



Densification for Social Integration

A study on the potential symbiosis between densification and social integration, social mix and social cohesion in post-war neighbourhoods with Den Haag Zuidwest as a case study

Colophon

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Preface

The thesis that lies before you was written during my graduation for the master track Urbanism at the MSc Architecture, Urbanism and Building Sciences at the Delft University of Technology, as part of the graduation studio Urban Fabrics. The studio theme of this year was 'How will we live together?'.

This research fits with the studio theme by trying to find a way to improve the living together of different socio-economic groups in the densification of deprived post-war neighbourhoods. Research by design approach is used to find an answer to these questions with the area of Den Haag Zuidwest as a case study. As a result, a strategic framework, a design framework and a set of design rules and guidelines are presented.

Without the guidance from the TU Delft, I would not have achieved the outcome that I have. I would especially like to thank my mentor team, Birgit Hausleitner and Lei Qu for their help. Their expertise, knowledge and enthusiasm led to very interesting discussions that allowed me to dive into theories and design challenges to seek answers to the questions that I had and that came up during graduation.

Additionally, I would like to thank Mandy Koenraads, coordinator of the Zuidwest thesishub at the Centre Governance of Migration and Diversity (GMD), for inspiring conversations and for getting me in contact with several stakeholders in Zuidwest that took my project to a higher level. I would like to thank all the stakeholders who made time for me as well for giving me insight into the real-life situation in Zuidwest.

Furthermore, I would like to thank all other professors at the TU Delft with whom I had contact as well as my fellow students for providing me with information, new points of view and motivation.

Lastly, my parents, family, friends, and my partner have greatly supported me during this sometimes challenging year. They motivated me, inspired me, and pushed me through when needed. I am very grateful for all the support I got, thank you!

Abstract

This project investigates the potential for social integration, social mix, and social cohesion by densification in post-war neighbourhoods with Den Haag Zuidwest as a case study location. The current status of housing and public spaces in post-war neighbourhoods results in challenges regarding social segregation and social dissolution that are at the moment mostly tackled by the regeneration of entire neighbourhoods with little consideration of the existing population. Additionally, a pressing need for additional housing and densification within city borders with limited available urban space. The project looks for an approach that prioritizes the residents' interests over systematic demolition and gentrification.

Densification of post-war neighbourhoods has the potential to help achieve social goals by increasing physical and psychological connections between a neighbourhood and the rest of the city, increasing population diversity, and improving social cohesion. Densification can shift the city's focus to currently deprived post-war neighbourhoods which can result in the enhancement of public spaces.

These social goals can be achieved through densification with a set of specific design principles that focus

on; better and differentiated physical connectivity to enhance social integration and social mix, spaces for diversity and inclusivity for more social mix and social cohesion, and a more distinct character and composition in the neighbourhood to contribute to social integration and social cohesion. Additionally, densification can provide financial incentives for the renovation of the existing building stock and improvements in the public space.

Current visions and structure plans for Zuidwest and similar post-war neighbourhoods suggest a variety of improvements in the social realm, but they fail to present clear guidelines on how to achieve these goals with spatial interventions. These plans are often vaguely described and do not present specific concrete rules and guidelines which results in a slackening of these plans during implementation, failing to have solved the problems at the end of large-scale interventions.

This project aims to do things differently by starting with a problem statement and a vision for the improvement of the situation in Den Haag Zuidwest. Thereafter, this research provides an elaborated structure plan for Zuidwest as a whole, which proposes improved connectivity and differentiation and an exploration of the potential

for densification. Then, where most plans tend to stop, the research presents a design for an exemplary more zoomed-in location with an emphasis on diversity and inclusivity and character and composition in combination with the aforementioned structure plan. To be able to translate the findings from this research and design approach for a specific location within Zuidwest, a set of rules is derived from the design that can be applied in the design of other locations in Zuidwest. Additionally, indications for phasing, stakeholder involvement and financial feasibility are given.

Lastly, a short note of the possibility for transferability to similar post-war neighbourhoods with similar problems is explored to increase this research's relevance.

To conclude, this project explores how spatial design and densification can improve social integration, social mix, and social cohesion in post-war neighbourhoods most of which are lacking. The research focuses on the potential symbiotic relationship between densification and these social goals. In the hope of advocating for more in-depth redevelopment visions and plans for derived post-war neighbourhoods.

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Chapter 1: Project Definition

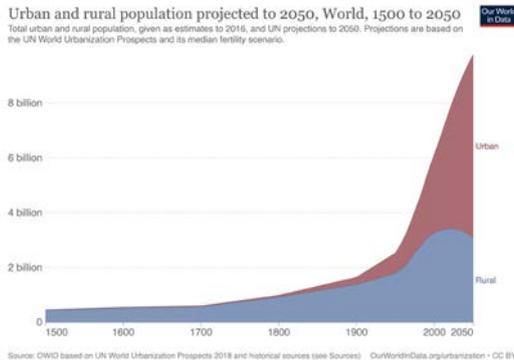
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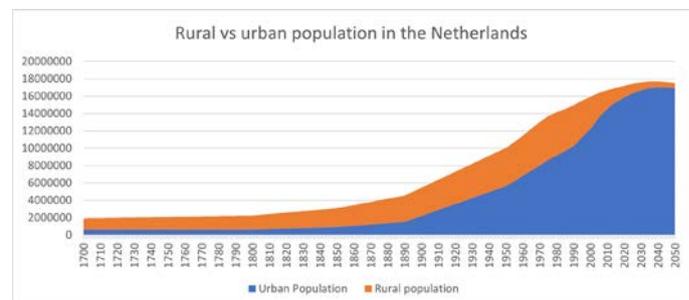
1.1 HISTORY OF POST-WAR NEIGHBOURHOODS

“Throughout history, people have been drawn to cities as centres of trade, culture, education, and economic opportunity” (*The History of Cities | National Geographic Society*, n.d.). The first cities emerged thousands of years ago, and since then they have been growing, but not always very consistently. Urbanisation, as we know it today, is a relatively new phenomenon that started

with the Industrial Revolution in the mid-eighteenth century. Cities started to grow rapidly, and the end is nowhere near, as experts suggest that over half of the world’s population lives in urban areas and that number will rise to two-thirds in 2050 (*The History of Cities | National Geographic Society*, n.d.).



Urban and rural population, World, 1500 to 2050 (Ritchie, 2018)



Urban and rural population, the Netherlands, 1750 to 2050 (Ritchie, 2018)

1.1.1 HISTORY OF URBAN DEVELOPMENT

Wagenaar (2013) states the nineteenth century heralded the start of urban planning in the Netherlands. Within this history of urban planning, the Dutch re-invented themselves multiple times, influenced by the international scene, politics, the development of planning as a distinct discipline, and changes in countries of inspiration being France (until 1830), Germany (1830-1930), and the United States (1930 onwards). Rapid urbanisation was causing health issues leading to the introduction of two laws in 1901: the health law and the public housing law, which laid the basis for many urban development laws that we still know today. The first law ordered health committees consisting of architects, urban planners, and medics to assess the health effects of urban development plans. The second law regulated the construction of housing and simultaneously made sure that rapidly growing communities were forced to make expansion plans, many of which were made by Berlage informed by the German practice at the time.

The First World War brought Europe's self-image down from being the frontrunner of culture and civilisation and therewith the attention in urban planning shifted to the United States. Ebenezer Howard's Garden City movement was one of the most influential at that time. It emerged from the polluting cities and was even countering the whole concept of a city, proposing a multicentred configuration of small cities (or neighbourhoods) in rural areas (Talen, 2008). She writes that it combines the proximity of people and amenities with the tranquility and freshness of the rural area. At the same time, the emergence of the car in the United States alarmed European urbanists who feared they would destroy inner cities. Before many extensive plans from this period could be carried out, the Second World War broke out and everything came to hold. (Wagenaar, 2013)

1.1.2 POST-WAR URBAN DEVELOPMENT

After the havoc, the Second World War had left both physically and mentally, the reconstruction started, which from an urbanist perspective lasted from 1945 till 1970. The enormous housing shortages called for large-scale and quick building projects. Wagenaar (2013) writes that the building industry was seen as the incentive for the entire economy, which implied industrial building methods that standardised a lot of the building sector resulting in very standardised and similar building typologies. At the same time, urbanism was seen as a strong means of propaganda. As the Soviet Union had socialist realism as a successor of post-war modernism, the West introduced the International Style as a counter to socialist realism, although this new style should not be completely assigned to propaganda, it had a strong influence. The International Style was the concept of separate units in low density. Additionally, the emergence of the car leapt just after the war while it was so much feared in the twenties and thirties. This

resulted in an enormous influence of the car in post-war urban planning. The car seamlessly connected to the idea of low-density building of the International Style and resulted in the construction of numerous of these neighbourhoods in the Netherlands. The highly influential book *De stad der toekomst, de toekomst der stad* by Bos & Oud (1946) studies the 'Wijkgedachte' which incorporates these concepts. The newly built neighbourhoods largely consisted of public houses in collective typologies like row houses and flats with all amenities needed in daily life centrally located in the neighbourhood. The idea was that this setup functions as a conductor for the sense of community and social cohesion, which was seen as one of the main causes of all the misery that had come upon the world. Additionally, the low density enabled contact with nature and was therefore seen as a healthier alternative to high-density urban areas. These assumptions were however soon proven wrong by sociologists and medics (Wagenaar, 2013).

1.1.3 POST-WAR NEIGHBOURHOODS NOW

Nowadays, the positivity and optimism from the fifties and sixties have faded and post-war neighbourhoods are often seen as deprived areas. These neighbourhoods are often associated with poor living qualities like deteriorated housing and public space and a multitude of socio-economic issues (Wittebrood & Dijk, 2007). The original design and ownership structures do not meet modern-day requirements (Bergeijk et al., 2008). One thing that stands out is that some of the main ideas behind the designs at the time were specially designed to accommodate the forming of communities, social mix, and social cohesion which is exactly the thing that is now lacking which is seen by some experts as the main cause of many of the problems (Wittebrood & Dijk, 2007; Bergeijk et al., 2008; Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022).

1.2 SOCIAL SEGREGATION

One of the main reasons, and at the same time effect, for the lower liveability in deprived post-war neighbourhoods is a high level of segregation which creates a vicious circle. Although the Netherlands does not have as much segregation as other countries, it still exists. If the relative differences are high, as is the case here, the negative effects can also be large (Musterd, 2005). Therefore, counteracting social segregation is often part of governmental visions and strategies for deprived areas or neighbourhoods (Ponds et al., 2015). He describes segregation as the spatial separation of different socio-economical and/or socio-cultural groups in society. He writes that is the spatial effect of differences or inequality in society and that segregation can be defined by the overrepresentation of specific socio-economic groups on different scale levels. Segregation can have a multitude of causes, some intrinsic; depending on people's own choices and some extrinsic; forced by external factors (Ponds et al., 2015). Additionally, Musterd (2005) writes that the causes of segregation are themselves strengthened by segregation and by doing so, vicious circles are formed.

1.2.1 DIVERSITY AND SOCIAL SEGREGATION

Segregation happens between different socio-economic groups; therefore, segregation can only exist when there is diversity in the population. Generally, urban areas are very diverse (Tasan-Kok et al., 2015) and thus are at risk of facing high segregation. Segregation can be measured along many different variables, some based on inequality, and some based on personal characteristics according to Ponds et al. (2015). Variables like income, capital, education level, and health can cause segregation based on inequality while characteristics like ethnicity and age can also be variables of segregation while they are not based on inequality. Tasan-Kok et al. (2013) recognize that there is an immeasurable number of different variables of diversity. Therefore, they introduce the term hyper-diversity in their research, stating that people not only differ because of some standard variables, but also because they have different values, norms, ideas, and identities that intersect in multiple ways. Musterd (2005) similarly recognizes that people of the same variable that is defined by most literature can still vary largely from each other through a multitude of other variables that have not been considered. However, to measure diversity to this level, let alone take them into account while designing or making policy is close to impossible. This does not mean it should not be kept in mind that this diversity exists.

Next to population diversity, the scale level on which segregation is measured is important. The scale on which segregation can be defined can range from city scale, district scale, neighbourhood scale to even street scale. In general, segregation will be higher on smaller scale levels because smaller units are often more homogeneous than bigger ones (Ponds et al., 2015). Additionally, Vaughan & Arbaci (2011) argue that segregation can happen in different spheres, and integration can happen in one sphere, like at work or school while still living in a very segregated area. They argue that it is necessary to challenge the perception that segregation is a solely residential phenomenon. The public realm, the street, parks, squares, community centres, work, and other public spaces are much more valuable for everyday life, and therefore integration. Subsequently, it is important to regard segregation concerning spatial configuration (Vaughan & Arbaci, 2011).

A conclusion seems obvious is that there is an inevitable link between a diverse and unequal society and a segregated city; "if a society is divided, urban space must also be divided. However, this is not always the case." (Tasan-Kok et al., (2013). There are places where a diverse population is living together, in some countries including the Netherlands, this is even a popular policy. However, the examples where this is the case are scarce for several reasons that will be explained in the next chapter.

1.2.2 CAUSES OF SOCIAL SEGREGATION

A perfect distribution of people over space is impossible, especially when considering the hyper-diversity model by Tasan-Kok et al. (2013) that was mentioned before. Therefore, a certain amount of segregation is a structural phenomenon. However, the level of segregation can vary largely. This chapter will focus on processes that influence the level of segregation both positively and negatively.

Ponds et al., (2015) define the two main processes that lead to segregation (mainly in the Netherlands), being *in situ* changes and selective migration. This chapter is based on the Ponds et al. (2015) study.

In situ changes

In situ changes happen when certain districts or neighbourhoods go through a big change in a certain variable while the rest of the city or region does not so much. The concentration of people with this certain variable will increase relative to the area of reference, which increases segregation. These changes can happen without people moving in or out of the neighbourhood, examples are the ageing population or an increase of a certain ethnic group when they get more children than others, or unemployment when a large amount of people in a reference area is dismissed at the same time. Musterd (2005) writes that one main cause of segregation in the Netherlands is also one where both ethnic

and economic factors are involved. In the sixties and seventies, many Moroccan and Turkish guest workers came to the Netherlands and were housed in certain areas. When the economic situation changed and their skills did not fit the new requirements anymore, many of them became unemployed. However, they did stay in the areas they lived in for a long time, which resulted in areas that were simultaneously ethnically and economically concentrated and thus segregated from the rest of the cities. These areas were mainly post-war neighbourhoods, and the situation did not drastically change since then (Musterd, 2005).

Selective migration

The other process is selective migration, which often has a bigger role in the change in segregation. If people with certain characteristics are leaving or moving into an area, segregation on a specific variable can increase or decrease. Selective migration can have several incentives: individual preferences, range of options, housing stock and housing market, and regional differences.

Different people have different individual preferences for housing type and living environments, this has to do with personal taste and household type. Elements that are relevant for housing choice are housing size, number of rooms, outdoor space, etc. For living environments, the number and type of amenities, labour options, and

distance to the city centre, station, highway, and nature are important factors. Often, people of a similar social group have similar preferences in housing type and living environment causing segregation. Another variable that plays a role is that like-attracts-like, people often prefer to live next to like-minded people. The opposite can also be true, some people specifically do not want to live next to other social groups, which can be based on prejudice or discrimination.

Van Ham et al. (2018) recognize this as a vicious circle. In short, they write that the more segregated a city is, the lower the probability for people of low-income groups to move upward the socio-spatial mobility. In other words, the more segregated a generally low-income neighbourhood is, the lower the chances for people from that neighbourhood to move to better neighbourhoods. This results in the neighbourhood getting even more segregated.

Another variable influencing segregation is the range of options that people have. Income is a main influencer since not everyone can afford every house. In combination with the fact that similar houses are often built in clusters (Van Ham et al., 2018) this results in similar people living together. Additionally, not all housing is accessible for everyone, social housing is only accessible to people that meet the income requirements.

Housing stock and housing market

Additionally, housing stock and the housing market influence the level of segregation. The availability of houses determines which houses are on offer and thus determines the range of choices that people have. Where these different options for different household types are spatially located determines the level of segregation. It is often the case that similar housing is built together in clusters which enhances segregation. According to Talen (2008) and Van Ham et al. (2018), this is strongly the case in post-war neighbourhoods like Den Haag Zuidwest because of their building history. During this period separation of functions and separation of people was carried out because of ideology.

Regional differences

The characteristics of the regional housing market also play a role, the housing market is a stock market, mainly based on housing stock. The supply has only a limited adaptivity to the demand, resulting in limited options in a tight housing market, influencing where people can live and thus influencing segregation. A tight housing market raises housing prices and extends the waiting list for social housing.

1.2.3 EFFECTS OF SOCIAL SEGREGATION

There is a wide range of effects of social segregation, both positive and negative. Most policymakers see social segregation as something negative, including the Dutch government. A lot of Dutch policy is focused on mixed neighbourhoods and diversity, which will be elaborated on in the next chapter. Literature on the effects of social segregation is not unambiguously, because it is hard to define actual effects in a wide range of circumstances and contexts. Therefore, this chapter elaborates on the possible advantages and disadvantages of social segregation in different literature.

Advantages of segregation

Different advantages of social segregation are mentioned by different writers. Ponds et al., write that a concentration of similar social groups can provide a larger support base for amenities that are specifically used by specific groups, ranging from shops, schools, religious amenities, and clubs, but also arrangement and design of public space. Talen (2008) confirms this and takes it a step further by writing that social support systems that were set up with social housing projects can only work with a high concentration of people who need these services.

Additionally, more social segregation means higher concentrations of like-minded people with a more sim-

ilar lifestyle which can contribute to less nuisance and less irritation as well as less discrimination and a higher feeling of safety according to Ponds et al. (2015). Tasan-Kok et al. (2013) write that “Dominant groups (in terms of numbers) appear to be less tolerant of living with ‘others’ than other groups.” (p. 51). Talen (2008) adds that diversity can increase social stress and conflict. Ponds et al. and Talen (2015; 2008) both write that more social segregation can increase bonding and social cohesion and that social mix will counter this effect. Additionally, social integration is an important factor to involve everyone in the society. However, bridging social cohesion is close to impossible in places with high social segregation. The next chapter will dive deeper into social cohesion. Socially segregated areas are better able to create and sustain a group identity which helps people to feel more at home (Talen, 2008).

Ponds et al. (2015) notice that the most positive effects of social segregation are individual advantages. These effects often do not benefit, if not disadvantage society as a whole. Promoting diversity or countering social segregation can entail segregation. Placement of higher income groups may produce more income diversity however, it can also increase housing value, bring more expensive shops, disrupt local leadership, and reduce social support systems which disadvantage the original population. This should be considered by policymakers and urbanists when choosing diversification as a strategy to regenerate a neighbourhood.

Disadvantages of segregation

Dutch policy is often focussed on decreasing social segregation, the main reason that is often mentioned is because of neighbourhood effects (Ponds et al., 2015; Kleinhans, 2004). Ponds divides neighbourhood effects into four categories: social-interactive mechanisms, environmental mechanisms, geographical mechanisms, and institutional mechanisms. The same categories will be used to structure this chapter.

Social-interactive mechanisms

Talen (2008) adds that mixing populations is a utopian ideal for social equity, she writes that it is the “ultimate basis of a better, more creative, more tolerant, more peaceful and stable world.” (p. 40). Benefiting not only the lower-income population but the population as a whole.

Social-interactive mechanisms are about social processes that enable a specific culture to form that is different from other places (Ponds et al., 2015). Examples, mentioned by Ponds et al. and Blom & Soomeren (2015) are when inhabitants of a specific area start to see unemployment or criminality as ‘normal’. For immigrants, diverse social networks can help with integration into society. Finding a job can also become easier in a diverse social network.

Kleinhans (2004) argues that the importance of proximity in social interactions is big, also when the tenure is different (homeowners, tenants, and social rent inhabitants). When proximity increases, the social interaction between residents of different tenures increases. The biggest obstacle to contact between different tenures is that they are on different streets. Oftentimes, diversification leads to the segmentation of neighbourhoods and not to integration on the street scale. (Kleinhans, 2004)

As written in the previous chapter some research states that nuisance and irritation can occur in more diverse areas. However, there is also research showing that people in more mixed estates are more positive about the estates overall and that the problems that occur are happening everywhere independent of the level of diversity (Kleinhans, 2004). At the same time, encountering people of different social groups lessens fear and distrust of different people (Talen, 2008).

Another positive social-interactive effect according to Kleinhans (2004) and Musterd (2005) is the role-model effect, which is much more relevant in more diverse areas because they are very dependent on actual social interactions and visual interactions.

As written before, bonding social cohesion can benefit from a less diverse population and thus higher social segregation. However, bridging social cohesion between different societal groups benefits from a more diverse population and less social segregation (Tasan-Kok et al., 2013). They argue that if non-conflicting relations between different groups in society could be formed on lower scale levels like district or neighbourhood level, a high social cohesion in the urban system as a whole is achievable.

Social mobility is a term that is used to describe the possibility of individuals or groups moving up and down in society, mainly referring to labour market transitions and sometimes education levels (Vaughan & Arbaci, 2011). Tasan-Kok et al. (2013) state that the neighbourhood that people live in is only partly relevant for social mobility since life is not solely organised in the neighbourhood someone lives in. Especially with increased mobility and online networking possibilities the importance of the neighbourhood reduces. However, there is still a level of importance in someone's living environment. This is even more so for people of lower socio-economic backgrounds since they generally tend to have lower mobility in general and are thus more dependent on their neighbourhood, especially for unemployed people. These are exactly the people who would benefit most from the possibility of moving up in society and would thus benefit most from diversification.

Environmental mechanisms

The third mechanism by Ponds et al., (2015) is the environmental mechanism. When a neighbourhood has an unfavourable location, Ponds et al. mention for example along a busy road, or a high feeling of unsafety or nuisance because of a high concentration of unemployed people can negatively affect physical and mental health.

Additionally, Kleinhans (2004) writes that housing diversification has a positive impact on the physical characteristics of the neighbourhood. Firstly, in the Netherlands diversification of a neighbourhood normally not only involves the adaptation of the housing stock but also improvements to the physical environment. Additionally, people with higher incomes and homeowners generally have more care for their living environment than tenants and therefore they will put more effort into creating and maintaining a higher standard of physical appearance. Besides, the level of maintenance is strongly influenced by the value of the dwelling. Lastly, homeowners have more influence in stating neighbourhood problems and are more involved in creating and participating in neighbourhood initiatives like prevention groups. (Kleinhans, 2004)

Talen (2008) defines another type of environmental mechanism. She describes the city as the locus of difference and diversity and calls maximizing social and

economic exchange possibilities a key factor in urban life. She mentions that multiple urban thinkers like Lewis Mumford and Jane Jacobs wrote about the importance of social and economic mix as a conductor for higher forms of human achievement. She defines diversity as the key factor in urban vitality because it enables interaction between several urban components. (Talen, 2008)

Geographical mechanisms

The third type of mechanism that Ponds et al. (2015) mention and is confirmed by (Tasan-Kok et al., 2013) is geographical mechanisms, which involve the geographical location of a neighbourhood relative to employment opportunities and amenities. This is focussed on the negative effect of bad accessibility to these functions, especially people without a car and neighbourhoods with bad public transport connections can be negatively influenced.

Institutional mechanisms

The last mechanism is the institutional mechanism by Ponds et al. (2015). This is similar to economic mechanisms that are described in other writing by Tasan-Kok et al., Talen and Kleinhans (2013; 2008; 2004). The personal economic mechanisms that are influenced by social segregation are already explained in the social-interactive mechanisms chapter, here the institu-

tional and economic mechanisms on the city level are explained. Ponds et al. (2015) mainly allude to the stigmatizing effects that can come from living in certain neighbourhoods with a bad image. This can affect employment chances, internship opportunities and school accessibility.

Tasan-Kok et al. (2013) notice four positive correlations between diversity and economic performance; Increased productivity, increased chances for networking, increased competitive advantage, and increased socio-economic well-being. They also write those stimulating policies play an important role in enabling these advantages.

Talen (2008) also recognizes institutional mechanisms in social segregation and refers to them as economic health. She writes that more diverse cities also have higher rates of innovation and economic growth. Therefore, she writes, cities should focus more on attracting human capital and less on attracting business because this finally leads to more attractive places and more economic prosperity. She even argues that class segregation counteracts economic growth. Finally, she argues that more diverse communities are more resilient and can take better care of themselves in economic downturn.

1.2.4 CONCLUSION

In conclusion, social mix always results in a certain level of segregation since a completely evenly distribution of population groups is practically impossible and because there is no fixed understanding of what groups there are and who belongs to which group. Segregation therefore always depends on multiple factors including the distinction of population groups and scale level. The causes of segregation can be divided into four categories being, in situ changes, selective migration, housing stock and housing market, and regional differences. By looking at the causes it can be concluded that the amount of segregation can be influenced by design interventions. Although not all effects of segregation are perceived to be negative, the majority are. The main categories of negative aspects that come forward from the literature are social-interactive mechanisms, environmental mechanisms, geographical mechanisms, and institutional mechanisms. According to the literature, the disadvantages outweigh the advantages. Therefore, addressing social segregation with spatial interventions in the urban structure can be valuable for these segregated neighbourhoods.

To be able to further look at segregation regarding this project a clear understanding of the term must be given. Derived from the literature review above, the following definition of the term social segregation is formulated: 'Segregation is the spatial separation of different socio-economic and socio-cultural groups in society'.

1.3 SOCIAL DISSOLUTION

Social dissolution is the opposite of the term social cohesion which is often used in the field of urbanism. In several post-war neighbourhoods (Mandemakers et al., 2021; Ponds et al., 2015), a lack of social cohesion is recognised. In literature it is more common to write of social cohesion than social dissolution, therefore this chapter will mainly use the term social cohesion as well. Like social segregation, social dissolution is not beneficial for the liveability of a place according to Mandemakers et al. and Kam & Needham (2021; 2003). They write that higher social cohesion is associated with positive effects on social safety, health, and well-being. Additionally, a link between social segregation and social dissolution exists, which will be explained further in this chapter. Social cohesion is often seen as desirable for society, unfortunately, it is something that has been decreasing in the last years and scientists and policy-makers have started to address this more and more in the last decades to deal with challenges like globalization, diversity, and regeneration (Schiefer & van der Noll, 2016; Marissing et al., 2004).

The term social cohesion is a widely used term over a variety of domains, where the general meaning of the term is usually similar, there is no total consensus on the exact explanation and attributes that it contains. Some of the explanations of the term that can be found in the literature are the following. Social cohesion

stands for the extent to which individual people are integrated into society, participate in it, and identify with it (Kam & Needham, 2003, p. 12). Marissing et al. (2004, p. 16) identify social cohesion as the internal binding force of a social construct. Tasan-Kok et al. (2013) also give a variety of definitions in their text: "Social cohesion is a fuzzy term with a range of meanings (Novy et al., 2012). In its most general meaning it refers to the glue that holds a society together (Maloutas and Malouta, 2004)." (p. 47).

Schiefer & van der Noll (2016) did a literature review of around 350 articles, books, reports policy papers and public positions by both social scientists and political stakeholders about social cohesion on a conceptual level. Because of the broadness of this study, the conceptual explanation of social cohesion will mainly rely on this study. Schiefer & van der Noll (2016) Identified six dimensions of social cohesion in the literature that they reviewed: social relations, identification, orientation towards the common good, shared values, quality of life, and (in)equality. However, they concluded that the last three dimensions are more consequences of-, than dimensions of social cohesion. Therefore, they identify social cohesion as: "a descriptive, multifaceted and gradual phenomenon attributed to a collective, indicating the quality of collective togetherness." (Schiefer & van der Noll, 2016, p. 595). The

three essential features are: "(1) the quality of social relations (including social networks, trust, acceptance of diversity, and participation), (2) identification with the social entity, and (3) orientation towards the common good (sense of responsibility, solidarity, compliance to social order)." (Schiefer & van der Noll, 2016, p. 595). According to this definition, a socially cohesive society can be characterized by good social relations, an emotional connection to the social entity, and a strong attitude towards the common good. Additionally, according to Marissing et al. (2004), social cohesion is a concept that is not just applicable to society as a whole but also works on different scale levels ranging from city and neighbourhood to the street level, or in different social constructs like families, organisations, or schools. With this understanding of the concept of social cohesion, the rest of the chapter will be written.

Dempsey (2008) gives a clear overview of the dimensions in which social cohesion exists. He writes that positive social interaction between individuals is important for social cohesion, this interaction can however also be negative in nature. Secondly, social networks range from weak, like recognition of others or small talk in the neighbourhood to strong among friends or family. A strong sense of community is also needed for social cohesion, which can be explained as a civic culture or social order through which common norms, values and

behaviour originate. Additionally, participation in organised activities is necessary for social cohesion because it is the expression of the absorption of people's behaviour in a social setting. Trust is another key component of social cohesion, a society with generalised reciprocity is more socially cohesive than a distrustful one. A feeling of safety is the next important dimension of social cohesion, it is important to state that it is about perception and not about the actual situation. Now it is that unsafe spaces are generally also perceived as unsafe, however, safe spaces can still unjustly feel unsafe which is not beneficial for social cohesion. The last dimension is a sense of place attachment; thus, it has a focus on the physical form. This has to do with enjoyment of the place people live and a feeling of belonging and territoriality. (Dempsey, 2008)

1.3.1 SOCIAL COHESION; BONDING AND BRIDGING

There is a common understanding in the literature between two different types of social cohesion; internal- and external social cohesion according to Mandemakers et al. (2021) additionally, Marissing et al. (2004), Tasan-Kok et al. (2013), and Kam & Needham (2003) use bonding- and bridging social cohesion for the same phenomenon. In this sense, bonding means a strong social connection between people of a similar social group, and bridging means a connection between

different social groups. Very high bonding social cohesion can be beneficial for the feeling of community and safety for the people that are part of it, however, it also results in suspicion towards outsiders and with that exclusion, has negative effects on liveability (Mandemakers et al., 2021). They identify that this is especially a risk when segregated neighbourhoods have a strong bonding social cohesion, resulting in becoming more separated and forming a vicious circle. Marissing et al. (2004) write that stronger ties can bind local communities but can also cause conflict between them. This ultimately results in the social segregation of these areas. They also write that social cohesion on one scale level does not necessarily contribute to social cohesion on other scale levels because bonding on a small scale can ultimately lead to segregation, this is also confirmed by Tazan-Kok et al. (2013).

To conclude it could be argued that on the short term and individual level high bonding social cohesion can be preferred by the individual. However, on the long-term and societal level, it can have negative impacts as mentioned before, which ultimately results in a negative influence on the individual as well. These negative effects especially affect people who are already disadvantaged (Ponds et al., 2015; Marissing et al., 2004).

1.3.2 CAUSES OF SOCIAL DISSOLUTION

In their literature review, Schiefer & van der Noll (2016) conclude that the reasons for a decline in social cohesion that are given in the different literature can be classified into four categories: (1) globalisation and associated economic changes, (2) global migration movements and growing ethnocultural diversity, (3) development of new (computer) technologies that ease information and communication and therefore change social relationships, (4) the inclusion of new member states in the European Union that is seen to challenge national identities and requiring more integration. This research is based on the city and neighbourhood scale, the latter is not relevant. Additionally, Marissing et al. (2004) mention individualisation, heterogenization, new technologies, globalisation privatisation, and restructuring of the welfare state as additional and overlapping causes for the decrease in social cohesion. They also mention that these are most probably (partly) the reason that all levels of government from the European Union to municipal and district have specific policies to address this and increase social cohesion. Additionally, they argue that social cohesion is often seen as a remedy for diverse societal problems like individualism, social isolation, and the decay of values and norms.

Kam & Needham (2003) write that, although nuanced, when people have complete freedom in the choice of

their living environment, a certain amount of social cohesion is expected. This is because people with the same preference for living environment usually have a similar lifestyle, income, values, and norms. They expect that the relations are as follows; certain people are attracted to a living environment that suits their income and lifestyle. Every lifestyle has a certain mix of orientations on bonding and bridging social cohesion. The choice is also influenced by institutions that are acting based upon assumptions of these preferences, income, and lifestyle. When neighbourhoods have a homogeneous housing stock the combination of the factors above can result in social segregation. These homogeneous areas will have a high level of bonding social cohesion but bridging social cohesion will lack. (Kam & Needham, 2003)

In itself, this does not necessarily have to be problematic, however, Marissing et al. (2004) recognise that problems with social cohesion predominantly occur in neighbourhoods with higher concentrations of people with low income and are associated with a variety of social, economic, and physical issues. This is a phenomenon that can be recognised in many post-war neighbourhoods because these neighbourhoods often have a monotonous housing stock of low quality and thus low cost. Marissing et al. (2004) write that friction between current and new inhabitants is not uncommon

because the newcomers are not familiar with- or obtain conflicting norms and values. Apart from that, people with different lifestyles often have different rhythms, resulting in a decrease in spontaneous encounters and interactions which is disastrous for bridging social cohesion.

Neighbourhood connections

Kam & Needham (2003) name four patterns that relate to people's connection to a neighbourhood; (1) no connection, these are people that often move and only have their connections outside the neighbourhood, (2) practical connection, these people only use the practicalities of their neighbourhood like amenities and public spaces, (3) symbolic connection, has everything to do with appropriation and memory of events, (4) lifestyle connection, is mostly associated with the modern citizen that use the neighbourhood to form their lifestyle.

The practical connection is often made by people of lower socio-economic status, they often do not have a choice in where they are living because of limited financial resources and thus they just use their neighbourhood in a practical way (Kam & Needham, 2003). In addition, these people are more dependent on their neighbourhood because they often have more limited mobility due to financial constraints Marissing et al., (2004). They also write that people with a generally

stronger connection with their neighbourhood are people with a lower education, lower income, higher age, or people with young children, this is confirmed by Kam & Needham (2003). This is explainable because these people all have lower mobility in a practical sense. On the contrary, homeowners, who often have a higher income feel more connected on the small scale, they attach more value to their own homes and streets according to Kam & Needham (2003). They also state that connection to the neighbourhood must be built up over time, people who live longer in a neighbourhood feel therefore more connected to it than newcomers. However, it should be noted that a stronger connection to the neighbourhood does not always result in more connection to people and higher social cohesion although it is more likely.

1.3.3 EFFECTS OF SOCIAL DISSOLUTION

Social dissolution has a lot of effects on individuals, communities, and society. There are both positive and negative effects to be recognised. In this sense, it is important to, once again, distinguish between bonding- and bridging social cohesion because, as will be clarified below, bonding can have positive effects on one element which is then negative for bridging and vice versa. This chapter will therefore be split into two parts, each addressing one type of social cohesion.

Bonding social cohesion

According to Kam & Needham, some very evident advantages of bonding social cohesion can bring positive effects to liveability in certain areas. They argue that through bonding, people feel at home, get a sense of belonging and improve their well-being in general. Additionally, they argue that it contributes to a sense of safety because people watch out for and help each other, also known as social control. Also, maintenance of the living environment will be easier because people hold up the same norms and values and will therefore take care of their living environment collectively. In this line of thinking, creating homogeneous populations in certain areas is positive for social cohesion and with that, liveability.

However, there are various negative effects to high levels of bonding and social cohesion as well. Firstly, Tasan-Kok et al. (2013) argue that bonding can cause intolerance towards groups that are 'different' from yourself. They write that a strong bond within the community goes at the expense of integration on higher scale levels and it will increase the risk of exclusion. Kam & Needham (2003) write therefore that there is an ongoing discussion in the Netherlands about concentrations of non-white Dutch people. They bring up three main arguments that are often used, the first one is the expulsion of current inhabitants. This often happens

in working-class neighbourhoods with cheap housing, which results in social dissolution among existing inhabitants. The second argument is the wish to prevent the concentration of underprivileged people (immigrants are more often underprivileged) because this can cause neighbourhoods to be deprived of physical quality, and the number of amenities and strengthen social problems. The third argument is a fear that ethnic communities will form that close off from society and will adopt other norms and values, which is not beneficial for integration. In some cases (this does not necessarily go for ethnic groups only) it can even be harmful to the wider context of society, Vaughan & Arbaci (2011) give the example of when many are unemployed and criminal behaviour starts being the norm. (Kam & Needham, 2003)

Tasan-Kok et al. (2013) show that these arguments are usually only shared by native Dutch populations and that ethnic minority groups evaluate areas with high concentrations of ethnic minorities much more positively. Kleinhans (2004) argues that ethnic diversity and social cohesion often have a negative connection, but that this only applies to native Dutch people. This also goes for socio-economic status where the highest status groups judge mixing to be non-beneficial for social cohesion. Tasan-Kok et al. (2013) therefore conclude that "Dominant groups (in terms of numbers) appear to be less tolerant of living with 'others' than other groups." (p. 51).

Something that should be noted, however, is that these arguments are all interpretations of individuals. As explained in the segregation chapter before, the literature suggests that concentrations of homogeneous groups, especially underprivileged ones, might be perceived as pleasant living environments by their inhabitants, but are not advantageous for society as a whole.

The connection between social dissolution and social segregation becomes evident because the arguments against bonding social cohesion and the negative effects of social segregation are very similar, as can be seen in the previous chapter.

Bridging social cohesion

The other type, bridging social cohesion, mostly has a positive impact on individuals and society, however, it is also much harder to achieve. There is no reliance on shared lifestyles, interests, norms, and values like with bonding. However, this is not entirely true, because there can always be a shared characteristic found between people no matter how different they are. Tasan-Kok et al. (2013) write that "if non-conflicting relations between these diverse groups could be structured at lower spatial levels (neighbourhood or district), a high social cohesion is possible in the urban system as a whole." (p. 48). They also write that social cohesion between diverse societies is hard to obtain but certainly not impossible.

There are numerous advantages to bridging social cohesion on both individual and societal levels, they will be shortly summarized here. Bridging can help people to get a broader network in different societal groups which may provide employment opportunities and business or creative opportunities (Ponds et al., 2015; Blom & Soomeren, 2015). Additionally, Talen (2008) writes that social and economic exchange is a key factor in urban life. It can widen people's view of other lifestyles and cultures and make them therefore more accepting and understanding of others in general according to Kleinhans (2004). Kleinhans also argues that the role-model effect can apply which can work motivational. These effects enlarge the chances for people to move up the societal ladder. According to Tasan-Kok et al. (2013) and Ponds et al. (2015) living in socially diverse, and thus non-segregated, neighbourhoods, enlarges the positive effects significantly because living in diverse areas can ease bridging social cohesion.

1.3.4 CONCLUSION

It can be concluded that bonding social cohesion is a good characteristic of a community for liveability in a neighbourhood and it can be achieved by concentrating like-minded people. However, this is only the case if it is limited to a certain extent and does not decrease bridging social cohesion. Bridging social cohesion has only presumed positive effects and therefore all efforts to increase bridging should be encouraged. However, it is much harder to achieve bridging social cohesion and there is a large risk in doing so. Bridging social cohesion is normally tried to achieve by mixing socio-cultural and socio-economic groups in a neighbourhood, which is often a strategy used by municipalities and housing corporations to regenerate deprived neighbourhoods (Kam & Needham, 2003). This is perfect if bridging social cohesion starts to form, however, the risk is that only nuisance and annoyance towards other groups is formed making it ultimately counterproductive. The ul-

ultimate goal is to create a moderately mixed neighbourhood where people can experience a balanced amount of bonding- and bridging social cohesion to be able to experience the benefits of both.

Deprived neighbourhoods are often the result of social segregation and therefore municipalities and housing corporations aim to change the composition of the housing stock to change the homogeneous population according to Kam & Needham (2003) and Ponds et al. (2015). They also recognise that social cohesion is partly structured by spatial factors which is confirmed by Dempsey (2008). Kam & Needham (2003) write that geographical positioning from other individuals and amenities is important, and that proximity defines encounters and interactions between individuals. Therefore, they argue that it is also possible to influence and change both forms of social cohesion by interventions in the spatial environment. Therefore, this research will focus on this topic.

To be able to further look at social dissolution and social cohesion regarding this project a clear understanding of the term must be given. Derived from the literature review above, the following definition of the term social segregation is formulated: Social cohesion defines the extent to which individuals are integrated into society, participate in it, and identify with it. However, maybe even more important are the dimensions of which social cohesion exists and which are used to measure it, and therefore as a goal to target with urban design interventions. In this research, the framework of dimensions stated by Dempsey (2008) will be used consisting of, social interaction, social networks, a sense of community, participation in organised activities, trust and reciprocity, feelings of safety, and a sense of place attachment.

1.4 DENSIFICATION

In addition to issues regarding social segregation and social dissolution in post-war neighbourhoods, there is the issue of the housing crisis and the urge to densify mainly within the built environment that the Netherlands must deal with. A large discussion is going on, on what to build and especially where to build it. The biggest pressure exists in the larger cities mainly in the Randstad. The city centres of these cities are already quite dense and hard to densify more, therefore the outer rings of these cities are often defined as the main areas for densification. In this task, post-war neighbourhoods play a major role because of their location and wide and open character and thus good opportunities for densification. There is a tendency to approach this huge building task in terms of numbers, amounts, and money. However, there is much more to gain when taking a different approach. The College van Rijksadviseurs (2018) wrote a report on how to achieve this building task by looking at additional qualities that are to be gained with densification. Their calculations indicate that in the short term, this might take a bigger investment, but in the long term it will be more profitable with direct and economical gains, but also with indirect gains. The themes of the additional qualities they mention are mentioned in the image.



*Themes Dashboard Verstedelijking
(College van Rijksadviseurs, 2018)*

In 'strengthening the living environment of the existing city', they mention how neighbourhoods with social problems could benefit from densification. This adds up with that, post-war neighbourhoods are very often the neighbourhoods with low liveability (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022) and low social cohesion (Mandemakers, 2021).

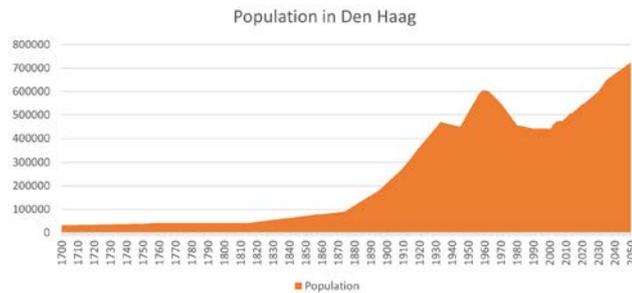
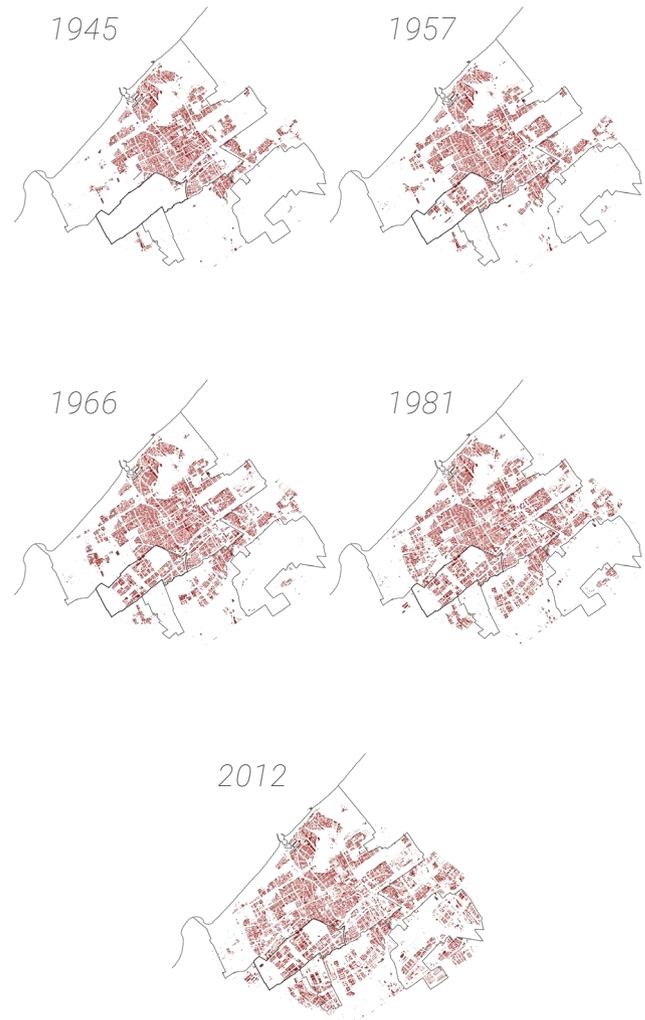
Densification can be a tool to reduce segregation. By using densification to diversify housing stock and living environment, people of different socio-cultural and socio-economic societal groups can be attracted to certain areas. The advantage of this way of diversification concerning replacing existing housing stock is that it does not force the existing population to move out. This has a positive effect on social cohesion as well because the existing social cohesion that was built up over the

years is not roughly broken down. To maintain the existing social structures, the population should not be more than doubled in densification projects. According to Mandemakers et al. (2021), higher population density is a positive factor for social cohesion as well. A higher population density means more people close by and thus more possible relations, which means bigger chances of encountering more different people. Additionally, investments for densification are often combined with investments in the quality of public space and amenities that also get a bigger support base. These investments are beneficial not only for new residents but also for the current ones (Dempsey, 2008). Dempsey (2008) gives an overview of the influence of the quality of public space on social cohesion which will be elaborated on in chapter 4.

To conclude, by itself, densification is needed to deal with the huge housing shortage in the Netherlands. However, when using an integrative approach there is a lot to gain for the existing urban environment and population as well in terms of social mix and social cohesion.

1.5 DEN HAAG ZUIDWEST

Den Haag Zuidwest is an area in the southwestern corner of Den Haag and part of the district Escamp. Den Haag Zuidwest consists of the four neighbourhoods Morerwijk, Morgenstond, Bouwlust, and Vrederust, housing a total of over 70.000 inhabitants (CBS, 2023). The area was almost entirely built in the post-war reconstruction period, and most of the current buildings are still from that period. The urban structure and building typologies are characteristic of this building period, which will be explained hereafter.



Population trends and prognosis (CBS, 2023)

Urbanisation of Den Haag
(Haags historisch museum et al., n.d.)

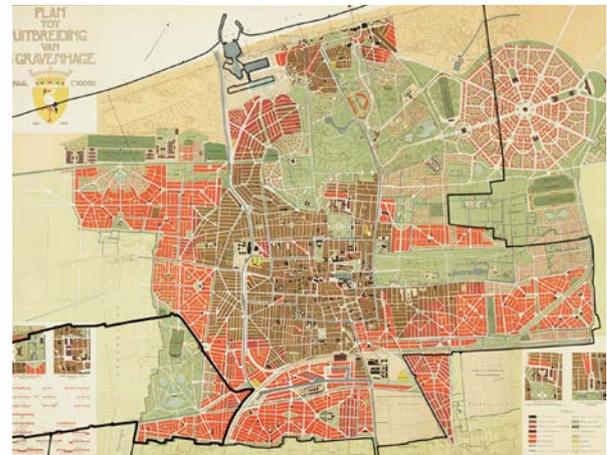
1.5.1 HISTORY OF ZUIDWEST

The development of Den Haag was broadly speaking very similar to urban developments in cities in the rest of the Netherlands as described in 'History of postwar neighbourhoods'. Therefore, the summary here will mainly focus on the specific urban development plans that Den Haag had over the twentieth century.

Development plan Den Haag by Berlage, 1908

The first major urban development plan was a plan by H.P. Berlage from 1908, the plan was made to deal with the rapid population growth, however, only after 1920 the plan was officially taken into effect (Reiling, 2023). This could be attributed to the financial crisis in the thirties according to Valentijn et al. (2002). They write that the plan got a lot of critique from other architects and politicians who argued that the plan lacked attention to the city as a whole and connections of the new developments to the existing city were insufficient. Valentijn et al. (2002) also write that the critique entailed that the buildings were too low, mostly two and three stories, and therefore a contiguous mass of housing without any order, rhythm, or hierarchy arose.

The main elements of the plan were multiple breakthroughs in the inner city from which a few are carried out, the octagonal 'International city' in the northeast, and the large extension plans around the existing city.



*Developmentplan Berlage, 1908
(Gemeente Den Haag, n.d.)*

Only some of the extensions are built and mostly soberer than planned. This plan also entailed the first part of Moerwijk, now part of Den Haag Zuidwest, and the first idea of the Zuiderpark with a sports complex was part of the plan as well. (Reiling, 2023)

Development plan Zuidwest by Dudok, 1935

The critique of Berlage's plan led to the appointment of Dudok as Berlage's successor. A year later in 1936, Dudok came up with a large extension plan containing three neighbourhoods among which Zuidwest to obviate the population growth on the grounds of annexed municipalities. The plan consisted mainly of long building blocks consisting of two long-facing blocks with two shorter blocks on both sides to close the building block off. However, the plan was never actually built because of the ongoing financial crisis and the following Second World War, however, some elements of the plan were used in the reconstruction period after the war, like the grid structure, open building blocks, and the green cross (although in a slightly different location). (Valentijn et al., 2002)

The idea behind this plan was mainly focused on functionality and not so much on the creation of a beautiful cityscape, this included the focus on car traffic and the separation of the four functions, living, working, recreation, and traffic. The plan does not take the existing landscape into account and proposes a tabula rasa which was common in this period. Strong hierarchy in buildings (in terms of heights) is adjusted to the road hierarchy around neighbourhood centres characterizes this plan. Building blocks were opened and the courtyards became shared spaces between residents or

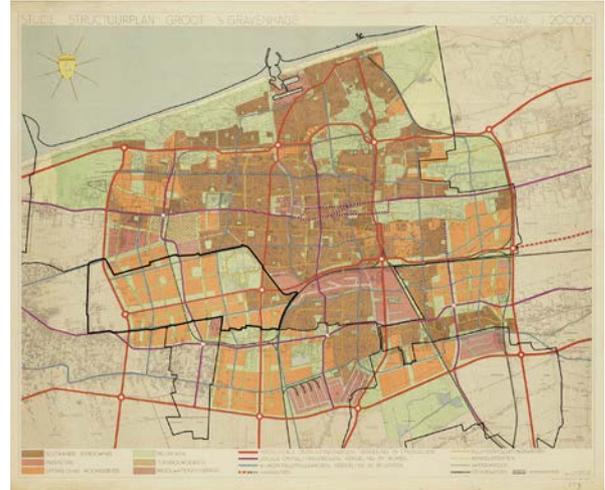


Developmentplan Dudok, 1935
(Gemeente Den Haag, n.d.)

public spaces. The separation of functions meant no work opportunities within the neighbourhood, only on the edges between neighbourhoods. There was a lot of space for green and recreation containing a green and blue strip from northeast to southwest through the neighbourhood connecting the Zuiderpark and the Uithofpark. This green main strip was complemented by perpendicular and parallel secondary green and blue structures. (Reiling, 2023)

Structure plan Den Haag by Dudok, 1949

The war had damaged Den Haag greatly, around 8.000 houses were destroyed and in 1947 25.000 home seekers were subscribed. Other than Amsterdam and Rotterdam which had built a tradition of social housing projects resulting from the public housing law from 1901, Den Haag had little experience with that. It took a long time before the Netherlands caught up with the pre-war building speed and dealt with the housing shortage. Next to the national housing plans, Den Haag wrote their plan for 1950-1960, determining the locations, numbers, and timeframe in which to build. Part of this was the composition of a structure plan which was drawn by Dudok in 1949, additionally, he drew more detailed plans for the reconstruction of destroyed neighbourhoods and extension plans for new neighbourhoods. Zuidwest turned out to be the largest contiguous post-war area in the Netherlands. The plan was a result of a thorough study of the demography, traffic, economy, and housing of Den Haag. This plan was again inspired by the then applicable trends in urban development like separation of functions, focus on car traffic, green open structures, and public courtyards. Because the biggest demand was for cheap housing, most of the extension of Zuidwest was done by the municipal government. The housing typology changed, and quality increased compared to before the war. A discussion about high-rises started to emerge, where proponents mentioned saving money and saving valuable ground and it would break the monotonous low-rise of the twenties and thirties. Opponents mentioned the lack of intimacy and 'facto-



*Structure plan Dudok, 1949
(Gemeente Den Haag, n.d.)*

ry-like' housing as disadvantageous. Finally, the houses became higher than initially planned, mostly four stories which was the highest that was allowed without an elevator. Further on in the fifties the view on high-rises changed and the housing shortage became even more clear, so high-rise flats were added to the planned and partially completed neighbourhoods. (Valentijn et al., 2002)

The first main idea of the plan was to create a complete city shape by connecting the existing separate developments into the city. The plan connects to the existing road structure with large linear and orthogonal road structures and a large ring road around the city marking the edges. (Valentijn et al., 2002)

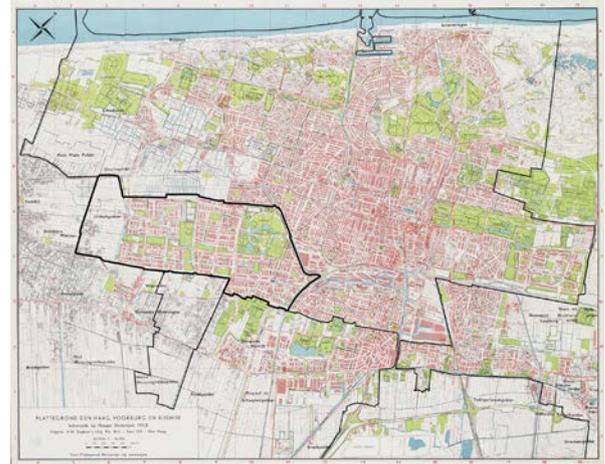
Development plan Den Haag by Dudok, just after 1949

The plan for the neighbourhoods Morgenstond, Berestein, Bouwlust, and Vrederust was made by Dudok quickly after he made the structural plan for the city of Den Haag (Valentijn et al., 2002). According to Reiling (2023) right after the completion of Morgenstond, the municipality found the original plans for Berestein and Vrederust too large and too much farmland would be lost, so the plans had to be adapted. With the reduction of these neighbourhoods, they became too small to have their neighbourhood centres and the housing areas were a bit lost in space, therefore these two neighbourhoods were somewhat combined with Bouwlust which nullified Dudok's plans and resulted in him quitting in 1951. When the new architects started Morgenstond was already very far into the building process, and no big changes were made, however, Bouwlust, Vrederust and Berestein changed quite a lot, and the differences will be explained below.

Dudok drew a largely underground railway beneath the large green structures connecting to Den Haag central station. A green cross separates the neighbourhoods and connects all existing green and blue structures into one system. Most housing in Zuidwest consists of working-class housing, with three- and four-room apartments, with small differences between the neighbourhoods; Moerwijk has slightly more small apartments, Morgenstond has the largest amount of four-story porch flats and the other neighbourhoods have proportionately more single-family housing and five-room apartments. All the neighbourhoods have some high-rise that was added later. Also, the building block masses are different throughout these neighbourhoods; Moerwijk has a closed block structure, Morgenstond has many buildings as strips, while in the other neighbourhoods, the living unit is central, and they are combined in stamps where space is less defined.



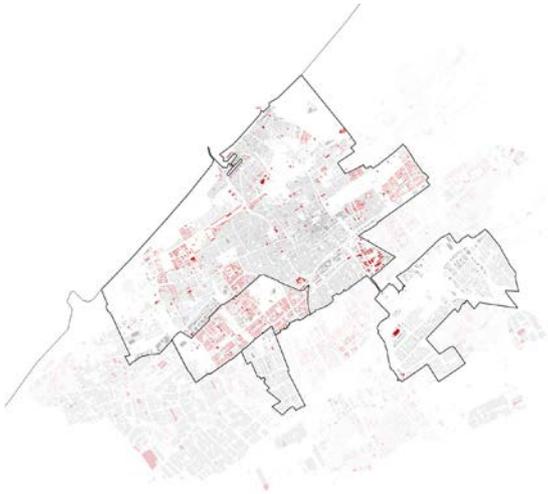
Development plan Leyweg Dudok, just after 1949
(Gemeente Den Haag, n.d.)



Map of Den Haag, 1963
(Gemeente Den Haag, n.d.)

Den Haag Zuidwest now

When Zuidwest was built it was already perceived as a corner of the city, which it still is. There is nothing that attracts crowds and except for the neighbourhood centres, there are no other functions than housing. The underground train connection was also never built, and the only train connection nowadays is station Moerwijk which is located in the northeastern point of the Neighbourhood. There have been some large reconstruction projects where mostly the old buildings are replaced by new typologies. (Reiling, 2023)



*Buildings from the post-war reconstruction period,
1945-1970
(Based on Open GIS Data, n.d.)*

Conclusion

The fact that from 1935 when Dudok made his first plan for Zuidwest until just after his plan in 1949 whereafter he quit, resulted in different plans on different scales and detail levels all following the same functionalist and modernist ideology. Only the idea of four different districts, all with their core was not fully carried out because of interventions by the municipality. This resulted in Dreven en Gaarden becoming a part of Bouwlust en Vrederust and Morgenstond-Zuid becoming part of Morgenstond. However, the overall structure of the green cross that creates a clear dividing structure that was meant to split the current two districts into four remained. Dreven en Gaarden and Morgenstond-Zuid were now appointed as part of Bouwlust en Vrederust and Morgenstond and were therefore relying on their neighbourhood centres. However, the Green Cross and the Melis Stokelaan physically divide these neighbourhoods from their districts which makes them a bit lost in space and characterless.

Additionally, the original structure plan that was made in 1949 contained some elements between Zuidwest and the rest of Den Haag that were characteristic of the redevelopment period. Clear zoning of functions, each neighbourhood being its separate unit and a car-oriented structure and public space design spatially segregate Zuidwest from the city. These elements consist of the industrial area Kerketuinen en Zichtenburg also containing the Haga hospital, the Zuiderpark, the Laakkanaal, and the railway. These segregating elements are strengthened by the wide, busy, and hard-to-cross roads that run around and through the neighbourhood breaking it up into small pieces. Together with the cheap building quality and large amounts of social housing, this neighbourhood is one of the most segregated ones in the Netherlands.

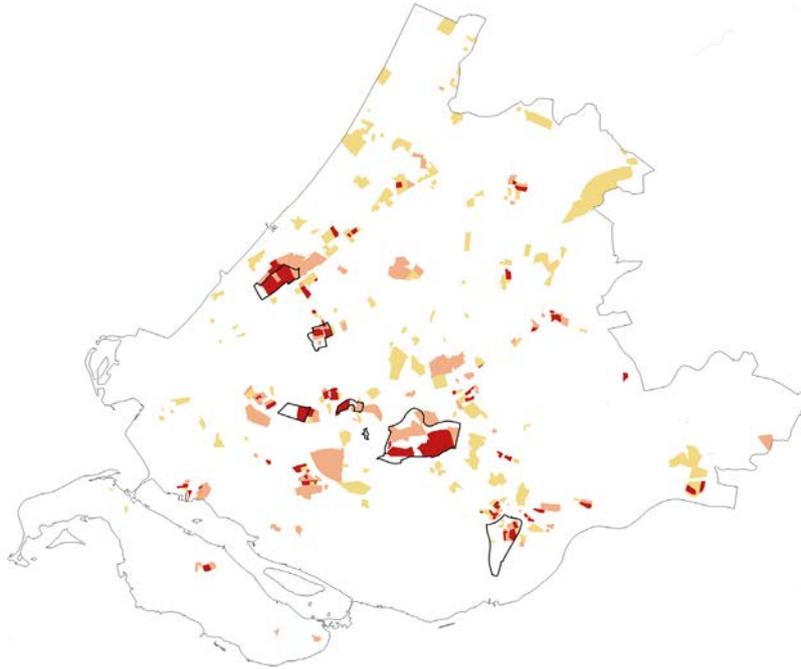


*Conclusion of historic maps overlaid with current buildings
(Based on Open GIS Data, n.d.)*

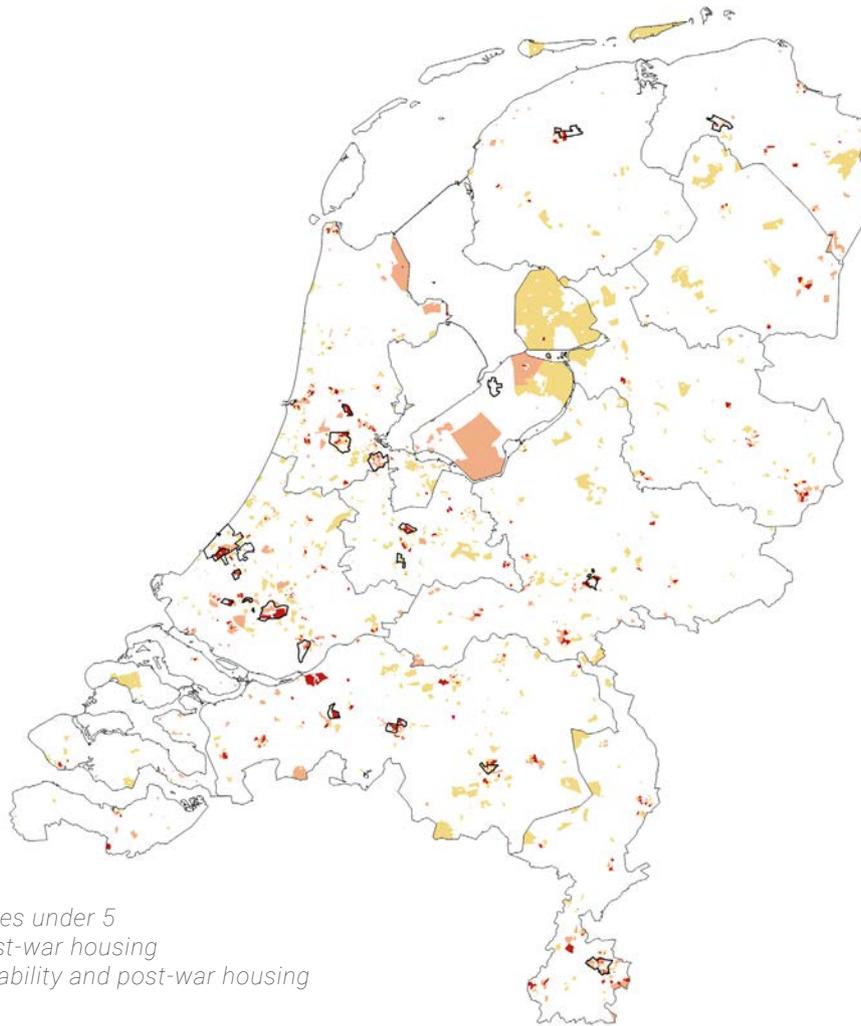
1.5.2 DEPRIVED DEN HAAG ZUIDWEST

Het Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2022) writes that liveability is generally improving in the Netherlands, however, there are some exceptions where the opposite is true and big physical and social issues occur. In their report, the ministry has defined twenty of these neighbourhoods where they plan to invest one billion euros in the coming years, to

address all issues, Den Haag Zuidwest is one of these areas. A large part of this investment is going into the physical environment and housing stock, therefore making it important to know exactly how to invest that money. Maybe not entirely coincidentally, in many cases, bad liveability scores overlap with post-war neighbourhoods when mapped, and many of these areas are therefore part of those twenty areas to invest in.



Areas with bad liveability overlapped with areas with more than 50% post-war housing and NPLV outlines (Based on Open GIS Data, n.d.)



