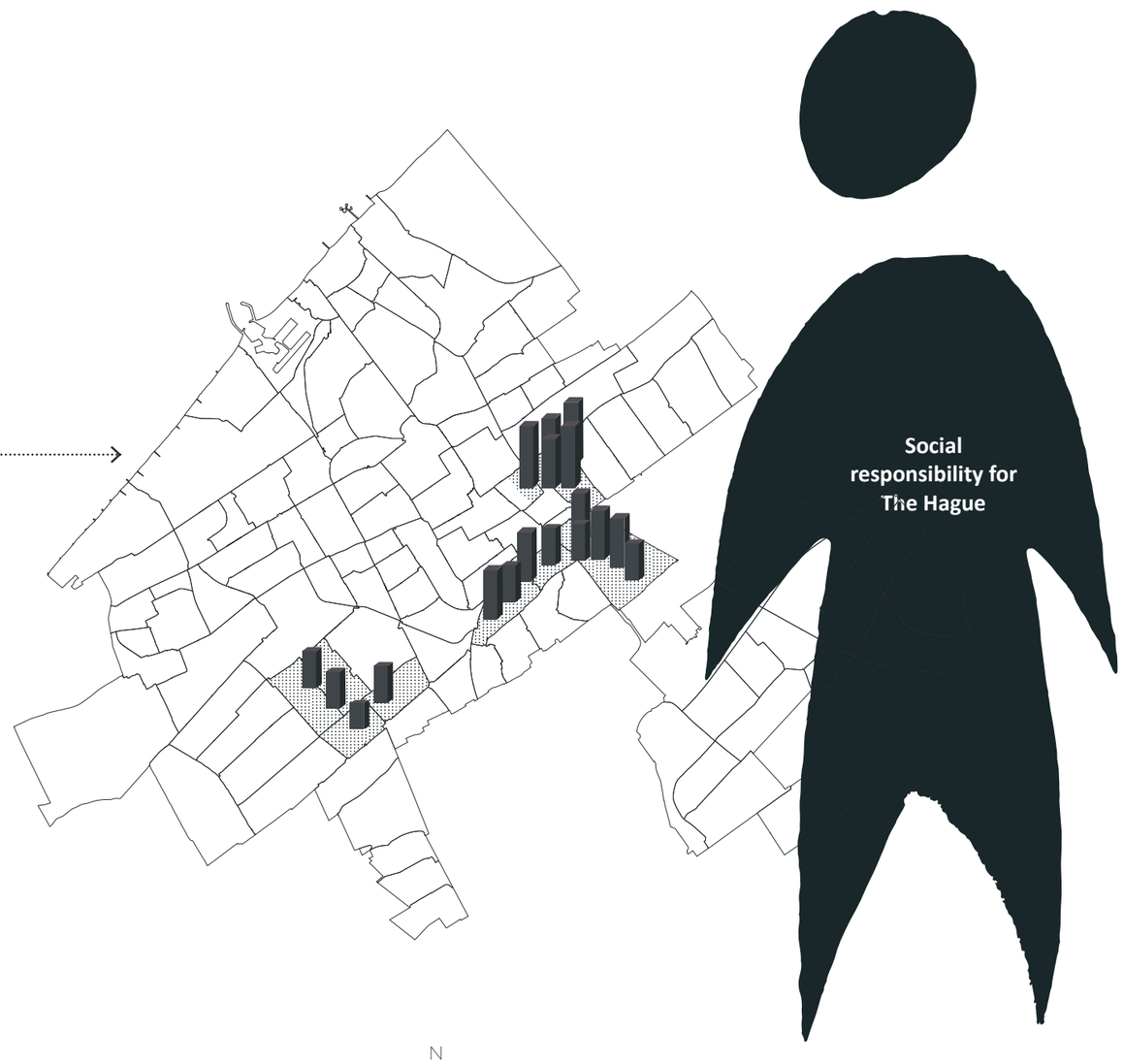


Figure 16b. Social opportunity or challenge for The Hague
by Author
(Gemeente Den Haag, 2017)

2.

Social challenges

The social context of The Hague

2.1 Introduction

The choice for residential high-rise developments in The Hague influences, besides the current residents, also the new residents of these buildings. To understand the social aspects that need attention in the design of a high-rise structure it is in the first place relevant to analyse the socio -spatial context in which these developments will be located and secondly the potential social effects the high-rise developments can have on its inhabitants. The following chapter gives more insight in these questions.

A substantial population growth and the new high-rise plans in The Hague will be positioned in (2.2) a context of diverse immigration; historic and enduring socio-economic segregation and vertical segregation (2.3); hyper-diversity (2.4) and where social exclusion and loneliness can be seen as a social issue (2.5). The project area the Binckhorst (2.6) is a new high-rise district that is located in proximity to various socially challenged neighbourhoods and can be seen as a potential area to develop a high-rise structure within this project. As buildings become bigger in scale the integration of their interior in the urban fabric and their internal social structure becomes relevant (2.7). While high-rise buildings pose social challenges, they certainly provide a potential for social connectivity (2.8), the design of a residential high-rise in the Binckhorst could serve as an example for this potential.

2. Social challenges

2.2 Historic perspective

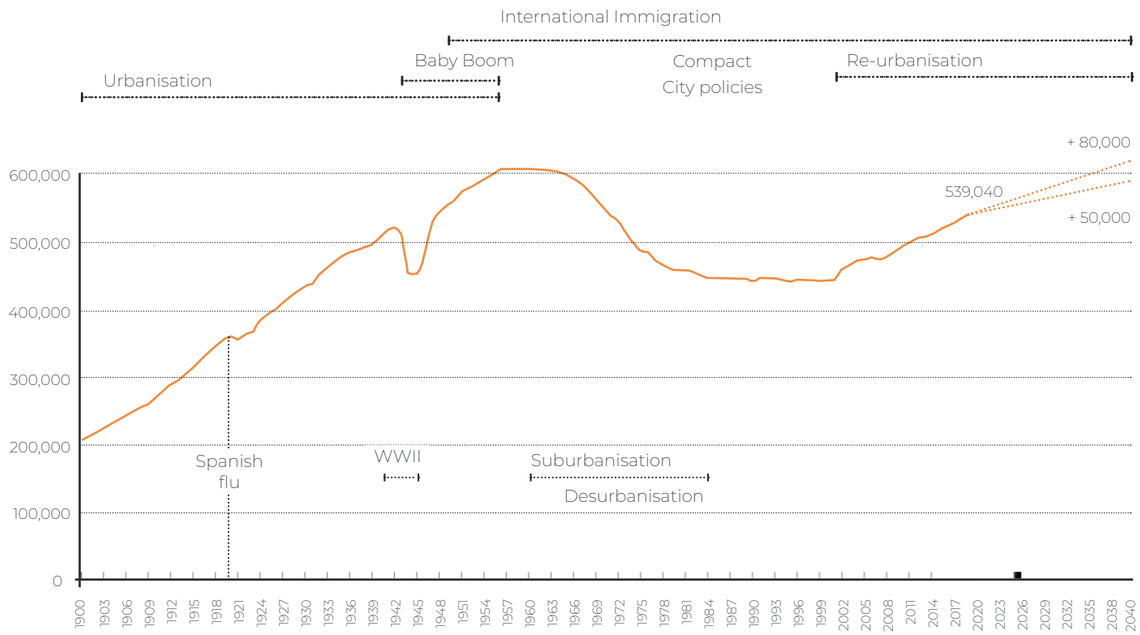
A divided city

This substantial population growth of 50,000 to 80,000 new inhabitants (figure 16) lands in The Hague, a city where the socio-economic divide has been the most apparent within The Netherlands (Kloosterman & Priemus, 2001). Spatially and historically this divide can be recognised by wealthy neighbourhoods built on North-West sand areas (e.g. Willemspark) and city extensions built for the working-class on the peat soil of the South-East part of the city (e.g. Schilderswijk) (figure 17) (Kloosterman & Priemus, 2001). This divide became apparent due to the industrial revolution and the urbanisation of workers towards the city, those workers settled in the peat lands. The last century the population dynamics and work opportunities in The Hague contributed to this socio-spatial divide.

World War II

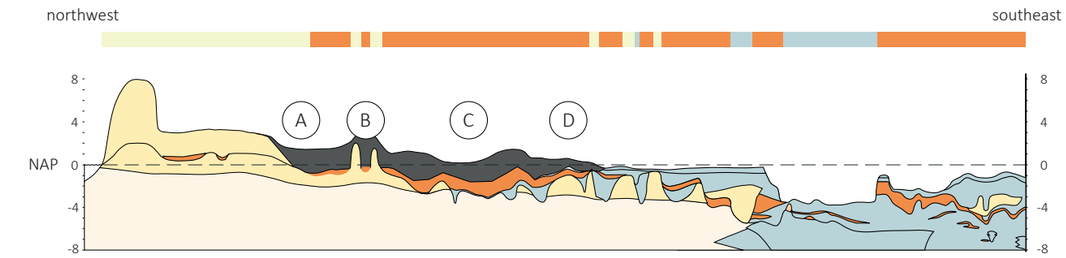
During the second World War the population declined in The Hague. Due to the German Atlantic Wall defences 45,000 inhabitants had to leave their homes (Meijers, Hoogerbrugge, Louw, Priemus, & Spaans, 2014) and many other residents found death as a result of this war.

Population growth The Hague



Graph 2. Population growth and prospect
by author
(DHIC/GDH/DPZ, 2019; Gemeente Den Haag 2016, 2017)

Sand and peat soil in The Hague



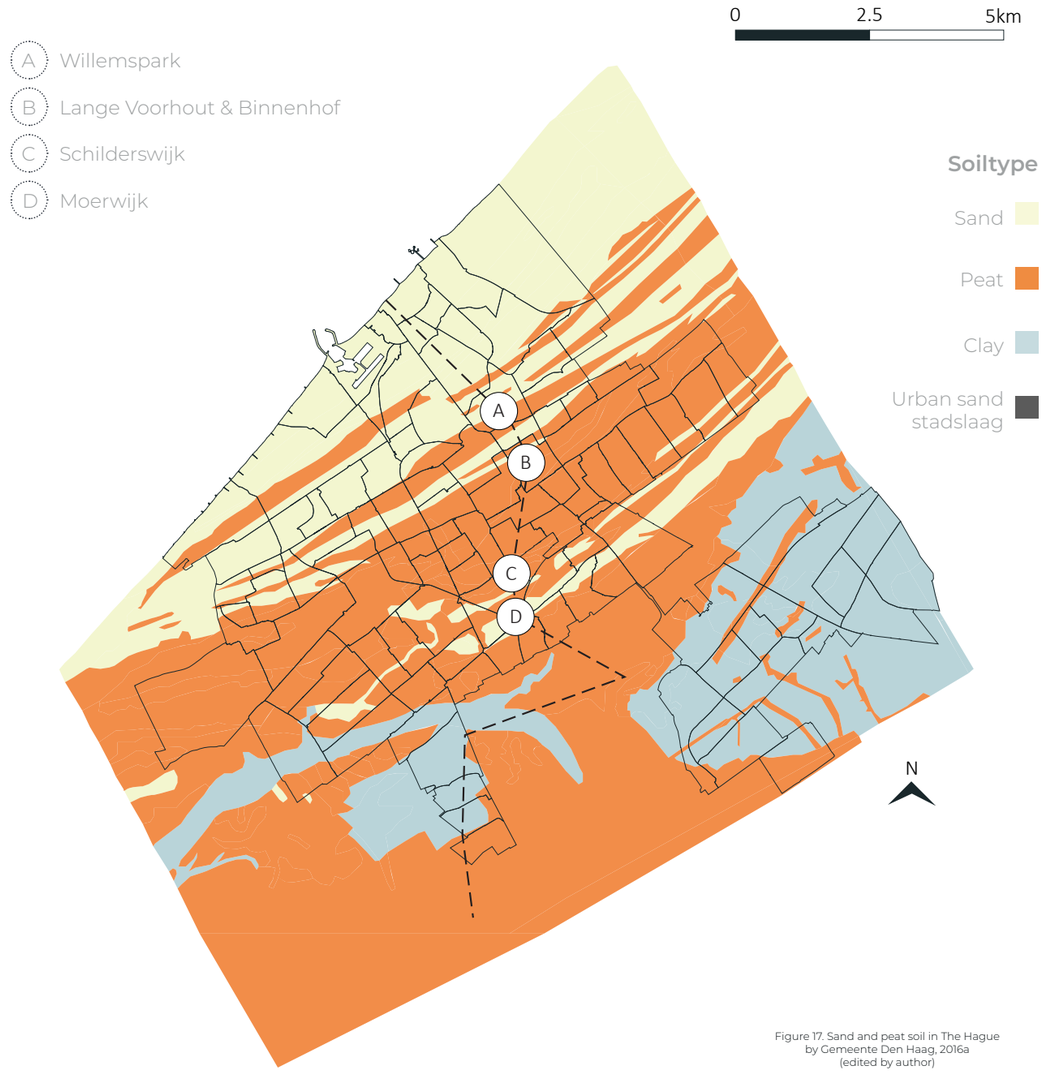


Figure 17. Sand and peat soil in The Hague
by Gemeente Den Haag, 2016a
(edited by author)

2. Social challenges

Immigration

After the war the population of The Hague started to grow again. This growth was a result of the increased birth rate, the Baby-Boom (Blauw, 2008, p. 42), and due to international immigration to The Hague. A large share of immigration of inhabitants of the Dutch East Indies, after Indonesia's independence, where housed for a large part in The Hague (28.3% of the *repatrianten*) in the period between 1949 and 1951 (Blauw, 2008; Jansen Hendriks, 2019; Meeteren, Pol, Dekker, Engbersen, & Snel, 2013). In the period between 1960 and 1973 the Dutch economy grew substantively. Guest workers were invited to move to The Netherlands, first from Spain, Italy, and Portugal and later from Turkey and Morocco. Many guest-workers remained in The Netherlands and later reunited their families. More immigrants related to the former colonies, independence of Surinam in 1975 and immigration from the Dutch Antilles. From the 1980s immigration from asylum seekers became significant, over the years people from Yugoslavia, the former Soviet Union, Turkey, Afghanistan, Iraq, Iran, Sri Lanka, Angola, Somalia, and Sierra Leone immigrated to The Netherlands and partly settled in The Hague. Since the 1970s the immigration from other Western countries increased in some cases as commuting labour migrants (Meeteren et al., 2013).

After the millennium immigration policies of The Netherlands became stricter (*Vreemdelingenwet* of 2001), however, the surplus of migration remained. After the millennium migration to The Netherlands became more diverse from Western and non-Western countries, as a result of globalisation processes (Meeteren et al., 2013). Available work in and around The Hague contributes to immigration of different groups to the city, the Westland greenhouses attract unschooled workers and the amount of international organisations and companies in the city attract expats or schooled immigrants (Meijers et al., 2014) (table 1). Spatially the clusters of non-native population can be found in the old workers neighbourhoods built (e.g. Schilderswijk, Transvaal) and the after war expansion neighbourhoods (e.g. Moerwijk), this roughly corresponds with the peat neighbourhoods, clusters native populations can be found in the North-West in Duindorp an old neighbourhood of the old fishing village Scheveningen and in the South-East in Vinex neighbourhoods like Hoornwijk (figure 17; 18a). When distinguishing Western and non-Western roots the peat and sand divide is clearly visible, Western immigrants cluster the most in the wealthy sand neighbourhoods (e.g. Willemspark) and non-Western immigrants cluster most on the peat areas. Clusters of both groups can also be spotted on the peat soil in the Laakkwartier and Spoorwijk (figure 17; 18b).

Suburbanisation

The socio-economic divide became more contrasting due to the population shrinkage between 1960 and 1985. While immigrants moved to the city, a larger share of middle-class families moved out of The Hague towards surrounding municipalities, *groeikernen*, like Zoetermeer (Meijers et al., 2014). This process continued in the 1990s with Vinex-locations like Leidschenveen-Ypenburg in the South-East. The municipality aimed to house more people within the city again based on a national policy of the compact city, a growing wish of the population to live in cities made the population of The Hague grow after the millennium (graph 2).

Number of international organisations in The Hague's city-region

	2004	2007	
Intergovernmental/UN organistions	10	12	15
European organisations	15	19	26
Knowlegde organisations	8	18	16
Non-governmental organisations (NGO's)	23	66	116
Education	14	16	20
Culture	-	-	6
Embassies and consulates	97	107	111
Total	167	238	310

Clusters of native and non-native population in neighbourhoods

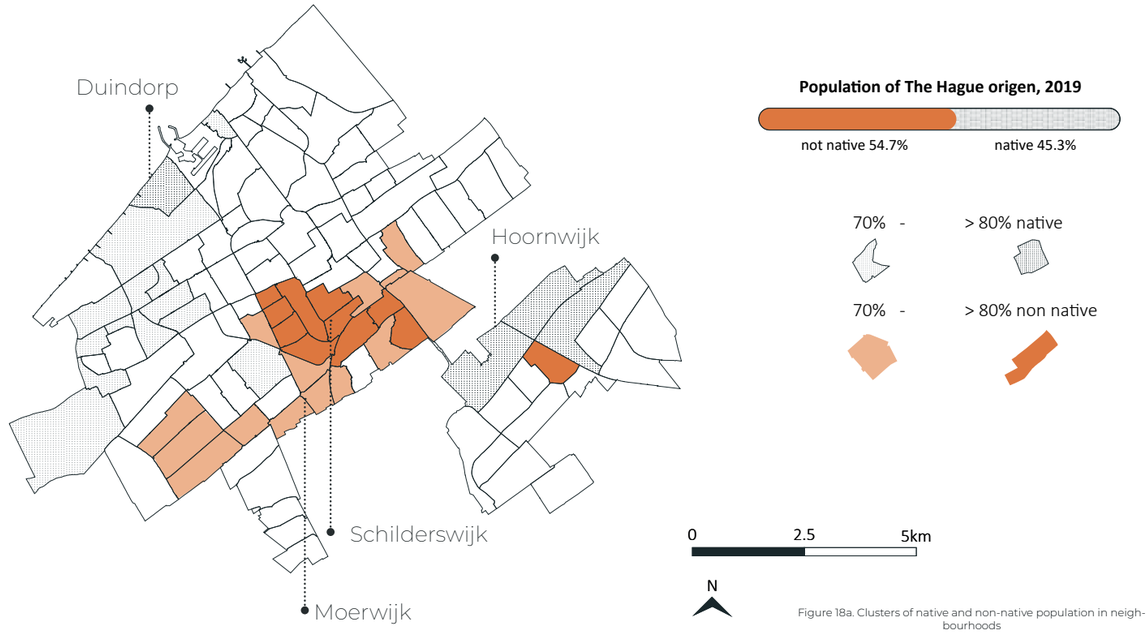


Figure 18a. Clusters of native and non-native population in neighbourhoods
by Author
(CBS, 2019)

Western and non-Western immigration background in The Hague

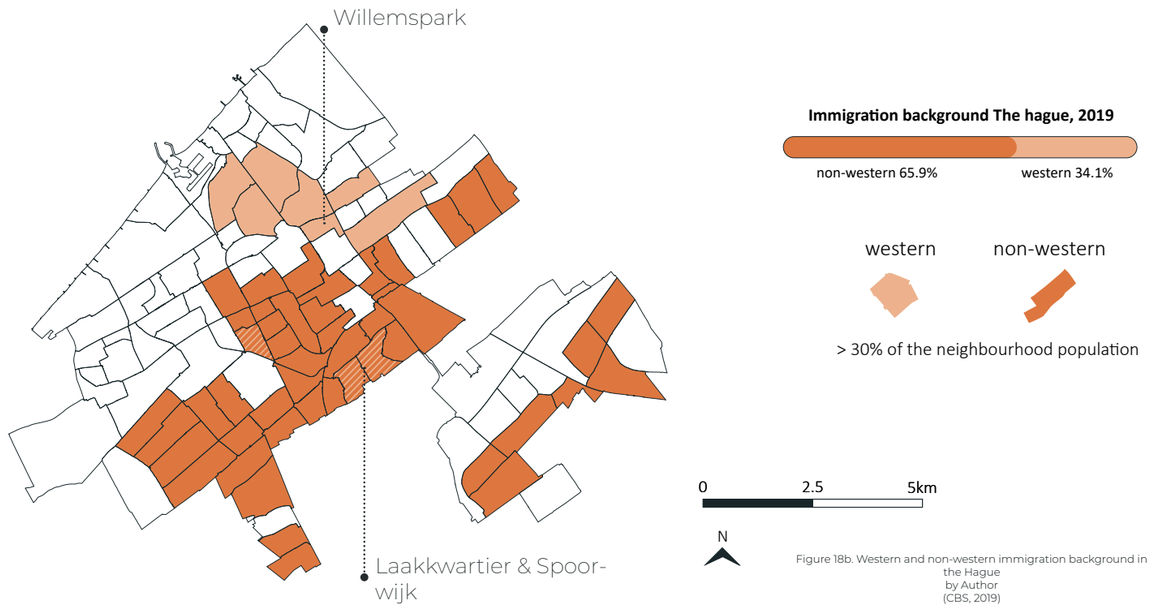


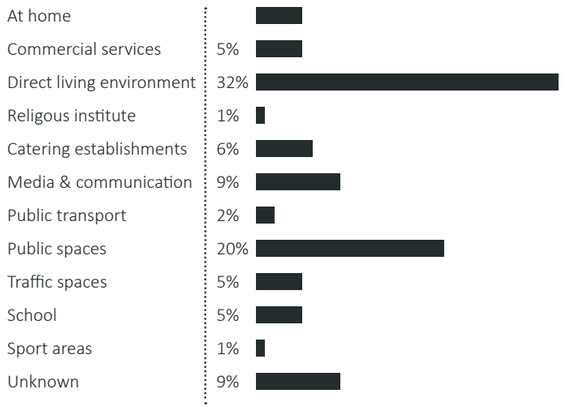
Figure 18b. Western and non-western immigration background in the Hague
by Author
(CBS, 2019)

Segregation

In the Resilience Strategy of The Hague (Gemeente Den Haag, 2019a), segregation is highlighted as one stressors in the municipality. Segregation can be defined as a spatial result of difference or inequality in society, it can be mapped by the overrepresentation of social groups on various scales of the city (Ponds, van Ham, & Marlet, 2015, p. 33). In the Resilience Strategy segregation is defined in socio-spatial terms, including wealth and possessions, cultural diversity, opportunities in work and education and liveability (Gemeente Den Haag, 2019a, p. 24). Segregation can affect individual welfare; economic growth; and social cohesion (Bailey, Gent, & Musterd, 2017; Gemeente Den Haag, 2019a, p. 24). This can result in polarisation (Gemeente Den Haag, 2019a, p. 24); decreased societal integration; concentration of social issues; definition of a neighbourhood image; and a less diverse social network (Ponds et al., 2015, pp. 55–57). While the disadvantages on a societal level are numerous, there can be some benefits for individual households, people can feel comfortable with like-minded others; people of similar lifestyles can share facilities; and the same lifestyle can result in less nuisance (Ponds et al., 2015, pp. 53–54). Segregation can be caused by individual factors (e.g. the preference for dwelling or location; the individual means to realise these preferences; the preference for social homogeneity); historic spatial structures (e.g. housing prices, tenure structures); selective migration, specific groups of people moving in- and out of areas; and in-situ changes of areas, the change of population characteristics by demographic processes (e.g. aging) (Bailey et al., 2017; Ponds et al., 2015, pp. 39–46).

The socio-economic divide in The Hague is regarded the most apparent in The Netherlands (Kloosterman & Priemus, 2001), Bailey et al. (2017) show the socio-economic segregation kept increasing between neighbourhoods in the city during the period of 1999-2006 (figure 19). They name the specific in-migration of new residents within neighbourhoods as the main reason for the trend. Bailey et al. (2017) place this in the frame of a long-term urban change where central cities and suburbs are becoming richer and outer post-war neighbourhoods are becoming poorer. The segregation in The Hague has as discussed earlier a historic divide due to the peat and sand landscape which formed contemporary segregating factors like the tenure structure (figure 19) and the liveability in the city (figure 21). It can be assumed the individual preferences like social homogeneity play a role when looking at the clusters of ethnicity (figure 18a; 18b).

Police reported discrimination incidents in The Netherlands by location 2018



Graph 3. Police reported discrimination incidents in the Netherlands by location
by/in Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2019
(edited by author)

Tenure structure 2019

Figure 19. Tenure Structure 2019
by Author
(DHIC/GDH/GBD, 2019)

Immigration has been the driver of the population growth of The Hague for the last years (Gemeente Den Haag, 2016), and with the prediction of its continuation (Graph 2) potentially the segregation in the city will continue. A clear challenge for the new developments of houses and new neighbourhoods seems urgent regarding the integration of different social groups. Spatial inclusivity forms a challenge for our cities of the future (Harteveld & Cavallo, 2019). Issues potentially resulting from segregation like discrimination can occur most on the local level, in the reported discrimination stats the direct living environment forms the biggest group (graph 3).

The increase of income inequality between neighbourhoods 1999-2006

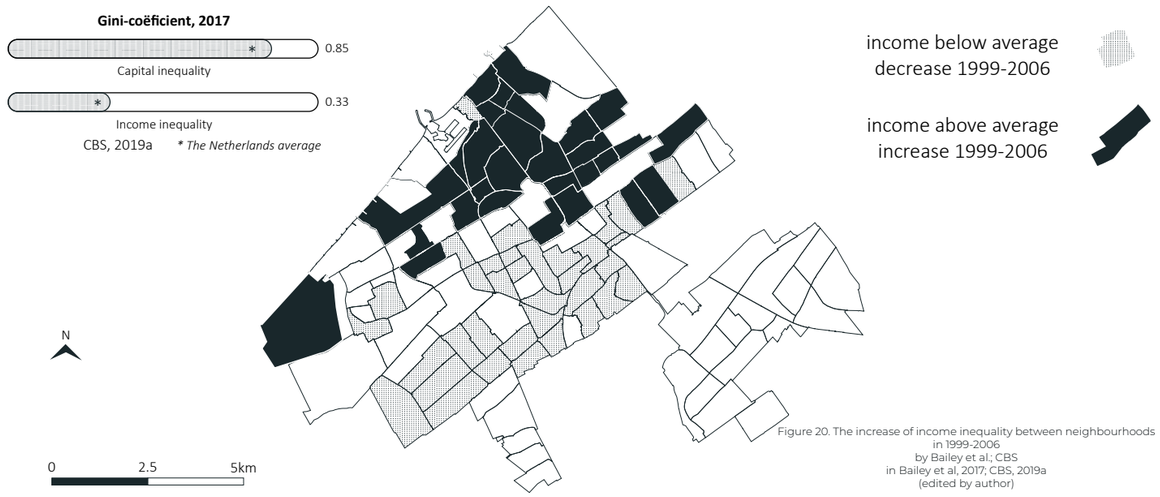
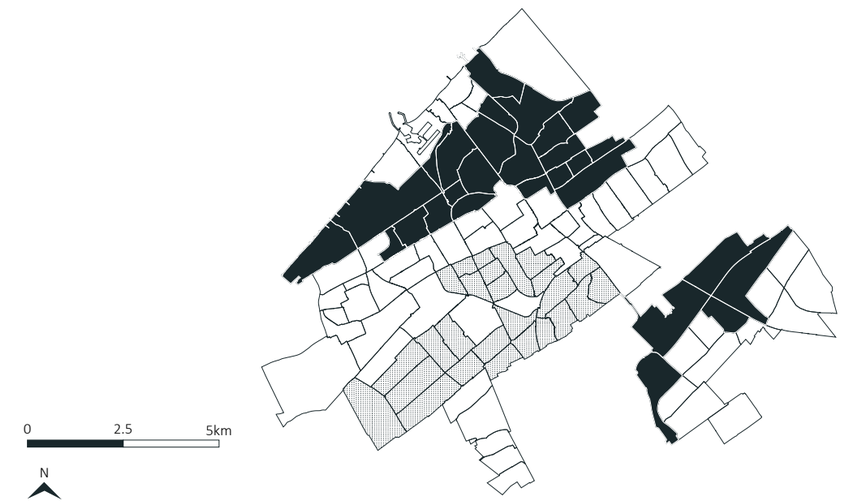


Figure 20. The increase of income inequality between neighbourhoods in 1999-2006
by Bailey et al.; CBS
in Bailey et al, 2017; CBS, 2019a
(edited by author)



Livability

Negative

Excellent

livability through more than 100 social indications related to 5 categories:
- Dwellings
- Residents
- Facilities
- Safety
- Physical surroundings

2. Social challenges

Vertical Segregation

Segregation can next to the horizontal dimension also play in the vertical dimension. This vertical segregation can be seen in a contrast between high- and low rise dwellings, depending on other contextual factors as mentioned in relation with segregation this can have different ways of showing. The location and the quality and characteristics of the dwelling play a significant role here. In the Hague high-rise buildings exist for wealthy people (e.g. Monarch III) and high-rises especially built during the reconstruction period contain social housing (e.g. Willem Dreespark).

As a result of municipal regulations, as included in the recent high-rise vision of the municipality (Gemeente Den Haag, 2017, p. 41), buildings are designed for various different social groups. The goal is to become a social inclusive city, the municipality is aiming for buildings with mixed social groups (social rent, free sector rent and ownership). A practical rule included entails the following: complexes of more than 60 dwellings are required to have two dwelling-types with max 60% of one of them (Gemeente Den Haag, 2017). An example of this social diversity in one building is the Haagse Toren (Figure 22a), the tower includes two groups of a contrasting socio-economic status: students and expats. Looking closer to the interior of the building it becomes clear the only common aspect of those groups is the fact they live in the same building, the design completely separates the two groups (figure 22b). Separate entrances eliminate any interaction between the two groups, and there is a lack of social collective spaces, not counting the luxurious gym or the paid panorama roof terrace.

Haagse Toren "Strijkijzer"

socio-economic structure, circulation, functions

Figure 22a. Haagse Toren "Strijkijzer"
by V. van Zeijst
in Wikimedia Commons, 2012

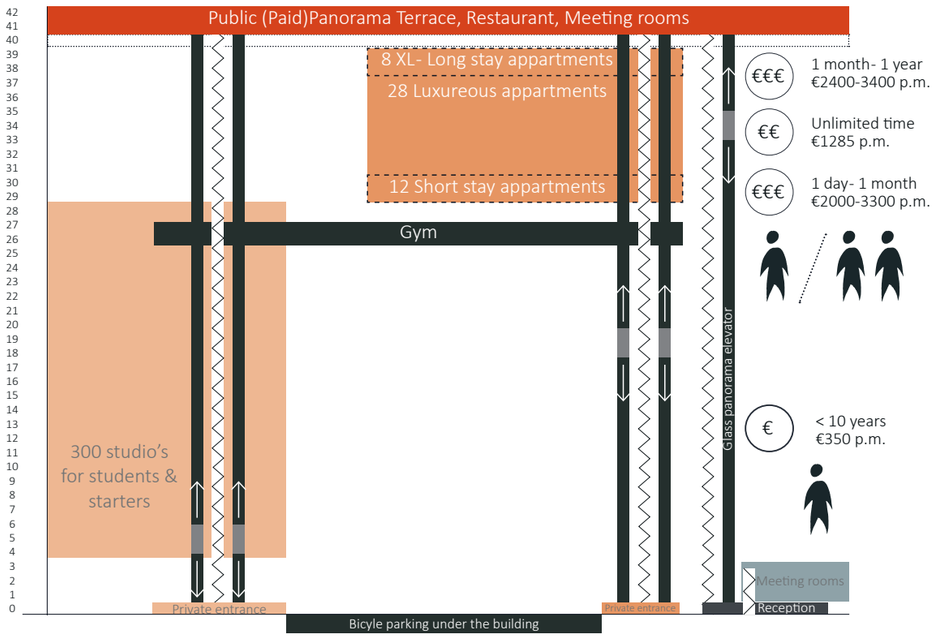


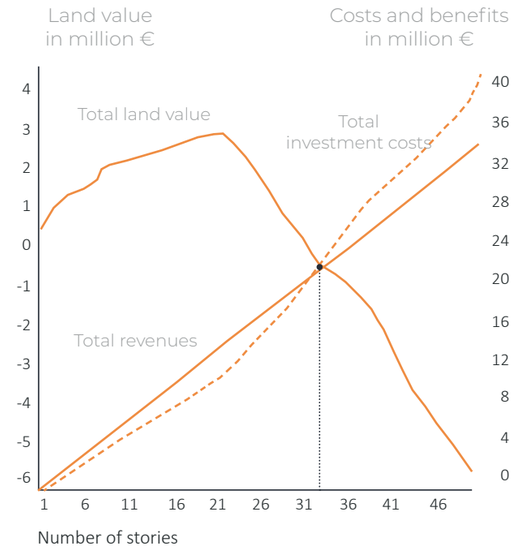
Figure 22b. Haagse Toren "Strijkijzer" socio-economic structure, circulation, functions
by Author (Vestia, n.d.; Tower Leisure, 2017)

Vertical Segregation

Globalisation and financialisation
of real estate

*indicative figure, no exact data used

Financial feasibility of height
in The Netherlands



Graph 4. Financial feasibility of height in the Netherlands
by Daalhuisen, 2004 in Zandbelt, 2012
(edited by author)

Housing as a commodity and not as a social good

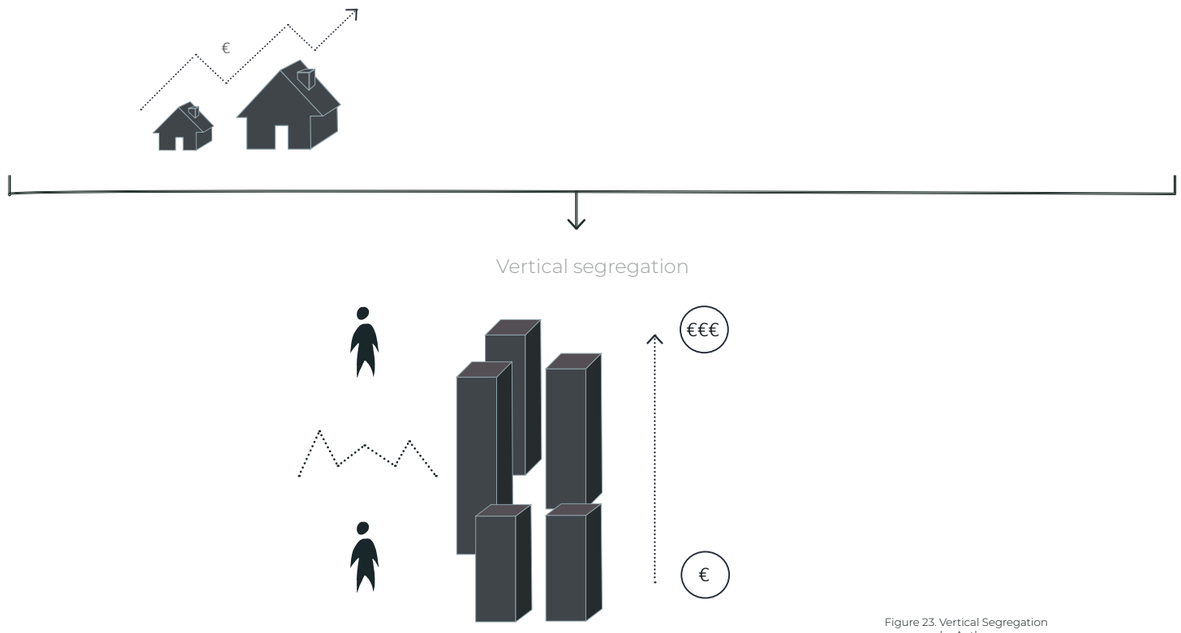


Figure 23. Vertical Segregation
by Author

2. Social challenges

The reason for the wealthy to live on the highest floors has on the one hand to do with individual preferences and a desire for exclusivity, however as Gifford (2007) stresses the preferred height to live should not be regarded in a linear manner. On the other hand the investment costs of building a high-rise above a certain height play a role in making top floors for the wealthy. In the Dutch context a complex land taxation structure makes developers pay for the volume they built, reaching more height has in The Netherlands therefore next to high construction costs also high costs related to municipal fees (Zandbelt, 2012, pp. 72–73). When building above the height of around 30 floors, on average the costs will exceed the revenues (graph 4). Consequently if developers built higher, they either have to compensate with low-rise buildings (Zandbelt, 2012, pp. 72–73) or they can sell to top floors for high prices. This financial element strings together with the reality of globalisation and financialisation of real estate (Drozdz, Appert, & Harris, 2018), which results in the treatment of housing as a commodity instead of a social good (OHCHR, n.d.) (figure 23). On the debate on the Sluisbuurt in Amsterdam, Soeters ventilates a critique on the expat world of the super-rich, neighbours are completely invisible for each other, something he labels ghost behaviour (Soeters in Milikowski, 2018). Where in history the upper floors have belonged to the poor and the lower floors to the wealthy (e.g. Roman Insulae, Hausmann's Paris, 19th century) (Aldrete, 2004; Sennett, 2018), the tables have turned and Walkers theorem of stacked independent private domains (Koolhaas, 1994, pp. 82–85) (figure 5) seems materialised. The priviledged live fenced off by height in what Graham et al., (2012) call vertical gated communities. This illustrates the second category of vertical segregation that happens within a building. While the attempt of the architect of the Haagse Toren and the regulations of the municipality to achieve social inclusivity and social mixing should be credited, there is still a long way to go. The municipality does speak in favour of collective functions, facilities, and outdoor spaces and less extensively about shared entrances, which is a step in the right direction (Gemeente Den Haag, 2017). Places of encounter between residents and a more randomly mixed composition of social groups would mitigate could counter this vertical segregation.

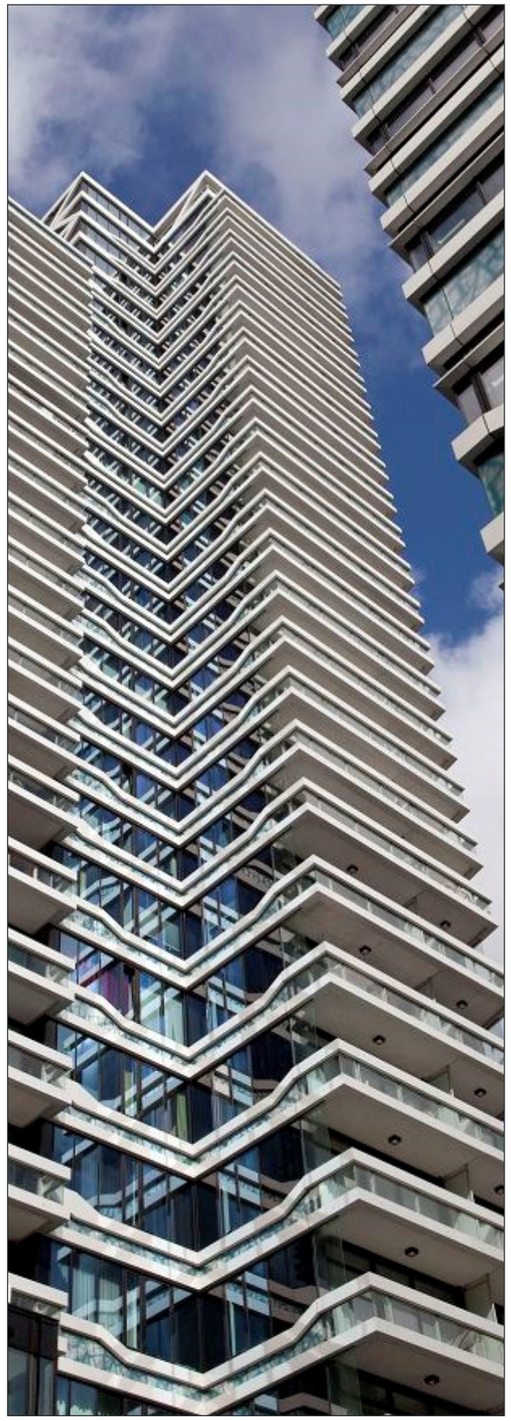


Figure 24a. New Babylon towers
by J. Brobbel
in De Architect, 2013

Sennett (2018, p. 56) refers to a certain social mixing as the Dutch Model, which is defined by different social classes randomly assigned to parts of the building. Regarding the aim for encounter, an example can be taken from the Rotterdam high-rise vision (Gemeente Rotterdam, 2019). The Rotterdam high-rise vision contains a paragraph with design principles for encounter in the building, an example of one of their regulations is the prohibition of direct elevators from parking garages toward the residential floors, before moving towards the private area the lobby or hall needs to be crossed. Analysing the section of New Babylon (figure 24) the straight isolated elevator path from the car park to the residential floors becomes evident.

New Babylon vertical circulation

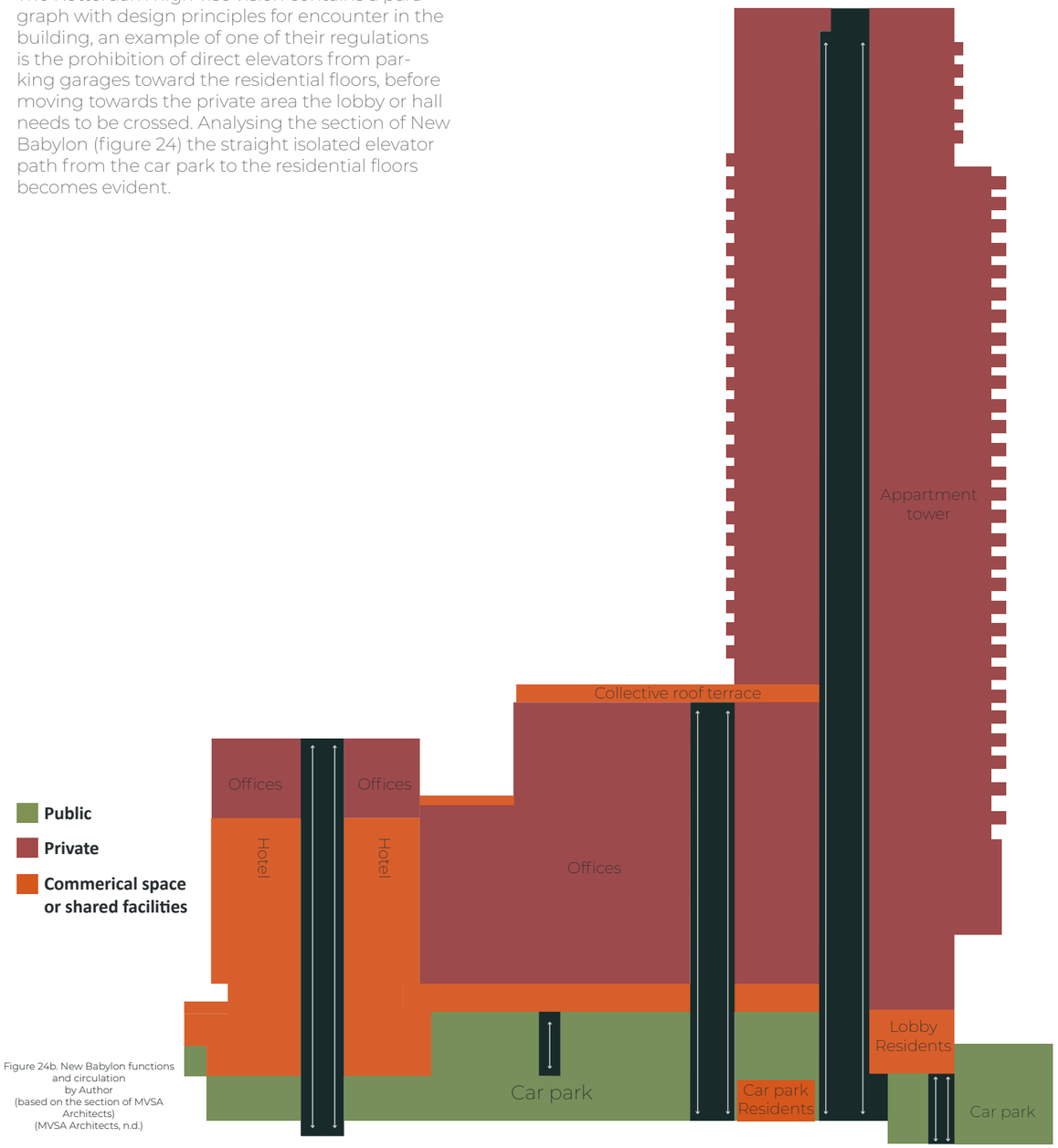


Figure 24b. New Babylon functions and circulation
by Author
(based on the section of MVSA Architects)
(MVSA Architects, n.d.)