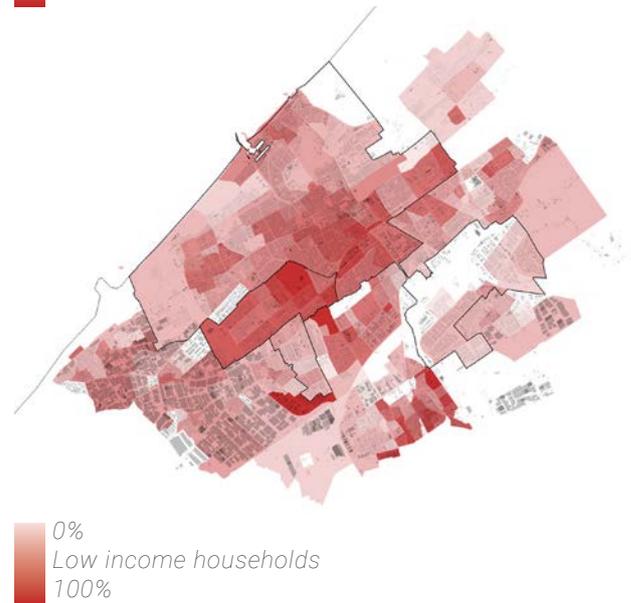
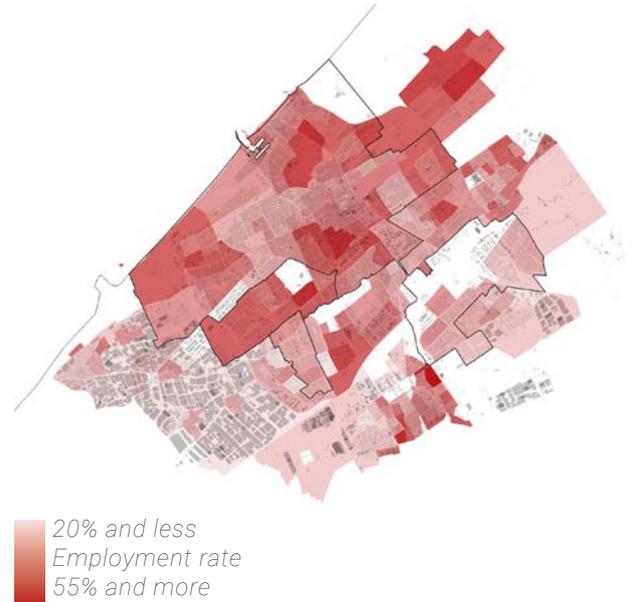
- Bad liveability scores under 5
- More than 50% post-war housing
- Overlap of bad liveability and post-war housing
- NPLV areas

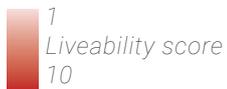
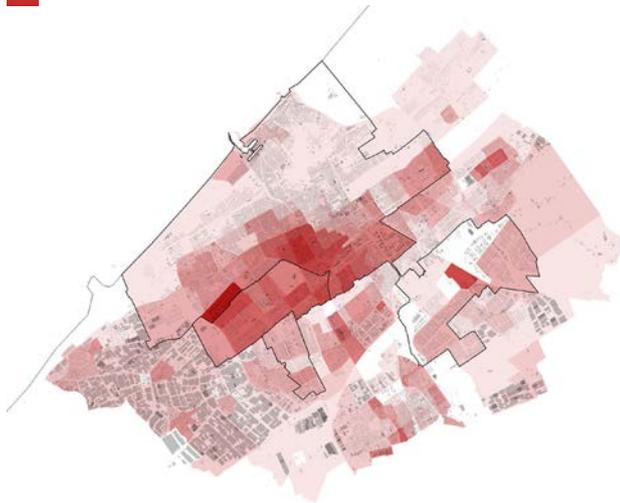
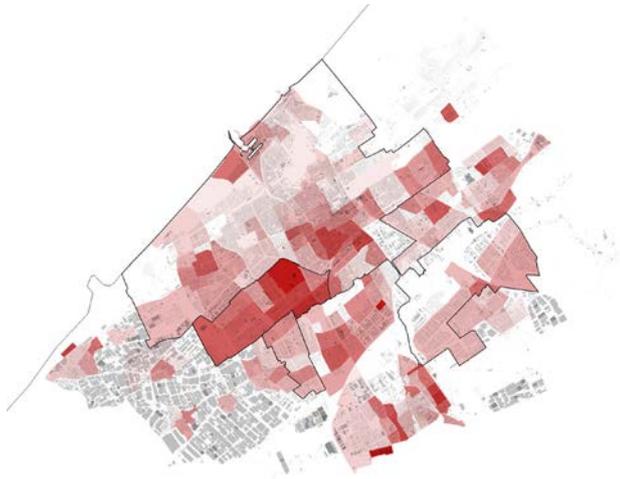
Areas with bad liveability overlapped with areas with more than 50% post-war housing and NPLV outlines
(Based on Open GIS Data, n.d.)

One of these deprived post-war Neighbourhoods is Den Haag Zuidwest. To improve the neighbourhood and control its development, the municipality made a structured vision in which they addressed several ambitions (Gemeente Den Haag, 2022). Among these, densification, social mix, social integration, and social cohesion are important ones that they would like to address. They defined five main themes to subdivide the ambitions, they are (translated): 'Attractive living', 'Green, healthy, and sustainable living environment', 'Sufficient amenities of good quality', 'Work and economy', 'Mobility transition and accessibility'. In all these themes densification, social mix, social integration, and social cohesion are re-occurring challenges, however, 'Attractive living' has the most impact on these challenges.

Several indicators show that Zuidwest is a deprived neighbourhood. The neighbourhood has relatively high numbers of unemployed people and households with low income compared to the rest of Den Haag. The percentage of social housing is also much higher compared to the rest of the city.

In addition to these more factual observations of Zuidwest, the perceived living quality in Zuidwest is also not so good. The so-called 'Leefaarmeter' is an indicator of perceived liveability which is measured by conducting observational research and questionnaires among residents (Mandemakers et al., 2021). This makes it visible that Zuidwest scores low on overall liveability.





Accessibility by car is good in Zuidwest, which is largely due to the modernist design that was mainly focused on car traffic. There is a clear road hierarchy including large arteries connecting it to the city centre, the ring road, and the highways. On the one hand, this is positive, however for walkability and nuisance the number of cars and roads it is not beneficial. Accessibility by public transport is not bad, however, some parts of the neighbourhoods do not have great connections to the closest tramlines and bus lines, so this could be better.

- Highway
- Primary road
- Secondary road
- Tertiary road



- Train line
- Tram line



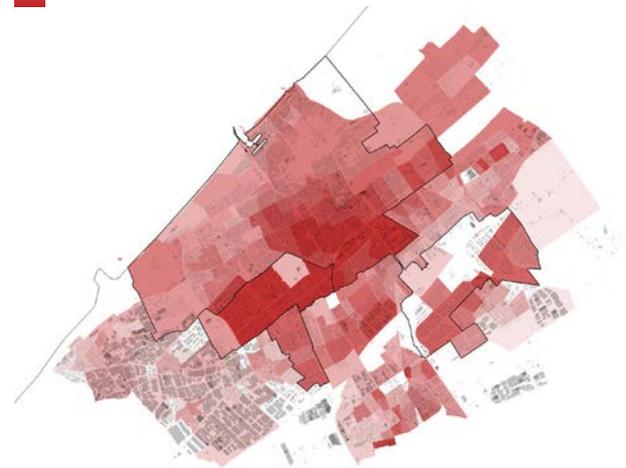
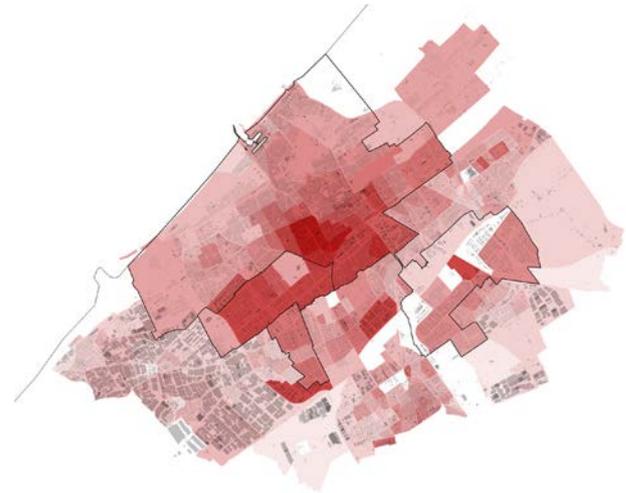
All maps are based on (Open GIS Data, n.d.)

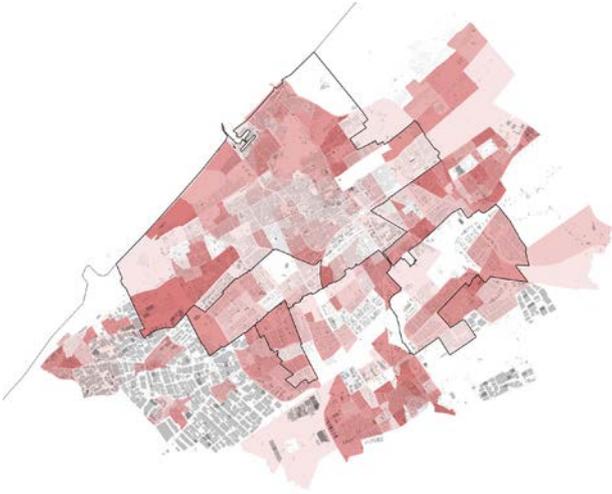
1.5.3 SOCIAL SEGREGATION IN ZUIDWEST

Different elements show that Zuidwest is relatively separated from the rest of the city. Firstly, there is the segregation of population groups, additionally, segregation can be identified by looking at housing types and ownership, and lastly, a low concentration of amenities can point towards segregation. These elements will be mapped out in this chapter to identify the segregation of Den Haag Zuidwest.

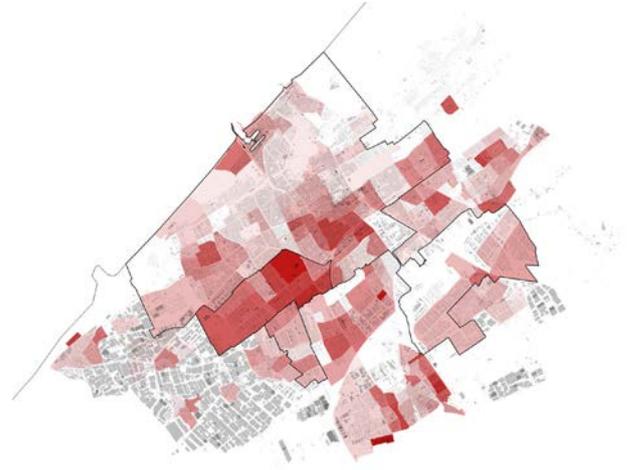
When looking at ethnic diversity, it stands out that Zuidwest is one of the most diverse areas of Den Haag. If the map is compared to the map with non-native residents, it is visible that in a sense, the neighbourhood is segregated because the population is unevenly distributed in terms of ethnicity, although the neighbourhood is very diverse.

Additionally, housing type diversity is quite low in all Den Haag, this does not necessarily indicate that the housing types are all the same throughout Den Haag. In this case, it means that the differences are very big and that every neighbourhood has a specific housing type that is different from the next one. Additionally, housing tenure diversity shows a relatively high level of diversity. This is caused by Dutch policy that forces all building projects to incorporate an amount of social housing. However, as already shown, the amount of social housing in Zuidwest is much higher than in the rest of Den Haag.

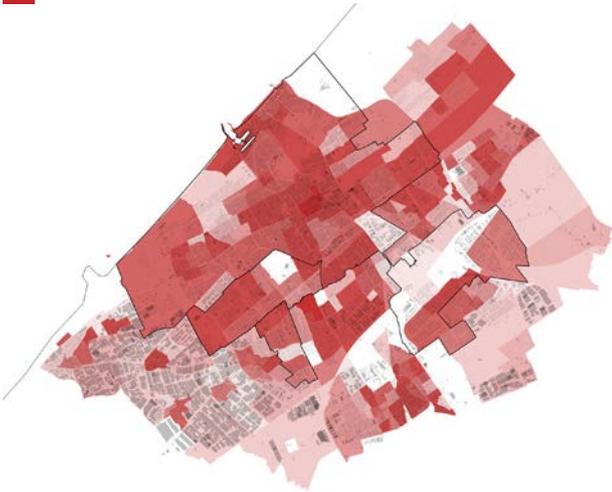




0%
Diversity index: housing type
100%



0%
Social housing
100%



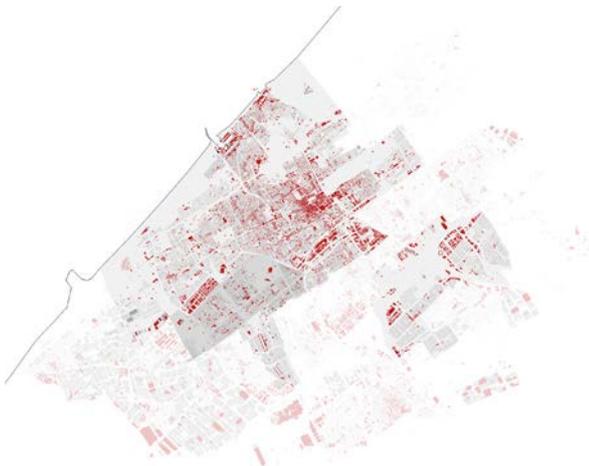
0%
Diversity index: housing tenure
100%

All maps are based on (Open GIS Data, n.d.)

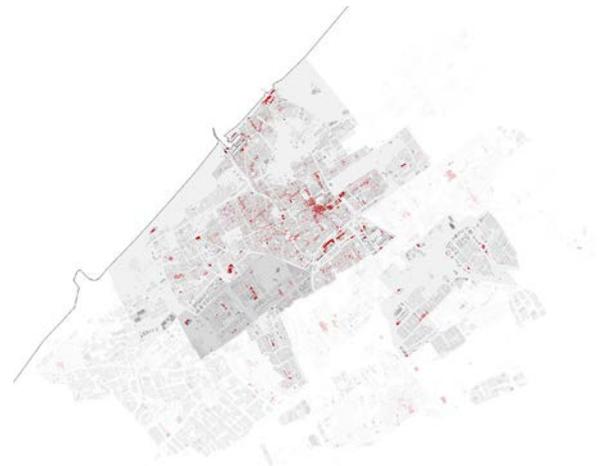
The last way to identify segregation is by looking at amenities and mixed uses. These maps show amenities per category in Den Haag. The availability of education and sports facilities in Zuidwest is quite comparable to the rest of Den Haag, this can be explained by municipal interference in providing these amenities. However, the functions and amenities that are left to the free market, like offices and shops, Zuidwest lags compared to other neighbourhoods in Den Haag, and not just the city centre. This is even more visible when all amenities and functions are overlapped.



Education



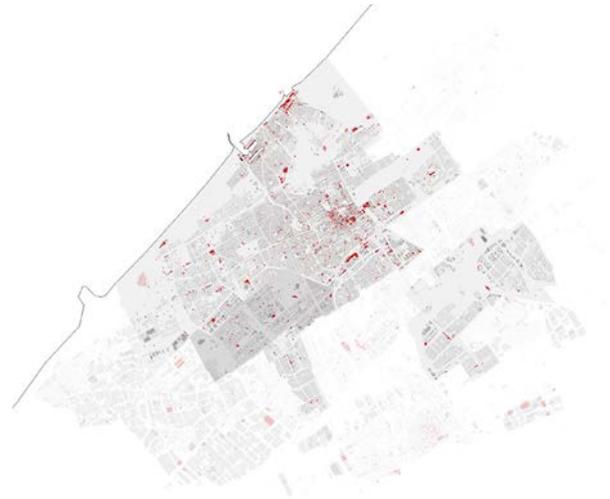
Total



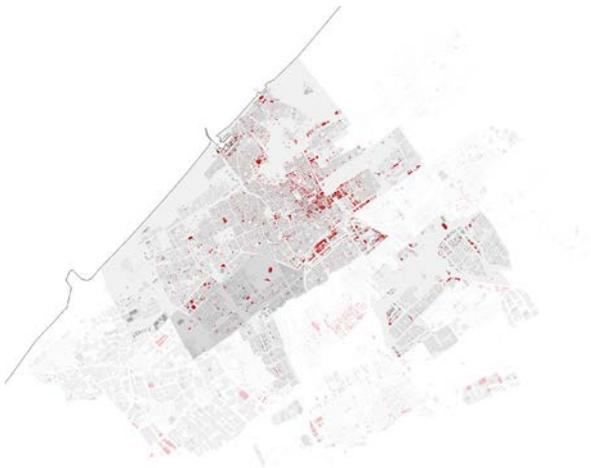
Retail



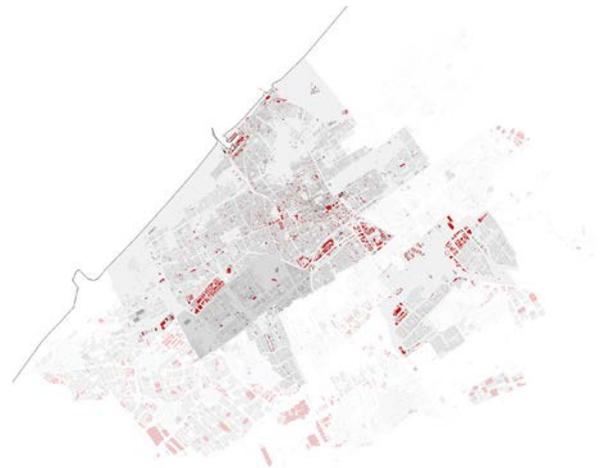
Sports



Gathering and accomodation



Office



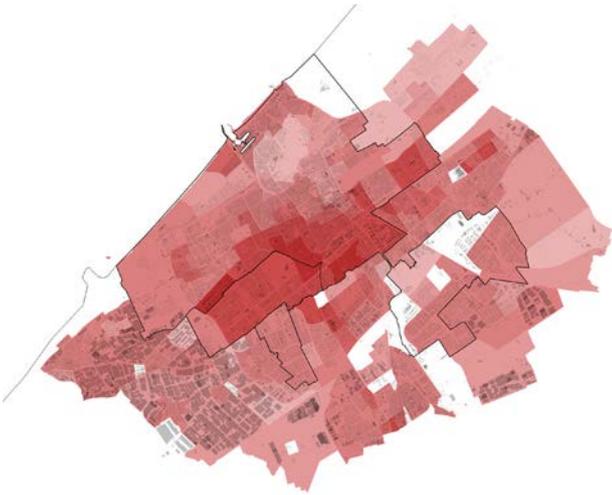
Industries

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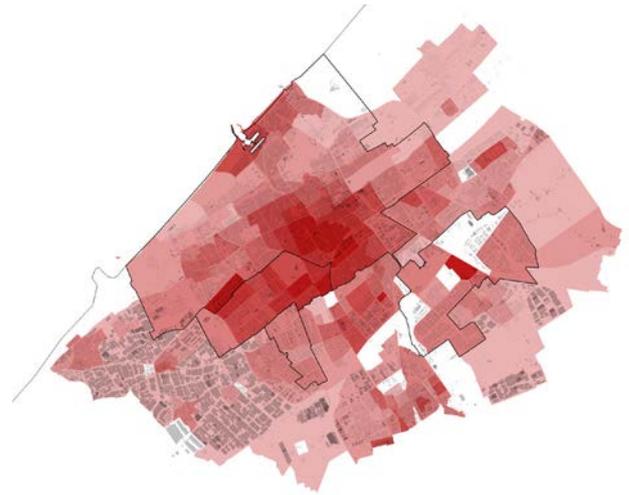
1.5.4 SOCIAL DISSOLUTION IN ZUIDWEST

The 'Leefbaarometer' map with general liveability scores already showed that Zuidwest has low scores compared to other neighbourhoods. 'Leefbaarometer' also separates different elements on which the overall score is built. Social cohesion is one of the elements and it shows generally low levels of social cohesion in the whole city. However, Zuidwest still scores lower than the average of the city. Additionally, in the introduction chapter it has been concluded that nuisance and safety have negative effects on social cohesion. This map shows that Zuidwest also scores low on these elements compared to Den Haag.

As the literature has suggested low social cohesion can often be found in neighbourhoods with higher concentrations of people with low income and a variety of social, economic, and physical issues (Marissing et al., 2004). These are all things that can also be recognised in Zuidwest and might thus very well be the cause of lower social cohesion. Additionally, Marissing et al. (2004) write that friction can occur between current and new inhabitants because of conflicting norms and values. This can also be the case here, as this is very often the case in neighbourhoods with high amounts of social housing (Kleinhans, 2004).



1
Social cohesion score
10



1
Nuisance and safety score
10

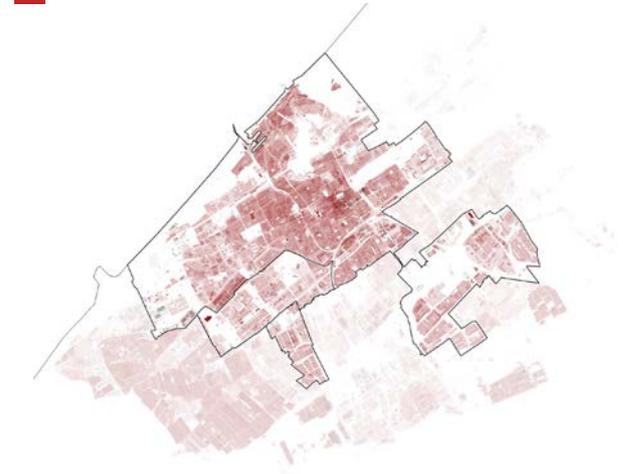
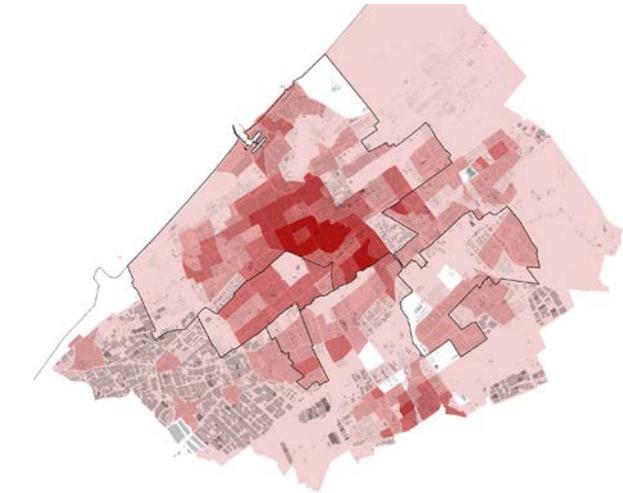
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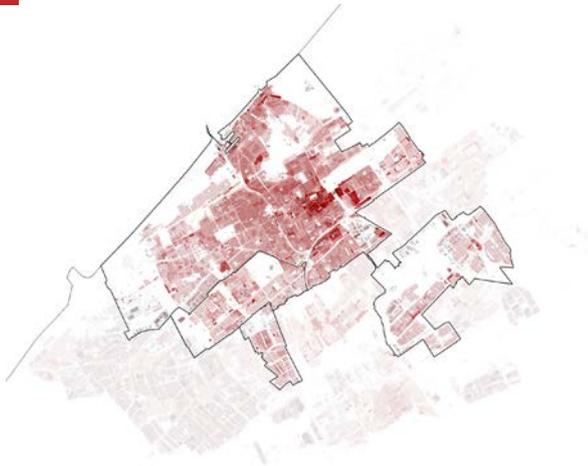
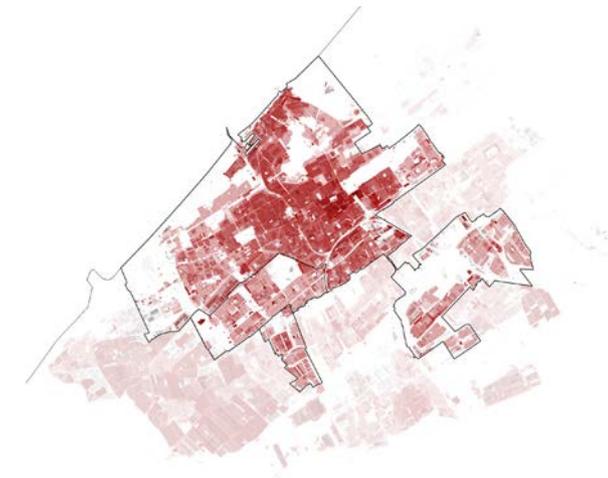
1.5.5 DENSIFICATION IN ZUIDWEST

As stated before, post-war neighbourhoods are often built according to the principles of the modernist movement meaning that they are very spacious with a wide and open character. This can be recognised by four indicators, population density, FSI (Floor Space Index), GSI (Ground Space Index) and OSR (Open Space Ratio) (Harbers et al., 2019).

- FSI is calculated by dividing the gross floor area by the terrain area.
- GSI is calculated by dividing the building footprint by the terrain area.
- OSR is calculated by dividing the unbuilt terrain by the gross floor area, or by dividing $1 - \text{GSI}$ by FSI.

The FSI index indicates that Zuidwest has a relatively low gross floor area compared to the terrain area which can be caused by the relatively low building height in de area and the absence of a high rise with a few exceptions. The GSI indicates that buildings in Zuidwest do not have a large footprint in their building block compared to the rest of the city. The OSR index might be the most relevant because it shows so-called building pressure on unbuilt space. A high OSR indicates more open space than floor area. Here the densification opportunities for Den Haag Zuidwest become obvious.





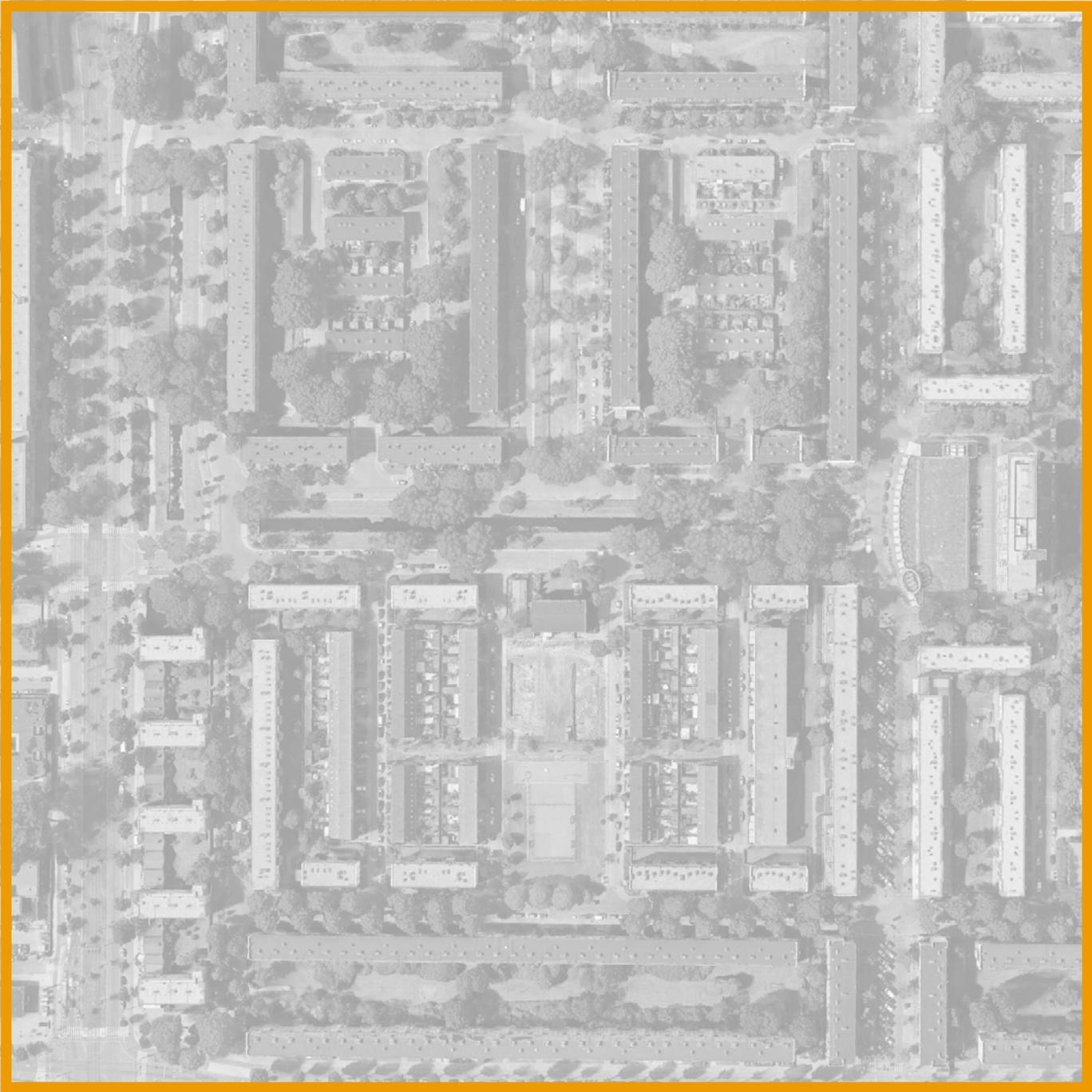
1.5.6 CONCLUSION

All in all, it can be concluded that Den Haag Zuidwest is a typical example of a post-war neighbourhood that has been deprived over the past decades. It faces the typical problems of a post-war neighbourhood including social segregation and social dissolution. However, it also shows a lot of room for improvement and potential. The municipality of Den Haag recognizes these potentials and formulated a structure vision for the neighbourhood (Gemeente Den Haag, 2022). This vision tries to address many problems that Zuidwest is dealing with, however, it largely lacks a translation from ambitions to specific spatial interventions. This project can serve as this translation, at least for their ambitions regarding densification, social mix, and social cohesion in an integrative way.

All maps are based on (Open GIS Data, n.d.)

Chapter 2: Methodology

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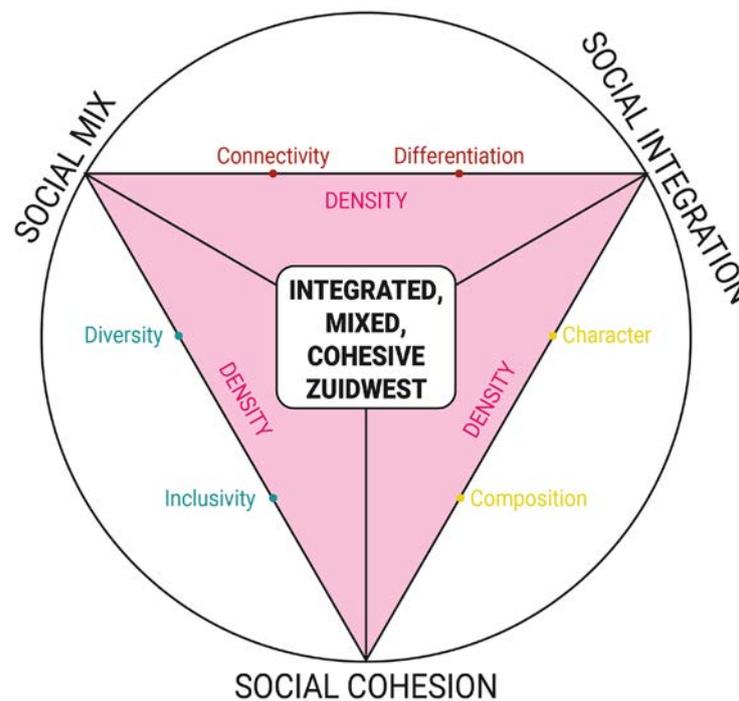
2.1 PROBLEM STATEMENT

Many **Dutch post-war neighbourhoods**, among which **Den Haag Zuidwest**, which is one of the largest in the Netherlands, struggle with **liveability issues**, not in the last place because of high **social segregation** and **social dissolution**. This results in various negative effects, firstly for its population, but also for society as a whole. Additionally, the Netherlands and specifically the Randstad is facing a **housing crisis** that needs to be dealt with, mainly by **densifying** within current urban areas. The way post-war neighbourhoods are spatially designed provides large densification potentials. This thesis is an exploration of how urban design and densification in post-war neighbourhoods can be used to increase **social mix, social integration, and social cohesion** with Den Haag Zuidwest as a case study. This will be done by smartly densifying the area to contribute to a reduction of social segregation by inserting a more mixed and diverse population and ensuring social cohesion between the existing and new populations.

2.2 CONCEPTUAL FRAMEWORK

In the field of urbanism, no problem, project, or design is a singular one. It always requires an integrated approach to address the multi-layered complex reality that we are dealing with. At the same time, it is not feasible to address all and everything that a project is touching upon, especially in this project with limited time and resources. Therefore, the project needs to choose what to address and what not. The conceptual framework below tries to summarise all the concepts that are used in

the project. In combination with the problem statement before and the project aim after, this gives an overview of all that this research and design project entails. The three main goals this project tries to achieve are placed around the circle. The concepts for strategic and spatial interventions to achieve the goals are placed between the ones they apply to. Density is the overarching principle that guides and is guided by the concepts for the interventions.



2.3 PROJECT AIM

Interventions are needed for the reasons mentioned in the problem statement and conceptual framework, consisting of densification of housing and the associated amenities and other functions in order to introduce a more mixed population into the area and promote both bonding- and bridging social cohesion between the current population and the newcomers to create better social integration. This needs to entail design interventions on different scales ranging from a city scale to the neighbourhood scale to the street and building block scale. On the city scale, a strategy is needed to strengthen the neighbourhood's connection to the city and to give the neighbourhood a distinct function within the city. On the neighbourhood scale, a clear urban structure must be made to introduce a new population and create a balance with the existing population. Additionally, amenities, shops, and employment opportunities are needed to be able to attract this new population. On the street and building block scale, the design of public space to provoke interaction and encourage

social cohesion is needed. Besides, the new building blocks need to be designed in a way to mix current and new people in a way that they can pleasantly live together. These scales should be combined to form an integral plan for Den Haag Zuidwest.

Subsequently, although it is a large part of it, the large problems that are stated in the problem statement can not only be addressed by design. Therefore, this plan should not only consist of urban design interventions but simultaneously, stakeholders should be addressed, and policymakers should be inspired to be involved in this plan.

Finally, after creating a project on Den Haag Zuidwest, the goal is to conclude by subtracting universal interventions and strategies from the project that might apply to other post-war neighbourhoods with similar problems.

2.4 RESEARCH QUESTIONS

How can spatial design and densification in deprived post-war neighbourhoods increase social integration, social mix, and social cohesion?

1. What (spatial) characteristics of post-war neighbourhoods cause their **social segregation and social dissolution**?
2. What are the spatial characteristics of **socially integrated, socially mixed, and socially cohesive** neighbourhoods that can be applied in the densification of post-war neighbourhoods?
3. What are the current governmental **policies** regarding **social integration, social mix, and social cohesion**?
4. What strategic spatial interventions can contribute to increased **connectivity and differentiation** in Zuidwest to reduce its **segregation** from the city of Den Haag and improve **social integration and social mix** within its borders?
5. What spatial **densification strategies** can be applied to Zuidwest to contribute to pose a solution to Den Haag's **housing shortage** while reducing contributing to **social integration, social mix, and social cohesion**?
6. Which spatial design interventions can help to enhance **diversity and inclusivity** in Zuidwest to increase **social mix** and **social cohesion** between existing and new inhabitants?
7. Which spatial design interventions can help to improve the **character and composition** of Zuidwest to increase **social integration** and **social cohesion**?
8. Which **policy** and **institutional** changes are needed to enable and strengthen the spatial interventions?
9. To what extent are the interventions in Zuidwest **transferable** to other post-war neighbourhoods with similar problems?

2.5 METHODS AND OUTCOME SCHEME

	Research question	Method	Intended outcome
Main question	How can spatial design and densification in deprived post-war neighbourhoods increase social integration, social mix, and social cohesion?	Explore regeneration possibilities in post-war neighbourhoods with an emphasis on social mix and social cohesion between different socio-economic and socio-cultural groups.	
Theoretical background	What (spatial) characteristics of post-war neighbourhoods cause their social segregation and social dissolution ?	Literature review	Theoretical basis
	What are the spatial characteristics of socially integrated, socially mixed, and socially cohesive neighbourhoods that can be applied in the densification of post-war neighbourhoods?	Literature review	Theoretical basis Design principles
	What are the current governmental policies regarding social integration, social mix, and social cohesion ?	Literature review/ Policy documents review	Theoretical basis Policy principles
Strategic design framework	What strategic spatial interventions can contribute to increased connectivity and differentiation in Zuidwest to reduce its segregation from the city of Den Haag and improve social integration and social mix within its borders?	Spatial analysis and data mapping/ Fieldwork and interviews/ Literature review Research by design: city scale strategic interventions	Understanding site issues Translation of literature to a strategic design framework
	What spatial densification strategies can be applied to Zuidwest to contribute to pose a solution to Den Haag's housing shortage while reducing contributing to social integration, social mix, and social cohesion ?	Spatial analysis and data mapping/ research by design: explore potentials	Understanding site potentials Translation of literature to strategic densification potentials

Spatial design principles	Which spatial design interventions can help to enhance diversity and inclusivity in Zuidwest to increase social mix and social cohesion between existing and new inhabitants?	Research by design: street or block scale design interventions, comparing options with assessment criteria derived from literature	Spatial design principles that can be used to construct public space design for key places in the urban fabric
	Which spatial design interventions can help to improve the character and composition of Zuidwest to increase social integration and social cohesion ?	Research by design: street or block scale design interventions, comparing options with assessment criteria derived from literature	Spatial design principles that can be used to construct public space design for key places in the urban fabric
Implementation Reflection	Which policy and institutional changes are needed to enable and strengthen the spatial interventions?	Policy and stakeholder analysis	Guidelines for stakeholder involvement and policy change
	To what extent are the interventions in Zuidwest transferable to other post-war neighbourhoods with similar problems?	Transferability to other post-war neighbourhoods	Conclusions and strategic framework for other post-war neighbourhoods

2.6 RESEARCH METHODS

Literature review

The purpose of the literature review is to identify existing information, theories, and opinions regarding the research topics and to weigh them against each other. To do so books, reports, and articles will be examined to inform this research project. The research will be conducted on the topics of social segregation and social mix, social dissolution and social cohesion, and densification. The theoretical underpinning will be used to inform methods of spatial analysis and research by design regarding these topics. Here follows a listing of sources that are used to answer the research questions, note that only main sources are listed, but additional sources are used to strengthen the arguments.

What (spatial) characteristics of post-war neighbourhoods cause their **social segregation and social dissolution**?

- 'De stedenbouwkundige kwaliteiten van de 40 krachtwijken' by Harbers et al. (2009) is used to identify the post-war neighbourhood characteristics.
- 'Patterns of co-presence' by Legeby (2013) and 'The challenges of understanding urban segregation' by Vaughan & Arbaci (2011) are used to identify the relation of the urban with social segregation.

- 'Does quality of the built environment affect social cohesion?' by Dempsey (2008) is used to identify the relation of the urban with social dissolution.

What are the spatial characteristics of **socially integrated, socially mixed, and socially cohesive** neighbourhoods that can be applied in the densification of post-war neighbourhoods?

- 'Space Matrix' by Pont & Haupt (2021) is used to identify additional qualities of densification.
- 'Design for diversity' by Talen (2008), 'Ontmoeten als keuze' by Blom & Soomeren (2015), 'Patterns of co-presence' by Legeby (2013), 'Een hele opgave over sociale cohesie als motief bij stedelijke herstructurering' by Kam & Needham (2003), and 'The inclusive city' by Schreiber & Carius (2016) are used to identify spatial characteristics of socially mixed and socially cohesive neighbourhoods.

What are the current governmental **policies** regarding **social integration, social mix, and social cohesion**?

- 'A multi-level model of vicious circles of socio-economic segregation' by Van Ham et al. (2018) is used to identify policies regarding social mix and integration.
- 'Social implication of housing diversification in urban renewal' by Kleinhans (2004) is used to identify policies regarding social cohesion.

Spatial analysis and data mapping

Spatial analysis and data mapping are applied to study the neighbourhood regarding the abovementioned topics of social segregation and mix, social dissolution and cohesion, and densification. The mapping is at the same time informed by the literature review and in support of the literature review. The purpose is not just to visualise the existing situation but to gather, visualise, and combine the data to be able to see new patterns and attributes. This will dissect the complexity of the research field and specific elements will be made visible. By doing so, it is possible to see what is there, but also what can be there, what are the potentials. This makes the research-by-design phase a much better-informed process. The spatial analysis that will be done will consist of typology analysis, regarding buildings, building blocks and public space, density analysis, space syntax, connectivity and centrality analysis, and demographic mapping.

Fieldwork and interviews

Fieldwork will be conducted in the neighbourhood of Den Haag Zuidwest. Fieldwork will add the extra dimension of experience and atmosphere to the literature review and spatial analysis. This results in getting a more sensible image of the area and simultaneously it serves to check the literature review and spatial analysis of correctness and applicability on the neighbourhood. The fieldwork will be conducted by observation and experience of the physical and social environment and will be captured by photos, sketches and maps. Additionally, interviews will be conducted with stakeholders, like municipalities and housing corporations to get a hold of the situation in the neighbourhood from different points of view.

Research by design

In his writing Roggema (2016) starts with two arguments for why research by design a highly effective way is of dealing with complex challenges to make future scenarios: "Firstly, planning the future can no longer be based on the certainty of programmes and conditions. Instead, the planner is confronted with changing conditions and shifting programmes." (p. 1). This implies that a project needs multiple feedback loops of design and research. Roggema (2016) continues: "Secondly, in the current timeframe many problems are complex. Climate change, migration, and even economics and social processes can be characterised as problems with no final solution, which need to be continuously treated and directed to create a better future. These are the so-called wicked problems." (p.1). He writes that these are problems that do not have a single solution to them. These problems do not even have a clear problem statement until the solution is found and the only way to find it is by stepping away from the conventional and starting creative, out-of-the-box thinking. This project deals with similar challenges and therefore it needs a similar approach and way of thinking.

For three parts of the research and design process, three different types of research by design are used. Firstly, the potentials of densification in combination with social mix and social cohesion in Den Haag Zuidwest are

explored, and the goal is to identify as many potentials as possible to later assess and combine. This will be done in combination with spatial analysis and data mapping. For the second step, a city-scale strategic plan will be made by looking at criteria that are derived from the literature in the theoretical background. The plan can then be assessed according to these criteria to test its qualities. Lastly, a neighbourhood design with street and block scale designs on relevant locations will be made. This will be done by creating and comparing different options. Again, the previous literature review will be used to assess the different options and choose (a combination of) the most successful ones.

Policy and stakeholder analysis

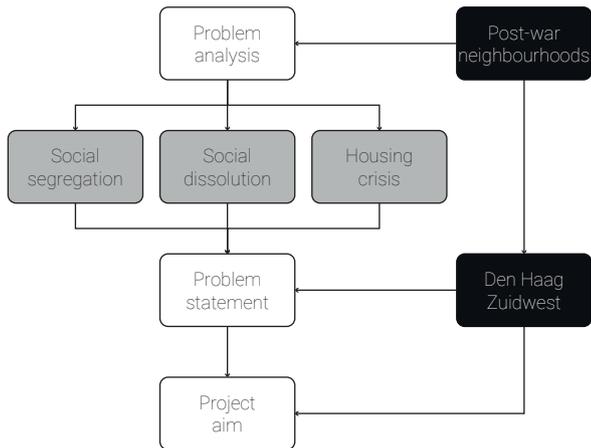
The policy and stakeholder analysis looks at the (potentially) involved stakeholders, policies, and policymakers that are involved in the area and the problematics. There is great importance in interesting stakeholders and policymakers because they are the ones who are ultimately responsible for the implementation of the strategy and design. For the policy analysis, the literature review on current policies will be used. Additionally, for the stakeholder analysis, inhabitants are arguably the most important stakeholders to consider, see 'Fieldwork and interviews' about this.

Transferability

Finally, the project will be concluded by looking at what interventions have been made and which of them are universal interventions that can potentially be applied to other post-war neighbourhoods with similar problems. From these elements, a framework will be formed that can be applied to other neighbourhoods. This is a reflection on the project and will give it more value because other post-war neighbourhoods could be able to benefit as well.

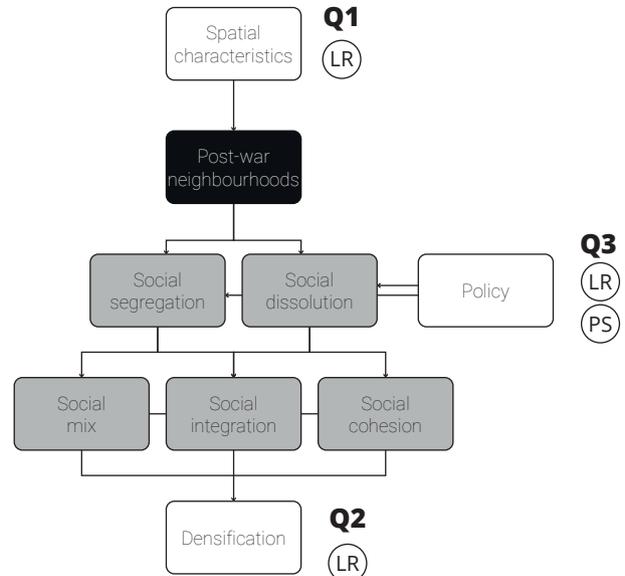
2.7 THEORETICAL FRAMEWORK

Project definition



- LR** Literature review
- SD** Spatial analysis and data mapping
- FI** Fieldwork and interviews
- RD** Research by design
- PS** Policy and stakeholder analysis
- TF** Transferability

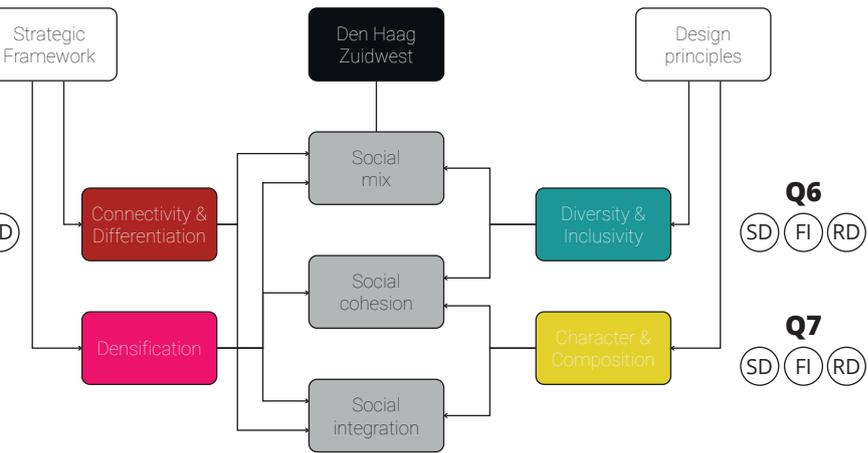
Theoretical background



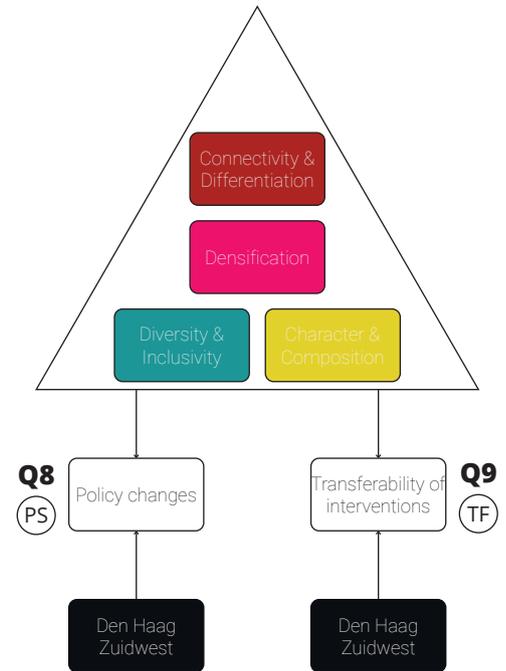
Q4
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Q5
 (SD) (RD)

Analysis and design



Implementation and reflection



2.8 SOCIETAL AND SCIENTIFIC RELEVANCE

Societal relevance

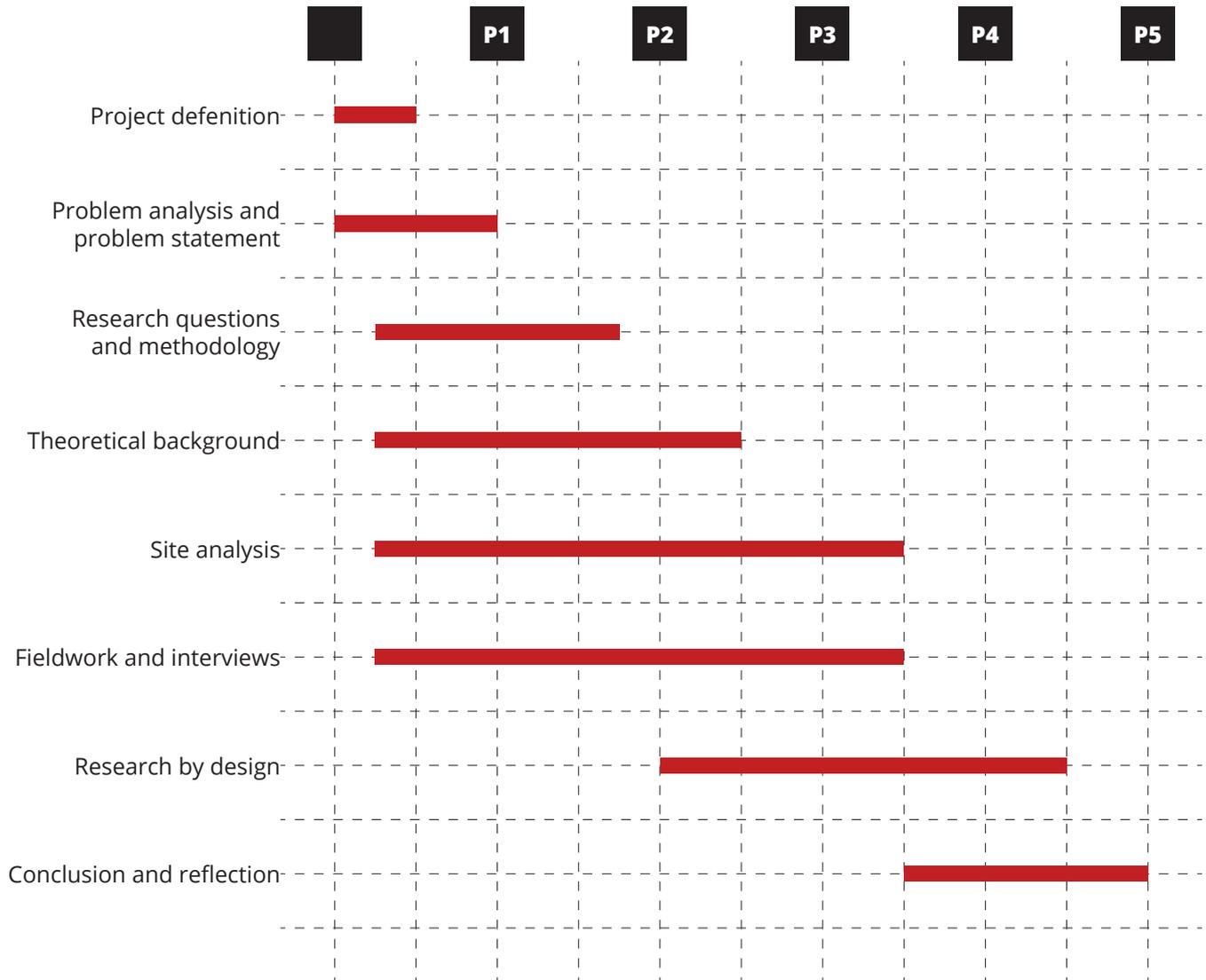
The Netherlands is dealing with the matter of the housing crisis and high pressure on the urban environment. In addition to its necessity, densification is perceived as a positive factor for urban societies to thrive. However, good consideration of densification practice is needed, not only to ensure these positive factors but to strengthen them and use their full potential. A specific neighbourhood typology that is often targeted for densification is the post-war neighbourhood typology, because of its relatively low density and strategic position in metropolitan areas. Additionally, the Netherlands is dealing with some deprived neighbourhoods with all sorts of socio-cultural and socio-economic issues, like social segregation and low dissolution. It can be recognised that these deprived neighbourhoods were very often built during the post-war reconstruction period, and it raises the question if there is a link between the urban design principles from this period and the issues they are dealing with now. Combined, great potential can be recognised in the above-mentioned observations. With thoughtful design and the densification of post-war neighbourhoods, they can become more socially mixed and socially cohesive. Hereby, not only taking pressure off the housing crisis but also socially and economically improving neighbourhoods and making them more resilient. This benefits the neighbourhoods, as well as its residents, and with that, society as a whole. One of the largest neighbourhoods in the Netherlands is Den Haag Zuidwest, therefore the core focus of the research-by-design part of this graduation project will be conducted in that neighbourhood. Afterwards, to in-

crease this project's relevance, transferable design elements will be derived so they can form a framework that could be applied to similar neighbourhoods with similar problems.

Scientific relevance

In the field of research into social segregation and social dissolution, there are a lot of theories on the causes and effects. However, they are often focussing on all kinds of factors and processes, but not so much on the effect of the spatial design of neighbourhoods. This goes also for recommendations on solving these issues that can be found in literature, let alone an integral approach to solving the wider range of these problems through spatial design interventions. Additionally, a combination of the pressing need for densification and social mixing and social cohesion has yet to be found. This is important because policymakers write all kinds of claims and goals in urban development plans and visions towards these phenomena. However, indications on how to reach them are often not defined. This graduation project can add to that body of knowledge by providing an overview of spatial implications on social mix and social cohesion in combination with densification in post-war neighbourhoods in an integral way. For this reason, the thesis will end by collecting all location-specific interventions on Den Haag Zuidwest and collecting them into a transferable framework that can be used by governments and designers. This gives the project a wider relevance for all post-war neighbourhoods in the Netherlands.

2.9 PROJECT TIMELINE



Chapter 3:

Theory: Linking the social to the spatial

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3.1 THE HERITAGE OF THE RECONSTRUCTION PERIOD

What (spatial) characteristics of post-war neighbourhoods cause their social segregation and social dissolution?

The underlying idea of social engineering from the post-war period seemed to work at first, the neighbourhoods were positively received by residents and were considered the most liveable at the time. However, there is not much left of the optimism of this time, since nowadays many post-war neighbourhoods are dealing with many socio-cultural and socio-economic issues (Wittebrood & Dijk, 2007). This can partly be attributed to the fact that these neighbourhoods consist almost entirely of cheap and social housing attracting and concentrating underprivileged people in the same area making them prone to all sorts of social issues (Bergeijk et al., 2008). However, apart from this historical course, several authors (Harbers et al., 2009; Blom, 2004; Douma, 2011; Legeby, 2013; Dempsey, 2008; Schreiber & Carius, 2016) also blame the physical structure of these neighbourhoods for high levels of social segregation and social dissolution. This chapter will first look at the spatial characteristics that are specific for Dutch post-war neighbourhoods to then see what the effects of these spatial characteristics are on social segregation and social dissolution.

3.1.1 SPATIAL CHARACTERISTICS OF POST-WAR NEIGHBOURHOODS

As described in the introduction, post-war neighbourhoods built in the reconstruction period were built with the housing crisis and at the time popular modernist approach in mind. This resulted in a neighbourhood typology that did not differ much from one post-war neighbourhood to the other. There are six common characteristics in post-war housing described by Harbers et al. (2009):

- Integral design
- Open building blocks
- Orthogonal patterns
- Zoning of functions
- Blind plinths
- Green and blue networks form the main structure

All neighbourhoods from the post-war period are integrally designed in one large masterplan, the housing shortage and standardised housing units made that most of these neighbourhoods were built in a relatively short period and therefore do not differ much from the original designs (Blom et al., 2004). They write that the integral design was supposed to ensure a safe and clean living environment and enable social cohesion to take place. The largest development plans among which in Amsterdam, Rotterdam, and Den Haag consisted of

multiple neighbourhoods each with its own centre. Each neighbourhood in its place is built up of multiple neighbourhood units to be able to scale the communities in these neighbourhoods to the, at the time perceived, right size (Blom et al., 2004). They also write that these communities reflect society and therefore the housing types should accommodate all different kinds of people to create a socially mixed neighbourhood.

The idea behind the open building blocks was to keep the neighbourhood airy and light and to maintain sight-lines according to Harbers et al., (2009). The blocks are often arranged in either long strips or stamps consisting of a configuration of some shorter building blocks. The configurations of strips and stamps are often repeated multiple times creating a symmetrical but also monotonous neighbourhood. The shapes of these strips and stamps are always rectangular, the roads and green and blue networks are consequently laid out straight around them creating an orthogonal pattern, which is the third characteristic.

The fourth characteristic is the zoning of functions. One of the main ideas that originated from the modernism movement is the spatial separation of different functions like housing, working, transportation, and recreation to not cause a nuisance to each other. Post-war neighbourhoods are planned around a neighbourhood

centre, where shops, schools and other facilities are located somewhat separated from the housing itself (Harbers et al., 2009). Work, however, except for work in the schools and shops, is not located in the neighbourhood because it was thought to create too much hindrance to the other functions. The separation of functions was in some cases even carried out in the design of the transport system where footpaths and bike lanes are separated from the car traffic. The car traffic system is clearly designed in a hierarchical system of roads with primary roads, around the neighbourhood, secondary roads around neighbourhood units, and only tertiary roads entering the neighbourhoods, but never entering the building blocks.

Blind plinths are the fifth characteristic, in a way, this is also building on the modernist idea of separation of functions and the focus on efficiency. The ground floors are used for shops and other amenities in the neighbourhood centres, in almost all other buildings the ground floor is used as storage space for the houses above.

The sixth characteristic is the main structure of green and blue public spaces throughout the neighbourhood. These spaces are perceived as the structural element of the neighbourhood. There are often main axes of green and blue combined with primary or secondary car

roads (Blom et al., 2004). Smaller green structures are to be found as parks or playgrounds within the neighbourhoods and generally, the in-between space in the building blocks is green as well (Harbers et al., 2009)

A final characteristic that is non-spatial but unique for Dutch post-war housing is the leading role of the government in the reconstruction period. The share of social housing in these developments was normally over 70% which is a very large proportion compared to the rest of Europe (Blom et al., 2009).

3.1.2 SOCIAL PROBLEMATICS IN POST-WAR NEIGHBOURHOODS

Douma (2011) wrote a thesis on the spatial characteristics that cause the current liveability issues. She writes that the low quality of the dwellings, in terms of size and comfort and the lack of elevators, due to bad maintenance and quick and cheap building quality, is one of the main issues. The large amount of greenery is often valued, however, in many cases, the green is either undefined in its purpose and therefore unused or it is not very maintained and therefore messy. Additionally, the large open green structures are often evoking feelings of unsafety, as they are meeting points for youngsters and criminals. Another factor is a decrease in amenities and shops, the causes are global behavioural changes in combination with relatively lower density and high

concentrations of people with lower purchasing power. The buildings and urban design are often perceived as monotonous, charmless, and cheap and have an obscure physical structure (Douma, 2011). Kam & Needham recognize similar influences of the physical environment, they mention the bad housing quality, too much and undefined semi-public spaces, alienating and participation inhibiting environmental character, competing use of scarce space and a high level of confrontation.

3.1.3 SPATIAL IMPLICATIONS OF SOCIAL SEGREGATION

Multiple studies suggest that social segregation can be strengthened by the physical urban form. Legeby (2013) writes that social segregation can be caused by a lack of urbanity, meaning the lack of intense situations where people come together. In her view, many neighbourhoods, especially the ones at the edges of the city, lack places that acquire intensity and diversity, resulting in the lack of social differences coming together. The social performance of the urban environment can be measured by everyday use- and movement patterns. This is vital for the understanding of the social meaning of urban spaces and the social consequences leading from them, resulting from the urban layout (Vaughan & Arbaci, 2011). Therefore, the coming together of different groups is influenced

by the space syntax of a place. Legeby (2013) writes that coming together is key for the potential to develop social networks and social solidarities. Vaughan & Arabaci (2011) add to this argumentation that the street, community centre, work, park, and other public spaces are relevant locations for segregation because they contribute to everyday life. In addition to space syntax, she brings the factor of time into her argument. Mono-functional areas often lack encounters between different groups because they use the public space at different times of the day. Especially residential areas where people are only to be inside their homes and use public space merely by car.

3.1.4 SPATIAL IMPLICATIONS OF SOCIAL DISSOLUTION

In the introduction chapter the dimensions of social dissolution were already stated based on research by Dempsey (2008) consisting of; social interaction, social networks, a sense of community, participation in organised activities, trust and reciprocity, feelings of safety, and a sense of place attachment. Based on these dimensions she examined the features of quality of the built environment that affect social cohesion which she summarized in a table.

Feature of quality of the built environment	Social Interaction	Social networks	Sense of community	Participation in organised activities	Trust and reciprocity	Feelings of safety	Sense of place attachment
High residential density	Neg (--)				Neg (---)		
Mixed land uses						Pos (--)	
Accessibility	Pos (--)						
Connectedness and perm'y							
Legibility	Neg (---)						
Attractiveness			Pos (++)			Pos (--)	Pos (++)
Inclusiveness				Pos (---)*	Pos (---)		
Maintenance	Pos (--)		Pos (-)		Pos (-)	Pos (--)	Pos (-)
Extent of natural surveillance	Pos (--)		Pos (-)		Pos (--)		Pos (---)
Character		Pos (---)	Pos (++)				Pos (++)
Perceived quality (acc. to residents)	Pos (-)	Pos (-)	Pos (+++)		Pos (+)	Pos (+++)	Pos (+++)

*Sports groups only.

Table 3. Significant associations between features of quality of the built environment and dimensions of social cohesion. (Association strength: (---) very weak through to (+++) fairly strong. No very strong associations were found.)

(Dempsey, 2008)

From this research, it can be concluded that the perceptions of residents on the quality of the neighbourhood have a very high positive relation with multiple dimensions of social cohesion. Additionally, the level of maintenance, the extent of natural surveillance, the neighbourhood's character, and the attractiveness of the neighbourhood have positive effects on social cohesion. Mixed uses, accessibility, and inclusiveness show a positive but very weak link to social cohesion. Neighbourhood density and legibility show a negative but weak link to social cohesion, and no significant relations were found between connectedness and social cohesion. This adds up with the research from Kam & Needham (2003) who write that the neglected appearance of public spaces, buildings, and amenities has a negative influence on residents' well-being and pride in their living environment.

From this research, it can be concluded that strategies that try to improve a neighbourhood's social cohesion should focus on improving the physical quality of public space, in which the residents' opinions should be considered because of the large effect of perceived quality. The research suggests that good planning and design that focus on distinctiveness and place character have a large potential for increased social cohesion. Additionally, it is important to maintain the neighbourhood to preserve the (perceived) quality.

3.1.5 CONCLUSION

To conclude, the spatial characteristics of post-war neighbourhoods are compared with the spatial qualities that influence social segregation and social dissolution.

From this analysis can be concluded that for social segregation in post-war neighbourhoods, the lack of spaces for intensity and diversity and the absence of attracting destinations in post-war neighbourhoods are the negative influencers with the most links to the spatial design. For social dissolution, the lack of attractiveness, character, and perceived quality are the most linked negative influencers, while post-war neighbourhoods have a positive, although weak, effect on social cohesion through their lower density and clear legibility. The spatial factors of post-war neighbourhoods that have the most links to domains with negative effects on social segregation are the zoning of functions and the lack of amenities followed by the monotonous integral design which is also the spatial factor with the most linked negative effects on social cohesion. All other spatial characteristics have a more or less equal number of links to domains with negative effects on social cohesion. The exception is the green and blue network which is linked to some of the positive domains of social cohesion.

		Integral design	Open building blocks	Orthogonal patterns	Zoning of functions	Blind plinths	Green and blue networks	Bad quality/maintenance	Lack of amenities	Lack of character	Total
Social segregation	Lack of urbanity		-		-				-		-3
	Lack of spaces for intensity and diversity	-	-		-				-		-4
	Space syntax		+	+							+2
	No attracting destinations	-			-				-	-	-4
	Subtotal	-2	-2 +1	+1	-3	0	0	0	-3	-1	
Social dissolution	High residential density	+	+								+2
	Mixed land uses				-				-		-2
	Accessibility	-									-1
	Legibility			+			+				+2
	Attractiveness	-				-		-		-	-4
	Inclusiveness	-			-				-		-3
	Maintenance	-						-			-2
	Extend of natural surveillance	-	-			-					-3
	Character	-	-	-	-	-	+	-		-	-7 +1
	Perceived quality	-	-	-		-	+	-		-	-6 +1
	Subtotal	-7 +1	-3 +1	-2 +1	-3	-4	+3	-4	-2	-3	
Total	-9 +1	-5 +2	-2 +2	-6	-4	+3	-4	-5	-4		

Concluding from this research, for spatial interventions for the improvement of social mix in post-neighbourhoods the focus should be on mixing amenities and changing the monotonous character of the neighbourhood. To increase social cohesion, the focus should

also be on making the neighbourhood less monotonous, while also addressing all other spatial characteristics. The green and blue structure should be maintained since it seems to have positive effects on social cohesion.

3.2 THE REDISCOVERY OF THE POST-WAR NEIGHBOURHOOD QUALITIES

What are the spatial characteristics of socially mixed, socially integrated, and socially cohesive neighbourhoods that can be applied in the densification of post-war neighbourhoods?

The previous chapter has shown the spatial characteristics of post-war neighbourhoods that are causing the social problems of segregation and dissolution. This chapter will dive deeper into the spatial characteristics that can be found in socially mixed and socially cohesive neighbourhoods. Additionally, it will have a look into the qualities that a densely built environment can bring to its residents. Finally, it will conclude by investigating the possibility of applying these characteristics in a design strategy on deprived post-war neighbourhoods. Additionally, it is important to note that people encounter the built environment daily and thus its quality has a direct impact on the quality of people's everyday lives (Dempsey, 2008). In his research, he writes that "high-quality public space is not simply a matter of aesthetic appreciation by a few, select users, but rather it has a fundamental impact on how 'all users perceive, function, and socialise in public space'." (Dempsey, 2008, p. 106).

3.2.1 DENSIFICATION

As written before, the Netherlands has a large densification task that could be approached pragmatically by just looking at the numbers and the financial component. However, as the College van Rijksadviseurs (2018) noted in their report 'Dashboard verstedelijking', there is much more added value to gain in several fields among which strengthening the living climate of the existing city by linking new construction to vulnerable

existing neighbourhoods. Additionally, an article from (UN-Habitat: Urban Planning and Design Branch, 2015) five principles to develop sustainable neighbourhoods; adequate space for streets and an efficient street network, high density, mixed land-use, social mix, and limited land-use specialization. They also mention five goals attached to this.