Hyper-diversity

The history of international immigration to The Netherlands and The Hague has resulted in an ethnic diverse society. The residents of The Hague are originating from 176 different nationalities (Gemeente Den Haag, 2019a), the linguistic profile is made up of 89 different languages (Extra, Aarts, van der Avoird, Broeder, & Yagmur, 2001), and they are connected to various different religions (figure 25b). The exclusive focus on the ethnicity or country of origin, often used in social sciences or wider public spheres is, according to Vertovec (2007), a misleading and a one-dimensional appreciation of contemporary diversity. He proposes to understand diversity of migrants through 'super-diversity', the interplay of additional variables like: country of origin (incl. ethnicity, language, religion, regional and local identities, cultural values and practices); legal status; human capital (labour market experience and educational background); gender; age; spatial distribution and transnationalism (relations with places and people elsewhere). Vertovec (2007) understanding of super-diversity recognises differences between and within ethnic diverse and demographic groups (Tasan-Kok, van Kempen, Raco, & Bolt, 2013) (figure 25b).

The understanding of super-diversity is, according to Tasan-Kok et al. (2013, pp. 5–6), not entirely comprehensive in understanding the diversity of people in cities. They call for looking at urban diversity in an open and more complex way. The term used is 'hyper-diversity' and is described as: "...an intense diversification of the population in socio-economic, social and ethnic terms, but also with respect to lifestyles, attitudes and activities." (Tasan-Kok et al., 2013, p. 6). Groups that are considered homogeneous through various variables like socio-economic status can turn out to be very heterogeneous in terms of their lifestyles, attitudes and activities (Tasan-Kok et al., 2013) (figure 25b). Hyper-diversity might lead to social exclusion as individuals segregate themselves from people with different lifestyles, attitudes or activities (Fincher in Peterson, 2014, p. 1).

While multiculturalism has been a tradition in The Netherlands, the policy discourse has moved towards assimilation and since 2001 seen the presence of immigrants in cities more as a problem. As a result urban policy was directed to counter segregation and spatial

Figure 25a. Globalisation and migration
by Author

concentration of low-income households and ethnic minority groups by the focus on integration and participation (Tasan-Kok et al., 2013, p. 44). As Tasan-Kok et al. (2013) stress, the nature of cities is inherently diverse and the question wheter this diversity is desireable or not is therefore not relevant, moreso is the question how to deal with existing diversity.

In this line of reasoning the heterogeneity of urban populations should be acknowledged, with reference to social norms of redistribution, recognition and encounter (Fincher & Iveson, 2008, p. 3). Redistribution entails readdressing disadvantages; recognition the definition of different attributes of groups of people so that their needs can be met; and encounter is defined as the interaction of individuals opportunities for increased sociality. While Fincher discusses these elements from a planning perspective, the normative framework of social goals he poses can be a relevant starting point for the urban design of spaces that acknowledge hyper-diversity. They physical spaces where multiculturalism and the accommodation of multiculturalism are by Amin described as micro-public sites of compulsory daily interaction (in Fincher & Iveson, 2008, p. 13).

Figure 25b. Super-diversity and Hyper-diversity
by Author (additional sources stated in image)

Social exclusion & Loneliness

To some extend a result of the hyper-diversity of The Hague's population (Fincher in Peterson, 2014, p. 1), social exclusion and loneliness are apparent in the city. Loneliness exists when the quality or quantity of social relations is not aligned with someone's own expectations or needs. Loneliness can be divided in emotional loneliness, the lack of an emotional connection with a close friend or partner, and social loneliness, a lack of meaningful connections with a wider group of people. Social exclusion entails a lack of participation in society which can relate to social, political, cultural or economic aspects of society. Both loneliness and social exclusion can have a negative impact on people. This impact can be related to health both physical and psychological and in a practical sense it can restrict people in undertaking activities (Figure 26b) (GGD Haaglanden, 2017).

According the health survey of the GGD Haaglanden (2017), both loneliness and social exclusion rates are higher in The Hague than in the national average or the surrounding municipalities. When examining loneliness it appears 52% of the population feels lonely to some extent and 16% feels serious loneliness. To better understand where loneliness is the most apparent the GGD Haaglanden (2017) differentiated in different characteristics. It appears the people that feel the most lonely have a low income; a low degree in education; are single, divorced or widow, are a non-Western immigrant; or above the age of 85 years (Figure 26c). Spatially loneliness in The Hague occurs in neighbourhoods where the average income is low, most non-native and non-Western people live and essentially the complete appointed high-rise zone shows a perceived loneliness above the average of the city (Figure 26c).

The municipality of The Hague acknowledges the issue of loneliness and created a strategy *Met z'n allen niet alleen* which includes corporation with organisations that deal with loneliness, trainings, meetings, the organisation of activities in neighbourhoods and an online platform that enables people to navigate through activities and support programs throughout the city (Gemeente Den Haag, 2019b). While these steps are vital for tackling the issue, the design of the direct living environment could contribute to facilitate interactions between people.

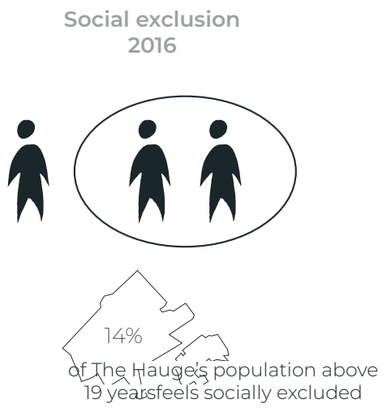
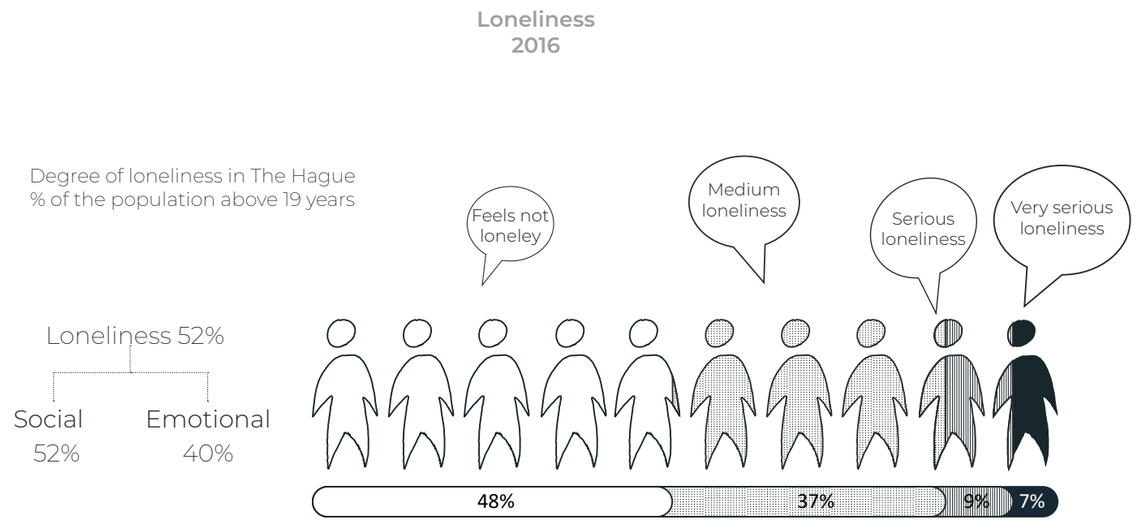


Figure 26a. Social Exclusion 2016
by author
(GGD Haaglanden, 2017)

Figure 26b. Possible risks of social exclusion
by author
(GGD Haaglanden, 2017; Volksgezondheidenzorg, 2018)



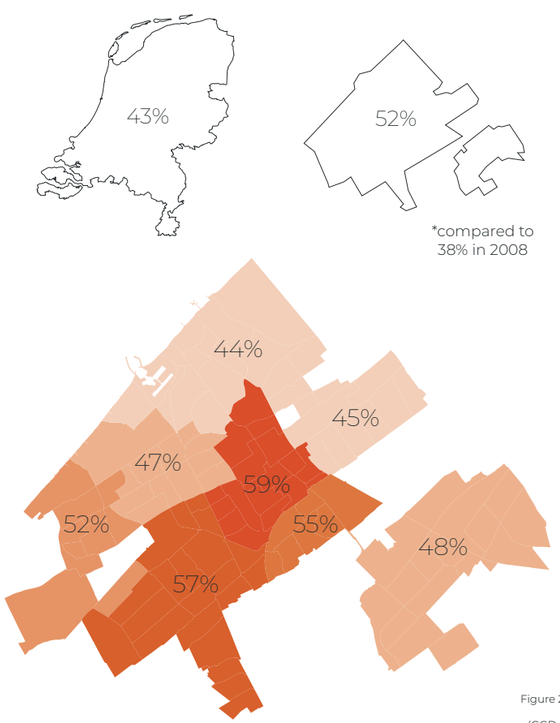
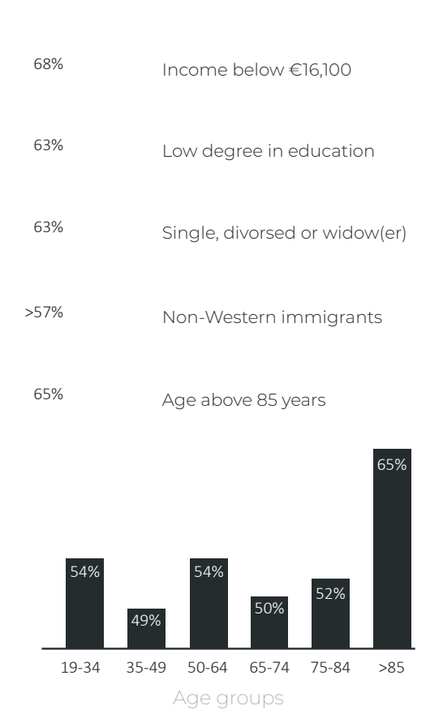


Figure 26c. Loneliness 2016
by author
(GGD Haaglanden, 2017)



The Binckhorst

One of the high-rise zones appointed by the municipality is the Binckhorst. An industrial low dense area close to the city centre which aims to transform to an urban district of 10,000 dwellings by 2040 (Gemeente Den Haag, 2016, 2017). The area is located close to the border between the low-income neighbourhoods of the south-east and the more wealthy neighbourhoods in the north-west. Furthermore, the areas surrounding the Binckhorst are dominated by different ethnicities (native-non-native, western-non-western) and experience the issue of loneliness above average (Figure 26c; 27).

The municipality assigned an experimental character to the development of the area, environing new ways of living and working. These factors make The Binckhorst a good fit for a case study to explore the potential of residential high-rise developments which facilitate social connectivity bridging the distance, relative and absolute, between different people. The amount of people that are planned to be housed in this neighbourhood creates the responsibility to facilitate a socially mixed and inclusive neighbourhood with regard of the hyper-diverse population and their varying needs and values that will live in it.

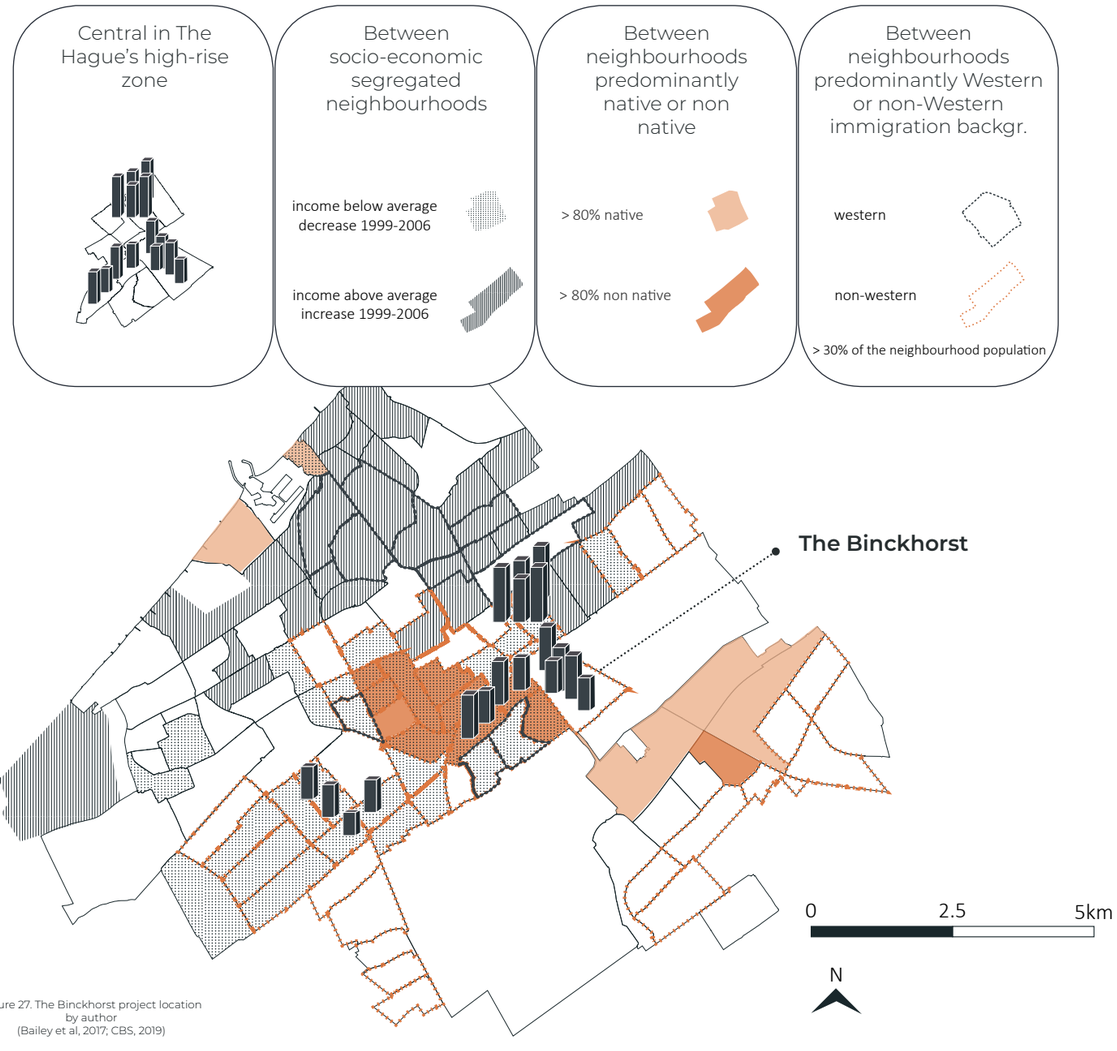


Figure 27. The Binckhorst project location
by author
(Bailey et al, 2017; CBS, 2019)

10,000 new dwellings untill 2040

Appointed high-rise zone

Experimental character
New forms of living and working

(Gemeente Den Haag, 2017)

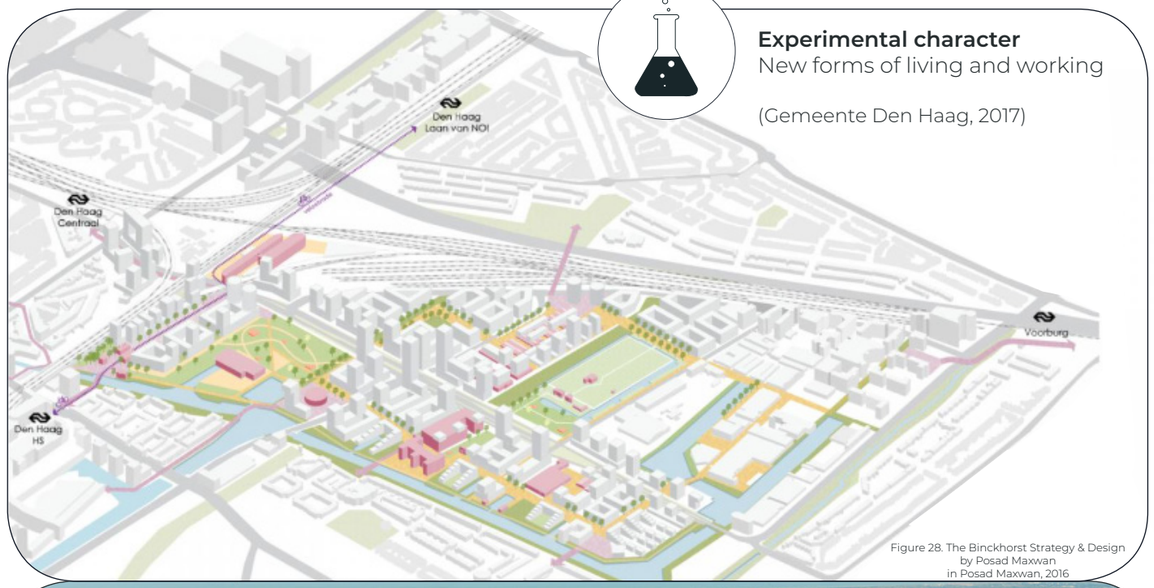


Figure 28. The Binckhorst Strategy & Design
by Posad Maxwan
in Posad Maxwan, 2016

Figure 29. The Binckhorst from the sky
by RV
in de Jonge, 2018 (edited by author)

2. Social challenges

2.7 A vertical city

A city within a city

Figure 30. Be-Proud Render
by OZ-Architect
in OZ-Architect, 2019

One of the planned developments in the Binckhorst is B-Proud (figure 30). The building consists of two connected towers which will house more than 870 households and 800 workspaces (Ontwikkeling & OZ-Architect, 2019). Assuming an average of 2 person households, this translates to 1,740 residents, which makes the residents of the building exceed the population of 17 buurten (neighbourhoods) of the city The Hague (Gemeente Den Haag, 2018). B-Proud, as acclaimed by OZ-Architect, is to become a Vertical City (2019). Significantly larger in scale, however, still relevant to understand the origin of this claim, is the observation of the development of the early skyscrapers of Manhattan (figure 7a). Each tower, as Koolhaas (1994, p. 89) describes it, "strives to be a City within a City". On the European continent modernist designs of residential high-rises, like the Unite d'Habitation aimed, in their own way, for the same principle of a city within a city (Kroll, 2010), or a Vertical City (Meyer & Zandbelt, 2012) (figure 7b).

The understanding of a building as a city on itself has been around since the emerge of high-rise buildings and in contemporary architecture it remains a relevant theme. This brings up the question what does this understanding mean for the city and the design of those buildings?

Neighbourhood with less population than Be-Proud

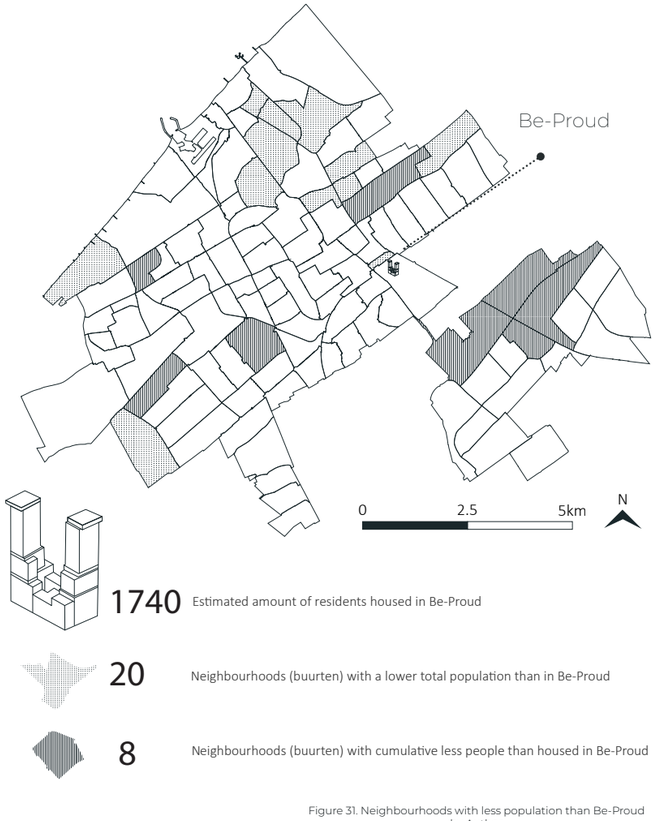


Figure 31. Neighbourhoods with less population than Be-Proud
by Author
(CBS, 2019)

Bigness

Derived from the study of the implicit philosophy of Manhattan, the theorem of Bigness describes architecture defined by its size beyond a certain scale. Bigness as defined is in itself urban; independent of context; its internal parts act independently committed to the whole, and it separates interior and exterior spaces (Koolhaas, Mau, & Office for Metropolitan Architecture, 1995, pp. 495–516). In short: "Bigness ... is the city (p. 515)". As Koolhaas describes it, buildings beyond a certain scale should be understood as a piece of the city which acts independently of the rest of the city. The project De Rotterdam, designed by OMA, can be seen as an materialisation of this theorem.

Figure 32. De Rotterdam
by M. van de Kar
in OMA, 2013

Interior Urbanism

The notion Fuck the Context, is in every way contradicting the field of urban design, where context should be everything. Harteveld (2006) argues that role of Interior Urbanism, on the base of cases in the United States and The Netherlands, related to the increase of scale, have the opposite effect. The scale invites internal public spaces to be nestled inside and the increased amount of users using in- and outdoor spaces create stronger connections with the buildings surroundings.

Accepting the notion of a building being a city within a city, comes with the responsibility of its integration within the urban fabric and a consideration for the design of the interior spaces from a humanistic point of view. Challenges regarding the interaction between indoors and outdoors (Poot, van Acker, & de Vos, 2015), the relation between public and private (Harteveld, 2014), and the vertical design of the interior become relevant. For the latter, a vertical urban design strategy is needed. Urban design strategies and principles should therefore be applied integral to the interior architecture and spatial configurations extending into the verticality of the building. This urge is described by Yeang (2006) as Vertical Urbanism.

2. Social challenges

2.8 A social challenge or potential?

The research is not conclusive

Environmental psychology and geography scholars have attempted to demonstrate the social effects of high-rises on its residents (e.g. Barros et al., 2019; Baxter, 2017; Gifford, 2007; Larcombe, Etten, Logan, Prescott, & Horwitz, 2019). The research on social outcomes of living in high-rise structures followed on the post war modernist housing estates built between 1950-1970. The structures where often in poor conditions, located in low socio-economic neighbourhoods, and housed disadvantaged communities (Larcombe et al., 2019). Researchers neglected the socio-economic circumstances what resulted in stigmatisation of high-rise living (Larcombe et al., 2019). The negative social effects of high-rise living are therefore the most elaborated on (Baxter, 2017; Gifford, 2007). In the discussion about the possible social outcomes it is therefore important to realise the limited influence the height or the building-type has and to take into account the moderating factors (non-architectural factors) that contribute to certain social outcomes (Gifford, 2007; Larcombe et al., 2019). These moderating factors include socio-economic status, building location, family status, gender, and the stage of life (Gifford, 2007). Gifford (2007) adds to this argument the inadequacy of research methods on the topic making it difficult to draw definitive conclusions on the effects of living in high-rises.

Social isolation

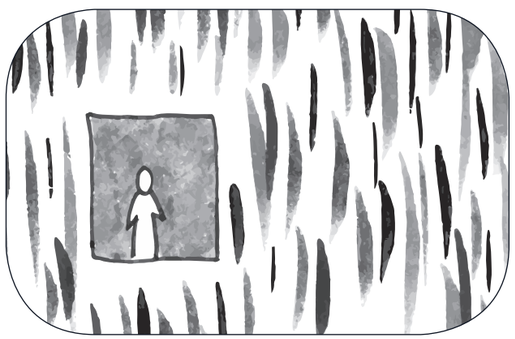


Figure 33. Social Isolation
by author

While the research is not always conclusive and the dependence on moderating factors creates different outcomes it is not the place here to attempt form these conclusions. However, it should inform the design process to understand what possible social effects of living in high-rise buildings may have.

High-rise living

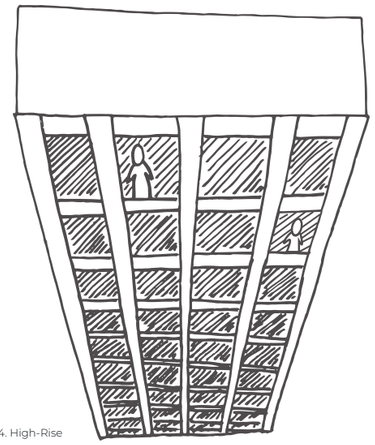


Figure. 34. High-Rise Living
by auhor

Social isolation

The layout of many residential high-rises contain a high degree of privacy and anonymity, Gifford (2007) compares this to characteristics of inner city life with advantages like privacy and less unwanted social interaction and disadvantages like less intimate social interactions and less care for one's neighbours. The review of Larcombe et al. (2019), shows in comparison with low-rise buildings social isolation is often felt by residents of high-rises. Gifford (2007) hints that residents of high-rise housing forms may have fewer friendships among other residents within the building and residents show less pro-social behaviour, help each other less, than in low-rise housing forms. In some buildings residents can even be completely separated by different entrances like in the Haagse Toren (figure 22). The role of collective spaces (circulation- and social spaces) can be a relevant factor in constituting social relations between residents of the same or other floors (Barros et al., 2019), as Gifford (2007) argues the collective spaces are often characterised as impersonal. Apart from feeling isolated from their neighbours residents can also feel isolated from the rest of the world, this can increase with the amount of floors (Larcombe et al., 2019).

Social potential

The amount of people living in one building essentially provides the opportunity for many social interactions (Gifford, 2007). While the population within one building can be hyper-diverse and too many people can create a feeling of anonymity, it is not given that when people placed in proximity they will interact. A well designed network of collective and semi-public social or circulation spaces should provide the opportunity for residents to use the space and facilitate a shared use of space and possibility social interaction takes place.

The social challenges that play in The Hague like segregation, loneliness, social exclusion and hyper-diversity ask for a social strategy for new dwellings. As history has shown dependant on the period or the context high-rise buildings were either housing the poor or the wealthy. For the new developments in The Binckhorst The Hague there should exist a healthy level of social mixing as the municipality is aiming for. However, with financial interest that play a major role in the design of high-rises from a policy and design perspective effort should be made to achieve more socially connected high-rise buildings. If the building is designed as a neighbourhood possibly people gain the opportunity to interact with other residents creating more understanding for another, preventing loneliness and social exclusion. However, the design can only play a facilitating role here. The strategy to achieve this is elaborated on in the next chapter.

Vertical social connectivity

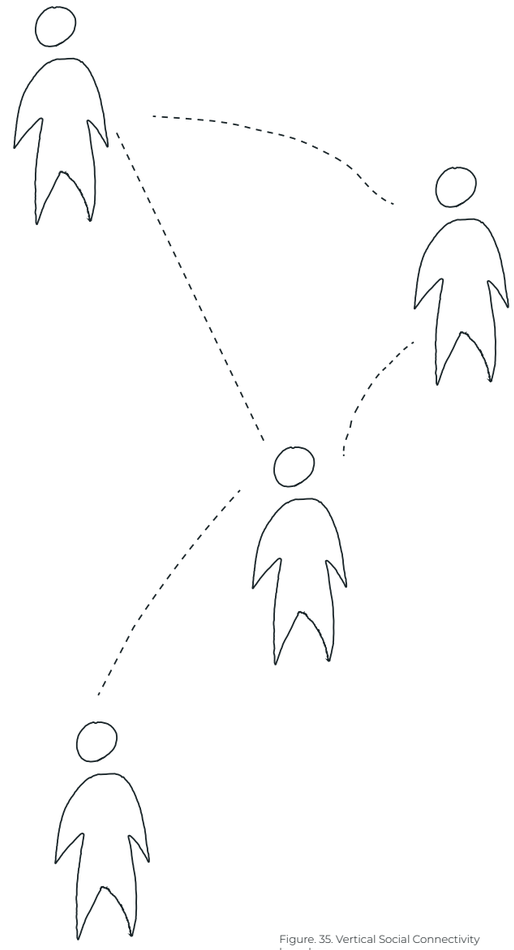


Figure. 35. Vertical Social Connectivity
by auhor

3. Methodology

3.1 Introduction

The re-emerge of high-rise developments in the Binckhorst should be understood from the social context of the contemporary society, the city where it plays and the history of residential high-rise buildings. The emerge of new technologies allowed for residential high-rise buildings to house many people, the amount of people within one building comes with a social potential and responsibility. The current high-rise developments drive on the system of neo-classist and compact city planning. While there are intentions to create a social mix of people elaborated on by the Municipality of The Hague, the financial interests of these developments come with a risk of further segregating groups of people in the city. The segregation plays out on the horizontal and vertical dimension. The population growth and consisting international immigration towards the city could potentially widen the segregation in the city. Other social challenges of The Hague like loneliness, social exclusion and hyper-diversity together with the persistent social segregation highlight the need for a socially connected neighbourhood.

The Binckhorst provides a chance to design high-rise structures that contribute to a more inclusive city. The area will be developed experimentally, in total it will house 10,000 dwellings by 2040 and it lies in between neighbourhoods that are segregated from each other. The new high-rise developments should be designed from the perspective and principles of urban design with regard to the social complexity of the hyper-diverse population of The Hague.

This chapter sketches the strategy and methodology on creating a design for an inclusive high-rise design in the Binckhorst. The first paragraph, the problem statement (3.2) builds upon the sketched challenges of the first chapter. This is followed by the research questions (3.3), the design aim (3.4), design values (3.5), research and design methods (3.6), design challenges (3.7), design philosophy (3.8), design principles (3.9),

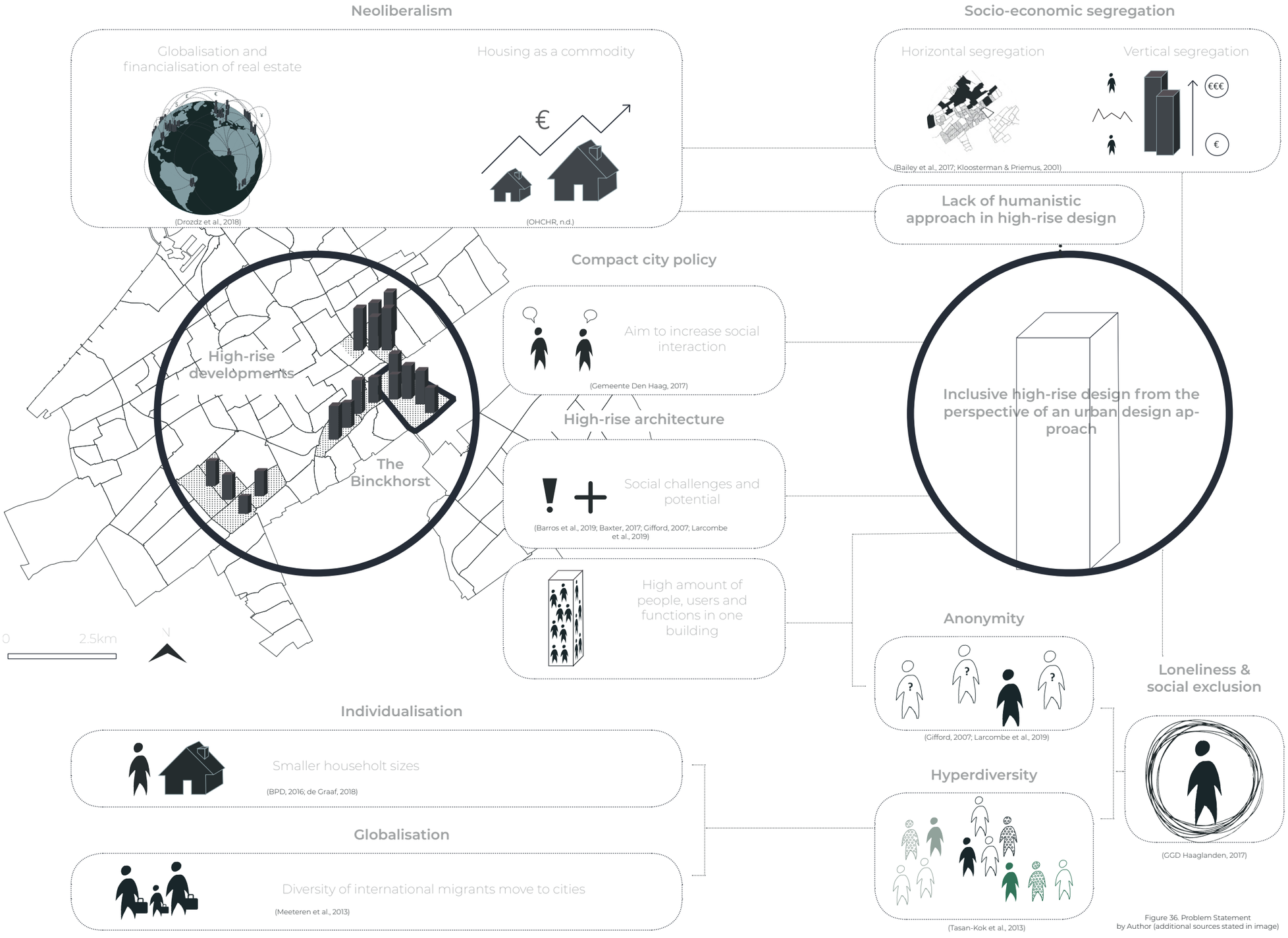


Figure 36. Problem Statement
by Author (additional sources stated in image)

Problem Statement

The predicted population growth of The Hague until 2040 entails 50,000 to 80,000 new inhabitants, this accounts of a relative increase of 15% of the current population (Gemeente Den Haag, 2016, 2017). The city of The Hague has selected high-rise development as a means to improve spatial quality, sustainability and to create a strong business climate (Gemeente Den Haag, 2017). This high-rise strategy fits in a wider European and Dutch trend of residential high-rise developments. One of the reasons is the globalisation and financialisation of real estate (Drozdz, Appert, & Harris, 2018), this neoliberalist system results in housing to be treated as a commodity instead of a social good (OHCHR, n.d.). This approach to housing potentially increases the existing segregation in The Hague on the horizontal (Bailey, Gent, & Musterd, 2017; Kloosterman & Priemus, 2001) and vertical dimension (Soeters in Milikowski, 2018). The humanistic approach in high-rise design is lacking as a result of those financial interests and often results in a polarising rather than a constructive debate (Schoorl, 2017). Other aspects that cause this high-rise trend are individualisation, smaller household sizes (BPD, 2016; de Graaf, 2018) and international migrants that move to The Hague related to globalisation (Meeteren, Pol, Dekker, Engbersen, & Snel, 2013). Following on these developments the population of The Hague should be regarded as hyper-diverse (Tasan-Kok, van Kempen, Raco, & Bolt, 2013), which attributes to the social complexity that is inherent to the nature of the city (Sennett, 2018) and possibly contributes to the issues of loneliness and social exclusion that play a significant role in The Hague (GGD Haaglanden, 2017). The municipality of The Hague argues high-rise developments should increase spatial quality and facilitate a lively streetscape where social interaction is enabled and an inclusive population existis within high-rise buildings (Gemeente Den Haag, 2017). The design of the high-rise can form a social challenge or potential (Barros et al., 2019; Baxter, 2017; Gifford, 2007; Larcombe, Etten, Logan, Prescott, & Horwitz, 2019), the amount of residents in one building potentially contributes to this, however, it can also result in a more anonymity among neighbours resulting in isolation, loneliness and social exclusion (Gifford, 2007; Larcombe et al., 2019).

3. Methodology

3.3 Research Questions

Main Research Question:
In which manner could the design of a high-rise building in the context of Binckhorst The Hague, from the perspective of urban design, contribute to the development of a more inclusive city?

Sub Research Question:
1. What are the social challenges that should be taken into consideration in the process of designing high-rise buildings?

2. What are the social challenges that can be identified in the context of The Hague?

3. What design values contribute to a more
inclusive city and answer to the social context of high-rise design in The Hague?

4. What are the design challenges from a humanistic and a design perspective that need to be tackled to create an inclusive high-rise design?

5. In what way could the approach of urban design and related principles and elements contribute to a more inclusive high-rise design?

6. How could an urban design approach, related principles and elements be applied in the design of a high-rise building, in the context of the Binckhorst The Hague, to contribute to the development of a more inclusive city?

Inclusiveness

"Social inclusion is the process by which efforts are made to ensure equal opportunities – that everyone, regardless of their background, can achieve their full potential in life..." (United Nations, n.d.)

Sustainable development goal 11
Make cities and human settlements inclusive , safe, resilient and sustainable
(United Nations, 2015)

3.4 Design Aims

Inclusivity

This project aims to understand in what way the use of urban design principles can be constructive in the design of high-rise buildings that contribute to an inclusive city.

Given the social challenges mentioned, embracing diversity in The Hague should start with the goal of inclusiveness. Incluseviness is one of the sub-goals of the sustainable development (figure 37a) goals of the United Nations (2015). The UN (n.d.) defines this in the following words:

"Social inclusion is the process by which efforts are made to ensure equal opportunities - that everyone, regardless of their background, can achieve their full potential in life..."

From an ethnical point of view society should always strive to achieve this. Therefore this is a design aim and forms the main design value.

Urban Design Approach

High-rise design is in practise principally approached from an architectural perspective.
Urban design is predominantly understood in a 2-dimensional manner and is often exclusively focused on outdoor areas. This approach is challenged in this project. The outcome could inform the interpretation of the concepts interior- and vertical urbanism.

Principles taken from planning and urban design are applied on the scale of the building (interior and exterior), which could provide an example of the application of those principles for the application in high-rises. Furthermore the design could serve as an example on a more socially informed way of designing high-rise buildings.

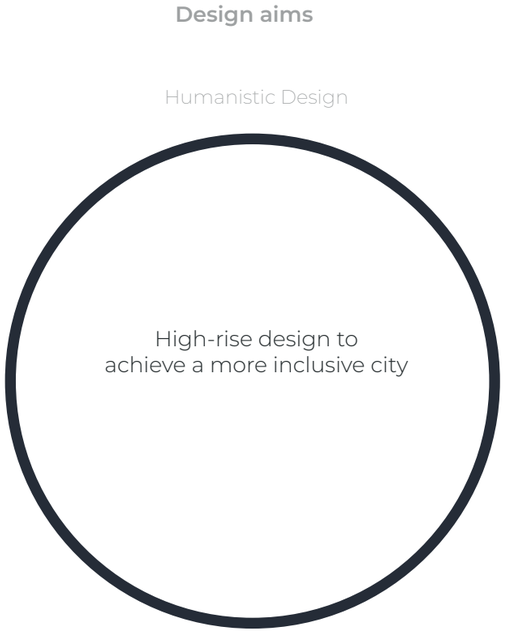


Figure 37a. Research & design aims
by Author

3. Methodology

3.5 Design values

Design values

The main design value of this project inclusivity is subdivided into 3 sub-design values: *encounter*, *recongition*, and *adaptability*. These values are related tot the theories of Just Diversity (Fincher & Iveson, 2008) and The Open City (Sennett, 2018).

Just diversity

From a planning perspective Fincher & Iveson (2008) are advocating for a normative framework with a set of social logics to respond to different kinds of diversity. In different kinds of diversity they distinguish just and unjust forms of diversity. To accommodate a just diversity in cities the social logics given by Fincher & Iveson are: redistribution, the readdressing of disadvantage; recognition, the definition of attributes of groups of people so their needs can be met; and encounter, the interaction between unlike individuals and groups. While redistribution can be important to a city like The Hague the weight of this project lies in the design to facilitate social connectivity making the social logics of recognition and encounter fit as a basis for design principles.

Recognition

Fincher & Iveson (2008, pp. 87–88) critize the planning dogma of overcoming cultural diversity and creating shared values and community as advocated by the New Urbanists, something also seen in The Netherlands where the focus have been on assimilation since 2001. The notion of community as a goal of urban policy can according to Fincher & Iveson be seen as a mode of ordering that works to privileged the values of some groups over the other. People who are different or can't choose where to belong will be excluded in such a place. This would undermine to hyper-diverse reality that the city of The Hague characterises. Recognition of heterogeneity and cultural differences of identity groups and their needs and values should be the answer. Because, people are hyper-diverse they can belong to different identity groups in which people can differentiate and which can be in constant transition. The answer therefore is not to categorise identity groups to maintain boundaries between groups, by Fincher & Iveson (Fincher & Iveson, 2008, pp. 91–92) described as the affirmative multiculturalist approach. The relational approach to recognition would be more open to the overlap of different identities, here a social group is not primarily defined by a set of shared values. The social group is characterized by a sense of identity and the relations in which it stands to others (Fincher & Iveson, 2008, pp. 92–95).

Encounter

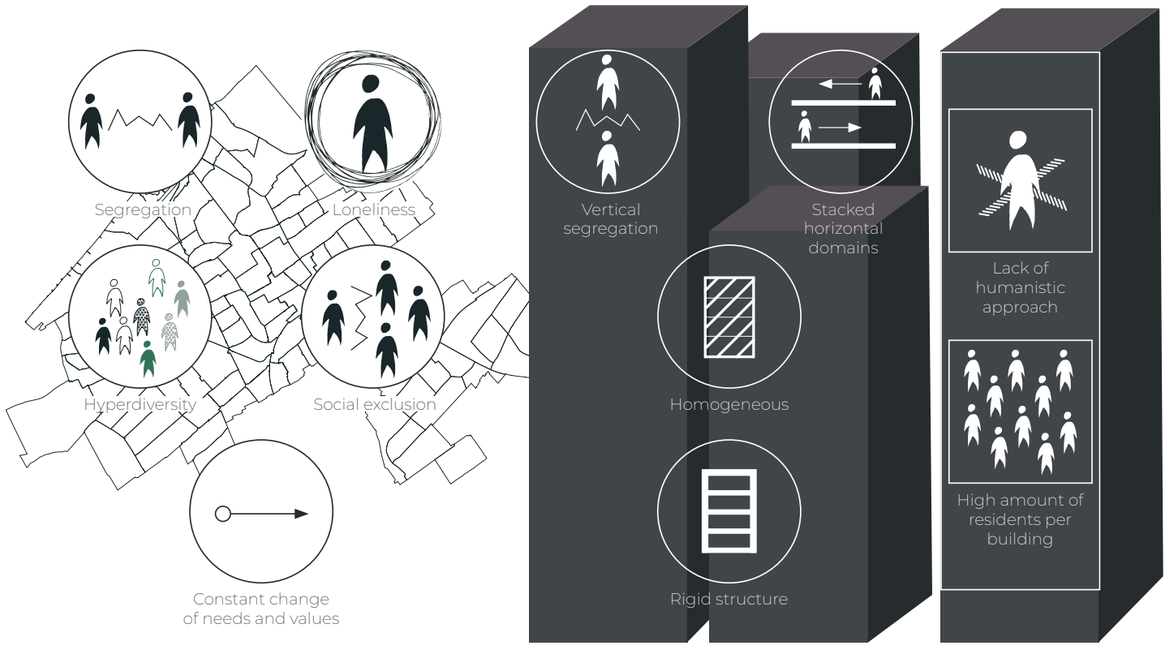
Encounter is described by Fincher & Iveson (Fincher & Iveson, 2008, p. 171) as the interaction between like or unlike individuals (in local public or semi-public spaces). Enabling encounter can provide inhabitants the opportunity to explore different sides of themselves and create new identifications. The intermingling of people can help people to define their own differences or similarities to others. It should be accepted as well that the disorderly presence of strangers is a condition of urban life in cities of the globalised world. As residents of cities, urbanites, are constantly on the move for everyday activities (e.g. work, leisure, study) they are all strangers at some time and place (Fincher & Iveson, 2008, pp. 146–151).