- "Promote sustainable, diversified, socially equal and thriving communities in economically viable ways.
- Encourage walkable neighbourhoods and reduce car dependency.
- Optimise use of land and provide an interconnected network of streets which facilitate safe, efficient, and pleasant walking, cycling, and driving.
- Foster local employment, local production, and local consumption.
- Provide a variety of lot sizes and housing types to cater for the diverse housing needs of the community, at densities which can ultimately support the provision of local services."

(UN-Habitat: Urban Planning and Design Branch, 2015)

Some literature notes that densification can contribute to promoting social mix and social cohesion, next part of this chapter will investigate exactly what elements of spatial design can contribute to it.

3.2.2 SOCIAL MIX, SOCIAL INTEGRATION, AND SOCIAL COHESION

Talen (2008) gives five design goals to be able to design for diversity. Firstly, design for equity because it fosters diversity by equalizing access and ensuring close proximities for all. Secondly, design for imageability and vitality, because a successful human environment gives a good visual aesthetic experience. Thirdly, it is important to design for organic wholeness, in other words, the design process is as important as the result. Fourthly, designing for community means, designing for a physical humane setting enabling social existence. Lastly, it is possible to design for sustainability because it often combines well with inclusive design.

There is a large overlap in the reviewed literature because the only successful mix happens when there is a certain amount of social cohesion between mix groups. Therefore, this chapter will combine spatial characteristics for social mix and social cohesion. Talen (2008) mentions three main strategies to design for diversity, being mix, connection and security. The following part will be based on her book 'Design for Diversity' unless stated otherwise.

3.2.3 MIX OF HOUSING AND AMENITIES

Designing for mix can have a twofold meaning, mix in housing, and mix in services and facilities. A mix in housing entails mixed housing types, tenures, ages, and prices, and all possible combinations of them which is confirmed by Kam & Needham (2013) and Schreiber & Carius (2016). Here, next to design, the right policy is crucial because it is unlikely that the market, will provide such a mixed housing stock by itself. In existing urban fabrics, an effort should be made to create links between areas of different housing forms often separated by vacant land or infrastructure. Blom & Soomeren (2015) write that coarse grain mixing of different socio-economic classes seems to be the best way to maintain bonding social cohesion but also provide opportunities for bridging social cohesion without the negative effects that could lead from mixing. Additionally, they write that scale-reduction and privatisation can help with involvement and responsibilities and that a clear distinction between public and private can help to create a zone in which informal contact and natural surveillance can take place. To be able to diversify in less dense environments, a strategy of small unit integration can be used to still be able to create a mixed environment, this can happen for example near transit or in commercial areas. Also, innovative housing types are a good opportunity to provide more mixed housing, Blom & Soomeren (2015) give the example of creative incubators like self-build land and so-called 'klushuizen' or 'fix-upper' homes. Additionally, Kleinhans (2004) writes

that housing career opportunities can contribute to maintaining existing social cohesion as people do not have to move to a different neighbourhood when they are looking for different housing types.

In an environment of mixed housing occupied by a mixed population, a mix of facilities and services is also needed to serve all, Blom & Soomeren (2015) and Schreiber & Carius (2016) endorse this notion. Additionally, bringing workplaces into residential neighbourhoods can benefit underprivileged people, especially immigrants according to Vaughan & Arbaci (2011). They write that it helps with economic integration but also strengthens social networks and reciprocity. Mixed facilities are often small-scale and therefore more specialised in their specific environment, these small businesses should be encouraged and fostered by design and policy. It is important to keep time in mind when mixing to be active during different times of the day. So-called big boxes are needed for retail and employment but can disrupt the connection, degrade street capacity, generate traffic, decrease access for all but cars and are a threat to small local businesses. There are some strategies to keep their advantages and decrease disadvantages for example by wrapping them with smaller units. Additionally, Legeby (2013) writes that workplaces and economic opportunity can contribute to integration and help create social connections among underprivileged residents, Schreiber & Carius (2016) confirm this.

3.2.4 CONNECTION BETWEEN PEOPLE AND SPACE

The next main strategy that Talen (2008) mentions is to maximise connectivity in urban space. She writes that “Connecting all types of spaces is important – public and private, residential and non-residential, storefront and sidewalk.” (Talen, 2008, p. 147). It is mainly important to look at access points and street connections and block shapes and sizes and it often involves the improvement of walkability. Connection in the physical world is connected to social connection, promoting contact and social interaction. In this sense again, walkability is key, because human interaction within a neighbourhood is exclusively a pedestrian phenomenon. Blom & Soomeren (2016) add to the discourse that dead-ends should be prevented because they decrease connectivity and feelings of safety. Legeby (2013) adds that connection with the rest of the city also helps larger segregated areas to reconnect to the city as a whole, Schreiber & Carius (2016) add that public transport is crucial in this, especially for people with a lower income that might not own a car.

Identity space is important for diverse neighbourhoods because it forms part of the glue that holds different people together, where other things will not. This can be embodied by a neighbourhood centre or a series of smaller spaces, however, they all rely heavily on the

character of the space and Blom & Soomeren (2015) and Kam & Needham (2003) both emphasize that good design is therefore crucial. Blom & Soomeren (2015) add that a clean, whole, (and safe) environment improves place attachment and with that social cohesion. In the same line, Kam & Needham (2003) write that the design should be inviting to maintain it how it is.

Collective space is another important element, which is unlike place identity more focussed on creating opportunities for interaction. These spaces should promote exchange to counteract distrust and fear towards others. These places of interaction should be part of the everyday movement and activity space and these spaces should be linked and spread to be within walking distance of everyone (Kam & Needham, 2003; Blom & Soomeren, 2015; Schreiber & Carius, 2016). Legeby (2013) adds that spaces of intensity or 'urbanity' are crucial in this respect, she argues that many neighbourhoods lack these kinds of spaces. Additionally, she writes that higher residential density can help create these spaces of 'urbanity'. Examples of these kinds of spaces are parks, squares, schools, and libraries, but there should also be spaces without a specific purpose, so it is open for interpretation by the users. Targeting children with these spaces has been proven to be very effective in creating social connections. Streets can also cater for this kind of function if they are designed

as habitable spaces rather than focusing on moving traffic Schreiber & Carius (2016) add that next to increasing social cohesion they can also help re-integrate areas into city structures. Additionally, visibility from the inside of houses and buildings can help increase social cohesion when people can see others on the street (Blom & Soomeren, 2015; Kam & Needham, 2003).

A good pedestrian network is another crucial element for connectedness, not only for convenience but also to increase opportunities for social interaction (Schreiber & Carius, 2016). Disruptive elements are dead-ends, interrupted sidewalks, parking lots and other blockages. Empty streets can also disrupt the network because they are not inviting, and sometimes even unpleasant spaces to move through.

3.2.5 SECURITY AND PERCEIVED SECURITY

Security is the last main element for designing for diversity according to Talen (2008), Kam & Needham (2003), and Blom & Soomeren (2015). Security goes beyond the basics of crime prevention. The feeling of- or perceived safety is very important as well. Therefore, it is important to be thoughtful about mixing diverse places. A balance between social mix and connection and a feeling of belonging and security must be found. Talen (2008) addresses security through design in diverse places in four ways.

Firstly, housing should be integrative and not be closed off to the outside world, because it might even cause more feelings of unsafety. Some kind of secluded space can be pleasant for inhabitants, but complete isolation is not desirable.

Secondly, improving surveillance, control, and responsibility for public spaces helps the feeling of security (Blom & Soomeren (2015)). By smart design this can be done naturally without having to put too much effort into it, this can be done by facing buildings towards the public space and avoiding blind facades (Kam & Needham, 2003).

Activity also increases the sense of security; unused empty space tends to feel insecure. Designing for activity is therefore important, it is needed to avoid gaps in commercial corridors to maintain the connectedness of the system.

Lastly, strong edges are beneficial for the sense of security, this is also written by Kam & Needham (2003). The edges are often composed of transportation arteries, industrial corridors, water bodies, or brownfields. Edges bound and shape and give identity to a community, however, they also tend to be undesirable in other ways. The question is, how a community can be buffered from a highway, railway, or industrial area to prevent nuisance in the community? Greenery or resilient building types like offices, shops, and light industries can buffer these edges.

In addition to these design recommendations for diversity, Talen (2008) writes that policy has a major impact on diversity as well. Most of the design strategies even need to be paired with- or instructed by policy to be able to be carried out and have the desired effect. For this reason, in the next chapter, the policies regarding social mix and social cohesion in the Netherlands will be addressed.

3.2.6 CONCLUSION

To conclude, the spatial characteristics of socially mixed and socially cohesive neighbourhoods are compared with the opportunities and characteristics of densification to see how they are combinable.

From this analysis can be concluded that for half, 24 of 47, of the characteristics of socially mixed and socially cohesive neighbourhoods there is a positive opportunity to be linked with densification. For 21 of the characteristics, there is not a specific positive or negative relation to be found with densification. For only two characteristics there is a possible negative relation with densification, however, not insurmountable with good design. Therefore, the conclusion can be drawn that densification can positively contribute to the process of making a neighbourhood more socially mixed and socially cohesive.

Mix housing	Mixing by densification
Mix types, tenure, ages, prices	Mixing by densification
Link different areas	Link existing, no new buildings needed
Small unit integration	Add small units where possible
Innovative housing types	Add new innovative housing types
Housing career opportunities	Add new housing types
Mix with coarse grain	Level of mix does not influence density
Clear distinction between public and private	Not density related
Privatisation and scale reduction	Not density related
Mix facilities and services	Mixing by densification
Small scale facilities	Scale of facilities does not relate to densification
All daytime coverage	Period of use does not relate to densification
Take care of big boxes	Scale of facilities does not relate to densification
Workplaces and economic opportunities	Add workplaces by densification
Maximise connection	Connection does not relate to densification
Access points and street connections	Connection does not relate to densification
Smaller block shapes and sizes	Smaller blocks can still be dense
Walkability	Dense areas have higher proximity and walkability
Larger scale connectivity	Connectivity does not relate to densification
Public transport	Dense areas have larger support base for PB
Identity space	Identity does not relate to densification
Neighbourhood centre	Centres are more relevant in higher density
Series of smaller spaces	Smaller centres are more relevant in higher density
Clean and whole	Cleanness and wholeness do not relate to density
Collective space	When density is higher more people use the space
Promote exchange	Higher density, more people, more exchange
Intensity and 'urbanity'	Higher density, more people, higher intensity
High density	High density is high density
Part of everyday movement and activity	Higher density, more people, more activity
Linkage and walking proximity	Dense areas have higher proximity
Target children	Dense areas possibly have less space for playing
Visibility from inside	Visibility does not relate to density
Institutions	Dense areas have larger support base for institutions
Network	Density leads to a more active network
Avoid disruptive elements	Disruptive elements do not relate to density
Activity attracts	Dense areas have more activity
Integrative housing	Density does not relate to housing integration
Public, semi-public, private	Density does not relate to housing accessibility
Natural surveillance	More people means higher levels of surveillance
Eyes on the street	More people means more eyes on the street
Avoid blind facades	Density does not relate to number of blind facades
Activity	Dense areas have more activities
Avoid gaps and dead spaces	Dense areas have fewer gaps and dead spaces
Maintain connectedness	Density does not relate to connectedness
Strong edges	Density does not relate to the strength of edges
Avoid nuisance	Density does not relate to the nuisance of edges
Buffer nuisance	Dense areas possibly have less space for buffer zone

3.3 POLICIES OF SOCIAL MIX AND SOCIAL COHESION

What are the current governmental policies regarding social mix and social cohesion?

The previous chapters have investigated how spatial characteristics of post-war neighbourhoods and densification influence social mix and social cohesion. It was concluded that spatial characteristics and urban form affect social mix and social cohesion, however, it was also recognised that on their own they are not as strong, and corresponding policy is needed to increase their impact. Therefore, this chapter will investigate the policies that already exist in the Netherlands and see how they interrelate and look at their impact on social mix and social cohesion.

3.3.1 POLICY REGARDING SOCIAL MIX AND SOCIAL INTEGRATION

National, provincial, and municipal governments in the Netherlands have been making policies intending to decrease social segregation and create more socially mixed regions, cities and neighbourhoods (Kleinhans, 2004). In the Netherlands, these policies are often combined with improvements in the physical and social environment multiplying their effects (Tasan-Kok et al., 2013). There are three types of mixing policies that can be defined according to Van Ham et al. (2018), Place-based policies, people-based policies, and connectivity-based policies.

Place-based policies are mainly focussing on upgrading the physical quality of neighbourhoods. This often

happens by demolishing lower-quality housing, which is also mostly low-cost (social) housing and rebuilding more expensive rental or owner-occupied housing. This results in a more mixed population; however, it has the risk of breaking down the existing social community and gentrifying the neighbourhood which prices poorer people out (Vaughan & Arbaci, 2011). Van Ham et al. (2018) write that these policies are only successful if middle- and upper-class housing can be attracted to these deprived neighbourhoods, which can be quite hard. Additionally, they write that it should be prevented that all neighbourhoods are addressed like this and displace all low-income households out of the metropolitan region. These areas are highly needed for the city's economy and employment, housing of new arrivals, and students. Place-based policies have been proven to reduce segregation in a specific neighbourhood (Van Ham et al., 2018), however, it has the risk of replacing the problem with other low-cost neighbourhoods or even increasing segregation between metropolitan regions and the countryside.

People-based policies are less focussed on the physical environment, and more on investment in people (Van Ham et al., 2018). They write that education plays a large role in this because it introduces people to new networks, this goes for both the children and their parents. Additionally, there are a lot of social support sys-

tems that can improve people's mobility on the societal level, which can increase diversity (Kleinhans, 2004).

Connectivity-based policies physically link deprived neighbourhoods with opportunistic places in the metropolitan region (Van Ham et al., 2018). Free, or subsidised public transport, can give underprivileged people more opportunities to travel to jobs or schools. This is especially useful for people who live in large monofunctional residential neighbourhoods at the edges of cities (Van Ham et al., 2018). As explained, post-war neighbourhoods often fall under this category (Kleinhans, 2004).

In addition to types of policies, Musterd (2005) writes that certain effects in certain environments are not necessarily caused by the neighbourhoods, and thus policy should not have a sole neighbourhood focus. He writes that society is a multiscalar system and that policy should target these scales and systems simultaneously, this is also written by Legeby (2013). Musterd (2005) mentions scales and systems; "(1) the welfare state at the national level; (2) the labour market, and economy at the regional and global levels (3) the social networks, socialization, and stigmatization processes at the local levels; and (4) personal characteristics at the individual level." (p. 345).

3.3.2 POLICY REGARDING SOCIAL COHESION

According to Kleinhans (2004), there is a lot of evidence of varying patterns of social life by tenure. He writes that there is generally little interaction between tenants and owner-occupiers. This can be attributed to the very different social worlds of owners who spend much more time outside of their neighbourhood and make less use of local facilities than tenants. Research shows that lifestyle influences social interaction much more than tenure (Kleinhans, 2004). Additionally, he writes that distance is a significant factor.

Neighbourhood contacts are often between geographically close neighbours (Kleinhans, 2004). He writes that this contact often exists of saying hello and relying on simple help or advice. Research suggests that in owner-occupied housing, residents do engage in social contact with other residents, however, they are almost only from their own street or apartment block (Kleinhans, 2004). Kleinhans (2004) writes that cross-tenure social interaction is decreasing over distance, and thus the building block and street are important. In places with more street-level mixing of different tenures, more cross-tenure interaction exists. According to Kleinhans (2004), street-level mixing of tenure is therefore preferable if the goal is to create more bridging social cohesion between different people. However, mixing strategies

in the Netherlands often focus on the neighbourhood levels, and street-level integration has very few examples. A presumed reason for this is that development programs often focus on larger-scale interventions, like the building block scale. Street-level integration means that very small interventions should be made on the individual building level, which is much more costly and less profitable.

Kleinhans writes that in the cases of street-level mixing, there was more social interaction, however, those interactions were often negative ones. As shown in the previous chapter and confirmed by Kleinhans (2004) these negative interactions are often small disagreements that could be prevented with good design (Blom & Soomeren, 2015). An important notion that Kleinhans (2004) makes is that owner-occupiers are often more negative towards living together with tenants than the other way around, Van Ham et al. (2018) confirm this. Maintenance and estate management play a big role here as well, in well-maintained areas, the negativity among owners about mixing is much lower and vice versa. Dutch policies, however, mostly do not go into this much detail on the maintenance or design, and the market often does not seem interested in these aspects.

3.3.3 CONCLUSION

To conclude, place-based policies are effective at the local scale but do not reduce poverty and inequality on larger scale levels. People-based policies, have more effect on a higher scale but are less noticeable on the local scale. Connectivity-based policies can reduce segregation relatively easily but are more dependent on the other two policy types to really have an effect. The best strategy seems to be a combination of policies, made on more local levels to be able to tailor them to specific areas (Van Ham et al., 2018). Additionally, they note that neighbourhoods should not be addressed as isolated units but regarding their larger surroundings and on multiple scales, meaning that collaboration between local strategies within a larger scale strategy is needed.

Dutch policies regarding social cohesion are often ill-defined, there is quite some policy on social mixing, which sometimes includes some notions of bridging social cohesion, however, these are mostly very limited. Additionally, these policies are mainly focused on neighbourhood integration while according to Kleinhans (2004), various research concludes that contact between different groups is highly dependent on proximity and thus street level mixing is the most effective.

This type of mixing almost always results in more interaction, however, some of this interaction might be negative. These negative interactions can be prevented according to Kleinhans (2004) and Blom & Soomeren (2015), by good maintenance and design, however, current policies lack to go into this much detail.

Chapter 4:

Analysis: Projecting the theory on Zuidwest

Analysis: Projecting the theory on Zuidwest	88
4.1 Post-war characteristics of Zuidwest	90
4.2 Socio-spatial diagnosis	92
4.3 Policy	96
4.4 Stakeholders	98
4.5 Conceptual Framework	100



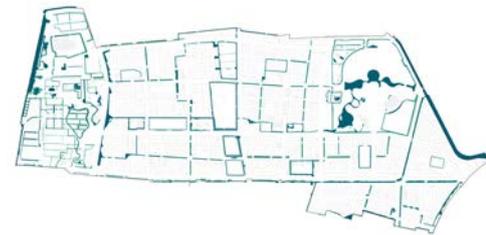
4.1 POST-WAR CHARACTERISTICS OF ZUIDWEST

How do the general characteristics of post-war neighbourhoods translate to the situation in Zuidwest?

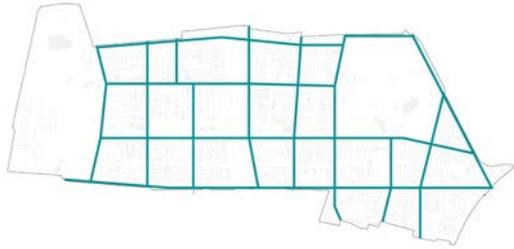
As described, Harbers et al. (2009) define six general characteristics of post-war neighbourhoods. These six characteristics are also clearly present in Den Haag Zuidwest. It was planned in one overarching structure plan and designed in three large neighbourhoods all by the same architect, Dudok. Zuidwest is structured by green and blue networks which, in combination with a hierarchical road pattern, form the base of Zuidwest. Both the green-blue and the roads are orthogonal patterns that make Zuidwest very legible. It exists (almost) exclusively of housing with every neighbourhood having one small centre with amenities. Zuidwest is split by a cross with recreational greenery that connects the two large parks. Employment is only found at the edge of the neighbourhood in a business park, the farmlands, and the city of Den Haag. The orthogonal grid is filled in with open, fordable building blocks, which makes the living conditions green and airy, but at the same time lacks a definition of public and private space and creates a no-mans-land within the building blocks. Additionally, the plinths of the buildings are mostly blind which strengthens the effect of the no-mans-land and creates a feeling of unsafety through a lack of social control.



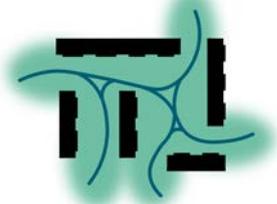
*Zuidwest in 1974 (Haags gemeentearchief, n.d.)
Integral design in Zuidwest (Author, 2023)*



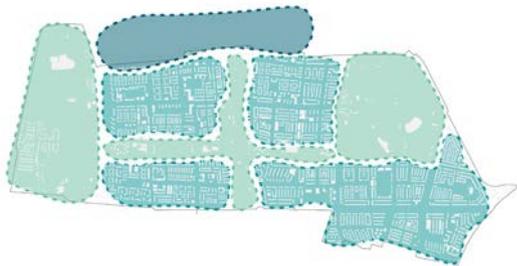
*Green-blue networks (Author, 2023),
(Google, 2023)*



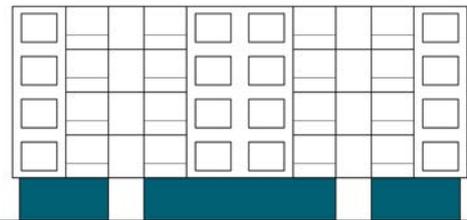
Orthogonal patterns (Author, 2023)



Open building blocks (Author, 2023), (Google, 2023)



Zoning of functions (Author, 2023)



Blind plinths (Google, 2023), (Author, 2023)

4.2 SOCIO-SPATIAL DIAGNOSIS

Who lives where in Zuidwest?

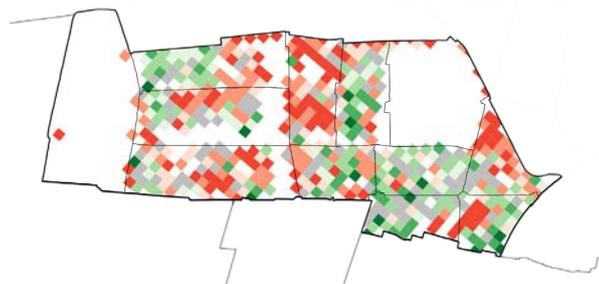
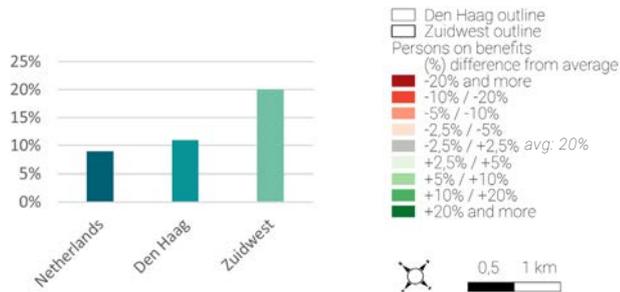
In the introduction chapter some demographics of Den Haag were introduced to point out how Zuidwest is deprived and segregated from the rest of Den Haag. This chapter will zoom in on Zuidwest to show if there are any differences in demography within Zuidwest. This is needed to be able to form a better understanding of Zuidwest's population in order to build a strategy to counter segregation of- and within the area. Additionally, to enhance the mixing of population groups and social cohesion between them it is important to know who lives where at the moment. The used data are the

100x100m square statistics retrieved from CBS (2023). Unfortunately, there is a limitation in the amount of data available on this scale level since most of the data does not go further than the neighbourhood scale and is therefore not very relevant. To get a better understanding of population differences in Zuidwest there is information on the percentage of people that use social benefits, that have a non-western migration background, average household sizes and age groups. The representation of this data is done by calculation of the difference from the average of Zuidwest to identify differences within the area.



People on benefits

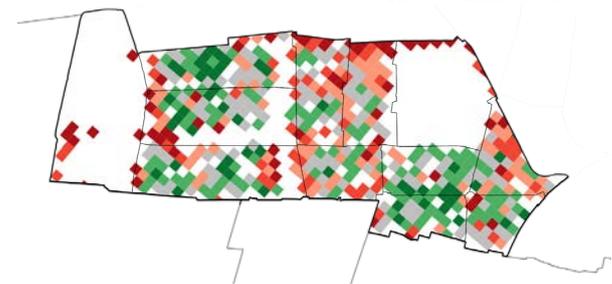
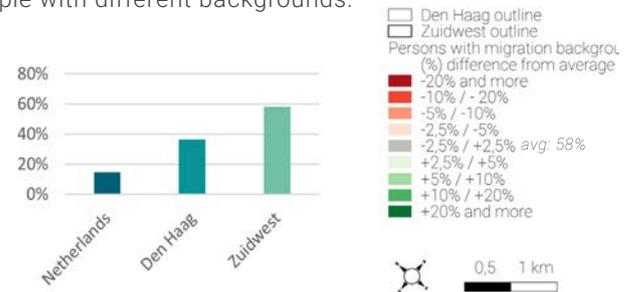
The percentage of people on benefits in Den Haag is with 11% slightly higher than the Dutch percentage of 9%. However, Zuidwest has, with 20%, many more people living on benefits, which again proves the deprivation of Zuidwest. However, within Zuidwest there are still large differences between different areas. It is quite clearly visible that higher and lower percentages are clustered per sub-neighbourhood, with relatively gradual transitions. Only in some instances, for example, a small cluster with few people on social benefits in the west of Moerwijk-Oost has a more direct transition to the surrounding areas.



People on benefits

People with a non-western migration background

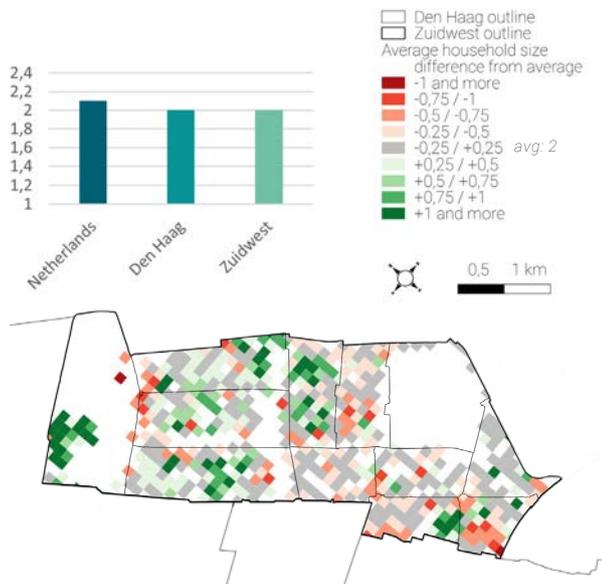
The percentage of people with a non-western migration background in the Netherlands is 14,5% compared to 36,5% in Den Haag and 58% in Zuidwest. Generally, larger cities have more people with a migration background, and they are often clustered in specific neighbourhoods, which is the case in Zuidwest. Zuidwest has thus a very mixed population with relatively large differences, but of a very small scale, squares with high percentages right next to squares with much lower percentages. Many squares on their own are thus not very mixed, but because of the small scale of these squares, it can be concluded that Zuidwest is generally very mixed in people with different backgrounds.



People with a non-western migration background

Average household size

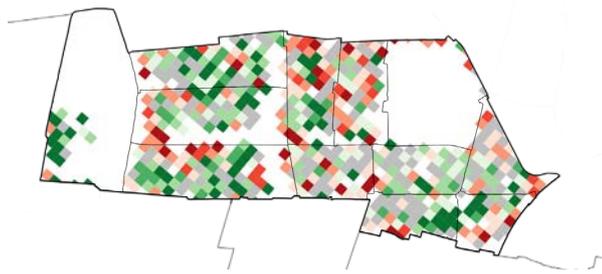
The average household size is 2,1 persons in the Netherlands, with Den Haag and Zuidwest both slightly lower with 2. Within Zuidwest the household sizes are generally also very close to the average with some exceptions to mainly to the higher side. These exceptions are mostly in places with different housing typologies like single-family homes instead of apartments.



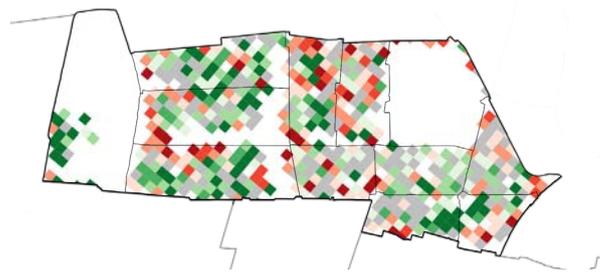
People on benefits

Age group distribution

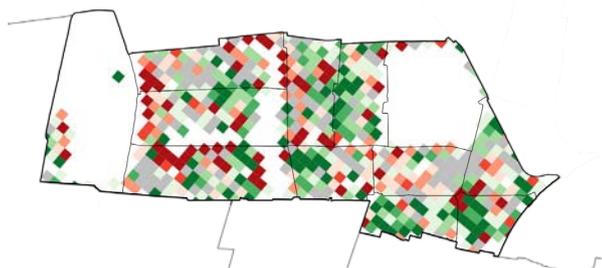
The age distribution of the population is also an important factor to consider in a mixing strategy. For a neighbourhood, it makes a large difference if most people are elderly or if there are a lot of children. The neighbourhoods closer to the edge of the city and Uithof Park have a higher percentage of children compared to the rest of Zuidwest, these are also the places with more single-family homes that are generally slightly bigger. The other age groups between 15 and 65 all have a relatively even distribution with some outliers, however, these outliers are mostly single squares and not clusters and thus the distribution is quite even throughout the neighbourhood. The age group of 65+ has some clusters with relatively higher percentages, these are mostly locations with special elderly housing and healthcare facilities. Since these clusters are not too big and are quite evenly distributed over Zuidwest, it is not necessarily problematic for the segregation, social mix and social cohesion in Zuidwest.



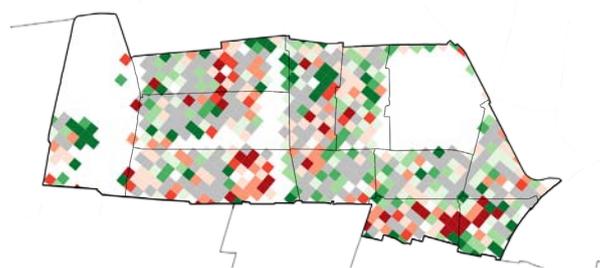
Age 0-15, avg: 19,7%



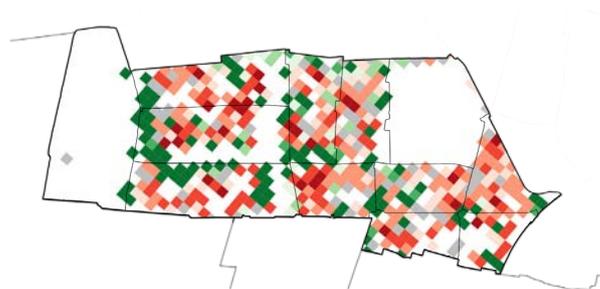
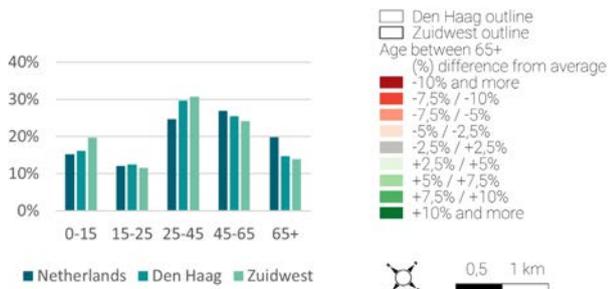
Age 15-25, avg: 11,5%



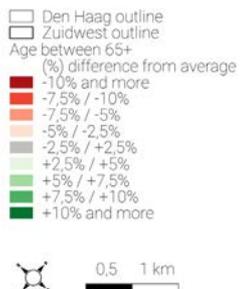
Age 25-45, avg: 30,7%



Age 45-65, avg: 24,1%



Age 65+, avg: 13,9%



4.3 POLICY

This chapter explores the current policies regarding social integration, mix and cohesion in Zuidwest. In the next chapters with spatial analysis and design principles, there are some occasional reflections on how the current policies relate to the proposed design interventions where needed. A proposal for a change of policies to better serve the design interventions will be presented.

Policies on social housing and affordable housing

The housing vision of Den Haag (Gemeente Den Haag, 2020) presents some rules on social housing and affordable housing. Every new build project should consist of 30% social housing and 30% affordable housing. In principle, this is a good rule because it makes sure that developers and corporations always provide housing for all socio-economic classes and keeps the city inclusive. However, for the social structures in Zuidwest, it is important when the housing stock is renewed, that the original inhabitants are not displaced. This means that when a building is demolished and replaced by newbuild at least the same amount of social housing must be built back, which might be more than 30%.

The application of the 30-30-40 rule applies to all projects that are done. This means that when an entire neighbourhood is restructured, according to one ur-

ban design, but separate developers are contracted for separate buildings or building blocks within the larger restructuring, each developer must comply with the 30-30-40 rule. However, this is not always in line with the desired type of mixing. From conversations with housing corporations and their experiences, it appeared that this has led to problems within building blocks where the mix of housing types was not rightly tuned.

Lastly, although it is not necessarily a policy but rather a contract some corporations, like Staedion, as appeared from a conversation with them, provide the guarantee that current inhabitants can return to the neighbourhood to a similar house with similar rent.

Policies on housing typologies

Another rule that was presented in the housing vision of Den Haag (Gemeente Den Haag, 2020) is that in new buildings a maximum of 20% can be small houses, which means less than 40 square metres in the city centre and less than 50 square metres elsewhere. These kinds of rules can help to steer developments in the desired direction and no negotiations with developers are necessary. More of these kinds of rules could be implemented to get even more grip on the typology of new housing.

Newbuild and renovation

Most restructurings that have been done in Zuidwest consisted of only demolition and newbuild. This has some advantages and some disadvantages. The advantage is that the new buildings can be entirely configured to the desired urban plan, as well as endless opportunities in housing typologies that are desired. Additionally, newbuild always has a high quality that is up to current standards. However, this strategy has a major downside. Newbuild in the same price category as the existing housing are always a lot smaller. This means that although the quality of the housing will be better, the most important quality of space will be less. In some cases, people would be better off if their homes were renovated instead of demolished and newbuild.

Zoning regulations 'bestemmingsplannen'

The last policy that is important for urban development and densification is zoning regulations. They decide what kind of functions the buildings and public spaces can have, and often also regulate building envelope and building height. Therefore, crucial because it can both initiate and prevent mixed functions, densification, and redesign of the public space. The bestemmingsplan for Zuidwest shows the monotonous residential nature of Zuidwest, with very limited building heights.



Zoning plan: 'Bestemmingsplan' Zuidwest

4.4 STAKEHOLDERS

Stakeholder involvement is crucial to make urban design and development plans successful, all have to be on board to be able to maximize the potential of a project. In Zuidwest there are four main stakeholders that should be involved in the process, these are the municipality, the housing corporations, the developers, and the inhabitants or users.

Municipality

The municipality is naturally involved in a redevelopment process since it provides the policies and regulations that were mentioned before. In addition, they are the owners of the public space and therefore responsible for the development of that space. Additionally, almost all the parcels in Zuidwest are officially owned by the municipality and lease-lend by corporations or private owners. In the redevelopment process, the municipality has the power to steer the project in a certain direction by incentivizing and regulating it. Additionally, as mentioned they provide the development of public spaces, but also their maintenance.

Housing corporations

Housing corporations are a huge stakeholder in Zuidwest for the fact that they own almost three-quarters of the total housing stock in Zuidwest. In redevelopment and densification, they are arguably the most important stakeholder. In some cases, an entire neighbourhood is owned by one housing corporation. These neighbourhoods are relatively easy to restructure because of this single owner. However, there are a lot of neighbourhoods where the ownership is more mixed, between different corporations, investors, and private owners. To be able to conduct large-scale restructuring it is important alignment and teamwork between these different stakeholders are crucial. Housing corporations do not have a profit motive, however, in addition to funding, they have to produce liquidity from their practice to be able to execute projects. Therefore, in addition to social housing, they often built some housing that can be sold to investors and private owners. This practice will generally reduce the amount of social housing in Zuidwest since the amount is this big now. This is not necessarily problematic; however, existing residents should have the possibility to come back to their neighbourhood as soon as the project is finished.

Investors and developers

The next stakeholders that have an important role in restructuring and densification are investors and developers. These stakeholders are most of the other building owners in Zuidwest except for the homeowners. In addition to the investors that currently own buildings in Zuidwest, potential investors and developers are important to take into consideration with an eye on diversification of the housing stock. Diversification of the ownership structures within Zuidwest means that the future scenario has more private rental and more owner-occupied housing. It is important to create clear guidelines and rules for developments so they are in line with the structure plan and design principles that will be proposed. In addition, for large-scale neighbourhood development, a collaboration between municipalities, corporations, investors, and developers is crucial.

Current and future residents

Current and future residents are important to consider in creating a project that is socially mixed, integrated, and cohesive. To maintain the existing community and social cohesion the current residents should be involved early in the design stage and keep them involved throughout the project. This way their wishes and needs can be incorporated into the design. Additionally, intending to create a better social mix and integration, it is important to consider the wishes and needs of potential future residents. It can be harder to consult them because it is not yet clear who they are exactly, but by choosing specific socio-economic target groups their general wishes and needs can be taken into account.

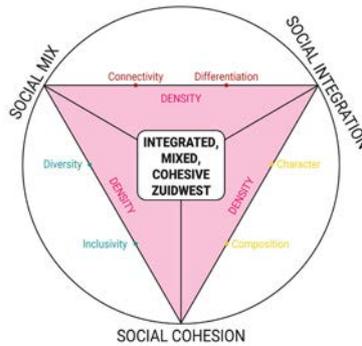
4.5 CONCEPTUAL FRAMEWORK

In the problem statement, the goal to make Zuidwest more socially mixed, integrated, and cohesive was set. To be able to translate these conceptual goals into more workable guiding themes for the analysis and design for Zuidwest, some key themes were identified and added to the conceptual framework. To make Zuidwest more socially mixed and integrated it is necessary to increase its connectivity and differentiation. To improve social cohesion and make Zuidwest more mixed, the themes of diversity and inclusivity should be considered. To improve social cohesion even more and add to the social integration of Zuidwest it should be given more character and a better composition. Lastly, Zuidwest should be densified to deal with the housing shortage. Densification can be used as a tool to address the themes, and simultaneously densification is informed by the design principles of the themes. Each theme is subdivided into specific elements of analysis and design that guide the chapter through the themes. The structure is defined in the framework on the right page. The upcoming three chapters will address the three sets of guiding themes for analysis and design as well as an exploration of the densification potentials of Zuidwest.

The goal of the first chapter is to create a strategic framework for the whole area of Zuidwest that can be used as a guide for the design of specific locations within the area. Firstly, the theme of connectivity and differentiation is explored and analysed to then create a set of design principles that finally create a strategic framework for Zuidwest that increases its connectivity and differentiation. After that, the densification potential of Zuidwest is explored, which is based on the strategic framework.

The second chapter combines the themes of diversity and inclusivity and character and composition since they are intertwined. This chapter consists of a series of analyses and design principles on a more local scale that can be used as design tools in actual designs for specific locations.

The third chapter contains actual design explorations on different key locations. These design explorations are fit into the strategic framework for connectivity and differentiation, informed by the densification potentials, and guided by the design principles for diversity and inclusivity and character and composition.



CONNECTIVITY AND DIFFERENTIATION

Accessibility
 Borders and boundaries
 Legibility
 Network
 Space syntax

DIVERSITY AND INCLUSIVITY

Identity space
 Collective space
 Mixed facilities and services
 Mixed housing

DENSITY

CHARACTER AND COMPOSITION

Attracting destinations
 Character
 Attractiveness and quality
 Security and perceived security

Chapter 5:

Strategic Design Framework



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5.1 CONNECTIVITY & DIFFERENTIATION

In the theory chapter, it was concluded that connectivity and differentiation are crucial to counter social segregation. This chapter explores the connectivity and differentiation in Zuidwest, to then derive design principles to increase connectivity and differentiation in order to reduce social segregation in Zuidwest. To do so, the chapter will be subdivided into different subthemes and strategies that were derived from theory.

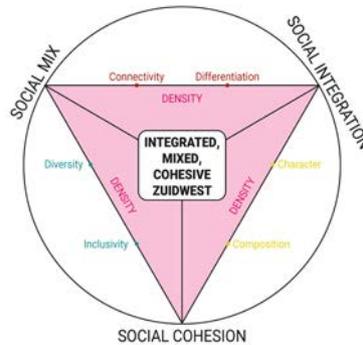
Connectivity is about making a physical connection by changing the urban fabric into a clear understandable system that is easy and attractive to move through. This means that a differentiation of space is crucial to make an area more readable, and spaces more interesting and attractive, which can increase movement through an area. This chapter will seek an answer to the question on the right page.

Firstly, physical connections are needed to accommodate social connections between inhabitants. To be able to create these physical connections, some bor-

ders and boundaries should be softened or even removed, in some cases these elements that now divide the urban fabric can even be transformed into connecting elements. Thirdly, the legibility of the urban structure is important to make it easier for people to orientate themselves, thus making the area more attractive to move through. This creates more opportunities for encounters and interaction. Fourthly, it is important that Zuidwest is a part of the larger city-scale networks and therefore more connected and integrated into the structure of the city. Finally, a good alignment of the abovementioned strategies with the space syntax of the area is important to ensure the goals that were set and maximise their effects.

From these themes, a conclusion is formed and translated into a strategic framework for Zuidwest. This framework can then be used as a basis for the implementation of strategies and designs that will be derived from the densification chapter, diversity & inclusivity chapter, and the character & composition chapter.

What strategic spatial interventions can contribute to increased **connectivity** and **differentiation** in Zuidwest to reduce its **segregation** from the city of Den Haag and its **segregation** within its borders?



CONNECTIVITY AND DIFFERENTIATION

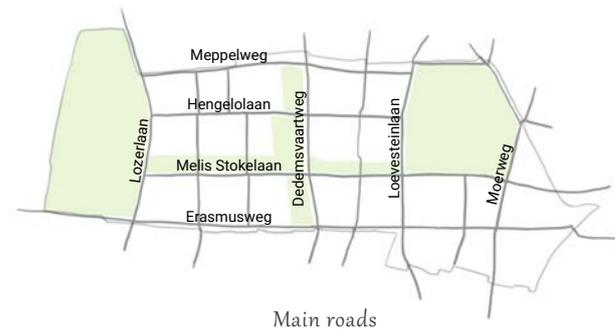
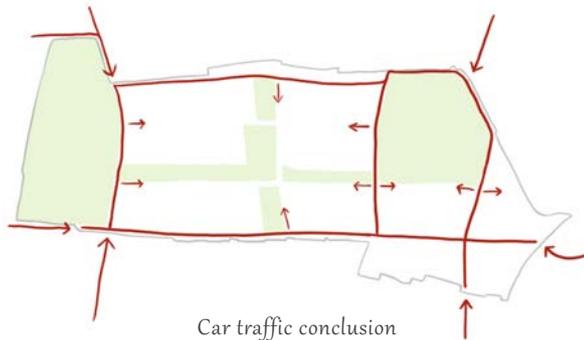
Accessibility
Borders and boundaries
Legibility
Network
Space syntax

5.1.1 ACCESSIBILITY

How accessible is Zuidwest for cars?

Physical connections are needed to accommodate social connections between inhabitants. The different modes of transportation, car traffic, public transport, and slow traffic like cycling and walking will be analysed in the context of Zuidwest. Car traffic as a mode of transport is especially efficient for long distances. However, now the car also plays a relatively large role for small distance movements in Zuidwest while other modes of transport are more efficient. Additionally, the large amount of car traffic makes the neighbourhood less attractive, safe, and clean and it hinders other

modes of transportation. Zuidwest is surrounded by four large roads, Lozerlaan, Meppelweg, Moerweg and Erasmusweg, and split by two others, Dedemsvaartweg and Loevesteinlaan, that give it excellent car accessibility. These roads also play an important role in the accessibility of the rest of Den Haag. The secondary network exists of two long lines, Hengelolaan and Meis Stokelaan, that run through Zuidwest and provide access to the neighbourhoods. Moerwijk is the exception because the Erasmusweg and Moerweg run through the neighbourhood and divide it into quadrants.



Car traffic

- North Sea
- Den Haag outline
- Zuidwest outline
- motorway
- primary
- secondary
- tertiary



1,5 3 km



Car traffic

- Den Haag outline
- Zuidwest outline
- motorway
- primary
- secondary
- tertiary
- Buildings



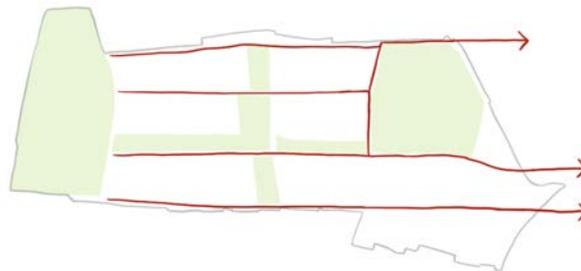
0,5 1 km



How accessible is Zuidwest by public transport?

The public transport network of Den Haag has its centrality in the centre of Den Haag with almost all trams and bus lines going toward or through the city centre over the long lines through Zuidwest making it well connected to the centre. However, to travel to different parts of the city or places outside of Den Haag from Zuidwest people always need to detour through the cen-

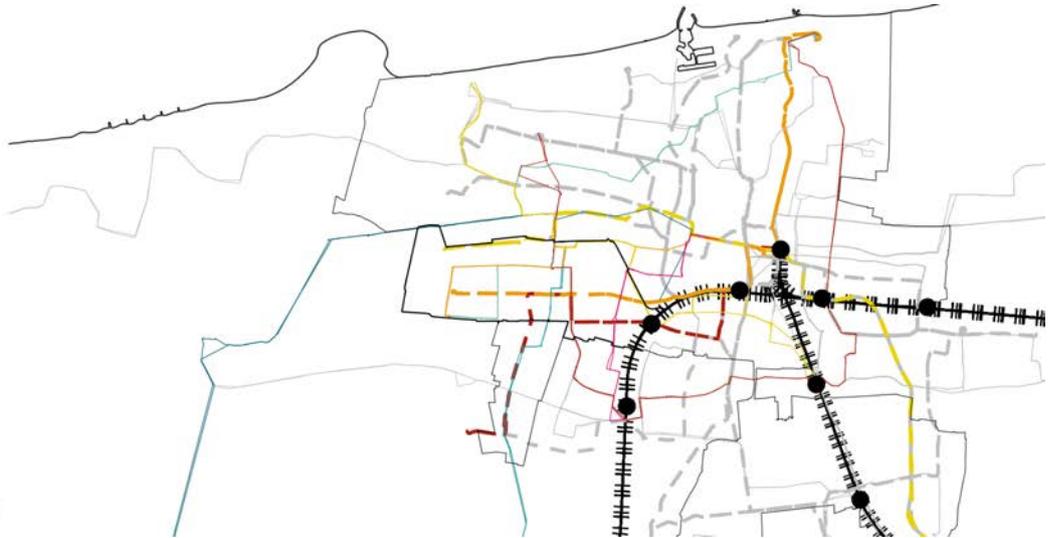
tre. For example, a direct connection to the coastline is lacking, making it a long trip of around an hour, while the distance is not that far. Additionally, the sprinter station of Den Haag Moerwijk is the only direct connection to the rest of the Netherlands, unfortunately, the station is in the far northeast corner of Zuidwest, therefore it is not very central.



Public transport conclusion

Public transport

- North Sea
- Den Haag outline
- Zuidwest outline
- Train stops
- Bus lines
- - Tram lines
- ⊥ Train lines



Public transport

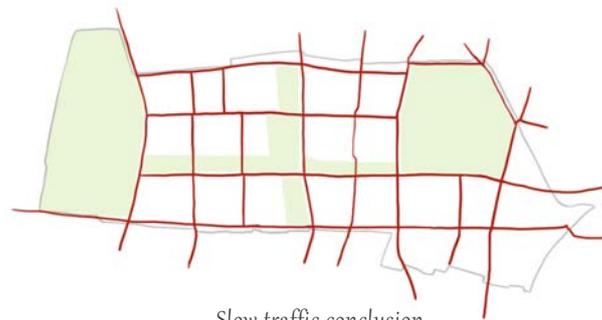
- Den Haag outline
- Zuidwest outline
- Bus stops
- Tram stops
- Train stops
- Bus lines
- - Tram lines
- ⊥ Train lines
- Buildings



How accessible is Zuidwest for slow traffic?

The slow traffic network of Zuidwest can be subdivided into a cycling and a pedestrian network. Some important cycling routes that connect different cities and villages to Den Haag run through Zuidwest which gives it an important place in the cycling network. Unfortunately, the cycling network, as well as the pedestrian network is

always combined with the car network of large roads. This makes the connectivity and legibility of the routes good, however, it does not provide for attractive routes that are inviting to use. The busy roads create noise, smell, unsafety, and borders in the slow traffic network.



Slow traffic conclusion

Slow traffic

-  North Sea
-  Den Haag outline
-  Zuidwest outline
- Slow traffic
-  Urban
-  Green
-  Cycling routes
-  Water



Slow traffic

-  Den Haag outline
-  Zuidwest outline
- Cycling
- Both
- Pedestrian
-  Buildings



How can car traffic be reduced while keeping Zuidwest accessible?

As described, the accessibility of Zuidwest is mainly focussed on car traffic, however, this good accessibility has many downsides for liveability and other modes of transport. Additionally, the importance of the four roads that surround the neighbourhood as the main arteries for the accessibility of Den Haag should be considered. The proposal is therefore to keep the four roads as a ring road around Zuidwest. However, inside the neighbourhood, the two long lines will lose their function as

How can Zuidwest play a role in the connection of the coastline and the inland?

The connectivity of Zuidwest by public transport is good towards the city centre over the long lines of Den Haag, however, direct connections in the other directions, from the coastline to the inland are lacking. To go to these destinations a transfer in the centre of Den Haag is always necessary. New connections perpendicular

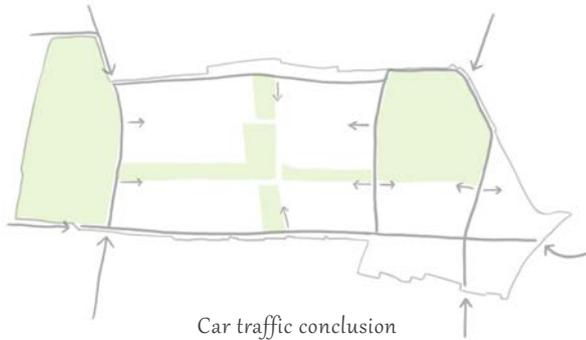
How can Zuidwest become more attractive for slow traffic?

The slow traffic network is mainly alongside the car traffic network which makes it not very pleasant and reduces connectivity with many road crossings. By reducing car traffic on the two central long lines, Hengelolaan and Melis Stokelaan, they become more attractive for slow traffic, and it increases connectivity. For the perpendicular network, an additional main network of slow

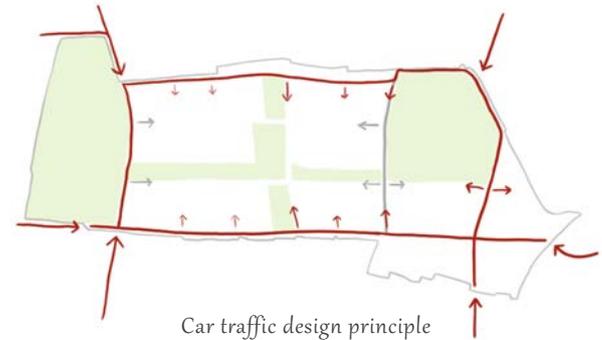
main arteries for car traffic and accessibility will be provided by smaller roads between the Erasmusweg and Meppelweg. To reduce traffic on the long lines, they will both be disconnected from the Lozerlaan by an ecoduct, which will be further explained in the next chapter 'Borders and Boundaries'. Additionally, the Hengelolaan will be car-free and the Melis Stokelaan will be transformed into a bicycle street to give priority to slow traffic.

to the long lines would massively reduce travel times to the aforementioned destinations and thus improve the connectivity of Den Haag Zuidwest. Especially the Dedemsvaartweg would be suitable because it is the most central street, and a tram track is already present, which is now only used to bring trams to the depot.

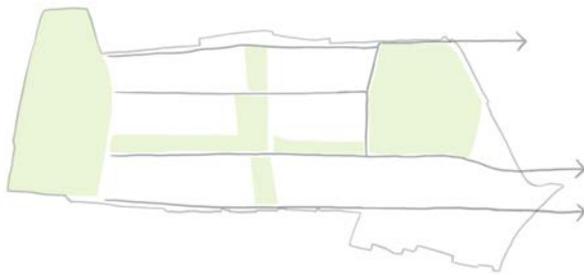
traffic is proposed which is disconnected from the car streets in existing local streets that become pedestrianised, with increased greenery and places for interaction. This makes Zuidwest more walkable and cyclable, with an attractive network that increases overall liveability. The spatial design of these new connections will be elaborated in the next chapter.



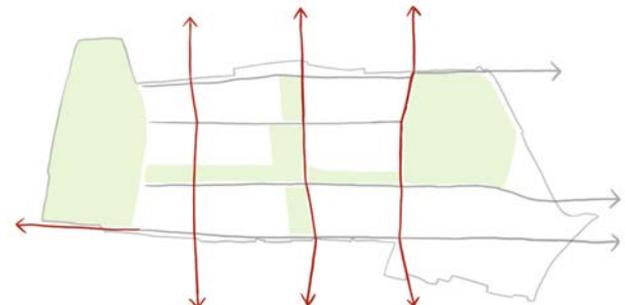
Car traffic conclusion



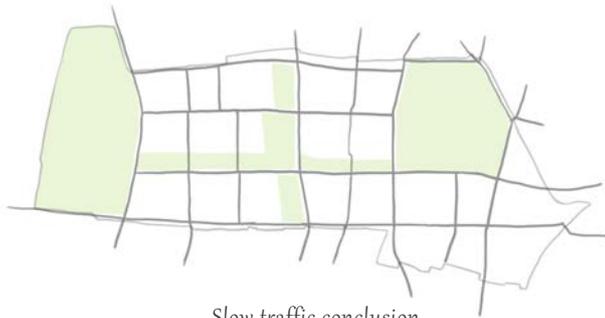
Car traffic design principle



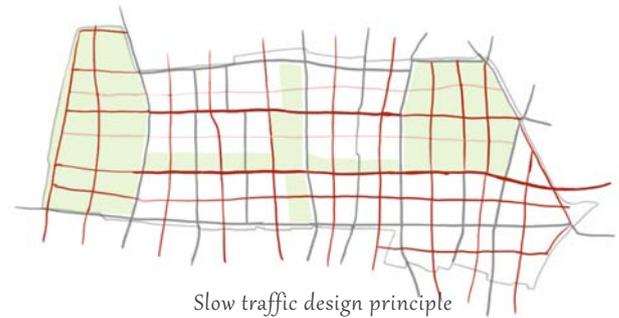
Public transport conclusion



Public transport design principle



Slow traffic conclusion



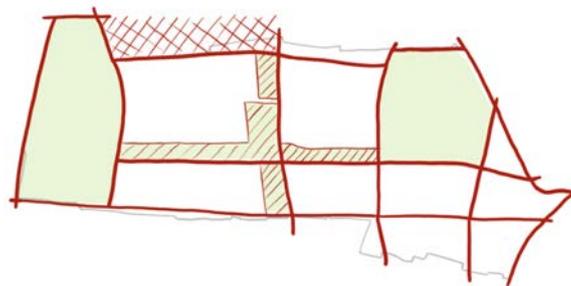
Slow traffic design principle

5.1.2 BORDERS AND BOUNDARIES

What are the borders and boundaries that segregate Zuidwest?

Segregation of Zuidwest is caused by many factors among which physical connections and disconnections. There are many borders that physically segregate Zuidwest from its surroundings, but also within itself. To reduce segregation, one approach is to reduce these borders and boundaries to make it a connected whole and to integrate Zuidwest more in the city of Den Haag. The existing borders and boundaries originate from its original modernist design from the post-war period by Dudok. Zuidwest is split into many different neighbourhoods, with Bouwlust en Vrederust and Morgenstond both split from each other into two by a road together

with a green cross, Moerwijk is most segregated into five parts by the large roads that go through it. The design was based on the idea of efficiency which resulted in large roads, a lot of green in combination with the separation of functions that turns these green structures into borders, and the idea that the neighbourhood should function on its own which results in the neighbourhoods of Zuidwest being separate entities in their urban fabric. The top map shows the location of the different types of borders and boundaries in Zuidwest which will be elaborated on in the next pages. The bottom map shows how strong of a segregator it is.



Borders and boundaries conclusion

Borders and boundaries

-  Den Haag outline
-  Zuidwest outline
-  Train
-  Tram
-  Large roads
-  Medium roads
-  Canals
-  Singels
-  Greenery
-  Industry



0,5 1 km



Borders and boundaries

-  Den Haag outline
-  Zuidwest outline
-  Strong
-  Medium
-  Soft



0,5 1 km



Strong borders: large roads

There are quite some large roads through Zuidwest where car traffic is dominant and walkability low. These form strong borders in Zuidwest because they are hard to cross. They are not safe to cross at random points, and the green verges make crossing them even harder. As for assigned and safe crossings, there are very few of them.



Strong borders: train tracks

The east of the neighbourhood is partly bordered by the train tracks. They are buffered by a wall and a strip of greenery to reduce their nuisance but also form a strong border. However, this is a relatively short border, and thus it does not form a large problem.



Traintracks (Google Earth, 2023)

Strong borders: Canals

On the east side of the neighbourhood, the train tracks are alternated by a canal that forms the border between Zuidwest and the city centre. There are little bridges that cross the canal making it a strong border.



Laakkanaal (Google Earth, 2023)

Medium borders: medium roads

There are many medium-sized roads in Zuidwest that form medium-strong borders. They are crossable at random points, but that is not preferable. As for the large roads, these also do not have many assigned and safe crossings.



Hengelolaan (Google Earth, 2023)



Beresteinlaan (Google Earth, 2023)



Vrederustlaan (Google Earth, 2023)

Medium borders: Singels

Within the neighbourhood, there is a structure of singels that contributes to the green quality and visual quality as well as to climate adaptivity and biodiversity. However, they also form borders within Zuidwest because there are not that many bridges to cross them. Additionally, some of them like the Erasmusweg and Moerweg, form a visual border as well, because of their dense vegetation. In some places, this might be desirable to block views from housing onto busy roads, but this is not always the case. The bottom picture of the Steenwijklaan shows an example where the vegetation is not so dense and the singel does not form a visual border, which is more desirable if there is housing on both sides.



Erasmusweg (Google Earth, 2023)



Moerweg (Google Earth, 2023)



Steenwijklaan (Google Earth, 2023)

Medium borders: business parks

On the north-west of Zuidwest is the industrial area Kerketuinen en Zichtenburg, this area forms a medium border between Zuidwest and Houtwijk (a neighbourhood on the other side). Physically there are some connections throughout the area, however, they are not attractive connections. Other than cars and trucks there is not really any activity in this area with blind plinths and mainly pavement, for slow traffic it is therefore very uninviting to go through.



Kerketuinen en Zichtenburg (Google Earth, 2023)



Kerketuinen en Zichtenburg (Google Earth, 2023)



Kerketuinen en Zichtenburg (Google Earth, 2023)

Medium borders: Escamp (green cross)

The Escamp is a green cross that divides Zuidwest into four quarters. Almost the whole green area is privatised as allotment gardens and sports fields. Additionally, almost all areas are surrounded by a ditch, dense greenery and fences which makes it a medium-strong border, physically but also visually. There are some places where it is possible to cross the Escamp to the other side, however, their entrances are often somewhat hidden in dense vegetation and the routes are not very attractive because of all the fences around the sports fields. Additionally, there is little social control in these areas when the sports fields are not used which might cause feelings of unsafety.



Green Cross: Escamp I (Google Earth, 2023)



Green Cross: Escamp I (Google Earth, 2023)



Green Cross: Escamp I (Google Earth, 2023)

Soft borders: Zuiderpark

Although the Zuiderpark is a very attractive green area for Zuidwest as well as for the city of Den Haag, it also functions somewhat as a border because of its size. It measures approximately 1,2 by 1,2 kilometres making walking times from one side to the other quite long. Additionally, accessibility to the park is not very good in certain places. Firstly, it is surrounded by large roads and the canal and secondly, the south and south-east of the park have very few entrances and are bordered by dense vegetation, water, tramrails, and fences.



Zuiderpark (Google Earth, 2023)



Zuiderpark accessibility (Google Earth, 2023)



Zuiderpark inaccessibility (Google Earth, 2023)

Soft borders: Uithofpark

Finally, the Uithofpark, like the Zuiderpark is a very attractive park for Zuidwest and Den Haag. However, it also acts as a border for approximately the same reasons as the Zuiderpark. However, it is less of a problem because the Uithofpark is on the edge of the city and not in between Zuidwest and the city centre, connectivity through the Uithofpark is, therefore, less crucial. However, accessibility could be improved, therefore it is mainly important to reduce the border of the Lozerlaan that cuts between Zuidwest and the park.



Uithofpark areal (Google Earth, 2023)



Uithofpark accessibility (Google Earth, 2023)

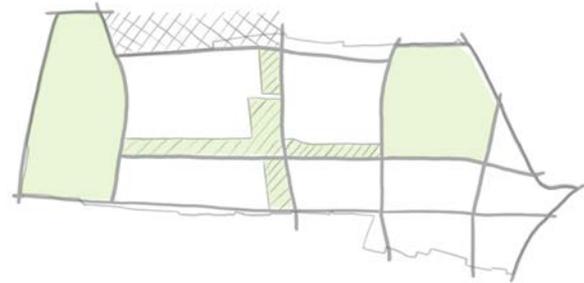


Uithofpark inaccessibility (Google Earth, 2023)

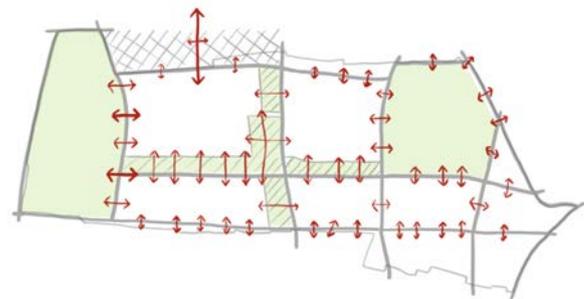
Generally, Zuidwest is a very segregated area because of the large number of borders and boundaries around and through the area. Therefore, the main design intervention is to remove or soften them. The approach to do so varies between different types of borders. Here some design principles will be given that can be used to do so.

How can the bordering roads be removed or softened?

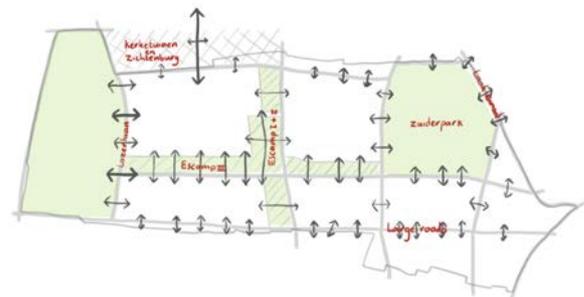
The approach for roads differs for how large the road is, and how important they are for the connectivity of the city. As described in the previous chapter, the Hengelolaan and Melis Stokelaan will be transformed into respectively a car-free street and a bicycle street. This already removes them as borders within Zuidwest. The roads surrounding the area, Lozerlaan, Meppelweg, Moerweg and Erasmusweg are important main arteries for the city, it is, therefore, crucial for them to maintain their capacity and traffic flow. For these roads additional assigned and safe crossings can soften their bordering effects.



Borders and boundaries conclusion



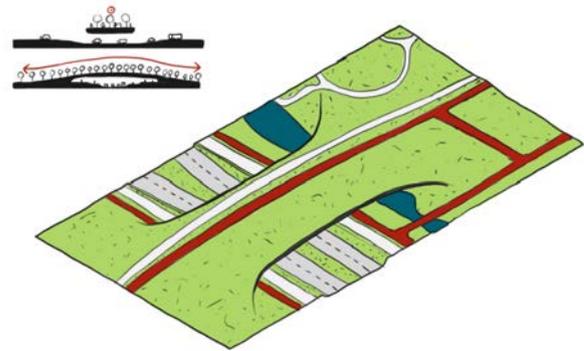
Borders and boundaries design principle



Borders and boundaries design location

Large roads: Lozerlaan

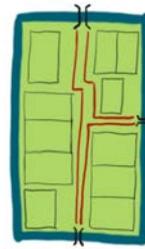
The Lozerlaan, as mentioned, is one of the four main arteries around Zuidwest, this road specifically has the opportunity to be deepened and bridged. This disconnects car traffic over the long lines (Hengelolaan and Melis Stokelaan) and increases their function as a connector for slow traffic and ecology into the Uithofpark.



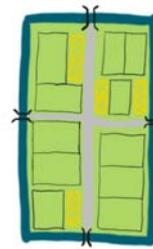
Lozerlaan bridges design principle

How can the Escamp become more permeable and its function be maximised?

The Escamp forms a border in Zuidwest because of the privatisation of the sports facilities, the surrounding water and fences, and the interactivity of the paths through it. The area can be made more permeable by adding bridges and removing the fences around the sports fields. Additionally, this can provide opportunities for adding more unorganised sports and sports facilities in between the sports fields and opening the existing sports fields. This can contribute to making sports more accessible for everyone, and at the same time providing opportunities for interaction and social cohesion. This makes the area also more active increasing activity and social control.



Escamp conclusion

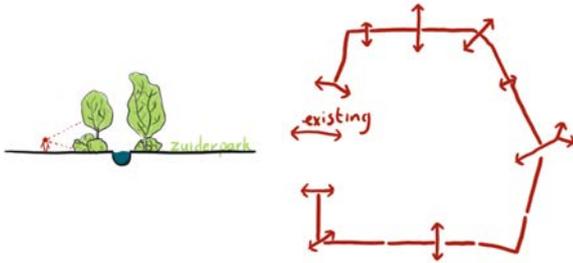


Escamp design principle

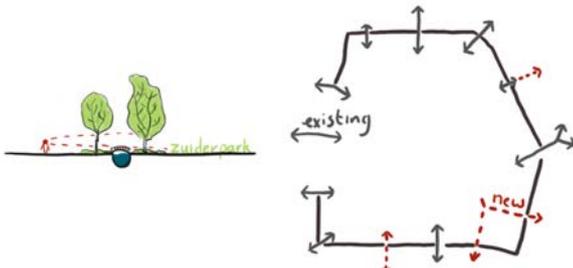


How can the Zuiderpark become more permeable, and its function be maximised?

The bordering effect of the Zuiderpark should be decreased firstly by decreasing the bordering effect of the roads that surround it. And adding a bridge on the east side to increase its connection to the neighbourhood of Rustenburg en Oostbroek on the other side. Additionally, the park itself could be opened more by adding more entrances, especially at the south and southeast of the park. Additionally, the visual border can be reduced by making the vegetation at the edges less dense.



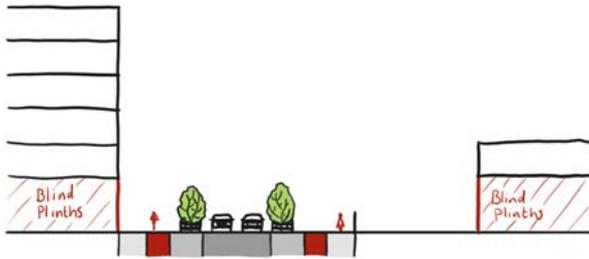
Zuiderpark conclusion



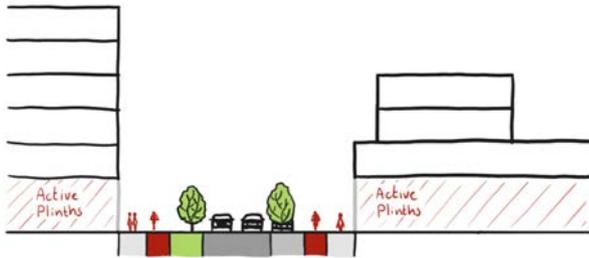
Zuiderpark design principle

How can the business park become more attractive to reduce its segregating effect?

The business park Kerketuinen en Zichtenburg mainly forms a border because of the unattractiveness of the area itself due to traffic, inactivity, blind plinths, and large amounts of pavement. To reduce the bordering effect, some of the roads that run through it can be given a quality impulse. By adding green, increasing walkability, open plinths and with that increasing activity. Additionally, it is important to do this on a road that has a good connection and walkability on either side of the business park. This means the Zichtenburglaan is a suitable street because it connects to a small shopping centre in Zuidwest and a shopping street on the other side in Houtwijk. On the right page, the reference images show a design for the Kabeldistrict in Delft, which shows the qualities that could help in reducing this border.



Kerketuinen en Zichtenburg conclusion



Kerketuinen en Zichtenburg design principle



(Kabeldistrict Delft - Mei Architects and Planners, 2023)

5.1.3 LEGIBILITY

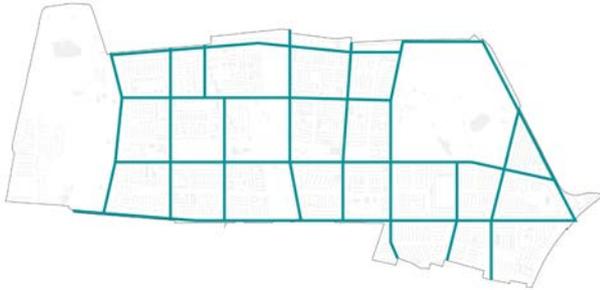
Which elements make Zuidwest legible and what can be done to improve?

Because of the orthogonal street pattern and clear road hierarchy structure, the legibility of Zuidwest is already very good which plays a role in countering segregation. The legibility could however be improved by adding some recognition points in the form of high buildings on

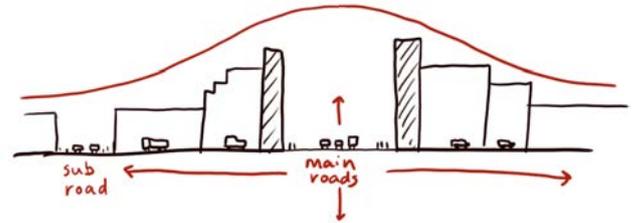
Additionally, the blue-green structure in Zuidwest mainly consists of singels and the green cross provides legibility to the area. However, the singels are not always consistent in terms of their locations, at some locations they overlap with the main road structure like at the Erasmusweg and Melis Stokelaan, however, at other locations, the singels are separated from the main road structure and are located in local streets. By making the Hengelolaan and Melis Stokelaan important slow traffic connections along the long lines together with the Steenwijklaan there is a more logical structure of slow traffic long lines along the Singels. This goes for

important points or important road intersections. Additionally, the road hierarchy can be amplified by adding corresponding height differences with higher buildings along important streets and intersections.

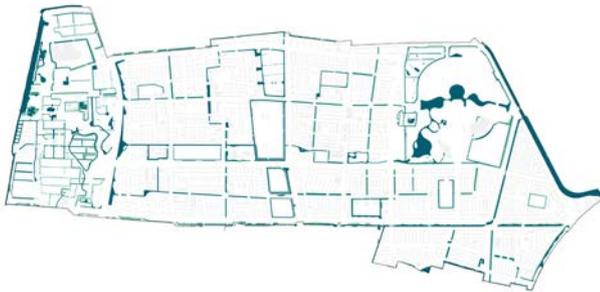
the perpendicular slow traffic network as well because this will also be located mainly along the singel structure. To do so, some additional connections between now disconnected singels should be made. Additionally, the singel structure can become clearer by making narrower bridges and reducing the density of vegetation along some of the singels to make them more visible and apparent in the streets. This will all contribute to the legibility of the neighbourhood especially from the slow traffic perspective.



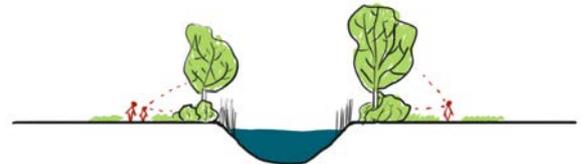
Legebility roads conclusion



Legebility roads design principle



Legebility singels conclusion



Legebility singels conclusion



Legebility singels design principle

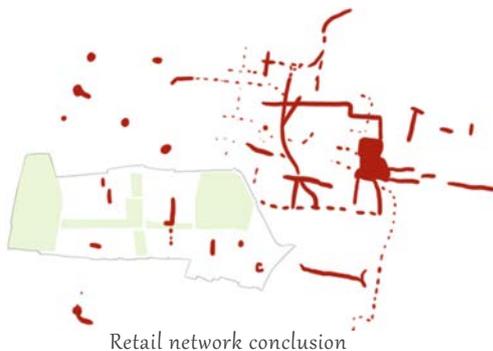
5.1.4 NETWORK

Another important factor to reduce segregation is networks. This is more about larger-scale networks between different themes to integrate Zuidwest more in Den Haag. For this research, the retail network and green network are analysed.

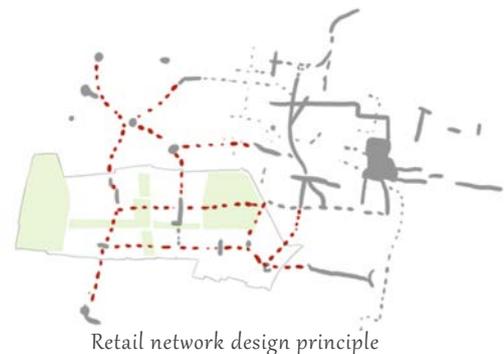
How can the retail in Zuidwest connect to the retail network of Den Haag?

The retail network of Den Haag exists in roughly three typologies. The first is one large central cluster in the centre of Den Haag where almost all buildings have a retail or horeca function in the plinth. The second typology is highstreets that can mainly be found in the neighbourhoods around the centre that all spread from the central cluster. Further from the centre, the highstreets become more diluted until they disappear. The rest of

the neighbourhoods further from the centre contain mostly the third typology of smaller clusters of retail and horeca that mainly serve just the neighbourhood that they are in and at the same time form the centrality of the neighbourhood. This is also the type that we find in Zuidwest. The disadvantage of this type is that it is mainly focused inward and only interaction within the neighbourhood is promoted. The highstreet on the other hand often goes through multiple neighbourhoods and by doing so connects different neighbourhoods to each other and the city centre. Therefore, the design proposal is to promote retail along the long lines with good legibility and space syntax (see next chapter) to promote forming of highstreets between existing clusters in Zuidwest and outside to increase connections between neighbourhoods.



Retail network conclusion



Retail network design principle

Retail network

-  North Sea
-  Den Haag outline
-  Zuidwest outline
-  Main retail network
-  Retail function
-  Other function



1,5 3 km



Retail network

-  Den Haag outline
-  Zuidwest outline
-  Main retail network
-  Retail function
-  Other function



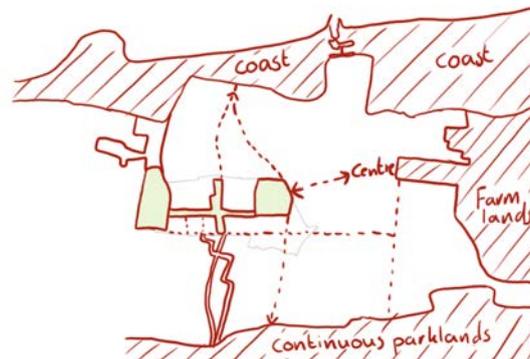
0,5 1 km



How can the green network that crosses Zuidwest be strengthened?

Green networks have a multitude of functions, they can function as physical connections for slow traffic to increase connectivity, they can function as a place where people come together for all kinds of activities like socialising, physical activity and enjoying nature, they can play an important role in climate adaptivity, and biodiversity. In the case of Den Haag, Zuidwest is an important link in the green network between the rural area and the city. The green cross (Escamp) some singels,

and some streets with tree lines are important connections. Additionally, the Zuiderpark and Uithofpark play an important city-wide role as locations for sports and leisure. The Zuidwest fulfils this role of connection already quite well due to its large amounts of greenery. Therefore, the amount of greenery does not have to be extended, only in some instances, the quality of greenery could be improved to provide better connectivity for slow traffic and biodiversity as explained in the borders and boundaries chapter before.



Green network conclusion

Green network

- North Sea
- Den Haag outline
- Zuidwest outline
- Ecological tree lines
- Ecological zones
- Other greenery



Green network

- Den Haag outline
- Zuidwest outline
- Ecological tree lines
- Ecological zones
- Buildings



5.1.5 SPACE SYNTAX

Which are important streets in Zuidwest according to angular choice analysis?

Space syntax is a very important factor for connectivity, all the design interventions that were mentioned before benefit from or even rely on good space syntax. Additionally, space syntax can be a useful tool to prove the functionality of some design ideas. In this case, angular choice is used for the analysis of Zuidwest. Angular choice represents how often a street segment exists in the shortest route to all segments within a specif-

How can the car traffic network be changed to improve the angular choice?

The space syntax analysis for car traffic shows the importance of the main arteries that go around Zuidwest. However, it also shows that the two roads that are proposed to be transformed into slow-traffic roads (Hengelolaan and Melis Stokelaan) have a high angular choice for car traffic as well. However, therefore changes will be needed to decrease angular choice for these two roads, this can be done by making it less straight, so it is not the straightest route anymore, however, this would also reduce the angular choice for slow traffic

ic distance, where the shortest route is the route with the least deviation, thus the straightest route (Hillier & Iida, 2005). Here the analysis of the current car traffic network and slow traffic network is shown, later in this chapter when the connectivity design for Zuidwest is complete, space syntax analysis will also be done on the designed networks.

which is not preferred. The other option is to simply disconnect the road from other roads for car traffic. That is exactly what the proposal for the disconnection of these roads from the Lozerlaan intends. Additionally, the perpendicular connections have a high angular choice which strengthens the proposal of a network where only the long lines Meppelweg and Erasmusweg function as main arteries with the perpendicular connections as the neighbourhood access roads.

Car traffic
angular choice 5km

□ Zuidwest outline
□ Den Haag outline
Angular choice 5km

— 0 - 1
— 1 - 2,5
— 2,5 - 5
— 5 - 7,5
— 7,5 - 10
— 10 - 25
— 25 - 50
— 50 - 100
— 100 - 500
— 500 - 5000



1 2 km



Car traffic
angular choice 5km

□ Zuidwest outline
□ Den Haag outline
Angular choice 5km

— 0 - 1
— 1 - 2,5
— 2,5 - 5
— 5 - 7,5
— 7,5 - 10
— 10 - 25
— 25 - 50
— 50 - 100
— 100 - 500
— 500 - 5000



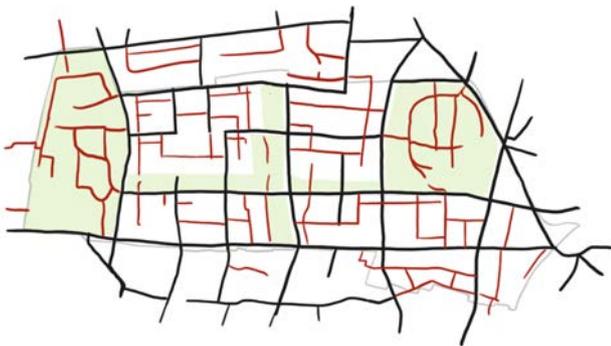
0,5 1 km



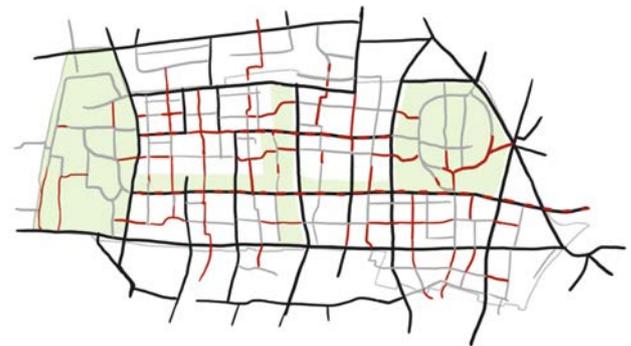
How can the pedestrian network be changed to improve the angular choice?

For pedestrian traffic, the space syntax analysis shows that the long lines are important connections, so making them slow-traffic roads is valuable. The Hengelolaan is disconnected at one point, where it should be improved. The Steenwijklaan also has a good angular choice on some of its parts, however, it is interrupted by parts with a low angular choice, so it is important to improve those connections. As for the perpendicular connections in some instances, a strong angular choice corresponds to the same roads as those where car traffic has a good angular choice. However, other connections can be recognised in this direction as well. The

proposal to separate the slow traffic network from the car traffic network, therefore, makes sense in terms of angular choice. Simultaneously the angular choice analysis can be used to recognise suitable streets for these connections and identify where additional connections are needed. In the design process for a connectivity plan space syntax is used as an iterative tool to analyse and base designs on and to reflect on the designs that are made. In the conclusion of this connectivity chapter, a structured design for connectivity will be provided and angular choice analysis will be redone on this design proposal.



Space syntax conclusion



Space syntax design principle

*Pedestrian
angular choice 800m*

-  Zuidwest outline
-  Den Haag outline
- Angular choice 800m

- 0 - 1
- 1 - 2,5
- 2,5 - 5
- 5 - 7,5
- 7,5 - 10
- 10 - 25
- 25 - 50
- 50 - 100
- 100 - 500
- 500 - 10.000

(x1000)



*Pedestrian
angular choice 800m*

-  Zuidwest outline
-  Den Haag outline
- Angular choice 800m

- 0 - 1
- 1 - 2,5
- 2,5 - 5
- 5 - 7,5
- 7,5 - 10
- 10 - 25
- 25 - 50
- 50 - 100
- 100 - 500
- 500 - 10.000

(x1000)

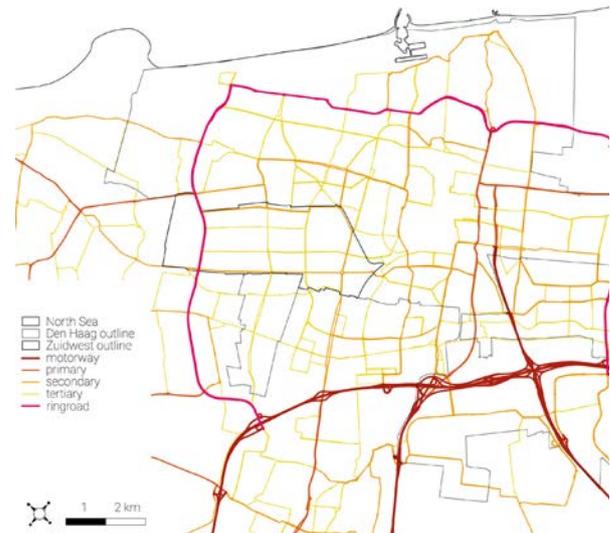


5.1.6 STRUCTURE PLAN

In the previous pages, the elements that contribute to the segregation of Zuidwest and play a role in reducing segregation were analysed. From the analysis, conclusions were drawn, and design interventions were proposed per specific element. This last part will try to combine all proposals and make an integral structure plan. The main intervention is the introduction of a slow traffic network. Along the long lines, this means a reduction of car traffic, in the perpendicular direction this means the separation of the main local car streets and the main slow-traffic streets. This new network is based on the existing network, accessibility, large-scale networks, and space syntax, additionally, legibility is considered, and borders are softened or removed. The design of the structure plan will be presented on two scales, the city scale, and the scale of Zuidwest and explained step by step along with the design drawings from the pages before.

How can car traffic be reduced while keeping Zuidwest accessible?

On the city scale, the municipality aims to organise the accessibility of the city with a main ring road, this ring road goes along Zuidwest over the Lozerlaan. The basic principle for car accessibility of Zuidwest will therefore be based on two branches of the Lozerlaan: the Meppelweg and Erasmusweg, to form its own smaller ring road.



City scale car traffic

How can Zuidwest become better connected for slow traffic?

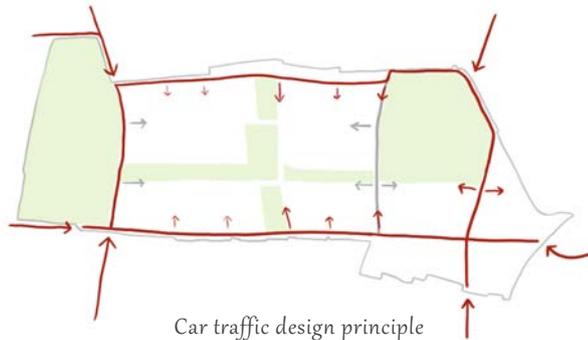
The main slow traffic routes that Den Haag identifies are split into urban pedestrian routes, green pedestrian routes and cycling routes. However, the network that they propose is very centralised, resulting in the long lines of Zuidwest being part of this network and all going towards the city centre. However, there is little focus on slow traffic in the other direction, from the coastline

inland. Therefore, the proposal is to add some new connections, both pedestrian and cycling connections in this direction. Pedestrian connections are based on Den Haag's retail network and the cycling network is located on wide roads with straight lines so bike lanes can be wide and uninterrupted.



How can car traffic be reduced while keeping Zuidwest accessible?

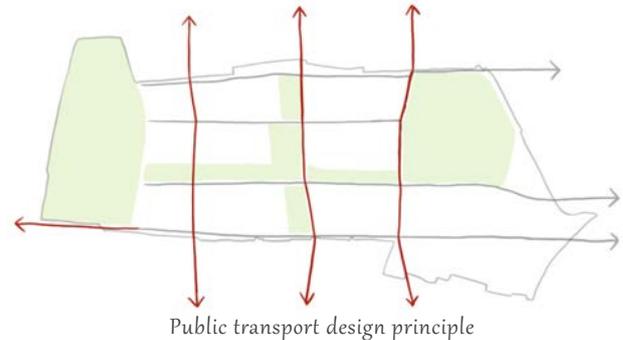
As explained a ring road principle will be used to keep Zuidwest accessible. From this ring road, perpendicular streets run through Zuidwest from which the neighbourhoods will be accessible. The Dedemsvaartweg is a little more important and runs through the middle of Zuidwest and is part of a larger road through Den Haag.



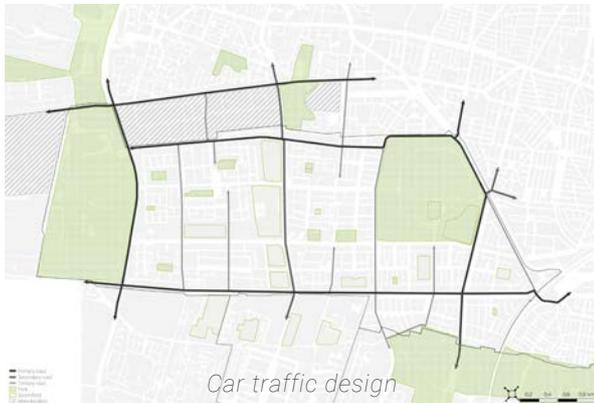
Car traffic design principle

How can Zuidwest play a role in the connection of the coastline and the inland?

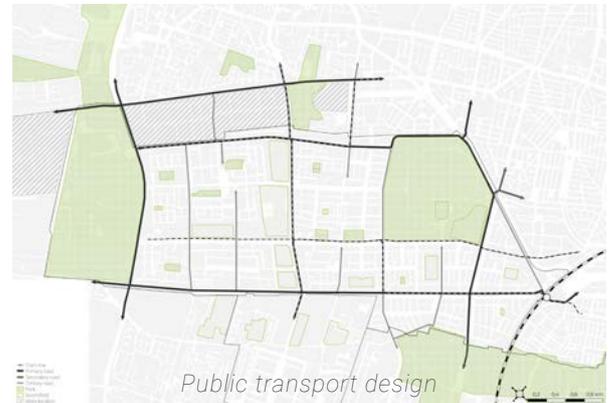
Zuidwest needs a better connection between the coastline and the inland. The Dedemsvaartweg is the best option for a new tram connection. It already has a tram track that now goes to the depot, connects to an existing line through Wateringen, and has a central location in Zuidwest.



Public transport design principle



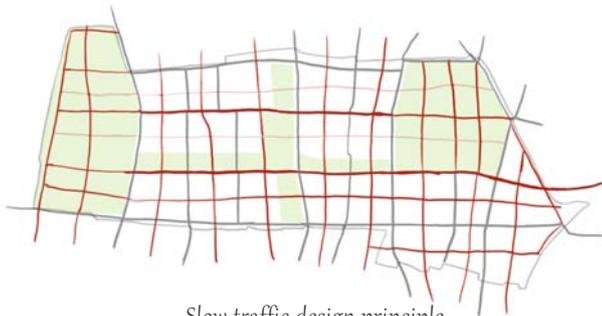
Car traffic design



Public transport design

How can Zuidwest become more attractive for slow traffic?

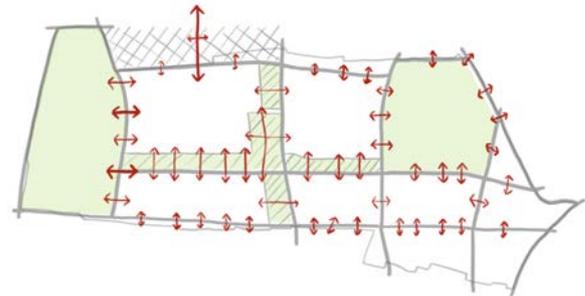
The slow traffic connections leading from the city scale design are shown on this map with the pedestrian routes through the main retail centres and the cycling routes along wider and straight streets. Local pedestrian connections will be shown later after the argumentation of their locations.



Slow traffic design principle

How can the borders and boundaries that segregate Zuidwest be removed or softened?

Several borders are reduced in this design proposal. Bridges are made over the Lozerlaan to improve the connection to the Zuiderpark. The street through Kerke-tuinen en Zichtenburg is made more pedestrian-friendly and active, and the Escamp and the Zuiderpark are more permeable.



Borders and boundaries design principle



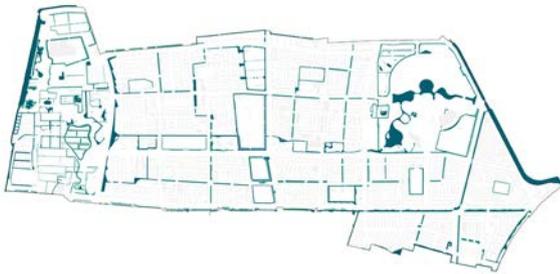
Slow traffic design



Borders and boundaries design

How can the legibility of Zuidwest be improved?

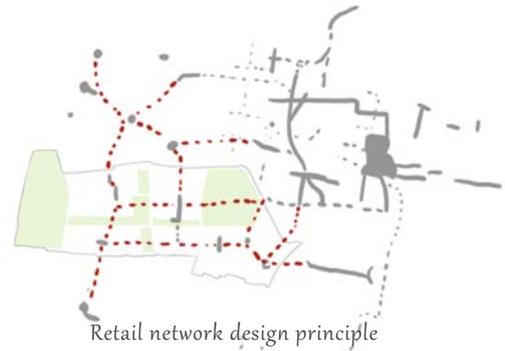
The legibility can be improved by making the road hierarchy more obvious than it already is by involving the building heights along the roads, this will be explored more in the next chapter. Additionally, the legibility of the pedestrian network can be improved by using a single structure as a base for it.



Legibility singels conclusion

How can the retail in Zuidwest connect to the retail network of Den Haag?

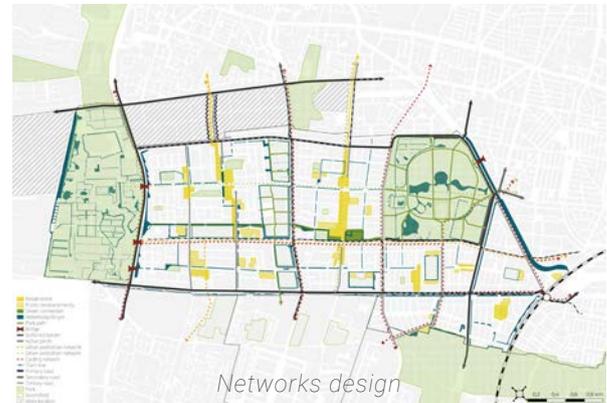
The city-scale pedestrian network can be connected to and through Zuidwest by expanding the existing retail centres in a highstreet typology towards retail centres outside Zuidwest. Additionally, the green structure between the Zuiderpark and the Uithofpark can be better connected along the Melis Stokelaan.



Retail network design principle



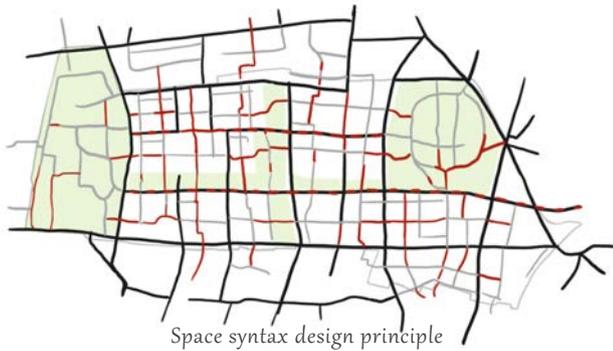
Legibility design



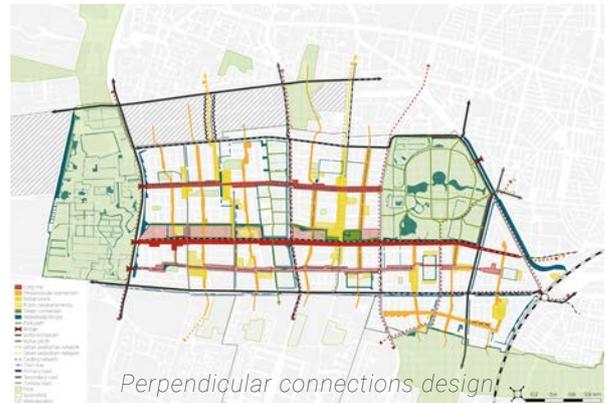
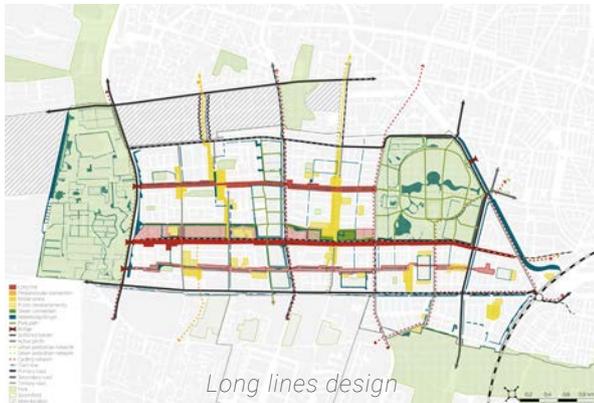
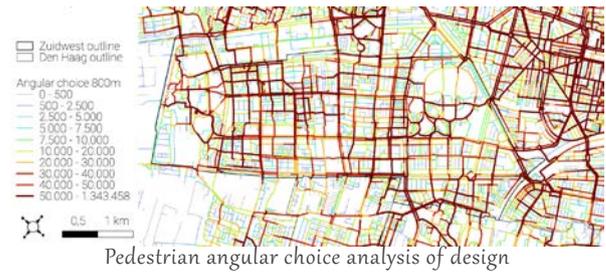
Networks design

How can the pedestrian network be changed to improve the angular choice?

The last factor to determine the location of the main pedestrian network is the space syntax of Zuidwest. The streets that pop up in the angular choice analysis are connected where necessary to form a network that connects all of Zuidwest. It consists of three long lines on previously car-dominated routes that all have a slightly different function and typology, supplemented

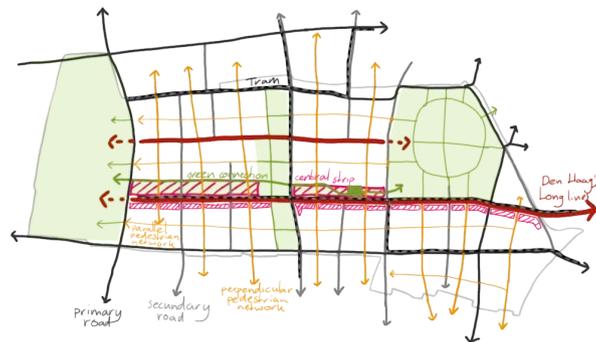


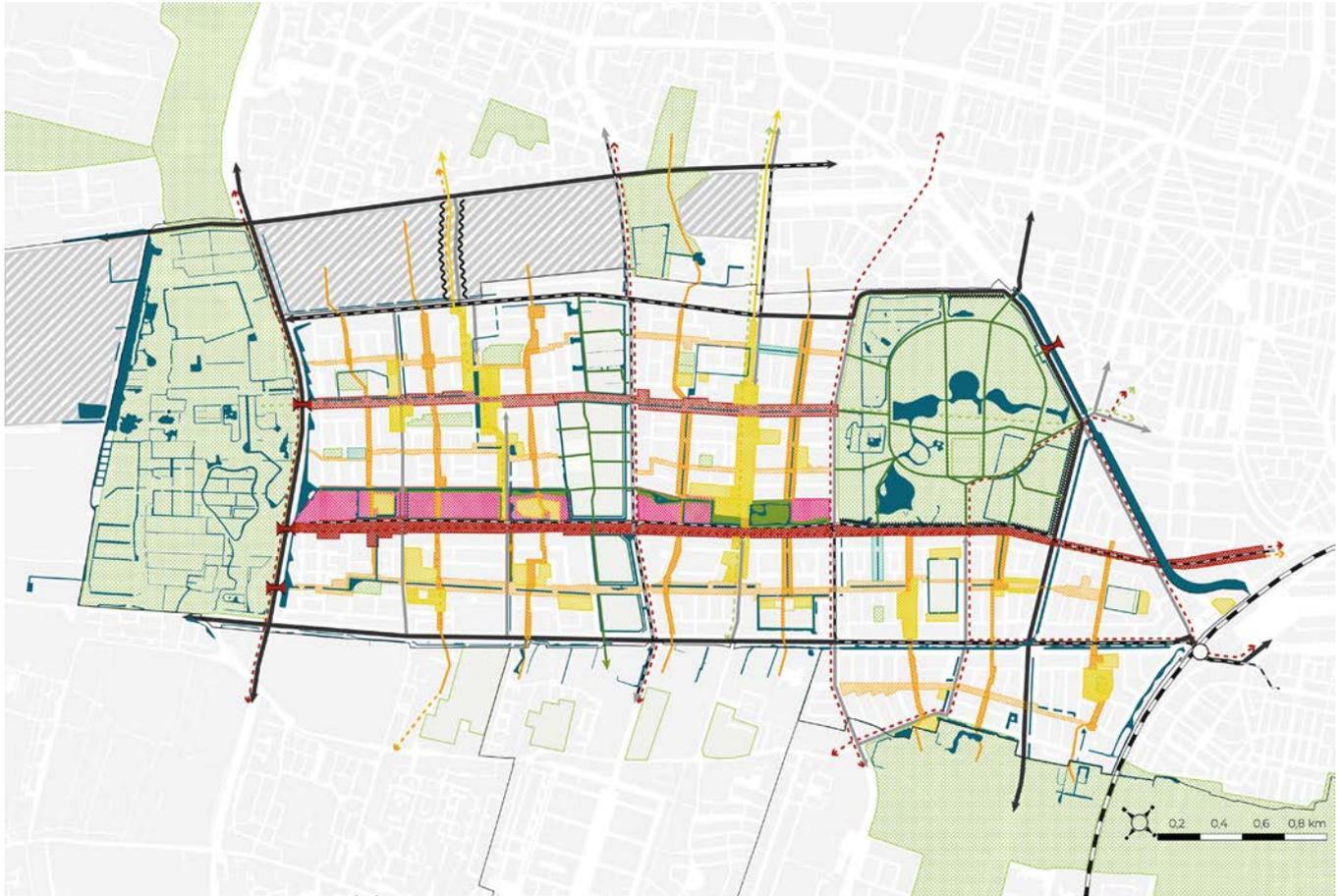
by perpendicular connections which are smaller streets that are displaced from the main roads for car traffic. The network increases the accessibility of Zuidwest and plays a role in the city-wide networks of Den Haag. Additionally, it connects the green structures and retail structures in Zuidwest.



What strategic spatial interventions can contribute to increased **connectivity and **differentiation** in Zuidwest to reduce its segregation from the city of Den Haag and its segregation within its borders?**

By differentiating spaces and streets accessibility for slow traffic can be increased. A clear difference between fast and slow traffic networks contributes to a more walkable and attractive neighbourhood. Borders can play a role in defining these spaces; however, it should be prevented that they are segregating places and people from each other. Legibility is a factor in the easiness of moving through the city, differentiation of the urban fabric can contribute to this and is closely related to space syntax, which plays a role in guiding people's movement through the network. By applying all these principles to Zuidwest a more connected and differentiated area can be achieved which contributes to reducing the segregation of Zuidwest from Den Haag, and to reducing the segregation between the different neighbourhoods within Zuidwest itself.





Legend

Connectivity and Differentiation

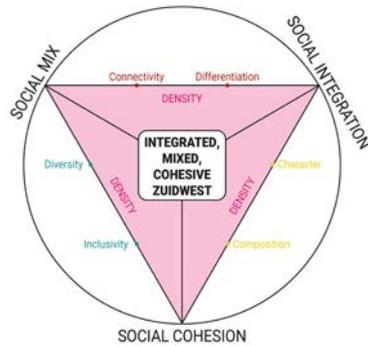
- | | |
|---|--|
|  Long line 'Highstreet' |  Bridge |
|  Long line 'Green connection' |  Softened border |
|  Central strip |  Active plinth |
|  Public courtyard |  Urban pedestrian network |
|  Pedestrian connection parallel |  Green pedestrian network |
|  Pedestrian connection perpendicular |  Cycling network |
|  Green connection |  Tram line |
|  Park path |  Primary road |
|  Waterbody/Singel |  Secondary road |
| |  Retail centre |
| |  Public service/amenity |



5.2 DENSIFICATION STRATEGY

As described in the problem statement the housing crisis is a pressing issue and Zuidwest can play a large role in facing this crisis due to its generally low density compared to the rest of Den Haag. This chapter explores this potential for densification in Zuidwest by analysing the existing urban structure and housing stock. After, a densification strategy will be presented that can help overcome the housing crisis. This densification strategy is based on the previously presented framework for connectivity and differentiation. This densification strategy is not yet an actual design, but it provides an overall structure that forms guidelines that can be used for the designs of different neighbourhoods throughout Zuidwest to make sure that Zuidwest forms a coherent whole. The chapter explores possible answers to the following question.

What spatial **densification** strategies can be applied to Zuidwest to contribute to the reduction of **social segregation** and **social cohesion** while posing a solution to Den Haag's housing shortage?



5.2.1 CURRENT SITUATION AND POPULATION GROWTH

How much densification is needed and why is Zuidwest crucial in Den Haag's densification?

A summary of the current situation in Zuidwest, it has a population of more than 71.000 people and a housing stock of more than 32.500. Den Haag has a current housing shortage of 5%, which is also reflected in a housing shortage in Zuidwest (Mandemakers et al., 2022). Additionally, the population of Zuidwest is expected to grow by 13,2% compared to 11,6% growth in housing stock until 2030 (Gemeente Den Haag & DSO / SEPO - Onderzoek, 2022), increasing the housing shortage even more.

Over **71.000** inhabitants
Almost **37.000** houses

Current housing shortage: **5%**

Prognosis population growth
13,2% to almost **81.000**

Prognosis housing stock
development Zuidwest
11,6% to over **41.000**

Additionally, the quality of the housing stock is very low, according to Gemeente Den Haag (n.d.) more than 23.500 houses need an upgrade, that is 71% of the housing stock. This poses a need for large-scale renovation to get the quality back to sufficient levels, which can be combined with densification.

26.250 houses or **70%** has to be
upgraded

However, Zuidwest also poses opportunities to overcome this shortage in Zuidwest, but also to take pressure off the rest of Den Haag. FSI, GSI and OSR show a relatively low density in Zuidwest, especially compared to Den Haag. Generally, there is not a lot of difference within Zuidwest, with some exceptions, this means that a generalised densification strategy can be applied to most areas in Zuidwest.

FSI (Floor Space Index) is calculated by dividing the gross floor area by the terrain area.

GSI (Ground Space Index) is calculated by dividing the building footprint by the terrain area.

OSR (Open Space Ratio) is calculated by dividing the un-built terrain by the gross floor area, or by dividing 1-GSI by FSI.

(Harbers et al., 2019)

(It is important to note that there can be some irregularities in the data, especially for buildings outside of the urban fabric in the green areas: the input data for the calculations is GFA and the plot area, however sometimes in these cases the plot area is exactly the built area and gives therefore different results.)



5.2.2 DENSITY TYPOLOGIES

What density typologies can be identified in Zuidwest, and which can contribute to densification?

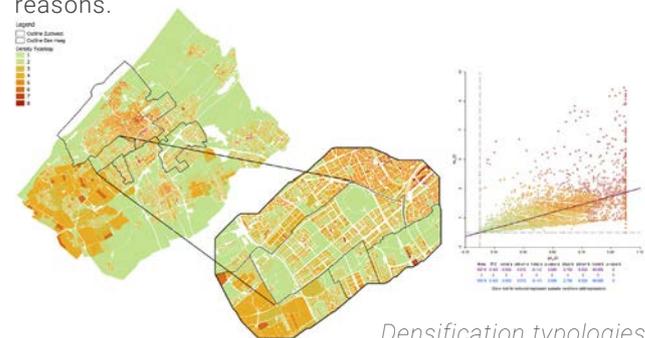
As described, the GSI, FSI, and OSR values in Zuidwest do not differ that much throughout the area. To make a distinction in densities anyway, a density typology analysis can help, by creating clusters of combined FSI and GSI data of Den Haag with its surrounding municipalities. With 8 clusters the best 'ratio of between to total sum of clusters'. Of the 8 clusters, 6 are also present in Zuidwest and cluster one only consists of open space with (almost) no buildings, like the parks of Zuidwest. The most common typologies are 2, 3 and to some extent 4.

Typologies 2 and three are typologies that generally represent the original post-war urban fabric with relatively low FSI values and even lower GSI values. Typology 2 consists of building blocks that have a combination of three- or four-storey portico flats and some row housing. Additionally, some plots that contain a lot of open area, like a park or sports field in combination with some higher buildings also belong to this category. Typology three is also a typical post-war typology, however, there is not a combination of portico flats and row housing, but exclusively three- or four-storey portico flats.

Typology 4 is the other common typology in Zuidwest. Some parts of Moerwijk, that were built in the thirties belong to this typology. These neighbourhoods are a little bit denser than the post-war neighbourhoods. They

also consist mainly of three- or four-storey portico flats; however, the building blocks are closed and the streets and courtyards narrower. Additionally, this typology is found in the rest of Zuidwest in the form of special buildings like schools, shopping centres and multifunctional buildings.

Typology 5 exists in Zuidwest as new build projects where density is increased. In some cases, this is a restructuring of a whole building block, or it is an addition of a tower in an existing block. The density of this typology is significantly higher than typologies two and three which are the most common, these typologies can therefore serve as examples for the densification strategies that are posed in this chapter. The last typology in Zuidwest is a very rare one with only a few instances in Zuidwest in newbuild projects with very high density on small plots. Some of these are housing and also the municipal office for the Escamp district is an example of this typology. These projects can also serve as an example of densification, however only on special locations where higher density is desirable for strategic reasons.



Densification typologies



(Google, 2023)

5.2.3 DENSIFICATION POTENTIALS: LOCATIONS

Which locations in Zuidwest have a high potential for densification?

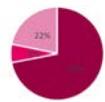
To be able to make a densification strategy, it is important to know which locations have a high potential. To keep this analysis simple and generally applicable, the densification potential is based on just two important factors, the age of the building and possible renovations, and the building ownership structure.

The first map shows which building blocks were built or renewed between 1990 and 2000 and after 2000. The main part of building blocks in Zuidwest were built between 1945 and 1960 and many of them have not been renovated. All these blocks have a very high potential for renovation and with that restructuring and densification. The blocks that have been built or renewed between 1990 and 2000 have a medium potential for densification since they are relatively recent. However, during elaboration on the design face, each of these blocks can be assessed individually on whether it can be replaced or not. This depends on the thoroughness of the renovation and on when the restructuring of that block takes place, the whole restructuring and densification of Zuidwest is a long-term project that will stretch over the course of ten to twenty years, at that time these blocks might have a higher potential for densification. Blocks that have been renovated or built after 2000 generally have a low potential for densification.

The second map shows the ownership per building block. Almost 75% of the houses in Zuidwest are owned by housing corporations, these are the primary focus for restructuring and densification. The restructuring of Zuidwest is a huge project, which can only happen with large-scale projects. Corporations often have the capacity and good contacts with the municipality and developers, and they often own multiple adjacent blocks which makes larger-scale projects possible. Additionally, non-housing plots that are owned by the municipality pose possibilities for larger-scale projects. Privately owned houses have a low potential for restructuring and densification, firstly because they are often better maintained and therefore still of better quality than the corporation housing, and secondly because it is much more difficult to do restructuring and densification projects with privately owned housing.

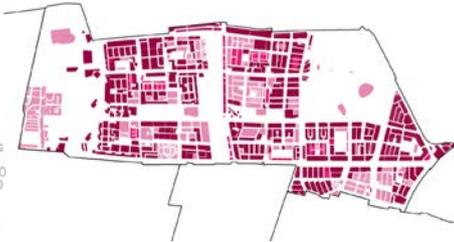
In the last map, the densification potential is shown in three categories and is composed of the previous two maps. The categories are composed as follows:

	Not Renewed	Renewed 1990-2000	Renewed after 2000
Corporation owned	High	Medium	Low
Privately owned	Medium	Medium	Low



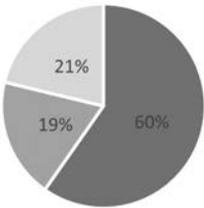
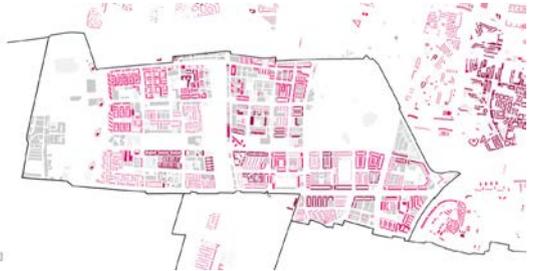
Renewed building blocks

- Not Renewed
- Renewed 1990-2000
- Renewed after 2000



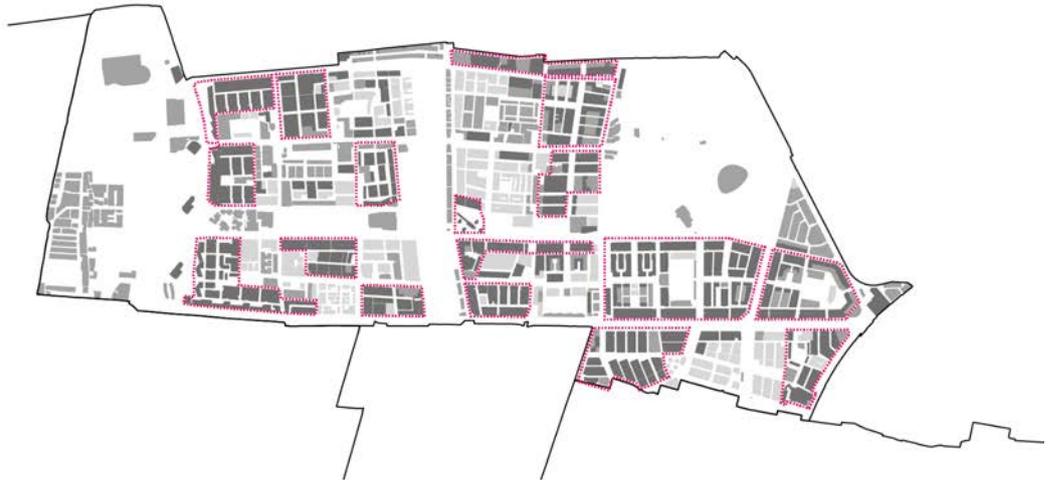
Corporation owned

- Haag Wonen
- Vestia
- Stedion
- Other corporations
- Private ownership
- No housing



Densification potential

- High potential
- Medium potential
- Low potential
- High potential area



5.2.4 DENSIFICATION POTENTIALS: BUILDING BLOCK

What are the densification potentials on the building block scale?

This chapter is mainly inspired by the research 'Ruimte zat in de Stad' by KAW (2020). They propose several densification principles in four categories, translated: 'existing houses', 'surgical procedures', 'restructuring', and 'edges'. In this analysis, their densification principles are analysed to see if they fit in Zuidwest. In their research, they also note some densification factors for the different interventions. The percentages that are mentioned next to the images are copied from their research; the number of added houses is the reflection of the percentages on Zuidwest.

Existing houses

The research identifies the possibility of splitting existing houses, which is especially useful in systematic portico flats from the post-war period, which is exactly the most common building type in Zuidwest. They identify that these houses are relatively large, especially for their location close to city centres. However, in this research and design project, in addition to the renovation of existing housing, a lot of new housing is proposed. New housing is generally smaller than existing housing in the same price category, therefore a combination of new housing and splitting existing housing results in only small housing, which is not desirable. Therefore, this strategy will not be used.

Surgical procedures

This strategy consists of three different possibilities of which two are suitable for Zuidwest, the first is the infill of blind ends of buildings. This can be done with buildings of the same height or buildings that are slightly higher to accentuate the corners. A difficulty with this strategy in Zuidwest is the configuration of the building, the image shows how the three new blocks (bottom left, top right and left) that fill the corners cannot connect to the blind sides of both buildings. Therefore, the connection of the new building to the façade of the existing buildings will be problematic. Only the bottom right block connects to two blind sides and is therefore a good possibility.

The second possibility is the closing of open blocks, this provides quite some extra housing. This is technically easier and there are quite some of these building types in Zuidwest where this would be possible, therefore this is a good densification possibility.

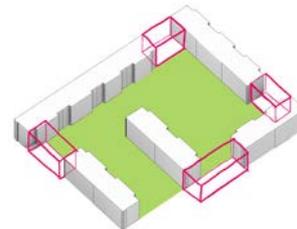
The last possibility is that of infill of parking lots in between buildings, however, these kinds of parking lots do not exist in Zuidwest. All parking is organized along the streets, and the (open) courtyards are used for green and too narrow to build in.

Restructuring

Restructuring is proposed in two different ways, the main possibility is the restructuring of the so-called stamp neighbourhoods where the same building configuration is repeated multiple times. Therefore, the transformation of these blocks can take place as a large-scale project that can also be repeated and systematic, making it an easier and cheaper option.

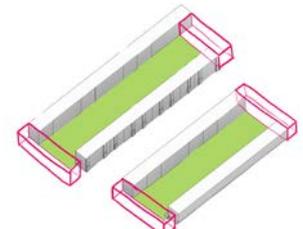
The second option is the restructuring of school locations. Schools are often very low-rise buildings with a large footprint. Restructuring these buildings, therefore, frees up a lot of space. The school can be brought back into the same plot as part of the new multifunctional building.

Surgical procedures



Blind corners

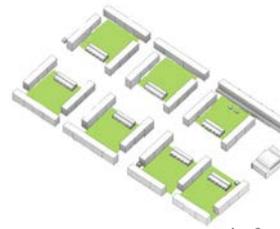
50% of blocks
+16% densification
+ 2.950 houses



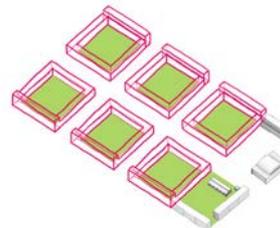
Closing open blocks

30% of blocks
+28% densification
+ 3.100 houses

Restructuring

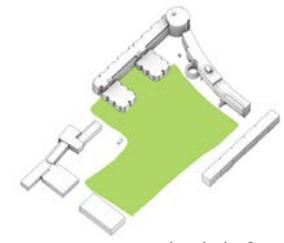


Restructuring stamps before

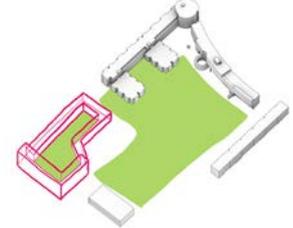


Restructuring stamps after

70% of blocks
+40% densification
+ 10.300 houses



Restructuring schools before



Restructuring schools after

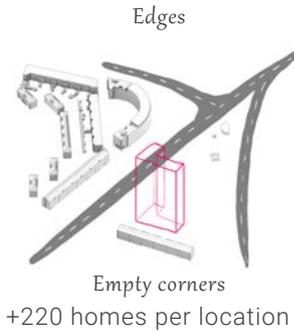
+ 400 houses

Edges

Zuidwest has some unused edges like other post-war neighbourhoods according to the KAW research where they identify three different edges. Firstly, the empty corners, from which Zuidwest has a few. In many instances, they are not completely empty, but space is not optimally used, here lie opportunities for densification. Densification on these locations could be in the form of a high-rise since this also benefits the legibility of Zuidwest.

Secondly, fringed edges, are present in Zuidwest, especially along the edge of the Uithofpark. Infill of these fringes can provide for quite some densification since these locations are also suitable for some higher buildings.

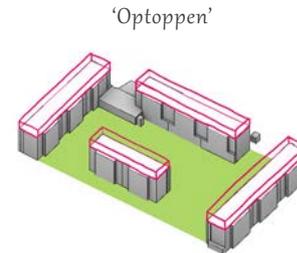
Lastly, they propose buildings on oversized or unnecessary infrastructure, this could also be possible in Zuidwest. The Hengelolaan and Melis Stokelaan are proposed to be pedestrianized in the structure plan and slow traffic takes up less space than car traffic.



'Optoppen'

The last possibility of densification that is not mentioned in the KAW research is optopping. This means the addition of one or two stories on top of the existing building. This is normally done in combination with a thorough renovation of the existing building. This strategy is very useful for Zuidwest since it combines densification and renovation at the same time. Additionally, housing types can be combined in one building: the optopping can consist of smaller or larger apartments than the existing housing. This principle could be applied to almost all housing that was not recently renovated and is corporation owned. The minimum densification would be adding one storey on a four-storey flat, thus densifying with 25%, and the maximum densification would be adding two storeys on a three-storey flat, thus densifying 67%.

This exploration of densification opportunities on the building block scale will later be implemented in a densification strategy for Zuidwest.



60% of blocks
min +25%
+ 5.5500 houses
max +67%
+ 14.800 houses

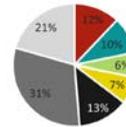
5.2.5 STRATEGIC DENSIFICATION LOCATIONS

How can densification fit and strengthen the strategic framework of connectivity and differentiation?

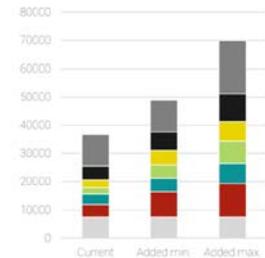
The strategic framework for connectivity and differentiation contains four main elements that can be used as a framework for densification, pedestrianization of long lines, special locations 'De Stede', 'Leyweg' and 'Station Moerwijk', business along the main arteries, and the breaking of borders and boundaries. Additionally, collective spaces for social cohesion in each neighbourhood are identified, which will be elaborated on in chapter '6.1.6 Collective space'. This chapter will explain how each of these locations can play a role in densification and in contributing to the strategic framework. In this sense, not only the densification locations are important but also the type of intervention and their timing in the process. The average density in FSI per parcel (so without surrounding roads etc.) is around 1,5 in the current situation).



Structure plan for connectivity and differentiation



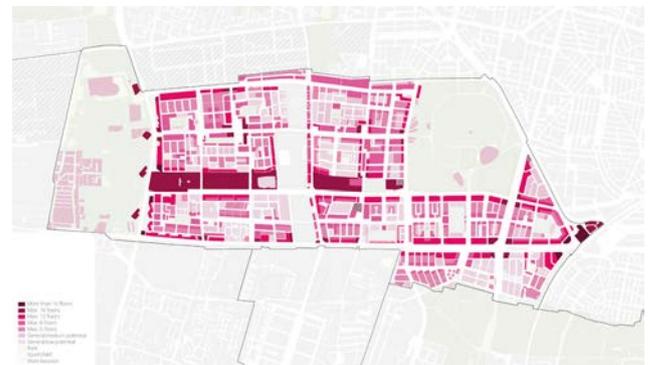
Current houses in specified areas in %



Densification potential in number of houses



Densification potential locations



Densification potential number of floors

Long lines (red)

FSI: 3 – 4 | Densification factor: 2 – 2,7 | Added Houses: 4.400 – 7.350

In the strategic framework, the long lines play an important role in structuring Zuidwest and increasing its connectivity to Den Haag and between the Zuiderpark and the Uithofpark. The building blocks along these lines and be strongly densified to increase their legibility, and the hierarchy of the structure. This also improves the visual quality of these lines because they are very broad and therefore higher density will add to the ratio of width and height. The densification will have public functions on the ground floor with open plinths, housing shops, cafés, workshops, etcetera. The public plinths will contribute to their connectivity by creating an attractive environment for slow traffic. Above the public plinths will be mainly housing. Additionally, the central strip along the Melis Stokelaan poses a more opportunistic and experimental location for densification. The next chapter will elaborate on this.

Collective spaces (blue)

FSI: 2 – 3 | Densification factor: 1,3 - 2 | Added Houses: 1.200 – 3.600

Every neighbourhood within Zuidwest that will be bordered by the long lines and the local car streets has its own collective space where interaction between inhabitants can take place, this will be further elaborated in '6.1.6 Collective space'. The building blocks surrounding these locations also provide opportunities for densification. This results in more activity in the collective spaces which increases their potential. It is important that these blocks clearly define the space but at the same time are very permeable, so the collective space is very accessible for the whole neighbourhood. The densification around the collective spaces exists mainly of housing with local public functions in some of the plinths, like a local shop, a coffee corner, or a primary school.

Park edge (green)

FSI: 3 - 5 | Densification factor: 2 – 3,3 | Added Houses: 2.350 – 5.500

The edges of the larger parks of Zuidwest, Zuiderpark, Escamp I and II, and Uithofpark, can be densified to create a clear 'wall' around the parks. This increases the legibility of the structure plan and provides attractive housing with nice views over the park. The density of these blocks can be very high, mainly on the side of the park and should lower towards the neighbourhoods. Despite the high density, the blocks should not be very broad to keep the park accessible to all neighbourhoods behind it. The plinths that face the Zuiderpark and Escamp I and II can have some public functions to increase their attractiveness towards the park. The buildings along the Uithofpark do not have to be public, because this area is quieter and the connection to the park only goes over the main streets that will bridge the Lozerlaan.

Special locations (yellow)

FSI: 3 – 4 | Densification factor: 2 – 2,7 | Added Houses: 2.650 – 4.400

There are three appointed special locations in the strategic plan, two of which are the two shopping centres with prolongations towards the long lines and the business arteries. The density in these clusters can be very high to create a bustling environment with inner city qualities. The building blocks should be small so the permeability of the area is good, and all plinths should have public functions like shops, cafés, cultural institutions, and small workplaces. Density is mainly achieved with average height and large ground coverage by the ground floors. The other special location is around station Moerwijk. This cluster can also be built in high density using the principles of transport-oriented development. This area also has an amount of publicness on the ground floor, but not as much as the other two clusters.

Business arteries

FSI: 2 – 3 | Densification factor: 1,3 - 2 | Added Houses: 1.650 – 4.900

The roads around Zuidwest (Meppelweg and Erasmusweg) that are simultaneously the main arteries for the city of Den Haag can be densified to improve the connectedness of Zuidwest with Den Haag. Additionally, the Dedemsvaartweg can also be densified according to similar principles since this road will get a tram connection from Wateringse Veld towards the coastline and will therefore also become a more important artery for the city. The densification along these roads will mainly consist of businesses and workshops on the ground floor with some offices and housing above.

General densification

FSI: 1,5 – 2,5 | Densification factor: 1 – 1,7 | Added Houses: 0 – 7.550

In addition to these specific locations, there is still over 30% of the housing stock that needs renovation that is not in one of these locations. On these plots, some densification can take place, in the form of the previously mentioned 'surgical procedures' and 'optopping' in combination with the renovation of the existing buildings.

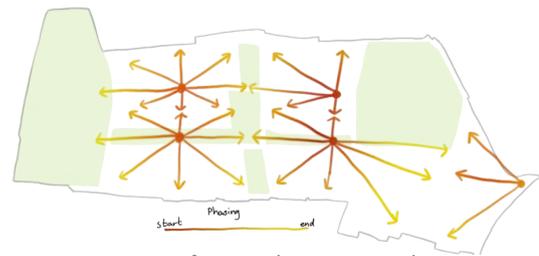
Densification strategy

The densification of one neighbourhood can be done as one large project to make sure that the design is integral for the whole neighbourhood and the public space can be adjusted at the same time. Ideally, the project is a combination of renovation of existing buildings with optionally some densification, with demolition and new buildings in the strategic locations to fit the structure plan. This way, the new buildings can help in financing the renovation of the existing buildings. Additionally, the existing population in the renovated buildings can keep their own apartment, and the population of the demolished buildings can stay in the neighbourhood in a new apartment. The new apartments can exist of different typologies to attract different people, this way each neighbourhood can get a more mixed population. The collective spaces central in each neighbourhood can promote social cohesion between existing and new residents.



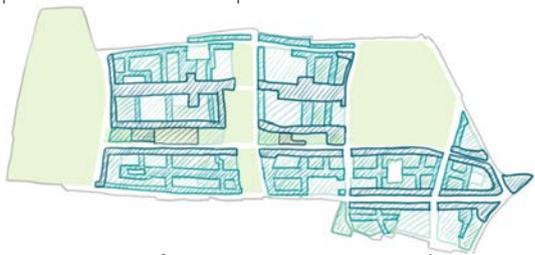
Densification strategy principle per neighbourhood

The schedule of the interventions is also an important factor within the strategy. To be able to maximise the potential, firstly investors must be attracted to invest in Zuidwest and secondly, new residents mostly of different socio-economic status have to be attracted to the neighbourhood. An initial investment in some key locations in the neighbourhood can trigger this process. The municipality can release some plots in key locations and allow high densities and profitable developments together with the development of high-quality public space. The long lines in Zuidwest can operate as this key area, starting from the intersections with the main roads and shopping areas to give a quality impulse into the centre of Zuidwest. This impulse can create a chain reaction through the neighbourhoods of Zuidwest in terms of attractiveness and economic input, however, gentrification should be prevented at all costs.

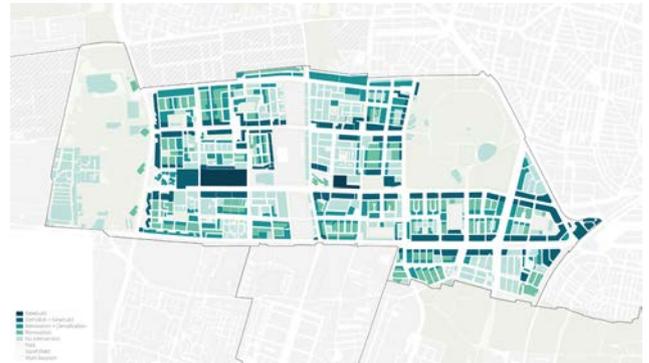


Densification phasing principle

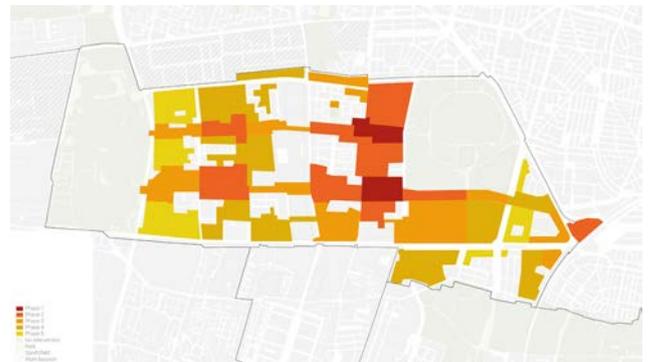
Additionally, from a conversation with Marrit Terpstra, an urbanist working on Zuidwest for the municipality of Den Haag, appeared that some policies regarding the number of social housing and affordable housing are not fit for the situation in Zuidwest. The law is that in each building project, there should be 30% social housing and 30% affordable housing which is in principle a workable rule. The problem is however, when an entire neighbourhood is designed according to one coherent urban plan, but the development is done by multiple project developers, which is often the case with large projects, the rule applies to each individual developer and not to the project as a whole. This means that when a developer builds only one building, this single building must have 30% social housing and 30% affordable housing and cannot be spread over the whole plan. This can cause liveability and social cohesion issues as the theory suggests that mixing different socio-economic groups in one building is not desirable. A policy change is needed which allows larger projects with multiple developers to comply with this regulation in its totality and not per individual developer.



Densification interventions principle



Densification potential number of floors



Densification potential number of floors

2.5.6 CENTRAL STRIP DENSIFICATION EXPLORATION

How can the central strip along the Melis Stokelaan be restructured to densify the area and contribute to the structure plan for connectivity and differentiation?

The central strip along the Melis Stokelaan poses a more opportunistic and experimental location for densification. In the original design for Zuidwest by Dudok, he designed a green cross running through the area. It was mainly meant as a structuring of Zuidwest and creating a clear separation between the different neighbourhoods. The green area contained and still contains mainly sports fields with some public functions like

schools and a few buildings. The perpendicular strip, Escamp I and II, has allotment gardens in the north-east, and besides only contains sports fields. The green strip along the long line Melis Stokelaan was and is a bit more diverse and not solely green, with some sports-fields, some buildings and a park.