The Open City

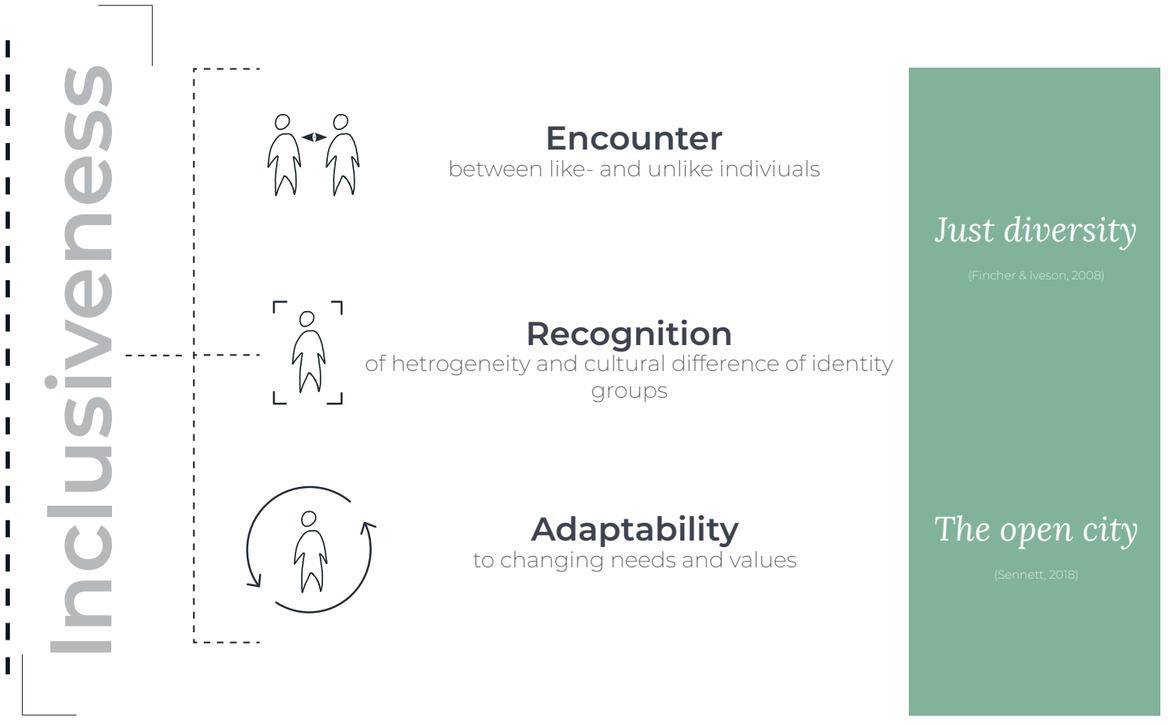
In an attempt to deal with the complexity, ambiguoudity, non-linearity, conflictuality, incompleteness and the constant transition of urban life, Sennett (2018) advocates for an urban strategy based on the concept The Open City. Open forms Sennett describes that facilitate this complexity of urban life are synchrone spaces; orientation points; porosity; incomplete form; and seed planning (figure 47).

Adaptability

The theory of the open city by Sennett overlaps with the former two values, however it also stresses the need for adaptability of the city while needs and values of people are constantly changing as is the case for one's identiy and their relation to others.



Problem statement



Design values

3.6 Research and Design methods

Research and design methods

Following on the problem statement and the research and design aims, the first step in the research is formulating the design values and challenges related to those statements by a literature review.

The strategy to tackle the design challenges is formulated in a general design philosophy, the formulating of design principles, and the design elements used to apply those to. This are concluded from a literature review.

Observations of the use of social spaces and interviews with residents of high- and low-rise buildings will are used for an evaluation of the design principles.

By using a spatial analysis the plot of the proposed high-rise development will be selected based on existing plans and the proposed spatial structure. Methods used here will be field visits, mapping and sketching.

On the basis of the design values, principles and the location analysis a desing is created in the Binckhorst.

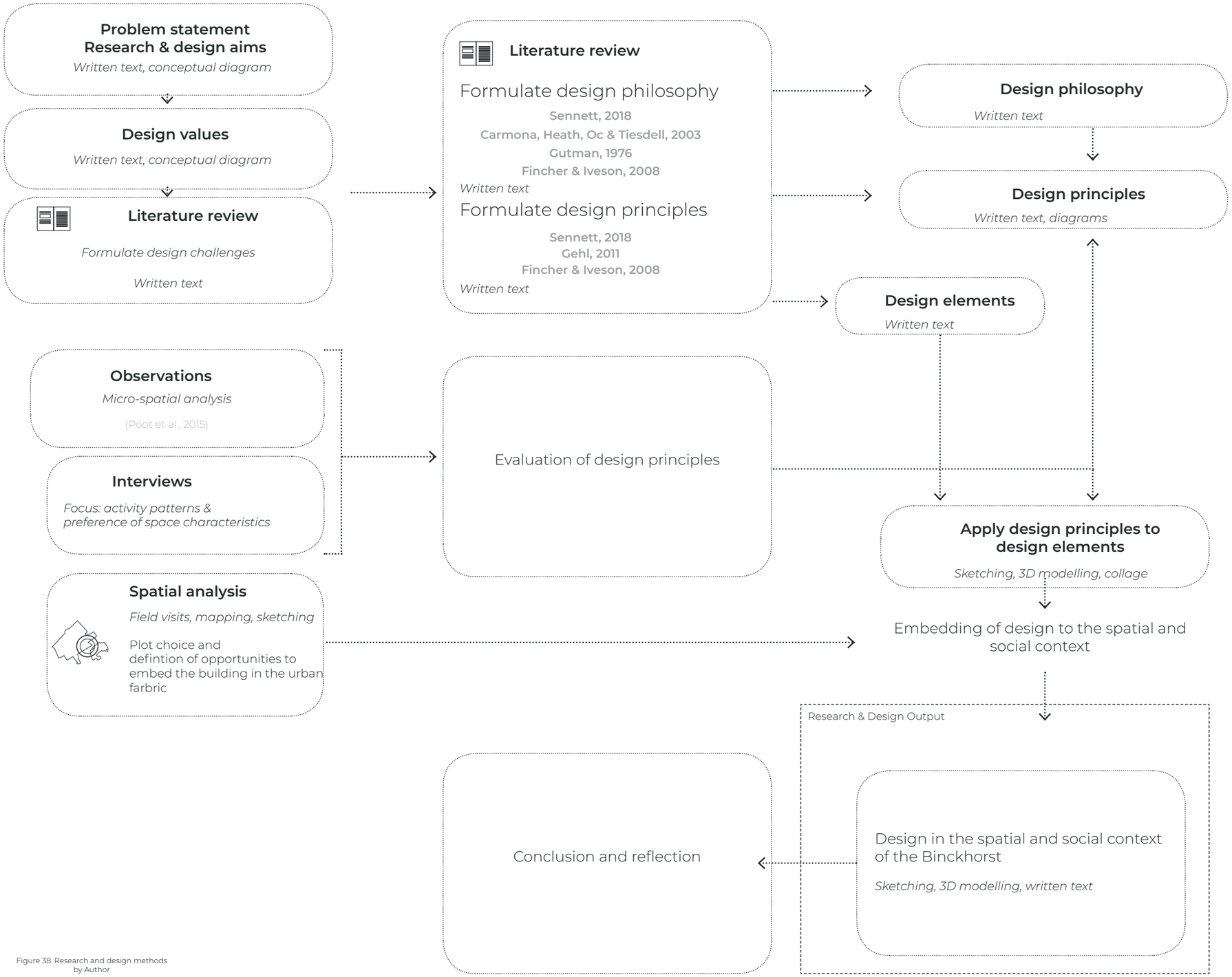


Figure 38. Research and design methods by Author

Design challenges

The design aims and the problem statement are related to some challenges that need to be tackled. The aim from a humanistic perspective to design a high-rise using urban design principles to achieve a more inclusive city touches upon the social complexity and the established practise of urban design, planning and architecture.

Social complexity

Globalisation and migration result in the understanding of the population of The Hague as hyper-diverse (Peterson, 2014; Tasan-Kok, van Kempen, Raco, & Bolt, 2013). This means a variety of needs and values are represented under the potential population of the new high-rise buildings. These preferences will change over time making rigid or fixed solutions not preferable. The hyperdiversity of people in one building can also pose challenges in the integration with each other. Regarding this social complexity, Sennett (2018, p. 11) refers to the philosopher KantW, who wrote in 1784 that people are made of crooked wood and can never be boarded straight. This irregularity is, according to Sennett (2018), inherent to the nature of the city because the built form, the *ville* and the urban life, the *cite* do not correspond one to one.

Humanistic Design

High-rise design to
achieve a more inclusive city

Urban Design approach

High-rise design understood from the perspective of urban design principles

Figure 39. Design challenges
by Author

Design practise

In urban/architectural social sciences and geography, urban life has traditionally been understood through a horizontal lens, under-representing the vertical qualities of urban life (Graham, Stephen, Hewitt, 2012). A general understanding of everyday vertical life is missing according to Harris (2015). The 2-dimensional understanding of urban life is rooted in the Chicago School, the affiliated social scientists established the trend in 2-dimensional socio-spatial analysis (Sennett, 2018, p. 91). Baxter (2017, p. 335) underpins this urgency and adds the understanding of vertical life in relation to one's home, with the notion he calls verticality as practise. Baxter defines this as human and non-human activity that take place in a three dimensional landscape. The horziontalist view on urban life in urban design is also underpinned by Gehl (2011), who claims all human activities are constituted on horizontal planes. Even in the design of high-rise structures this horizontal view can be recognised, the theorem of Walker of 1909 illustrates this well (in 1994, pp. 82–85)(see figure 5). As Rowbotham (in Ally Ireson, 2000, p. 125) states:

"...all buildings, if we are to remain true to ourselves, should be made more or less pancake-like, forged from serial horizontalities."

If we are to design a high-rise as a part of the urban fabric, forging social connectivity, the design of building spaces should embrace the vertical dimension of high-rise buildings.

In the practise of urban design the attention stops at the façade and the building volumes. The interior and the spatial layout of the building is designed by the architect or interior architect responding on the brief. To utilise the vertical dimension and the interior of the building from the understanding of the building as a neighbourhood on itself the discipline of urbanism should be involved in the interior and spatial layout of the high-rise building.

3. Methodology

3.8 Design philosophy

Cross-domain

This project aims to develop a design method that crosses the boundaries of the disciplines urban planning, urban design and architecture. To create well-grounded design principles touching upon those disciplines, the design philosophy should be clearly stated. This is necessary to avoid ambiguities of the intentions and to understand the grounding of the choice in design principles. While each discipline has their distinct philosophies; movements; scholars; approaches; intentions; and reasoning often those will overlap in some relevant way. After all, the principle goal of the disciplines should be the same: achieving a well-functioning and good-quality built environment. Following this reasoning the design philosophies should be understood in relation to each other. The aspects of design-determinism and the decision process are discussed.

Determinism of design

Fundamental to the design and planning of our built environment is the relationship between the people and their environment (Carmona, Heath, Oc, & Tiesdell, 2003, p. 106), Sennett (2018) describes this as the distinction between the *cité*, urban life, and the *ville,* the urban fabric.
The understanding of human-environment relations can be dated back to Pythagoras, who studied harmonious proportions and psychological implications (Murray & Kovacs in Gifford, 2007, p. 2). However, as Sennett (2018) describes, urban and architectural scholars and practitioners have struggled to connect the *cité* and the *ville*. This struggle can be understood by the contrasting approaches of the Chicago School and the Modernists. The Chicago School understood the complexity of the *cité* through localities and personal experiences with the assumption that the built environment has no influence on human life. This is captured in the phrase from the human manifest of Park (in Sennett, 2018, p. 93) *"The people are the city"*.

A different view was sketched by the Modernist Movement. In the reasoning of the CIAM group in the Charter of Athens. The ville was to be freed from the messiness of the cité. The city should function as an efficient machine that simplified the complexity of urban life. The design of the built environment dictated a way society should be shaped, as it was envisioned in a top-down manner by the designers. The form of built environment resulted from the desired function. This reasoning of functional reductionism acted the whole 20th century as a leading document for urban design (Sennett, 2018). The design-deterministic view the Modernists believed in was a one-way process, the physical environment had a determining influence on human behaviour (Carmona et al., 2003).
The contrast between the sociologists of the Chicago School and the designers of the Modernist Movement can be captured in the words of Gutman (1976). The designers he knew would be absolutely certain of the social significance of buildings, while the sociologists he knew wouldn't regard the building as a significant determent of behaviour. In line of the reasoning of the Chicago School, Jane Jacobs advocated against this functional reductionism approach. Jacobs believed that the *cité* would influence the *ville* in an organic manner through local participation. As Sennett (2018) emphasises, this is a different interpretation of form follows function. Form is planned from the bottom-up and function represents informal personal interactions. Other than the Chicago school Jacobs did acknowledge the effect that physical elements of the ville could have on the cité (Jacobs, 1961). This understanding of a two-way interaction between people and their environment is reflected in the scientific fields of environmental psychology, which regards the individual, and urban sociology, regarding society. Environmental psychology aims to inform us about direct relations between the cité and the ville as it is focused on the individual and urban sociology gives more insight into the effects of the built environment on society as a whole. As described by Carmona et al. (2003, p. 106):

"While physical factors are neither the exclusive nor necessarily the dominant influence on behaviour, environmental opportunities clearly affect what people can and cannot do. ... Human behaviour is inherently 'situational': it is embedded in physical – and also in 'social', 'cultural' and 'perceptual' – contexts and settings."

The notion of the two-way process seems as a probable explanation regarding the relation between the *ville* and the *cité*. However, the environmental opportunities can be restricted by the built environment. This is especially relevant for high-rise structures while they can be rigid due to their construction pre-conditions. The design should enable the complexity; ambiguity; non-linearity; incompleteness; and the constant transition that Sennett (2018) deems necessary for the city and urban life to flourish. In this way Sennett understands the open-city. The built environment should enable different uses and behaviours, this is reachable if we consider the elements of design in a humanistic way. Gehl (2006) defines this as the priority of first life, than spaces and in the last place buildings.

In this project the attempt is made to follow the humanistic perspective.

Decision process

Regarding the decision process, urban planning, theory, and practice have moved from the masterplan approach towards a communicative, collaborative or deliberative planning approach. The planner in this situation a facilitator between stakeholders with possible different interests to achieve democratically motivated planning decisions. Fincher and Iveson (2008) point out that this emphasis on the process in planning has resulted in a lack of attention for the desired outcomes. Campbell (in Fincher & Iveson, 2008, p. 6) points out that planners sustain a certain fantasy of neutrality by claiming that they can avoid imposing any values by enabling all groups to articulate and negotiate, while planners can have a political role and undoubtedly have their own value framework. For this reason they argue for a normative framework for planning.

Within this project the attempt is made to be humble as a designer, avoiding to force values on the users. Processwise an experiment of particpation is set-up within interviews in the line of a collaborative planning approach.

The normative framework of Framework of Fincher & Iveson (2008) and the understanding of Gehl (2006) and Sennett (2018) form the foundation for the design values and princples of this project.

4.

Design Principles

Informing the design

4.1 Introduction

In order to set-up practical guidelines for the design proposal a set op design principles is created. The design values originate from the following theories: The Open City (Sennett, 2018); Just Diversity (Fincher & Iveson, 2008); Vertical Urbanism (Yeang, 2006); and Interior Urbanism (Harteveld, 2014).

This chapter discusses design principles following these theories. First, (4.2) Just Diversity is discussed, second (4.3) The Open City, third (4.4) Interior Urbnaism and the last part of this chapter discusses the theory of Vertical Urbanism (4.5).

Recognition

The practical implementation of the relational approach to recognition should always be contextual and pragmatic. The narrative of self-identification should be more important than characteristics posed by others. Here Fincher & Iveson (2008) advocate for a cross-group strategy where the interests and needs of many groups are routinely recognised, planned and designed for. Here it should be stressed that the planner or designer should not act if he or she is neutral and can decide on the valid and invalid recognition claims. One should also be weary for the stigmatisation of certain identity groups. From a design perspective a space should provide services and answer to values of a specific group while being integrated in the mainstream public culture and spatial expression. By being heterogeneous and inclusive in the design of spaces it can be avoided to exclude individuals and the values and needs of different individuals can be met.

Design Values

Inclusive

development for an integrated and hyperdiverse population of The Hague

Encounter
between like- and unlike individuals

Recognition
of hetrogeneity and cultural difference of identity groups

Adaptability
to changing needs & values

Design Principles

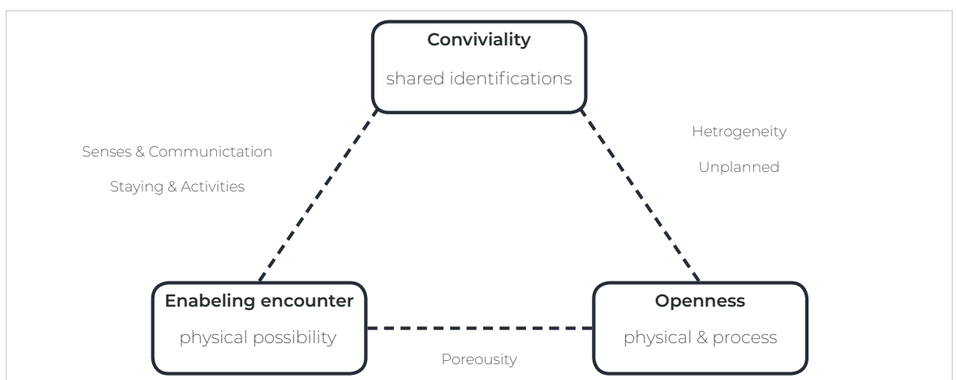


Figure 40. Design principles by Author

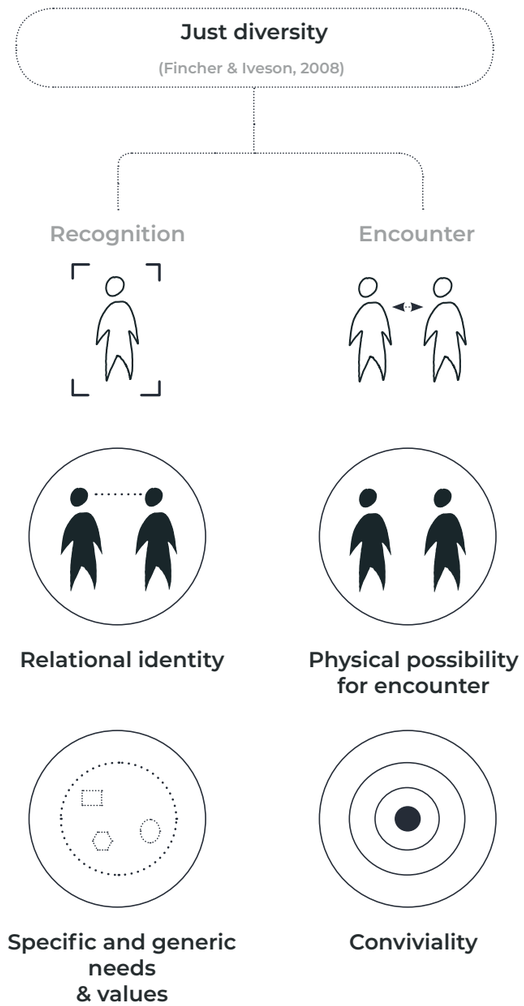


Figure 41. Just Diversity by Author

4. Design Principles

Encounter

To understand encounter between individuals a scale of interaction is used by Gehl (2011). The scale ranges from low intensity contacts to high intensity contacts (figure 42). According to Gehl the low intensity contacts are significant because they allow people to be among others in a non-demanding way dissolving the sharp boundary between isolation and contact. The passive contact forms are also relevant while they serve as a prerequisite for other levels of contact, being present in the same space is needed to meet in the first place. Low intensity contacts can be fleeting and spontaneous. The third purpose of low intensity contacts is to maintain established contacts, frequently seeing or hearing people when passing by or being in the same room can make relationships develop in a spontaneous, open and non-demanding way.

So for people to encounter each other, they need to undertake activities and be present in the same space. Gehl (2011, p. 11) divides those activities in three categories: necessary-; optional-; and social activities (figure 43). Necessary activities are involving everyday task one is required to participate, optional activities are undertaken if the time and place make it possible or are favourable and social activities include all activities related to interaction with other people. Social activities are often linked to the activities. When the quality of the physical environment is low only the necessary activities take place and when the quality of the physical environment is good also optional activities and more social activities take place. Than the question rises, what characteristics does a good quality physical environment have so social activities or encounter can take place? While urban design scholars like Gehl (2011) dealing with this issue mainly focus on outdoor spaces those lessons could also inform the design of interior spaces. For encounter to occur, physical restrictions of contact should be minimised, activities related to movement and staying in a space should be facilitated and if encounter occurs a certain commonality for moving into encounter of higher intensity is needed.

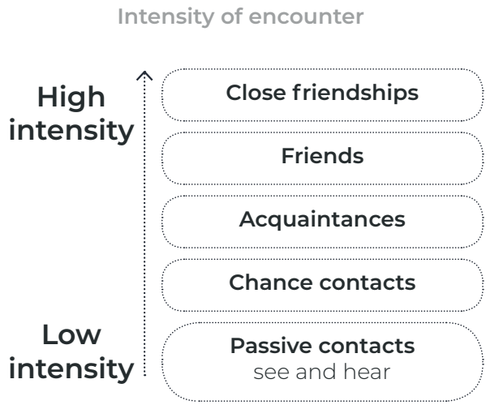


Figure 42. Intensity of encounter
by J. Gehl
in Gehl, 2011 (edited by author)

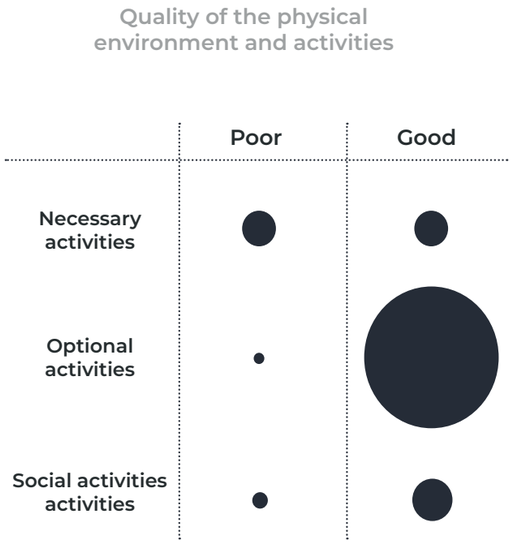


Figure 43. Qualtiy of the physical environment and activities
by J. Gehl
in Gehl, 2011 (edited by author)

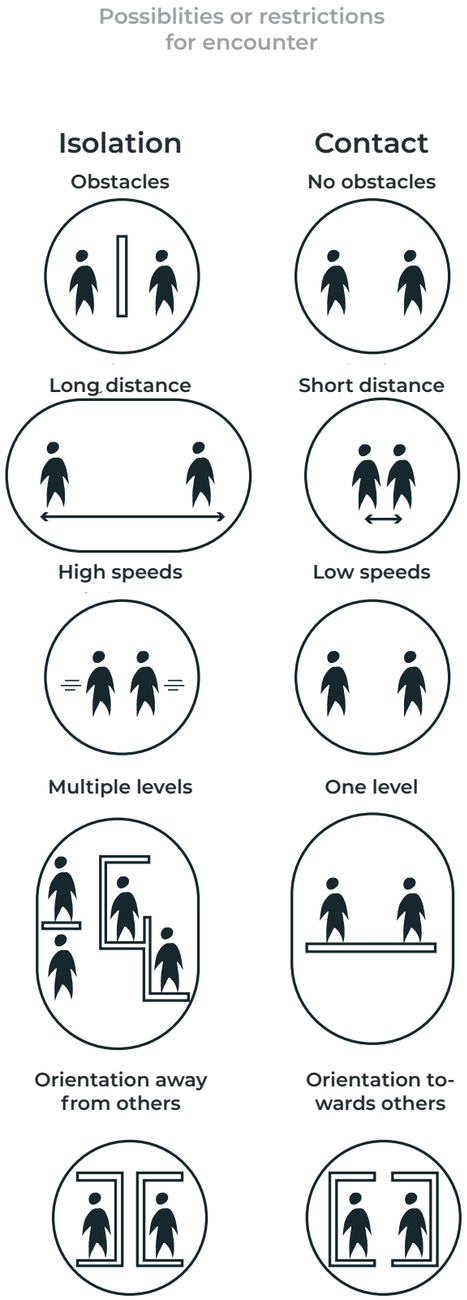


Figure 44. Possibilities or restrictions for encounter
by J. Gehl
in Gehl, 2011 (edited by author)

A fundamental aspect of the physical space is the possibility or restriction of sensing and communicating with one another. Restrictions are defined by Gehl (2011) as walls or obstacles, distance, speed, multiple levels and the orientation of a space (figure 44). For a physical environment to enable contact between individuals characteristics of the senses sight and hearing inform the ideal design characteristics. Regarding encounter on the vertical field Gehl (2011) describes that human movement is predominantly horizontal and the horizontal vision is more complete than the vertical (figure 45). Gehl's conclusion from those facts is that all human activities occur on horizontal planes, while its probably true for the majority of activities it is short sided to say there can be no vertical human activities and encounter. The vertical design guidelines will partly align with those mentioned here, when discussing vertical urbanism this will be elaborated on more. The aspect of speed Gehl (2011) mentions is most focused on traffic modes, fast or slow, when moving fast less details will be sensed than when moving slow. You could argue wether this would be applicable between different walking speeds. Minimising barriers and creating spaces where people are oriented towards each other are already quite practical. Regarding the scale the maximum distances of sensing other people, depending on the conditions, are for seeing ½ to 1 kilometre and for hearing 35 meters. However, for those senses to have a social relevance shorter distances apply. From 25 meters the sight can distinguish feelings and moods of others, from 7 meters a conversation can be held. At shorter distances the intimacy of encounter increases

by Hall (in Gehl, 2011, p. 69) described as social distances in Western and American culture (see figure 46). This means to small spaces can be uncomfortable and demanding in encounter because an intimate social distance is forced upon the participants, an example used by Gehl (2011) is a small elevator. Another barrier more a functional barrier between the hierarchy of publicness, Gehl (2011) argues that this barrier should not be to strict so that spaces are not completely private or completely public. In this way the physical and psychological barrier becomes more diffuse.

For people to stay in a space activities related to staying in and moving through that space should be facilitated. Practically there should be attractive places to sit, stand or walk through a space (Gehl, 2011). Naturally if people want to undertake other activities like sports, play or other interests those should be facilitated. Relating to the nature of those activities, Fincher & Iveson (2008) argue that when places are pre-defined in the type of activities that should take place, people who can't identify themselves with those activities can feel socially excluded. The answer, according to Fincher & Iveson (2008), is the design of a space that contains a certain hybridity. This means that places should be capable of sustaining a range of different activities, rather than be defined through functional segregation.

When the conditions of a space are enabling people to undertake activities in the space and to encounter one another encounter low intensity encounter will probably take place, but for those encounters to become more intense, either a certain commonality (e.g. similar friends or rather fixed shared identities) or conviviality (similar intent or purpose) is needed. While commonality is a reason for encounters to become more intense, Fincher & Iveson (2008, pp. 154–159) argue conviviality can stimulate more intense encounter between a diversity of people. The encounter takes then place with a certain intent of purpose. Conviviality can be achieved by the availability or construction of a setting in which inhabitants can explore shared identifications, moving beyond their more fixed identities. Fincher & Iveson (2008) use the example of two people that seem

Visual orientation

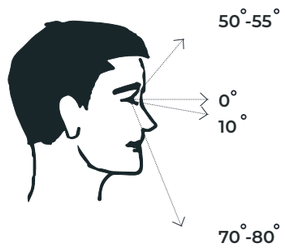


Figure 45. Visual orientation by J. Gehl in Gehl, 2010

to have no fixed shared identity who both use the library, at that particular moment they both identify as a library user. The concept of triangulation introduced by Whyte (1980), is also working according to a similar principle. Two strangers are linked by an external stimulus which gives them a common experience to talk about, it creates a shared identity as they are both witnessing the same. As Fincher & Iveson (2008) describe it, conviviality can also take place when people undertake activities together. Convivial interactions can be brief, casual, and unpredictable. For the design of spaces to enable encounter Fincher & Iveson (2008, pp. 211–212) point out the importance of a light touch which means no micromanagement of individual participants or close specification of groups interests or identity. The opportunity for sociality should be provided and defined by the participants themselves. Some general characteristics given are informality, social safety and the reminiscent of one's home or everyday life.

Social distances

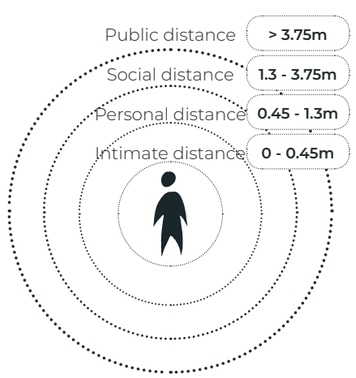


Figure 46. Social distances by author (Hall in Gehl, 2011)

The Open City

In an attempt to deal with the complexity, ambiguoudity, non-linearity, conflictuality, incompleteness and the constant transition of urban life, Sennett (2018) advocates for an urban strategy based on the concept The Open City. Open forms Sennett describes that facilitate this complexity of urban life are synchrone spaces; orientation points; porosity; incomplete form; and seed planning (figure 47).

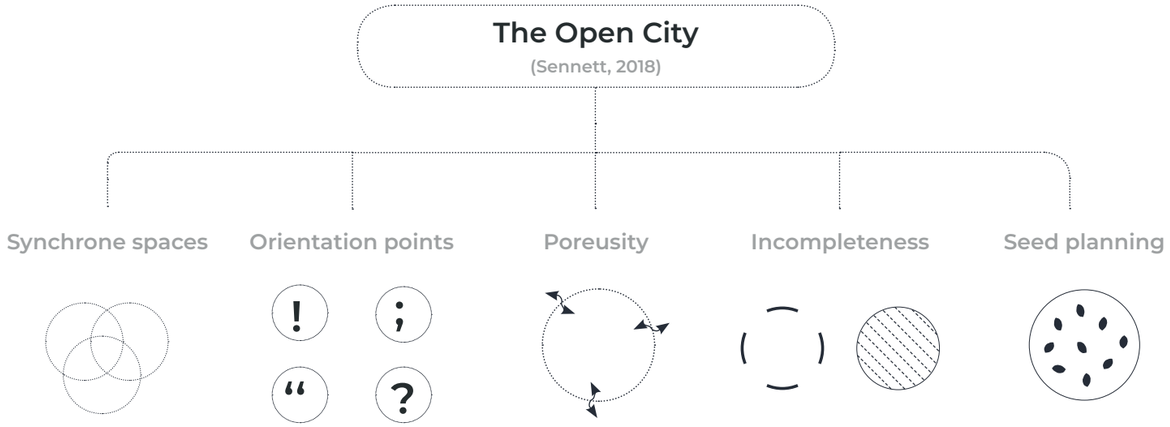
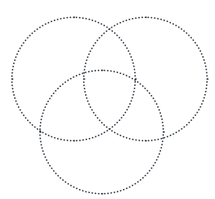


Figure 47. The Open City by author

Synchrone Spaces

Synchrone spaces, as opposed to sequential spaces which are monofunctional are multifunctional. Sennett (2018, p. 260) argues those spaces can invite for unplanned participation, involvement in activities, social mixing but it can also cause distractions due to too many stimuli. A succesfull synchrone space design should offer something other spaces lack, it should invite mixing of people in an undemanding way and different activities should happen at the same time. Synchrone spaces offer an alternative approach for zoning regulations, however for interior building spaces it can be applied as well.



Synchrone Spaces

4. Design Principles

Orientation points

In an open-system places have an distinguishable character and parts of the system are not homogenous, additive or replaceable (Sennett, 2018, p. 267). However, as Sennett (2018, p. 267) argues, when a city, or in this case a building gains a certain scale, it is simply impossible to create only unique parts. To be able to create characteristic urban places orientation points can be used in space. Sennett (2018) uses the analogy of punctuation marks. The exclamation mark (!), the semicolon (;), and the quotation marks (‘ ‘).

The exclamation mark is a structure that speaks out and draws attention to itself by height or monumentality (e.g. an obelisk or a statue), it can help people navigate through a space and give meaning to an open space. The semicolon is more nuanced. The urban form is a corner or an intersection, it can be seen as a bodily joint in the urban form. when moving around a corner the change of scale or dimensions cause a light sensory shock and a fluent delay of speed can be noticed. This causes activities to happen on street corners. Changes in scale and dimensions make them visual interesting and can cause a conscious thought about the current place or activity (Sennett, 2018, pp. 270–271). In the interior design of a high-rise this could mean that a walk on the interior hallway which normally happens automatically is interrupted by a corner and thereby a conscious thought which may lead to an encounter with a neighbour. The last of Sennett’s orientation points are the quotation marks, they create consciousness or value in a place. The difference with the semicolon, the space is less clearly articulated. Examples of materialisation of the quotation marks in the urban Sennett (2018, pp. 271–272) describes are: street furniture, façade or wall colours or detail or a particular street pavement. In this fashion probably more punctuation marks could be thought of as an analogy for urban design. However, in the line of the reasoning of the open city, I argue the question mark should be included in this. Here the question mark (?) could represent places that are open for interpretation, are not pre-defined and raise questions on how to use a space. A space like such should to its best effects be neutral and it should attract users by their curiosity. The question mark is the opposite of the exclamation mark, its meaning comes from the absence of it.

Exclamation mark

Semicolon

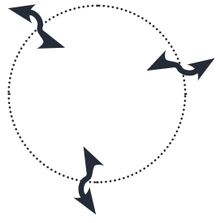
Quotation marks

Question mark

Porosity

Porosity regards the border areas of spaces, functions or groups of people. A hard border does not allow interactions to take place. An example that illustrates this well are gated communities, closed borders do not confront the residents with the circumstances and characteristics of people on the other side (Sennett, 2018, pp. 276–277). Sennett uses an analogy of a cell membrane, a cell has to let mater in and out but it also has to be selective in wat is should keep to stay alive. An urban space should not be completely open or completely closed, it should facilitate a dialogue of tension between porosity and resistance. While this dialogue takes places at the border areas, Sennett argues (2018, p. 279), informal activities often take place in border areas. By Gehl (2011) those border areas are defined as soft edges. When urban designers attempt to design for community life, the focus often lies at the centre of a space, the place where life takes place, while the borders are often neglected (Sennett, 2018).

Practical implementations for a design include the creation of sufficient opportunities for movement or interaction between different spaces. This movement or interaction can be constituted on the horizontal level, between adjacent spaces, and on the vertical level, between different floors. Practically movement could be materialised through doors, passages, interruptions of walls and ceilings, stairs or ramps. Interaction can be materialised through transparency, openings in walls and openable windows. For sound Sennett (2018, p. 284) describes certain sounds can attract people to a space, in some cases people need to converse, and other sounds can be very unwanted. To prevent an unwanted resonance the physical design can contain certain angles, corners or spirals and certain materials can have a damping effect (Sennett, 2018, p. 284).

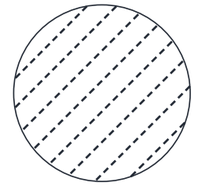


The membrane

Incompleteness

Creating something which has an incomplete form allows users to participate in shaping their environment and their own role in it. Sennett (2018, pp. 285–295) divides the incomplete form in the envelope and the formtype. The envelope entails the physical enclosure or structural built up of a space and the formtype is defined as an urban space that allows variation in its own being or its replication to take on different forms or functions. Sennett (2018) includes some practicalities for both categories. The incomplete envelope should have rules for its users, however, change should remain a possibility for its users. For the formtype, Sennett emphasises, not all variations are qualitative and one should be weary of variations for market or production intentions.

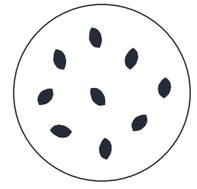
Incomplete envelope



Incomplete formtype

Seed planning

The last of the open forms of Sennett (2018) is seed planning, meaning there is not one type of open city model. Following the analogy of planting seeds, when seeds are planted variating circumstances like weather or wind can cause different outcomes. As opposed to masterplanning where everything is fixed, seedplanning is in the essence the minimal specification of the relationship between form and function, leaving maximal manoeuvre space for variation and innovation (Sennett, 2018, pp. 295–297). Sennett argues with seed planning against the urge of places to holster a clear visual identity, socially he argues if one kind of identity is dominant others may became visually and psychologically invisible. Sennett (2018, p. 300) concludes a city created out of seed planning can be visualised like a collage showing the ambiguities and complexities of the urban fabric.



Seed planning

Interior urbanism

Harteveld (2006) argues the increase of scale of a building invites internal public spaces to be nestled inside the building and an increased amount of users using the in- and outdoor spaces creating connections between the interior of the building and the outside. A certain porosity like the membrane of Sennett (2018) could allow movements and interactions between indoors and outdoors. According to Harteveld (2014, p. 11), progressive thinkers about public and private spaces started to acknowledge the more diffuse boundary between public and private understood as an in-between space (e.g. collective spaces, semi-public spaces) or an neutrality (e.g. other space, third space or generic space). However, as he concludes the public nature of certain interiors is not fully acknowledged. In acknowledging this a less absolute boundary between interior and exterior public spaces should exist. Interior public space, according to Harteveld (2014, pp. 551–555) , is relative to its context and should not be defined in absolute terms of public, private or in between. On the other hand their public use and value should be acknowledged. This can differ for different cultures, groups sizes and times.

Practically this means the design should be tailored to its environment, present public paths and uses and interior public space should be included in the network of public spaces (Harteveld, 2014, p. 556). Accepting this notion, the design of spaces for public use or value can stretch between the interior and the exterior without a hard defined boundary between public and private. This also means the outdoors can take on characteristics from the indoors. Examples of a network as such can include the street as a living room, shared gardens, accessible lobby's or internal alley's (Harteveld & Cavallo, 2019, pp. 190–191). Poot, van Acker & de Vos (2015) agree with Harteveld interior public spaces should be regarded in the context of the wider urban network, they argue next to a network logic a micro-spatial approach is necessary combining approaches from urban design, social sciences and interior architecture. On a micro-spatial level the transition between outside and inside and public and private is relevant. The entrance of a public interior space should have a connection with an existing pedestrian route and it should be visible and inviting. From the discipline of interior architecture they stress the importance of a relationship between three actors: bodies (individuals and communities), objects and spaces (Poot et al., 2015).

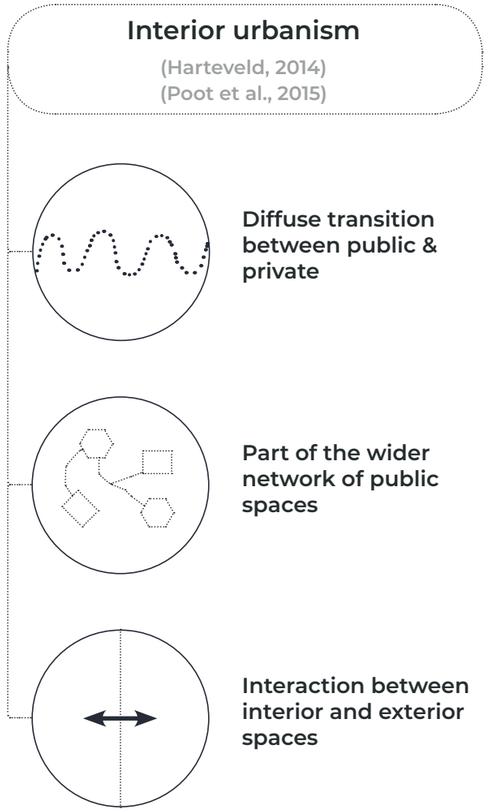


Figure 48. Interior Urbanism
by author

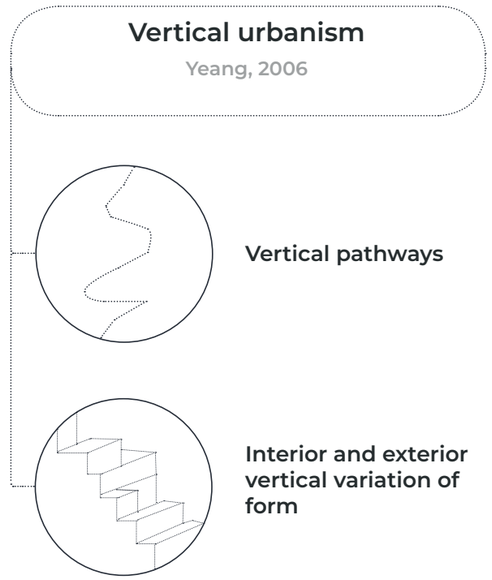


Figure 49. Vertical Urbanism
by author

Vertical Urbanism

Yeang (2006) argues for a vertical theory of urban design, aligning with the notion of interior urbanism he believes urban design should be integral to interior architecture and the internal spatial configurations of buildings. Here an additional element is added, urban design should extend into the verticality of the building. Urban design principles and techniques related to the spatial, social, and public realm can be applied to this vertical interior and exterior realm of the high-rise building (figure 49).

In Sennett's (2018, p. 279) view on porosity a high-rise building can be porous if the floors are interconnected instead of isolated horizontal entities. A vertical street or boulevard through the building could answer to this. According to Yeang (2006), options for the linkage of floors could include secondary or tertiary circulation systems like escalators, ramps, short-travel elevators and additional stairs. As mentioned Gehl (2011) does not believe in human activities in vertical spaces, however, his analysis of different levels can inform the theory of vertical urbanism. He argues while the sensory experience horizontal allows social encounter from 25 meters, the possibilities for experience with regard to higher levels which are closer are reduced. Regarding a lower level more overview exists, but still the participation and interaction are physically and psychologically difficult (Gehl, 2011, p. 97). To create vibrantly used spaces Gehl (2011) argues an assembly of activities or people is necessary. However, as argued by Sennett (2018) spaces should not be completely open. This implies that not all levels of a buildings should be connected, some can be more enclosed than others and playing with height can create interesting degrees of publicness. Between the 5 floors above and below there should be some social interaction between people possible (see figure 50), utilising the 5 floors above and below already provide a substantial opportunity for interaction. Different shapes of the interior (e.g. atriums) or exterior (e.g. terraced roofs or pixelated volumes) can contribute to this vertical interactions.