The green cross still creates a clear separation of Zuidwest, as intended by Dudok, however, this is no longer perceived as a quality but as an increaser of the segregation of Zuidwest. Escamp I and II still have a clear

Existing solitary block typology that fits concept well

Highschool - Zuidwest College

Sportsfields - Escamp III

Rehabilitation center and special education



distinct and important function in Zuidwest, therefore their function should remain, only their layout should be changed to mitigate its segregating effect as described in '5.1.2 Borders and boundaries'. The axis along the Melis Stokelaan does not have a distinct function and neither a real quality for Zuidwest, in fact, it is just a segregating entity. Therefore, this area can play a major role in the transformation and densification of Zuidwest. The main qualities that this axis should have, are that it maintains its green character with as much open green space as possible, it strengthens the long line of

the Melis Stokelaan, it connects the neighbourhoods on either side, it contains places for meeting and interaction for whole Zuidwest and even whole Den Haag, and that it connects the Zuiderpark and the Uithofpark. Densification can happen in high densities and possibly experimental building types, as long as it enhances the mentioned qualities. Therefore, new buildings should not only consist of housing but should also retain the functions that are there now, like education and health-care, possibly in multifunctional buildings and newly added functions like horeca and retail.

Escamp I and Escamp II

Existing highrise typology that fits concept well

Sportsfields Shopping center Melis Stokepark Leyweg

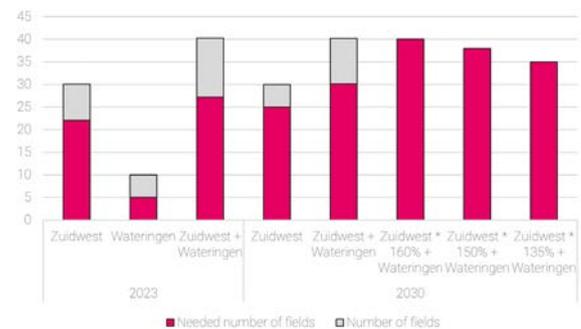
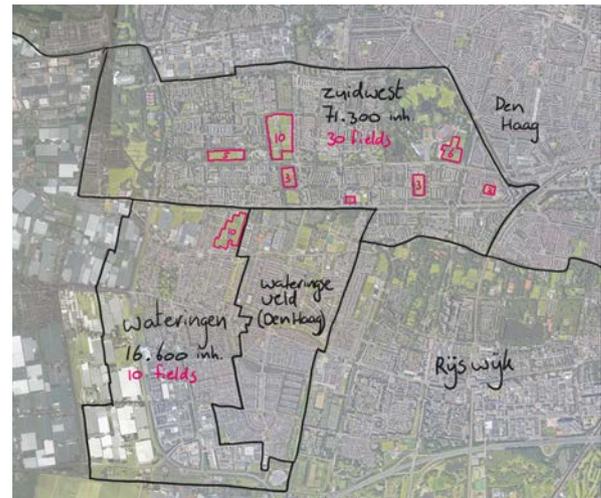
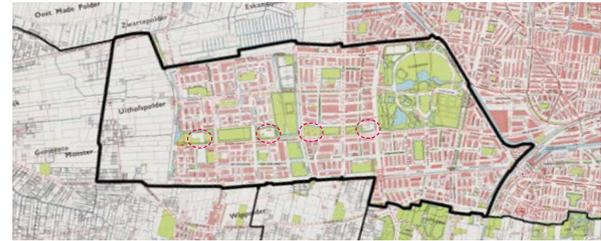
Existing highrise typology that fits concept well



Transformation opportunities

The green strip contains plots that are easier and harder to transform. The easiest plots are the ones that already contain some buildings that need renovation. There are some plots with unused open space, which can also be built quite easily. Some of the plots have some very new buildings and should therefore not be transformed, however, the public space can be reshaped to fit the overall design. Additionally, the Melis Stokepark should remain as it is because it provides good qualities to Zuidwest.

Finally, the Escamp III lies in the strip along the Melis Stokelaan which contains five football fields, according to current regulations and calculations by Schadenberg (2020) Zuidwest can meet the requirement with 3,1 fields per 10.000 inhabitants, which means 22 fields are needed, while there are 30 fields currently. Additionally, very close to Escamp III there is a sports complex just outside the municipal border in Wieringen with 10 fields, while they only need 5 according to the calculations. If these numbers are added up there is a large overcapacity of 13 fields as indicated in the graph, and an overcapacity of 10 in 2030 compensated for the expected population growth. With a population growth of 160%, there would still be enough fields, and with 150% and 135%, respectively 2 and 5 fields can be removed.



Infill exploration

This page is an exploration of how the green strip can be filled in with different reference projects (the study is rough, and the existing situation was not taken into account).

Funenpark, Amsterdam | + 2200 houses

The first reference is the Funenpark in Amsterdam, infill with this typology could add around 2200. The quality of this project is its permeability which is desirable in order to create connections between the neighbourhoods on both sides and remains the green character of the strip.



Existing typology, Zuidwest | + 2650 houses

This typology is already existing in the southwestern corner of the strip and could add around 2650 houses. The typology makes the strip permeable and keeps it green like the Funenpark and additionally, it adds some kind of squares that could be inviting for interaction, this typology would therefore be a suitable infill.



Nieuw Crooswijk, Rotterdam | + 2950 houses

This project could add around 2950 houses and bring the quality of meeting places between the building blocks in a green public courtyard. It is not as permeable as the previous, but it is still reasonable.



Borneo Sporenburg, Amsterdam | + 3500 houses

This typology can add around 3500 houses and brings the quality of accentuating the long line of the Melis Stokelaan and simultaneously the connection between the Zuiderpark and the Uithofpark. However, the long building blocks reduce connectivity between the neighbourhoods on both sides.



Poptahof, Delft | + 5550 houses

This project was built in a similar modernist, post-war neighbourhood as Zuidwest and therefore the design is based on the typology of the surrounding buildings. However, the density of these buildings is a lot higher, and it could add 5550 houses. This typology however does not provide any of the wanted qualities for this strip. However, it is a good reference for building blocks along the long lines or the Zuiderpark for example.



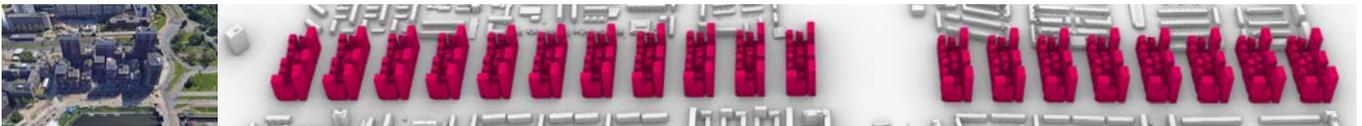
De Groene Kaap | + 5850 houses

This project is a composition of four medium-sized closed blocks with five higher towers that could add 5850 houses. The roofs of the lower blocks are connected by a roof garden which creates community space for the residents of the block. However, it only takes away public space on the ground floor to add it back on the roof, out of reach for non-residents. Therefore, it does not add many wanted qualities to the green strip and might be more suitable for other locations, especially when higher density is wanted.



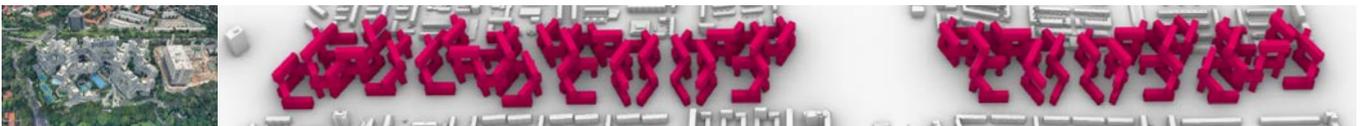
Little C, Rotterdam | + 6100 houses

This project is very dense and creates an attractive public space for interaction in-between the buildings which is very permeable from all sides. However, it does not leave a lot of public space for greenery, this could therefore be a suitable typology to apply if not used too extensively to retain enough of the green character of the strip.



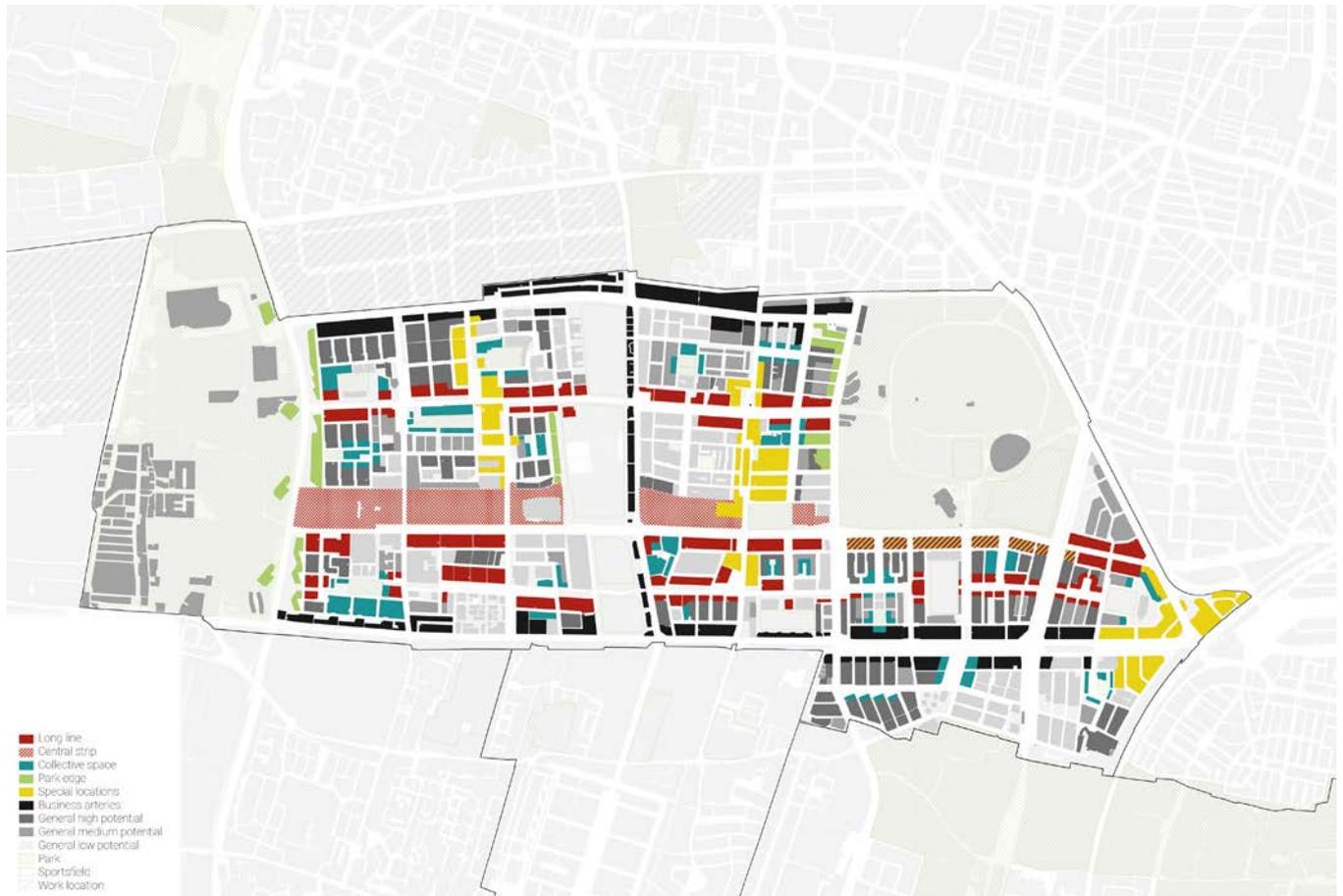
The Interlace, Singapore | + 7300 houses

A very extreme example with very high density is The Interlace in Singapore, which could add up to 7300 houses. The design can create many of the desired qualities for the green strip. It has a high density, but keeps enough open space for greenery and permeability, the configuration of the buildings creates pockets of space for interaction, and it can enhance the long line if the outer blocks are placed parallel to it.



What spatial **densification strategies can be applied to Zuidwest to contribute to the reduction of social segregation and social cohesion while posing a solution to Den Haag's housing shortage?**

This chapter showed that high density can be achieved in Zuidwest to overcome the current housing shortage and the expected population growth, not only in Zuidwest but also in the larger context of Den Haag. By matching densification locations to the proposed strategic structure plan for connectivity and differentiation they can reinforce each other's effects in reducing the segregation of Zuidwest. Additionally, by applying a strategy of partial demolition and new buildings and partial renovation of the existing ones, the existing communities can be maintained, and new people can be added to create a more mixed population. Besides, social cohesion can be promoted by higher densities for two reasons. More people create more activity in the public space and more buildings take away from undefined large open spaces and can create smaller spaces with more activity where people can casually see and meet each other. The appearance of these spaces is very important, the next chapter will be an exploration of how they should be designed in order to create these effects and increase social mix and social cohesion.



Chapter 6:

Spatial Design Principles

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6.1 DIVERSITY & INCLUSIVITY AND CHARACTER & COMPOSITION

After defining a strategic framework for connectivity and differentiation and a densification strategy to increase social integration and social mix the goal of creating social cohesion can be explored. A socially mixed and cohesive neighbourhood must be both diverse and inclusive. These concepts are very intertwined and mostly used together, creating a diverse place that is not inclusive or an inclusive place that is not diverse does not make sense. In addition, a socially integrated and socially cohesive neighbourhood can be achieved by giving it a distinct character and a supportive composition in order to create feelings of belonging and togetherness within a neighbourhood.

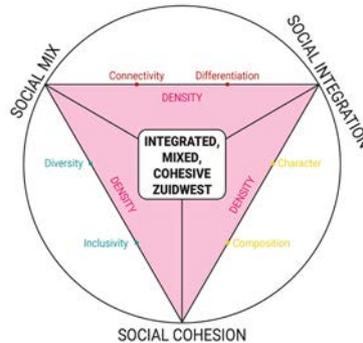
This chapter explores how diverse and inclusive Zuidwest currently is by analysing the diversity of the housing stock, facilities and services. From the conclusions, design principles are composed on how to create a more mixed housing stock and more mixed facilities in Zuidwest. Additionally, the diversity and inclusivity of its public spaces are analysed. To conclude with design principles for the creation of identity spaces and collective spaces.

Besides, the character and composition of Zuidwest are studied by identifying its existing and potential attracting destinations. The current character of Zuidwest is analysed to then propose a better-fitted and more differentiated framework for different characters in different neighbourhoods. Then the opportunities to make Zuidwest more attractive and give it more quality are explored. Finally, the security and perceived security are analysed, and design principles are created that provide for more natural surveillance.

The different themes are analysed, and they are mixed up to create a coherent story, the overarching theme can be recognised by the colour of the square in the chapter title. The two questions that this chapter seeks an answer to are written on the page to the right.

Which spatial design interventions can help to enhance **diversity and inclusivity** in Zuidwest to increase **social mix** and **social cohesion** between existing and new inhabitants?

Which spatial design interventions can help to improve the **character and composition** of Zuidwest to increase **social integration** and **social cohesion**?



DIVERSITY AND INCLUSIVITY

Identity space
Collective space
Mixed facilities and services
Mixed housing

DENSITY

CHARACTER AND COMPOSITION

Attracting destinations
Character
Attractiveness and quality
Security and perceived security

6.1.1 ATTRACTING DESTINATIONS

To reduce the segregation of Zuidwest it is important that there are some destinations that people that do not live in the area are attracted by. This helps to better incorporate Zuidwest into the social structure of Den Haag. These attracting destinations can be cultural institutions, shopping centres, horeca, and leisure and recreation facilities. Additionally, places can be not necessarily attracting, but needed in life, like high schools and workplaces.

Which places make Zuidwest attractive for non-residents?

Zuidwest does not have many of these places. The current attracting destinations are the Zuiderpark with its sports campus and the hospital as a large workplace. However, the Zuiderpark and sports campus are in between Zuidwest and the rest of Den Haag and therefore visiting this location does not mean also going through Zuidwest, that also applies to the hospital. The result is that people that do not live in Zuidwest, do not have a reason to go there, which increases its segregation.

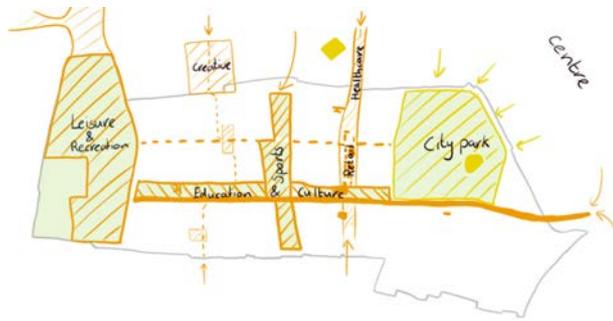
What are the potentials for increasing the attractiveness of Zuidwest for non-residents?

Luckily, there are many potential attracting destinations in Zuidwest. Firstly, the Uithofpark could be much more attractive than it is now. At the moment it is a nice natural park, which is mainly used for strolling and cycling. However, it is also possible to do that in other parks that are more close. The Uithofpark can be developed

in a place with many recreation and leisure facilities to attract visitors who mostly need to travel through Zuidwest to get there. The long lines Hengelolaan and Melis Stokelaan, which play an important role in the structure plan, can contribute to the connection of the Uithofpark with the rest of Den Haag. These routes can go through the Zuiderpark to create an attractive green route through Zuidwest, that will not only be a place for Zuidwest's inhabitants but also people from the rest of the city.

Shopping centres can also play a role as attracting destinations, the Leyweg shopping centre is a medium-sized shopping centre but because of its character and types of shops, it is not yet an attracting destination for non-residents. However, by upgrading the quality and the types of shops it could become one, in doing so, it is important to extend its connection over the Leyweg into the city of Den Haag as a sort of highstreet to attract people. This could be combined with the bustle around the hospital that lies along the same street.

Lastly, the business park Kerketuinen en Zichtenburg was already proposed to get a more public street through it to improve the connection with the neighbourhood Houtwijk on the other side. By upgrading the quality of this street and shaping it into a creative 'makers' district, this also has the potential to become an attracting destination in Zuidwest.



Attracting destinations design principle



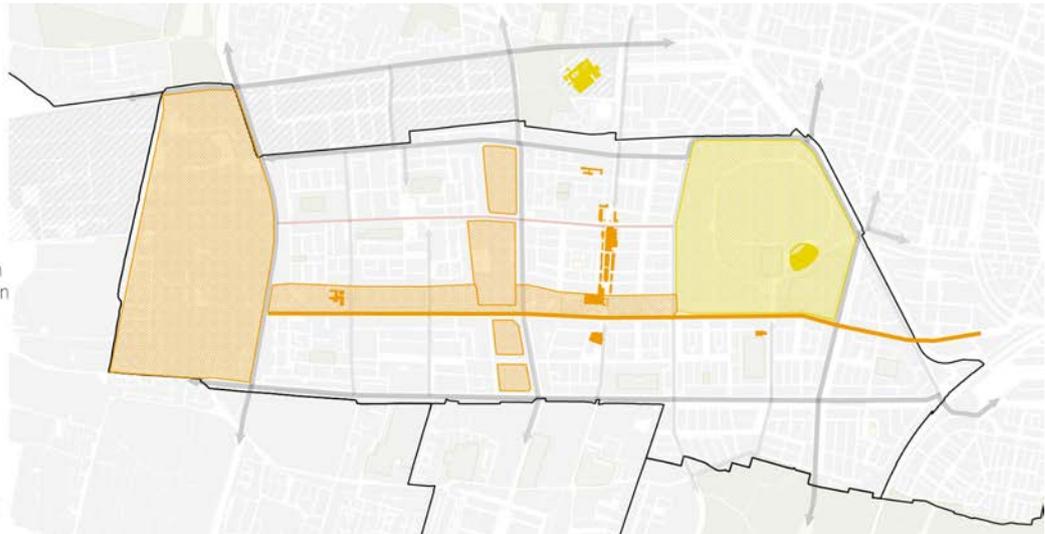
Kerkeuinen en Zichtenburg



Leyweg shopping centre

Attracting destinations and potential attracting destinations

- Existing attracting destination
- Potential attracting destination
- Long lines network
- Primary road
- Secondary road
- Tertiary road
- Park
- Sportsfield
- Work location



6.1.2 IDENTITY SPACE

Identity spaces are important for communities to be able to identify with a space according to Talen (2008). This gives people a feeling that they have 'their' neighbourhood and creates feelings of belonging. Additionally, it can create a sense of togetherness between residents, which is especially useful if they have little other similarities and would otherwise not share anything among each other. Identity spaces are mostly very recognizable places that everybody who lives nearby knows. This can be a very functional place where everyone comes for their daily needs like a shopping centre, or an outstanding place like a square with a remarkable sculpture or fountain or iconic building.

Which spaces give Zuidwest its own identity?

Zuidwest currently has few identity spaces. The Leyweg shopping centre is one of these places, for its functionality. The Municipal office has its function as an identity space, especially for its remarkable building form and height that makes it stand out and additionally, its functionality can play a little role. On a corner of the intersection of the Melis Stokelaan and the Dedemsvaatweg stand four towers, that can play a role as identity space because of their height and remarkable colours, however, their effect will be small because they are just residential towers and do not have any interaction with the neighbourhoods around it. The same goes for the two towers on the eastern edge of Zuidwest, however, their effect is larger because of their murals that give them iconic value, as well as their visibility from the train that passes by. Additionally, the Moerwijk train station can act as an identity space, both for its functionality and for the remarkable transparent orange roofs that were built over it. Lastly, the Zuiderpark sport-campus building is very iconic, however, because of its location in the park relatively far from the neighbourhoods, this will not have a large function as an identity space.



Sportcampus Zuiderpark (Zorgman, 2018) Station Moerwijk (Boric, 2017), Aereals (Google, 2023)

What are the potentials for new identity spaces in Zuidwest?

Talen (2008) writes that identity spaces should be located centrally in a neighbourhood and can function for smaller and larger areas. Therefore, the search area is within the dashed line on the map. Additionally, these spaces work best if they are passed very often, therefore intersections between busy (slow traffic) lines are good locations. The intersections between the two long lines Hengelolaan and Melis Stokelaan and the perpendicular main car streets are suitable locations for these kinds of spaces. They can be shaped as a square in the centre of the intersection or in a roundabout, they can also have a distinct public function like a library, or they can be a building or collection of buildings on the corners of the intersections. In the sketch below all three options are combined, however, one at a time would be sufficient for its effects as identity space.



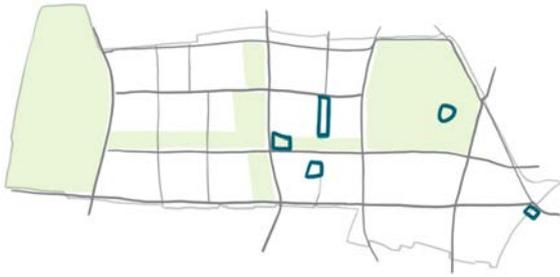
Coloured buildings, Drentheplantsoen (Van de Biezen, n.d.)



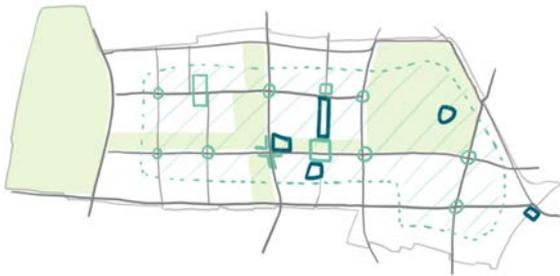
Pharos tower, Loevesteinlaan



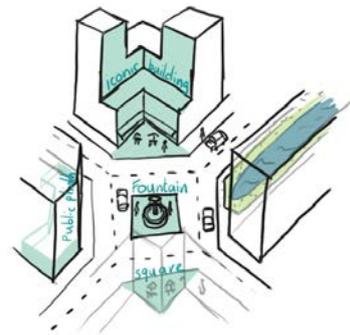
City part office Escamp, Leyweg



Identity space conclusion



Identity space design principle



Identity space design principle sketch

6.1.3 CHARACTER

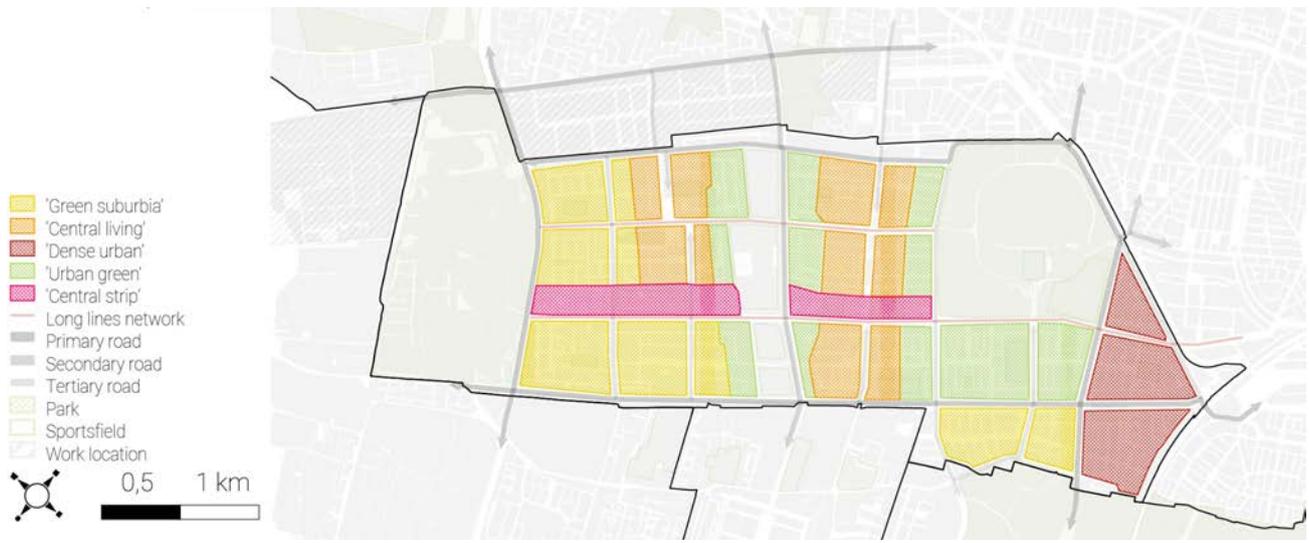
In addition to identity space, character is another factor that contributes to feelings of belonging and togetherness between residents according to Dempsey (2008) which results in increased social cohesion. In addition, neighbourhoods with a specific character will also attract people with the same preferences and lifestyles which makes better social cohesion between residents more likely according to Kleinhans (2004). To make Zuidwest more mixed in terms of its population a more diverse range of characters throughout the different neighbourhoods is desirable.

What character defines the different neighbourhoods in Zuidwest?

Currently, there is very little differentiation between the neighbourhoods of Zuidwest. They were all built according to the same design by the same architect, Dudok, built at the same time with the same modernist idea behind it. There have been some changes over time in the public space and the buildings, however, they are often of such a small scale that it does not really change the neighbourhood's character. The neighbourhoods can be described as very open green and permeable, quiet with little activity on the street, with a residential character.

What character should the new character of the different neighbourhoods of Zuidwest get to be sufficiently differentiated to attract different inhabitants and promote social mix?

The map shows an indication of the locations of different characters for Zuidwest. To change the character the public space must be transformed as well as the housing stock, which will be a slow process. This process can be initiated by an exemplary public space or building project that can inspire other projects to follow. Additionally, design rules can be set to steer the developments towards a specific character. The following pages indicate possible characters and corresponding rules, along with some reference cases.



'Green Suburbia'

Character	Spatial, green, quiet
Target group	Families, elderly, multi-generational households
Amenities	Basic everyday needs
FSI	1 - 2
Housing GFA	60 - 150 m ²
Housing typology	Appartments, single family homes, duplex
Urban design principles	In correspondence with existing structure, open blocks
Architectural principles	Referring to existing post-war modernist architecture, in facade layouts and rhythm
Public space principles	Only local traffic, main focus on cycling and pedestrian, childfriendly, place for interaction



Mendelweg, Boscoop (A3 Architecten, n.d.)



Klarenstraat Amsterdam (Vanschagen architecten, ca. 2014)



Stadshart Stadshage, Zwolle (Plomp, ca. 2018b)



Metropolloyd, Rotterdam (ANA architecten, ca. 2017)

'central living'

Character	Urban, compact, diverse, hustle
Target group	Students, starters, single-person households, young families, elderly
Amenities	High level, many different amenities and services, for whole Zuidwest
FSI	More than 4
Housing GFA	40-100 m ²
Housing typology	Appartments, studios, duplex, loft
Urban design principles	Plinths are lively, closed building blocks, with height accents, collective space in courtyards
Architectural principles	Diverse building types and facades, block ensemble
Public space principles	Space for residign, strolling and interaction, no cars on the streets, parking in or under buildings, high quality public space.



De Hoef West, Amersfoort (Karres+Brands, ca. 2019)



De Hoef West, Amersfoort (Karres+Brands, ca. 2019)



Karlstaden, Gothenburg (Karlstaden, n.d.)



Mewede, Utrecht (Valstar-Simonis, n.d.)



Papiroen, Copenhagen (MVRDV, 2015)

'Dense urban'

Character	High density urban cluster around train station, living-working district
Target group	Students, starters, single-person households, expats, commuters
Amenities	Local amenities for neighbourhood in centre with sporadic functions in plinths
FSI	2-4
Housing GFA	30-100 m ²
Housing typology	Appartments, studios, duplex, living-working homes
Urban design principles	High density, some towers, closed building blocks, strips In correspondence with existing building facades
Architectural principles	Place for interaction and meeting, focus on public transport and slow traffic, improve crossings over Erasmusweg and Moerweg
Public space principles	



Lichthoven A, Eindhoven (Architecten Cie, 2020)



5TRACKS, Breda (The Powerhouse Company, 2015)



Karlstaden, Gothenburg
(Karlstaden, n.d.)



EKP, Den Bosch (EKP, n.d.)



LEVELS, Den Haag
(AArchitecten, n.d.)

'Urban green'

Character	Very diverse, green, nature-inclusive, outdoor activities and sports
Target group	Students, starters, single-person households, families, elderly
Amenities	Some local amenities for neighbourhood, depending on two larger centres closeby
FSI	1-3
Housing GFA	40-150 m ²
Housing typology	Appartments, studios, duplex, rowhousing
Urban design principles	Very diverse, many areas are already renewed, strips, blocks and some height accents
Architectural principles	Very diverse, every block has own atmosfere, green facades and roofs
Public space principles	Many open structures for outdoor activity, car out of sight, singels as usable public space for playing, sports, walking and interaction



Nieuw Zuid, Hilversum (Celcias, 2023)



Sportvoorziening in de stad (Shift, 2013)



Leeuweriksweg Uden (Back Bone Visuals and concepts, n.d.)



*MO*TOWN track 8, Amsterdam (PLOMP, ca. 2018a)*



Roost aan de Singel, Utrecht (Roost aan de Singel, 2021)

'Central strip '

Character	High density but very permeable structure, buildings in park principle connector between parks
Target group	Students, starters, single-person households, (young families), elderly
Amenities	Amenities in building plinths
FSI	1-5
Housing GFA	30-150 m ²
Housing typology	Appartments, studios, duplex, living-working homes, single-family homes
Urban design principles	High density, separate blocks in green structure, highrise and lowrise
Architectural principles	Diverse, experimental building typologies, green
Public space principles	Open permeable park atmosphere, route between parks and crossing of neighbourhoods, playing, sports, interaction, ecology



Funenpark, Amsterdam (Musch, ca. 2013)



Habitat Royale, Amsterdam (Mecanoo, 2022)



Spaarnelicht, Heemstede (Groosman Architecten, n.d.)



The Interlace, Singapore (Büro Ole Scheeren & OMA, ca. 2013)

6.1.4 MIXED HOUSING

One of the most important factors in increasing diversity and inclusivity is to have a diverse and inclusive housing stock. That means that a neighbourhood must have many different types of houses ranging from cheap to expensive, from owner-occupied to rental to social housing, from small studios to larger single-family homes and special housing facilities. Having this diverse housing stock is crucial for creating a socially integrated, mixed and cohesive neighbourhood.

What are the current housing and building typologies and how are they distributed over Zuidwest?

When analysing the housing stock in Zuidwest, different factors can be considered. Firstly, housing ownership, which was already presented, with almost 75% social housing, is arguably the most important factor that influences the socio-economic group of the inhabitants of Zuidwest. This is one of the causes of Zuidwest's social segregation. When other factors are considered, the housing stock in Zuidwest is more diverse.

The parcel accessibility is shown in the graph and maps, these are all the parcels that are not municipally owned. 14% of the parcels serve a public function like schools or retail. 22% of the parcels are public, meaning that open building blocks provide open access to the space in between the buildings. This is perceived as a quality as it makes the urban fabric permeable, however, this also causes problems with public space appropriation because nobody will feel responsible, and in many cases, this has led to neglect and decay. 14%

of the parcels are assessed as semi-public, this means that they are accessible, however, not as easily as the public ones. These blocks have a small sign that indicates that it is not completely public or is bordered by bushes with only a small entrance. These spaces are often a little less neglected because there is mostly some sort of feeling of responsibility by the residents. However, these spaces also feel like no-mans-land because they are not really public and not really private. The private shared (26%) courtyards are only accessible by the inhabitants of the buildings but are shared between them. These spaces vary largely in how they are maintained, some are nice courtyards, while others look more like wilderness or dumps. This is partly caused by the bad accessibility from the buildings into the courtyards, in most cases they are only accessible by going out the front door on the street side, walking around the building to go through a fence into the courtyard which makes them little to not used. The places that are better maintained often have better accessibility to at least the first-floor apartment by an added staircase from the balcony. Lastly, there are the private gardens (23%) where the courtyards are often split into private gardens either for single-family housing or for the ground floor of an apartment building. Most of these types exist in newbuild housing from the last years that replaced the original. When this typology is combined with apartment building typologies, the disadvantage is that the apartments above do not have a private or semi-private outdoor space except their balcony which is often very small.



Private



Semi public



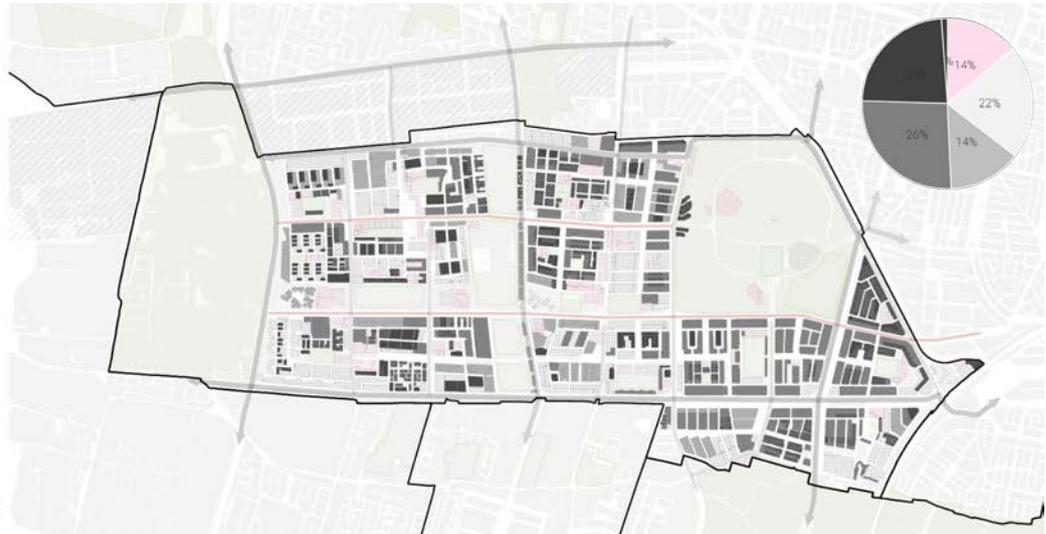
Private (shared)



Public

Parcel accessibility

-  Private (other)
-  Private (house)
-  Private (shared)
-  Semi Public
-  Public
-  Public function



Another way to define diversity in the housing stock is to look at the building block typology or building block configuration. Zuidwest is quite diverse in this aspect, however, 75% of the typologies (except for the closed and nearly closed blocks) can be defined as open configurations, giving the urban fabric of Zuidwest its distinct appearance. The first typology is the closed building blocks which make up for 8% of the total. These blocks are mainly found in the pre-war neighbourhoods in Moerwijk and some of the newer developments. These blocks are often combined with the private garden typology, and they provide a very clear distinction between public and private. The next typology of nearly closed blocks (16%) is quite similar and often also just accessible for the residents because the small opening is closed off. Therefore, it has almost the same qualities and can be found in the same neighbourhoods as the closed blocks. The most common typology with 30% is

the semi-closed blocks, where the buildings are often configured in a U-shape. This creates a semi-defined courtyard that is often privately shared or semi-public. The definition of public and private in these blocks is often not very clear. 15% of the building blocks are facing strips, in this typology the space in between is often semi-public or public and is sometimes incorporated into the pedestrian network. The quality of these blocks is that they are very airy and give a feeling of openness, however, the lack of an outdoor space for the residents can be a downside. The single strip typology (11%) is often found along larger roads or in or around neighbourhood centres. In that case, their plinth is mostly public. The last 18% are detached or single-standing buildings, this typology contains some towers along the larger streets or at intersections. However, most of these buildings contain a different function than housing.



Closed block



Semi closed block



Single strips



Nearly closed block



Facing strips



Detached buildings

Aerial images (Google, 2023)

Building block typology

- Closed block
- Nearly closed block
- Semi closed block
- Facing strips
- Single strips
- Detached building
- Other

Parcel Ownership

- Private (other)
- Private (house)
- Private (shared)
- Semi Public
- Public
- Public function



The last way that was used to define Zuidwest's housing stock is by housing typology. This category is dominated by the typical post-war portico flat with 55%. These buildings have 3 or 4 floors with one apartment per floor, and multiple staircases in one building that serve two apartments per floor. Most of the housing inside these buildings has the same typical apartment of 70 to 80 square meters and 3 bedrooms. 13% of the housing types are single-family houses, they are mostly found in the new developments and some in the west of Bouwlust and Vrederust. Gallery flats make up for 12% of the housing, these are partly newer developments and partly from the post-war period along the main roads. They vary largely in height, but they are always higher than the portico flats because this typology has an elevator. 17% of the housing is from another type like buildings with an internal corridor, towers, that are newer developments, or special housing like elderly care facilities.



Family home



Gallery flat



Portico flat



Other housing types



How should the housing stock be mixed to accommodate different socio-economic groups and comply with the neighbourhood characters?

To promote diversity in Zuidwest the main intervention that must be done is to increase the mix of different housing typologies. As mentioned, this can be specifically done by densification with renovation and demolition and newbuild housing. The main diversification of the housing stock is to add housing that is not social housing since that makes up for around 75% of the housing stock currently. As concluded from theory and conversations with people from housing corporations, the best way of mixing is by mixing different socio-economic groups per building block. This way, people can interact with people from the same socio-economic group within their building, and on the street, they can have unforced interactions with people from other groups that live in a building across the street. This does not mean that there is not any mix of housing in one building at all. Some types of mix can work well together, like people in different phases of their lives like starters and elderly people, or single-parent households with large households. This means especially that one building can have housing in different sizes, with different numbers of rooms. The image shows an exemplary elaboration of how different apartment sizes can be mixed, considering that the four smaller strips central in

the neighbourhood and the two longest strips are renovated and added an 'optopping' and the other buildings are demolished and newbuild.

As mentioned before in the chapter '5.2.4 Strategic densification locations' it is important to change the policy that 30% social and 30% affordable housing is needed within one development when a larger project that contains multiple developments can comply with these ratios. So that one building can house one socio-economic group, and the building next to another to create the optimal type of population mix in a neighbourhood.

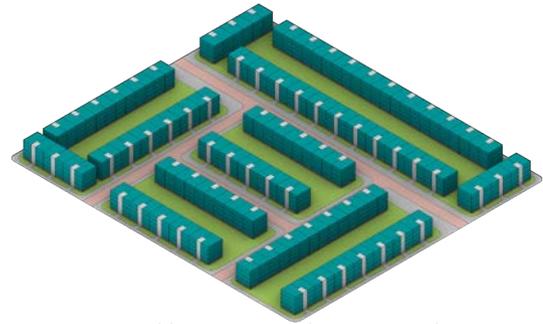
The following recommendations are general recommendations for Zuidwest, however, the previous chapter about character can specify and inform the decisions for certain types in certain neighbourhoods.

The parcel accessibility in new developments can still be a mix of the ones that exist now; however, there must be a clear distinction or gradient from public to private. Additionally, the ownership of the space must be clear to make sure that it is maintained. If it is publicly accessible it is probably necessary to hire someone to maintain the space. If it is a more private space, it is important that it is easily accessible for residents and has a clear quality and function, so the space is used,

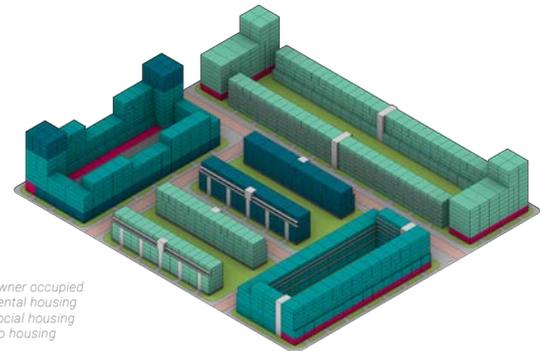
appropriated, and maintained by the inhabitants. To make sure that this happens, it is desirable to design the space together with the residents.

As concluded, there is a diversity of building block typologies, however, the main part of the typologies can be defined as open building block configurations. Therefore, to diversify the block typologies, the biggest part of the new buildings should have a closed configuration. This works well together with the densification strategy, as the new blocks will be the densest, and dense blocks are typically also closed blocks. As mentioned, the specific choices per location will also depend on the desired character of the neighbourhood.

In terms of housing typology, different types can be added to diversify the housing stock except for the portico flats since that is the most common typology currently. Additionally, this is not inclusive because it does not contain elevators and is therefore not very desirable. The other typologies can be used for new buildings as well as new, maybe experimental types that do not yet exist in Zuidwest. The choice of a typology can also be informed by the specific character of a specific neighbourhood and the target group.

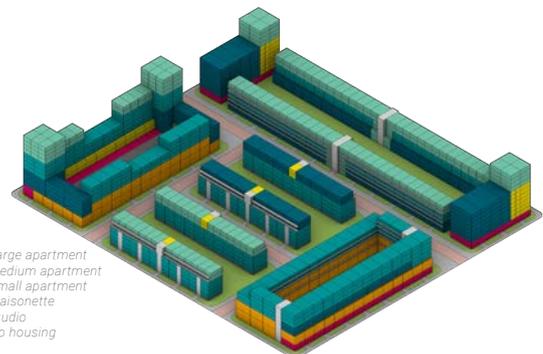


Mixed housing types design principle



- Owner occupied
- Rental housing
- Social housing
- No housing

Mixed housing socio-economic design principle



- Large apartment
- Medium apartment
- Small apartment
- Maisonette
- Studio
- No housing

Mixed housing types design principle

6.1.5 MIXED FACILITIES AND SERVICES

A mix of facilities and services is important to create diversity and inclusivity in a neighbourhood. The availability of facilities and services should be adapted to the housing stock and the different people that live in them to provide compliance to the wishes and needs of everyone in the neighbourhood. Additionally, this has a close connection with part of the attracting destinations because destinations that attract non-residents should naturally also attract residents.

What are the current facilities and services and how are they distributed over Zuidwest?

As the MXI (Mixed Use Index) (MXI indicates the percentage of housing in comparison to other functions) indicates, Zuidwest is generally not a very mixed residential area with some clear exceptions. These exceptions generally form the centres of the different neighbourhoods in Zuidwest. However, it can also be concluded that not all neighbourhoods have such a centre with amenities. (It should be noted that some apparently more mixed places are just one single building with a non-housing function on a plot resulting in an MXI of 0, while not really forming a neighbourhood centre.)



Therefore, the second two maps are a more detailed map of the specific facilities and services in Zuidwest. The top map shows all facilities that are used in daily life, can form a neighbourhood centre when clustered and provide opportunities for interaction and social cohesion. On this map, clearly, some clusters can be defined in several neighbourhoods but there are also a lot of single facilities scattered over the neighbourhood. Additionally, it can be concluded that there is not a coherent structure, some of the clusters are located centrally in a neighbourhood, while others are located at the edges along the main infrastructure. The same goes for the single facilities that are scattered over Zuidwest.

Another important factor is work opportunities, which are visualised in the second map. Naturally, there is a large overlap in where work opportunities are with where neighbourhood centres are since these services and facilities also provide jobs. Additionally, the business park Kerketuinen en Zichtenburg is a clear cluster of work opportunities. The hospital right next to the business park consists just of two buildings on the map but is also a large employer.

Facilities and services for neighbourhood centres and opportunities for interaction

-  Multifunctional
-  Meeting function
-  Education
-  Sports
-  Retail
-  Long lines network
-  Primary road
-  Secondary road
-  Tertiary road
-  Park
-  Sportsfield
-  Work location



Facilities and services for work and business opportunities

-  Multifunctional
-  Education
-  Healthcare
-  Retail
-  Office
-  Industry
-  Long lines network
-  Primary road
-  Secondary road
-  Tertiary road
-  Park
-  Sportsfield
-  Work location



How should facilities and services be adapted and mixed to comply with the needs of the new socio-economic groups?

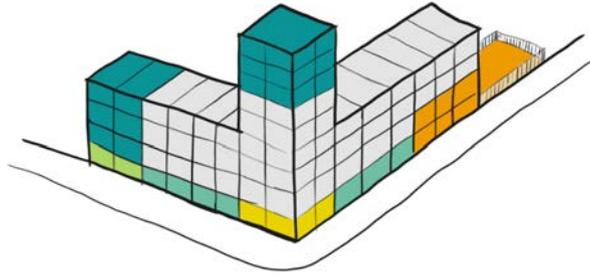
Firstly, it is important to provide more diverse services and facilities along with the diversification of the housing stock and population. The new services and facilities should be adjusted to the needs of the new population. This can be incentivized by creating a clearer and more coherent network that creates a better establishment climate for businesses. It is existing to maintain the existing centres where they are because they often form the heart of a community. Additionally, connecting existing centres by pedestrian-friendly connections with regular public functions in the plinth can improve the network. These connections can be fit into the proposed structure plan, this gives more value to the structure plan and creates strong connections between the centres and scattered amenities. Additionally, this will provide the needed coherent structure to organize possible new centres and point locations for establishing single facilities along the important pedestrian streets in the network.

Secondly, it is important to adapt the buildings along this network, so they have spaces for these facilities on their ground floors and optionally on the floors above.

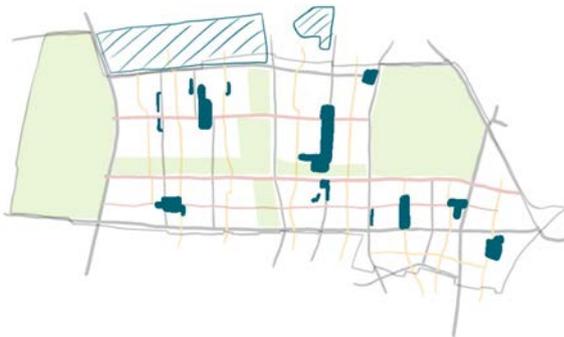
The sketch provides a principle of such a multifunctional building. The ground floor is entirely purposed for public functions to create an active plinth, the plinth houses a primary school, some shops, a meeting function, and a small healthcare facility. Some of the higher floors provide some office spaces while the rest of the building consists of apartments.

Lastly, policy changes are needed to achieve the desired results. Policy changes in the 'bestemmingsplan' are needed to allow businesses to establish themselves along the new networks. Additional policies can be used to incentivize businesses to come to Zuidwest. Lastly, the municipality is responsible for the establishment of public facilities and services in these locations in Zuidwest.

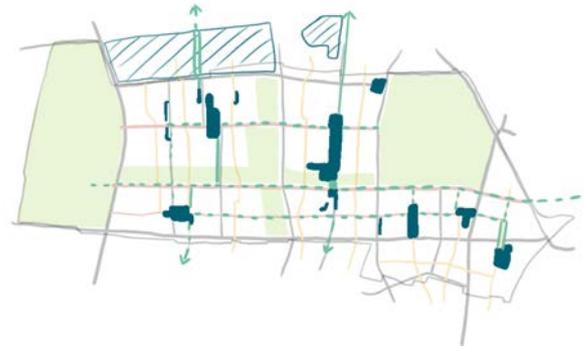
For work opportunities, the structure plan appoints locations for more businesses to establish, along the Mepelweg, the Erasmusweg, and Dedemsvaartweg. Additionally, the structure plan and chapter '6.1.1. Attracting destinations' proposed the creation of a creative district in the business park Kerketuinen en Zichtenburg in the elongation of the shopping street to the shopping centre de Steden.



Mixed facilities and services design principle sketch



Mixed facilities and services conclusion



Mixed facilities and services design principle

6.1.6 COLLECTIVE SPACE

To encourage people to meet and interact with people of different socio-economic groups specific spaces are needed that provide a suitable atmosphere. This interaction does not have to be an actual conversation or activity, but often just seeing one another regularly is enough to create some feelings of social cohesion. Therefore, the space should be designed in a way that people can see each other in an unforced manner. Additionally, the spaces should be located on routes that people take daily, or they should have some facilities or surfaces that people regularly need, to encourage them to use the space.

Which spaces accommodate collectivity and interaction between residents in each neighbourhood?

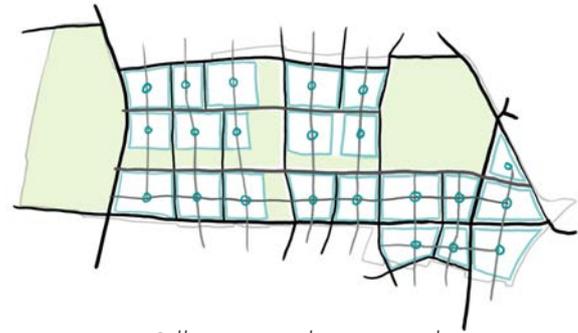
Several neighbourhoods in Zuidwest already have one or more collective spaces that promote social cohesion within that neighbourhood. However, several neighbourhoods do not have any collective space at all except the car-oriented streets. Firstly, it is important to create a collective space in each neighbourhood to be able to accommodate interaction. This is especially important when densification takes place and the pressure on open space increases. Additionally, the influx of newcomers in the neighbourhood increases the need for collective space even more.

The existing collective spaces can roughly be divided into three categories, parks, squares, and playgrounds where the parks and squares often contain a playground. These different spaces all have their specific qualities and challenges. The parks provide a nice atmosphere through their green character and allow for relaxation, sports, and games. However, they are often less connected to the public space network, not part of everyday movement, and do not have active plinths around them. Additionally, they do not provide space for all types of activities and due to their larger size, they are a little less effective in promoting interaction.

The squares are often better connected to everyday movement and additionally, they often have an active plinth with functions that attract people. They are very versatile in their use, especially if they have a playground or even a sporting facility on them. However, they lack the relaxing factor that a park often has and are a little less useful for playing sports and games, especially for adults. In conclusion, these spaces are very effective in bringing people together, creating activity, diversity, and inclusivity and with that social cohesion.

The last category is the playgrounds, as mentioned they are mostly situated in one of the other categories, however, they can also exist on their own. When that is the case, they still function as collective space, how-

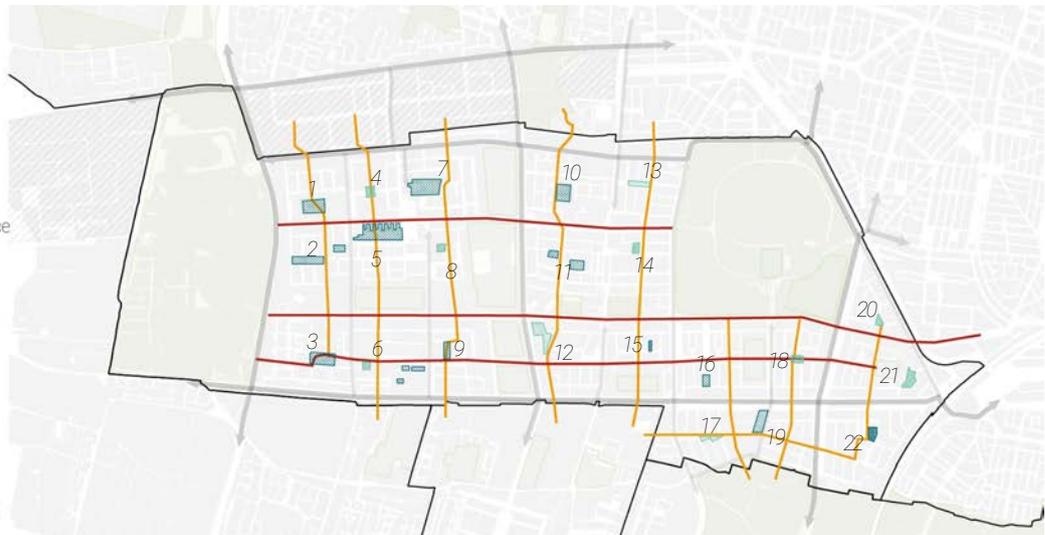
ever much less effective than the previous two. These generally only attract children with their parents and the occasional elderly who like to see the kids play. To conclude, neighbourhoods that only have a playground that functions as a collective space should be given an additional space, preferably in the same location, that provides a more inclusive collective space for the neighbourhood.



Collective space design principle

Collective space

-  Existing park collective space
 -  Existing square collective space
 -  New park collective space
 -  New square collective space
 -  Long lines network
 -  Perpendicular network
 -  Primary road
 -  Secondary road
 -  Tertiary road
 -  Park
 -  Sportsfield
 -  Work location
-  0,5 1 km





1 - Existing park - Hengelolaanpark



2 - Existing park - Speelzide



3 - Existing park - Pachtersdreef



5 - Existing park - Marinipark



6 - Existing park - Gaarde



7 - Existing park - Eekhoorgaarde



9 - Existing park - Gaarde



10 - Existing park - Exloostraat



11 - Existing park - Hoogeveenlaan



11 - Existing park - Buinerveenstraat



16 - Existing park - Johannes Voetpad



19 - Existing park - Drakentoren



15 - Existing square - Ootmarsumstraat



22 - Existing square - Heeswijkplein



12 - New park - Eeldepad



13 - New park - Gramsbergenlaan



17. New park - Johannes Cannenburg



4 - New square - Zonneoord





6 - New square - Ambachtsgaarde



8 - New square - Shalomkerk



14 - New square - Emmaus kerk



18 - New square - Marcuskerk



20 - NS Vier Heemskinderenstraat



21 - New square - OBS De Kleine Wereld

Which neighbourhoods lack collective spaces, where can they be added and what should be the qualities they possess?

As indicated on the map, about half of the neighbourhoods do not have their own collective space. To create socially cohesive neighbourhoods, it is crucial to provide such a space to each of these neighbourhoods. The map shows potential locations for these spaces, these locations are chosen on three conditions. Firstly, the current use of the space, if there is currently a building it is harder to repurpose that plot and make it a public space. If it is currently an open space with another function like a parking lot, it is easier to transform it into a public space. Secondly, a collective space should be part of the everyday movement of people. Therefore, if possible, the location is located on the proposed pedestrian network from the strategic plan. Finally, the centrality of the space in the neighbourhood plays a role, the more central the location, the closer it is to all inhabitants which makes it more accessible to all. The proposed characters in chapter 6.1.3 can provide input for whether a park or a square is fitter for that specific neighbourhood.

Inclusivity is an important element in collective space to create social cohesion among all inhabitants of a neighbourhood. When creating a public space design, it

is important to take all different social groups and their wishes and needs into consideration. Different main groups that should be considered are people with disabilities, different age groups, different genders, and different cultural backgrounds. To do that, the involvement of residents in the design process can help to comply with everyone's wishes and needs.

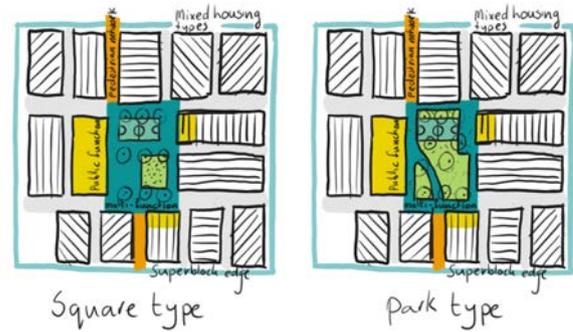
Certain spatial elements can improve the functionality of a public space to serve as a collective space according to Whyte (1980). They are listed below, so they can be applied in the design of exemplary locations in the next chapter.

They should

- Be part of everyday movement.
- Have a clear and welcoming entrance.
- Provide an open layout to increase visibility over the whole space.
- Have active plinths.
- Be multifunctional and flexible to accommodate different uses and temporary events like gatherings, cultural performances, markets, festivities, and recreational activities.
- Have greenery which contributes to a relaxing atmosphere and can provide shadow.

They can

- Have seating arrangements that promote conversation and have a mix of options for different uses and group sizes like benches, moveable furniture, and picnic tables.
- Target children with playgrounds or a primary school since children are often an incentive for interaction.
- Have playful elements or interactive installations that are fun for all ages like art installations or sports facilities.
- Have art and cultural installations like a sculpture or mural that reflect the identity and diversity of the inhabitants and can spark a conversation.
- Have a shared allotment garden or urban farming.



Collective space design principle sketch



Collective space conclusion



Collective space design principle

6.1.7 ATTRACTIVENESS AND QUALITY

A high-quality living environment contributes to social mix, simply through the fact that everyone wants to live in a high-quality environment. Additionally, it contributes to social cohesion because people are more likely to feel connected and have a sense of belonging to a higher quality and attractive environment.

Where and how should the attractiveness and quality be improved?

Generally, an attractive and high-quality living environment is important everywhere, however, some places are more important than others. Additionally, there are different ways to achieve and maintain this depending on the ownership and location.

Firstly, a higher quality of the buildings and housing itself is needed; this can be achieved by applying the densification strategy of building new houses in addition to renovating the existing ones. In addition, the buildings, and the associated space should be of high quality as well. A good design which gives functionality to the space is important to make it attractive for residents.

The design is preferably made in co-creation together with the residents. Additionally, a sense of responsibility is necessary for the conservation of the quality and proper maintenance of these spaces.

The attractiveness and quality of the public spaces are important as well. This goes generally for all public spaces but is specifically important for spaces that have a major role in the public space network. The pedestrian connections of the strategic framework should be very attractive and of high quality which can be achieved by design and good maintenance. In addition, the specific places in Zuidwest like the attracting destinations, identity spaces and collective spaces need to be very attractive and of high quality to maximise their effects. Besides, attractiveness and quality that are perceived from the main roads are important, because this is the first thing that people notice when they go in or through Zuidwest, this is important for non-residents to create better integration of Zuidwest in Den Haag, as well as for residents to develop feelings of belonging and pride for their neighbourhood.

6.1.8 SECURITY AND PERCEIVED SECURITY

As concluded from the literature both actual security as well as perceived security are important factors for social integration and social cohesion. Like the effect of attractiveness and quality, security improves the sense of belonging and with that social cohesion.

How do the current urban fabric and public space influence the feeling of unsafety in Zuidwest?

The feeling of safety and unsafety is mainly influenced by the extent of natural surveillance in the public space. There are specific elements that create a lack of natural surveillance in Zuidwest. Firstly, the large number of blind plinths takes away from the so-called 'eyes on the street' causing a feeling of unsafety on the streets. Most of the buildings in Zuidwest do have half-sunken storage space on the ground floor resulting in the first 1,5 to 2 meters of the plinth being a blind wall. Secondly, some building block configurations are oriented towards each other creating spaces where windows are looking upon, which creates an unpleasant space with no natural surveillance. Thirdly, some of the singels and green strips in the streets contain such dense vegetation that it blocks the views through the street, from street level but also from out of the buildings which reduce the 'eyes on the street' and with that the feeling of safety.

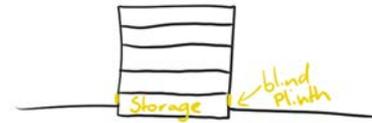
How can security and perceived security be improved by changes in the urban fabric and public space?

Creating eyes on the street and preventing blind spots and dark corners are the main design interventions that can improve security and perceived security in Zuidwest.

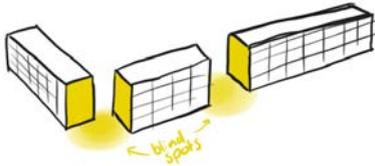
There should be as few blind plinths as possible in the neighbourhoods, for new buildings this is easy to achieve, however, for existing buildings, it is much harder. Technically there might be some possibilities to break out the floor and create an apartment at ground level with a high ceiling. However, this will probably not be a feasible project and not be worth the investment. Fortunately, the storage spaces are mostly half sunken and not completely above ground, this reduces the negative effects.

Blind facades should be prevented as much as possible and when they cannot be avoided, there should at least be another building looking onto these spaces to create some sense of security. Again, this is very doable for new build projects but harder for existing buildings. For existing buildings with this issue, densification in the form of 'surgical procedures can be applied to place buildings in these blind edges to remove them as shown in the image.

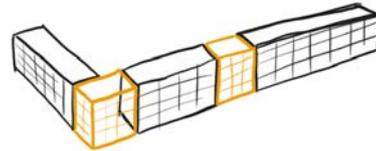
Lastly, dense vegetation that blocks the views through streets can be pruned to improve the visibility from the street level and from out of the buildings, this creates more security and perceived security in the streets.



Blind facades conclusion



Blind corners conclusion



Blind corners design principle



Vegetation conclusion



Vegetation design principle



6.1.9 ADDITIONS TO THE STRATEGIC FRAMEWORK

Most of the design interventions that were proposed in this chapter are local and small-scale interventions and will be applied to the smaller-scale designs that will be presented in the next chapter. These principles would not be visible in the strategic framework, however, some of them are visible, and they are presented here.

The updated structure plan shows the locations of the added attracting destinations on the map together with the main structure for mixed facilities and services. Additionally, the identity spaces on the main long lines and intersections are placed on the map. Finally, the integration of collective spaces in the pedestrian network is added to the strategic framework.



Legend

Connectivity and Differentiation

- Long line 'Highstreet'
- Long line 'Green connection'
- Central strip
- Public courtyard
- Pedestrian connection parallel
- Pedestrian connection perpendicular
- Green connection
- Park path
- Waterbody/Singel

- Bridge
- Softened border
- Active plinth
- Urban pedestrian network
- Green pedestrian network
- Cycling network
- Tram line
- Primary road
- Secondary road

Character and Composition

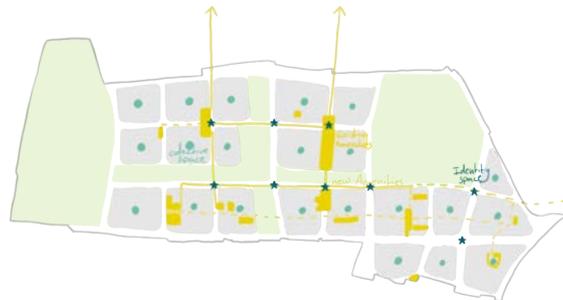
- Attracting destinations
- Economic zone existing
- Economic zone new
- Character: Dense urban
- Character: Urban green
- Character: Central living
- Character: Green suburbia
- Park
- Sports field

Diversity and Inclusivity

- Retail centre
- Public service/amenity
- Identity space
- Collective space: existing green
- Collective space: new green
- Collective space: existing urban
- Collective space: new urban

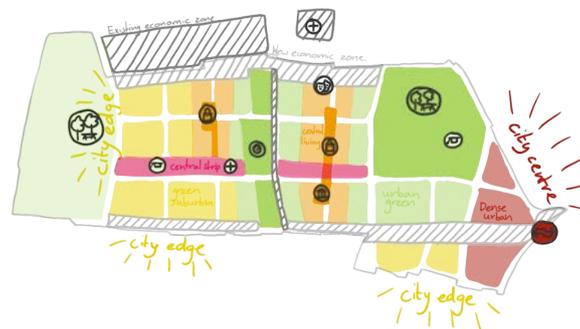
Which spatial design interventions can help to enhance **diversity and inclusivity in Zuidwest to increase social mix and social cohesion between existing and new inhabitants?**

The main design interventions that can be used to increase diversity and inclusivity in Zuidwest can be divided into changes to the building stock and changes to the public space. Diversification of the housing stock, in terms of ownership structure, pricing, size and typologies makes a neighbourhood more accessible to different types of people. Additionally, the diversification of facilities and services is important to comply with the demands of the new diverse population. Besides, the addition of work opportunities is an important factor in attracting new residents. This diversity in buildings contributes to the social mix of Zuidwest. Spatial interventions in the public space should be in the most diverse places in the neighbourhood and have the role of providing inclusivity. This can be done in two types of spaces. Identity spaces are important to create a sense of belonging to a certain place as well as to create a sense of togetherness among residents. Collective spaces can bring a diverse population together in the same place, visibility, interaction, and meeting can occur between inhabitants. By creating spaces for inclusivity in Zuidwest, social cohesion between diverse population groups can be achieved.



Which spatial design interventions can help improve the character and composition of Zuidwest to increase social integration and social cohesion?

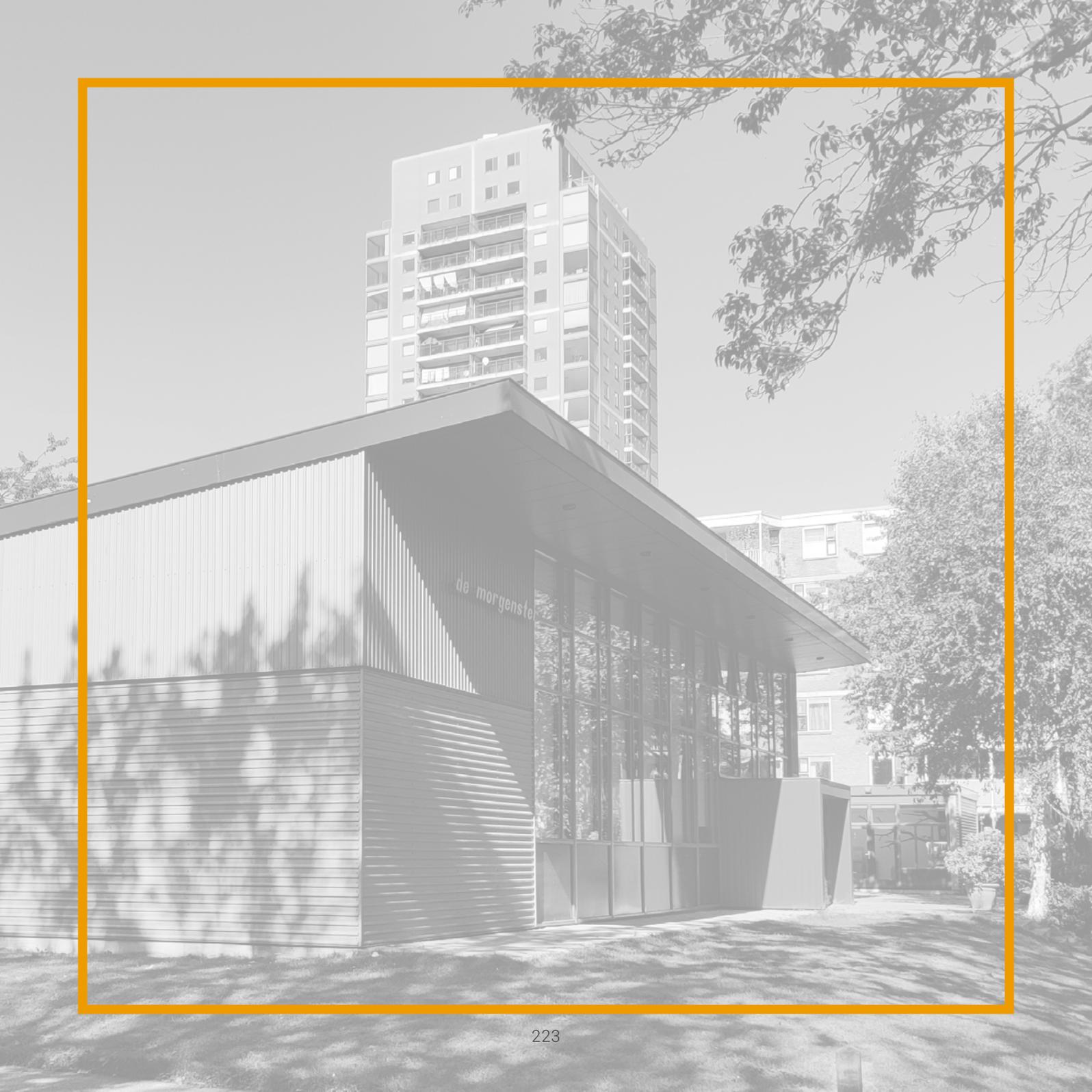
Character and composition are important elements in creating a more socially integrated and socially cohesive neighbourhood. By adding attracting destinations, more non-residents will be attracted to Zuidwest. These destinations can consist of places that people want to go to for recreation and leisure or need to go to for work or education. These destinations must be incorporated into a network. Giving a character to a neighbourhood helps to create feelings of belonging and a sense of community. In addition, character can be differentiated between neighbourhoods providing different living environments for everyone's preferences. Attractiveness and quality are important factors that can create a sense of belonging as well as a sense of ownership and responsibility which contributes to social cohesion. Lastly, social cohesion can be improved by a neighbourhood design that creates good perceived security, which can be achieved through natural surveillance.



Chapter 7:

Design

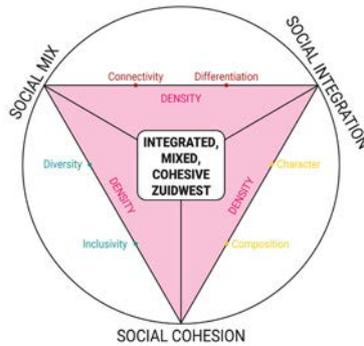
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7.1 STRATEGIC SPATIAL DESIGN OF THE MELIS STOKELAAN

The previous chapters have described a strategic design framework regarding connectivity & differentiation and densification, and a spatial design framework regarding diversity & inclusivity and character & composition. These chapters created principles for the development of Zuidwest that were derived from literature and analyses. The coming chapter will elaborate on some exemplary spatial designs for Zuidwest in strategic locations within the neighbourhood. The design will be based on the gathered information and design principles from the previous chapters. The design was made by going back and forth through the scales during the entire design process. For readability and clarity, however, this chapter will be built up starting from the scale of Zuidwest working towards a detailed design of some public spaces.

The long line Melis Stokelaan is the most important element in the strategic framework, therefore this will be the starting point for this design chapter. Firstly, a more detailed plan for this street will be presented to complement the more abstract design framework. After, a more detailed design of several strategic locations will be shown. The chapter concludes by presenting a set of rules for each street type, which can be used for further design of the neighbourhood.



CONNECTIVITY AND DIFFERENTIATION

Accessibility
 Borders and boundaries
 Legibility
 Network
 Space syntax

DIVERSITY AND INCLUSIVITY

Identity space
 Collective space
 Mixed facilities and services
 Mixed housing

DENSITY

CHARACTER AND COMPOSITION

Attracting destinations
 Character
 Attractiveness and quality
 Security and perceived security

7.1.1 THE MELIS STOKELAAN AS A HIGHSTREET FOR ZUIDWEST

Highstreet

Within the strategic framework, the Melis Stokelaan will function as a so-called Highstreet for Zuidwest. A quick explanation of the precise function and qualities of a Highstreet will be quoted from my own essay from 2021 which can be found in its totality in the appendix including sources.

The current function of the high street is described by Vaughan as “the core of suburban non-domestic activity, as a special kind of space with demonstrable potential for creating the living heart of the suburb” (2015, p. 3). This is a similar description as given by Griffiths et al. (2008) who stress the presence of small local shops and Zukin (2012) who stresses the importance of these high streets in the forming of the cultural identity of inhabitants. She describes that both “traditional ethnic homogeneity and new ethnic diversity become embedded in a bounded geographical terrain” (Zukin, 2012, p. 282). It can be concluded that the high street as such is not just a commercial shopping area or the main traffic artery, but also serves as a social conductor for the surrounding neighbourhoods.

(van Driesum, 2021)

The described function of the Highstreet strongly connects with the themes that I am trying to address with my design. The following pages are an exploration of the potential of the Melis Stokelaan to become a Highstreet and the spatial design elements that are needed.

Greenway

Parallel to the Melis Stokelaan is the already discussed green strip that is suitable for densification. This green strip will be transformed into a Greenway which consists of free-standing building blocks, and a green route that connects the Zuiderpark to the Uithofpark with a lot of park-like spaces in between that create spaces for interaction. This route provides an extra layer of public space to the Highstreet. Additionally, it adds to the ecological network of Den Haag.

Public Courtyards

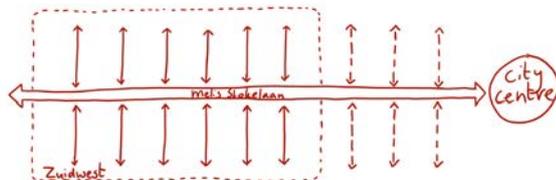
On the other side of the Highstreet will be enlarged building blocks with large courtyards that also provide spaces for houses. These new building blocks add a new typology to Zuidwest and can contribute to the social mix and social cohesion in the neighbourhood.



Current situation of the Melis Stokelaan

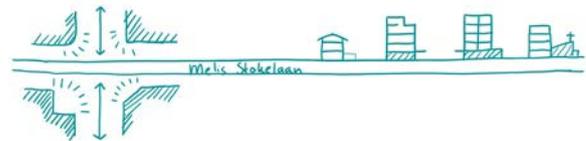
Connectivity and Differentiation

As described, one of the main functions of the Highstreet is being a main artery for movement within a suburb which the Melis Stokelaan already is for motorized traffic and can become for slow traffic between Zuidwest en Den Haag. Simultaneously it can become the lifeline that ties the different neighbourhoods within Zuidwest together, spatially but also socially and economically. To do so, the street must keep its linear character to allow the flow of people through it for social integration. Besides, the linear character can be strengthened by creating a more consistent straight face of facades to the street on both sides. However, the amount of motorized traffic makes the street currently more of a border and is hardly used by pedestrians because it is not a pleasant space. Therefore, the street could benefit from reducing the speed limit and giving more priority to slow modes of traffic. In line with that, the street can be narrowed since this intervention compacts the street, this also has benefits for some of the other themes which will be explained below. Additionally, it needs sufficient perpendicular streets that branch out into the neighbourhoods to increase connectivity.



Diversity and Inclusivity

Simultaneously, the Melis Stokelaan must function as a magnet to Zuidwest's residents of all different socio-economic classes and even people from outside of Zuidwest to create an integrative public space to create social mix. To do so, it must offer a variety of public functions and amenities like shops, workshops, workplaces, cafes, horeca, office space and community spaces. Additionally, the public space must provide space to stop, stay still, and reside to be able to enable interactions between all kinds of people to provoke social cohesion. A narrower street is better to create this more bustling environment because it concentrates people. Besides, a more mixed housing stock around the Melis Stokelaan can strengthen its function as Highstreet by functioning as a social conductor in the neighbourhood. Lastly, the Highstreet as such can create a cultural identity for Zuidwest which it is currently lacking.



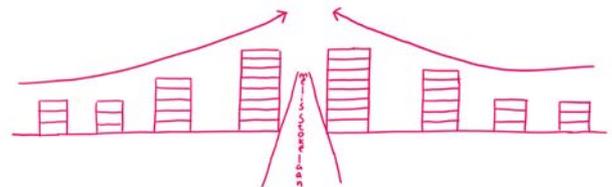
Character and Composition

The Melis Stokelaan in combination with the green strip behind it can add to the character of Zuidwest by incorporating attracting destinations and with that becoming one itself. Additionally, it can add more diverse building masses, building typologies and public spaces to add a new composition to the monotonous urban fabric of Zuidwest. The transformation of this street can also add a quality impulse to the street that can resonate deeper into the neighbourhood. The transformation should also put more 'eyes on the street' as well as provoke more activity on the street, especially in the evening, to improve the security of Zuidwest. Narrowing the street helps with this.



Densification

Densification can work in a symbiotic relationship with this Highstreet, higher density in both housing and other functions will enhance the effects of the Highstreet while easing the housing shortage of Den Haag. Additionally, the Melis Stokelaan as a Highstreet can be a guide in the densification of Zuidwest by increasing the density of the facing buildings, decreasing towards the hinterlands within the adjacent neighbourhoods.



7.1.2 DENSIFICATION OPPORTUNITIES ALONG THE HIGHSTREET AND THE HINTERLAND

The densification along the Highstreet and in the Greenway can be done in several ways. Firstly, open spaces between existing buildings can be filled in with new buildings or existing buildings can be demolished and replaced with buildings of higher density. This can be done by building more buildings or larger footprints, building higher and moving the south face of the Melis Stokelaan forward and thus narrowing it, providing space behind it for additional buildings. This also creates opportunities for different public spaces and building typologies. Secondly, buildings that are not of good quality but do create good public space configurations and typologies can be renovated and possibly densified by infill or optopping as explained in the densification chapter. The Melis Stokelaan including the Greenway and the facing buildings can be subdivided into separate plots. These plots were analysed on the current density and quality of the buildings and public space configurations to conclude what type of intervention is suitable for each plot. For the plots on the south side of the Melis Stokelaan and the plots on the north side of the Greenway, the same can be concluded. They are all relatively low-density and provide low-quality public space configurations, therefore the preferred intervention for these plots will be renewing and densification. The plots in the Greenway differ a lot from each other so they will be explained one by one.

(The northwestern part of the street starting from the crossing with the Loevesteinlaan is not depicted and analysed on this page because the Greenway ends at this point and goes into the Zuiderpark, the building blocks facing the Melis Stokelaan on this part of the street are all very similar, so the strategy is very similar for all these blocks as well.)



Aerial image of Den Haag Zuidwest

Density and Quality per plot

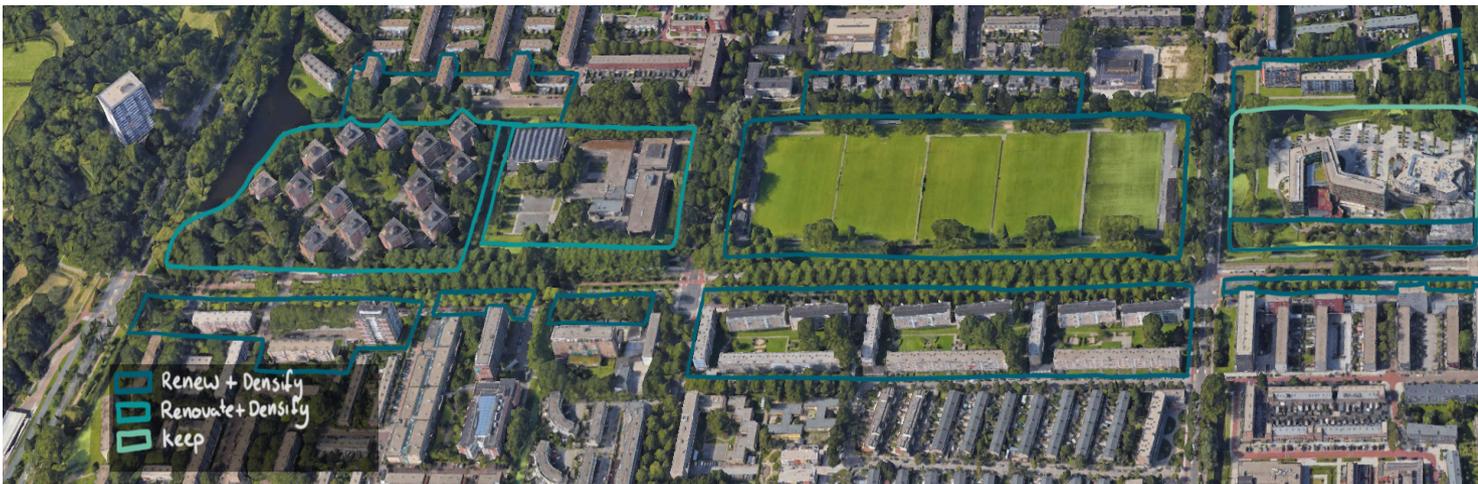


Existing solitary block typology

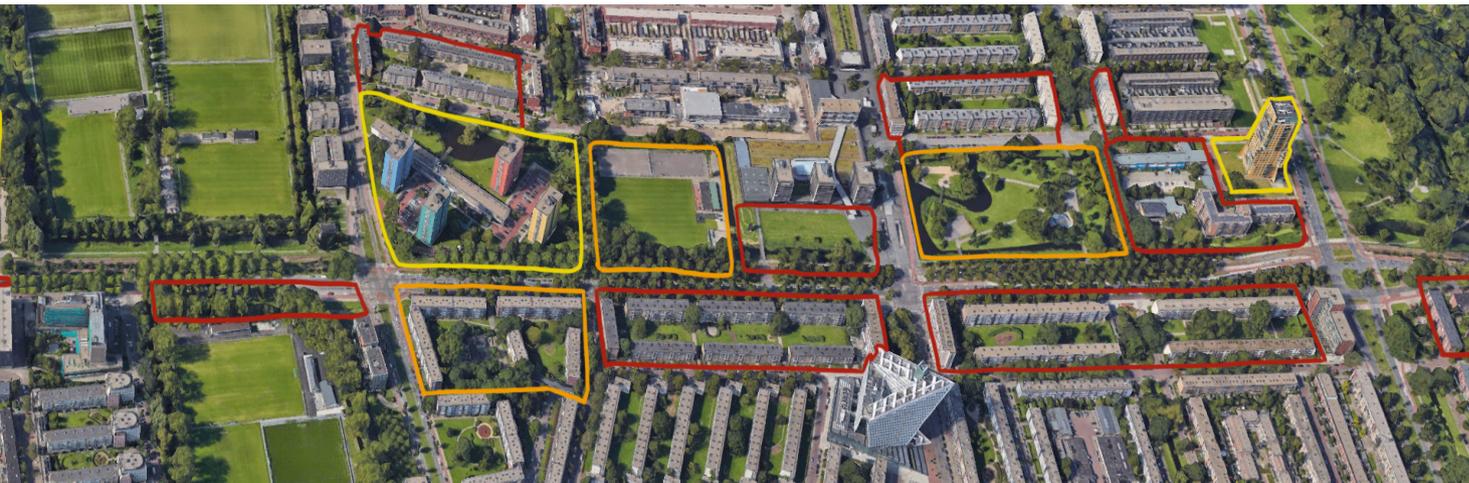
Zuidwest College

Sportsfields - Escamp III

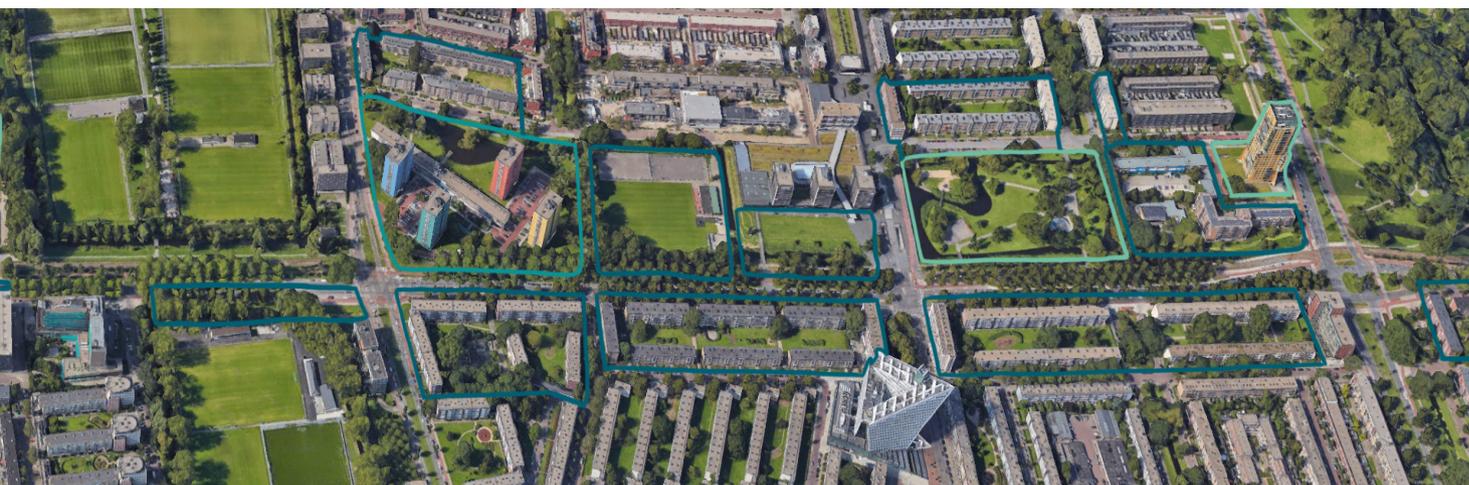
Rehabilitation center and special education



Proposed intervention per plot



d Escamp I and Escamp II Existing highrise typology Sportsfields Shopping center Melis Stokepark Diverse building typologies and functions
 Bentelostraat Leyweg



Existing solitary block typology

This typology fits the idea of a park-like environment with free-standing buildings that allow permeability and wandering through the area. However, the quality of the buildings and the public space is not very high. Therefore, the plot can be densified by 'optopping' and adding a second façade to increase floor area and improve. A similar approach was used by Lacaton & Vassal on a social housing renovation project in Paris on the Rue de L'Ourcq. At the same time, the quality and permeability of the public space can be improved by removing some of the dense vegetation and creating some paths through the area.



Existing solitary block typology



Social housing renovation Paris by Lacaton & Vassal (Ruault, n.d.)

Zuidwest College

This plot houses a high school and a sports hall which is a function that fits well in the strategy for the Greenway. However, the quality of the buildings (except for one new building) is low as well as the density. The proposal for this plot would therefore entail keeping the newer part of the building, renovating and densifying where possible and renewing where needed. Again, the accessibility and permeability of the plot are important and should be pursued as much as possible for a school function.



Zuidwestcollege new buildings



Zuidwest college old buildings

Sports fields Escamp III – Sportsfields Bentelostraat

The sports fields of Escamp III and the Bentelostraat naturally have a low density. The quality of the plot is two-sided, on the one hand, sportsfields have important qualities for the neighbourhood, on the other hand, their private character is contrary to the goals of permeability of the Greenway. Therefore, the proposal is to rearrange and reduce the number of fields from five to three on Escamp III (which is possible with the field occupation in Zuidwest as explained in the densification chapter). The newly available space is used for densification and the accessibility to the sports fields can be increased to make this plot part of the public realm of the Greenway.



Sportsfields Escamp III



Sportsfields Bentelostraat

Rehabilitation centre and special education

This plot has a rehabilitation centre and a school for special education which are both high-quality new buildings. Additionally, the plot is relatively permeable, only it is surrounded by a ditch. Additionally, it does not create a clear front towards the Melis Stokelaan. Therefore, the proposal is to mainly keep the plot as it is and only add a clear building front towards the Melis Stokelaan. Additionally, the accessibility can be improved by adding one or two small pedestrian bridges over the ditch. Lastly, the vast amount of parking spaces can maybe be reduced and replaced by green space to make it more conform to the strategy for the Greenway.



Rehabilitation centre



School for special education

Existing highrise typology

This existing highrise typology fits the concept of the Greenway well, it consists of four separate highrise towers surrounded by a parklike and accessible environment. Only, it lacks a clear front towards the Melis Stokelaan, like the previous plot. Therefore, the proposal for this plot is to maintain it as it is and only add a building block to create a clear façade towards the Melis Stokelaan. Additionally, the number of parking spaces could be reduced, and the buildings could be renovated.



Existing highrise typology in park



Existing highrise typology in park

Shopping centre Leyweg

In front of the shopping centre Leyweg until the Melis Stokelaan, there is an unused fallow plot. Also, the Melis Stokelaan does not have a clear front here. Therefore, this plot can be densified by adding new buildings along the Melis Stokelaan to create a clear front. Views from the towers in the shopping centre should be considered in choosing the locations for the new buildings to not deny their views. The space that is left between the new buildings and the front of the Leyweg shopping centre can be added to the Greenway.



Shopping centre Leyweg



Shopping centre Leyweg

Melis Stokepark

The Melis Stokepark naturally has a low density, but it is a high-quality, permeable, green public space. Therefore, the park can be kept and become part of the Greenway. Additionally, on the edge of the park towards the Melis Stokelaan some buildings can be added to give it a building front. There must be regular openings through the buildings to keep the park accessible.



Melis Stokepark



Melis Stokepark edge

Diverse building typologies and functions

This plot can be split into two. First, a new highrise tower and a renovated church that fit the Greenway strategy. The rest of the plot consists of old, low-quality buildings containing housing, and some community functions. Additionally, the buildings and the public space do not fit the strategy because they are not permeable and accessible, and they do not form a front towards the Melis Stokelaan. Therefore, the proposal is to demolish the old buildings but keep the highrise tower and the church. New free-standing building blocks can be built around these two buildings and create a new front towards the Melis Stokelaan. Additionally, the public space can be built as a public park that is part of the Greenway and connects the Melis Stokepark to the Zuiderpark. This plot is a key location in the strategy and will later in this chapter be elaborated more.



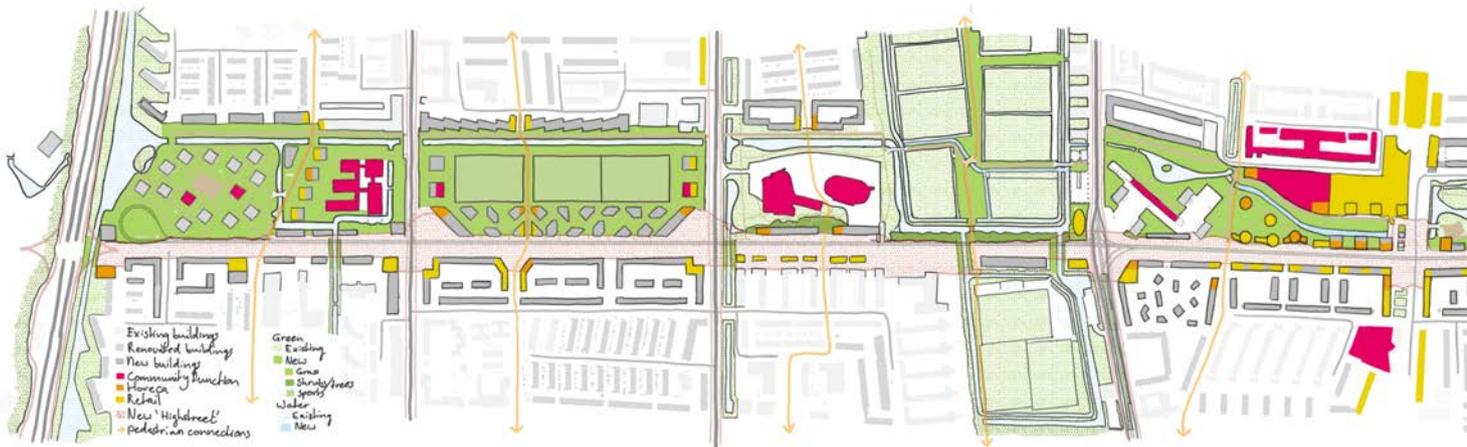
Church on foreground new highrise and old building on background

7.1.3 DESIGN OF THE HIGHSTREET

From the previous analysis, a conceptual design for the Melis Stokelaan as a Highstreet, the Greenway and their adjacent building blocks was made. It must be noted that this is a conceptual design and therefore shows how the strategies can be applied and what interventions could be needed. However, it is not a fully elaborated and detailed design. The next part of this chapter will zoom in on a strategic location to show a more detailed design. The design that will be presented will be exemplary for other locations along the Melis Stokelaan.

Strategic locations

In the transformation into a Highstreet and Greenway, there are two main strategic locations, based on their impact on the whole design, their function as a catalyst for the rest of the design, and their potential as an economic boost for the transformation. The locations are the Escamp III and the location that borders the Zuiderpark and the Melis Stokepark, of which the second is even more important. That is because of its central location in Zuidwest because it is the starting point of the Greenway from the Zuiderpark and its connection to the Leyweg shopping centre. Therefore, this location was chosen to make a more detailed design as an exemplary design for the rest of the Melis Stokelaan.



Traffic

To maximise the potential of the Highstreet function, fast motorized traffic must be reduced. The reduction in the amount of motorized traffic influences the accessibility of Zuidwest. However, as shown before, stressing the importance of the roads around Zuidwest most of the traffic can be redirected there. The accessibility of the neighbourhoods is then provided by streets that connect the surrounding roads from north to south. The Highstreet will remain open for slow traffic at a reduced speed limit of 30km/h on a bicycle road. This keeps it accessible for emergency services, deliveries, and local traffic but removes its function as the main artery through the neighbourhood. Additionally, public transport plays a more important role, especially by adding more tram lines to the existing rail in the street.

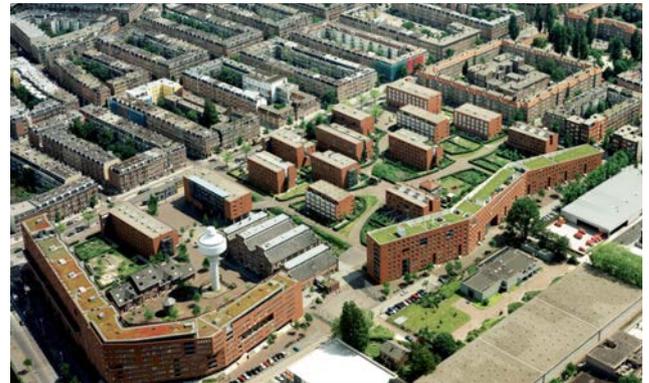


Highstreet

The design shows how building blocks on the south side of the Melis Stokelaan are mostly replaced with new blocks that step forward onto the current street to make it more narrow and fit the Highstreet concept better. In the plinths are public functions with housing on top in relatively high densities. The car traffic is reduced, and more space is created for bikes and pedestrians with sufficient spaces for standing still, meeting interacting and shopping and horeca fronts like sidewalk terraces as shown in the Stadsstraat project in Tilburg. This plays an important role in the social integration of Zuidwest. Additionally, this creates a larger courtyard to create space to add building blocks inside and open them up as a public space. This adds a new typology and character in Zuidwest which allows for a more social mix, the GWL Terrein in Amsterdam is an example of a similar typology.



Stadsstraat project: Mooi Tilburg (Aarsen, 2021)



GWL Terrein, Amsterdam(KCAP, 1998)

Greenway

The Greenway is already a green strip in the current situation, however, most of the greenery is low quality or inaccessible to the public. Therefore, a redesign of this area is proposed. The Greenway lies parallel to the Highstreet and provides a green parklike connection between the Zuiderpark and the Uithofpark. It is an alternative route along the Highstreet with a green and more quiet character. The route is guided by water that runs all the way through the Greenway. The area can also be used for densification by placing free-standing buildings in a park-like environment. This keeps the area open and accessible, but also provides some activity and safety to the spaces, examples of reference projects are the Funenpark in Amsterdam and the Chasse Park in Breda. Additionally, the revenue from the new buildings can be used to achieve a very high quality of the public space. The Greenway is not just for the residents of the buildings in it but is also open to people who live in the existing neighbourhoods. Permeability and accessibility are therefore very important, by doing so, the Greenway can play an important role in providing social mix and social cohesion within Zuidwest.



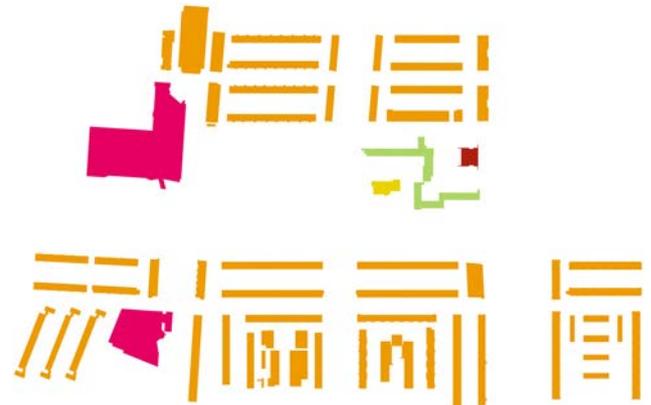
Chassé Park Apartments Breda (De Geyter, 2002)



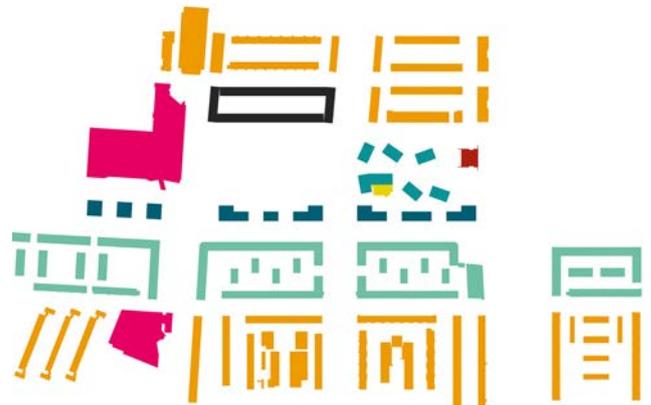
Funenpark, Amsterdam (Van Dongen & ArchitectenCie, 2012)

7.2 DETAILED SPATIAL DESIGN

In this chapter, the detailed design for the start of the Greenway and adjacent part of the Highstreet follows up on the previously shown design principles. Firstly, an exploration of possibilities and design alternatives will be elaborated to substantiate the choice for the design choices. This consists of design alternatives for the configuration of the building masses and an exploration of different design possibilities on the street level. Then the design principles for the entire Melis Stoke- laan will be translated onto the chosen design to show how the larger scale principles apply to the zoomed-in design and influence it. Then the final design is shown in detailed plans, sections, and 3Ds. This is followed by an in-depth analysis of how the design works. Lastly, the typologies of the new buildings and their ownership structure will be shown.



Urban fabric of the existing situation



Urban fabric in the new situation



Aerial image of the current situation of the design location (Google, 2023)

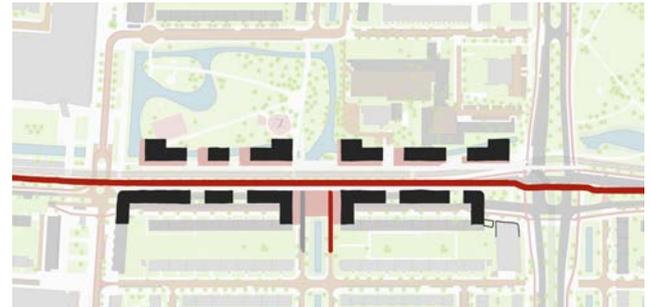
7.2.1 STUDY OF DESIGN ALTERNATIVES

Highstreet: Open or closed building lines

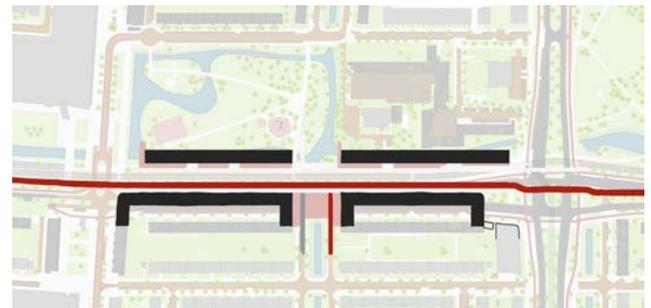
The buildings that face the Melis Stokelaan should strengthen its character as a Highstreet, therefore it is the question of whether the buildings along the street should be longer blocks or interrupted shorter ones or a combination between the two. The longer version strengthens the linear character, which is positive, however, it makes the permeability to the hinterland less. The south side benefits from less permeability from the super public Highstreet to the more private courtyards of the building blocks to clarify the transition between the difference in publicness. The north side, however, benefits from more permeability, so a strong connection and collaboration between the Highstreet and the Greenway is possible. Therefore, the south face of the Melis Stokelaan should consist of longer closed blocks and the north of shorter blocks that have more regular interruptions.

Highstreet: Buildings on the street

Another experiment was to add buildings not behind the south façade but on the street itself. This would create the possibility to separate the fast and the slow traffic and create more enclosed spaces on the street. However, this goes at the cost of the readability and linearity that a Highstreet needs as a main connector. Therefore, this idea was dropped.



Interrupted building blocks



Closed long building blocks



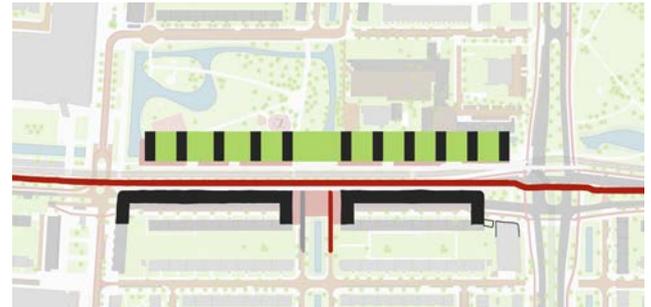
Buildings on the street

Highstreet: Rithm and offset on the north face

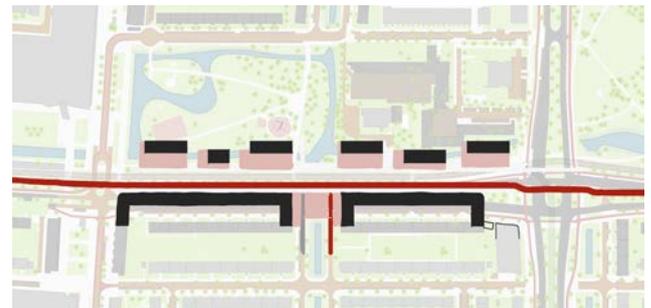
The decision was made that the north face should have more openings but there is still the question of how large and how many they should be. Additionally, it would be an option to create offsets from the building line on the north face. However, since the readability of the street as a linear element is important as well as the permeability towards the Greenway these options do not contribute to that. The first one has too many openings through which the street does not have a clear face and the second one creates uncertainty of the linearity of the Highstreet. Therefore, these ideas were dropped.

Highstreet final design: Permeable north, closed south

As explained, the south face benefits from longer more closed buildings that only open at the branching streets. The north face has shorter interrupted building blocks so there are more openings towards the Greenway. However, the north face should still be read as one linear building face. Firstly, this means that more than 70% of the street face should be closed per building block, not including the branching streets. Secondly, this means that the buildings should all be built on the same building line.



Rithm of rotated building blocks



Offset from building line



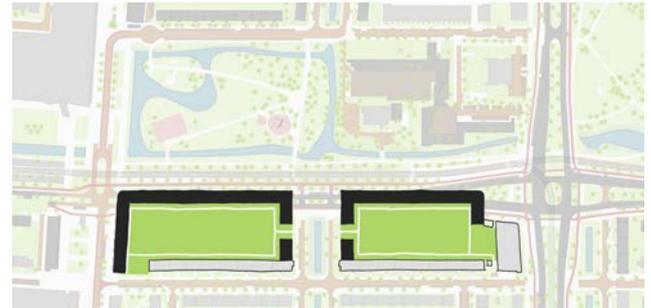
Final design: permeable north, closed south

Courtyards: Empty green space

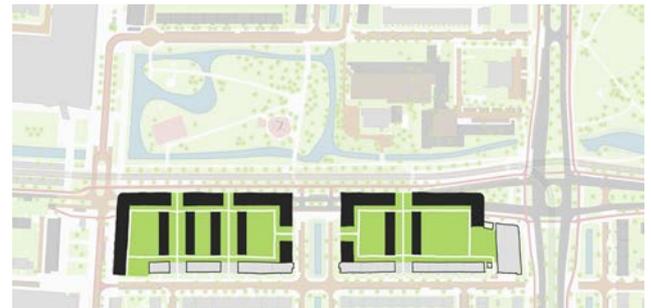
Because the buildings on the south face of the Melis Stokelaan are placed forward to narrow the street, the courtyards of these building blocks become larger. There are multiple ways to use these enlarged courtyards. The first option is to leave it open to have a large green open space. However, the current size of the courtyards is already quite big, so the extra space is not very necessary. Additionally, this does not add to the densification along the Highstreet, therefore this design is not used.

Courtyards: Through streets

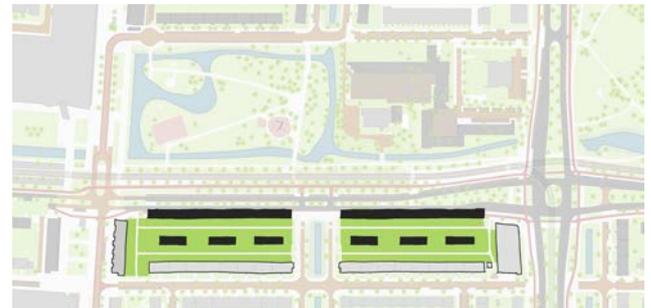
Another option is to break up the courtyard and add new streets that run perpendicular to the Melis Stokelaan. This creates more housing and still gives each block its own more confined courtyard. This would especially work well when combined with a row housing typology along the perpendicular streets. However, this creates more openings through the blocks to the Highstreet, making the transition between the super public Highstreet and the more private streets through the blocks a bit vague. Therefore, this idea is not directly used, although it could be useful in instances where the building blocks are so long that an additional street through the block would benefit the accessibility to the Highstreet.



Courtyards: Empty green space



Courtyards: Through streets



Courtyards: Parallel blocks

Courtyards: Parallel blocks

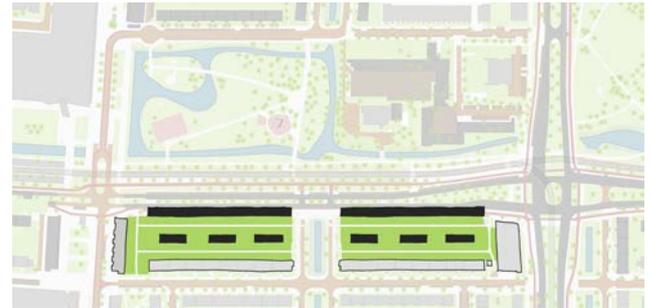
The blocks inside the courtyard can be placed parallel to the blocks on the long sides. This splits the inner space into two longer strips, which might lead to less pleasant public space in between the blocks. Additionally, the buildings, especially the middle ones might lack some privacy because windows are opposite of each other with relatively small distances between them. This design could work in a very broad building block where distances between the blocks would be sufficient.

Courtyards: Diagonal blocks

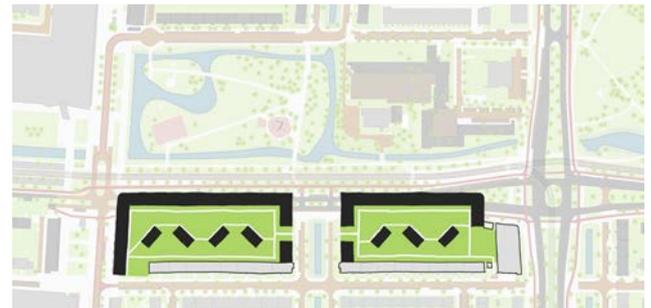
Diagonal placement of the buildings inside the courtyard is another possibility. This also splits the courtyard roughly into two parts, but it also creates more dynamic spaces. It makes the public spaces a little bit more confined in certain places which might lead to a more pleasant feeling that fits more with the semi-public character of the courtyards. Therefore, this is a good option.

Courtyards final design: Alternating blocks

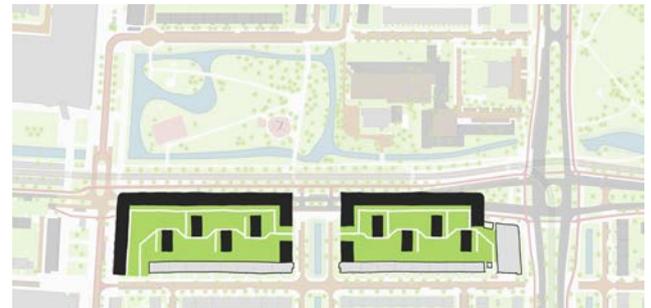
Lastly, the chosen design consists of perpendicular blocks that are alternating. This creates several smaller confined spaces, even more than when the blocks are placed diagonally. The route through the courtyard is also not in a straight line and invites people therefore more to stroll through it. Additionally, the blocks can be placed quite close together without having privacy issues, because windows are never directly facing each other.



Courtyards: Parallel blocks



Courtyards: Diagonal blocks



Courtyards final design: Alternating perpendicular blocks

Greenway: Zuidwest block typology

The first option to add buildings to the Greenway is by using the typical Zuidwest block typology and placing it in the green space. This however does not create a new public space type which would be beneficial for the diversity and character of Zuidwest. Therefore, this option is not used.

Greenway: Park edge

Another option is to build an edge around the green space, leaving the middle part open. This does create a nice park-like space. However, this space would not differ much from the adjacent Melis Stokepark and thus does not add a new typology. Additionally, this layout creates a space that would feel more like a private space than a public space and it does not cooperate well with the existing buildings, which is not the goal of the Greenway as such.

Greenway: Parallel blocks

Placing buildings parallel to the Melis Stokelaan is another option. This option does support movement from the Zuiderpark to the Melis Stokepark which is positive. However, this configuration is still quite similar to the existing building block configuration in Zuidwest and does not add much new. Therefore, this is not the best design option for this area.



Greenway: Zuidwest block typology



Greenway: Park edge



Greenway: Parallel blocks

Greenway: Freestanding towers

Another option is to place free-standing towers in the green space. This creates a high density and keeps the park open and accessible. It also resonates well with the existing tower in the plot. However, because the distance that is needed between higher towers is quite large, this typology does not allow for opportunities to create more public and more private, and more open and more confined spaces. Additionally, this typology creates extreme height differences between the Greenway and the buildings in the neighbourhood to the north. There is no possibility for a more gradual transition in height. Therefore, this typology might be suitable for other locations on the Greenway, for example at intersections with roads, or when the surrounding buildings also have more height.

Greenway final design: Freestanding rotated blocks

The chosen building block configuration is freestanding rotated blocks of medium height. The distances between the blocks can be a little bit smaller than with higher towers and therefore a similar density can be achieved with limited height. This typology is very permeable and can at the same time create some more open and more confined spaces. It also creates a clear route from the Zuiderpark and the Melis Stokepark and blends in with the highrise tower and church that are kept from the current situation. Additionally, it works



Greenway: freestanding towers



Greenway final design: Freestanding rotated blocks

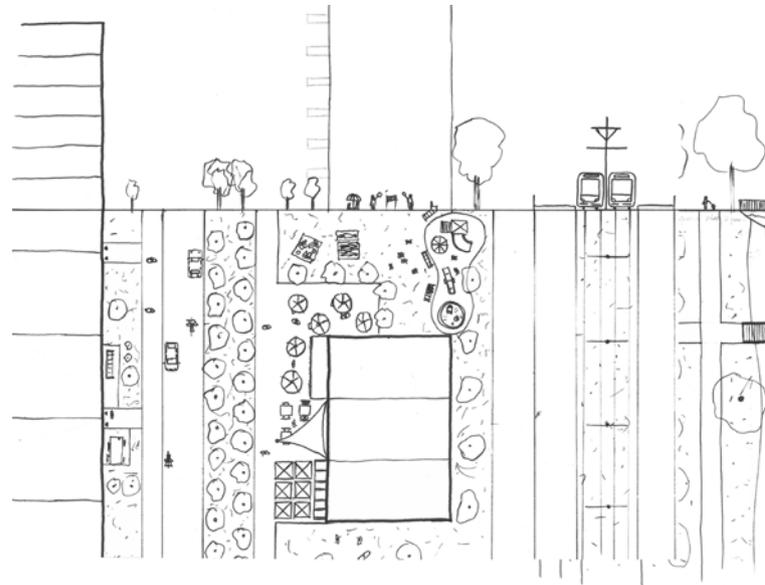
together well with the buildings that border the Melis Stokelaan. More alternatives that are similar to this one were made to find the ideal configuration to comply with the abovementioned tasks. Additionally, some experimenting with the rotation of the blocks was done to allow each block an optimal view of the green space without interruption of other blocks, which is shown in the last drawing.

Detailed section design exploration

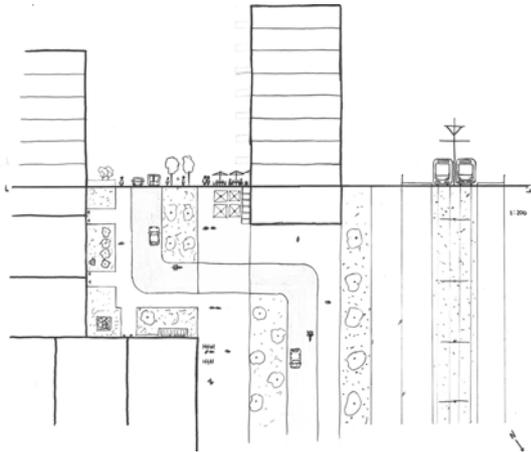
This page shows part of the design process on a more zoomed-in level. These drawings do not represent the final design that was made, but they show the process including some elements that were kept in the final design. The image to the right shows the building configuration that the drawing was based on and the location of the sections. The drawings show mainly some important elements in the Highstreet design that were kept in the final design, like the broader sidewalk on the sunny side of the street (right side in the drawing). This sidewalk is split into two by a difference in pavement and a row with lampposts. One side is meant for pedestrian movement while the other is meant for staying, meeting, and interacting. This is also a place where sidewalk terraces etc. can be located, these functions can fold around the corners of the buildings to make a gesture in the direction of the Greenway as well. The drawing also shows the character of the Greenway, that was kept in the final design. It is a green park-like structure with some paths meant for strolling and wandering around. Image C shows a perpendicular street and how the street on one side of the water can be replaced by a sidewalk. The bank of the 'singel' can be made more attractive, pleasant, and accessible to enable more space for strolling or even residing.



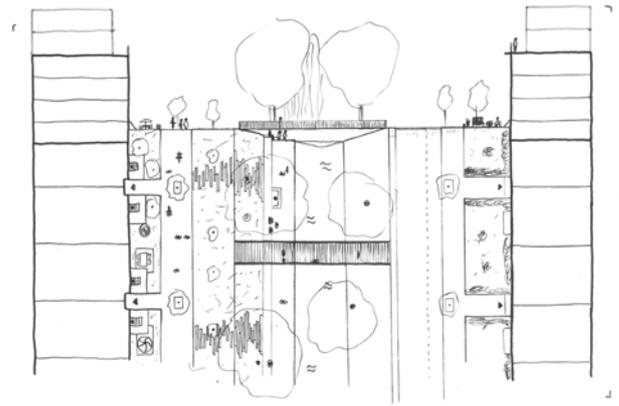
Design alternative that the drawings are based on



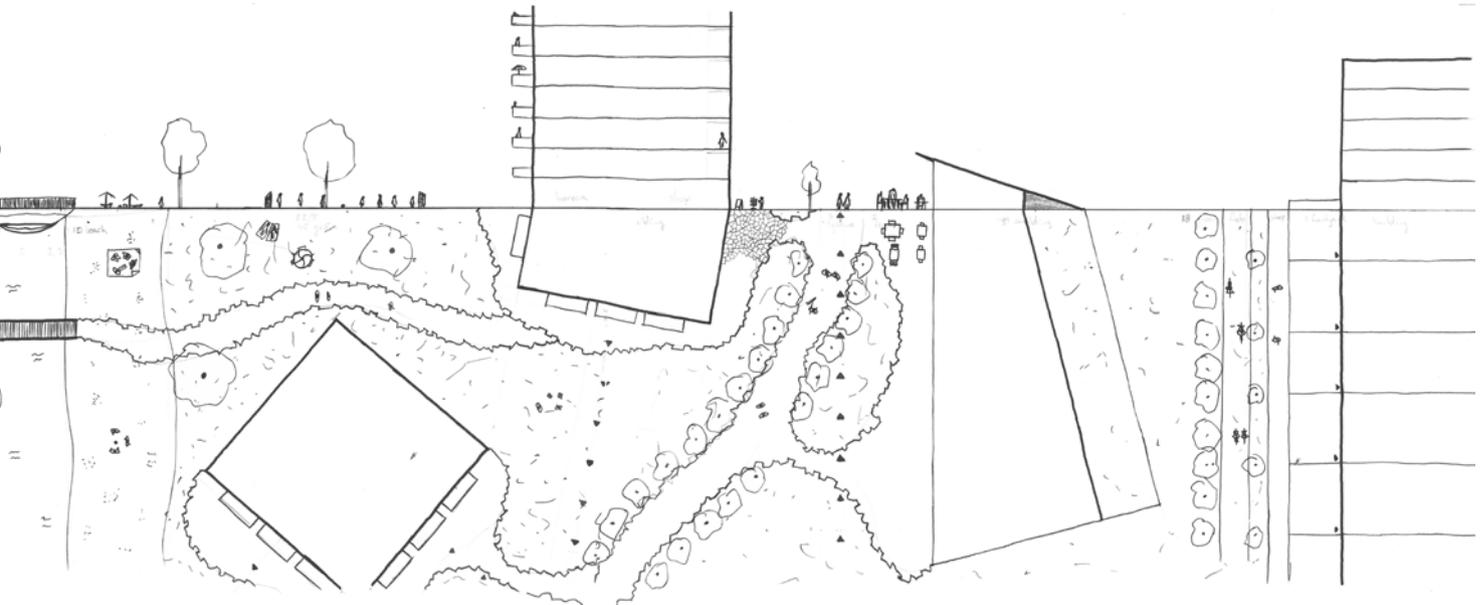
A. Street design of highstreet and greenway



B1. Street design of building block corner alternative 1



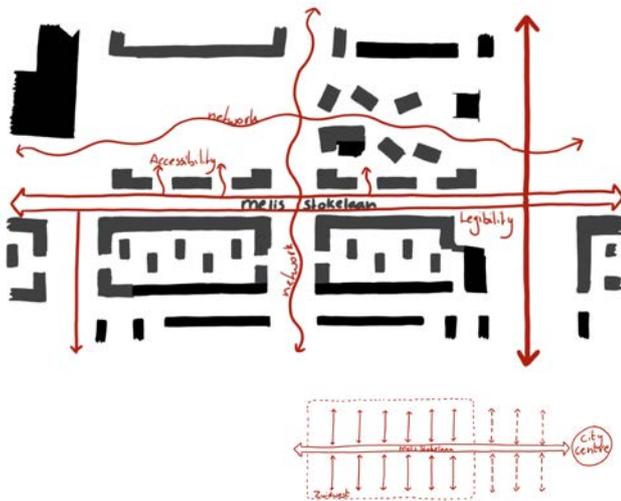
C. Street design of perpendicular with pedestrian network



7.2.2 HIGHSTREET PRINCIPLES ON THE LOCAL SCALE

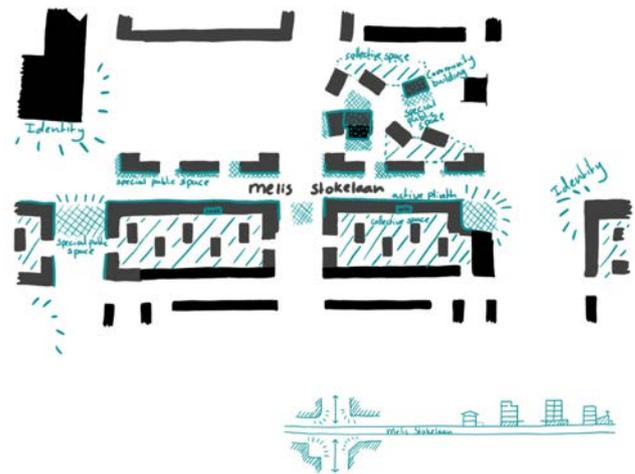
Connectivity and Differentiation

As described one of the main functions of a Highstreet is enabling movement and with that accommodating connectivity and differentiation, which is also visible in the sketch. Additionally, perpendicular to the Melis Stokelaan there is a network of car streets for access to the neighbourhoods alternated with pedestrian streets to improve the neighbourhood's walkability. The car street on the left of the image is an exception because it does not continue on the other side of the Melis Stokelaan since that is where the pedestrian zone of the Leyweg shopping centre starts. Parallel to the Highstreet, a winding line shows the slow movement character of the Greenway.



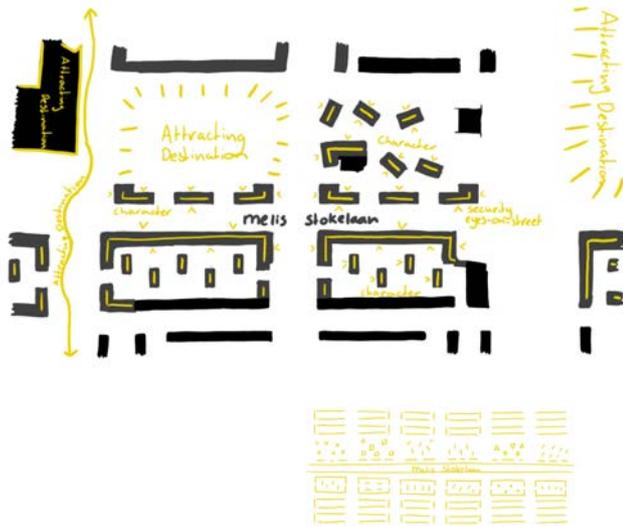
Diversity and Inclusivity

The several elements of diversity and inclusivity are represented in the drawing. The crosshatch shows spaces that have a very public or special function, these spaces are mainly on the Highstreet and incidentally in the Greenway. The collective spaces are more private spaces that are a bit more confined, like in the courtyards. This is also where the community buildings can be found. The buildings on the important corners of the network should have a more outstanding façade that aims to give identity to the neighbourhood. Lastly, the active plinths along the Highstreet and in some of the buildings on the Greenway are shown.



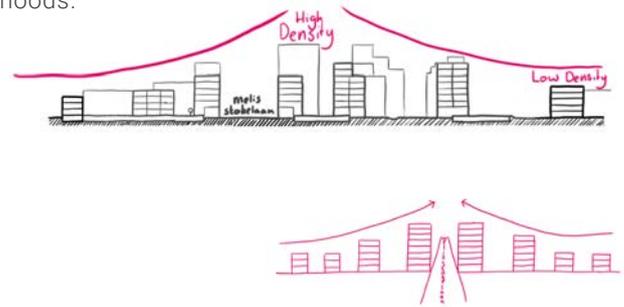
Character and Composition

The character and composition are mainly influenced by the different urban fabric that is caused by differentiation in the building configuration in the design area. Additionally, the attracting destinations are accentuated in the drawing, like the parks and the Leyweg. Lastly, the security of the area is improved by leaving no blind edges and corners and putting eyes on the street in every place.

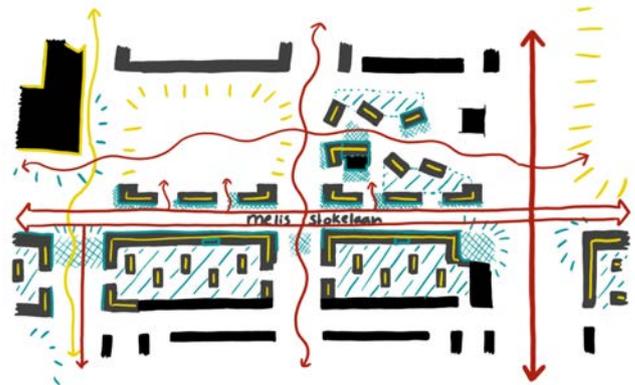


Densification

Densification is based on the Highstreet and the Greenway, meaning that the highest density is found along the Melis Stokelaan and the Greenway. The density decreases towards the hinterland into the neighbourhoods.



Combined



7.2.3 STAKEHOLDER INPUT

During my graduation project, I took part in the thesishub project which brought me in contact with several stakeholders such as the municipality, housing corporations and residents. At the start of the project, I had some thesishub-organised meetings and some self-organized meetings with these stakeholders. These took place just after P2 and they were mainly orientational and inspirational to start with the design phase. This helped me to make a better translation from my research phase into the design phase and to bring the project into reality. However, the most interesting meeting was the final meeting in September where each student presented their final, or in my case provisional thesis outcome. The presentations were guided by a communication product, which in my case was a presentation poster that I put below. The presentation was interactive and aimed at generating a round table discussion between the student and the stakeholders. During this meeting, I briefly presented the research outcome and then focussed the presentation and discussion mainly on the strategic plan and the Melis Stokelaan Highstreet design. I received different kinds of input and feedback from different kinds of stakeholders. Below I will discuss the feedback that I got per stakeholder type and reflect on it.

Municipality

The municipality is also working on a vision for Zuidwest, so they mainly reacted to the ideas with their vision in mind. They worked on the plan on a similar level as I did, and therefore the discussion was quite in-depth. Interestingly, they also consider the long lines as the main locations for densification, however, the approach for the public space of these long lines was very different. Where I propose to make it less car-oriented and transform it into a Highstreet as a pleasant public space, they propose to make it more car-oriented. I do understand the need for good car connectivity in the neighbourhood because many people are very car dependent. However, in my opinion, this can be solved by using the roads around the neighbourhood and not the ones through it. Additionally, a busy road in front of your house reduces the quality of living, therefore in my opinion, this is not the best location for densification, if the street itself is not changed. They acknowledged that my idea of the densification and transformation strategy is a good one, although they wondered how the car accessibility issue should be solved. After a short discussion and brainstorming, we came up with the idea of mobility hubs that could help the car accessibility of Zuidwest, while reducing the amount of traffic that goes directly into the neighbourhood.

Housing corporations

One of the housing corporations was considering densification along the long lines as well, and they praised my approach. The difference between them and the municipality is of course that housing corporations only have to think about densification on their plots while the municipality is also responsible for the public space, in this case, the Melis Stokelaan. They did like my idea of very diverse new building projects that create diverse living environments for a diverse population. A question they raised was how my design ensures that the Melis Stokelaan (and the green strip) is not completely gentrified and becomes an island within Zuidwest. I think that this, in the end, comes down to several factors. The permeability, from the surrounding neighbourhoods, into the Melis Stokelaan. The importance of the street in the bike and pedestrian network. The mix of functions and housing types in and around the Melis Stokelaan.

And the attractive spaces of the Highstreet and the Greenway. It must be noted that these factors can only be ensured if the rules and guidelines are followed and maybe even enforced. Additionally, investments in social housing and certain public functions and amenities are needed to guarantee affordability.

Another housing corporation had very rigorous densification plans for some of the neighbourhoods where they own most of the housing. However, their strategy makes clear that housing corporations generally only focus on the locations that they own. As a result, these densification plans are in my opinion rather unguided and random. Therefore, I think it is important that the cooperation between all the housing corporations, the municipality and private investors is very important and should be improved.

Inhabitants

The residents who were involved in the discussion had much more feedback on the practicalities of the design proposal. Their comments mainly involved the design's impact on their own life, which of course makes sense. This resulted in very practical comments on car accessibility, the green character of the neighbourhood, security, and housing quality. Generally, they had some worries about how my design would affect car accessibility in the area. They found it hard to visualize the added benefits of reducing the car traffic on the Melis Stoke- laan regarding liveability and social life. I think it would have helped if I had some more visualizations and enlarged the ones that I had. Looking back, I realize that the strategic plan and the plan for the Melis Stokelaan were helpful in the conversation with the municipality and the housing corporations, but it was hard to read for the inhabitants.

It was easier to get them on board for the changing of the green cross into the Greenway. All inhabitants agreed that they liked the large amount of green in Zuid- west and really valued the green character of the neigh- bourhood. However, they did agree that in many places the quality of the green is not very high and, in some instances, even causes safety issues. Therefore, they very much liked my idea of upgrading the quality of the

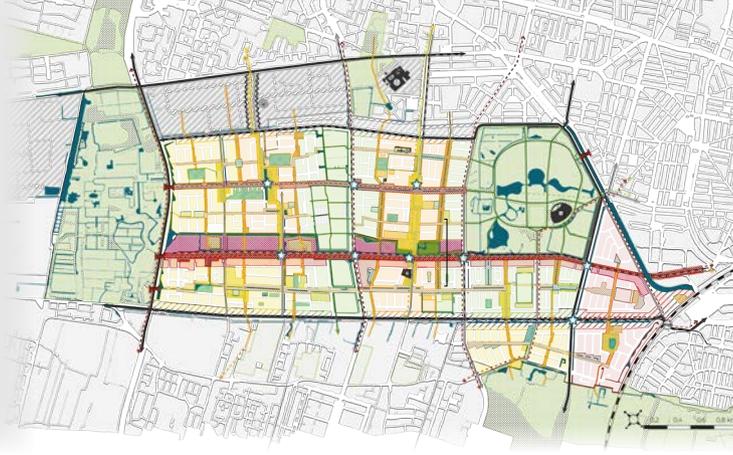
green spaces and transforming the privatised and un- usable green in the central strip into a public Greenway.

Lastly, their main problem with their living conditions is the low quality of a lot of the housing. Their take on the solution to the problem was to just demolish everything and build new quality housing in the place. However, I think that they fail to realize what the impact of this would be on the social life in the neighbourhoods. Ad- ditionally, this approach would have two rather unde- sirable outcomes, the first one would be that the new housing would be unaffordable for the current residents who then would be forced to move to another neigh- bourhood (with probably the same low-quality housing). The second one would be that if the new housing would be approximately the same price as the current housing, the floor area would be massively reduced resulting in poor living quality as well. Therefore, my design propos- es a strategy to build new high-quality housing and use the profit to invest in the renovation of the remaining housing. This approach results in better social integra- tion and social mix in Zuidwest, additionally, the current inhabitants can stay in their homes that are upgraded or move to a new one if possible. Lastly, this makes the project financially feasible.

Densifying Social Life

Den Haag Zuidwest

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 Author: Jeroen van Duijn (06999330)
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 September 2022
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 TUM | **TUM** Bauw
 BK Bouwkunde



A Semi-public Courtyards

Vergrootte leefomgeving zorgt voor sociale gebouwen en gezamenlijke activiteiten en ontmoetingsplaatsen.