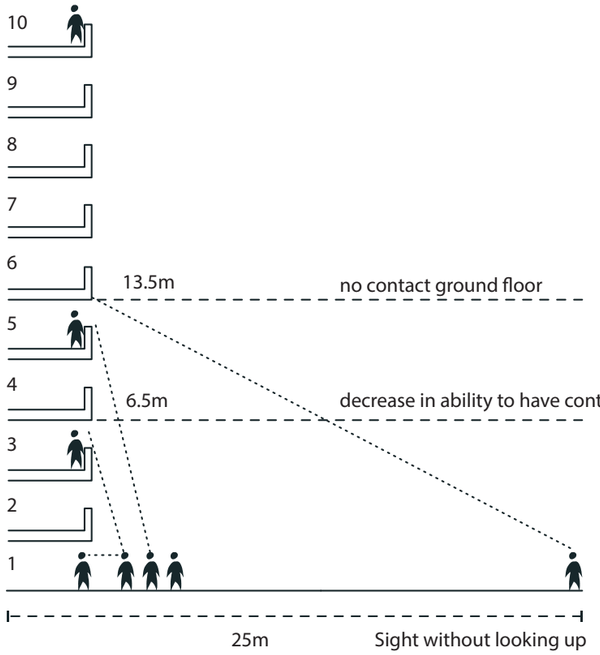


Figure 50. Senses and tall buildings
by J. Gehl
in Gehl, 2011; Gehl, 2010; Gehl et al, 2006 (edited by author)

5.

Field work

Interviews and observations

5.1 Introduction

With the aim to better understand the use and preferences of social spaces in and around the dwellings of high- and low-rise residents a set of interviews and observations have been conducted. In various high- and low rise buildings throughhout The Hague. Proceswise, the participation experiment, which was a part of the interviews, aimed to explore a method by which residents can actively be involved in the design process.

This chapter is divided in two parts. In the first part the methodology of the fieldwork is discussed (5.2). In the second part (5.3) the conclusions have been draften along the set design principles. Informing the understanding of those principles and the design choices made in the project.

5. Field Work

5.2 Methodology

Field work set-up

The field work can be split into observations and interviews. Observations have been conducted for a better understanding of social and circulation spaces within and around the buildings. Interviews did help to better understand the social use of space within and around the building and the needs and values of respondents.

Observations

The observations have been conducted by: walking and cycling around the building exterior and neighbourhood; taking a seat near the entrance of the building; entering the building and walking through the ciruclation and social spaces of the building. (see figure 54 for selected buildings) Here the interior spaces of high-rises were more of interest than the interior spaces of low-rises. Therefore this part is only conducted in the case of high-rise complexes. The observations were registered by pictures and notes. Attention was given to the use of the space by people and the spatial characteristics.

Interviews

The interviews can be split into two parts, short ordinairy talks (5 min - 15) and structured interviews (30 min - 60 min).

The short ordinairy talks were conducted while observing spaces or in the case of people who were not able to spend more time on the research. These talks consisted of an open question about the way residents experienced the social use of the building or neighbourhood they lived in. The results of these interviews are captured by notes.

The structured interviews consisted of open questions and a participation experiment (appendix 2). The open questions helped to sketch an image of the social use of spaces in and around the dwelling of residents. The questions focused on: the route to the dwelling; the intensity and location of neighbour contact; existing and lacking public and collective spaces. The results of the open questions have been collected in notes and audio recordings.

The participation experiment consisted of a collage created by respondents guided by a set of questions. Respondents were presented with a set of cutouts by which they could configure and design their ideal social space. This was conducted with the goal to expiriment with a participatory approach in the design of social spaces and to showcase the different needs and values of the respondents.

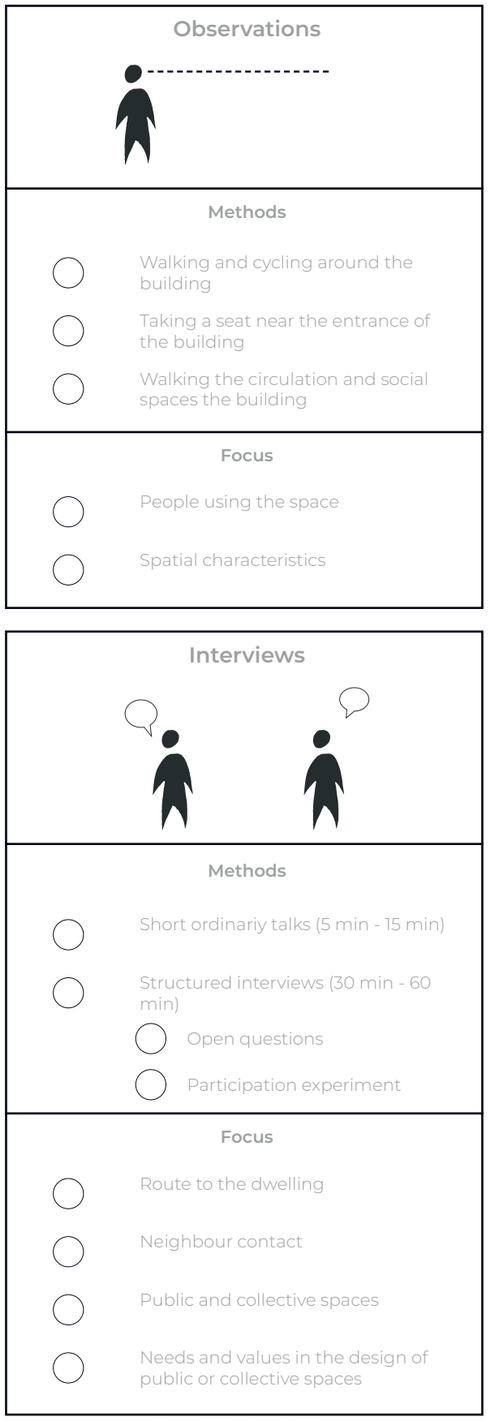


Figure 51. Fieldwork methodology
by author

Respondents

During the fieldwork 8 respondents did particapte in the structured interviews. For the this a detailed set of personal charcteristics has been created (figure 52). The diversity of the respondents group is essential to create a broad perspective on the needs and values of different inhabitants of The Hague.

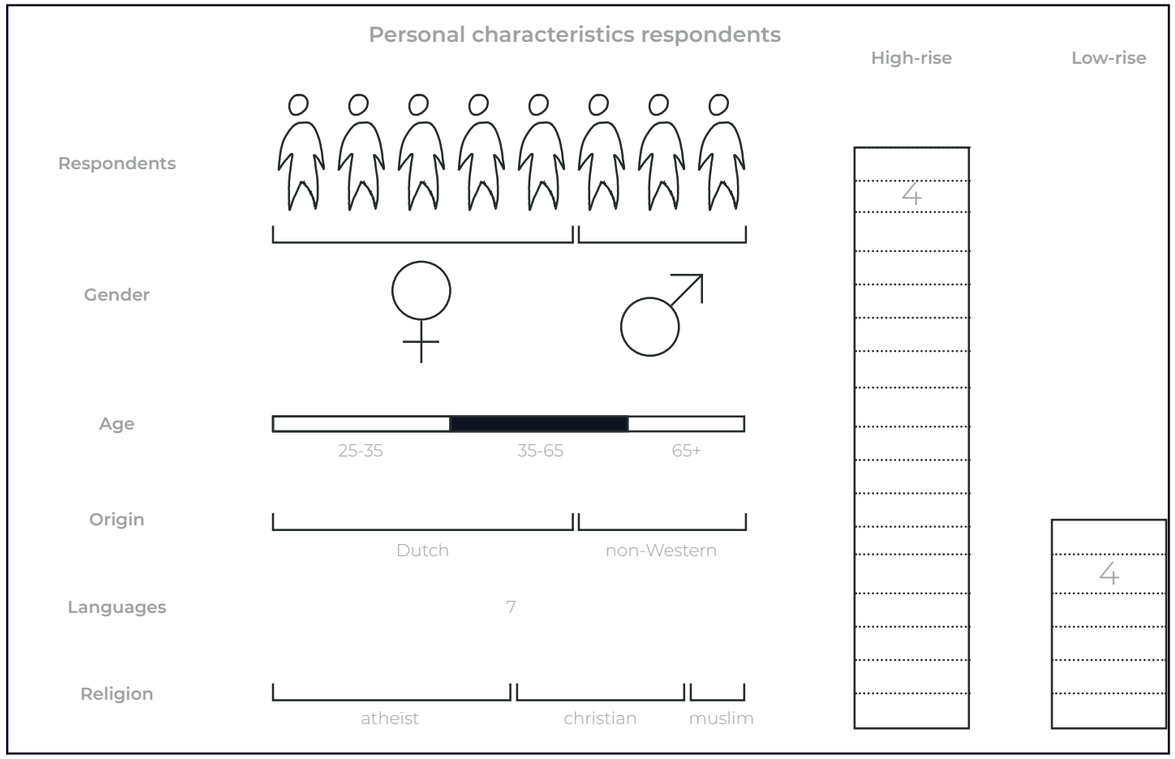


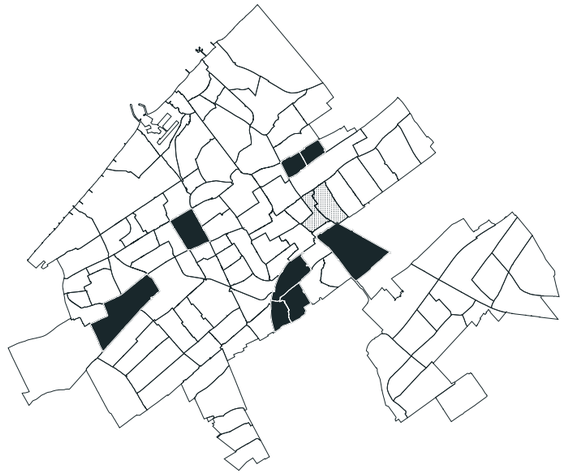
Figure 52. Personal characteristics respondents
by author

5. Field Work

Locations

For the observations and inteviews locations across The Hague have been chosen. Intentionally those locations constist of a varating building morpholgy and social layout. In this way the project attempts to sketch a broad image of the expericiences, needs and values of a diverse group of people. The obsevations of different neighborhoods help to understand the characteristics of areas and buildings.

Locations fieldwork The Hague



The Binckhorst

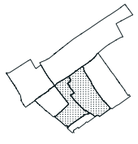
Project area
Redevelopment neighbourhood
Industrial area
Appointed for high-rise development

Spoorwijk & Laakkwartier

Diverse in ethnicity
Former workers neighbhourhood
A mix of high- and low-rise buildings

Loosduinen

Green neighbouhood
A mix of high- and low-rise buildings



Haagse Bos & Bezuidenhout

High-end high-rises (residential and offices)
Wide street profile
Central area

Benoordenhout

Predemominatly low-rise dwellings
Green neighbourhood
Wealthy neighbourhood

Regentesse- & Valkenboskwartier

Predominalty low-rise dwellings
Closed building blocks
Monumental architecture

Figure 53. Locations fieldwork The Hague
by author

Buildings

The fieldwork has been conducted in high- and low rise buidlings. In this way a broad understanding of the social use of space could be sketched. However, the observations inside buildings have been only conducted in high-rise complexes. The selection of high-rise complexes was created on forehand and the low-rise buildings were selected by neighbourhoood. Respondents of the high-rise buildings were adressed at their homes, while respondents of low-rise buildings were adressed in different settings like neighbourhood centers. The high-rise complexes are varating in tenure structure, neighbourhood, height, year of construction and morphology (figure 54). In all of the high-rises observations and interviews where conducted except New Babylon were no respondents were reached.

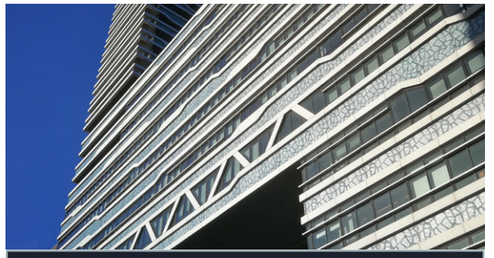
De Binck

2019
Binckhorst
73 dwellings
55 rent / 18 ownership
Commercial plinth
3 respondents

Nirwana

1929
Benoordenhout
31 dwellings
31 ownership
Commercial plinth
1 respondent

New Babylon

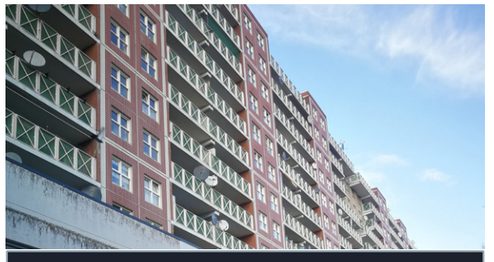


2013
Haagse Bos & Bezuidenhout
335 dwellings
171 rent / 164 ownership
Mixed use
0 respondents

De Wissel

..
Spoorwijk
86 dwellings
rent (age 55+)
Neighbourhood functions in the plinth
2 respondents (short ordinairy talks)

Neherkade



rent dwellings
1 respondent

Figure 54. Buildings fieldwork
by author

Results

The results of the fieldwork are categorised in the main themes: poreousity; staying and activities; senses and communication; hetrogeinity; and unplannend spaces. Themes which corrospont with the design principles.

Poreousity

The low-rise buildings encountered are all connected by shared or private entrances towards the main public street, while the entrances of the high-rise complexes were all to various extends closed off for non-residents (figure 56). This results in a selected amount of people, residents and guests, who can be encountered on the route to one's dwelling or within the interior spaces. Except residents and their guests all other people are excluded from the spaces behind this barrier. The exception on this are the groundfloor residents of De Binck (figure 62), who are encountered more often than residents on higher floors according to a resident of the same building from a higher floor.

However, a closed front door is not always keeping out unwanted guests. In De Wissel multiple residents including the *huismeester* stressed that the hallways have been used by unwanted guests. According to them unwanted guests, often teenagers, would enter the building and create nuissance by the use of substances (alchol and drugs), littering, pissing, vandalising or even sleeping inside. The residents of which most are elderly (55+), declared to experience fear and nuisance. The main location being subject of this was the concrete emergency staircase (figure 55). According to the *huismeester* the lack of social controll and use of this space facilitates the misconduct here.

The particaption expirement showed a variety of preferences regarding the accessibility of a social space in proximity the respondents dwelling. One respondent preferred an private accesible space, and the rest either a collective space accessible for residents of the same building or a space which is publicly accessible. For the latter one respondent argued for a closing time.

Figure 55. Concrete emergency staircase De Wissel
by author

Figure 56a. Entrance Regentesse Kwartier

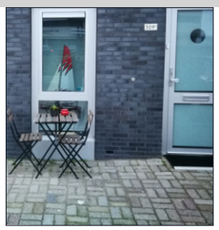


Figure 56b. Entrance dwelling plinth De Bicnk
by author

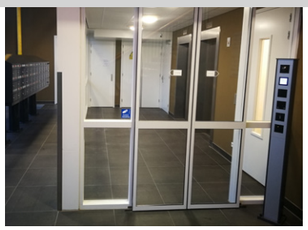


Figure 56c. Entrance The Binck
by author

Figure 56d. Entrance Nirwana
by author

Inside the high-rise complexes a strict boundary between collective and private spaces became appearant in the circulation spaces (hallways and outdoor galleries) of the buildings (figure 57). Blind walls and blind doors prevent any interaction between the private and the collective. Interaction between the private and the public or collective sphere has been experienced along the dwellings in the plinth of De Binck (figure 62), here seatings were placed next to the dwelling. In De Wissel (figure 57d) a conversation between residents on the collective roof terrace and on a private balcony two floors above was witnessed.

Figure 57a. Outdoor Gallery Nederkade
by author

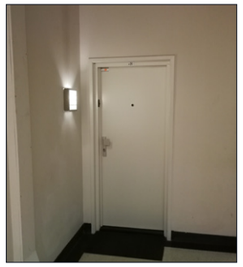
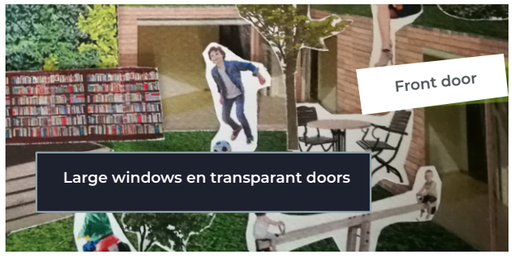


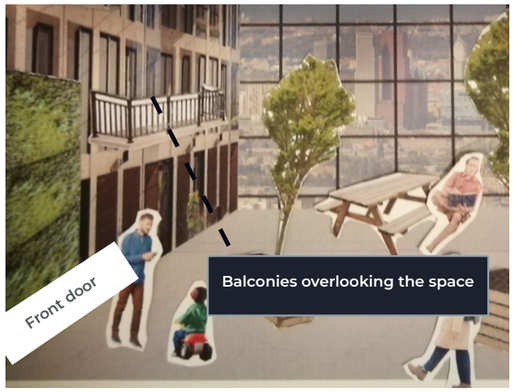
Figure 57b. Hallway Nirwana
by author

Figure 57c. Hallway De Binck
by author

Figure 57d. De Wissel balconies looking over the roofterrace
by author

The participation experiment shows different examples on porosity around public or collective spaces (figure 58). The boundary can be enforced by blind doors and walls, a difference in height, or vegetation. The other end of the spectrum shows a decrease of this boundary by transparancy of large windows and doors and balconies overlooking the spaces.





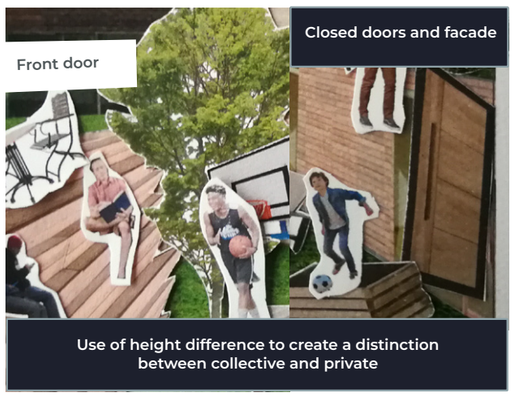


Figure 58.
Forms of poreousity illustrated by Participation collage
by author

5. Field Work

The observation of the conversation from a person on the roofterrace with a person on a balcony two floors higher showscases a possibilty for interaction between different floors. In the circulation spaces observed this was not appearant, here floors appeared to be isolated from each other with the exception of the staircases. In the case of the Nirwana flat the circulation spaces (staircase & elevator) create a visual connection to the plateau of front doors by the transparant doors and a transparant elavator shaft (figure 59).

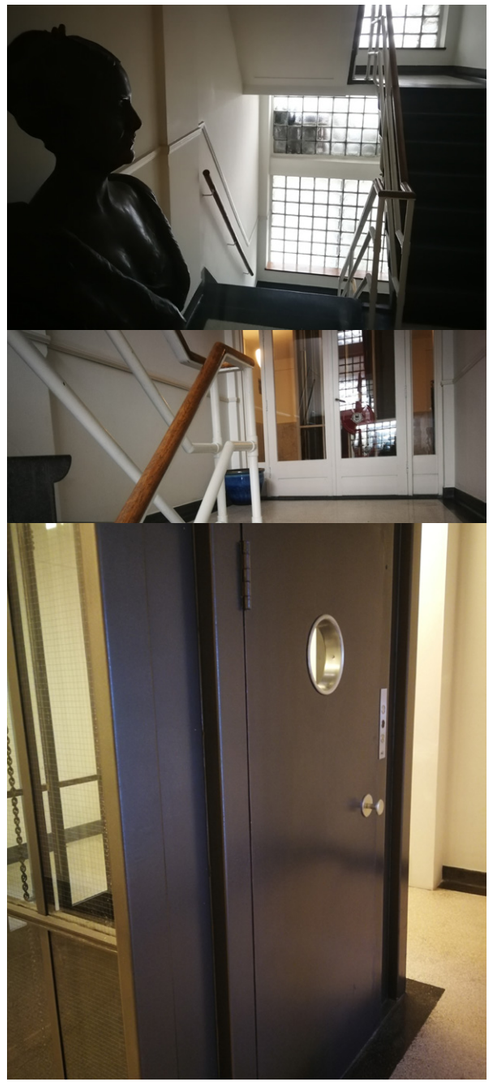


Figure 59. Circulation spaces Nirwana
by author

Resulting from the participation collages different forms of vertical poreousity can be recognised (figure 60). All the collages entail this in some form. Different levels are created by seatings on staircases, balconies and elevated levels of the space. Furthermore, the use of green walls and trees enhance the vertical space and forms of vertical play are embraced like slides and bouldering walls.

Figure 60. Vertical porosity illustrated by Participation collage
by author

Staying and activities

In the hallways and outdoor galleries of the high-rise complexes in most cases no seatings were found and the dimensions were relatively small, as a result the space did not invite people to stay in these spaces for longer than necessary (figure 61). Within these tight hallways and outdoor galleries the people that were encountered walked uninterupted towards the exit, elevator or their dwelling. During one of the interviews in De Binck due to the wish of the respondent not to enter the dwelling we took a seat on the emergency staircase. This illustrates the lack of an attractive places to stay or sit in the circulation space.

Figure 61. Tight circulation spaces (above De Binck, below Nederkade)
by author

Seatings in the complexes were some cases located along the route, at the Neherkade just behind the entrance, and in the Wissel at every level near the elevator. Aditionally in De Wissel on the collective roofterrace a set of moveable furniture (chairs and table) was shared by residents and stored in a central shed on the roof. At De Binck residents of the ground floor placed their personal chair and table next to their front door.

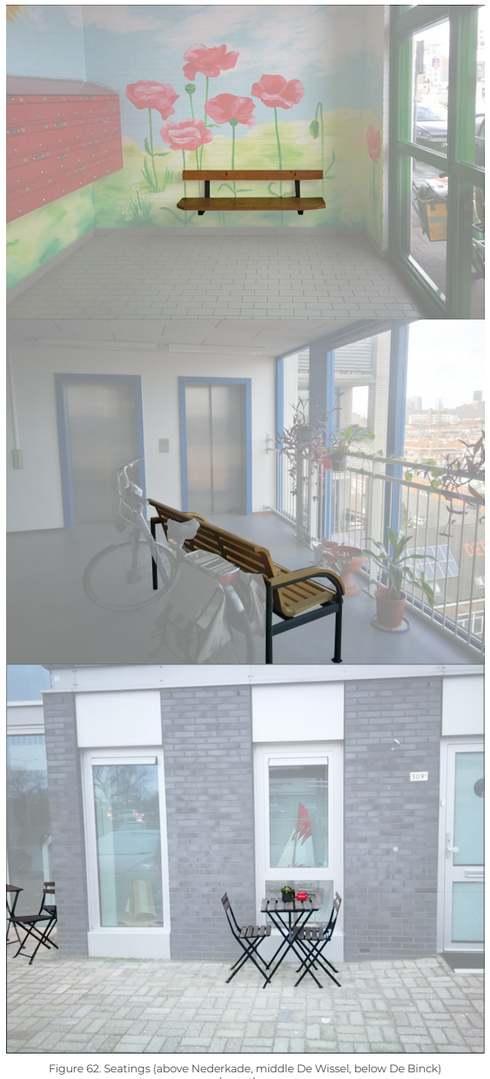


Figure 62. Seatings (above Nederkade, middle De Wissel, below De Binck)
by author

5. Field Work

In the participation experiment for all collages seatings were added to the space and in most cases they were located in the centre of the space were the respondents would prefer to meet their neighbours. Others prefered to have seatings around the edge or on an elevated level. The width or height of a space was in some cases used to separate a space for activities and walking.

Figure 63.
Seatings illustrated by Participation collage
by author

Most respondents emphasised the importance of vegetation as a precondition for a comfortable space. Next to vegetation other elements were mentioned related to a comfortable microclimate like shadow, light, isolation or heat. Other aspects that have been mentioned were enclosure, horizontal spaces, absence of cars, intimacy of spaces, sufficient distance to ensure a personal space, quietness, openness and the visibility of other users. Some of those aspects are conflicting. In relation to poreousity there a contrast between the wish for privacy or publicness, enclosure or openness and between horizontal or leveled spaces was highlighted (figure 63).

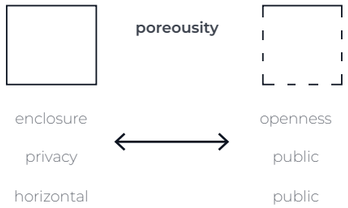


Figure 64.
Contrast of poreousity
by author

Figure 65.
Activities facilitated illustrated by Participation collage
by author

Activities that should be facilitated in the space vary allong the preferences of the respondents.. Here a clear distinction can be found between collages with many activities facilitated and collages that are only facilitating seatings (figure 65).

Senses & communication

In most collages there are limited obstacles preventing encounter, except difference in height. Only two case intentional barriers were put up like a vegation buffer or extra walls. Most collages had a front door connected to the central space and some resondents placed the front door on an elevated level to create a distance to the social space. In some of the collages the dimensions of the space was decreased significantly to create a more intimate space.

Figure 66.
Barriers created to limit the amount of encounter illustrated by Participation collage
by author

Hetrogeneity

In the high-rise complexes there appeared to be a minimal variation of dwellingtypes to be found. In the case of De Binck a division between rental and ownership seemed to make a difference in te intensity of encounters. A resident of an owned appartment explained they organised walk-in dinners with other homeowners and met reguarly in VVE meetings.

Regarding hetrogeneity, the variation in dwellings has not been discussed in the interviews. The synchoneity of spaces appeared differently as discussed under the aspect of activities facilitated and orientation points can be seen in different forms throughout the collages in the form of different elements (e.g. facade detail or art).

Unplanned spaces

From the observations in the complexes in different ways residents seemed to put personal or collective objects in the collective or public spaces (figure 67). In some cases this personalisation has a practical nature like a bike or a mobility scooter however, in other caes there is a clear attempt to create a more attractive space by decorations like the flowerstand, the paintings or the doormat. This could serve as a method to partly claim the space or to showcase one's personal taste for decorations.

5. Field Work

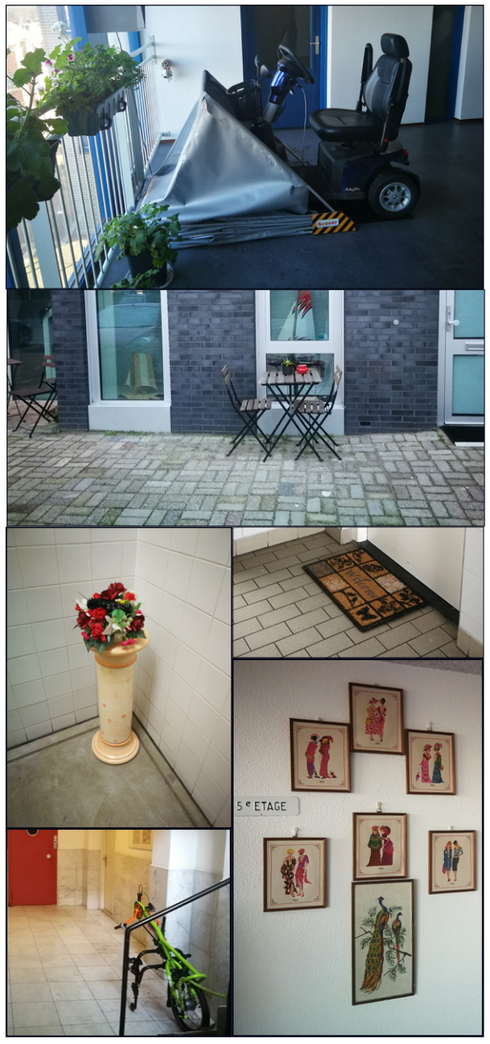


Figure 67.
Personalisation of the collective and public spaces
by author

The participation experiment functions in the form of a process to facilitate participation. Here a general conclusion is the variety of different preferences of respondents which can be a difficulty in a participation process. Here a group of 8 respondents gave a large spectrum of variating preferences the more this groups is diversified and extended the more options will be created.

The process of creating the collage itself clearly activitated and excited the respondents and most probably it resulted in different results than a non-visual interview. However, the visual tool of the collage came with a restriction. The collages were limited in options and inevitably stirred the respondents towards certain options regarding the available cutouts. Before starting the interviews this was anticipated on to a certain extent. The options for cutouts were create as extensivly as the format allowed and during the experiment the respondents were activity told they could add anything that wasn't available in the cutouts which would than be sketched on a piece of paper (figure 68).

Contentwise, a difference in the amount of programming of spaces can be seen in the different collages, this is illustrated in the amount of activies facilitated (figure 65). Here one of the respondedents noted he would not add any removable items like a pooltable or moveable chais due to the risk of elements being lost after a period of time. Here the assumption is made if people are collectively responsible for the space the care for it could be neglected. From other collages the opposite seemed to be true with many moveable elements added.

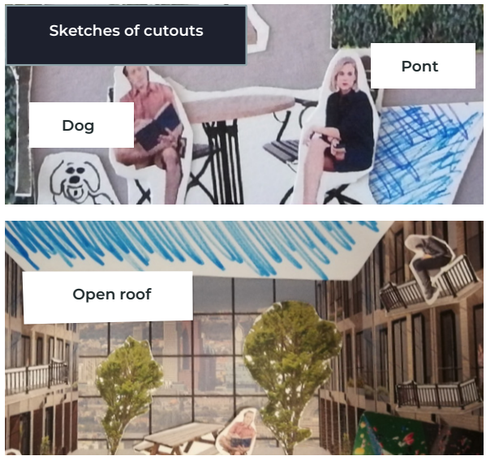


Figure 68.
Sketches of cutouts in Participation collage
by author

Use in het project

Apart from the practical lessons which have been drafted from this research the results of the observations and interviews inform the design choices made in this project and the implementation of the design principles.

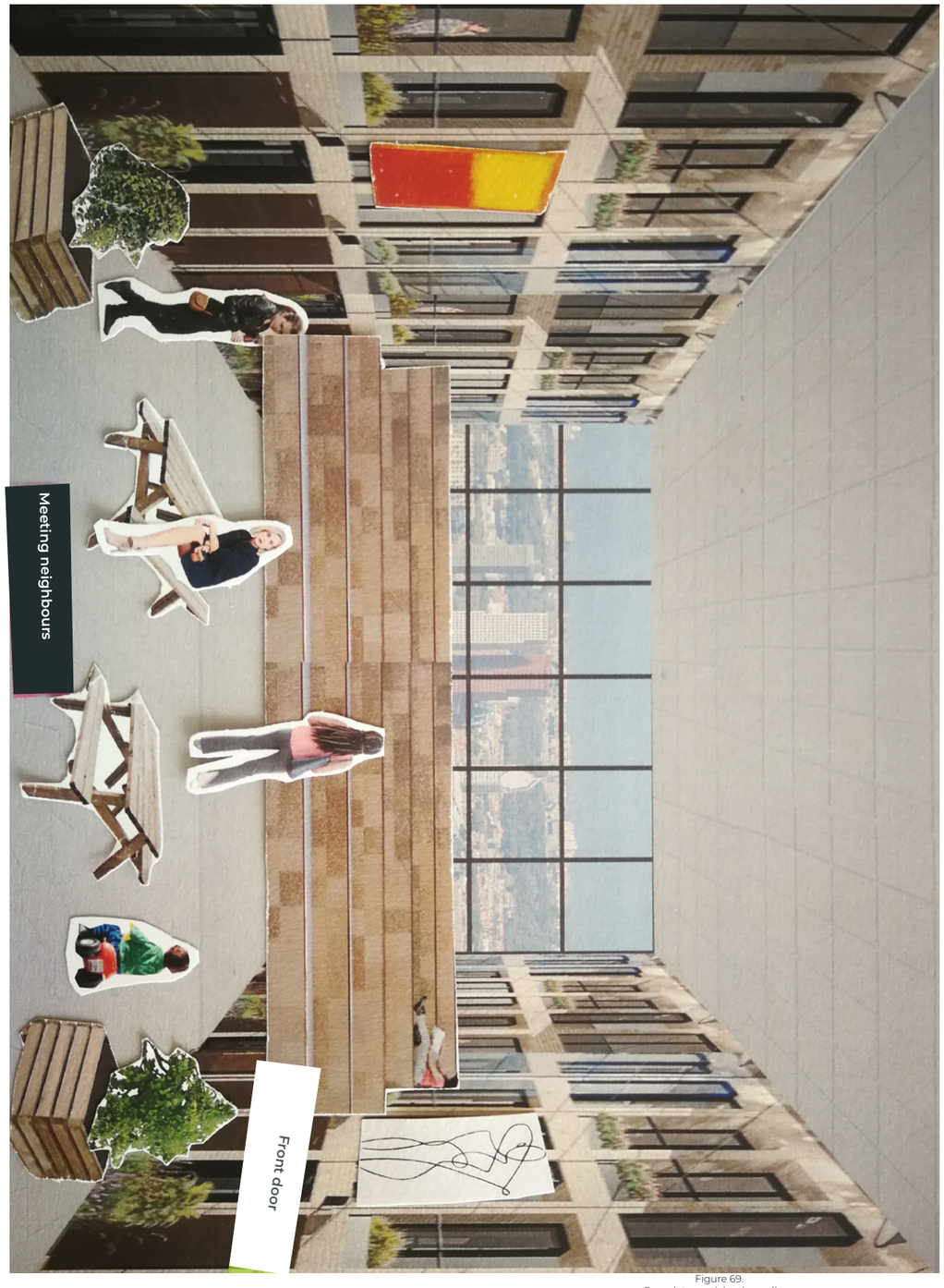


Figure 69.
Complete participation collage
by author

6.

Location Analysis

The Binckhorst

6.1 Introduction

The location analysis froms the basis for the vision and the design of chapter 7.

This chapter exists out of 3 parts: Project location (6.2); Planned developments (6.3); and Mobility (6.4).

The plot

The project plot is located around and at the South-East side of the crossing of the Binckhorstlaan and the Mercuriusweg.

Along the Binckhorstlaan the omgevingsplan (Gemeente Den Haag, 2020) includes height accents with maximum 140 meter. On the scale of the city the crossing could be seen as a junction (figure 70) in the high-rise zone (figure 71). The Binckhorstlaan is supposed to function as an urban backbone according to the omgevings plan (Gemeente Den Haag, 2020). The plot is located at the eastside of the crossing where less developments of buildings and public spaces are planned than at the westside of the crossing. Along the most dense strip of the Binckhorstlaan an estimated amount of residents that would be housed is 6000 (figure 72).

The importance of the crossing for slow traffic is also emphasised therough the proposed bike route to Voorburg (figure 70).

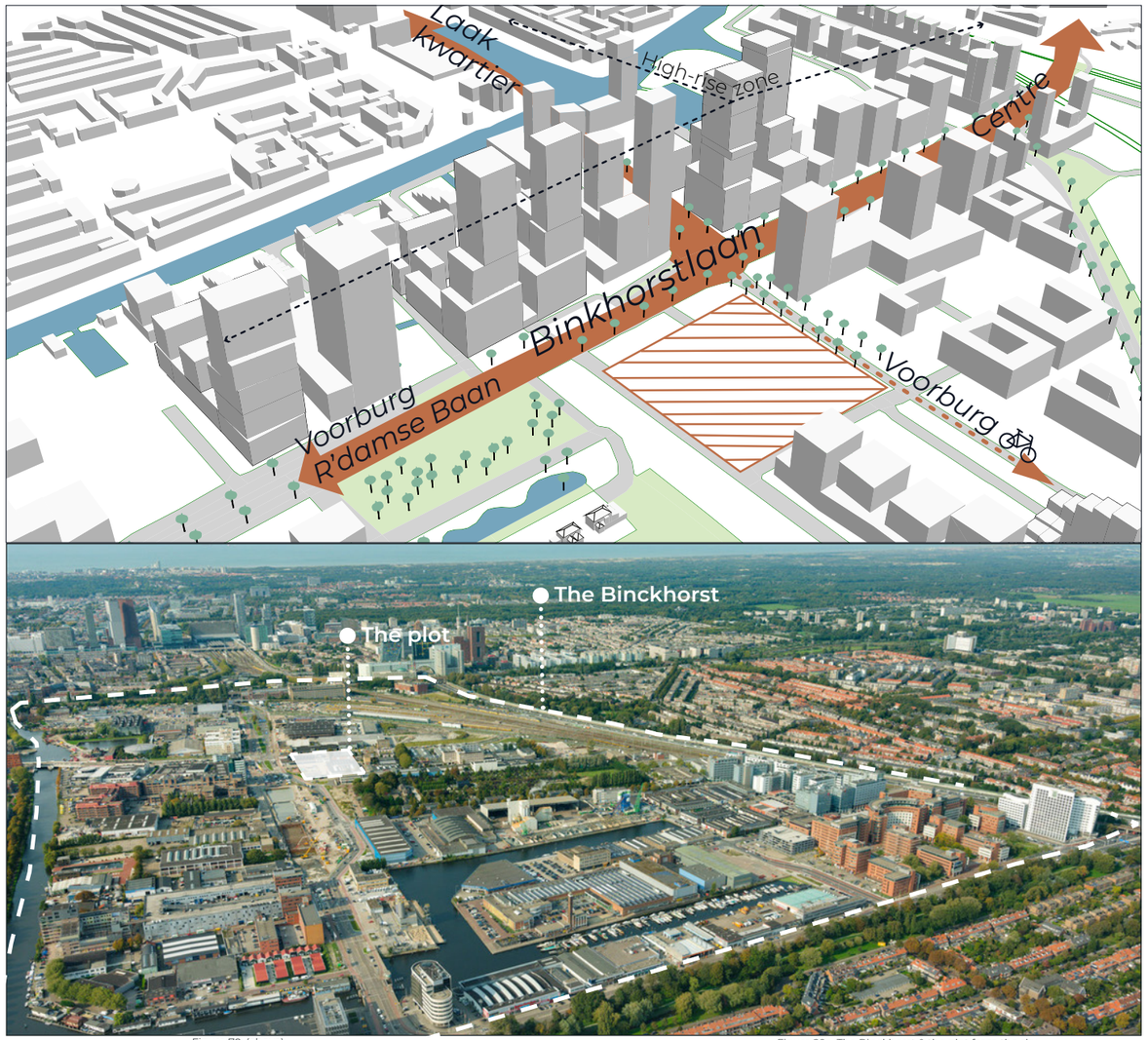


Figure 70. (above)
The plot
by author

Figure 29a. The Binckhorst & the plot from the sky
by RV
in de Jonge, 2018 (edited by author)

High-rise zone The Hague

Figure 71. High-rise zone The Hague
by author

Estimated amount of residents

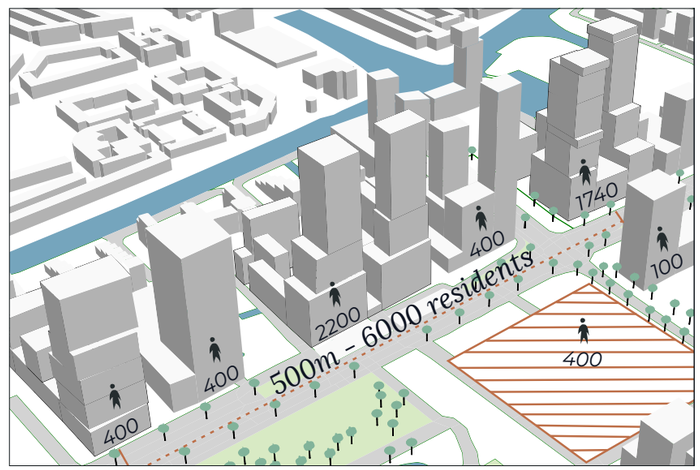


Figure 72. Estimated amount of residents
by author

Figure 73. Urban layer and height accents (Local Ontwikkeling & OZ Architect, 2019; Vorm, n.d.)

Planned developments

The planned projects are interesting concepts, however it is questionable to what extend the plinth integrates with the public spaces around the Binckhorstlaan. The treat exists they become island in the neighbouhood.

Islands in the neighbourhood

Figure 74. Island in the Neighbourhood. By Local Ontwikkeling & OZ Architect (2019) (Edited by author)

Figure 75. Binckhorstlaan Be-Proud By Local Ontwikkeling & OZ Architect (2019)

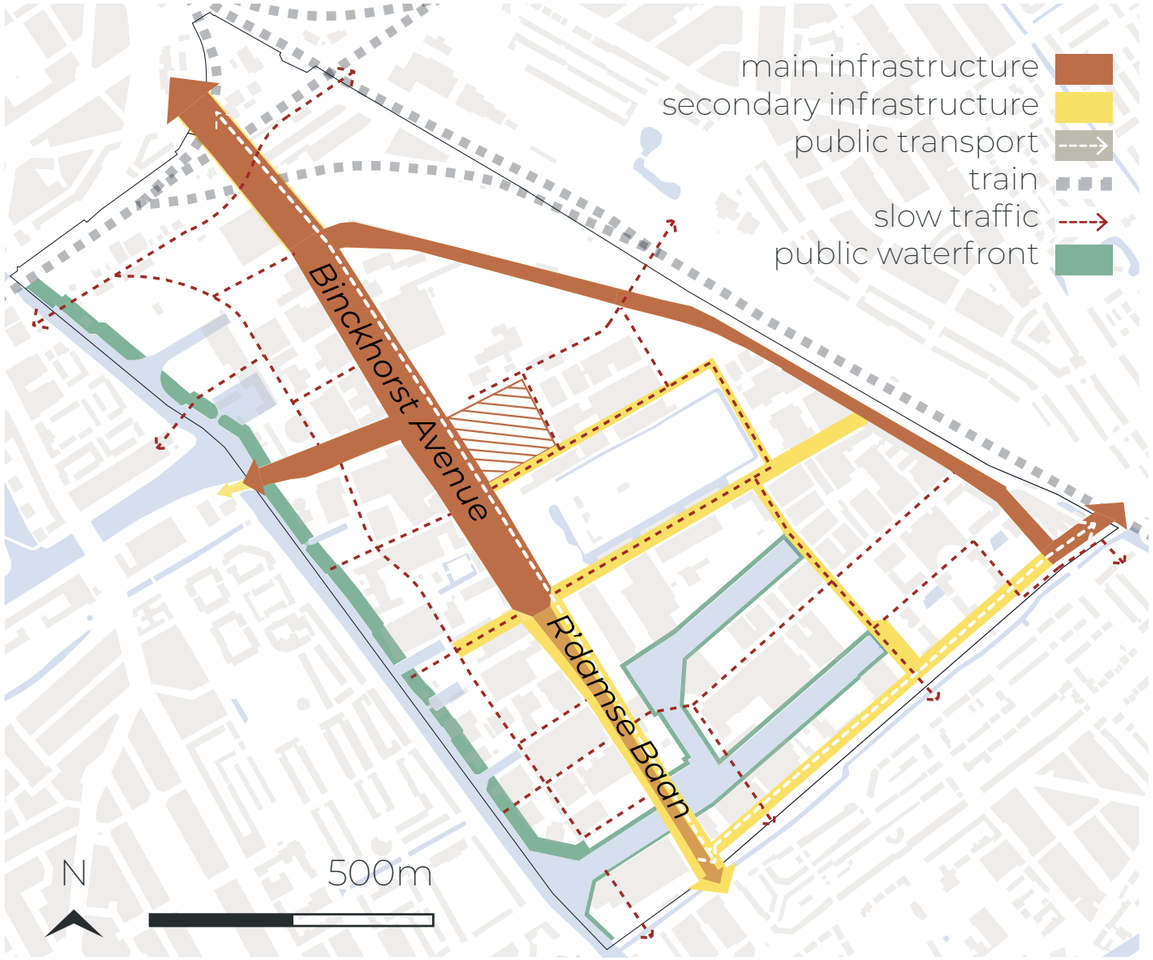


Figure 76. Mobility Binckhorst by Gemeente Den Haag (2020) (edited by author)

Rotterdamse Baan

The Rotterdamse Baan is a tunnel planned to become a new entrance to the Centre of The Hague from the high-way. The crossing is very busy with car traffic and unattactive for pedestrians at this moment. When the Rotterdamse Baan the amount of traffic driving over the crossing will probably increase.

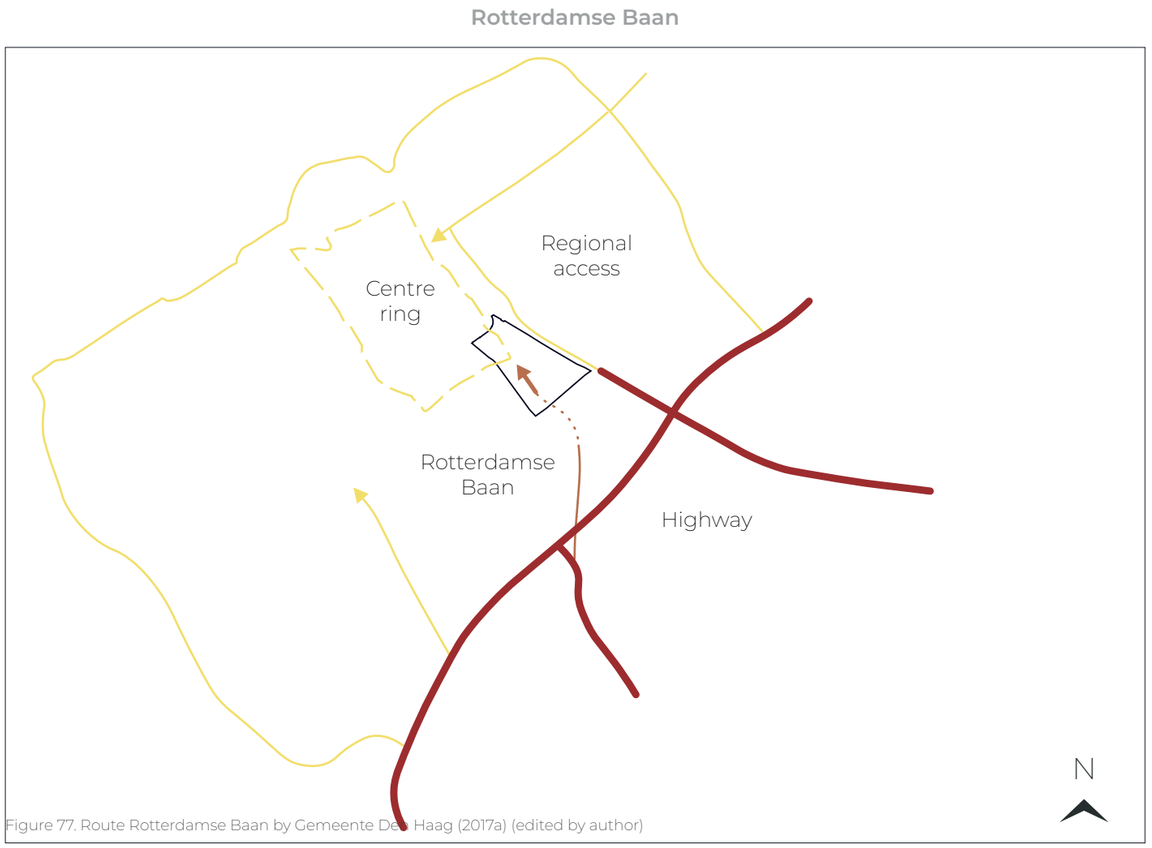


Figure 77. Route Rotterdamse Baan by Gemeente Den Haag (2017a) (edited by author)

Figure 78. Render Rotterdamse Baan by Gemeente Den Haag (n.d.)

Current situation crossing Binckhorstlaan - Mercuriusweg

Visualisation Be-Proud situation crossing Binckhorstlaan - Mercuriusweg

Figure 79a (above).
Current situation crossing Binckhorstlaan - Mercuriusweg
by Google, (n.d.)

Figure 79b (below).
Visualistaion Be-Proud crossing Binckhorstlaan - Mercuriusweg
by By Local Ontwikkeling & OZ Architect (2019)

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7.

Design & Vision

A re-interpretation of high-rise design

7.1 Introduction

The design and vision chapter is the syntesis of the research in an attempt to form an example of the implementation of the design principles on the location.

This chapter consist of the following subjects that explain the design and vision: The (spatial) vision & concept (7.2); Inclusive urban centre (7.3); Horizontal layout (7.4); Vertical living street (7.5); Pockets (7.6); and construction (7.7).

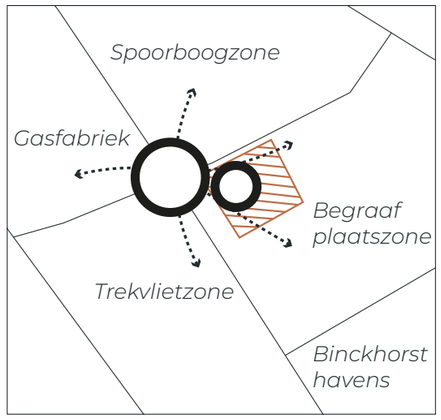
7. Design & Vision

7.2 The (spatial) vision & concept

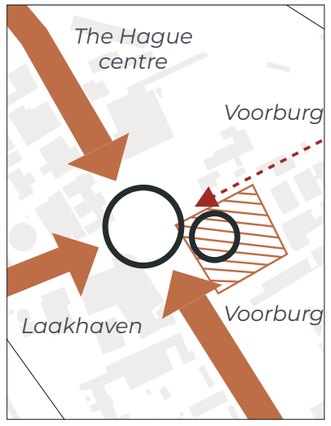
Vision

The Binckhorst is a rapidly developing new residential neighbourhood, a phased development with a current emphasis on the Eastside treathens to separate East and West Binckhorst. With an unattractive and uncoherent public space newly planned developments around the Binckhorst could become isolated islands in the neighbourhood. The existing and proposed green infrastructure will be an important public space within the neighbourhood, however they have the potential to connect with each other improving the network of public spaces of the Binckhorst.

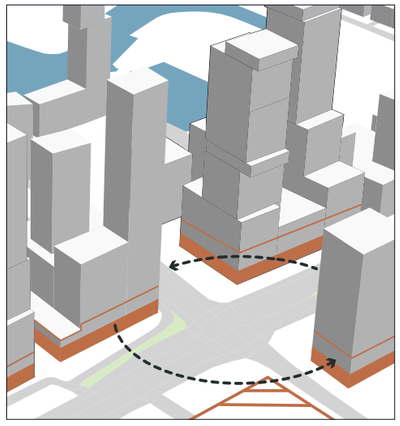
The crossing Binckhorstlaan-Mercuriusweg should play a central role in the integration op public spaces in the Binckhorst. By creating an urban centre the new developments will be better integrated, a place where people from around in inside the Binckhorst could encounter is created which is a junction within the urban axis public space network and the network of green infrastructures.



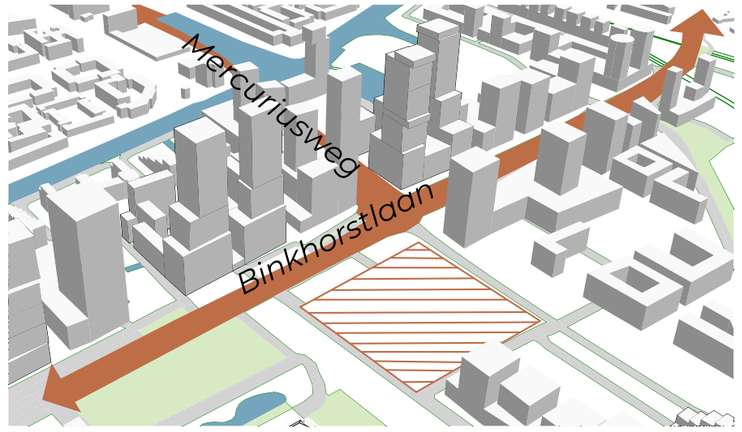
Integrate neighbourhood
connect East - West



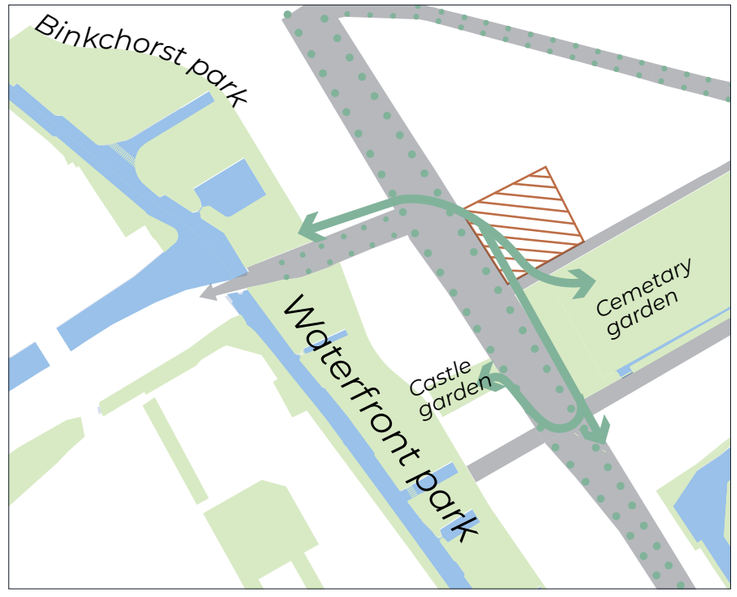
Urban centre
serving Binckhorst and surroundings



Opening up
connecting new developments

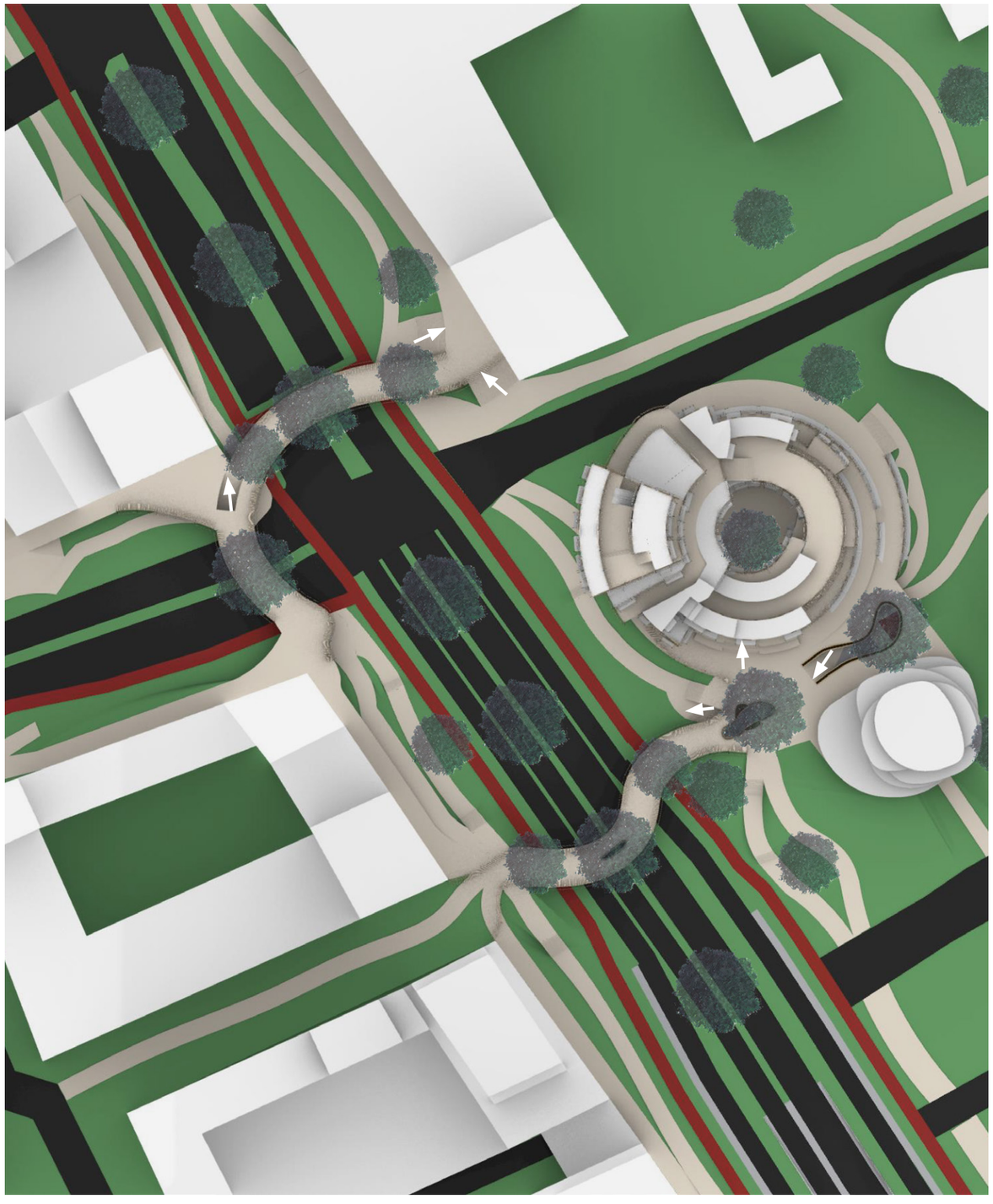


Urban axis
attractive and accessible urban axis



Connecting green infrastructures
accessible walking routes

7. Design & Vision



Design

In line with the vision and according to the design principles the design of the building is founded in the elements of the urban fabric. Essentially it comes down to a network of public spaces, a street and open spaces and a placement of functions.

50m 100m N

7. Design & Vision

Concept

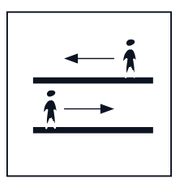
The concept by which the design is created answers on posed challenges of the city and high-rise developments. by following the main design values: encounter, recogntion and adaptability.

Around the crossing an inclusive centre is formed which is accessible by all and answers to various needs and values. The layout of dwellings and functions is made horizontally to ensure encounter between different users and residents.

The functions and dwellings are connected in a horizontal and vertical manner by a vertical living street. Adjecent to this public spaces of variating atmospheres are created. To ensure the spaces and functions are adaptable they are designed to cope with changing needs and values over time.

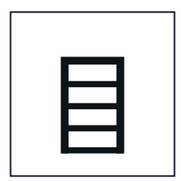
Horizontal Segregation

Vertical Segregation



Stacked horizontal domains

Homogenous structure



Rigid structure

≠ ≠ ≠

Encounter

between like and unlike individuals

Recognition

of hetrogeneity and cultural differerence of identy groups

Adaptablity

to changing needs and values

↓ ↓ ↓ ↓ ↓

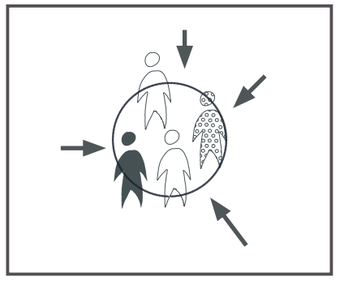
Inclusive urban centre

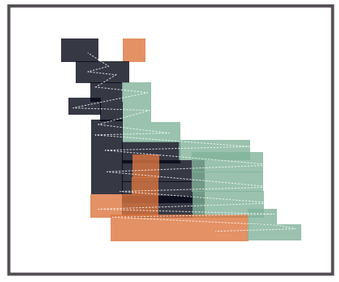
Horiontal layout of dwellings and functions

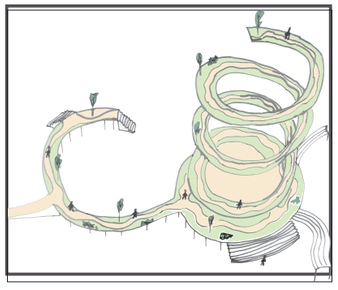
Vertical living street connecting different pockets around a central courtyard

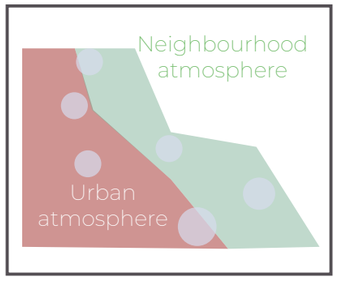
Public spaces variating in atmospheres

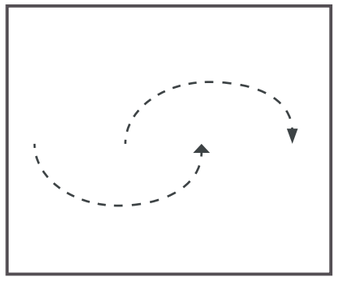
Public spaces that are able to adapt to chaging needs and values over time









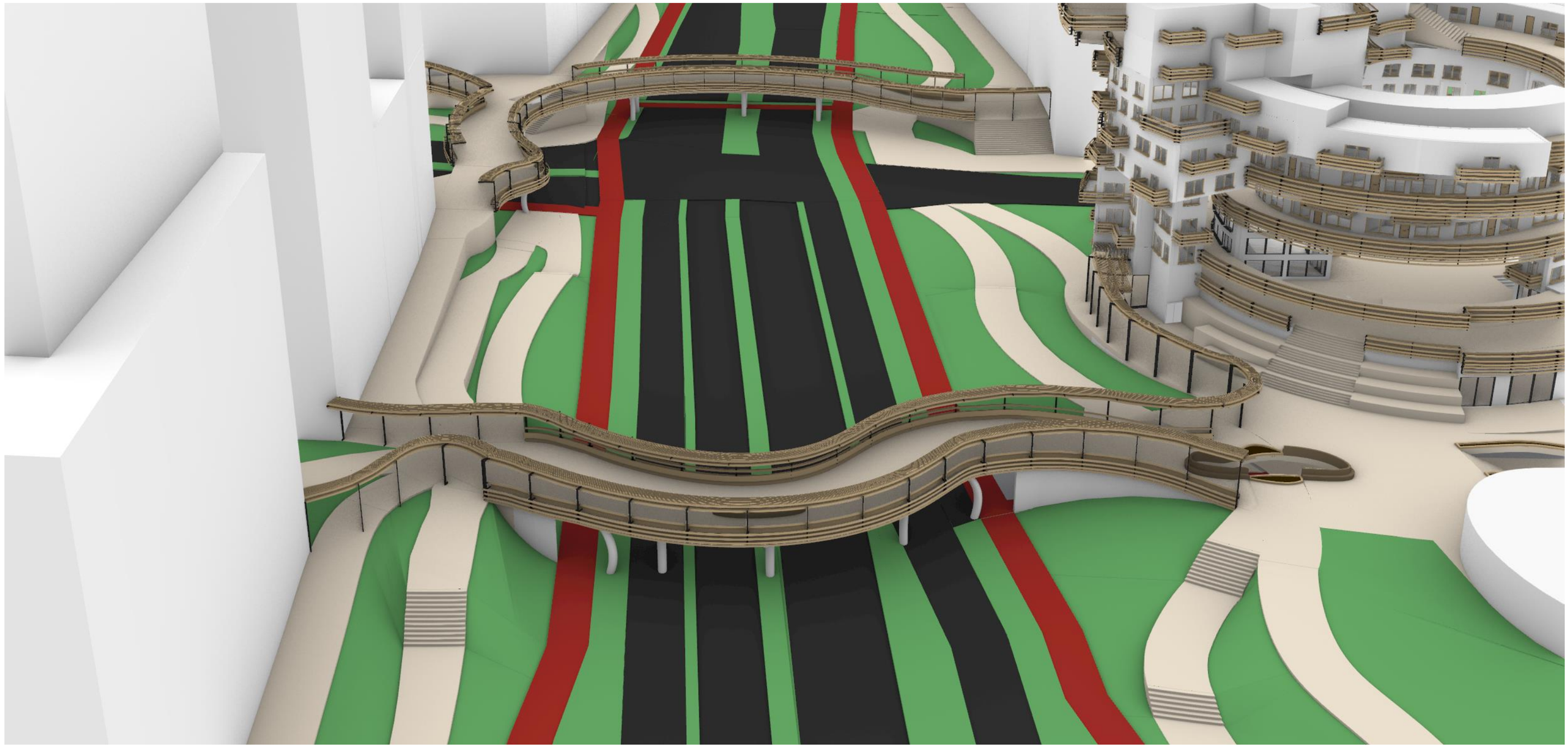


7. Design & Vision

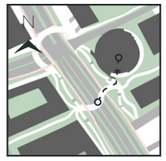
7.3 Inclusive urban centre

An inclusive centre

Around the crossing an inclusive urban centre is created. The sloped walkup makes the space accessible for all people. The public space is accessible from all corners of the crossing, it connects to the high-rises, it continues the Binckhorstlaan and its green design makes it an logical continuationg of the green public infrastrcture of the neighbourhood. At every corner a square is created with different adaptable functions. answering to various needs. Among those are market stalls, restaurant terrace, sport or event facilities.

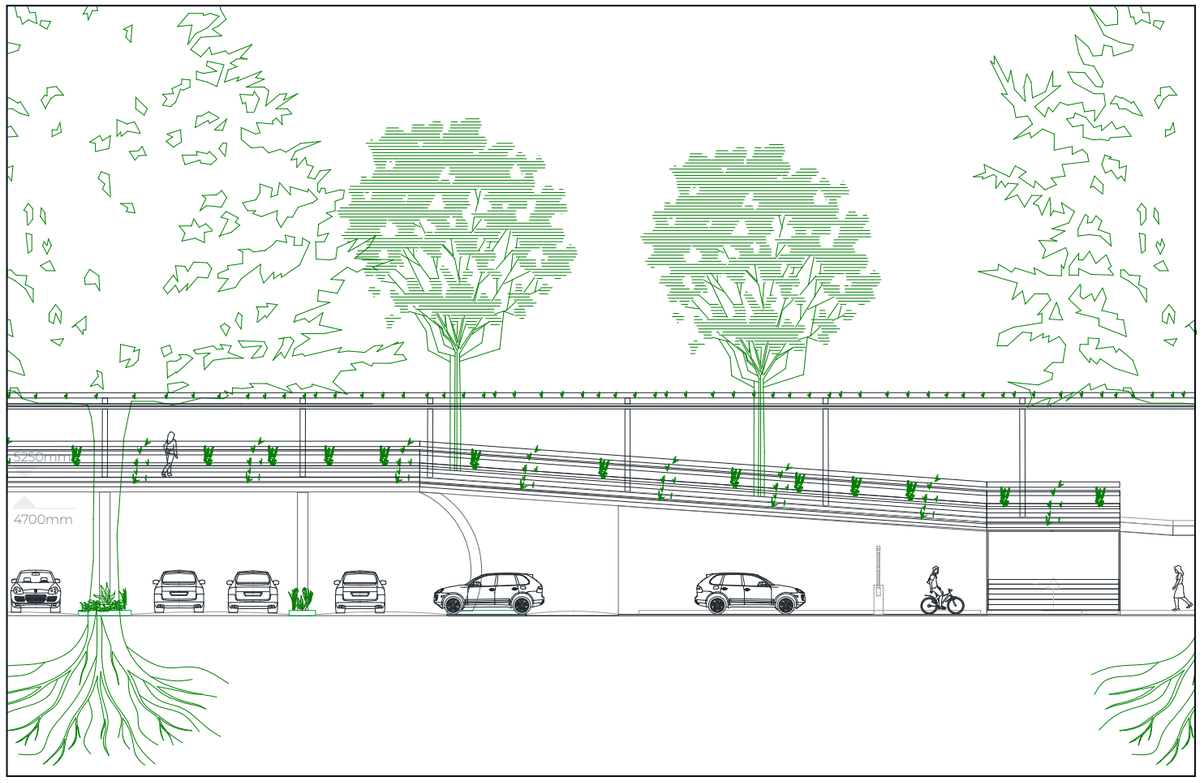


7. Design & Vision



The bridge

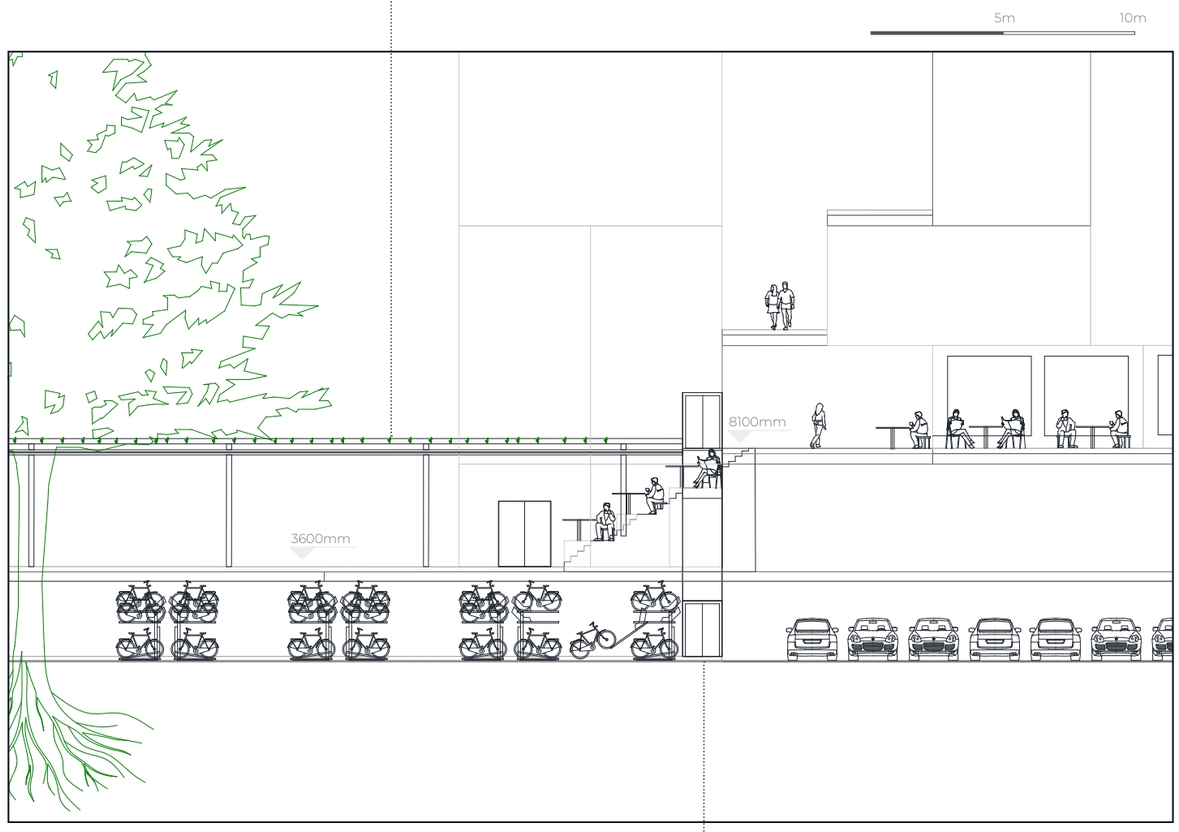
A pedestrian walkway forms a continuaus public space only accesible by pedestrians around the crossing. The bridge that creates an enclosed and green atmosphere continues the green infra-structure in this way to its best extend. Thereby the negative aspects of the cartraffic are muted by the vegetation, ballustrade and pegrola.



SW

Pergola bridge links to the square and the plinth

integrating public space indoor and outdoor and over vertical levels **(poreousity)**

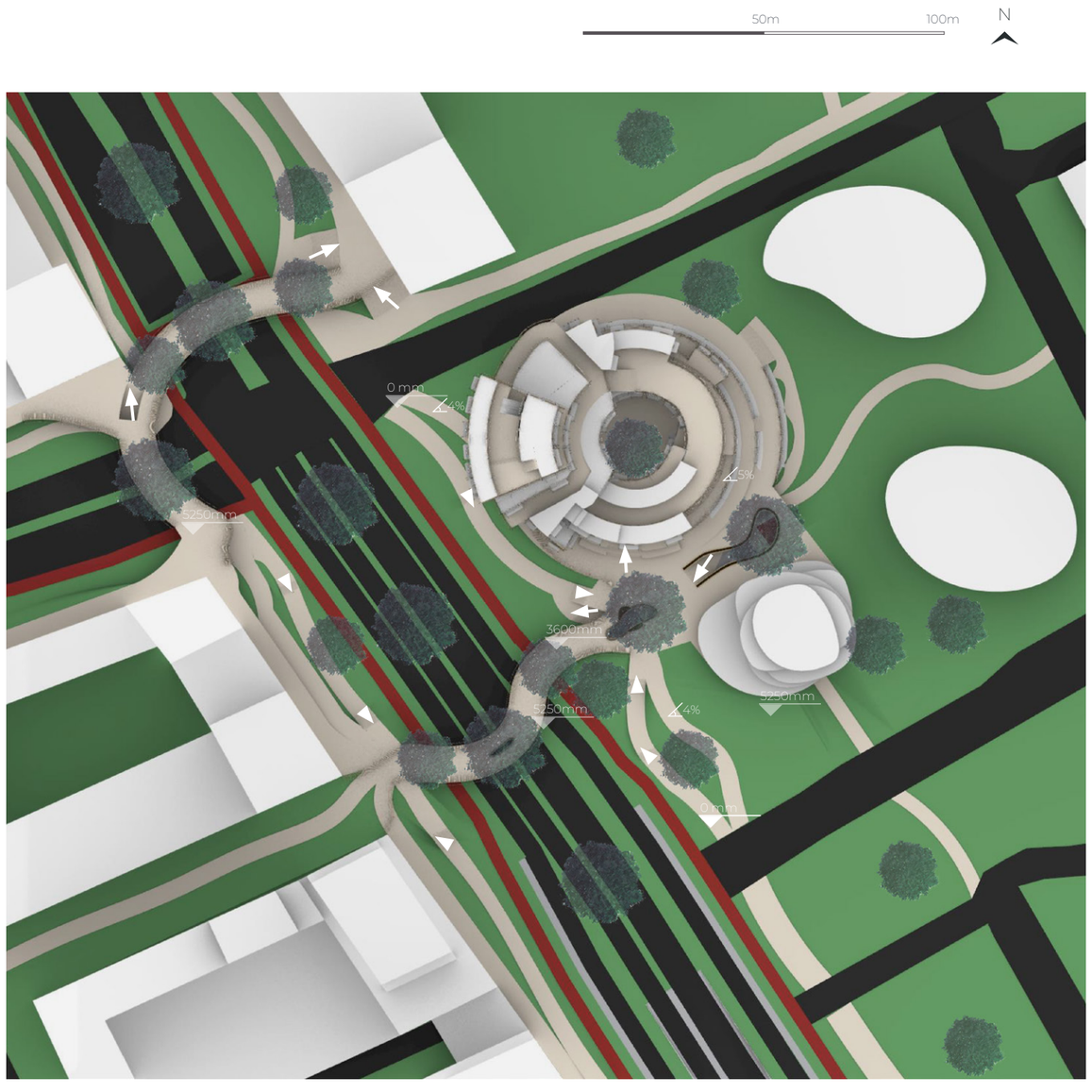


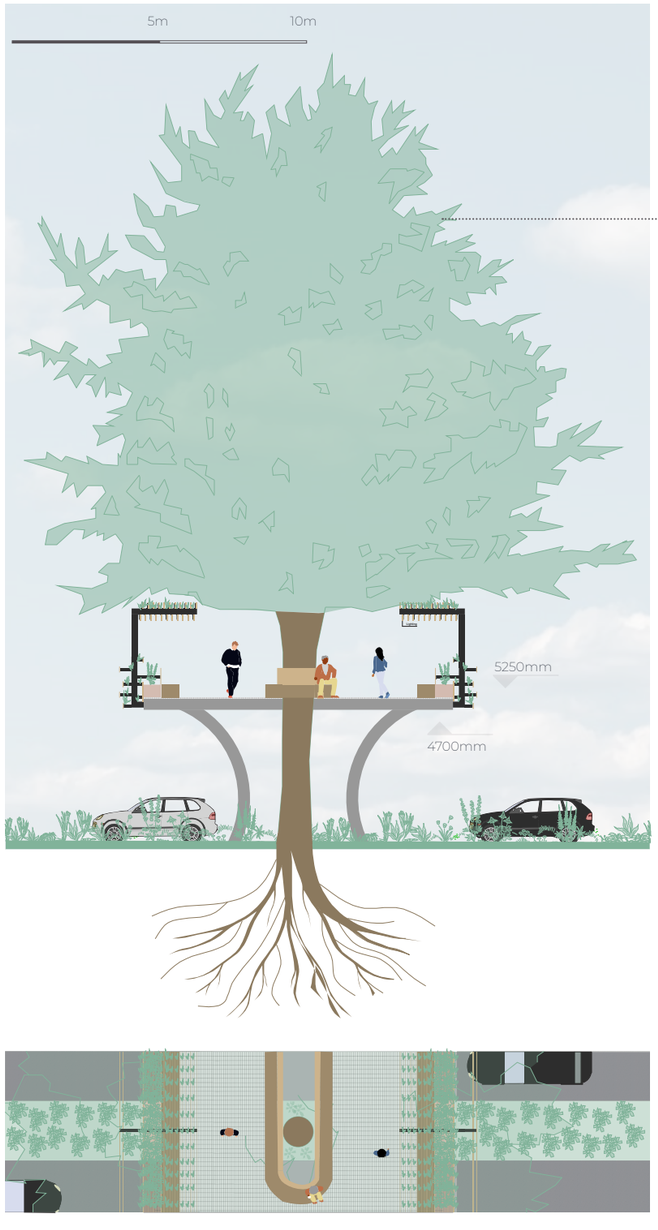
N

Elevator bike and car parking

links to the active plinth levels groundfloorlevel (3.6m) and 1st floor (8.1m)
here the urban square with commercial functions, neighbourhood centre and the start of the vertical living street are reached **(encounter)**

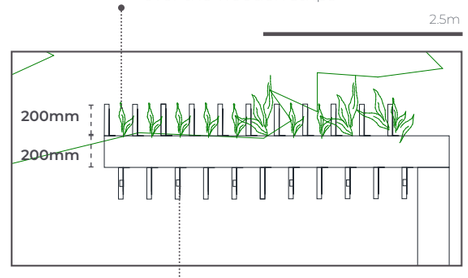
7. Design & Vision





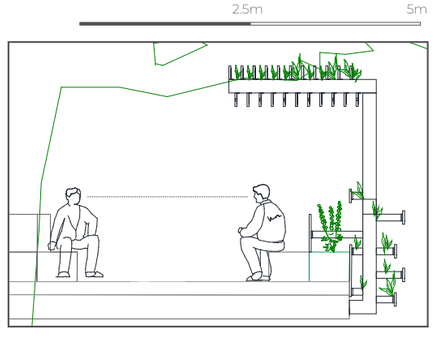
Trees across different levels
cut outs walking bridge forming **vertical poreousity**
by a visual link

Vegetation
the top part of the pergola alows vegetion to grow over the wooden strips



Lighting
The wooden strips include integrated diffuse lighting

Enclosure
the ballustrade, pergola and vegetation provide enclosure of the route



Seatings along the route
seatings orientation and proximity enabling **encounter**

NW SE

Pedestrian priority
The public space around the crossing is connected by an elevated and uni-terupted pedestrian space

Accessible for all
The elevation is accessible by a sloped walk-up of ∠ 5%

inclusive public space accessible for elderly or disabled
**1:20: 20m length 1m height increase, 1.5m plateau in length*

7. Design & Vision

Modern city gate

The crossing is positioned at the end of the Rotterdamse Baan tunnel. Here cars enter the Binckhorst and the city centre of The Hague. The pedestrian bridge and high-rises alligned on both sides of the road create a modern city gate that mirros the Haagse poort at the Utrechtse Baan.

Rotterdamse Baan City entrance

Binckhorst

Utrechtse Baan City entrance

Haagse Poort

figure 80. Haagse Poort by Vastgoedmarkt (2019)

Visual connections main road & plot

The use of multiple routes along the road which shapes a gradient hill between the plot and the main road ensures a visual connection between both

7. Design & Vision

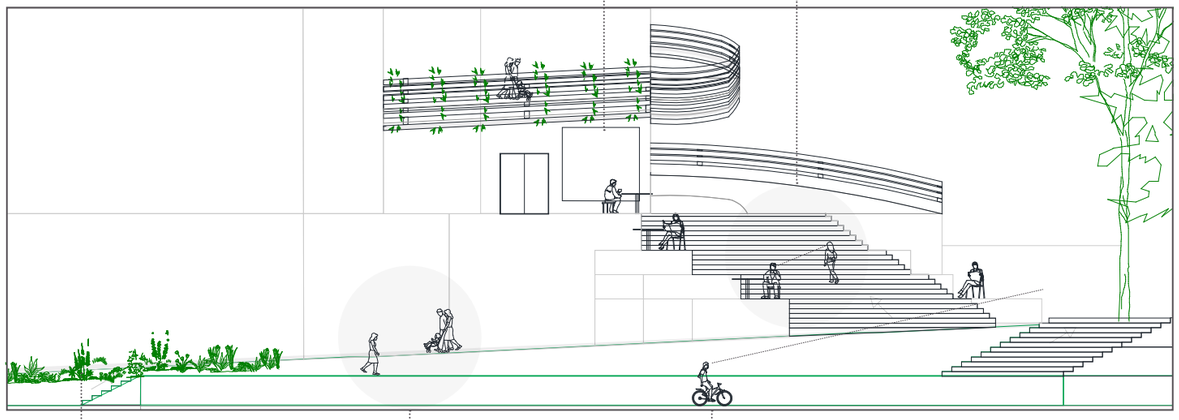
Figure 81. The Exchange Kengo Kuma pictures by Mischkunig (2019)

Integration of building and surroundings

The design of The Exchange of architect Kengo Kuma has served as an inspiration for the design of the ballustrade and the pergola in in the urban centre and around the building. Like in the exchange the pergola is used to connect the public space to the building. Pedestrians following the pergola towards the building reach the entrance of the indoor commercial centre at the groundfloor. The use of the pergola and ballustrade also ensures a visual vertical continuty of form.

Transparancy of the public plinth (2x 4.5m*)
large windows create **poreousity** between indoor and outdoor
**The Hague is aiming at an attractive eyeline, which includes active plinths of 9m (Gemeente Den Haag, 2017)*

Elevated terraces overlooking public stairs
encounter between terrace and route



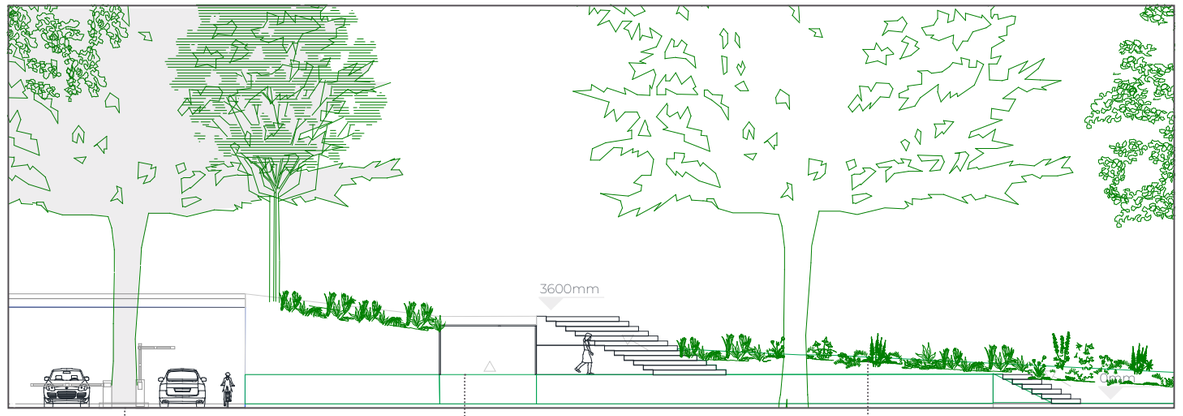
NW

2 pedestrian routes
freedom of choice
difference in height variation of perspectives (**orientation point semicolon**)
start/end of routes cross to enable **encounter**

gradiental height increase from the road
visual connectivity & coherence of the bike path and car road in relation to buildings and pedestrian path

Sloped walk-up (∠5%*)
continous urban axis Binckhorstlaan
inclusive public space accessible for elderly or disabled
**1:20: 20m length 1m height increase, 1.5m plateau in lenght*

5m 10m



SE

Pedestrian entrance car and bike parking
integrated in public space network

Trees across different levels
cut outs in the roof of the parking garage forming **vertical poreousity** by a visual link and allow natural light to enter to parking

Vegetation in-between pedestrian paths and along the road
gaps in strips of vegetation form a **poreous natural enclosing** which also provides sightlines and encounter

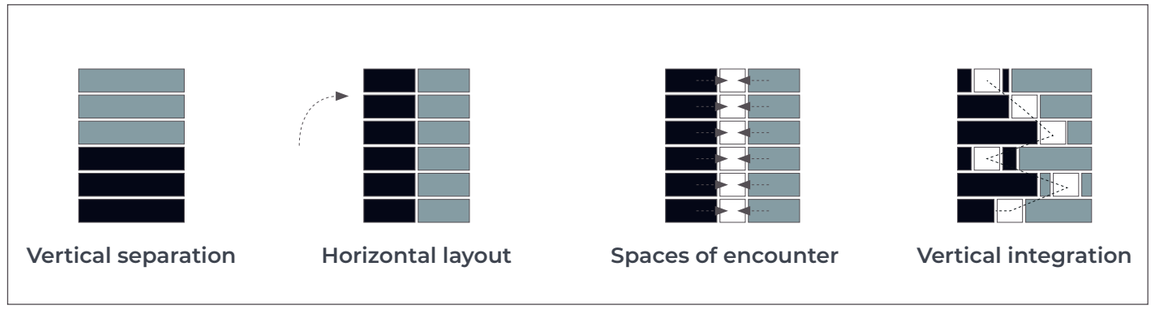
Binckhorstlaan
continuous urban axis

7.4 Horizontal layout

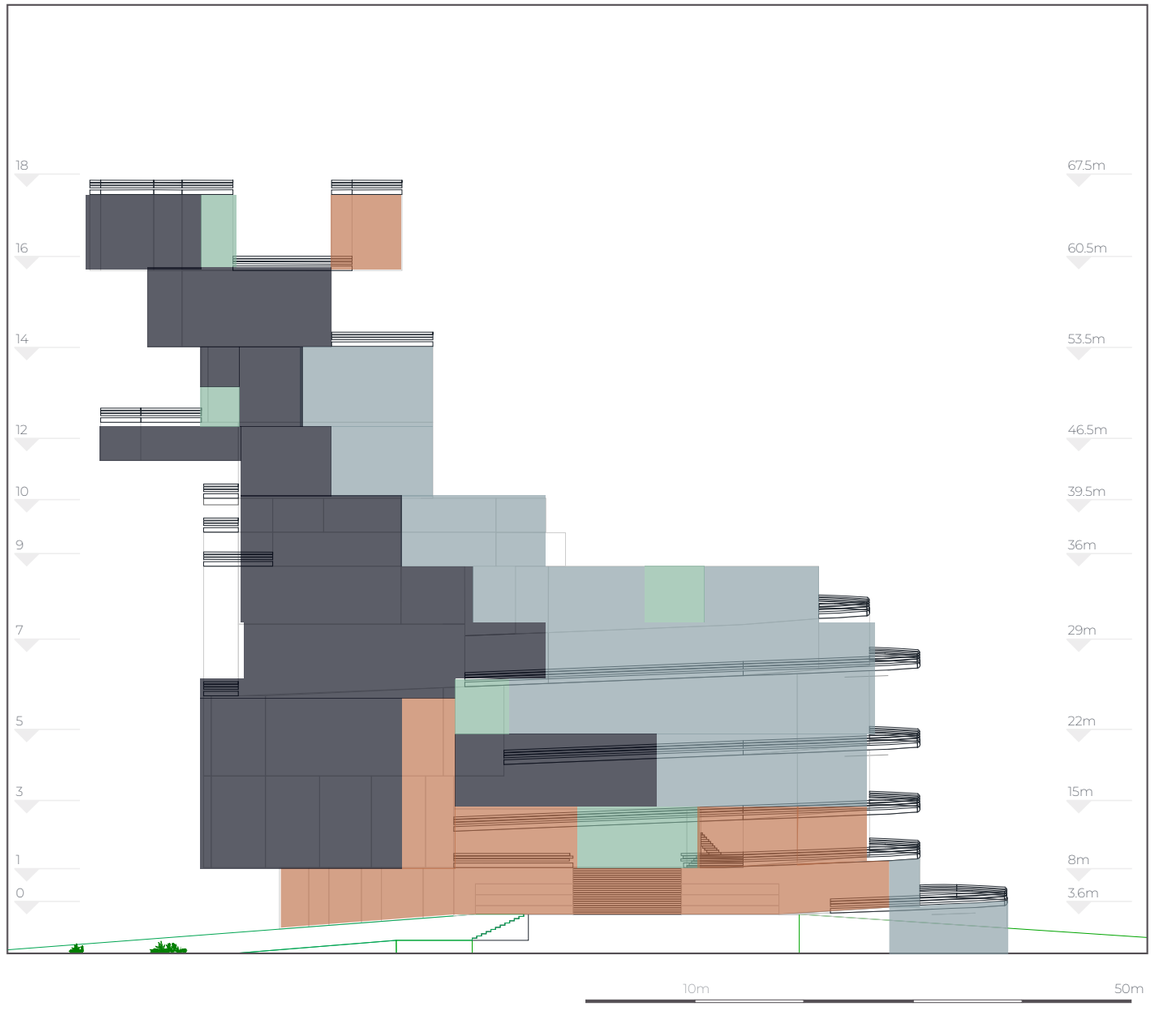
Horizontal layout

In most cases high-rise building separate typologies in a vertical manner. Because this building aims to create a social mix and enable encounter between different peo-ple there is chosen for an horizontal layout of dwellings and functions. The users and residents of those different typologies are enabled to live in an atmosphere and dwelling type of their choice while they remain in close proximity on the horizontal dimension of the building to other funtions and typologies. Different users are able to meet in the pockets, collective indoor spaces or along the vertical living street.