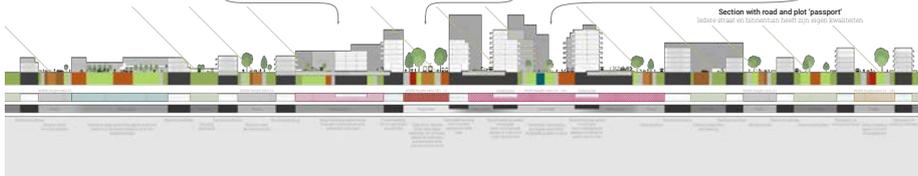
B Highstreet Melis Stokelaan

Melis Stokelaan wordt een hoofdweg die de regio van Zuidwest verbindt door met werkplekken.



C Greenway park connection

Een groene en veilige verbinding van het gebied van Zuidwest en noord om makkelijker woonwinkelen met hoogbouw en het groen.



Connectivity and Differentiation

Een betere verbinding binnen Zuidwest en met Den Haag

Diversity and Inclusivity

Een gemengde wijk waar iedereen een plek heeft en ontmoeting wordt gestimuleerd

Character and Composition

Een diverse aanbod aan woonwinkelen, functies en werkplekgebieden

Conceptual framework

Concepten die gebruikt zijn tijdens het onderzoek en om het ontwerp mee te onderbouwen

Densification and Interventions, neighbourhood scale

Verdichting waar strategisch, Reserveer waar nodig, Behoud waar mogelijk

Densification and Interventions, local scale

Verdichting overzicht in voorbeeld uitwerking ontwerp

Municipality

- Similarity: Densification along Melis Stokelaan
- Divergent: Increase car traffic
- Incorporated: Mobility hubs
- Along the ringroad mobilityhubs are located to reduce car traffic in the neighbourhood

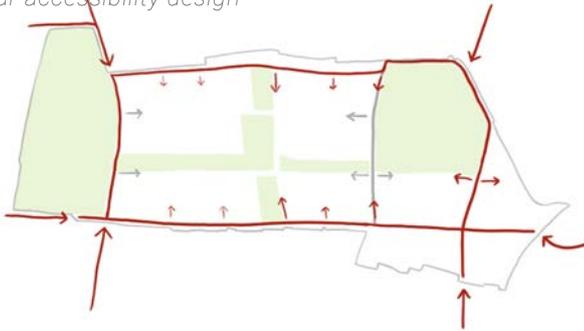
Housing corporations

- Similarity: Densification along long lines
- Divergent: Large densification on each block
- Incorporated: Prevention of gentrification of highstreet
- The highstreet and greenway are permeable, part of the networks, mixed in housing and mixed in functions to prevent gentrification

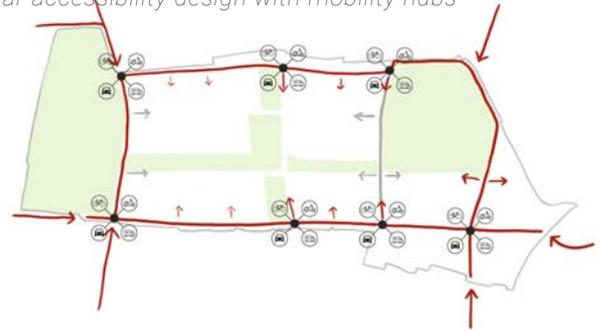
Inhabitants

- Similarity: Greenway as usable green neighbourhood connection
- Divergent: Replace all housing
- Incorporated: Keep accessible for cars and improve public transport accessibility
- The highstreet is kept accessible for cars with a bicycle road, the tram is separated to allow faster travel

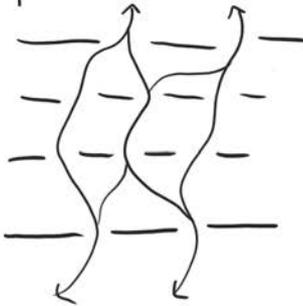
Car accessibility design



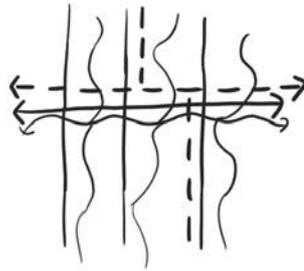
Car accessibility design with mobility hubs



Permeable



networks



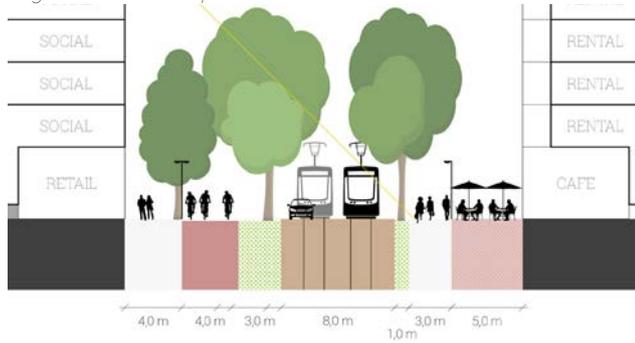
mixed housing



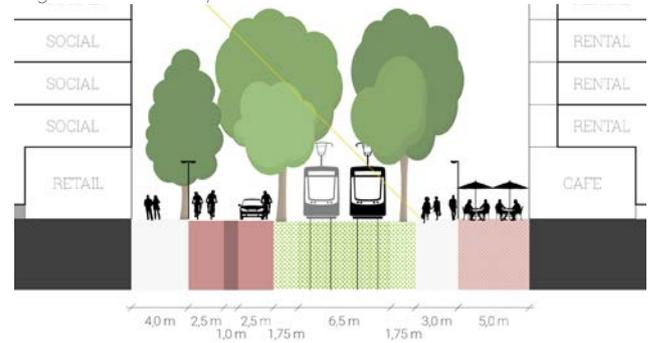
mixed functions



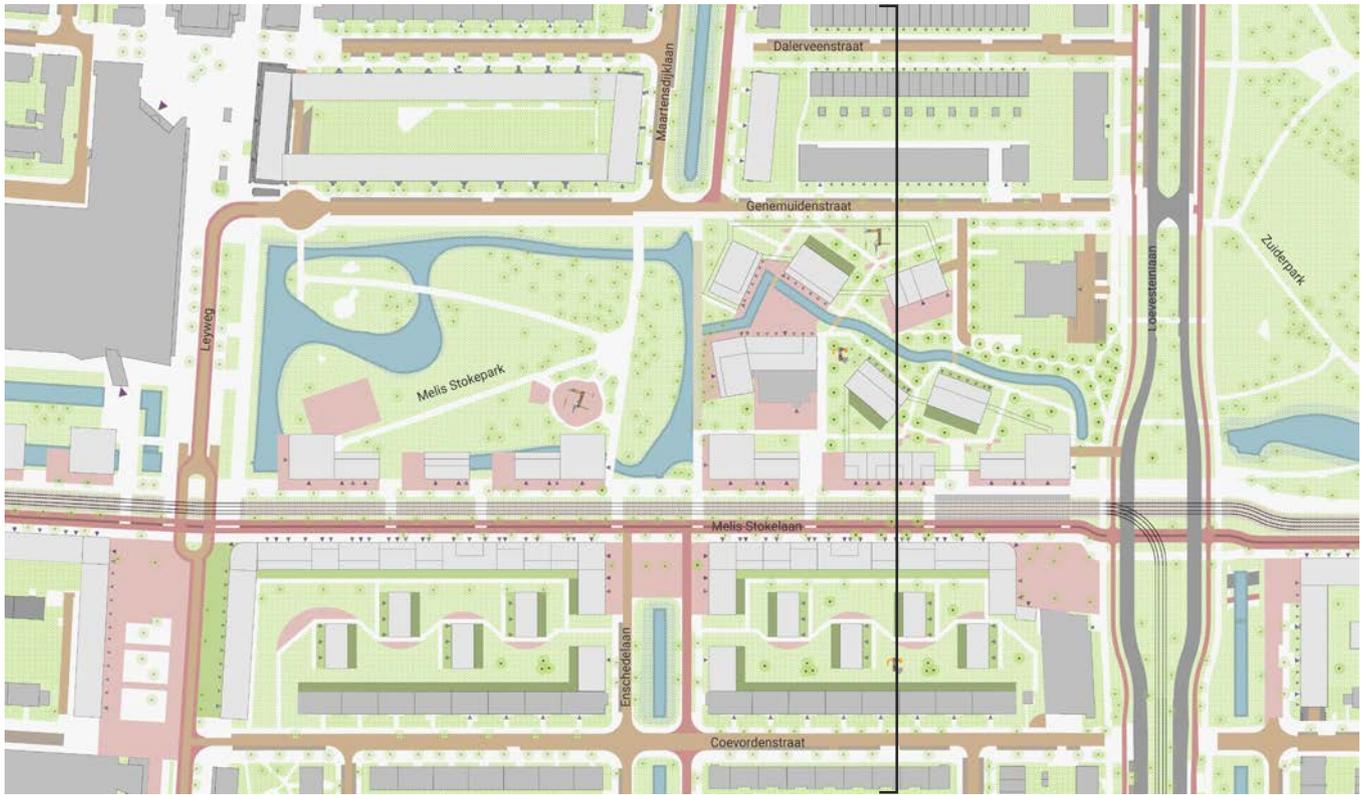
Highstreet street profile old



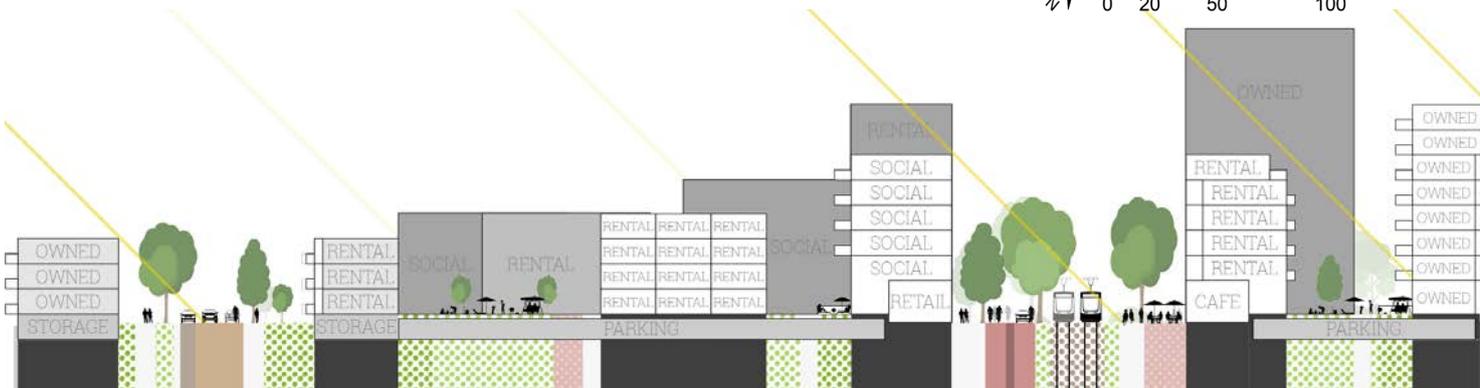
Highstreet street profile new



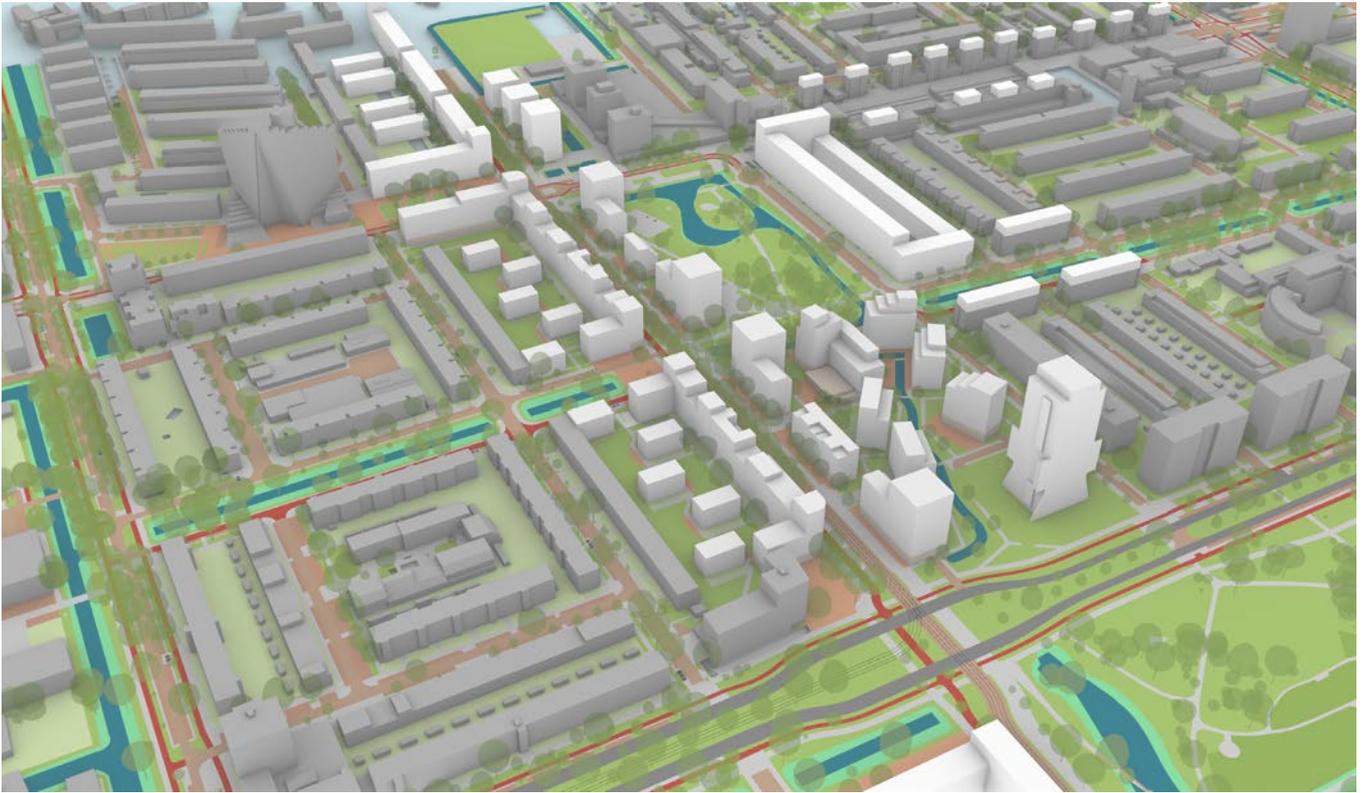
7.2.4 DETAILED DESIGN IN PLAN AND SECTION



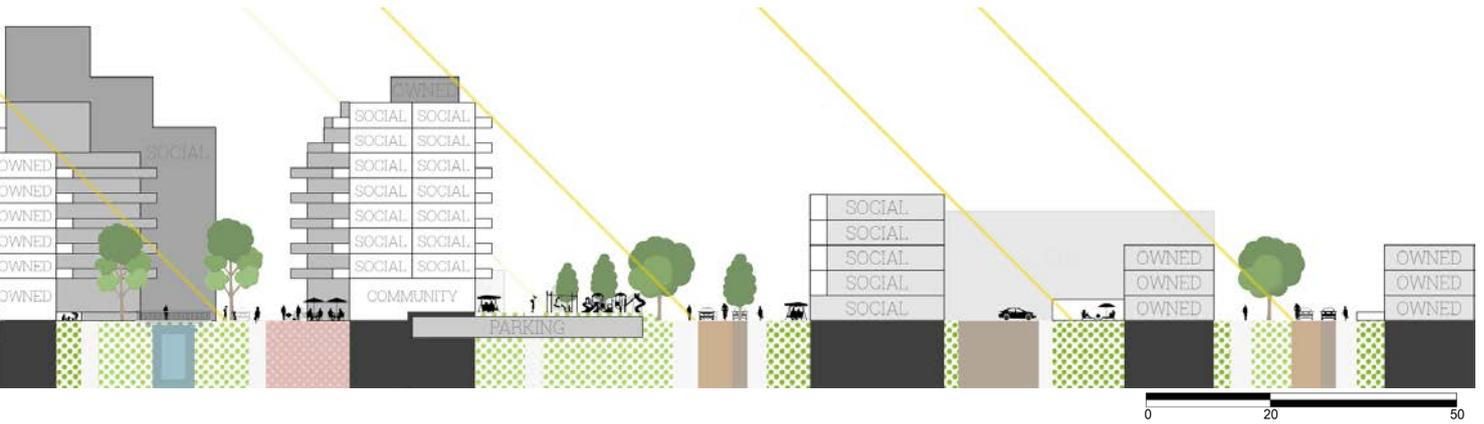
Design masterplan



Design masterplan section



3D birdseye perspective design





Current situation plan



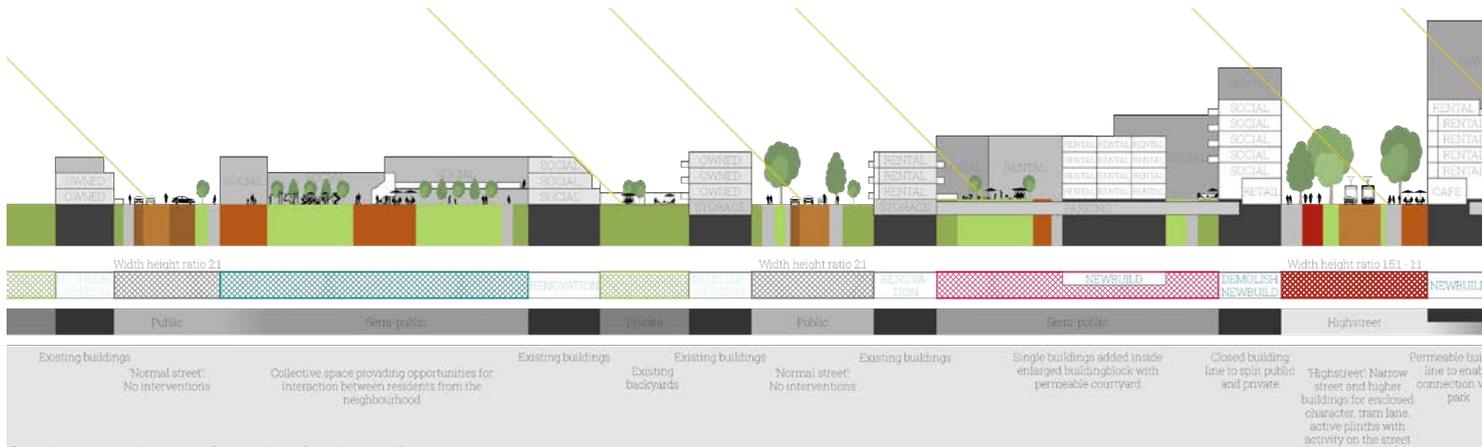
Design highlighted plan



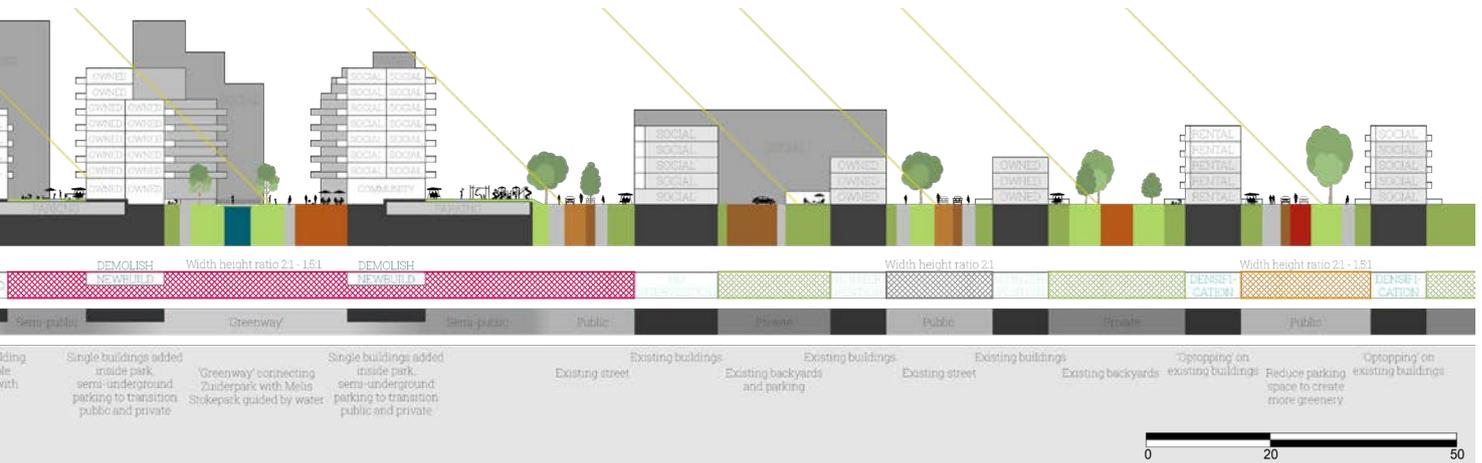
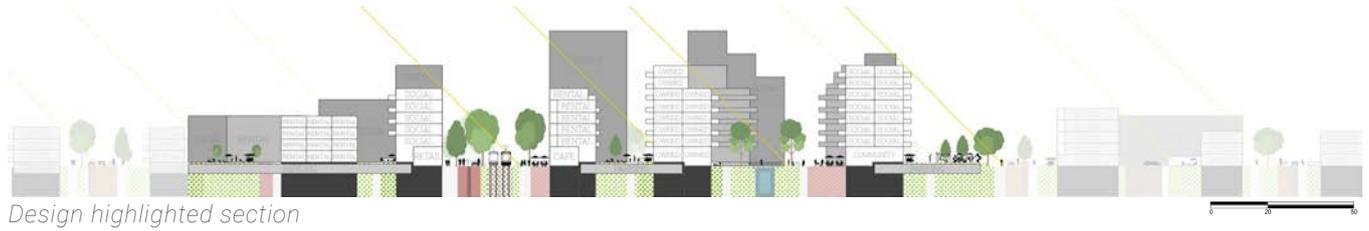
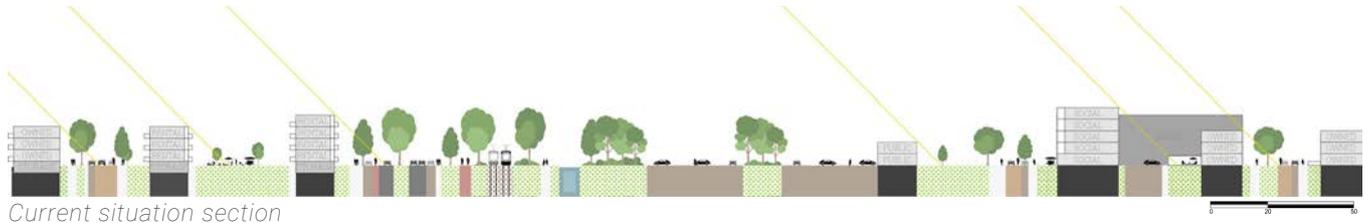
3D birdseye perspective current situation



3D birdseye perspective design



Design section with main design rules

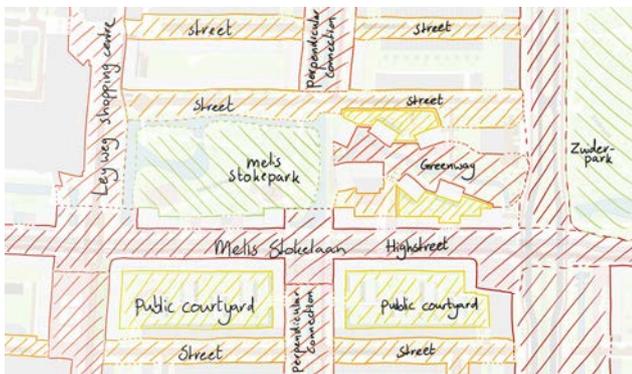


7.2.5 EXPLANATION OF DESIGN CONCEPTS

The first presented map shows the different areas of the plan with the colours corresponding to the colours of the strategic map for the whole of Zuidwest. This gives an overview of how the strategic plan is translated on a smaller scale detailed design for a smaller area.

Greenway connection

The connecting function of the Greenway is amplified by the waterway that runs through it, by following the waterway you are brought from the Zuiderpark to the Uithofpark at the edge of the city. This adds a pleasant walkway through the neighbourhood and simultaneously adds to the green ecological network of Den Haag. As explained before, the buildings on the Greenway pose a different configuration than the standard in Zuidwest, adding a new living environment with a different character. The placement of the buildings amplifies the route between the parks, without creating a linear space whereby it invites to stroll through the Greenway.



Strategic plan elements on local scale

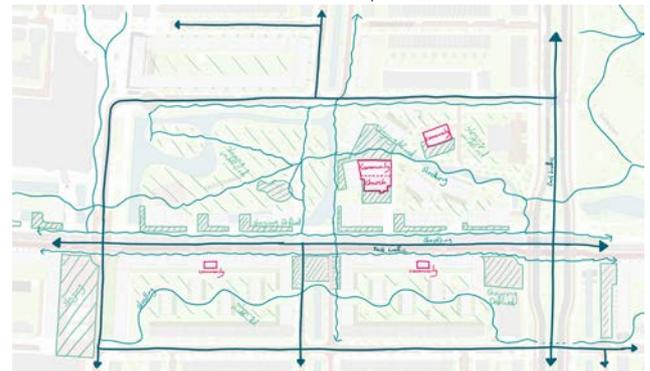


Greenway connection concepts

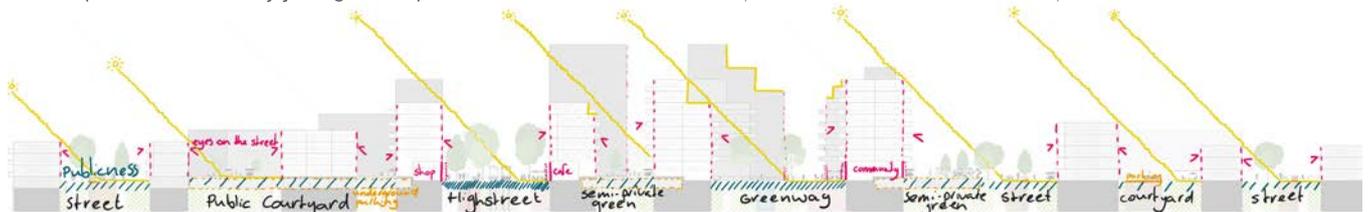
Spaces and movement

This image shows the different types of spaces and the types of movement that they accommodate. Pink represents the locations of the community spaces in the area, like a neighbourhood centre, a school, a church, and neighbourhood living rooms. The different types of movement that can happen in the area are represented by the different colours and line types. The more linear spaces that are mostly combined with car traffic are mainly for faster movement. The linearity of the spaces is amplified by the flat straight facades and the linearity of the pavements, trees, and furniture. Then there are spaces for strolling, they are also meant for movement, but slower movement. They are more focused on providing a pleasant experience when taking a walk and are indicated by non-linear paths and sidewalks. The buildings alongside these spaces are also not too long with straight facades but are more rotated or alternated like in the Greenway, the parks, and in the Public Courtyards. Lastly, there are the spaces for staying, that can either be defined or more undefined. The more undefined spaces are mostly just green spaces that allow for

any kind of use. The defined spaces for staying are indicated by a difference in pavement that is less flat and thus discourages fast movement. These spaces also have furniture that can be used as seating or provide space for sidewalk terraces. In some instances, these spaces are more enclosed by the surrounding buildings. These spaces are squares on street corners, in front of the community space or church, or terraces on the Highstreet. Lastly, it should be noted that the Highstreet accommodates all types of movement, this will be further elaborated later in this chapter.



Spaces and movement concepts



Design concepts on section

Publicness

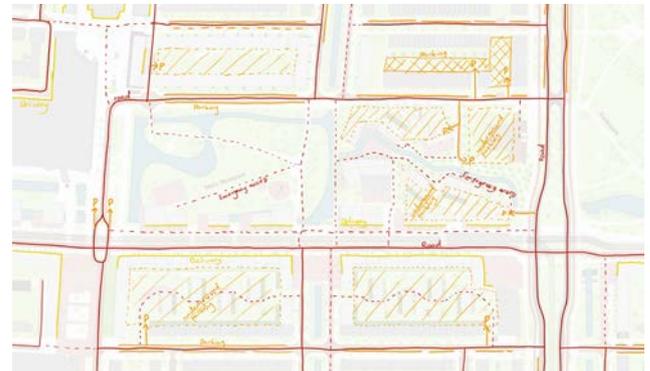
The plan allows for a variety of spaces with different publicness. The Highstreet is the most public space, with active plinths in all the buildings. The streets that branch out from the Highstreet start with a public square and become less public further away. The Greenway is a very public space as well as the two parks, with some special public spaces in front of the community buildings and the church. The Public Courtyards are semi-public spaces mainly for the residents and an incidental stranger who is just taking a walk. This is forethought because they are enclosed by buildings with only two access points from less public streets. The configuration of the buildings in the Greenway creates confined spaces behind the buildings to provide a more private space for their residents. Additionally, these semi-public spaces are placed on top of half-deepened parking garages putting the surface 1,5 meters above ground level which can also be seen in the section.



Publicness concepts

Traffic accessibility

Despite the reduction of traffic on the Melis Stoke- laan, accessibility is preserved by providing alternative routes. How this works on the larger scale is already explained, for this specific area, it means that most traffic will come into the area via the Loevesteinlaan from both directions and via the Leyweg from the south. From these roads, the roads parallel to the Melis Stokelaan provide access to the neighbourhood. The bike lanes and pedestrian paths through the Greenway are broad enough to allow emergency services access to the Greenway and the Public Courtyards. The Melis Stoke- laan is accessible for delivery trucks during quiet hours to supply the shops and other services in the street. The blocks facing the Melis Stokelaan are built with under- ground parking that can be accessed from the back to relieve the Melis Stokelaan.



Accessibility concepts

Sun

The height and distance between the buildings are designed so that every public space has sun for at least a few hours every day. Some higher buildings that are facing the Greenway have a setback on their top floors to allow more sun to reach the ground level. The two maps show the sunlight on the 21st of March/September and on the 21st of June. More drawings of the sun and shadows in this area are placed in the appendix.



Sun study March/September 21st

Security

In the design, the security is preserved by several measures. The amount of dense and high vegetation that blocks views through streets and green spaces is limited. Each public space has at least one façade that is looking out on the space to keep 'eyes on the street' everywhere. Blind and dark corners in buildings are avoided. Activity is spread throughout the spaces so that there are no empty spaces that lack activity during different times of the day.



Sun study June 21st

7.2.6 ATMOSPHERE AND SPATIAL PERCEPTION

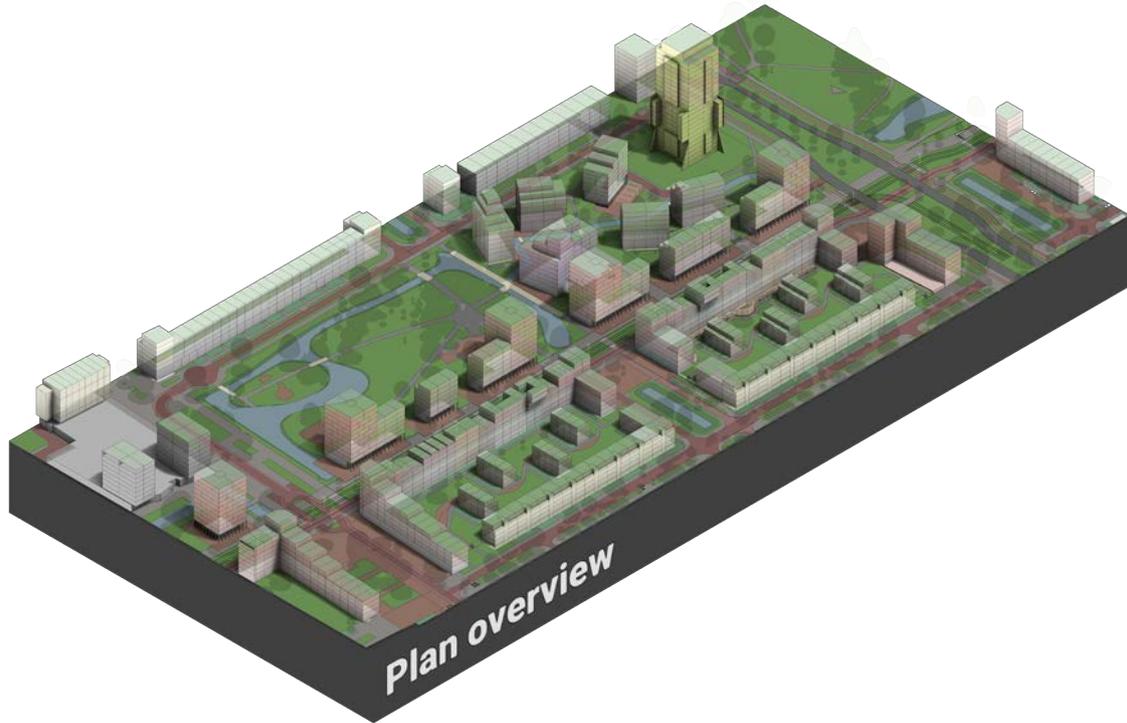
This chapter shows impressions of atmosphere and spatial perception of the three main elements of the design, the Highstreet, the Greenway, and the Public Courtyards. The image below shows the current situation, with the design next to it. The focus during the design of the spaces was social integration, social mix,

and social cohesion. The three different parts of the design all fulfil their different role in this task. The Highstreet has the main function to connect Zuidwest to Den Haag and to connect the different neighbourhoods of Zuidwest. The Greenway has a similar role, but on a slightly smaller scale, it has a less linear character



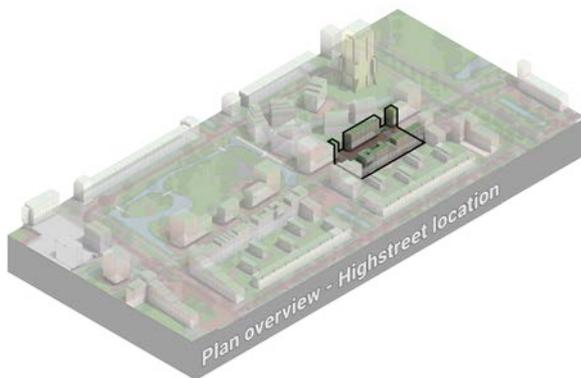
and is, therefore, more aimed at creating a social mix and social cohesion between people in the proximity of different parts of the Greenway. The Public Courtyards try to improve the social mix and social cohesion on a much smaller scale of the building block and provide

a more tranquil space on the opposite side of the bustling Highstreet. The following pages will show detailed images of the three separate elements to elaborate on how the spaces feel and accommodate daily activity and interaction between residents.



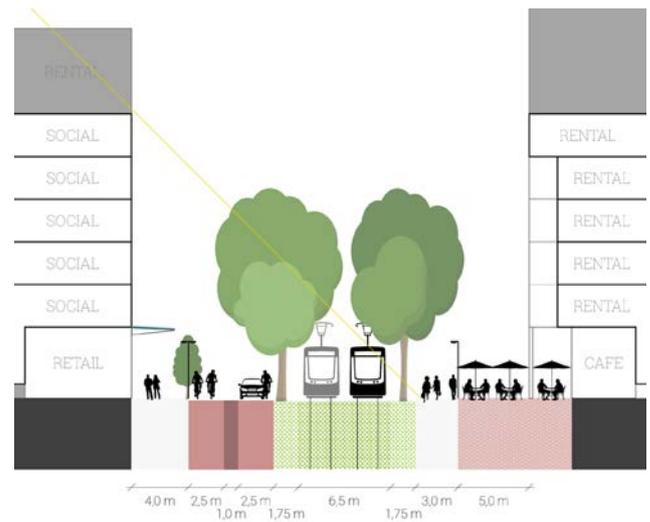
Highstreet

The Highstreet profile is made so that it accommodates all modes of transportation. There is a broad sidewalk on both sides, with a terrace space in front of the sunny side of the street. A bicycle street provides a quick cycling connection through Zuidwest and can simultaneously become part of the main cycle network of Den Haag. The bicycle street is also accessible for cars; however, cyclists have priority and there is a reduced speed limit to guarantee the safety of both cyclists and pedestrians. The existing tram tracks are preserved and kept separated from other traffic to accommodate faster travel. The surface beneath the tram tracks is turned into grass to add green character to the street. Most of the trees in the design are trees that are kept from the current situation and are therefore already large. The



Location of detailed design within design plan

plinths of the adjacent buildings are all open and house different functions like retail, cafés, and restaurants, but also some public and community functions. Functions that benefit from sunlight can be located on the sunny side of the street where, in addition to the sidewalk, extra space is provided that is flexible and can be filled in in different ways. The pavement of this area is less smooth than the sidewalk, the movement function and the 'staying and interaction' function of the Highstreet is in this way visible to the user. The colonnade on this side of the street strengthens these effects. Additionally, the colonnade and the canopy on the other side of the street tie together the differentiation in buildings, which creates simultaneously diversity and conformity, making it more interesting but also a whole.



Section of the new Highstreet on the Melis Stokelaan



Picture of current situation: Melis Stokelaan



Impression eyelevel perspective: Highstreet

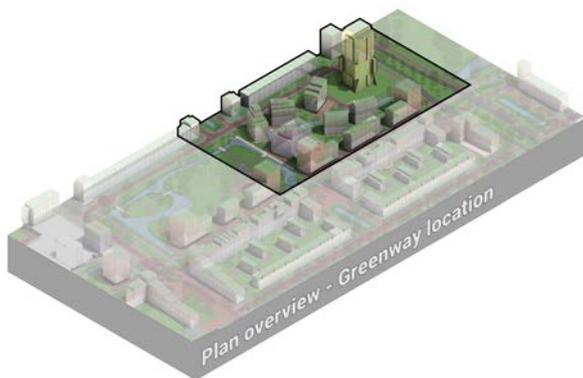




Greenway

As explained, the Greenway forms the green and ecological connection between the Zuiderpark, Melis Stokepark, and Uithofpark. At the same time, it provides high-quality green space with different functions that people from all over Zuidwest and even the rest of Den Haag can recreate. Simultaneously, it is an opportunity for densification and the creation of a new living environment in Zuidwest. Some buildings that are either relatively new, have a fitting typology, or have an important community function can remain. In this area this is the case for the tower that fits the Greenway typology and is relatively new, and the church that has an important community function. The buildings are included in the new urban fabric, the tower leaving its free-standing character just like the other new buildings and the church by incorporating it into a new building and giving it a small public square in front of it. The Greenway acts as a public space that follows the water through

its centre which is meant for everyone. The buildings are placed in such a way that behind them, more private spaces are formed that are still open to all, but more inviting to the residents of the buildings in the Greenway and along the Highstreet. This gradient in publicness is strengthened by the semi-deepened parking garages that lift the ground surface one and a half meters, making it more private. The buildings in the Greenway have their front yard towards the more public centre, and their backyard on the more private side on the parking garages. Most buildings in the Greenway have family homes on the ground floor, however, some can house public functions like a community centre as shown in the isometric. Here different neighbourhood-focused activities can take place like kids-activities, a vegetable garden, and neighbourhood barbecues to enhance social contact and social cohesion between residents.



Location of detailed design within design plan



Picture of current situation: Green strip



Impression eyelevel perspective: Greenway

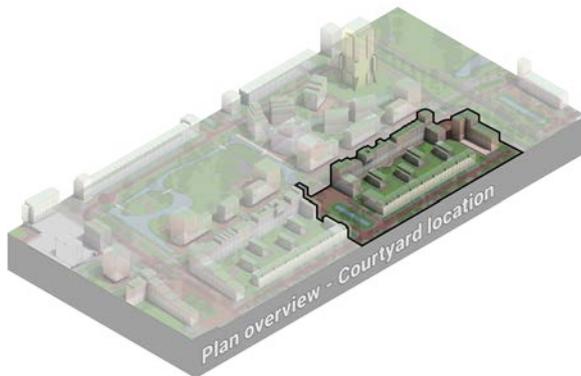




Public Courtyards

The now private courtyards are enlarged and opened by placing the buildings on the side of the Melis Stokelaan forward which creates space for densification inside the courtyard. Simultaneously, these transformations can give the green space inside is given a quality impulse. The now unused green space can be given new functions to make it more usable. Also, the buildings around the courtyard should be transformed so that they get direct access to the courtyard, which is not the case now. The courtyard is open to the public; however, their entrances are placed in a way that they will not become part of people's main walking routes so they will remain quiet. Like in the Greenway, a semi-deepened parking garage creates sufficient parking space and simultaneously lifts the entire courtyard around one and a half meters above ground level improving the gradient between public and private. The buildings inside and

around the courtyard have their backyards inside it but are not completely closed off so an open connection between buildings and public space is kept. The infill of the courtyards can be done by cocreation with current and future inhabitants to adjust it to their needs and wishes. Some possibilities are playgrounds, flowerbeds, vegetable gardens and covers with an outdoor kitchen and picnic tables. Additionally, the ground floor of the buildings houses family homes, but occasionally there can be a space for a community function or a shared 'living space' for the building block which can function as an indoor extension of the outdoor courtyard. The purpose of the courtyard is mainly to provide a pleasant and safe semi-public space for the surrounding buildings. Additionally, the space can provoke interaction between all residents of the building block to improve social interaction and social cohesion within the block.



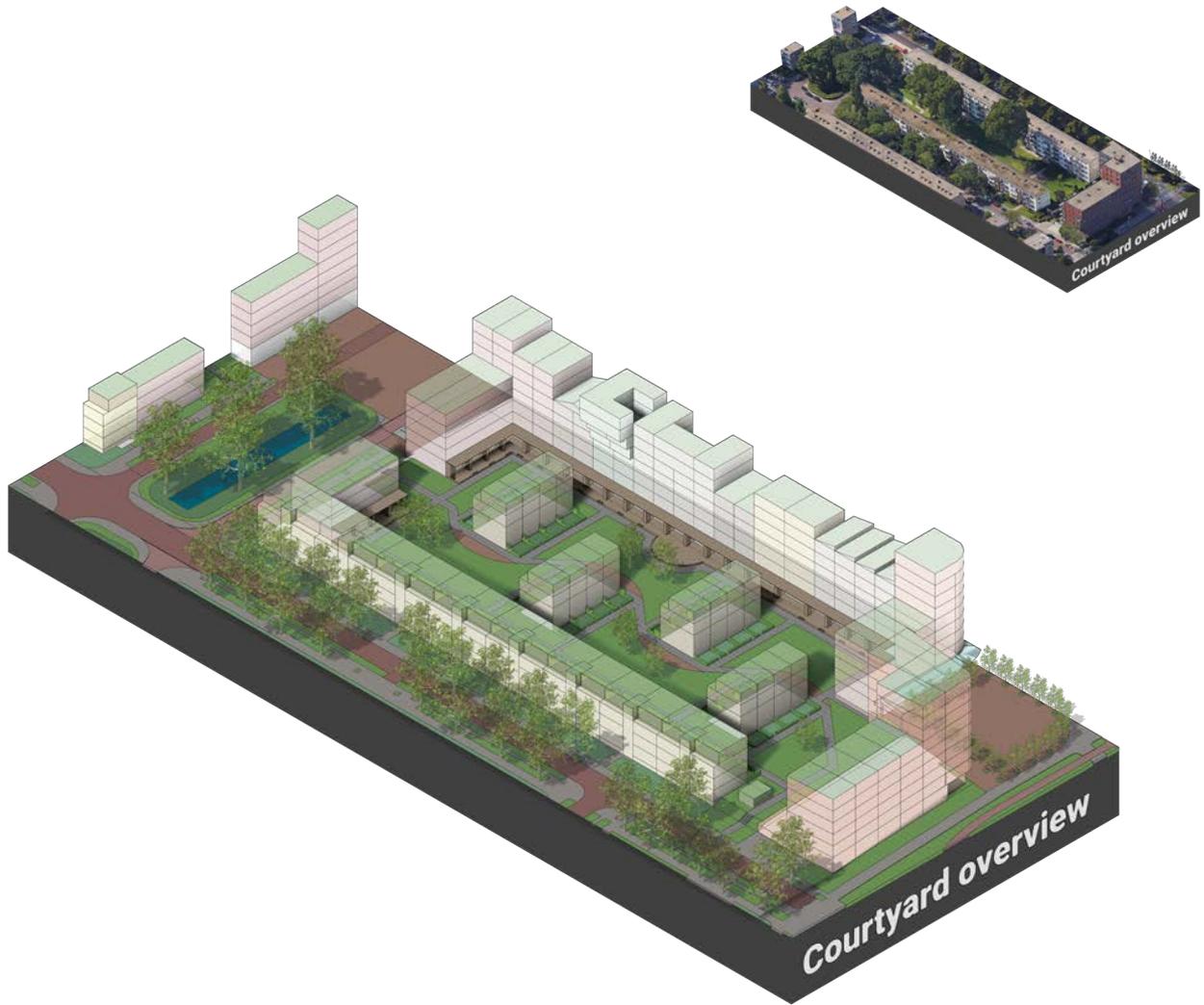
Location of detailed design within design plan

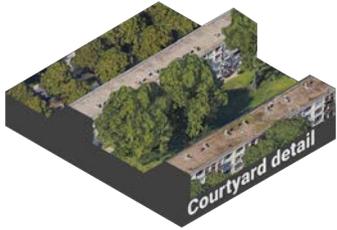


Picture of current situation: Courtyard



Impression eyelevel perspective: Public Courtyard





7.2.7 HOUSING TYPOLOGIES AND OWNERSHIP

Housing typologies

The current housing stock is not very diverse in typologies and ownership in this area; however, this is representative of Zuidwest as a whole. Almost all the 'portiekflats' or portico flats house 2-bedroom apartments of around 60m² to 70m². The result is that the population diversity is very limited too, because, for many household types, these apartments are not suitable. In the design, the diversity of housing typologies is massively increased to attempt to attract a more diverse population to Zuidwest and provide them with suitable housing. The housing stock is doubled to comply with the densification task. The number of 2-bedroom apartments is increased a little bit to be able to offer the current population to stay in the same neighbourhood or even the same street. Furthermore, there is a big increase in maisonettes and family homes to provide housing for bigger households like families. There is a big increase in 3/4-bedroom apartments to provide housing for slightly larger households, or households with a higher income that wish to have a little more floor area. Lastly, a lot of studio apartments are built, that can house students, single-person households and starters on the housing market.

Housing ownership

The current housing stock is also not very diverse in housing ownership, although a little bit more than in ty-

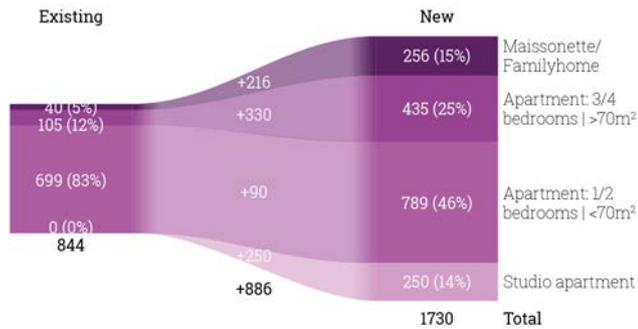
pologies. The main part of the housing in this area is social housing, which is the case for the whole area of Zuidwest. Then there is a part that is free market rental housing, and a very small part is owner-occupied. The design aims to get a much more evenly distributed ownership, meaning that the amount of social housing should relatively decrease and the free-market rental and owner-occupied should increase. It is important to note that the decrease in social housing is relative because the absolute amount increases. This provides the opportunity for current inhabitants to return to the neighbourhood if their house is replaced with a new one.

Mixing

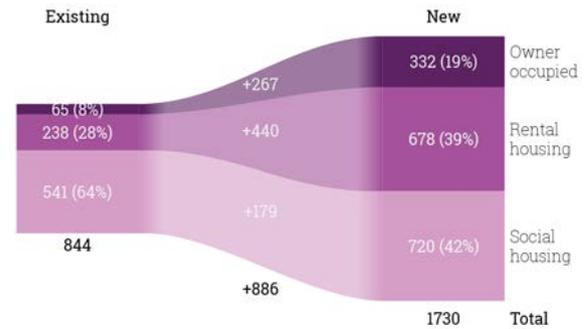
The different typologies and ownership are at the same time mixed and separated from each other. Especially for the ownership a careful approach to mixing is important. As described in the research chapter, resulting from conversations with the housing corporations a maximal mix of different ownerships is not desirable, as problems in the private sphere can occur. Therefore, each building has one single ownership type. In the case of the very large blocks each column of apartments with their separate entrance has one single ownership type. This ensures that the most direct contact, the closest to the home is only with people with a similar lifestyle, which minimizes the chances of nuisance and other problems. The mixing between different

ownership types and different housing typologies does happen on the street scale, meaning that people with different lifestyles encounter each other on the streets, the parks, the Greenway and in the Public Courtyards. This happens not only between the residents of these

plots but between residents of the whole of Zuidwest because of the attracting function of the Highstreet and the Greenway. This can result in more social mix and social cohesion between different groups of people.



Housing stock per typology existing and new



Housing stock per ownership existing and new



3D birdseye perspective: housing typologies

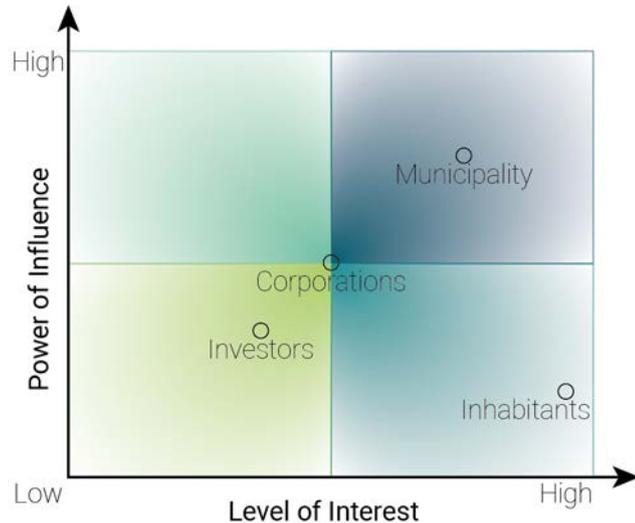


3D birdseye perspective: ownership

7.3 PHASING, STAKEHOLDERS AND FINANCIAL STRATEGIES

7.3.1 STAKEHOLDERS

Different stakeholders are involved, all having very different roles, responsibilities, and interests. The four main categories of stakeholders in this area are the inhabitants, the municipality, the housing corporations, and investors. The chart below shows the power-interest matrix for the different stakeholders.



Power-interest matrix

Municipality

The municipality is the stakeholder that has the most power in the development of Zuidwest and has simultaneously a high level of interest. The municipality is generally responsible for the well-being of its residents as well as the regulation of building and public space developments. For the execution of this design, the municipality would be responsible for the development of the streets and public spaces. Simultaneously, they can apply rules and steer the development of building plots in certain directions. Their power is even increased because almost all of the plots in Zuidwest are owned by the municipality and in municipal leasehold by other stakeholders like corporations, investors, and homeowners. This research, including the strategic plan for Zuidwest, the design for the Melis Stokelaan, the detailed design for one of the plots, and the derived design rules all fall within the disciplines of the municipality. Simultaneously, most of the plans that municipality makes for such large area developments only focus on a vision and strategic plan, but they often do not give any indication on the local scale, making them a little bit empty in terms of transferability in actual developments. Therefore, this research and design can be a good contribution to their visions and plans.

Housing corporations

Housing corporations are the second most influential stakeholders, with a medium-high level of interest. Their large influence in Zuidwest is mainly due to the large number of houses that they own (approximately 70% of the housing in Zuidwest is owned by housing corporations). Three large housing corporations own almost all social housing in Zuidwest, they are Staedion, Haag Wonen, and Vestia. Cooperation between them would be preferable to be able to create the best fit between developments, housing stock and needs. In this cooperation, the municipality should play a major role as well. The level of interest of housing corporations is rather large as well because of their public function and their responsibility for the well-being of their tenants.

Private investors

Private investors do have some power of influence in the developments because they are often the ones who finance new building projects. Within the strategy of this research, their influence would be slightly increased because of the large new building projects that partly consist of free market housing. However, they still can be ruled over by the municipalities through 'bestemming-splannen' since the municipality is the owner of almost all building plots. Their interest is generally as high as their influence because it is mostly based on cost-benefit and less focussed on the public space quality and the inhabitants.

Inhabitants

The inhabitants of Zuidwest are the least influential stakeholders, while they have the highest level of interest. Their high level of interest speaks for themselves because it influences their everyday lives and their housing situation. Their power of influence is unfortunately as low as the other stakeholders want it to be, especially for tenants, and a little less for homeowners. If the municipality and the housing corporations allow the inhabitants to express their needs and wishes their influence can increase, however, this is not guaranteed. In my proposal, the inhabitants do play a role, especially on a smaller scale. On the scale of the strategic plan for Zuidwest they often lack the knowledge to contribute and often also lack interest in it, which I also noticed during the thesishub sessions with different stakeholders (see reflection for more detailed explanations). However, on the smaller scale designs, it is important to involve inhabitants to fit the design to their needs in co-design and co-creation workshops. For example, in the Public Courtyards, the infill and the use of the public space can be designed completely in dialogue with the (future) inhabitants.

7.3.1 FINANCIAL STRATEGIES

One of the important goals of the projects is to maintain as much of the current social cohesion in the neighbourhoods as possible. Therefore, it would be best to keep the existing, to not interfere with that. However, at the same time, the goal is to increase social integration and social mix, which can hardly be done by maintaining the current situation. At the same time, most of the social housing is in urgent need of renovation or even demolition. This project tries to find a middle way between renovation and demolition and newbuild, but one of the most important factors in such projects is the financial factor. To be able to afford the renovation of a lot of apartments, revenue has to be created in other ways which will be presented here. By focusing the densification of large projects on strategic locations, a lot of revenue can be created on these projects. Together with smaller densification projects like infill and 'optopping' as presented in the densification chapter, this can generate money to invest in the renovation in other parts of the neighbourhood. Additionally, the municipality could demand the development of some of the public space directly adjacent to their building developments.

When doing so it is important to consider how much each corporation and private investor is influenced. Not all stakeholders own the same amount of housing in each part of Zuidwest. When one of the corporations must do a lot of renovation in a certain hinterland of the

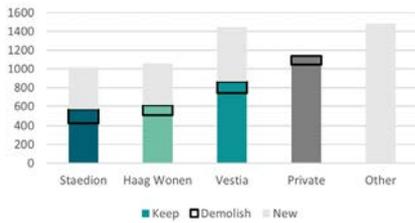
Melis Stokelaan they should also be allowed to develop a larger part of the new development on that part of the street to enable them to generate money for renovations of their hinterlands. The municipal leasehold of the plots greatly helps because the municipality has the power to divide the development plots.

For this part of Zuidwest for example, Staedion owns the smallest amount of housing but has the largest amount of housing that should be demolished, this means that they should be allowed to develop a larger amount of the development. Vestia owns most houses in this area, meaning that they also have to largest renovation task, therefore they should also be given a larger amount of the development. In the example, the distribution of the development is simply calculated to the ratio of renovation to new development, in an actual situation this could be calculated and distributed more precisely.

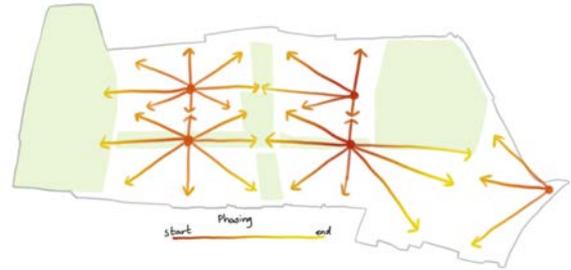
Because of the very large scale of Zuidwest and thus of the strategy, defining an order in which the strategy can be unrolled is important. Giving the neighbourhood a kickstart by doing one of the largest projects will already change the image of Zuidwest and attract the needed new population. Therefore, the proposal is to start with two major projects on the Melis Stokelaan, the one that was previously presented and one other larger project. These projects can work as a catalyst to start other projects.



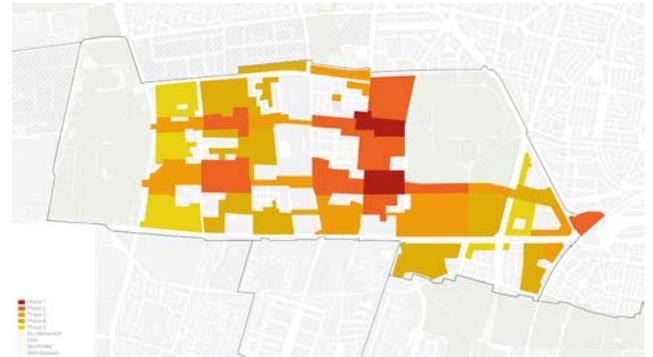
Housing and land ownership



Current and new housing stock per owner



Phasing principle on Zuidwest scale



Phasing per zone on Zuidwest scale

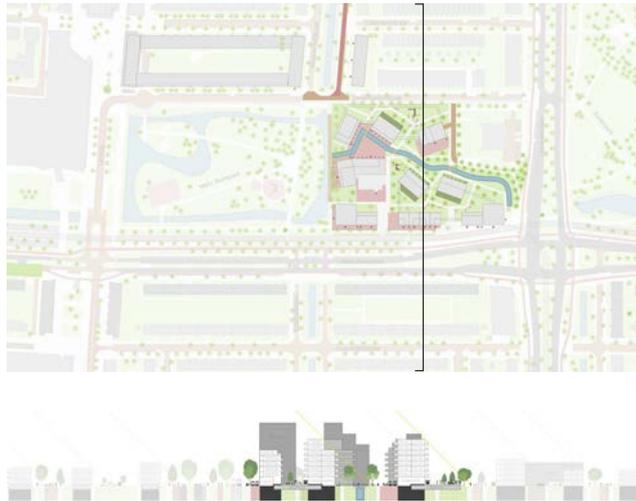


Types of interventions on Zuidwest scale

7.3.1 PHASING

Phase 1: Greenway and Highstreet north phase

The first phase of the transformation on the Greenway includes the buildings on the north side of the Melis Stokelaan. The existing buildings are demolished, and the new buildings are built. The large amount of new houses creates a lot of profit. Part of this profit can be invested in the public space of the Greenway including the underground parking.



Phase 1: greenway and highstreet north phase

Phase 2: new Highstreet street profile

The next step of the transformation is the change of the street profile of the Melis Stokelaan, part of the profit of phase 1 can be invested in this phase. The tram rail stays as it is to save money. The existing road of the Melis Stokelaan can stay in use while the new road is built to keep accessibility.



Phase 2: new highstreet street profile

Phase 3: temporary use on Highstreet

This third phase is optional if phase four is not starting yet. In this phase, the new road of the Melis Stokelaan is already in use. The demolition of the old road can already start. In the meantime, temporary buildings can be placed alongside the new road to start placemaking and already start to give the Melis Stokelaan its new Highstreet character.



Phase 3: temporary use on highstreet

Phase 4: Public Courtyards and Highstreet south phase

The final phase is demolishing the buildings on the south side of the Melis Stokelaan and building the new buildings with shared courtyards. This phase again creates a lot of profit that can be used for the underground parking and the public space inside the Public Courtyards. If necessary, it can be used to refund part of phase 2 and phase 3.



Phase 4: public courtyards and highstreet south face

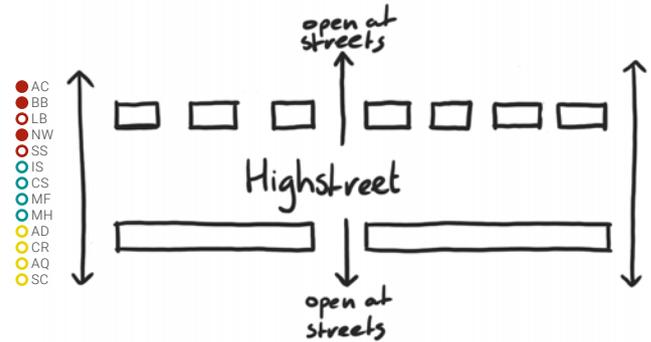
7.4 DESIGN RULES

7.4.1. HIGHSTREET

The following pages show design rules that apply to the different elements of the strategic design for Zuidwest. The rules are derived from the research, analysis, and designs that were made. The rules are organized by specific elements, and it is indicated which elements of the strategic framework they affect.