The horizontal layout of typologies



Functions indoor spaces



Collective
Facilities where neigh-bours can meet while undertaking acitivies (e.g. cowork spaces, urban workshop, indoor sports)

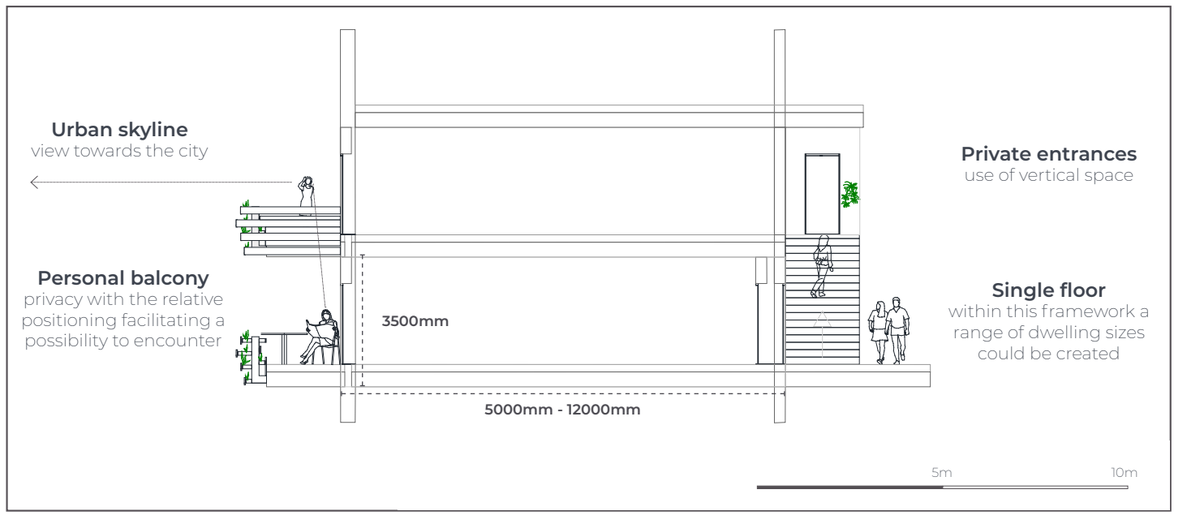
Commerical
Variation in small scale commerical utilities

Residential
Studio's and urban appart-ments

Residential
Appartments and maisonettes

7. Design & Vision

Studio’s and urban appartments



WWestside of the building

Couples | Singles | Friends living togehter

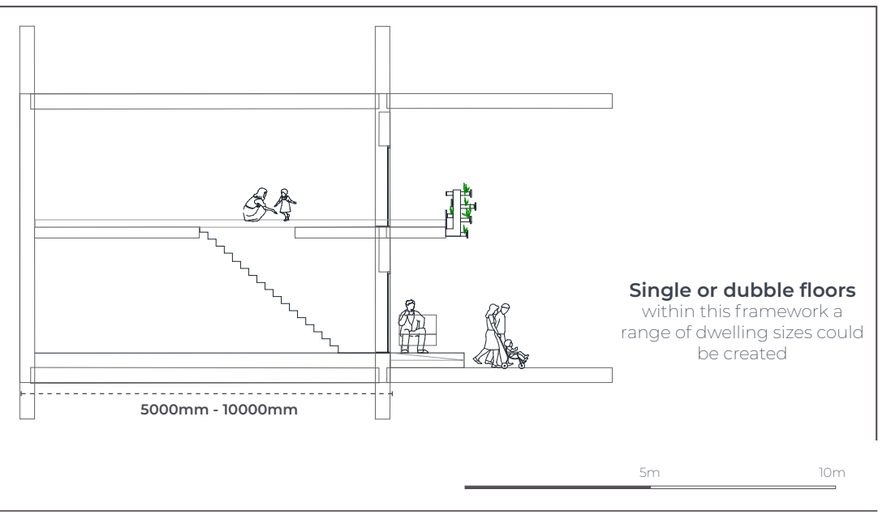
Age: 18 - 35

Prefrence to be in proximty to a vibrant urban atmosphere and facilities
Modest wish for anonymity, active social and working life
**only indicative, no set target groups*

Social rent | **Free market**

No spatial separation between tenure structure
Shared responsibilities through a *collaboration of residents* and not owners

Maisonettes and appartments



Eastside of the building

Families | Elderly

Age: 55+

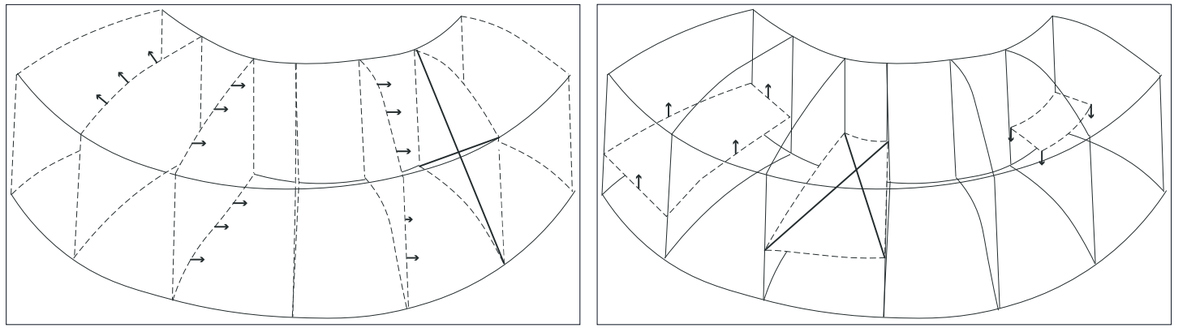
Prefrence to be in proximty to a quiet or activity space and neighbourhood facilities
Wish for community, family central
**only indicative, no set target groups*

Social rent | **Free market**

No spatial separation between tenure structure
Shared responsibilities through a *collaboration of residents* and not owners

7. Design & Vision

Flexible plot development

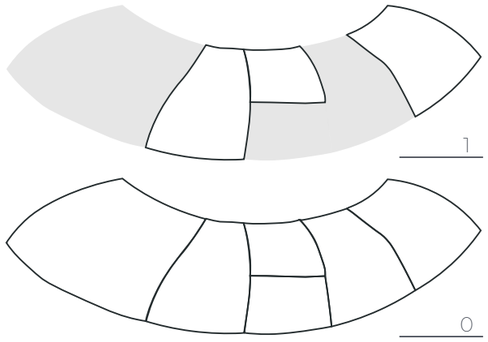


Incompleteness

Flexible plot (re)development

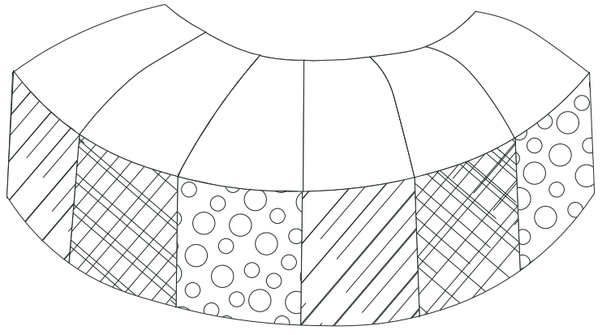
Horizontal

Vertical



Variation in dwelling layouts

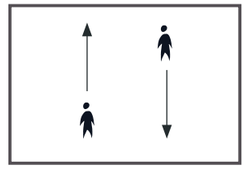
For various needs and values



Variation possible in facade design

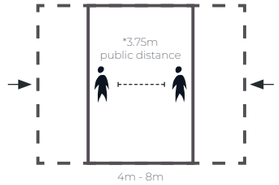
7.5 Vertical living street

The spiral street



Horizontal pedestrian path

Slow movement - Flat connection

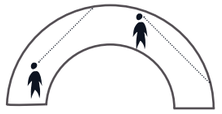


Social scale

Sloped path (4%)

Accessible for all

Changing perspectives



Curved street

Changing perspectives

orientation points: semicolon

Spiral around

Vertical poreousity (connecting floor levels)

Horizontal proximity

Front gardens & balconies

Poreousity of public and private

Ownership over the space

7. Design & Vision

Figure 82a. Babel Loydpier by Laurens Boodt Architect (2016)

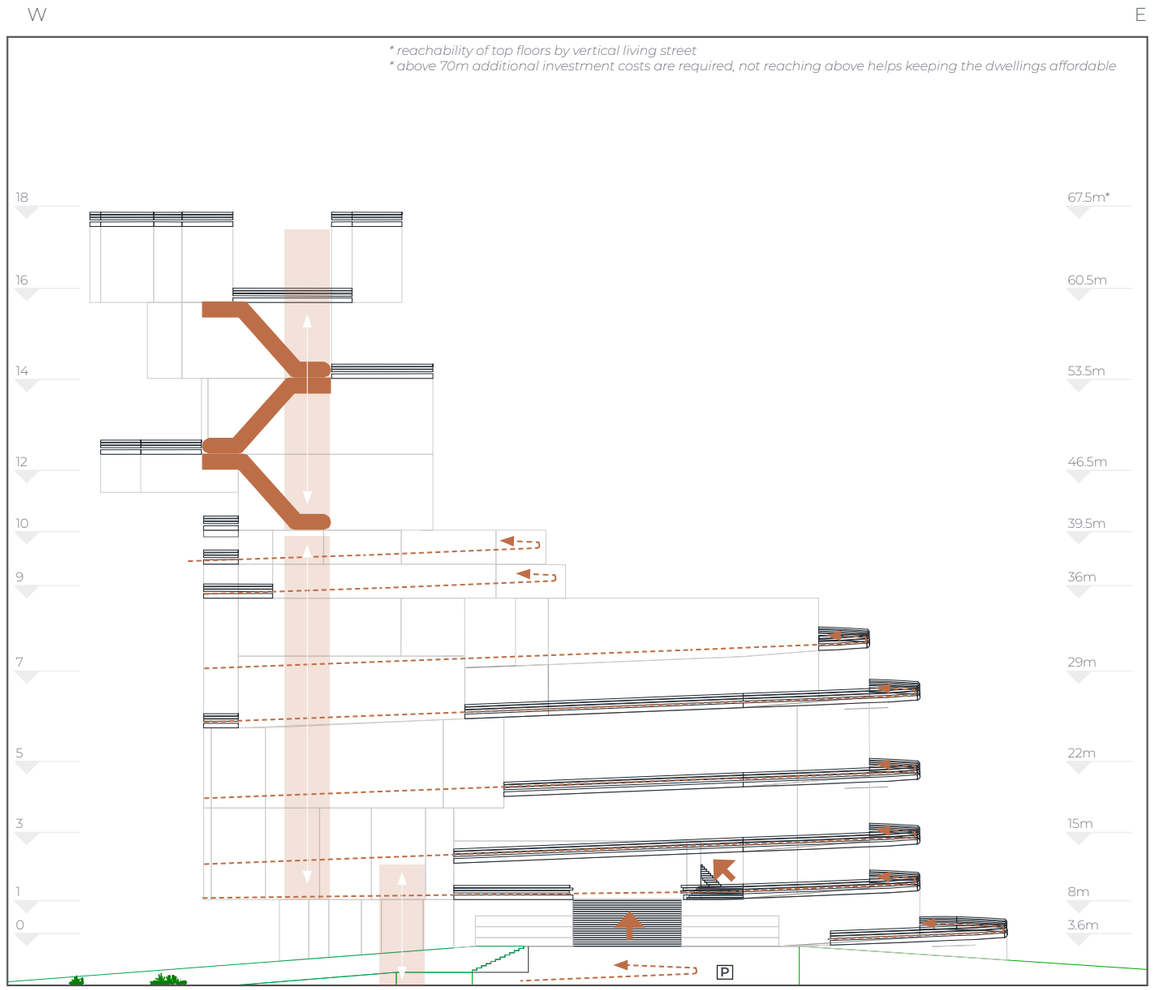
Figure 82b. De Maasbode by van Bergen Kolpa Architecten (n.d.)

Figure 82c. 8 House by Architnic (n.d.)

The vertical living street
The designs of tte Maasbode, Babel Loydpier and 8-House inspired the design a vertical spiraling living street in the project.

Escalators
the loop becomes to small above the 10th floor to use a sloped path

Sloped walk-up (∠4%*)
inclusive public space accessible for elderly or disabled
**1:25: 25m length, 1m height increase,*
regarded by regulations as a flat pedestrian path



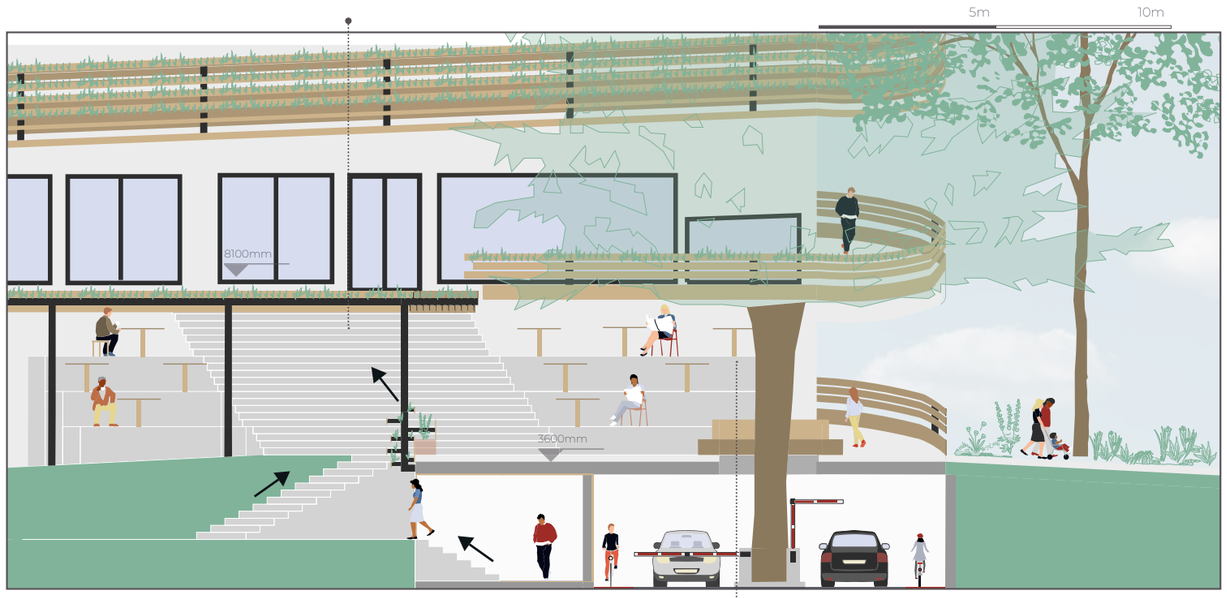
Elevator system in sections of height
Stimulate to use the vertical living street and pockets
Facilitate encounter (prevent *ghost behavior*)

Multiple entrances to the building
All dwellings are able to use all entrances
(prevent a *poor door)*

7. Design & Vision

Sloped walk-up (4%*)
inclusive public space accessible for elderly or disabled
**1:25: 25m length, 1m height increase,*
regarded by regulations as a flat pedestrian path

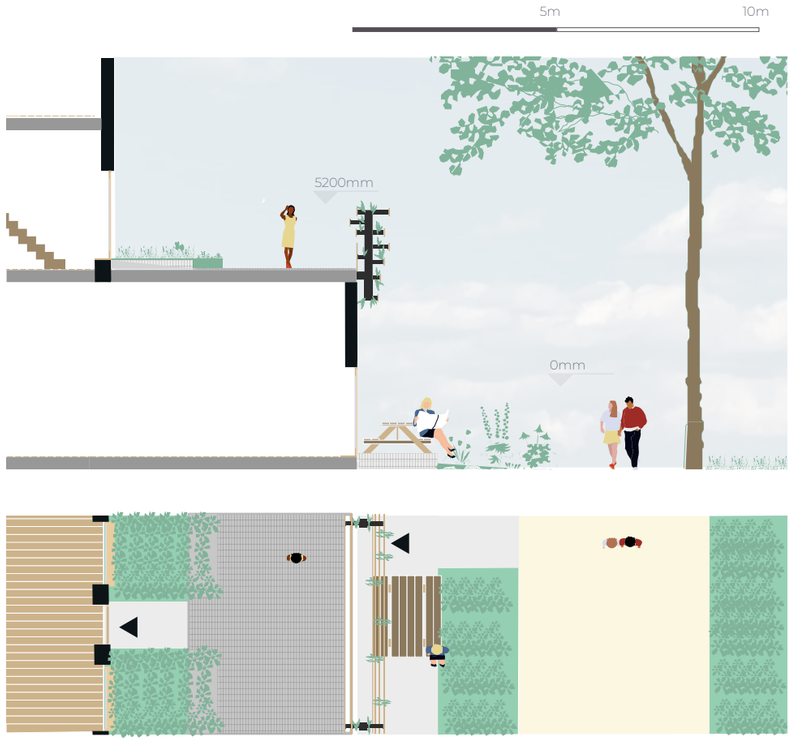
Shortcut
stairs allow users to move one floor level up without having to walk around the entire building



Elevated terraces overlooking public stairs and start of vertical living street
encounter between terrace and route

Gardens along the street
poreousity between public and private

7. Design & Vision



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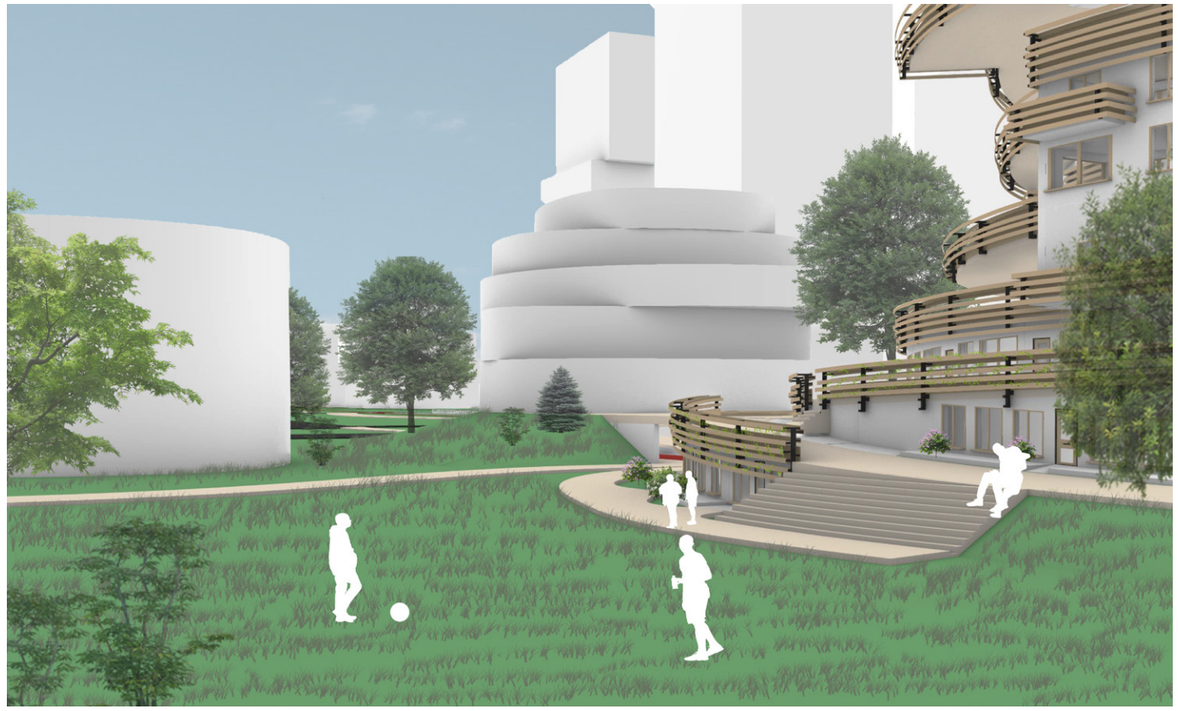
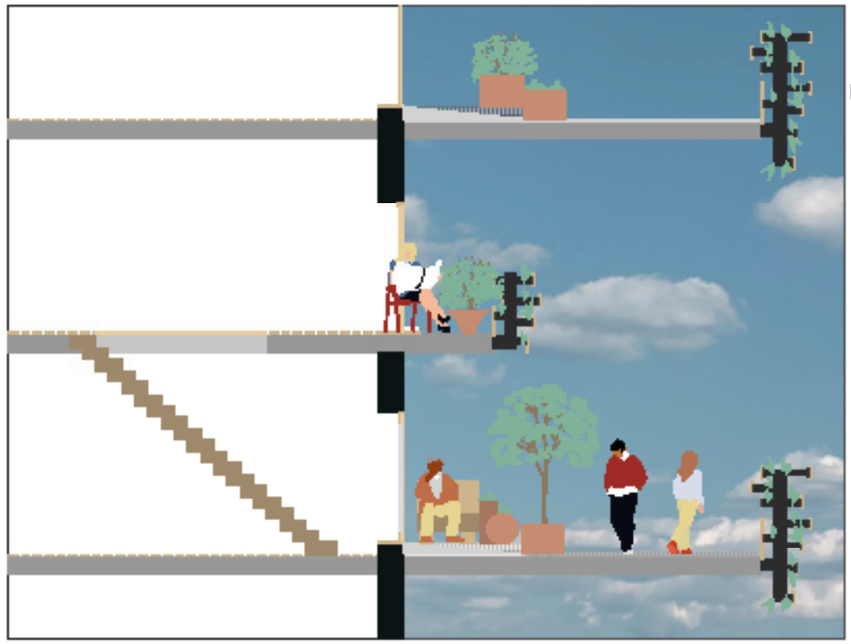


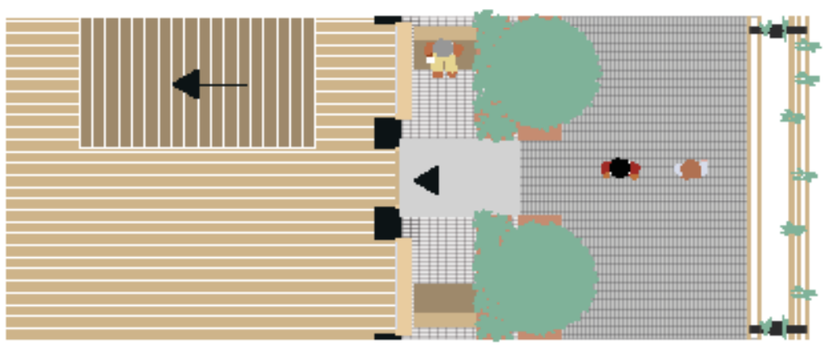
7. Design & Vision

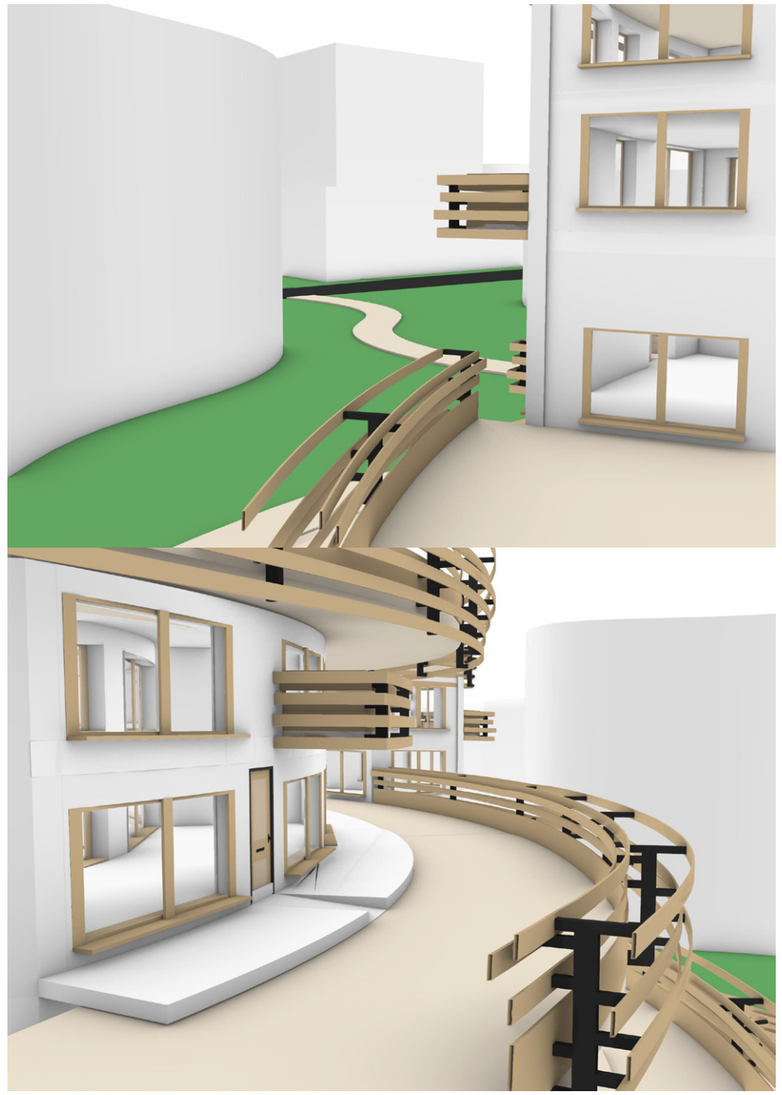
2.5m 5m



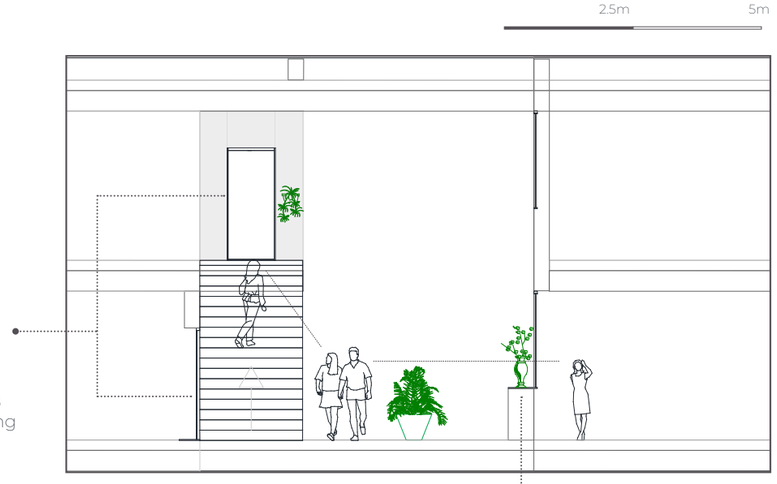
Balconies & gardens in front of the dwelling
poreousity between public and private
facilitating **encounter**

Freedom to shape garden
adaptability of space stimulating ownership of residents





7. Design & Vision



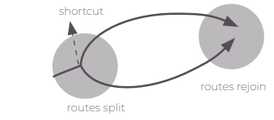
Private entrances
utilising the verticality of the space
creating **vertical porosity**

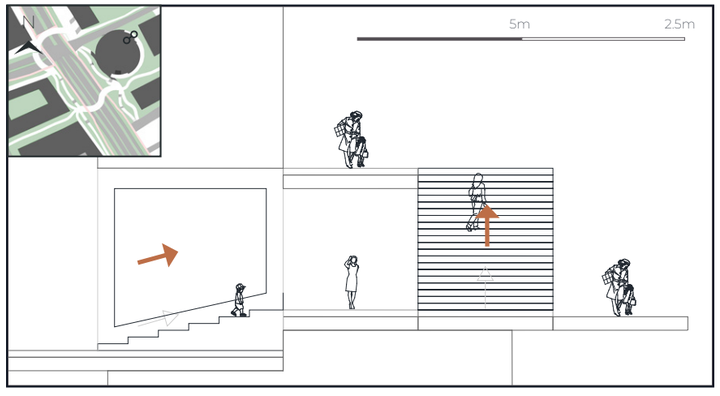
entrances and transparant windows
directed at the vertical street facilitating
encounter

Freedom to decorate
adaptability of space stimulating
ownership of residents

allowing residents to claim a certain part
of the public space enables a more **diffuse (porous) boundary between public and private**

Multiple routes
Stairs forming shortcuts
Indoor and outdoor **poreousity**
Variation of the route
Routes split and rejoin at pockets to facilitate encounter





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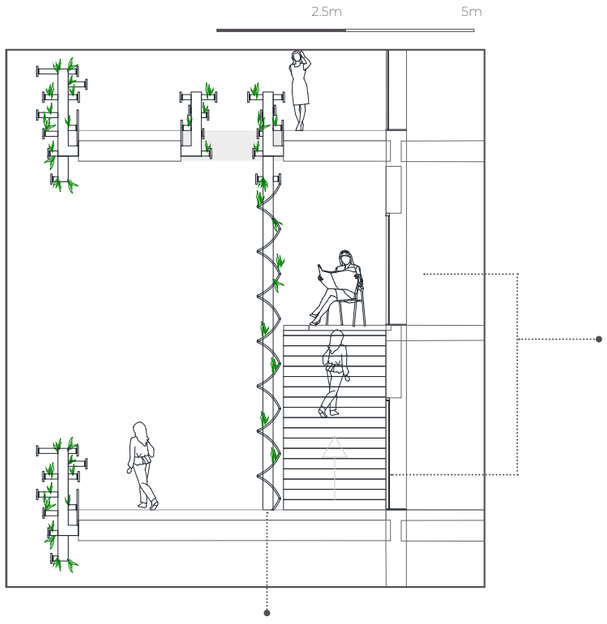


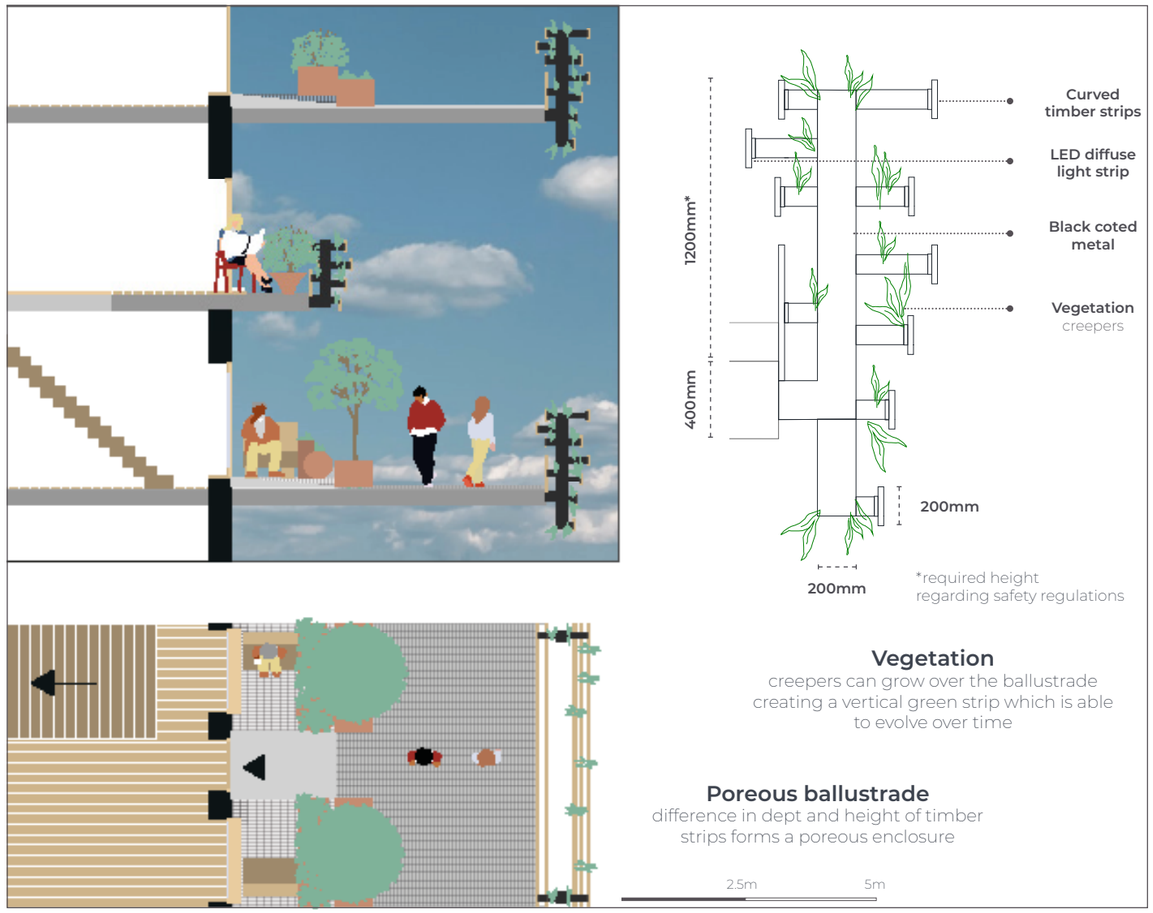
Cut outs in route and ballustrade reaching down
utilising the verticality of the space
creating **vertical porosity**

Private entrances
utilising the verticality of the space
creating **vertical porosity**

Public indoor walkway linked to entrance parking garage

Accessibility parking from all sides of the building

Ballustrade detail



Integrating floor levels
ballustrade links visually to the ceiling of the walkway below

The Ballustrade

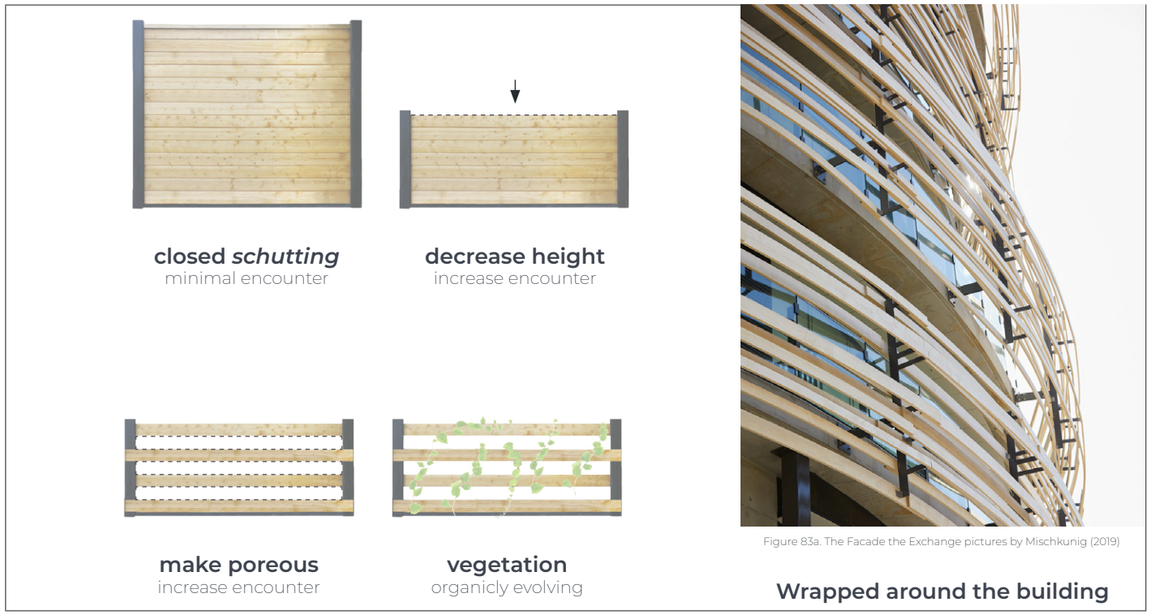
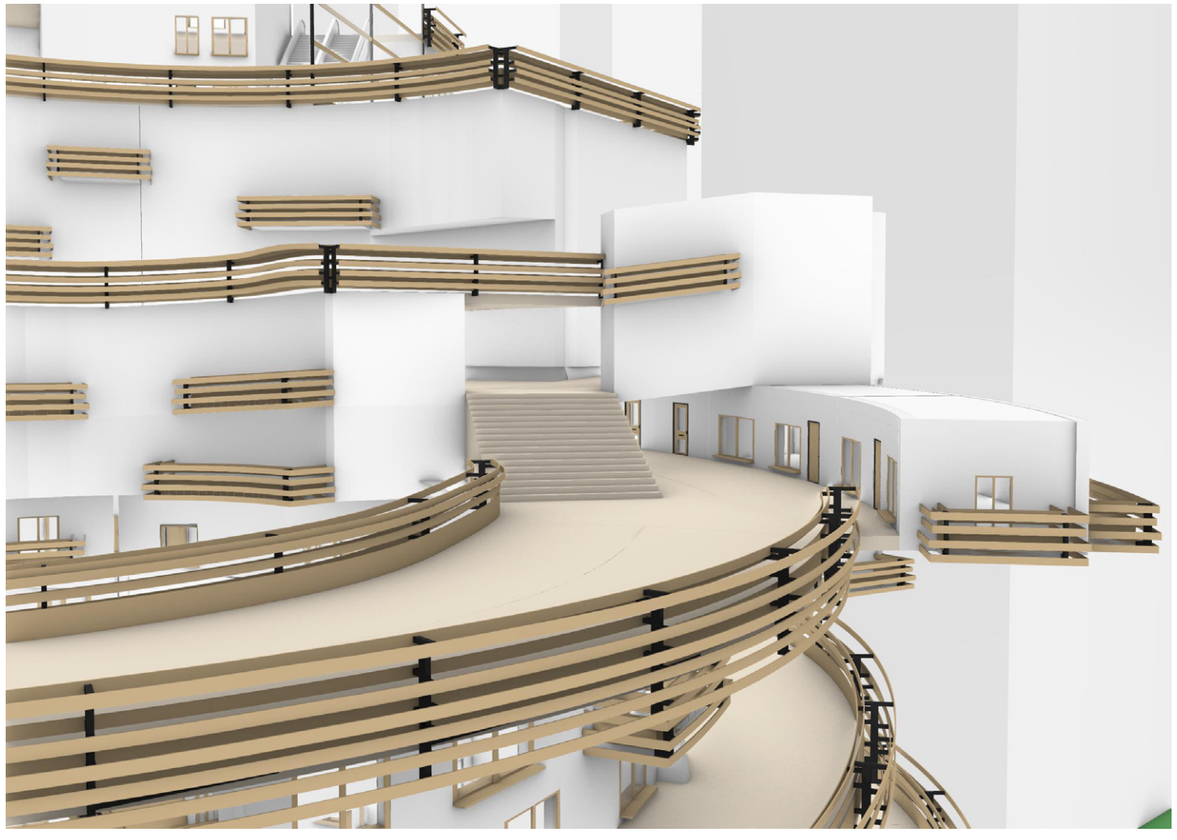


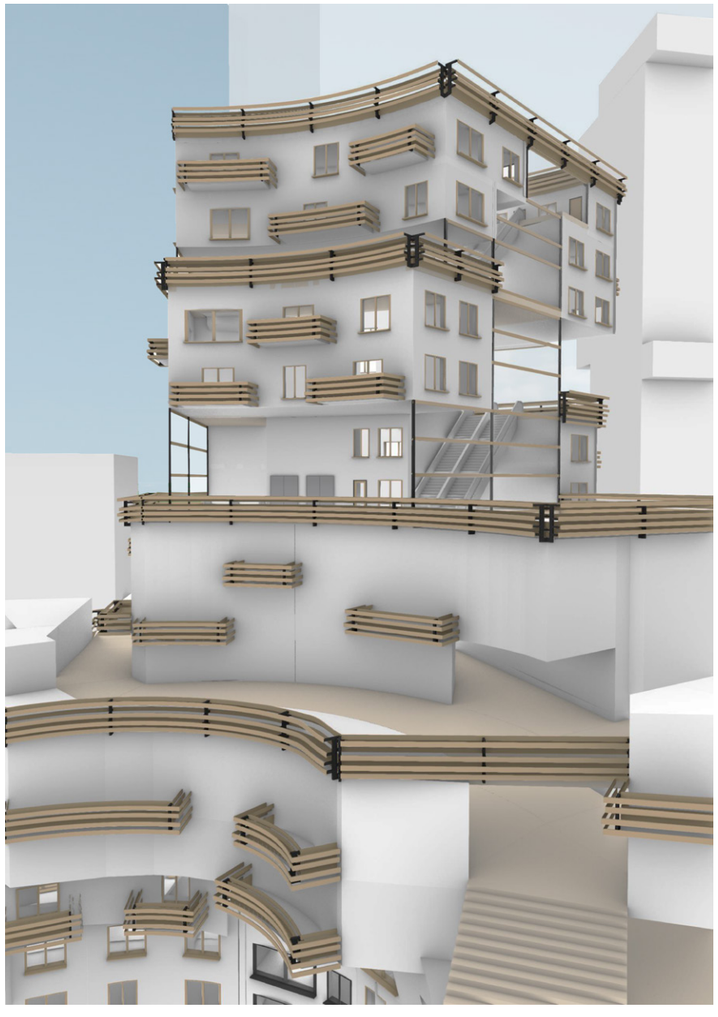
Figure 83a. The Facade the Exchange pictures by Mischkunig (2019)

Figure 83b. Ballustrade design Kengo Kuma picature by Floodslicer (n.d.)

Switch between sloped route and escalators

smaller radius of the walkway and a more compressed dimensions

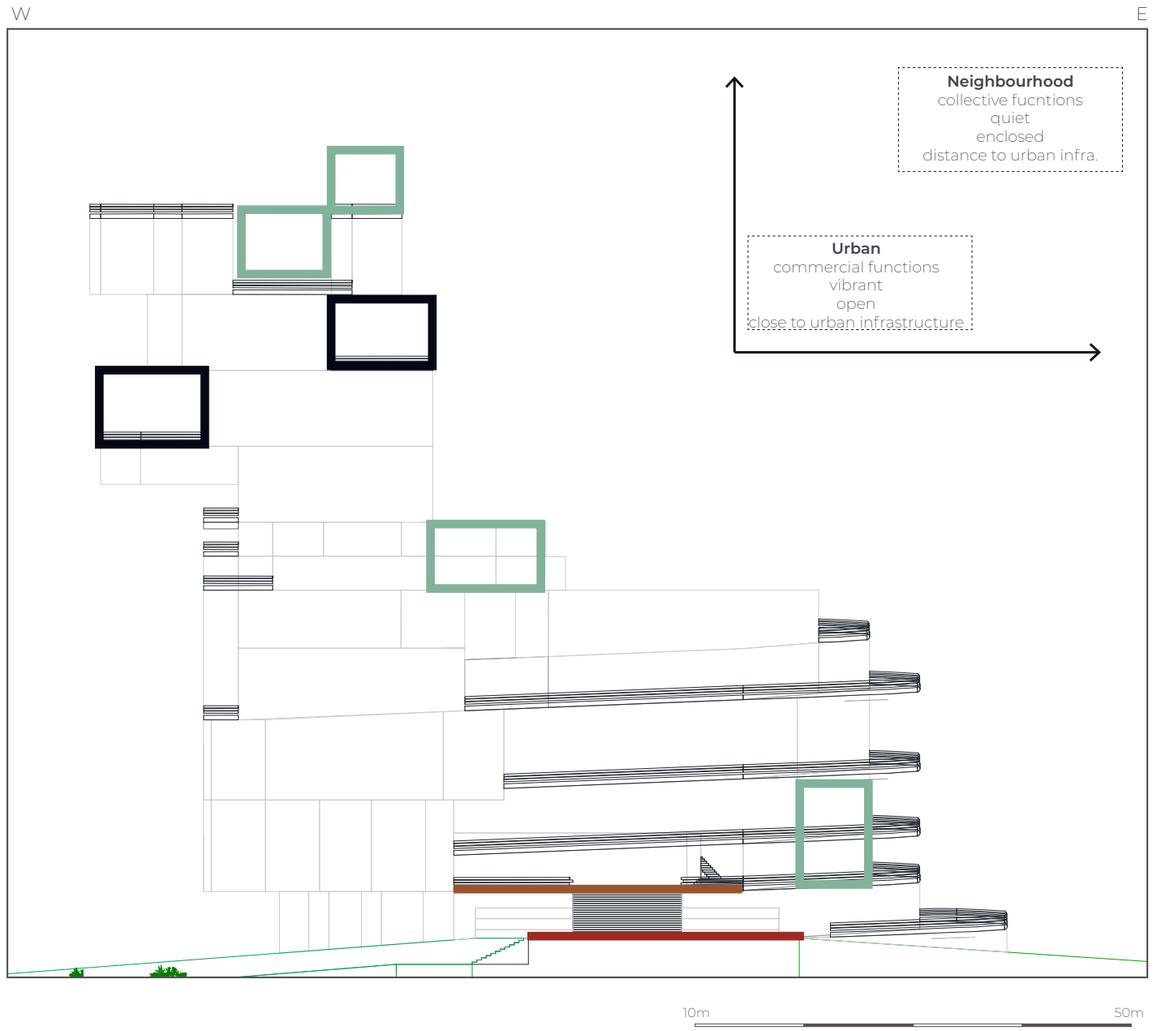




7. Design & Vision

7.6 Pockets

Encounter
All pockets are connected tot the vertical street and intersections between indoor and outdoor routes. Often shortcut stairs are located near to the pockets



Urban Sqaure

Neighbouhoord centre

Urban Rooftop

Hofje
*Neighbourhood courtyard

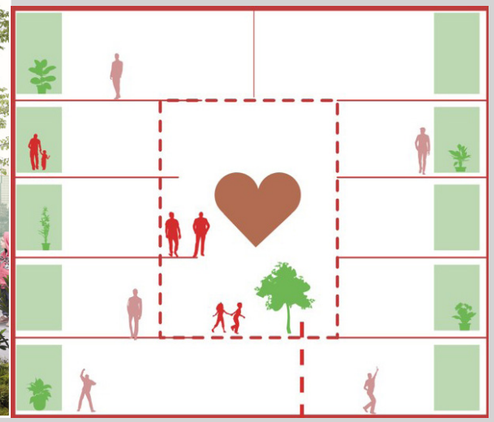


Figure 84. Binck Blocks by Levs Architects (n.d.)

Binck Blocks

This project of LEVS Architects entails the concept of stacked neighbourhoods of variating characters. Within those neighhboorhoods pockets of different
atmosphereres are created.

The concept is very innovative however, it remains questionable to what extend the neighbourhoods are integrated among each other and the surroundings.

Southside

Flexible activity space
The market square can host different temporary activities like events or (food) markets

Restaurant terraces
Oriented on the southside overlook the urban square, the strater of the vertical street and the main stairs enabeling **encounter**

Active plinth
Indoor commerical functions and a public indoor walkway

Access from the square to the car and bike parking garage

7. Design & Vision

Shared neighbouhood functions
Urban workshop, atelier, co-working spaces

Small scale commercal functions
Neighbourhood café, local supermarket

Place to gather
It is a central place in the building and an good place to gather with others or to meet

Centre of the building
Visual vertical connections with other levels and balconies oriented on the courtyard

Sports
A removable basket is added to facilitate sport in the area

Vertical play
A slide is added to use the vertical space of the stairs for childeren to play on

Social safety
Overlooked by dwellings to ensure social safety

Green area
Grass, a tree and plants

Quit area
A place to relax without the noices from car streets

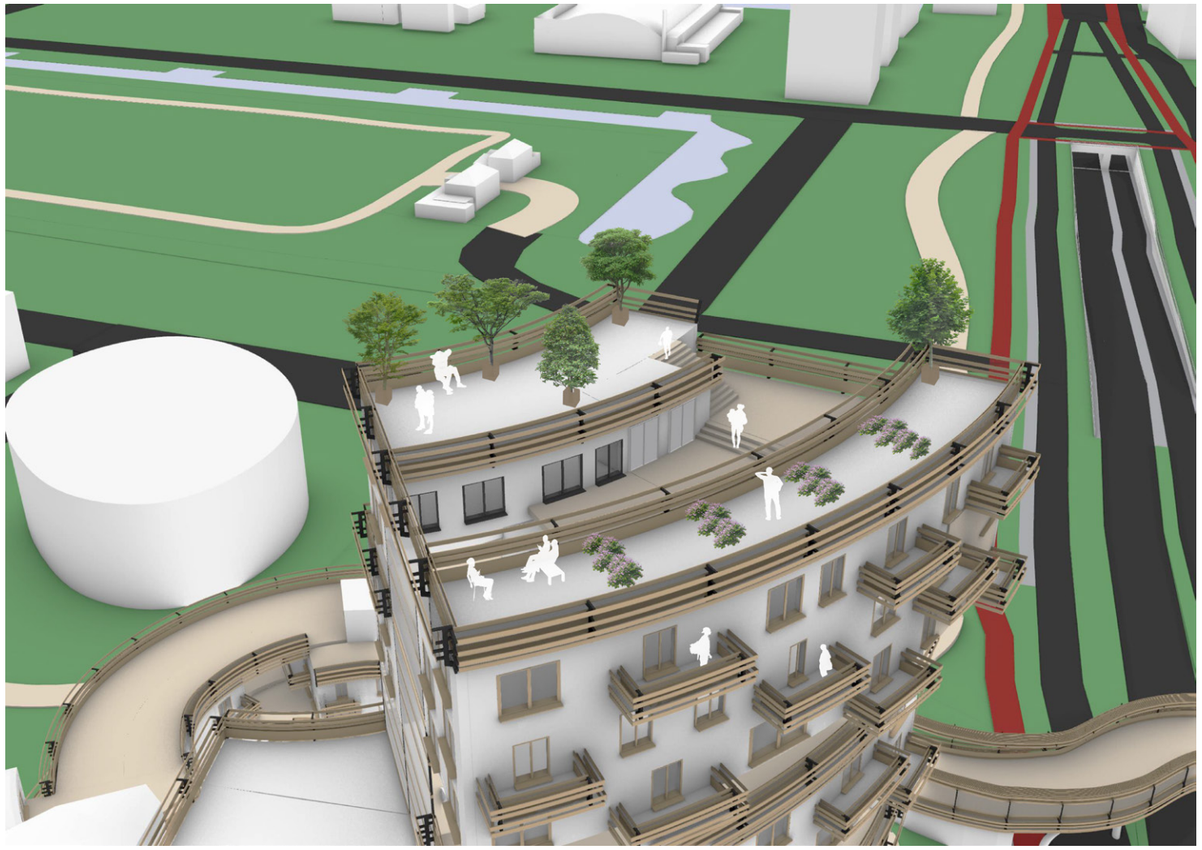
Enclosed
Plants, trees, and volmes enclosse the space

7. Design & Vision

View towards the skyline of The Hague
Urban atmosphere

Poreousity between floors
Spiral stairs and opening link the floors with each other

Rooftop
For the most part publicy accessible. Small scale commerical functions are allowed



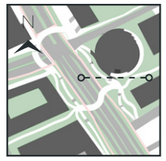
Vibrant space
it can an attractive place to meet with groups there are hospitality functions at this level and there is a public bar to sit at along the ballustrade

Proximity to main route and elevator
Many people pass by and

elevations
to enable users to be in proximity while being able to do their own thing

Vibrant space
The space can be attractive to meet up with groups. There are commerical hospitality functions connected to the space and there is a public bar along the ballustrade

Vertical sports
Climing wall



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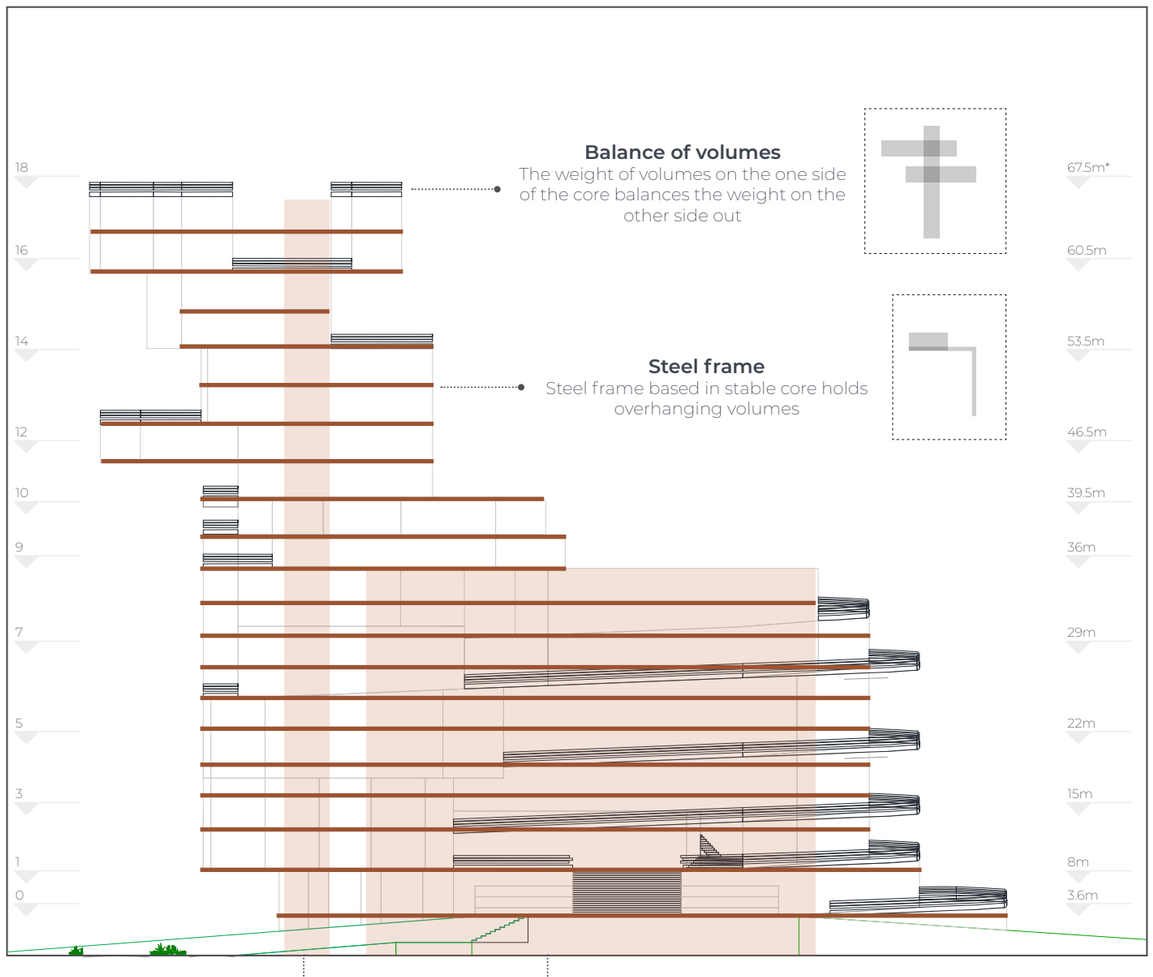

Balance of volumes
The weight of volumes on the one side of the core balances the weight on the other side out

Steel frame
Steel frame based in stable core holds overhanging volumes

Elevator shaft
stable concrete and steelcore

Central ring
stable concrete and steel core
walls of dwellings function as construction elelment

Reflection and Conclusion

A critical review on the process and product

Conclusion

A clear trend in high-rise developments and the related debate in The Netherlands has sparked my interest to start this research.

The history of high-rise developments globally and an analysis of contemporary high-rises in The Hague have highlighted a few social challenges that should be taken into consideration. This relates to the first sub-research question:

1. What are the social challenges that should be taken into consideration in the process of designing high-rise buildings?

Throughout history there have been different societal philosophies at the foundation of the design of high-rises. Roughly a distinction could be made between a privatised and a more socialistic perspective. The early high-rises were seen as a reproduction of the world in which everyone could have their own private horizontal realm. The financial interest behind the developments have contributed from this moment, to horizontal and vertical segregation of people. Due to the financialisation and globalisation of real estate in the contemporary context of The Hague this is still relevant. Within the socialistic perspective, that has characterised the high-rise developments in The Hague after World War II, equality between people has been the main objective. As a result of this strive for equality in combination with technical considerations, the structures became homogeneous to a large extent. In the technical nature of high-rises, other challenges to tackle in relation to the social use are the rigidness of the structure and the tendancy to isolate horizontal domains from each other. The lack of a humanistic approach and the high amount of residents per building create the urgue to approach the design of high-rise building from an urban design perspective.

The second sub-research question relates to the social context in which the design project is situated:

2. What are the social challenges that can be identified in the context of The Hague?

The city of The Hague is predicted to grow with a substantial amount of new residents untill 2040 (15% increase of the current population). The municipality has chosen a strategy of central high-rise developments in which the Binckhorst plays an important role. In their reasoning this strategy serves as a means to house the new residents and improve the spatial quality. The city of The Hague is dealing with a set of social challenges like segregation, loneliness, and social exclusion.

This should be understood in the light of a hyper-diverse population with the nature of constantly changing needs and values of residents.

To ensure the consideration of the listed social challenges in The Hague and in the design of high-rise buildings in the design of this project a clear set of design values has been set-up. This relates to the third sub-research question:

3. What design values contribute to a more inclusive city and answer to the social context of high-rise design in The Hague?

The main design value is *inclusivity*, as a part of the Sustainable Development Goals of the United Nations, it answers to the most fundamental ethnical consideration for the development of our cities. Related to the theories of Just Diversity and the Open-City the sub-design values that contribute to a more inclusive city and answer to the social context of The Hague are formulated. The design values taken from these theories are *recognition*, *encounter* and *adaptability*. Recognition adresses the different needs and values of people, adaptability responds to the changing needs and values and encounter is aimed at facilitating interaction between like and unlike individuals. By this different needs and values of people are accounted for and individuals can relate to others and contruct their own identity.

In the light of the design aims on which this project is grounded, a humanistic perspective and the use of a urban design approach in the design of high-rise buildings, a set of challenges has been highlighted. This relates to the fourth sub-research question:

4. What are the design challenges from a humanistic and a design perspective that need to be tackled to create an inclusive high-rise design?

A challenge relating to the humanistic perspective is the social complexity of urban life. The constant change of needs and values makes fixed solutions not preferable. The hyper-diverse nature of the population could also pose challenges for integration of people with each other. In relation to the design perspective the challenge that should be taken into account is the expansion of the practise of urban design into the vertical dimension and interior spaces of the building. This deserves attention while the practise of urban design has a predeminontly horizontal understanding of urban life and stops with the design emphasis at the facade of the building.

Related to the design values the practise and theory of urban design guides the project towards a more concrete form.

Continuing on the design values a set of urban design principles and related elements guide the projects towards a more concrete form. The fifth sub-research question relates to this:

5. In what way could the approach of urban design and related principles and elements contribute to a more inclusive high-rise design?

Based on the theories of Just Diversity, The Open City, Interior- and Vertical Urbanism the design principles are created. It is noteable that these theories to a certain extend overlap with one another. The fieldwork helped evaluate the design principles and put them into the perspective of the experience of the respondents.

In the synthesis of this project the design is created for a high-rise building in the Binckhorst The Hague. This relates to the final sub-research question:

6. How could an urban design and related principles and elements be applied in the design of a high-rise building, in the context of the Binckhorst The Hague, contribute to the development of a more inclusive city?

The design of a high-rise builing has been structured around typical urban design elements. These elements: a street, public spaces and a configuration of functions and typologies have been translated into the interior and vertical dimension of the building.

Together these findings merged into the design of the high-rise building in the Binckhorst and formed an answer to the main research question:

In which manner could the design of a high-rise building in the context of the Binckhorst The Hague, from the perspective of urban design, contribute to the development of a more inclusive city?

Societal relevance & ethical reflection

Within the context of different scales (Europe, The Netherlands and The Hague), the trend of high-rise developments has withnessed a peak since the last 20 years. Examining the history of urban developments it becomes clear the societal approach on city developments and thus also high-rise developments inevitably translates to the build form. This is accompanied by potential social implications on the residents. However, here it is important to remain humble in the amount of influence which the design of buildings have in relation to determining our social behavior.

The contemporary drivers behind the development of high-rises in the Global context, in relation to financial interests, bring the urge of an evoluation and re-interpretation of the way high-rise buildings are designed forward. This project has attempted to show an alternative approach to the design of high-rise from an urban design perspective. By this it could inspire the debate and practise on the design of high-rises like the project is inspired by contemporary high-rise designs used as references in this project. This trend of new concepts in high-rise design like the Binck-Blocks, the Maasbode and Babylon Loydpier highlight the societal relevance and *zeitgeist* which point to the added value to develop and explore new concepts.

In our more and more globalised world and individualised societies the diversity of our cities becomes more complex. A well informed understanding of diversity is therefore relevant parrallel to designing cities and buildings. This project builds on the complex understanding of hyper-diversity. In The Netherlands, the policy discourse since the 2001 has seen the presence of immigrants as an issue. As a result urban policy was directed towards assimilation. The underlying aim was to counter segregation and spatial concentrations of low income households and ehtnic minority groups by the focus on integration and participation. However, the nature of our cities should be regarded as inherently diverse. The question on desireability of diversity is therefore less relevant than the question how we should deal with exiting diversity (Tasan-Kok et al., 2013).

Here should be noted a fundamental disagreement exists within social sciences (Tasan-Kok et al., 2013, p. 49). On the one hand there are the conflict and constrict theory, based on the homogeneity theory which means people prefer to associate with others who have similar characteristics. The conflict theory assumes people feel threatened by the presence of other groups, and the constrict theory assusmes distrust for the other group but also for the in-group. Diversity according to Putman (in Tasan-Kok et al., 2013, p. 50) therefore triggers social isolation. A main critique on this stance is the emphasis on ethnic diversity neglecting other types of diversity (Tasan-Kok et al., 2013). At the other end of the debate there is the contact theory, this more common belief in social sciences assumes mixed communities can live succesfully together (Tasan-Kok et al., 2013, p. 49).

In this project, which is positioned in the field of urban design, there is no attempt to provide an answer to the discussion on the effects of diversity of the social behavior of people. However, within the strategy of the project inevitably there had to be taken a positition within this debate. This is at the root an ethical dilemma, what next to the academics the public debate can be very polarising. The line of reasoning of Tasan-Kok relating to the inherent nature of diversity has been the leading understanding within the project. One of the issues with the conflict and constrict theory is the emphasis on the importance of homogeneity in a neighbourhood for it to be socially succesfull. The diversity of the population in a global city like The Hague makes this an impossible goal. The complex understanding of hyper-diversity makes this goal even more unlikely to have any basis in the reality of a contemporary city like The Hague. Here should be noted that there could always be individuals who prefer to only interact with people relatively like-minded or of similar background from a perspective of comfort or for practical reasons. Therefore the project intentionally emphasizes the openness of the design. People are in proximity to unlike individuals and are facilitated by the built form to encounter one another without forcing this in any way. The project articulates the main position within the debate of diversity with its main design goal and value *inclusivity*.

Within the project there is a strong attempt made to design a high-rise building that is inclusive. However, a persistent ethical dilemma here is the affordability and accessibility of the dwellings. In designing the public spaces around and within the building the accessibility from an urban design perspective can be ensured by the public nature of those spaces. However, ensuring the affordability and accessibility of the dwellings within the building for all groups that reside in The Hague is a challenge which is dependent of a range of different circumstances like the possibility for social rent, the costs of the building construction, and financial interests of developers. The project emphasizes the preference of a social mix within the building including dwellings of social rent, which is also a goal of municipality of The Hague. The issue here could be the land value of the plot, while the building is located at the central crossing in The Binckhorst which could drive up the costs. In the design process of this project the building is kept below the finanical threshold of 70 meters in height, where more expensive regulations are applicable, to ensure more affordability. Critically reflecting on the design of the building another difficulty becomes clear. The design consists of a difficult form which could bring high costs in the construction process. This is a serious concern, however, the scope of this project is not reaching into the domain of building construction practise. The project reached merely the extend of a conceptual understanding of the construction.

Regarding the publicness of the vertical street in the design, an ethnical issue exists regarding social safety. In the design of post-war high-rises following modernistic principles in some cases issues like anti-social behavior interior or exterior spaces could be witnessed. This aspect was discussed through the interviews in the project. In essence the transparancy of facades and spaces is created to contribute to social safety. However, if a building like this would be built, there should be an ongoing debate with and among the residents on the way the spaces are used and managed.

This project attempts not only to be open in the design, but also in the process. Within the trend in planning and design practise of the collaborative or deliberative planning and anticipated regulations in the Netherlands regarding particiapation and the related *Omgevingswet* in which participation will be mandatory for municipalities a process oriented approach is relevant. While this study project is not excecuted for a partner in practise the decision process could not be followed or excecuted for residents which will actually live in this building. However, within the project a fictual target group of residents living in The Hague has been set-up to experiment with the participation process of residents for the design of social spaces in and around their dwelling. The lessons from this method could inform participation in the design process. The results of the interviews and the participation experiment have less potential to be generalized because of the small target group and the research framework.

The project fits in a vivid public debate on high-rise design, participation and diversity which highlights the societal relevance. Because of the small target group generalization of the results of the fieldwork is difficult. This projects problem statement could contribute to the debate on the subject. The design values, principles and approach could certainly fuel the debate on a re-interpretation of new high-rise designs on a larger scale than the city of The Hague.

Academic relevance

The project attempts to form an alternative to the design of high-rise buildings from the perspective of urban design. By this it could contribute to the theory of *vertical urbanism* and *interior urbanism* that both advocate for an extension of the realm of urban design towards the internal and external configuration of the building.

By translating theories related to social sciences, planning and urban design towards a strategy to design a high-rise building from an urban design perspective, attemps to contribute a knowledge gap that still exists within the theories of *vertical urbanism* and *interior urbanism*. The way this is realised is by the synthesis of those different theories and by applying them in the vertical and interior dimension.

The project relates to the mastertrack of Urbanism where the emphasis partly lies on the relation between design and societal or social challenges. A relation that is adressed within this graduation project.

The general philosophy of the project to attempt to re-interpret the design of high-rise buildings fits well within the innovative aims and context of the studio City of the Future. Furthermore, it relates to the topics discussed within the studio and the research publication: spatial inclusivity; hybrid space; and the interaction between indoors and outdoors. The studio and the project relate the most to the chair of Urban Design within the TU Delft.

Methodology

The project in line with the Urbanism Mastertrack consists of a balance between research and design. From a research perspective a literature review and spatial analysis has been essential to ground the problem setting in the historic and social context. This theoretical foundation which is tested in the fieldwork interviews and observations, forms the basis for the design of the project.

Within the project the biggest challenge has been the connection between the theoretical foundation and the design of the building. The use of design values, philosophy and principles have contributed to structurize this connection. There should, however, be acknowledged that the design in a certain context is never exactly replicable and there are choices related to the location and context that influence and guide the design decisions next to the design principles, values and philosphy. For the results to be used in different contexts a new interpretation to the design principles should be considered. However, the subject, the design of high-rises through urban design strategies as a design practise should be explored by experimentation and a hybrid form of research and design.

The fieldwork research has been very informative for the design process. However, there are a few challenges and limitations. The first challenge was the time-consuming aspect of conducting the interviews with the participation experiment and the search for respondents throughout different parts of the city and with different social identities. Together with the inability of interviewing more respondents due to the covid-19 crisis made the target group relatively small. This makes it difficult to generalise the results. The attempt has been made to speak to a diverse group of people. In a few cases potential respondents could not respond to the interview request because of a language barrier. Another barrier was put up by the closed off receptions of high-rises mainly occupied by expats like New Babylon, where it was not allowed by the reception to reach out to residents. Another difficulty that emerged from the covid-19 crisis was the inability for field visits at the later stage of the graduation project.

Contentwise the participation experiment had one major challenge, the inevitable stirring of the design choices of respondents. Due to the format of a collage of cut-outs there was a limited amount of choices provided to the respondents. This challenge was attemped to overcome by actively informing the respondents of the possibility to add anything they could think of in the form of a sketch. In a few cases this resulted in different final results. The major advantage of the collage method was the active involvement of respondents. Clearly most respondents enjoyed making the collage.

The visual component also helped to create fast and minimal ambiguous results. As participants in the collage experiment the resondents became the designer which probably resulted in other outcomes than in the form of a non-visual method.

Personal

This project has been an interesting exploration of various topics. The subject of high-rise development in this form was a novelty for my personal experience. However, the perspective on high-rise design and the aims and challenges related were from the start of the project building up in a very constructive way. An important turning point in the understanding of high-rises within this project originated from the theoretical seminars, the peer students and the mentor team. In the early stage the high-rise was viewed predominantly as a problematic phenomenon which should be improved. One of the insights I learned during the process, was the understanding of high-rise buildings from their potential instead of only their challenges.

The foundation of the social problem statement and goals has been in transition during the first half of the graduation project. Where I at first struggled to connect the concept of sustainable communities to high-rise designs, the insights from the theories of The Open City and A Just Diversity followed and made the social basis of the project stronger.

During the project my interest in different theories and relating phenomenons and references which I related to the topic was at times holding me back to focus on the core subject of study. My hestitation to leave out subjects of less relevance contributed to this challenge. However, this also made it possible to explore different sides of the topic and form my position on the subject

During the design process the feedback of the mentor team was among other aspect especially relevant in the advice to connect the design to the set up theoretical story and related values, principles and the design philosophy. This structured approach was a challenge and forms one of the major lessons that i have learned during the process.

Recommendations for further research

This project has set a clear framework of design values and principles that contribute to an inclusive high-rise design. While the fieldwork and the design for an evaluation of these principles, more experiments in design or a wider targetgroup for interviews could help better ground the theoretical framework. Here an extensive research in the context of one or a few of the innovative projectes mentioned could help to better understand the social implications of design decisions taken. Next to academic work there remains a need for visionairy and expirmental high-rise project to bring the theory further.

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26b	42	Possible risks of social exclusion & lonliness	S. Muijlwijk (Author)	-	-	GGD Haaglanden, 2017;
26c	43	Loneliness, 2016	S. Muijlwijk (Author)	-	-	Volksgezondheidenzorg, 2018
27	44	The Binckhorst project location	S. Muijlwijk (Author)	-		GGD Haaglanden, 2017;
28	45	The Binckhorst Strategy & Design	PosadMaxwan	PosadMaxwan, 2016	-	-
29	45	The Binckhorst from the sky		de Jonge, 2018	No	-
30	46	Be-Proud Render	RV	OZ-Architect, 2019	-	
31	46	Neighbourhoods with less population than Be-Proud	OZ-Architect S. Muijlwijk (Author)	-	Yes	CBS, 2019
32	47	De Rotterdam		OMA, 2013	No	
33	48	Social Isoloation	M. van de Kar	-	-	-
34	48	High-rise Living	S. Muijlwijk (Author)	-	No	-
35	49	Vertical Social Connectivity	S. Muijlwijk (Author)	-	-	-
36	52-53	Problem Statement	S. Muijlwijk (Author)	-	-	in text citations included in bibliography
37	55	Research & design aims	S. Muijlwijk (Author)	-	-	-
38	56-57	Research and design methods	S. Muijlwijk (Author)	-	-	in text citations included in bibliography
39	58	Design challenges	S. Muijlwijk (Author)	-	-	-
40	62	Design principles	S. Muijlwijk (Author)	-	-	in text citations included in bibliography
41	63	Just diversity	S. Muijlwijk (Author)	-	-	in text citations included in bibliography
42	64	Intensity of encounter	S. Muijlwijk (Author)	Gehl, 2011	-	edited by author
43	64	Quality of the physical environment and activities	J. Gehl	Gehl, 2011	-	edited by author
44	65	Possibilities or restrictions for encounter	J. Gehl	Gehl, 2011	-	edited by author
45	66	Visual orientation		Gehl, 2010	-	Hall in Gehl, 2011
46	66	Social distances	J. Gehl	-	-	in text citations included in bibliography
47	67	Open City	S. Muijlwijk (Author)	-	-	in text citations included in bibliography
48	70	Interior Urbanism	S. Muijlwijk (Author)	-	-	in text citations included in bibliography
49	71	Vertical Urbanism	S. Muijlwijk (Author)	-	-	edited by author
50	71	Sensen and tall buildings	S. Muijlwijk (Author)	Gehl, 2011; Gehl, 2010; Gehl et al., 2006	-	
	72		J. Gehl		-	
					-	
51-69 - 70-72		**Fieldwork images pictures by author or results of the research *Images by author*				
73	96	Urban layer and height accents	Local Ontw.; OZ Architect; Vorm	Local Ontw. & OZ Architect, 2019; Vorm n.d.	Yes	
74	97	Islands in the Neighbourhood	Local Ontw. & OZ Architect	Local Ontw. & OZ Architect, 2019	Yes	
75	97	Binckhorstlaan Be-Proud	Local Ontw. & OZ Architect	Local Ontw. & OZ Architect	No	
76	98	Mobility Binckhorst	Gemeente Den Haag	Gemeente Den Haag, 2020	Yes	
77	99	Route Rotterdamse Baan	Gemeente Den Haag	Gemeente Den Haag, 2017a	Yes	
78	99	Render R'damse Baan	Gemeente Den Haag	Gemeente Den Haag, n.d.	No	
79a	100	Current situation crossing Binckhorstlaan - Mercuriusweg	Google	Google.nl/maps	No	
79b		Visualisation Be-Proud crossing Binckhorstlaan - Mercuriusweg	Local Ontw. & Oz Architect	Local Ontw. & Oz Architect, 2019\	No	
		* In chapter 7 only reference images have received a figure number				
80	117	Haagse Poort	Vastgoedmarkt	Vastgoedmarkt, 2019	No	
81	120	The Exchange Kengo Kuma	pictures by Mischkunig	Mischkunig, 2019	No	
82a	130	Babel Loydpier	Laurens Boodt Architect	Laurens Boodt Architect. 2016	No	
82b	130	De Maastbode	Bergen Kolpa Architecten	Bergen Kolpa Architecten, n.d.	No	
82c	130	8 House	Architonic	Architonic, n.d.	No	
83a	143	The facade the Exchange	pictures by Mischkunig	Mischkunig, 2019	No	
83b	148	Ballustrade design Kengo Kuma	picture by Floodslicer	Floodslicer, n.d.	No	
84	148	Binck Blocks	Levs Architects	Levs Architects, n.d.	No	

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1	27	Number of residential towers built in Europe by decade	Emporis, 2012	Drozdz et al., 2018	Yes	-
2	30	Population growth and prospect	S.Muijlwijk	-	Yes	DHIC/GDH/DPZ, 2019; Gemeente Den Haag 2016, 2017
3	34	Police reported discrimination incidents in The Netherlands by location	Ministerie van Binnenlandse Zaken en Koninkrijksrelaties	Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2019	Yes	-
4	37	Financial feasibility of height in The Netherlands	Daalhuisen, 2004	Zandbelt, 2012	Yes	-

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No.	Page	Name	Author	Citation	Edited?	Metadata/comments*
1	32	Number of international organisations in The Hague's city region	Decisio, 2011	meijers et al., 2014	No	-

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Appendix 1

Theory position paper

Urban social connectivity in High-Rises
The case of the Binckhorst in The Hague

AR3U023 Theories of Urban Planning and Design
AR3CS020 Seminar Cross Domain City of the Future
MSc Urbanism, TU Delft

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20.12.2019
reviewers: A.S. Alkan MA, Dr. ir. G. Bracken

Abstract
High-rise developments have re-emerged in the European and Dutch context. In the case of The Hague, a socio-economic segregated city, the planned development of high-rises provides an opportunity to facilitate community bonds and social interaction. This paper takes the position that high-rises should be understood as a part of the urban fabric, which makes an urban design approach relevant. The research question posed here is the following: *In what way can the urban design approach contribute to the design of high-rise buildings to improve social connectivity in the case of The Binckhorst in The Hague?* The size in terms of population creates the responsibility to prioritise the socio-spatial structure of the building, the approach of community design provides some workable elements for this. The complexity of the internal and external vertical spaces is here understood through the principle of the open-city, interior urbanism and vertical urbanism. These conclusions form the starting point for designing guidelines for a high-rise building through the approach of urban design in The Binckhorst The Hague.

Key words
vertical urban design; interior urbanism; community design; architecture; high-rise; open-city

Introduction
Inspired by European industrial architectural and engineering research, the steam powered elevator and the steel frame, the first skyscrapers emerged in Chicago and New York in the second half of the 19th century (Drozdz, Appert, & Harris, 2018; Koolhaas, 1994). Koolhaas describes the early 20th century skyscrapers of Manhattan, as a branch of utopian real estate, which reproduces the world in a brutal skyward extrusion. In Europe, the first residential high-rise developments peak took place after the second world war in the 60s and 70s (see figure 1). Those developments were led by modernists ideals, and in contrast to the privatised North American model, were characterized by a culture of large-scale and top-down urban planning (Drozdz et al., 2018). The buildings where often placed in the landscape on the outskirts of cities (Meyer & Zandbelt, 2012). These high-rise complexes have received a substantial amount of critique, as Drozdz et al. (2018), point out, they have been subject of demonization and stigmatisation. As a result in the 80s and 90s the development of residential high-rises was less significant in Europe. Only since the turn of the millennium, European cities have attributed a prominent role to high-rise developments. The construction of residential high-rises of this period has exceeded the post-war period (see figure 1). The new developments are focused on densification and often private and focused on central locations in the city centres (Meyer & Zandbelt, 2012). Drozdz et al. (2018) explain this trend by a renewed interest in the architectural and engineering qualities of high-rises,

the globalization and financialization of real estate and an entanglement of politics in international property markets.

This re-emerge of vertical urbanisation has found fertile ground in The Netherlands. Regarding the posed housing demand of 1 million new homes to be built until 2030, van Gameren sees vertical urbanisation as an *unavoidable* choice to increase density in the low-dense Dutch context (Jongeneel, 2018). BPD (2018) aligns with this view; the low availability of land; a growing wish of the Dutch population to live in cities; a trend of shrinking household sizes; and more acceptance of the population to live in high-rise apartments (>8 stories), would make high-rise the contemporary solution of urban development. One of the cities which has undoubtedly embraced the solution of central urban high-rise developments is The Hague. In their high-rise policy, Eyeline en Skyline – Ruimte voor de Stad,

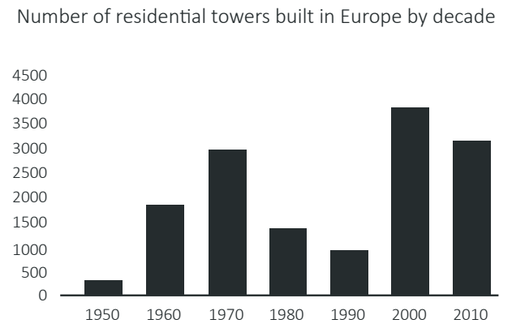

Figure 1. Number of residental towers built in Europe by decade by Emporis, 2012 in Drozdz et al. (2018)

the municipality articulates the choice for high-rise developments as a means and not as a goal on itself. The goal is to deal with limited available space within the city to create sufficient living (50,000 dwellings) and working spaces to achieve spatial quality, sustainability and a strong business climate. The predicted growth until 2040 in population entails 50,000 – 80,000 new inhabitants, which accounts for a relative growth of around 15% of the total population (Gemeente Den Haag 2016; 2017).

This substantial population growth lands in a city where the socio-economic divide has been the most apparent within The Netherlands (Kloosterman & Priemus, 2001). Spatially and historically this divide can be recognised by wealthy neighbourhoods built on North-West sand areas and city extensions built for the working-class on the peat soil of the South-East part of the city (Kloosterman & Priemus, 2001). This divide has become more apparent due to the population shrinkage between 1960 and 1985, many native Dutch middle-class families moved out of The Hague to surrounding municipalities (Meijers, Hoogerbrugge, Louw, Priemus, & Spaans, 2014). Bailey, Gent, & Musterd (2017), show the socio-economic segregation kept increasing during the period of 1999-2006. The main influence for this was the in-migration of new residents within neighbourhoods. Bailey et al. (2017) place this in the frame of a long-term urban change where central cities and suburbs are becoming richer and outer post-war neighbourhoods are becoming poorer. This in-migration still has been the driver of the population growth of The Hague for the last years, it consists mainly of international immigration of expats, students, and workers (Gemeente Den Haag, 2016). Potentially the socio-economic segregation of The Hague will increase until 2040. As Bailey et al. (2017) point out, socio-economic segregation can negatively influence social cohesion and individual welfare. Acknowledging that other differences (e.g. culture, ethnicity) most-probably might occur between those social groups, the treat of racism or prejudice between people is real. In the design of those new high-rise districts of The Hague, the strategy should be to facilitate integration and interaction between those different social groups. In turn, these groups could enrich the lives and experiences of both groups in relation to the other. This topic of spatial inclusivity is highlighted in the study the City of the Future, which forms the foundation of the graduation studio related to this paper (Harteveld & Cavallo, 2019).

One of the high-rise zones appointed by the municipality is the Binckhorst (see figure 2), an industrial low dense area close to the city centre which aims to transform to an urban district of 10,000 dwellings by 2040 (Gemeente Den Haag 2016; 2017). The area is located close to the border between the low-income neighbourhoods of the South-East and the more wealthy neighbourhoods in the North-West. The municipality assigned an experimental character to the development of the area, environing new ways of living and working. These factors make the Binckhorst a good fit for a case study to explore the potential of residential high-rise developments which facilitate social interaction and interconnected communities to bridge the distance, relative and absolute, between different social groups.

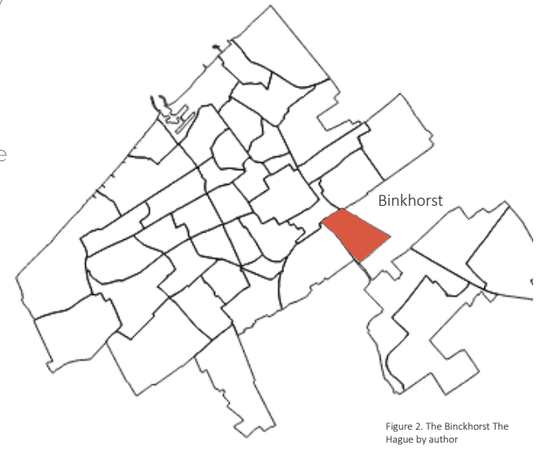

Figure 2. The Binckhorst The Hague by author

The potential social interactions are clear when the amount of residents living within a high-rise is pictured. One of the planned developments in the Binckhorst is B-Proud, the building consists of two connected towers which will house more than 870 households and 800 workspaces (Local Ontwikkeling & OZ Architect, 2019). Assuming an average of 2 person households, this translates to 1,740 residents, which makes the residents of the building exceed the population of 17 *buurten* (neighbourhoods) of the city Hague (Gemeente Den Haag, 2018). B-Proud, as acclaimed by OZ Architect is to become a Vertical City (2019). Significantly larger in scale, however, still relevant to understand the origin of this claim, is the observation of the development of the early skyscrapers of Manhattan. Each tower, as Koolhaas (1994, p. 89) describes it, "strives to be a City within a City". On the European continent modernist designs of residential high-rises, like the Unite d'Habitation aimed, in their own way, for the same principle of a city within a city (Kroll, 2010) or a Vertical City (Meyer & Zandbelt, 2012). Derived from the study of the implicit philosophy of Manhattan, the theorem of Bigness describes architecture defined by its size beyond a certain scale. Bigness is in itself urban; independent of context; its internal parts act independently committed to the whole, and separates interior and exterior spaces (Koolhaas, Mau, & Office for Metropolitan Architecture, 1995, pp. 495–516). In short: "Bigness … is the city (p. 515)". The notion Fuck the Context, is in every way contradicting the field of urban design, where context is everything. Harteveld (2006) argues that role of Interior Urbanism, on the base of cases in the US and The Netherlands, related to the increase of scale has the opposite effect. The scale invites internal public spaces to be nestled and the increased amount of users using in- and outdoor spaces create stronger connections with the surroundings. From a more humanistic point of view the potential social function of residential high-rises is less discovered. Main arguments against high-rise developments are a loss of human-scale, lack of street vibrancy, social isolation and lack of a sense of community (Gehl, 2010; Jacobs in Glaeser, 2011; Soeters in Milikowski, 2018). The recent focus of the high-rise debate has been towards the differences between low- and high-rises (Schoorl, 2017). Potential qualities of high-rises, like community building, should receive more attention according to Schoorl (2017).

Subsequently, the main question of this paper is the following: *In what way can the urban design approach contribute to the design of high-rise buildings to improve social connectivity in the case of The Binckhorst in The Hague?* The conclusion of this position paper will inform the graduation project to form a base for the design of principles for a high-rise in the context of The Binckhorst.

High-rises are, dependant of their context, related to positive and negative outcomes. The first part of this paper will explore this topic in further detail.

The argument of Harteveld (2006), highlights the fact that bigger scale of high-rises results in a potentially strong connection with the surroundings as a part of the urban fabric. This urban trait comes with the responsibility for the designer to think about the socio-spatial structure of the building. The second part of this paper will elaborate on urban design methods related to community design to find the means for social connectivity.

When the high rise is understood as a part of the urban fabric, a certain complexity should be accounted for. Here the view on the city as an open system could be of assistance, according to Sennett (2018) the open city should be understood in all its complexity; it is ambiguous; non-linear; conflictual; incomplete; and in constant transition. The City of the Future also emphasises this constant transition of urban conditions (Harteveld & Cavallo, 2019). The third part of this paper attempts to relate the concept of an open-system to the social design of the high-rise.

From the perspective of Interior Urbanism (Harteveld, 2014), also suggested in the City of the Future (Harteveld & Cavallo, 2019), the perspective of urban design should be integrated into the design of interior spaces of high-rises (Yeang, 2006). Traditionally the focus of urban design stops at the exterior of the building (e.g. building volume and façade) and the architect is responsible for the interior spaces. Regarding the interior space as a part of the urban fabric there should be some overlap in the design process of architects and urban designers. To find a possible contribution of urban design in the design of high-rises the possible conflicting and supplementing aspects of both disciplines in vertical design have to be discovered. This is elaborated on in the fourth part of this paper.

The final aspect is verticality of the design. When revisiting the early utopian vison of the performance of a skyscraper, the social structure was far from interconnected. This is illustrated by the theorem of Walker from 1909 as described by Koolhaas (1994, pp. 82–85), each floor establishes a strictly private horizontal realm independent of other floors creating a completely fractured life of residents (figure 3). This horizontal understanding is echoed in the understanding of urban life and urban design (Rowbotham in Ally Ireson, 2000; Graham, Stephen, Hewitt, 2012; Harris, 2015). The last part of the paper elaborates on the 3-dimensionality of the design of the earlier mentioned aspects. Making an attribution to the theory of vertical design, as described by Yeang (2006).

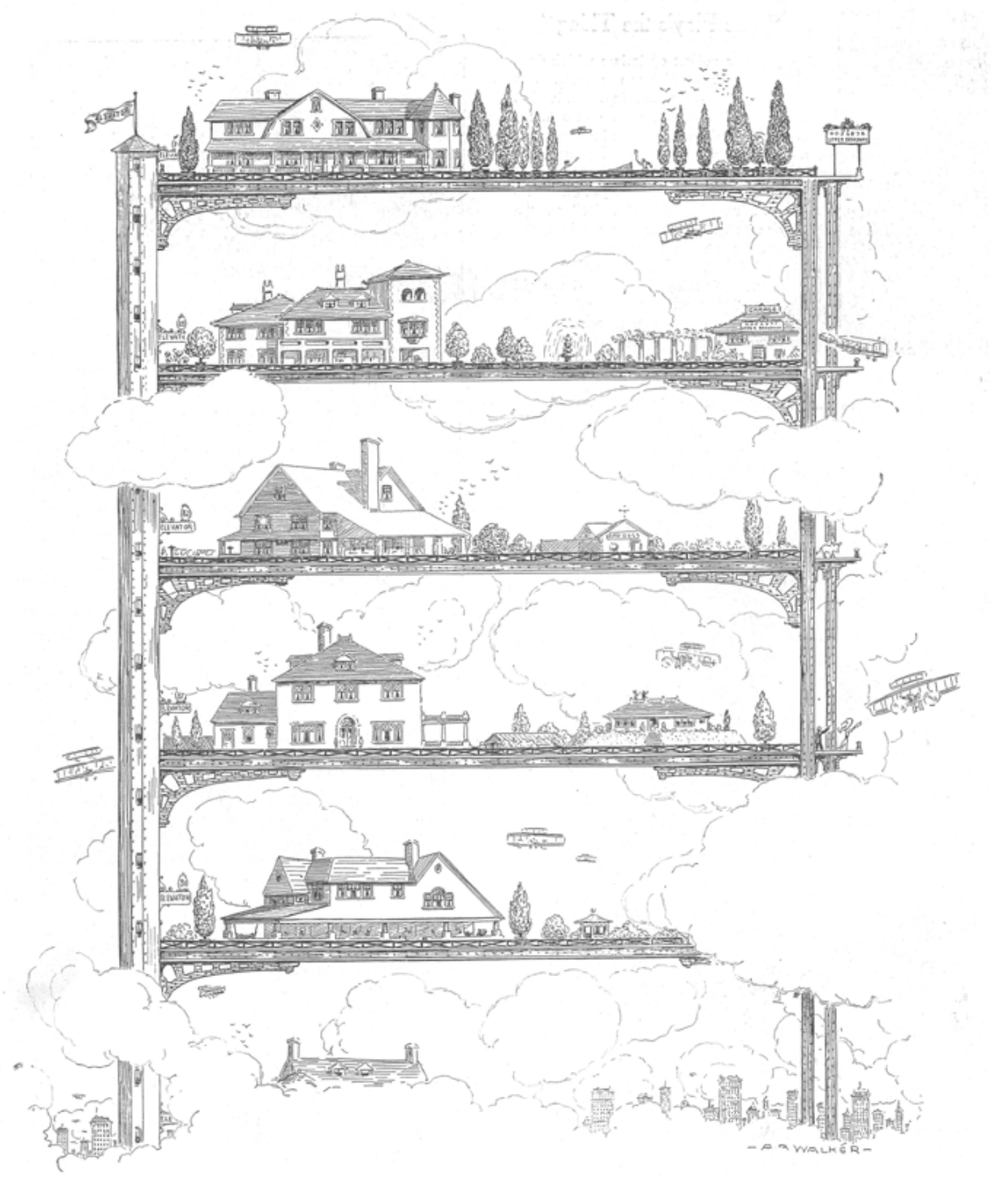

Figure 3. Skyscraper Theorem
by A.B. Walker, 1909
in Koolhaas (1994)

Social potential or tread

Regarding social connectivity residential high-rises within this context could be related to positive and negative outcomes. Related to demonization and stigmatisation of the post-war high-rises the negative effects of high-rises have been most elaborated on. Environmental psychology scholars have attempted to demonstrate the social effects of high-rises on its residents. The variety in variables and the inadequacy of the research methods hade it hard to draw definitive conclusions on the effects of living in high-rises. Gifford (2007) acknowledges this difficulties, but nevertheless attempts to draw some tentative general conclusions in his review. The most important conclusion is that most of the social effects are affected by non-architectural factors or moderators. As a social result of the research he hints that residents of high-rise housing forms may have fewer friendships among other residents within the building and residents show less pro-social behaviour, help each other less, than in low-rise housing forms. Important to note that these conclusions vary for different moderators; neighbourhoods; social groups; family statuses; gender; amount of choice for where to live a resident has and indoor density. Something left out of the debate, nevertheless, very relevant are the differences in high-rise typologies.

Still, the notion of stacked private horizontalities in a more modest form can be traced back in contemporary high-rises in central upper-class districts, like the Binckhorst intends to become. Just outside the project area an example is the Haagse Toren, while the project must be credited for bringing two very diverse socio-economic groups into one tower, students and expats, the design completely separates those two groups (see figure 4). Separate entrances eliminate any interaction between the two and there is a lack of any social collective spaces, not counting the luxurious gym, which is only free to use by the expats, and the paid panorama roof terrace. This example illustrates how groups of people and individuals can be vertically segregated. You could call this a vertical gated community, the privileged live fenced off in height (Graham, Stephen, Hewitt, 2012). A critique that was ventilated in the debate about the new high-rise district the Sluisbuurt at the IJ in central Amsterdam, architect Soeters argues against the expat world of the super-rich where neighbours are completely invisible for each other, something he calls ghost-behavior. According to Soeters in these new high-end vertical developments we don't create neighbourhoods anymore but only buildings (Soeters in Milikowski, 2018). Soeters proposes a low-rise high-density alternative.

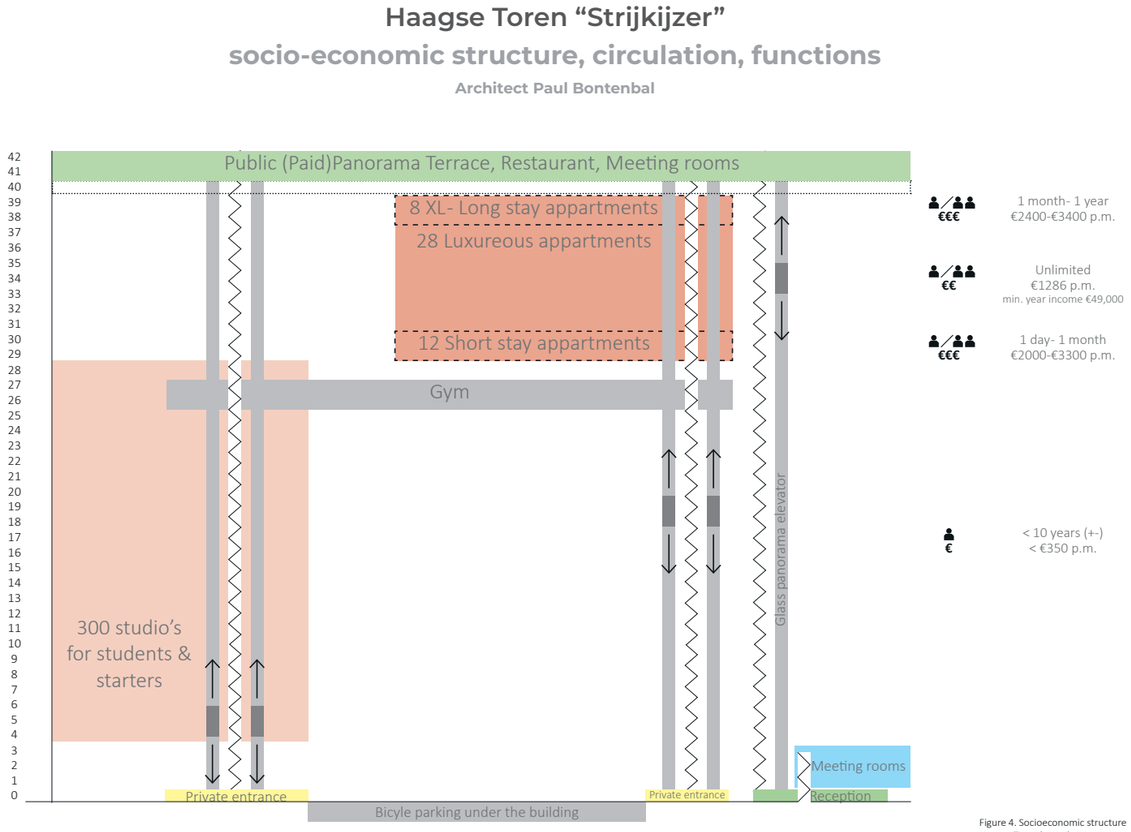

Figure 4. Socioeconomic structure Haagse Toren by author

Schoorl (2017) criticizes the debate about the Sluisbuurt, according to Schoorl the debate had the wrong focus of high- against low-rise, while there are possible qualities to be achieved like community building. The presence of a certain amount of people in one building at least creates the physical possibility for social contacts, while interaction between people acquire the presence of other people. According to Gifford (2007) for some residents, a higher population density within the building can contribute to better and more social interactions. A well-designed system of collective or semi-public spaces and attractive circulation spaces could facilitate those social interactions.

Community design and social connectivity

A notable example of community design is the 'neighbourhood unit' of Perry from the 20s, the physical design of the neighbourhood aimed to achieve social objectives like social interaction, sense of community, identity and social balance. The physical attributes specified for the design where: population size; boundaries; open spaces; central institutional sites; local shops; and an proportional internal street system (in Carmona, Heath, Oc, & Tiesdell, 2003). This approach implicitly underlines the assumption that social behaviour and interaction can be influenced by the built environment. As Gutman (1976) described it, there is a difference in understanding of the role of the built environment between designers and sociologists. The designer would be absolutely certain of the social significance of buildings, while the sociologist wouldn't regard the building as a significant determent of behaviour.

This contradistinction can be traced back to social urban an architectural research of the 20th century. As Sennett (2018) describes, the difficulty of the connection between the 'cité', urban life , and the 'ville', the urban fabric , was illustrated by the divide in philosophy of urban research and design of the Chicago School and the Modernists. The Chicago School understood the complexity of the cite through localities, however, this was not connected to the ville. The assumption of the Chicago Club was that the built environment had no influence on social life, "the people are the city" as Park describes in his human manifest (in Sennett, 2018, p. 93). The modernists believed the opposite, society could be improved and simplified using functional design (Holm, 2006). In the manifest the Charter of Athens, city design was proposed, and society would have to evolve towards this (Sennett, 2018). The social design of the modernists was based on superiority of the designer (Holm, 2006). Jacobs was an important advocate against this top-down functionalist urban design doctrine. As Sennett (2018) describes it, Jacobs tried to incorporate the lived complexity of the city with the built environment. Jacobs believed in organic growth, the importance local participation, heterogeneous communities and a different interpretation of the phrase 'form follows function'. Function represents here the informal and openness of social interactions. The art of design plays here no major role. However, her work also acknowledges the importance of physical elements enabling social behaviour in her book The Death and Life of Great American Cities (Jacobs, 1961). As a result a common understanding of the social function of the built environment in contemporary urban design, starts from a two-way process between people and their environment. As Carmona et al. (2003) describe, people create and modify spaces and they are influenced by these spaces in various ways. The approach of Jacobs attempts to connect the cite and the ville and in this way bridges the dispute identified by Gutman (1976). This connects the understanding of the city to Sennett's (2018) concept of the 'open-city'. According to Sennett the open city should be understood in all its complexity, it is ambiguous, non-lineair, conflictual, incomplete, and is in constant transition. Other than Jacobs the art of design plays an important role for Sennett. In understanding the complexity of the city Sennett (2018) believes the whole is more important than the sum of its parts, which addresses more meaning to structures than to single elements.

To define the characteristics of an 'open-community design', we use some central issues of neighbourhood design posed by Carmona et al. (2003); size; boundaries; social relevance and meaning; and social mix. Regarding the size according to Jacobs (in Carmona, Heath, Oc, & Tiesdell, 2003) there should be possibilities to form smaller street-sized groups in spaces that distinguish themselves from one another. However, the neighbourhood outline is generally imposed as a top-down construct, cross interactions between these smaller units must be facilitated for people to choose their group of people which they consider their community. This means the circulation spaces should connect different smaller communities and in itself provide the opportunity for social interaction. The aspect of boundaries can be relevant for social interactions and a sense of community. In relation to the previous notion the boundaries should be adaptable and flexible, Jacobs (in Carmona, Heath, Oc, & Tiesdell, 2003) argues that the success of neighbourhoods is a result of overlap and interconnectedness with other neighbourhoods. The social relevance and meaning of a community is always in the process of change, as Carmona et al. (2003) describe it, the spatial common territory is no longer the only pre-condition for a sense of community. This meaning in contemporary society exceeds all geographical restrictions through the decreased relative travel distances, national and international, and the formation of online communities. The existence of international communities can in the case of the Binckhorst show as differences on the local level (e.g. expats and natives). In an open-community design both the close and distant community bonds and interactions should be facilitated in collective or public spaces. The last aspect is the social mix of communities, which can be facilitated by a variety of dwelling types and their configuration and social policies. The design elements

desilted from this are; variation in dwelling types and their configuration; physical or regulatory boundaries; a network of modest size distinctive collective or public spaces (social spaces and circulation spaces) that facilitates social interaction and community bonds. An overarching theme is the participation of the residents to make the space to a certain extend resulting in a feeling of ownership of the spaces.

High-rise as an open-system

The design elements defined for an open-community design can be understood through the urban analogy of the fabric, the texture, the tread and the button (Sennett, 2018). The urban fabric encompasses the relation between buildings, streets and open spaces; urban tread is the scale of streets, the interior and exterior relation and the skyline; the urban texture relates to the formal and informal activities; and the urban button which can connect different treads. Some of these elements should be translated to the fabric of a high-rise: buildings are here floors or building elements; and streets are circulation spaces, (e.g. walkways, corridors, stairs or elevators). The type of urban fabric that Sennett (2018) to the principle of the high-rise building, which is essentially a vertical reproduction of the world (Koolhaas, 1994), is a vertical additive model. A repetitive pattern of dwellings of floors of the same size in verticality. The danger here according to Sennett (2018) is the emerge of a monoculture, which is sensitive for social and economic problems. According to the open model the high-rise should be heterogeneous in dwellings, buildings elements, people and activities. Sennett (2018, p. 59) encloses this with the statement: “the whole is bigger than the sum of parts”.

Thinking of high-rises as an open system, poses some challenges. Firstly, the engineered structure of a high-rise building is very rigid and difficult to remodel or redevelop (Meyer & Zandbelt, 2012) Secondly, related to the heterogeneity of the dwellings, the development of high-rise buildings is very costly, making developers driven to aim for the highest segment possible. Especially in the Dutch context, where the price of land and municipal fees are defined in consultation with the municipality according to the volume and the function of the structure (Meyer & Zandbelt, 2012). Profits from other low-rise projects or municipal policy should stir the heterogeneity of the dwellings. The Hague has enclosed a certain policy within its high-rise vision. The municipality envisions buildings that house a mix of socio-economic classes in a variety of dwelling types and sizes. In policy this means each building which has 60 or more dwellings can only have a maximum of 60% of one dwelling type and there should be freedom of choice for the finish and layout of the dwellings (Gemeente Den Haag, 2017).

An interesting example of an attempt of designing a high-rise as an open-system is the research project The Vertical Village (MVRDV and The Why Factory, 2012). In the context of Asian cities the study project created a framework to translate community qualities (e.g. flexibility, collectivity, evolutionary growth, diversity), into a vertical structure. To achieve flexibility and evolutionary growth, prototypes of software (The House Maker and the Village Maker) where developed. However, it can be questioned if this technocratic perspective is accessible and understandable for all residents. This would depend on the way it is executed and materialised. In this paper we don’t speculate on new adaptive software or technologies and plead for a manual adaptive environment.

Architecture and Urban Design

Stretching the discipline of Urban Design towards the interior configuration of the high-rise building, first a common misunderstanding of public spaces should be cleared. Public spaces are not only outdoors they can extend to the interior of buildings, even when those buildings are privately owned they can be publicly used (Harteveld, 2014). The importance between the relation of indoor and outdoor becomes clear in the notion of Interior Urbanism (Harteveld, 2006, 2014; Harteveld & Cavallo, 2019). This stresses that the border between architecture and urban design should be understood in a more complex way than just the distinction between the façade and the interior of the building. For a better understanding of this relation, the emerge of the urban design profession should be understood, the need for urban design was articulated from the 60s onward, as a response to a lack of coherence (Carmona, Heath, Oc, & Tiesdell, 2003a). The design of our urban environment was executed by a fragmented set of professions and urban developments, which often lacked coherence and continuity as urban developments were inward-focused. Translating this to the social design of the high-rise building, the urban designer should contribute to the coherence of social structures and spaces within the building and in relation to the outdoor spaces. However, argued from the discipline of architecture, the architect would take the design of social spaces and the relation between them into account. This exposes the potential overlap between the disciplines in relation to Interior Urbanism. It goes without saying the border will always be blurry, meaning the Architect or the Urban Designer does not exist. Returning to the question of what urban design could contribute to the design of social spaces within the high-rise. The answer probably lies in coherence, not only of the design and configuration of spaces, but focused on a coherence within the larger neighbourhood, the city and even society. In a narrow definition the architect would focus, from a private perspective, on designing a building on the basis of a provided brief, while the urban designer, from a public perspective, focusses on designing the urban fabric in relation to a variety of interwoven structures that act on different scales. Furthermore, the urban understanding of openness as described here could form a new perspective on the design of high-rises.

Vertical Urbanism

If urban design should add something to the interior and exterior spaces of a high-rise building, the verticality and 3-dimensionality of these spaces are of importance. The understanding of urban life and urban design have predominantly focused its attention on the horizontal plane (Rowbotham in Ally Ireson, 2000; Graham, Stephen, Hewitt, 2012; Harris, 2015), which relates to the horizontal movements and senses of humans. As Rowbotham (in Ally Ireson, 2000, p. 125) describes it:

> “In the vertical world, all things are horizontal in so far as they are human, horizontal and flat, determined by a virtual horizontal laid out at a point below eye level at the level perimeter. ... all buildings, if we are to remain true to ourselves should be made more or less pancake-like, forged from serial horizontalities.”

This aligns with the early visions of high-rises and the horizontal dominance in the discourse. This is short-sighted view on human life, various vertical human movements, perceptions or behaviours are possible. Baxter (2017), calls this verticality as a practice, human and non-human behaviour that takes place in a 3-dimensional environment and through action co-construct verticality. Positive examples are the view, vertical play, conversations between floors and negative examples include throwing items from higher floors or the feeling of vertigo. Extending this, it could also include circulation movement like walking on a hill, stairs or using an elevator. Relating it back to urban design, Yeang (2006) calls for a vertical theory of urban design, extending the urban design approach into the vertical interior and exterior architecture of the building.

This 3-dimensionality in the high-rise as an open-system in relation to community design and social connectivity, should provide the opportunity of visual and physical contact between different floors and different intimate collective or semi-public spaces. This could be done in the form of internal or external spaces and preferably even the relation between those. An example in the Binckhorst is the design of the Binck Blocks with collective spaces surrounded in a court-like open building block structure. What could be added here is a 3-dimensional circulation space with a social function. Those spaces should be flexible and adjustable in a way residents can decide to take part of social interactions or whether they prefer a more private environment. You could think of it in the same way as opening or closing the curtain, but not necessarily located at the hard border between private, dwelling, and the collective or public, the street or collective space. This could even integrate within the collective spaces apart from the dwelling.

Conclusion

The planned residential high-rise developments of the Binckhorst provide the possibility to facilitate connections and community bonds between people in the socio-economic segregated context of The Hague. The experimental character and the geographical location between neighbourhoods of a different socio-economic status make this are a suitable location for a case study. The size of high-rise buildings in terms of population creates the need to understand and design them as a part of the urban fabric through the understandings of community design; the open-city; interior and exterior urbanism; and 3-dimensionality.

This paper aimed to answer the research question: In what way can the urban design approach contribute to the design of high-rise buildings to improve social connectivity in the case of the Binckhorst in the Hague?

The tentative conclusions on negative (social isolation, less pro-social behaviour) and positive effects (potential for more and better social interactions) are solely suggesting that there are contradicting possibilities potential to create social interactions and on the other side the treat of socially isolating people. This conclusions are also context dependant. The important conclusion is that the social outcome is uncertain. The design of the high-rise through community design could enable the interactions and community bonds. As the outcomes are uncertain and the complexity of the social structure it relates to the understanding of the city. The approach of the open-city helps to understand the structure of the high-rise in its complexity, ambiguity, uncertainty, and its constant consistent change. The design of the social spaces of the high-rise should be informed by the understanding of the open-city to create a flexible and adaptive design. The high-rise should be heterogeneous in dwellings, building elements, people and activities. In relation to architecture, urban design should find its added value in understanding and designing for and coherent social structure on different scales and by involving the perspective of openness in the design of high-rises. Finally the design of a network of modest scaled social spaces and attractive circulation spaces should form a 3-dimensional physical and visual connections across interior and exterior spaces of the high-rise.

The conclusions of this position paper will form a base for developing a design principles from an urban design perspective for a high-rise in the context of the Binckhorst. While the neighbourhood will be developed no conclusions can be attributed to the planned high-rise developments, more extended speculation will follow attempting to understand the components of these designs. The design research into the open-community high-rise in the Binckhorst will also add more insights to the approaches and design elements proposed in this paper. The limitations of this paper reside in the speculative nature of certain approaches and design elements where not in all cases sufficient empirical research is available. Which also relates to the difficulty to draw conclusion between the built environment and social behaviour.

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Figures

Figure 1: Number of residential towers built in Europe by decade (Emporis, 2012 in Drozdz, M., Appert, M., & Harris, A. (2018). *High-rise urbanism in contemporary Europe. Built Environment, 43*(4), 469–480. https://doi.org/10.2148/benv.43.4.469)

Figure 2: The Binckhorst The Hague by author

Figure 3: Skyscraper Theorem by Walker, 1909 in Koolhaas, R. (1994). *Delirious New York: A retroactive manifesto for manhattan*. Rotterdam: 010 Publishers.

Figure 4: Socio-economic structure Haagse Toren by author

Appendix 2

Interview set-up

Study information

master graduation project: vertical social connectivity 02.2020

Purpose of the research

The population of The Hague grows rapidly, this results in plans of the municipality to build new high-rise residential buildings. With the amount new of people living in one building or neighbourhood, it is crucial to integrate those new buildings within the urban fabric and to create spaces of social interaction. This research aims by qualitative interviews to gain insights in the use and need of social neighbourhood spaces of residents living in The Hague. The design case will be located within the Binckhorst The Hague, but the needs and values residents living in other parts of The Hague are relevant to take into account.

Benefits

There are no direct benefits in participating in this research except the contribution made to the research project. The reason for this interview is out of interest for your opinion.

Risks

Participating in this research does not include any particular risks.

Procedures for withdrawal from the study

The participant has the right to withdraw from the study at any moment during the interview until the finalizatiation of the results. If the participant wishes to see the results before the finalizatiation, he or she will be asked before the interview or later he or she can contact the researcher with the details below this form. If requested all personal information and collected data can be rectified or erased.

Privacy

In the public report no personal data (name, address) which could identify the participant will be included. All data will be anonymised and only accessible by the researcher.

Retention period

The data will be preserved until the end of the graduation project, estimated in august 2020, or when the participant request an erase of his data.

Contact

If there are any questions regarding the research or the data the researcher can be contacted through the contact details below the page. If there are any complaints, rectifications or remarks regarding the research the researcher can be contacted.

TU Delft

Researcher

N: Sylvan Muijlwijk
T: +31641612086
E: S.Muijlwijk@student.tudelft.nl

Urbanism

Interview

master graduation project: vertical social connectivity

What is the location of your home?

Neighbourhood _____

Street _____

Building _____

What type of building do you live in?

Stories _____

Story of dwelling _____

Type of building _____

Tenure structure Ownership / Rent / Social Rent

Can you describe how you enter your dwelling? (public street - front door)

_____

_____

_____

_____

_____

Time it takes _____

Encounter of neighbours _____

Researcher
N: Sylvan Muijlwijk
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E: S.Muijlwijk@student.tudelft.nl

Do you have contact with neighbours from the same building, street or neighbourhood?

_____

_____

(What type of contact do you have with them?) seeing or hearing / greeting / conversation / activity

(*type of activies)

(Are you sattisfied with this amount of contact?)

Space of most encounters _____

(Why do you see most people here?)

(Function)

(Characteristics) big/small indoor/outdoor crowded/quiet restricted/open

(transparancy)

(height difference)

(time spent there)

(distance to home)

(Location, adress)

Are there more collective or public spaces surrounding your building?

_____

(Do you use all of them?)

Are there collective or public spaces you mis in your surroundings?

_____

Researcher
N: Sylvan Muijlwijk
T: +31641612086
E: S.Muijlwijk@student.tudelft.nl

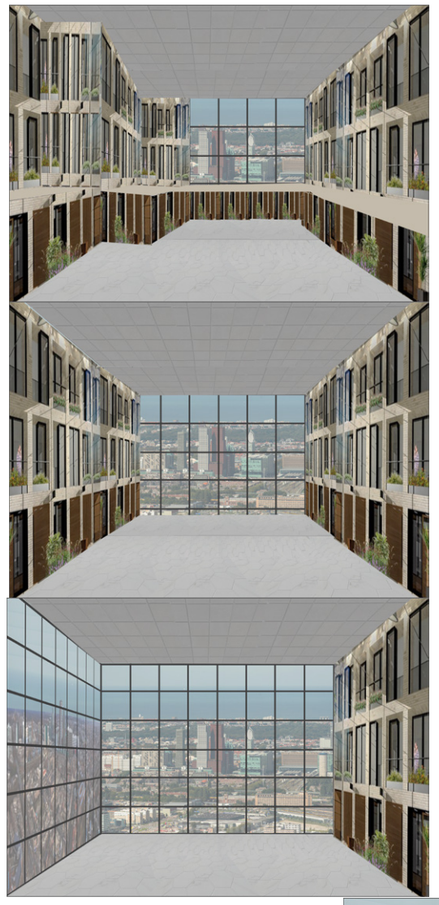
Participation collage

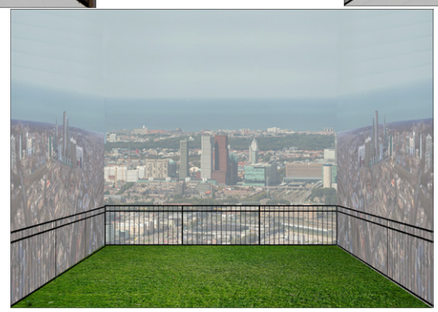
master graduation project: vertical social connectivity

How would you describe a place close to your dwelling and front door look like for you to feel comfortable to stay, undertake activities and possible to meet your neighbours?

Which of the scenario's would fit the description given best?

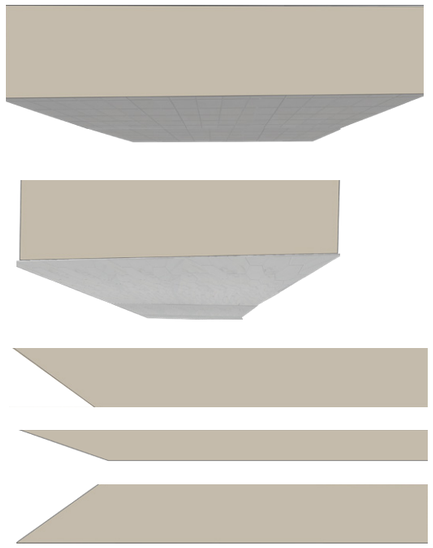
Presented in printed A4 base layers



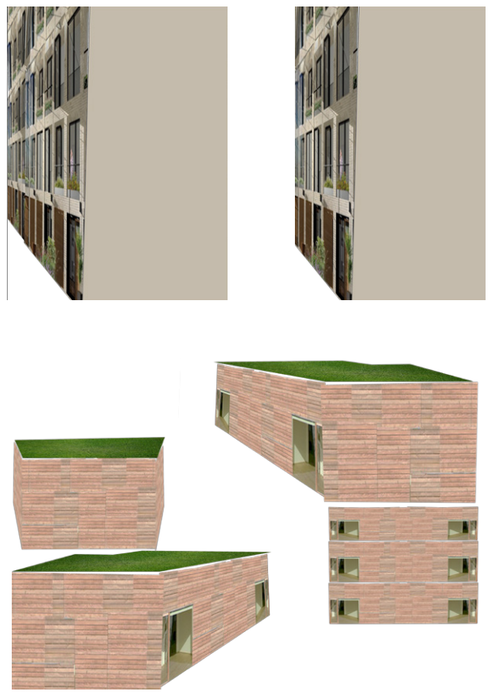


Would you like to change the dimensions of the space?
Presented in printed scaled cutouts

Adding or lowering the ceiling

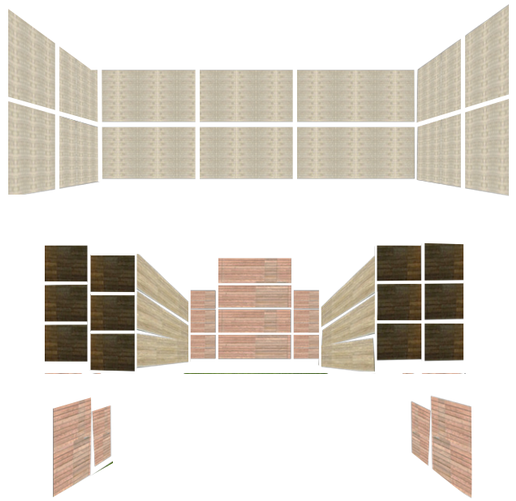


Adding to or moving the facade

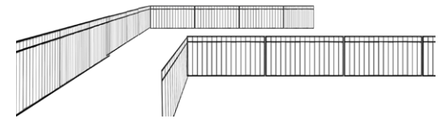


Would you like to add or remove blind walls, fences, windows or doors?
Presented in printed scaled cutouts

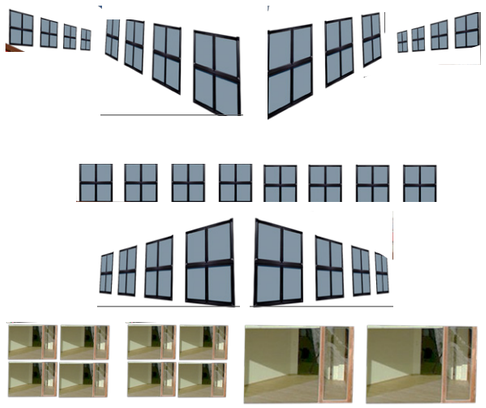
Blind walls



Fences



Windows and doors



Would you like to add stairs, seatings or balconies?
Presented in printed scaled cutouts

Seatings

Balconies

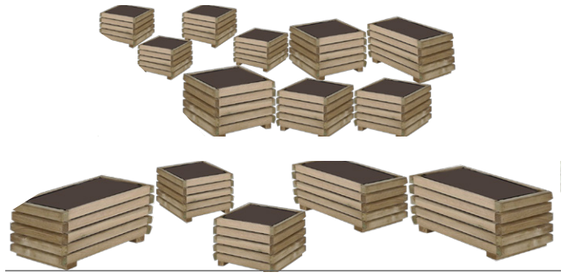
Stairs

Would you like to add vegetation?
Presented in printed scaled cutouts

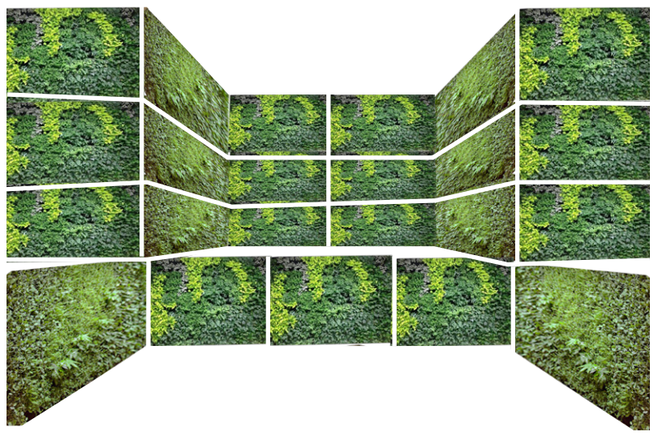
Schrubs and trees

Grass

Plant pots



Green facade



Would you like to add sports play or art elements?
Presented in printed scaled cutouts

By adding people you can define the use and business of the space.
Presented in printed scaled cutouts

What still misses in your eyes? (sketch)
Quick sketch on white paper by instruction of the respondent

Where would you like your front door to be? (post-it)
Post-it is placed to locate the prefered front door of the respondent

Where would you feel comfortable meeting your neighbours? (post-it)
Post-it is placed to locate the prefered location of neighbour interaction of the respondent

For who should this space be accessible?

Personal information

Gender _____

Age _____

Householt status single / with friends or roommates / with partner(s) / childeren / residentalgroup (woongroep) / other .....

Migration background _____

Nationality _____

Languages _____

Relgion _____

Empolyment status _____

Highest education _____

Income (per year) < €20,000 €20,000 - €36,500 > €36,500

Hobby's/Sports/Interests _____

_____

_____

_____

_____

Contact details

Name _____

Phone number _____

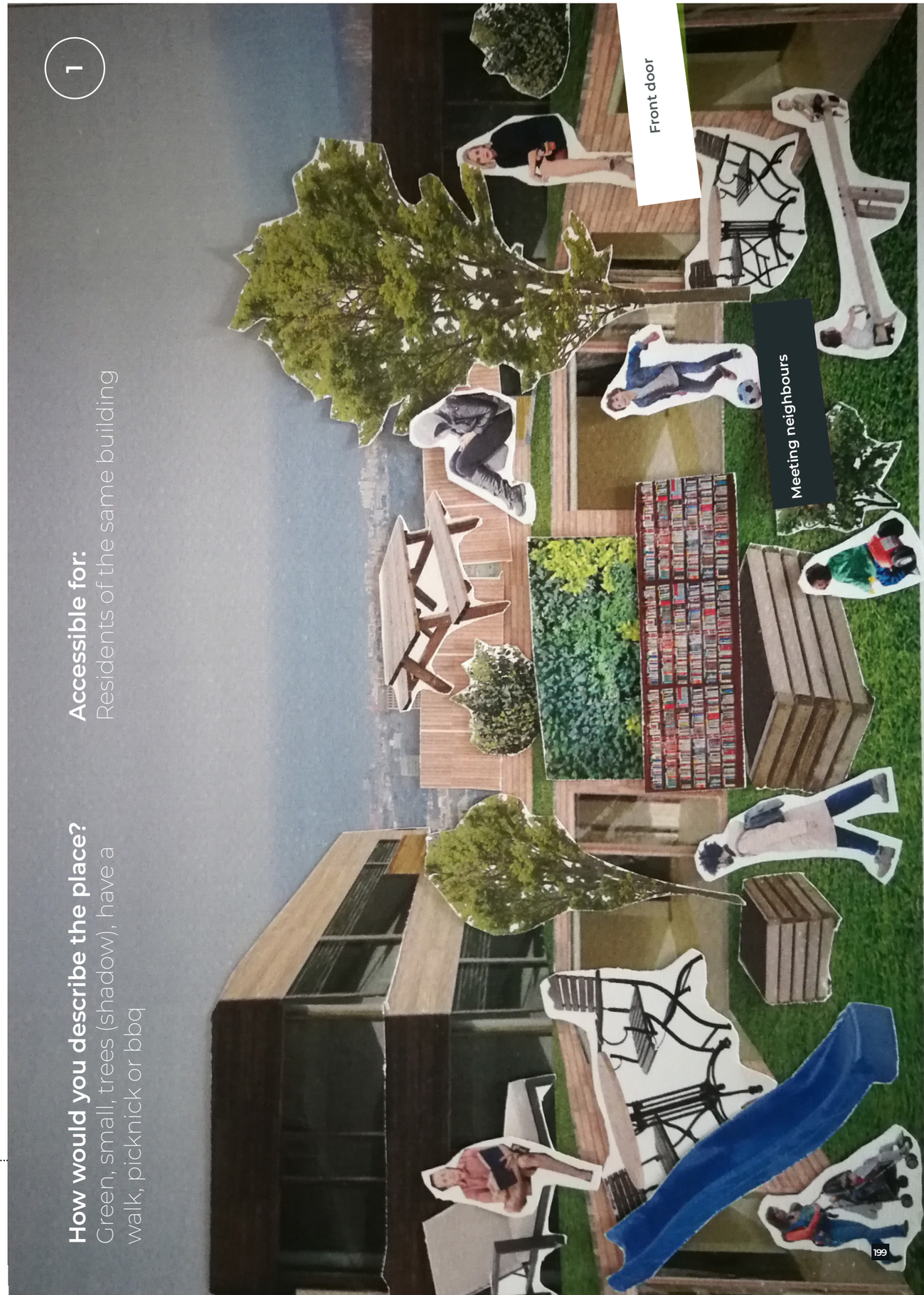
E-mail adress _____

☐ I would like to receive a cope of the report when finished through mail

☐ You can approach me for for further questions

TU Delft

Urbanism



How would you describe the place?

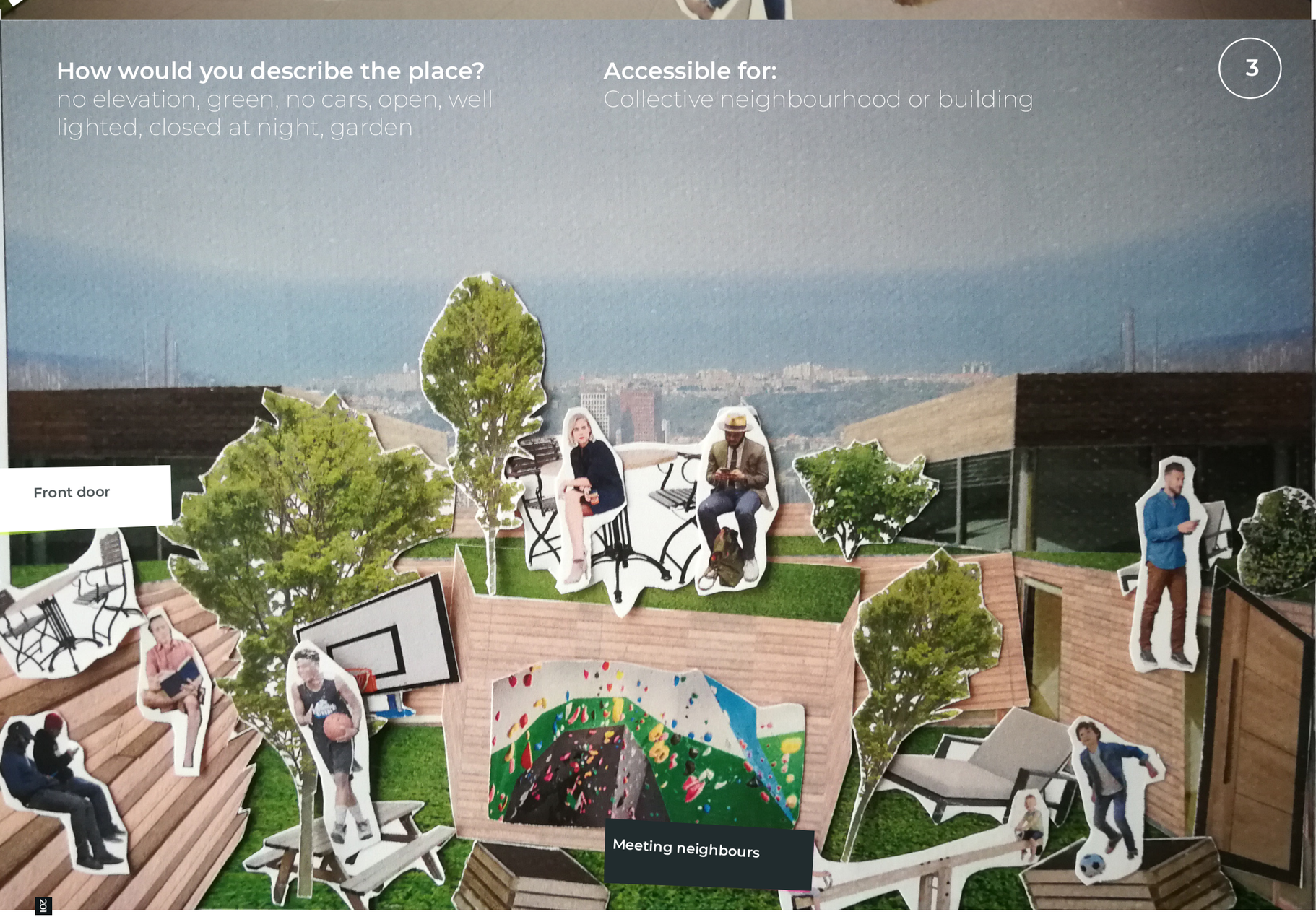
Accessible for:

2

How would you describe the place?
no elevation, green, no cars, open, well lighted, closed at night, garden

Accessible for:
Collective neighbourhood or building

3



How would you describe the place?
safe, closed off, collective kitchen, good microclimate, nicely finished, quiet

4

Front door

Accessible for:
Publicly accessible (locked at night)

Meeting neighbours

How would you describe the place?
when entering the room you see all the people directly

Accessible for:
Residents of the building

5

Front door

Meeting neighbours

6

How would you describe the place?
Park, green field, places to sit, attractive for young and old, neighbourhood parties

Accessible for:
Publicly accessible

Indoor private stairs

Front door

Meeting neighbours

7

How would you describe the place?
At home, controlled, living room

Front door

Accessible for:
Private and on invitation

Meeting neighbours

How would you describe the place?
Outside, green, bench, flowers, enough scale to do your own activities without having to interact

Accessible for:
Residents of the building

8