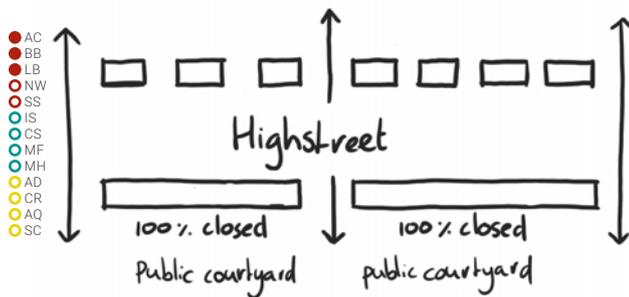
- AC - Accessibility
- BB - Borders and boundaries
- LB - Legibility
- NW - Network
- SS - Space syntax
- IS - Identity space
- CS - Collective space
- MF - Mixed facilities and services
- MH - Mixed housing
- AD - Attracting destinations
- CR - Character
- AQ - Attractiveness and quality
- SC - Security and perceived security

The blocks open opposite to each other at crossing roads

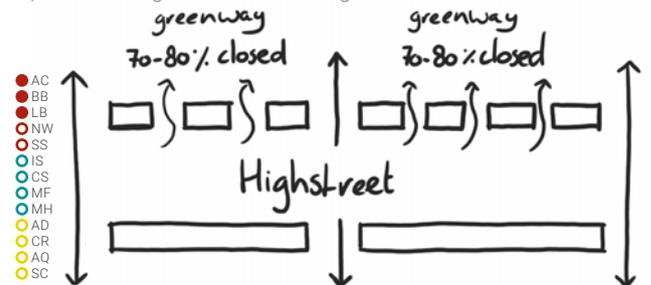


Highstreet plans

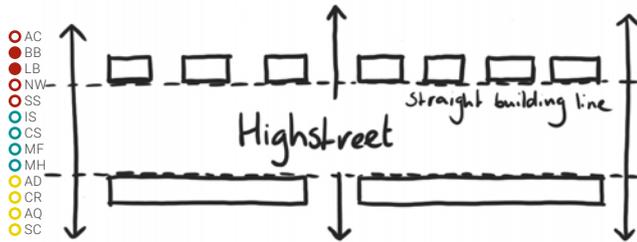
Closed building lines on the highstreet south face



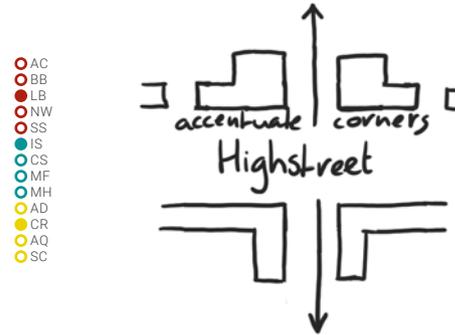
Open buildings lines on the highstreet north face



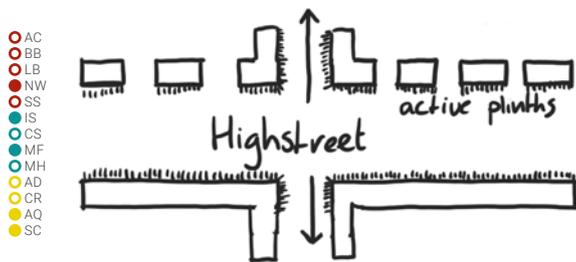
The building lines are straight to create linear character



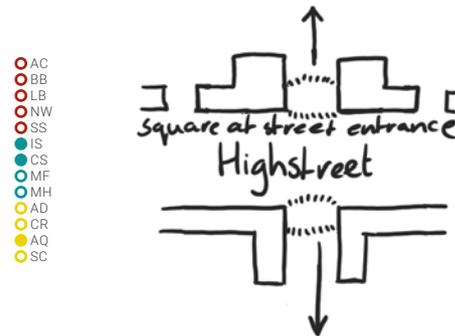
The corners at crossing streets are clear and accentuated



All plinths in the highstreet and around corners are active

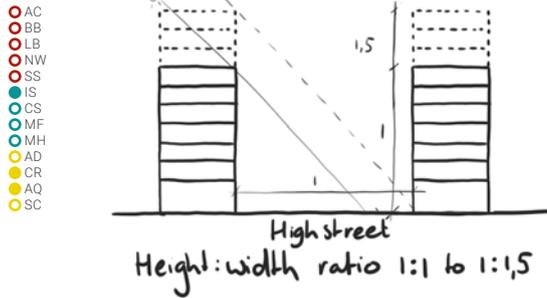


The crossing streets start with a public space



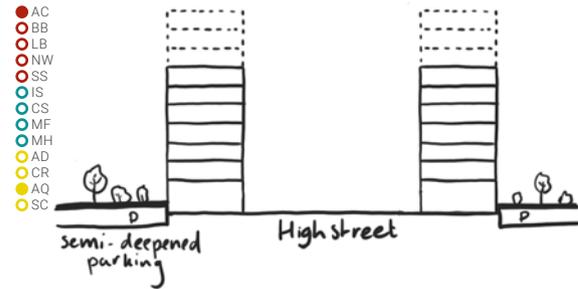
Highstreet sections

Width-height ratio to give highstreet character and allow sun



- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

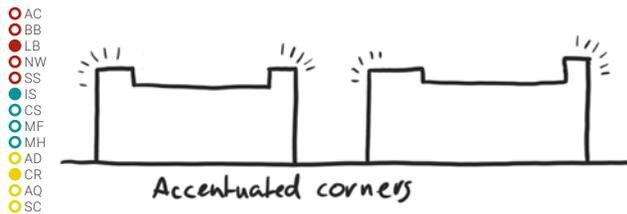
Semi-deepened parking relieves car traffic on highstreet



- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

Highstreet elevations

Accentuated corners to improve legibility of the network



- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

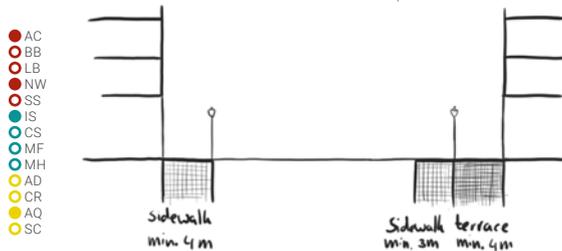
Same floor heights to create homogeneity



- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

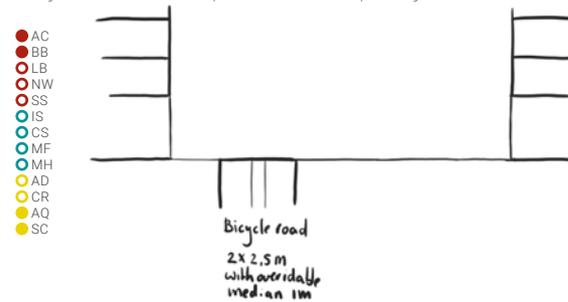
Highstreet street profiles

Broad sidewalks and terraces to improve walkability



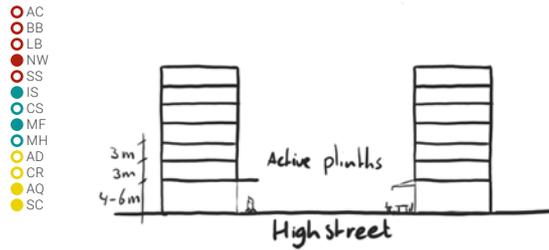
- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

Bicycle road to improve street quality



- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

All plinths in the highstreet are active and are higher



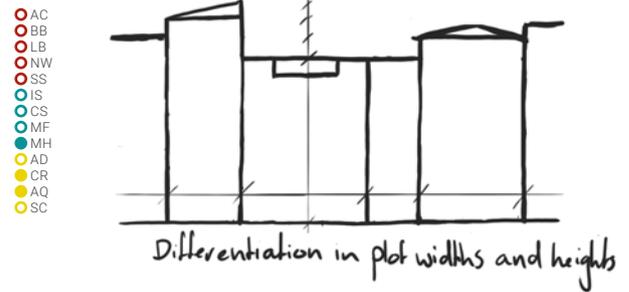
Balconies or loggias facing the highstreet



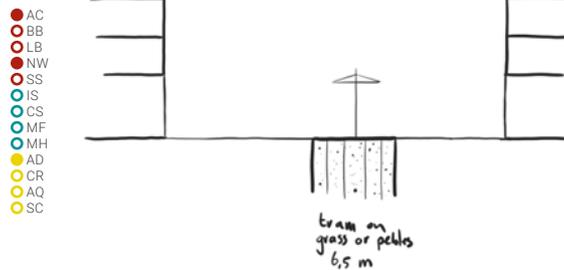
Differentiation in facades to create an interesting front



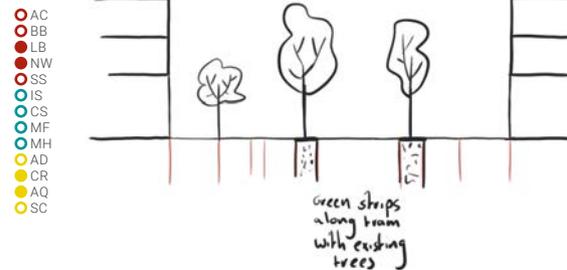
Differentiation in plot widths and heights



Fast tram line to increase public transport connections



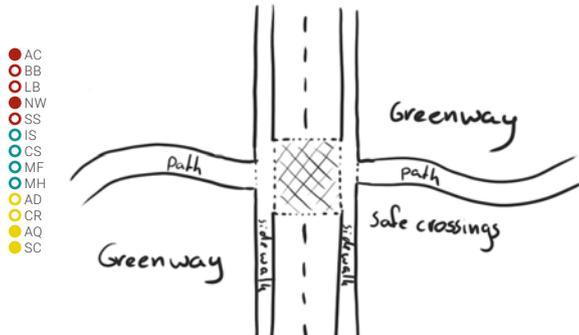
Green with existing trees to increase street quality



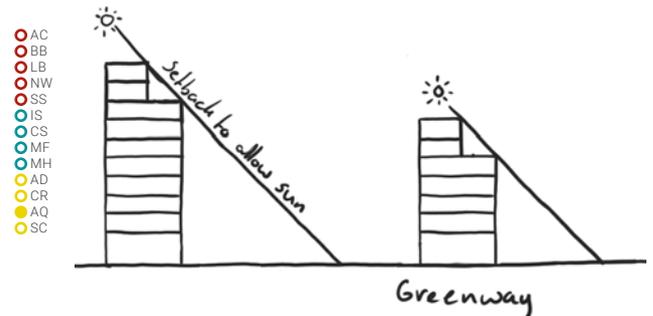
7.4.2. GREENWAY

Greenway sections

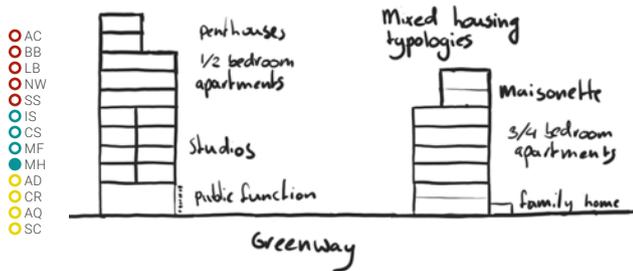
Pedestrian priority to increase walkability



Setback for sun to increase public space quality



Mixed housing typologies to increase social mix

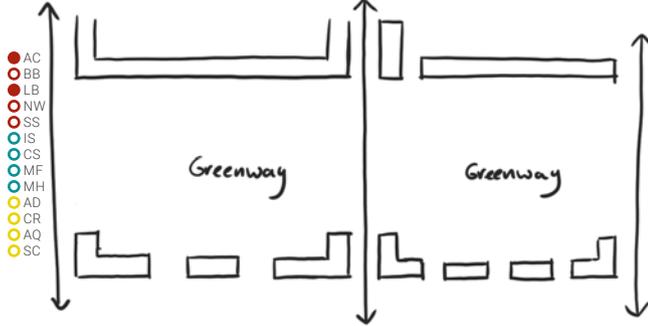


Confined spaces to create collective spaces

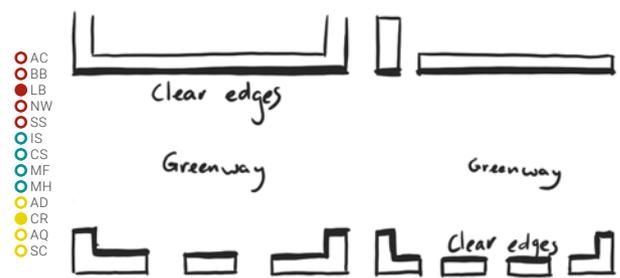


Greenway plans

Crossroads run across the green strip



Clear greenway edges to clarify the urban fabric



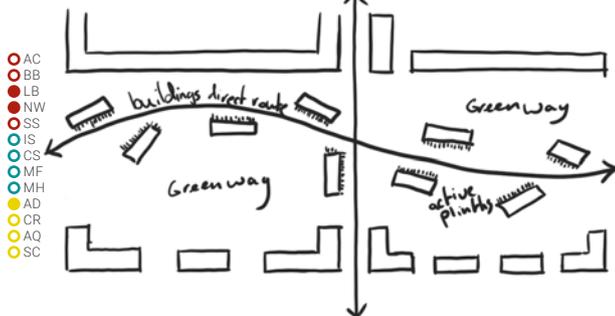
Keep valuable existing buildings



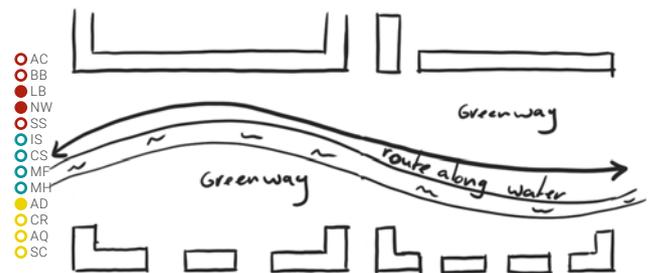
Confined spaces to create collective spaces



Walkway guided is by buildings to create readability of route



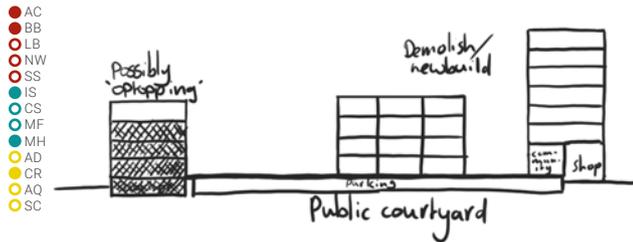
Walkway is guided by water to create readability of route



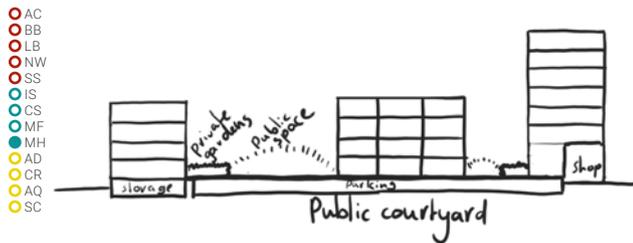
7.4.3. PUBLIC COURTYARDS

Public courtyard sections

Keep part of the existing buildings

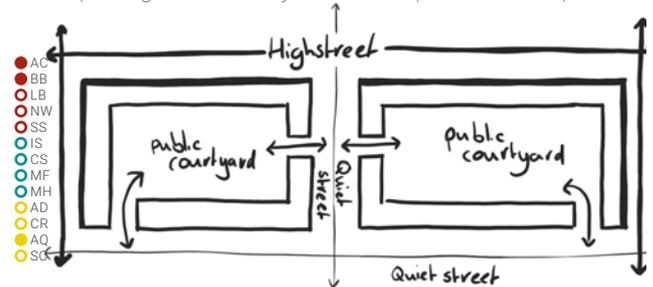


Private gardens to create more housing typologies

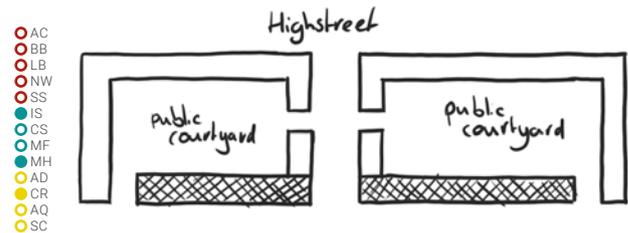


Public courtyard plans

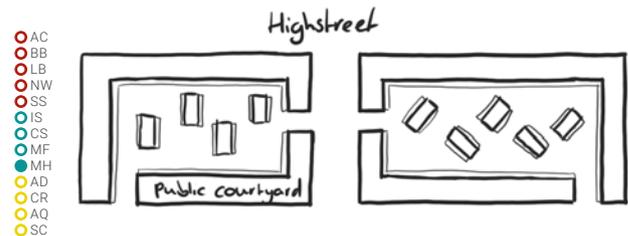
Few openings into courtyards to keep them semi-public



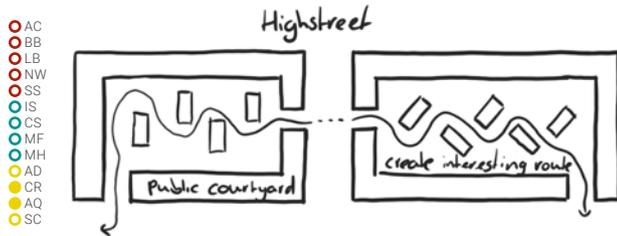
Keep part of the existing buildings



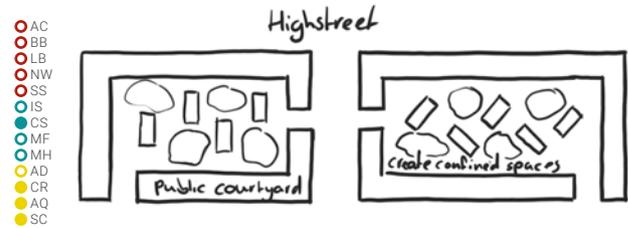
Private gardens to create more housing typologies



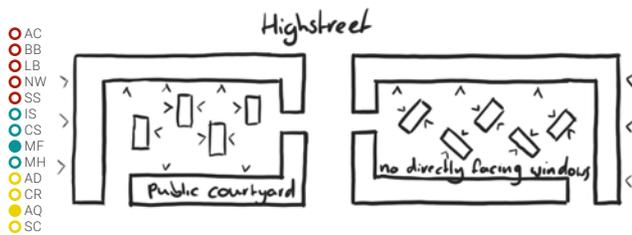
Interesting route to encourage strolling



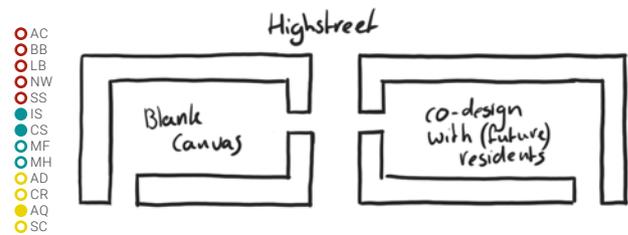
Confined spaces to create collective spaces



No directly facing windows to preserve privacy



Blank canvas to co-design with (future) residents

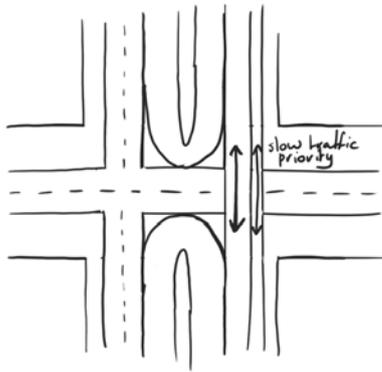


7.4.4. PERPENDICULAR PEDESTRIAN NETWORK

Perpendicular pedestrian network plan

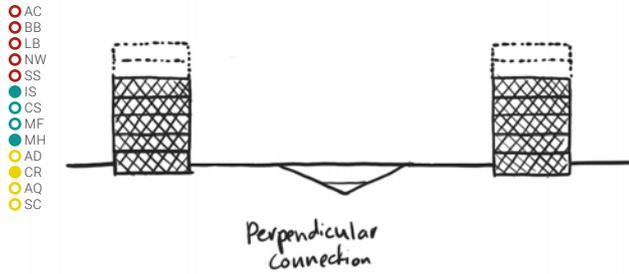
Slow traffic priority to increase walkability and cyclability

- AC
- BB
- LB
- NW
- SS
- IS
- CS
- MF
- MH
- AD
- CR
- AQ
- SC

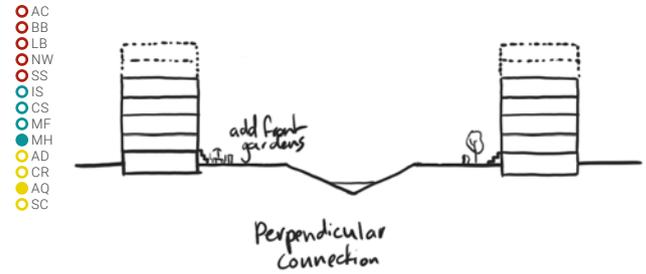


Perpendicular pedestrian network sections

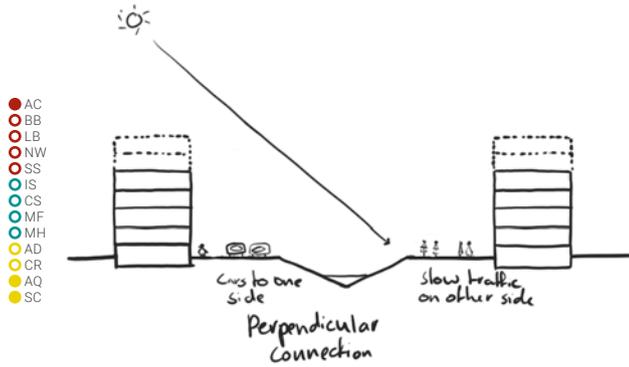
Keep part of the existing buildings



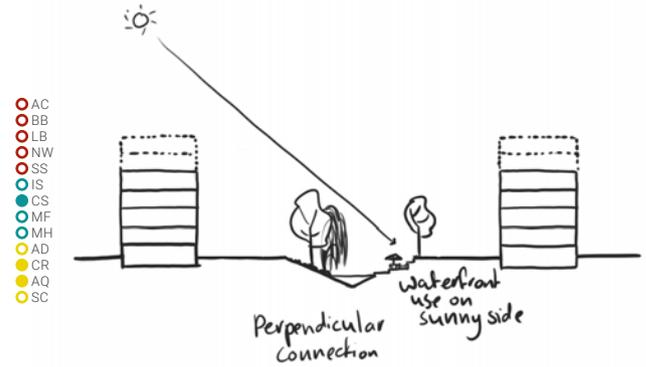
Add frontgardens to diversify housing stock



Separate car and slow traffic to increase walkability



Use waterfront on sunnyside to create collective space



Chapter 8:

Conclusion & Reflection

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8.1 CONCLUSION

How can spatial design and densification in deprived post-war neighbourhoods increase social integration, social mix, and social cohesion?

This project shows the complex situation of Den Haag Zuidwest, which is exemplary for many post-war neighbourhoods in the Netherlands. The urgent need for densification to house the current and new residents is pressing against the scarcity of urban space and the discussion to whom this space belongs. A shift is needed towards an approach that is more dictated by the residents' interests, away from the systematic demolition of neighbourhoods to make place for expensive housing complexes, resulting in the displacement of original inhabitants and gentrification of the area. Instead, this project shows opportunities to combine densification with a more social approach towards both existing and new inhabitants.

The potential of the coexistence of densification, preservation of communities, and influx of new populations can be maximized by a set of design principles that are based on social integration, social mix, and social cohesion. To promote social integration, improved physical and psychological connections between these neighbourhoods and the rest of the city are necessary. To increase social mix, an influx of a more diverse population is needed as well as social cohesion between the existing population and the newcomers.

The role of densification in these processes should not be underestimated. Densification can contribute to social integration by shifting the city's centre of gravity more towards these neighbourhoods, not only in population, but also in amenities, economics, and social opportunities. In addition, densification adds to the existing communities and the existing amenities without displacing them, which creates a more mixed neighbourhood. Besides, densification can intensify public spaces which increases opportunities for social cohesion.

These three social goals can be achieved by an urban design that is guided by three sets of themes. Connectivity and differentiation provide guidelines for the enhancement of social integration within the city and social mix in the neighbourhood. Diversity and inclusivity steer the design towards a more mixed neighbourhood and socially cohesive place. Character and composition create more feelings of connection to a neighbourhood to create more social integration and social cohesion.

SQ1

What (spatial) characteristics of post-war neighbourhoods cause their **social segregation and social dissolution**?

Post-war neighbourhoods generally share six specific characteristics, integral design, open building blocks, orthogonal patterns, zoning of functions, blind plinths, and green and blue networks that form the main structure. Except for the last one which is perceived as a positive factor, they are generally linked to spatial factors that have a negative influence on social segregation and social dissolution.

Social segregation is mainly negatively influenced by the lack of spaces that promote identity and diversity, together with the lack of attracting destinations. These are caused by the integral design and zoning of functions that often create monotonous neighbourhoods that are solely residential apart from a small centre with

just some daily amenities. Additionally, there is very little diversity in housing types, causing very little diversity in socio-economic groups which also induces social segregation of these neighbourhoods.

The lack of attractiveness, quality, and character are generally linked to negative effects on social dissolution. The feeling of community and identity is important to create social cohesion, however, few spaces in post-war neighbourhoods provide the opportunities to develop these feelings. Their blind plinths and open building blocks that result in undefined, open public spaces are not attractive or usable and do therefore not provide space for interaction between inhabitants.

SQ2

What are the spatial characteristics of **socially integrated, socially mixed, and socially cohesive** neighbourhoods that can be applied in the densification of post-war neighbourhoods?

Densification can positively contribute to the social integration, social mix, and social cohesiveness of a neighbourhood. Firstly, densification can be a catalyst for the redevelopment of a neighbourhood, not just in its building stock, but also in public space. In addition, densification can provide financial incentives to pay for the redevelopment of public space. Additionally, to create a neighbourhood with the desired social structure, it is important to respect the social structures that are in place. Therefore, the existing population should be maintained. Densification provides the opportunity of creating a socially mixed neighbourhood by adding new residents of different socio-economic statuses, without displacing the existing population. This is an opportunity to improve a neighbourhood's quality while preventing gentrification.

A wide range of spatial interventions that contribute to these goals was analysed and for more than half of them a possible symbiotic effect with densification

could be found, the rest of the spatial interventions do not pose a symbiotic effect, but also not a negative reciprocity with densification. In addition to adding to the housing stock, densification can also introduce other functions in a neighbourhood among which a wider range of amenities and services to provide for the more diverse population, as well as opportunities for business, work, education, and culture which can add to the social integration and social mix of an area.

Additionally, a wide range of spatial interventions was analysed for their symbiotic relationships with densification, and for just over half of them, a positive relation was found. The rest of the interventions did not have a specific relation with densification, and only two interventions had conflicting interests with densification. This proves that densification and social integration, mix, and cohesion provide opportunities to strengthen each other.

SQ3

What are the current governmental **policies** regarding **social integration, social mix, and social cohesion**?

The themes of social integration, mix, and cohesion are hot topics in Dutch policies, especially in policies that target deprived areas. Three types of policies deal with these kinds of topics: place-based policies, that are effective at the local scale but do not reduce issues at larger scale levels. People-based policies, target the issues from a larger scale and broader perspective and lack therefore a noticeable effect on the short-term and local levels. Connectivity-based policies are quite effective in reducing segregation but are very dependent on the other two types to really have an effect. Ultimately, a combination of the three seems to be the best way to address these social problems. Urban design and urban planning can mainly play a role in place-based, and connectivity-based policies, and thus collaboration with other fields to create people-based policies.

In the field of urban planning and urban design, visions and structure plans already define all sorts of goals regarding these topics. However, they generally do not give indications on how to achieve these goals. The result is the development of small-scale projects scattered around a neighbourhood with no clear coherence among each other, and no clear guidelines on how to achieve the social goals that were put in the vision or strategy. However, the previous question concluded that there are specific spatial interventions that can be done to achieve these social goals. Therefore, better visions or strategies with clear rules and guidelines on how to apply these spatial interventions in design projects are needed.

SQ4

What strategic spatial interventions can contribute to increased **connectivity and differentiation** in Zuidwest to reduce its **segregation** from Den Haag and improve **social integration** and **social mix** within its borders?

Connectivity and differentiation are crucial to increase social integration and social mix in a neighbourhood. Physical connectivity is needed to accommodate the social connectivity of a community to other communities and thereby reduce segregation. However, creating physical connections is not enough to invite communities to interact. Differentiation of these connections and networks is necessary to achieve the desired connectivity. The modernist concepts that are the base for connectivity in post-war neighbourhoods are mainly based on efficient movement through an area. However, this efficiency regarding connectivity comes at the expense of the segregation of communities due to its bordering effect and unattractiveness to reside in these connecting spaces. They merely provide space to move as fast as possible from one place to another without interacting with the surroundings, while that is the way communities are encouraged to interact and integrate.

In Zuidwest, the long lines that run through Zuidwest and Den Haag play a major role in connectivity and differentiation. By differentiating them between car traffic and pedestrian movement Zuidwest can be better integrated in Den Haag. The long lines can be transformed into a highstreet which helps to connect Zuidwest with Den Haag and simultaneously connects the different neighbourhoods in Zuidwest. Reducing the border of these traffic arteries into boundaries where communities can meet and interact with each other instead of being a segregating entity. Additionally, good legibility and space syntax are crucial to differentiate the usage of a connection, preferably most people would use the same connections to promote interactions. Lastly, a network of attracting destinations increases the likelihood of people going out of their own neighbourhood and visiting others which also increases the integration and mix of an area. By applying all these principles to Zuidwest a more connected and differentiated area can be achieved which contributes to reducing the segregation of Zuidwest from Den Haag, and to reducing the segregation between the different neighbourhoods within Zuidwest itself.

SQ5

What spatial **densification strategies** can be applied to Zuidwest to contribute to pose a solution to Den Haag's **housing shortage** while reducing contributing to **social integration, social mix, and social cohesion**?

There are great opportunities in Zuidwest to build a higher density to overcome the housing shortage of Zuidwest, but also (partly) the Housing shortage of Den Haag. Additionally, a densification strategy that is simultaneously based on, and informed by the design themes of this thesis can play an important role in the social integration, mix and cohesion of Zuidwest. On a more practical note, densification can create financial instruments to finance the renovation of existing buildings and the public space. Furthermore, densification has the potential to increase the population mix while maintaining the existing residents and with that the existing communities. To do so, at least part of the existing housing stock should be maintained for the people

who want to remain in their own homes. For original residents who want a new type of housing but want to stay in their neighbourhood as well as for the new residents of different socio-economic groups, new typologies should be added. Additionally, densification can help to restructure the urban fabric and create better-defined and more concentrated public spaces. This increases the activity in the public space and with that the opportunities for interaction and social cohesion. Besides adding housing, densification can also be in the form of other functions like new amenities to attract other socio-economic groups to the area, as well as business and work opportunities to reduce social segregation.

SQ6

Which spatial design interventions can help to enhance **diversity and inclusivity** in Zuidwest to increase **social mix** and **social cohesion** between existing and new inhabitants?

To be able to create social mix and social cohesion, diversity and inclusivity in that neighbourhood are crucial. Giving a concrete definition of when a place is diverse and inclusive enough seems impossible because it can always be more diverse and more inclusive. This is because the number of groups that a population can be divided into can be endless to the point of a single individual. This makes designing neighbourhoods that are inclusive to everyone also seem impossible. Therefore, collaboration and co-creation with current and even potential new inhabitants is an important step to making a neighbourhood as inclusive as possible. When looking at design elements that should be considered to make Zuidwest a diverse place mix of housing, and facilities and services plays an important role in attracting and providing a wide range of socio-economic groups. Mixed

housing can be achieved by differentiating in ownership structures, pricing, sizes, and typologies to fit as many needs as possible. Additionally, a range of facilities and services like shops, work, education, sports, and culture is important to have in a neighbourhood. This diversity contributes to the social mix of a neighbourhood. Additionally, inclusion can mainly be created in the public space. Especially places of high density and diversity have the potential to become the most inclusive public spaces. Identity spaces can provide a feeling of belonging and togetherness by reflecting the community's identity. Collective spaces can provoke unforced interactions between individuals with visibility, interaction, and meeting. Both of these public spaces are crucial to creating social cohesion, especially in a diverse neighbourhood.

SQ7

Which spatial design interventions can help to improve the **character and composition** of Zuidwest to increase **social integration** and **social cohesion**?

Important factors for a socially integrated and socially cohesive neighbourhood are character and composition. Character and composition can give a neighbourhood a distinct atmosphere and function within the urban fabric that makes it more popular and with that creates more social integration. A way to achieve that is by creating attracting destinations within the neighbourhood that are not just attracting locals, but also non-residents. It is important that these destinations have a distinct function and that they are integrated into the network of the city. Additionally, creating a certain character in certain neighbourhoods can help people to feel more at home, and create a sense of belonging and togetherness, which results in more social cohesion. The character of a neighbourhood is associated with many of the spatial qualities that were mentioned

in the design principles. Additionally, the attractiveness and quality of a neighbourhood are important for those same feelings of belonging. It is therefore important that the buildings and the public space are of high quality. This is an important consideration in the design and construction phase, but it is even more important to organise maintenance after completion to maintain attractiveness and quality. Creating feelings of belonging and responsibility are key factors in the drive for people to maintain their neighbourhood. Lastly, it is important that a neighbourhood is a safe place, which can be achieved by composing the public space to create natural surveillance throughout the whole neighbourhood. This way Zuidwest can be a more socially integrated and socially cohesive area.

SQ8

Which **policy** and **institutional** changes are needed to enable and strengthen the spatial interventions?

Policies play a crucial role in guiding the development of Zuidwest in order to comply with the strategic framework and design principles. In addition, policies can incentivize stakeholders to play a role in the development, but they can also enforce regulations to bring development to the desired outcome. Policies that play an important role mainly regard housing ownership. Developers tend to try to maximise profits, which is mostly by building small housing and expensive housing. However, policies can keep a neighbourhood diverse and inclusive by creating policies that enforce certain housing types, in ownership structure, space, price, and typology. Additionally, policies can be used to enforce certain rates of

renovation and newbuild. However, good consideration and implementation of policies are required to make sure they serve as a promotor and not as a burden for development. Therefore, they must be adapted to the structure plan and design principles. Next to policies regarding housing, zoning regulations are important to promote mixed use of a neighbourhood. This means that in some places according to the strategic plan, single-purpose plots for housing should be changed to multipurpose. Additionally, maximum building heights should be changed on specific plots to enable densification according to the densification plan.

SQ9

To what extent are the interventions in Zuidwest **transferable** to other post-war neighbourhoods with similar problems?

In the first chapters of this thesis, it has become apparent that post-war neighbourhoods are often dealing with liveability problems that are not in the last place caused by social segregation and social dissolution. Besides, the need for housing and inner-city densification applies to all cities in the Netherlands. Additionally, the typical spatial characteristics of postwar neighbourhoods are mostly recurring. This makes the problem statement and the theoretical research relevant for most of these postwar neighbourhoods, as well as the conceptual framework that was created from the research. Following that, the elements of the strategic framework and the design framework are generally a good basis for the approach towards better social integration, social mix, and social cohesion in post-war neighbourhoods. The approach would therefore always entail the themes of connectivity & differentiation, diversity & inclusivity, and character & composition with their associated sub-themes. The first part of this research could therefore function as a sort of guide to create plans for other postwar neighbourhoods with similar

social problems. However, the exact spatial implementation is very dependent on the specific spatial and social properties of a specific neighbourhood. Therefore, the introduction of a Highstreet, a Greenway, and Public Courtyards cannot be directly transferred to a different location, although, they could function as inspiration. However, the typical spatial characteristics of postwar neighbourhoods are very suitable for the implementation of a Highstreet principle. Additionally, the concept of the Greenway could be transferred in the sense that the generally vast amount of green could be improved and densified. The concept of the Public Courtyards can be implemented more easily on a single building block; however, the more systematic application is harder to copy.

Lastly, the general idea of this research and conclusions is not just its specific spatial design outcome. It is also about the creation of a more thorough plan with specific spatial rules and guidelines that make an outcome in which the predefined goals are achieved more likely.

8.2 REFLECTION

8.2.1 RELATION BETWEEN TOPIC AND STUDIO, TRACK, AND PROGRAMME

The main learning objective of the mastertrack Urbanism is to understand complex urban issues involving social, cultural, political, and environmental aspects through the scales in order to be able to reflect them onto specific sites and assess them, with the ultimate goal of improving the site's conditions. This thesis deals with socio-spatial, socio-economic, and socio-cultural, in the more specific form of social integration, social mix and social cohesion, through the densification of Den Haag Zuidwest. The goal is to use the qualities that densification can bring, to create spaces for a mixed population and mixed use of the area and simultaneously enable social cohesion between the existing and new populations.

At the same time, the topic has a direct relation to the Design of the Urban Fabrics graduation studio as the thesis deals with the above-mentioned issues by changing the urban fabric as part of a structural transformation. Densification of the area and intensification of amenities and public space as a change in the urban fabric, are proposed to improve social mix and social cohesion in Zuidwest.

8.2.2 RELATION BETWEEN RESEARCH AND DESIGN

A simultaneous approach to research and design helped this project to gain credibility. The proposed interventions do not solely rely on intuition but are also based on scientific research. This helped to gain an understanding of the relationship between social issues of social segregation and social cohesion and the influence of the urban fabric and densification on them. The theory helped to inform methods and themes to create a strategic framework to inform the design. The produced analyses were directly copied or inspired by analytics that is used or suggested in theory in an iterative process of analysing, translating that into a design, reflecting on the design by analysing it and repeating this process. This helped to substantiate the proposed design principles with theoretical knowledge.

Finally, this research and design approach led to the understanding of the possible qualities of densified areas and the required interventions, the necessary interventions for mixed functions and the spatial characteristics of both socially mixed and socially cohesive neighbourhoods. This provided the necessary proof of the value of the spatial interventions to justify the design decisions.

8.2.3 PROBLEM STATEMENT AND DESIGN INTERVENTIONS

The two main social themes introduced in the problem statement are social segregation and social dissolution. Their causes and effects were explored as a basis for the design interventions, to what extent does the final design proposal address these causes in order to reduce their effects?

The causes of social segregation can be split into two main processes: in situ changes, which reflect demographic shifts within a neighbourhood, and selective migration which reflects people moving into or out of an area. Since in situ changes happen within the existing population of an area, design only has a limited influence. Therefore, the design proposal influences mostly the selective migration. The diverse housing stock and living environments aim to attract newcomers of different socio-economic backgrounds to create a shift from a more monotonous population towards a more diverse population. By diversifying the population, the social segregation of Zuidwest is reduced.

There are several causes for social dissolution of which many are not related to the built environment and are therefore out of reach for this research. However, an important factor in social dissolution and social cohesion is peoples' connection with a neighbourhood. The more someone feels connected to a neighbourhood the more likely that person is to have feelings of social cohesion

towards other inhabitants. The feeling of connection to the neighbourhood can be influenced by spatial urban design. Four patterns of connectedness to a neighbourhood can be identified, no connection, practical connection, symbolic connection, and lifestyle connection, ordered from weaker to stronger connections. The aim should be to create the best connection to the neighbourhood and to create the best possibilities for social cohesion. However, a lifestyle connection is almost only achievable by people with a very similar socio-economic background and is therefore very hard to combine with a diverse and socially integrated society. Therefore, a practical connection and a symbolic connection were pursued in this project. A practical connection is achieved by creating a wide variety of amenities and services throughout the neighbourhood, which satisfy the needs of a very diverse population. Additionally, these practical needs can be used to force encounters between different people by small-scale mixing of these different functions to improve social cohesion, which is what I did with the proposed 'Highstreet'. A symbolic connection can be achieved by creating spaces that are attractive and inviting to different kinds of people as 'collective space'. These spaces should not only attract different people to use them, but they should also have a symbolic value in the sense that they form an 'identity space' which is shared by all people of the neighbourhood, which gives them a commonality. The 'Public Courtyard' can function as such a collective space and the 'Greenway' both as a collective space as well as an identity space.

8.2.4 ASSESSMENT OF METHODOLOGY

The chosen methodology has had some advantages and limitations during the graduation process. From the start of the project, the emphasis was on creating a strong theoretical body of knowledge that was later used as a basis for the creation of the design principles. This had the advantage of creating higher scientific relevance of the theoretical framework as well as the design principles. However, the field of knowledge regarding social segregation and social cohesion and how to deal with them in urban design was very scattered in their convictions, and different literature was often contradictory. Later in the process, a conversation with an urbanist at the municipality of Den Haag and two conversations with two of the housing corporations in Zuidwest helped to bring the theory back into practice. The input from these conversations was used in the construction of the design principles. Looking back, it would have been good if these conversations had taken place earlier in the process, and maybe some additional conversations would have been possible.

All in all, the chosen methods have been very insightful and informative, however, it would have been good to take a little more time to add the early stages of graduation to choose suitable methods to get to the desired outcome. This could have helped to keep the project a bit more down to practice from the beginning on and not only in the end.

8.2.5 SOCIETAL RELEVANCE

The Netherlands is dealing with the matter of the housing crisis and high pressure on the urban environment. In addition to its necessity, densification is perceived as a positive factor for urban societies to thrive. However, good consideration of densification practice is needed, not only to ensure these positive factors but to strengthen them and use their full potential. A specific neighbourhood typology that is often targeted for densification is the post-war neighbourhood typology, because of its relatively low density and strategic position in metropolitan regions. Additionally, the Netherlands is dealing with some deprived neighbourhoods with all sorts of socio-cultural and socio-economic issues, like social segregation and low social cohesion. It can be recognised that these deprived neighbourhoods were very often built during the post-war reconstruction period, and it raises the question if there is a link between the urban design principles from this period and the issues they are struggling with now. Combined, great potential can be recognised in the above-mentioned observations. With the redesign of the public space and urban fabric in combination with the densification of post-war neighbourhoods, they can become more socially mixed and socially cohesive. Hereby, not only taking pressure off the housing crisis but also socially and economically improving neighbourhoods making them and their inhabitants more resilient. This benefits the neighbour-

hoods, their residents, and consequently society as a whole. One of the largest post-war neighbourhoods in the Netherlands is Den Haag Zuidwest, therefore the core focus of the research-by-design part of this graduation project was conducted in that neighbourhood. A range of design principles subdivided into the themes of 'Connectivity and Differentiation', 'Diversity and Inclusivity', and 'Character and Composition' were created based on theoretical research. Then, these design principles were applied to create a strategic framework and urban designs. Afterwards, to increase this project's relevance, design elements that are transferable were derived so they can form a framework that could be applied to similar neighbourhoods with similar problems.

8.2.6 SCIENTIFIC RELEVANCE

Policymakers write all kinds of claims and goals in urban development plans and visions towards densification, social integration, social mix, and social cohesion. However, indications of how to reach them are often not defined in their output. Simultaneously, in the field of research into social segregation and social dissolution, there are a lot of theories on the causes and effects. However, they are often focussing on all kinds of factors and processes, but not so much on the effect of the spatial design. This is also the case for recommendations on solving these issues that can be found in literature, let alone an integral approach to solving the

wider range of these problems through spatial design interventions. Additionally, integrative research on the pressing need for densification and social integration, mixing, and cohesion and how to apply them together has yet to be found. This graduation project can add to that body of knowledge by providing an overview of the spatial implications of these social themes in combination with densification in post-war neighbourhoods in an integral way. The focus on post-war neighbourhoods is a logical choice since these neighbourhoods generally have a very distinct urban fabric, they often provide large opportunities for densification, and at the same time, many of them suffer from social segregation and social dissolution. For this reason, the thesis ends by collecting all location-specific interventions on Den Haag Zuidwest and collects them into a transferable framework that can be used by governments and designers. This gives the project a wider relevance for all post-war neighbourhoods in the Netherlands.

8.2.7 ETHICAL ISSUES

This thesis deals with deprived neighbourhoods that are generally inhabited by disadvantaged people. To be able to conduct research, but also to create a spatial framework to improve the living conditions of specific neighbourhoods, it is often necessary to assign people to specific socio-economic societal groups. However, it is important to prevent the generalization of the wish-

es and needs of individuals in these groups. Therefore, the involvement of inhabitants in the design process and keeping them involved during implementation and maintenance can make sure to not wrongly assume their wishes and needs. With that, it is important to note that within a neighbourhood and a perceived socio-economic group, needs and wishes can still vary greatly between individuals. Simultaneously, in the field of urbanism, there is always the question of the value of the designer's expertise related to the expectations of inhabitants. It is always important to involve inhabitants to a certain extent, however, sometimes the urbanist might have a better idea of people's needs and have an overview of all problems. Ultimately the urbanist has to mitigate between all involved people and stakeholders.

8.2.8 TRANSFERABILITY

One of the goals of this research was to make the project on Zuidwest transferable to other post-war neighbourhoods in the Netherlands. The advantage is that many of these neighbourhoods have a similar spatial structure and urban fabric and deal with similar socio-economic and socio-cultural issues. This makes transferability easier to achieve. However, every neighbourhood has its specific spatial and social characteristics. In this thesis, a combination of literature research, spatial and social analysis, and design experimentation has led to design principles that can be translated to other simi-

lar neighbourhoods, just like the design principles that were applied to Den Haag Zuidwest in this thesis. However, it should be noted that the transferability of the design principles is never a one-on-one translation. Therefore, the principles should not be seen as an absolute blueprint but more as a guide to using densification in post-war neighbourhoods to decrease their segregation and increase their social mix and social cohesion.

8.2.9 DEN HAAG ZUIDWEST THESIS HUB PROJECT AND STAKEHOLDER INVOLVEMENT

In chapter '7.2.3. Stakeholder input' I described the thesis hub project and how the input of different stakeholders influenced my design. In addition to the interesting design input, it was very interesting for my own development to learn more about stakeholder involvement. The different approaches, views and interests of the different stakeholders vary a lot and can make it difficult to satisfy everyone. Additionally, I learned that each stakeholder has a very different perspective on the project and that it is quite challenging to create a presentation (or poster in this case) that can appeal to all of them. Additionally, it was once again confirmed that it is crucial to involve different stakeholders during the full length of a project. Not only by talking to them one by one but also by creating a setting where a group discussion between different stakeholders can happen.

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APPENDICES

APPENDIX 1. ESSAY: PEDESTRIANIZATION, SAVIOUR OR DESTRUCTOR OF THE HIGHSTREET

Pedestrianization, saviour or destructor of the high street?

A study on suburban high streets and the pros and cons of pedestrianization

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AR1U121: History and Theory of Urbanism

Cor Wagenaar

02-11-2021

Abstract

From history, the high street has been an important street in the city structure. Nowadays, the function of the high street is threefold: it is a main transportation artery towards the city centre, it is an important local shopping place with small local shops, and it plays a main role in the social multicultural structure of the suburban neighbourhoods as a meeting place. However, the existence of the high street is at risk due to out-of-town shopping malls, online shopping, and gentrification. Although there are both advantages and disadvantages to pedestrianization on all three high street functions, overall, it could be the solution to save and revitalize the high street as such.

Pedestrianization is nowadays seen as *the* design solution to improve the liveability of public space in the city, but does that also apply to the high street? A lot of city centres in the Netherlands and throughout Europe are already pedestrianized, however, this is not yet the case for so-called high streets in the suburbs. High streets are streets with multiple functions at once, they serve as shopping streets, neighbourhood centres, and main arteries in the city. Due to gentrification, the popularization of out-of-town shopping malls, and the rise of online shopping, the existence of the high street is at risk. It is important to maintain these high streets to keep the suburbs alive and vital. This Essay will substantiate why pedestrianization of the high street can save and revive it without losing its identity.

History of the pedestrian and the car in the city and the high street

Most cities were pedestrian-focused up until the mid-nineteenth century (Parajuli & Pojani, 2018). However, with the quick rise of the car in the first part of the twentieth century, cities quickly shifted from being pedestrian-focused to being car-focused. There has always been protest and opposition to this car takeover in cities, which sometimes was successful, like the protest against the lower Manhattan Expressway (Steyaert, 2012). However, activists like Jane Jacobs were not able to prevent cars from becoming a dominant factor in modern cities. With this emergence of the car in the modern city, the need for regulation of car use in cities came with it. According to Parajuli and Pojani (2018), after World War 2, people started to realise the devastating effects of the car on city life and introduced the pedestrian shopping area, which is still to be found in most Dutch city centres as well as city centres spread across Europe and North America.

The high street on the other hand is a very different phenomenon from the city centre in terms of origin history and current function. The high street often originates from a street connecting a larger city to a small village nearby (Griffiths, 2015). Griffiths (2015) describes how the larger city starts to expand around the high street and finally annexes the village as is visible in *Figure 1*. In this process, the high street remains the main artery for car traffic in the city and becomes a commercial and social centre for the suburb that grew around it. *Figures 2, 3 and 4* show how a high street

originates as a pedestrian street and evolved to a car street through time. The current function of the high street is described by Vaughan as “the core of suburban non-domestic activity, as a special kind of space with demonstrable potential for creating the living heart of the suburb” (2015, p. 3). This is a similar description as given by Griffiths et al. (2008) who stress the presence of small local shops and Zukin (2012) who stresses the importance of these high streets in the forming of the cultural identity of inhabitants. She describes that both “traditional ethnic homogeneity and new ethnic diversity become embedded in a bounded geographical terrain” (Zukin, 2012, p. 282). It can be concluded that the high street as such is not just a commercial shopping area or the main traffic artery, but also serves as a social conductor for the surrounding neighbourhoods. Therefore, it is important to take action to maintain the high street.

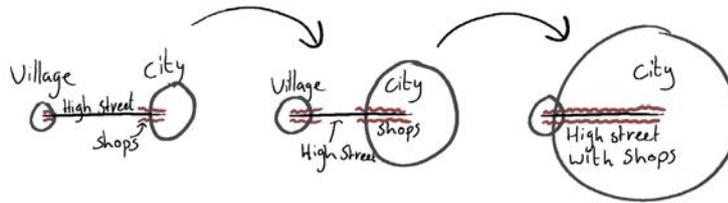


Figure 1, Historical development of the high street (van Driesum, 2021)



Figure 2, Kinkerstraat Amsterdam, 1908 (Stadsarchief Amsterdam, 2020a)



Figure 3, Kinkerstraat Amsterdam, 1986 (Stadsarchief Amsterdam, 2020b)



Figure 4, Kinkerstraat Amsterdam, 2021 (van Gempel, 2021)

The function of the high street in the morphological city structure

The car-focused appearance of the high street is often referred to as devastating to street life. However, as Griffiths (2015) writes, the origin of the high street lies in the movement happening in the street, both pedestrian *and* car movement. Jones et al. (2007) write that the high street can be seen as both link and place. The morphology of the urban grid shapes flows of movement which results naturally in a distinction between movement-rich locations and movement-poor locations (Hillier et al., 1993). Due to its origin, the high street naturally is a movement-rich location. On the one hand, this results in reduced walkability induced by high levels of car traffic but on the other hand, it brings liveliness to the street according to Griffiths et al. (2008). Besides Jones et al. (2007) argue that this dual function must be the main organizing concept that can be used to balance pedestrian and motorist needs.

As stated before, social interaction is one of the most important functions of the high street. The occurrence of this social interaction can not only be explained by its commercial function, but also by the theory of borders and boundaries as developed by Richard Sennett (2018). Sennett describes boundaries as impermeable edges in the city like a highway or a river. A border, however, is a permeable edge that is porous yet resistant, just as the high street which can thus be seen as a border in this sense. According to Sennett, these borders are places where people from different sides of the border meet, and thus spaces where interaction takes place. Multiple urban theorists endorse this theory such as Kevin Lynch who calls these borders “uniting seams, rather than isolating barriers” (Lynch, 1960, p. 65).



Figure 5, Tooting High Street, London (Roebuck, n.d.)



Figure 6, Utrechtse Straat, Amsterdam (BIZ Utrechtsestraat, n.d.)



Figure 7, Bishopthorpe Road, York (Alamy Stock Photo, 2018)

In short, the high street has multiple main functions: it is a movement-rich location fulfilling an important role in the cities traffic network, it houses small local shops generally providing for lower-income groups, and it is an important space of social life in the suburbs. However, these functions are generally perceived to not work well together. A pleasant shopping experience, as well as a liveable space for public life, does not benefit from high-intensity traffic and vice versa. So, there is a lot of friction between these functions. Nevertheless, it is questionable whether these functions can exist without each other in the high street without losing their specific function. Some examples of high streets in London, Amsterdam and York are shown in *Figures 5, 6 and 7*.

The pedestrianization of the high street

In this paragraph, the positive and negative impacts of pedestrianization of the high street will be discussed in multiple aspects.

First of all, the impact on the car accessibility of the city. Pedestrianizing the high street and with that, taking away the main traffic artery will reduce car accessibility of the city. This will probably lead to more congestion on parallel roads. However, this is very city-specific and location-specific. Besides, this reduced accessibility of the city centre by car can be seen as an advantage, since cities often want to stimulate the use of a bike or public transport more often, which is mostly already present in high streets. Bike use is in the Netherlands already very popular and slowly other European cities start to realise its many advantages. Besides, pedestrianization will naturally reduce environmental impact and improve health and safety.

Secondly, the impact of pedestrianization on the shopping aspect is mostly positive. Pedestrianization will generally beautify the environment (Parajuli & Pojani, 2018) and therefore better the shopping experience and increase the revenue of the shops (Zukin, 2012). However, one should be careful of the risk of gentrification, the improvement of the shopping experience can lead to bigger chain stores displacing small local shops that are crucial for the identity and multiculturalism of the high street. According to Lees et al. (2008), this is mostly dependent on who owns the buildings and who pays for the pedestrianization and refurbishment of the street. If the buildings are owned by a private party they will rent them to the highest bidder, but if the buildings are owned by the municipality, they can control who will be the tenant. These kinds of projects are often financed by increasing rents, which can also lead to small local shops disappearing, but since the municipality mostly pays for these projects, they can also control how they will recoup the investments.

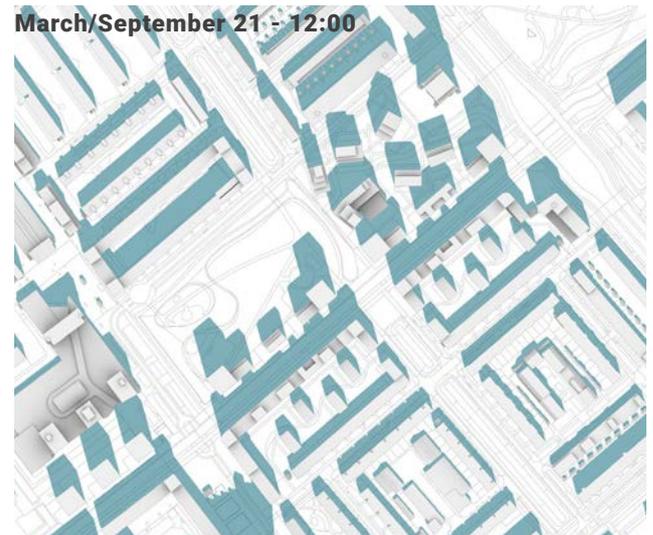
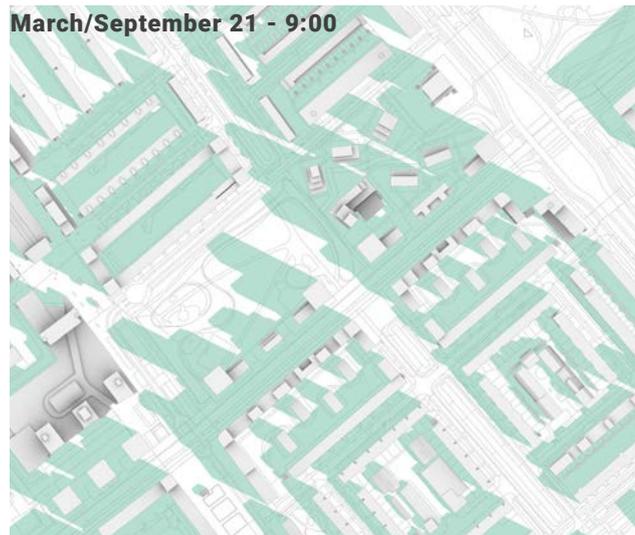
Lastly, the social function of the high street is influenced when it is pedestrianized. A possible thread can be unsafety after closing time, yet mostly, only the ground floor is occupied by shops and the upper floors are inhabited so the street will not be completely empty. Revitalization of the high street can provide space for spontaneous meetups and social interaction by creating meaningful social spaces which is very much an advantage of pedestrianization (Parajuli & Pojani, 2018).

All in all, considering the pros and cons it can be concluded that there are theoretically more advantages than disadvantages to pedestrianization of the high street. However, it is important to consider the aspects above. Clearly, as with any design, site-specific conditions must be taken into account. Yet, cities can benefit from expanding their pedestrianized network from the city centre, through the high streets, into their suburbs to improve the liveability in and around the high streets.

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APPENDIX 2. SUNSTUDIES



June 21 - 9:00



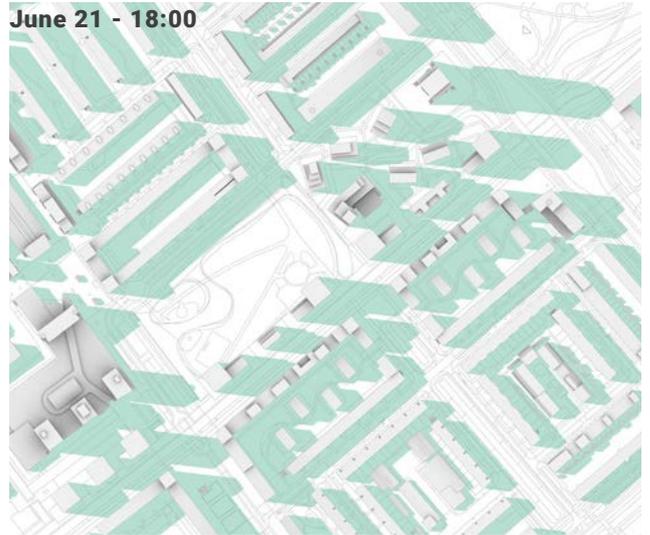
June 21 - 12:00



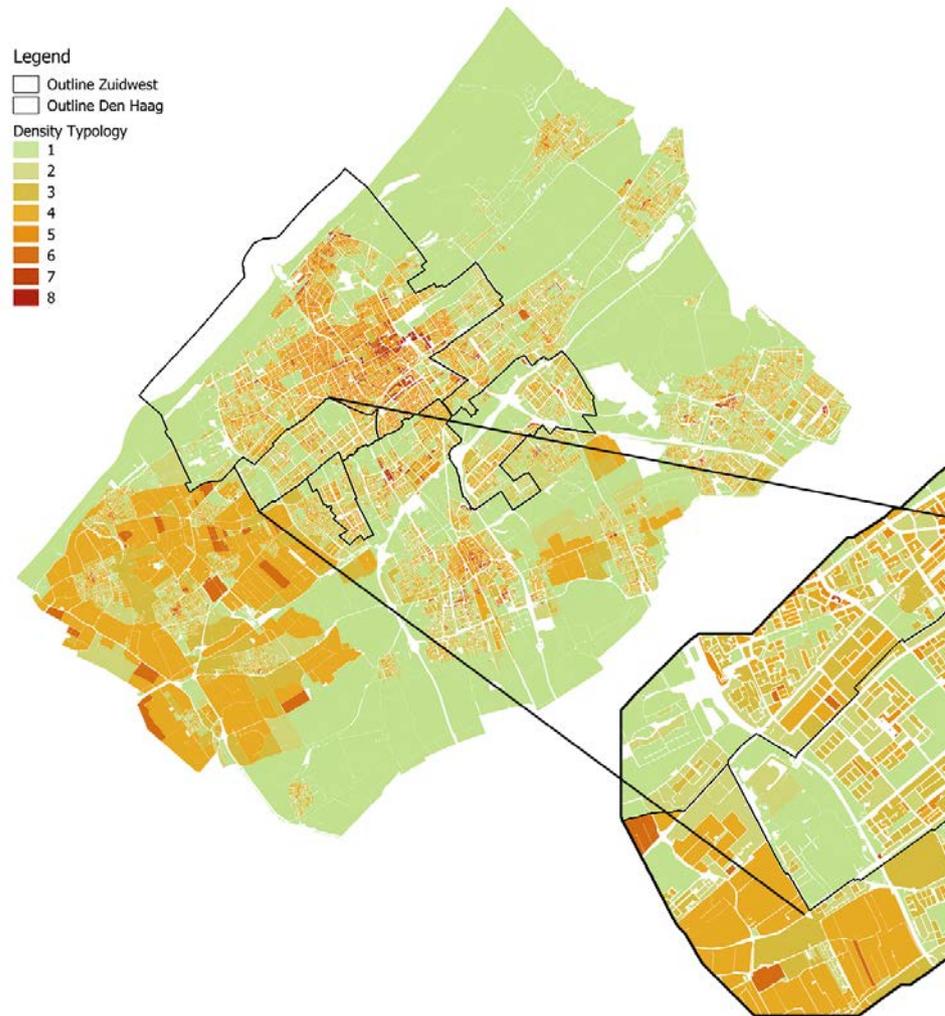
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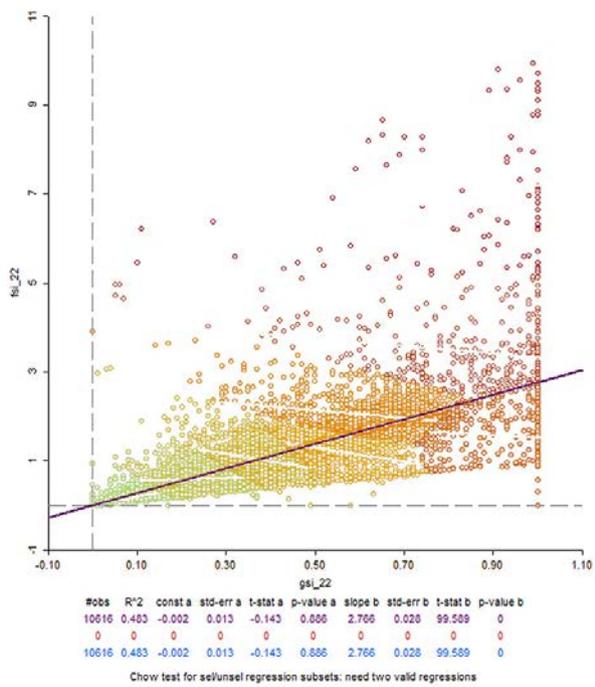


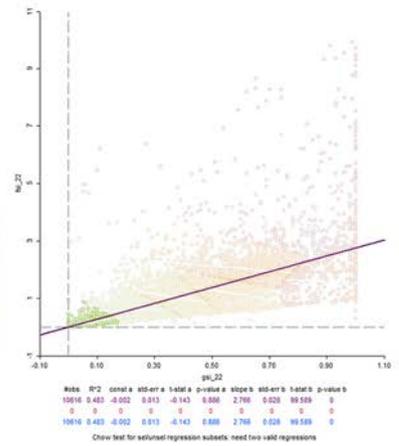
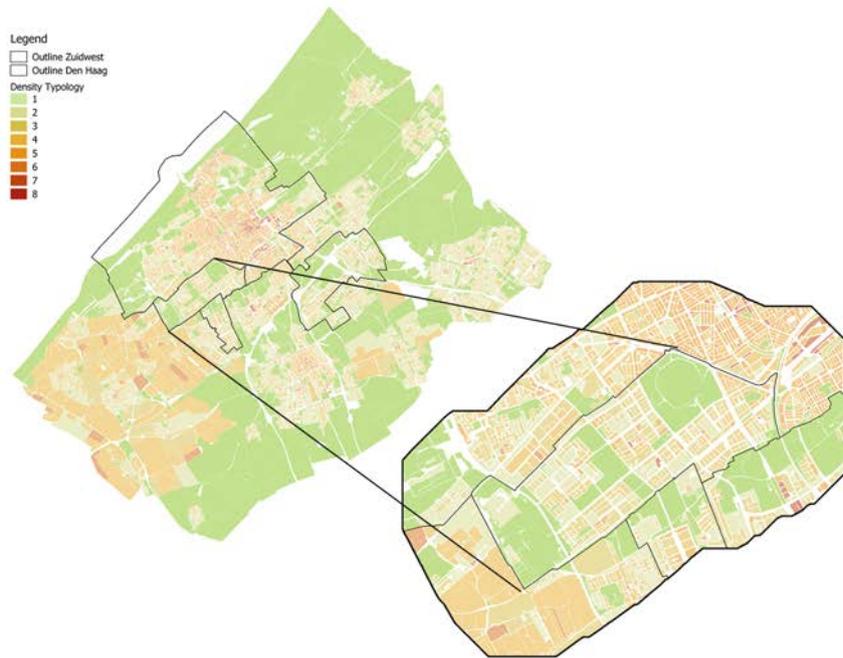
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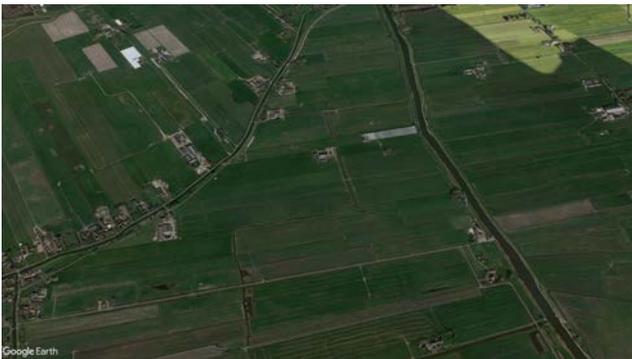


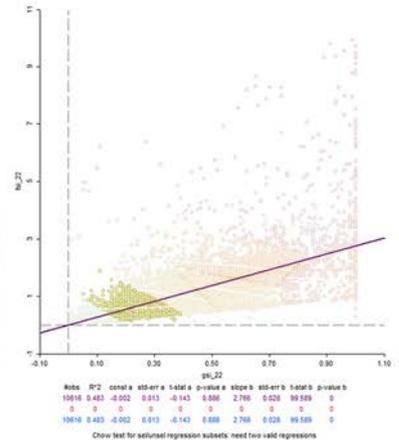
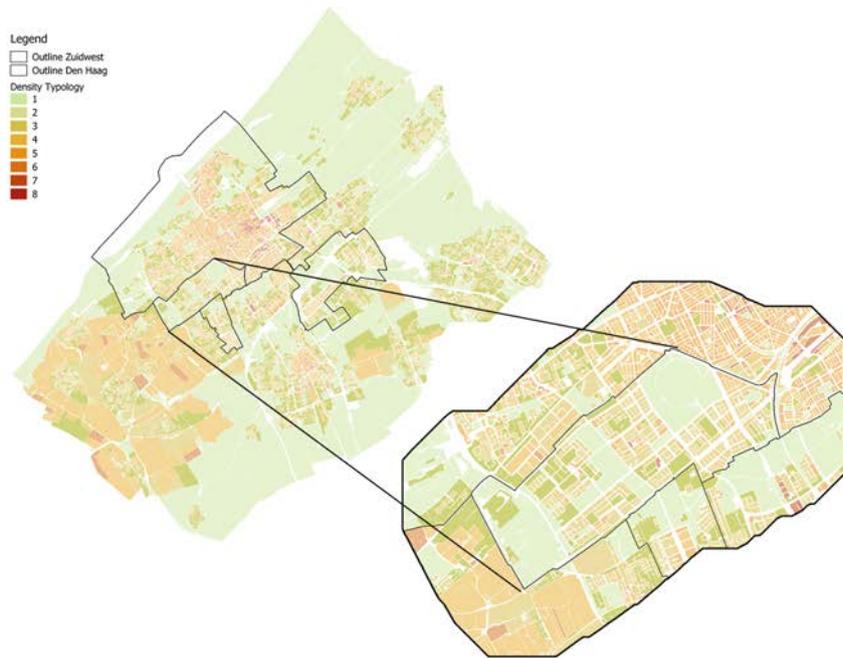
APPENDIX 3. DENSITY TYPOLOGIES



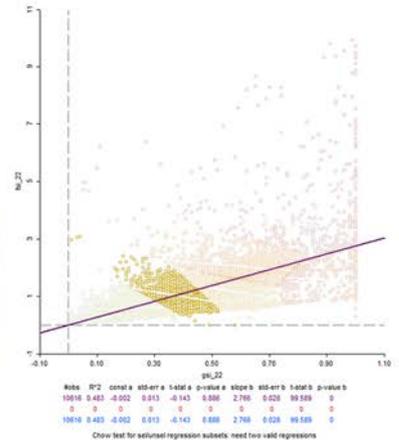




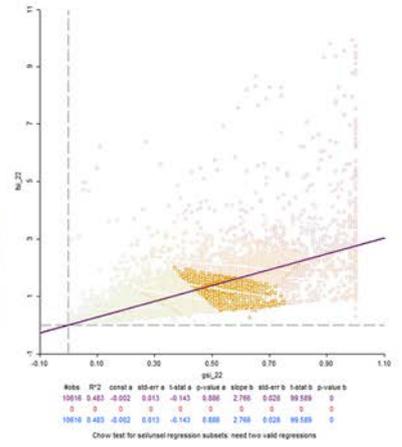
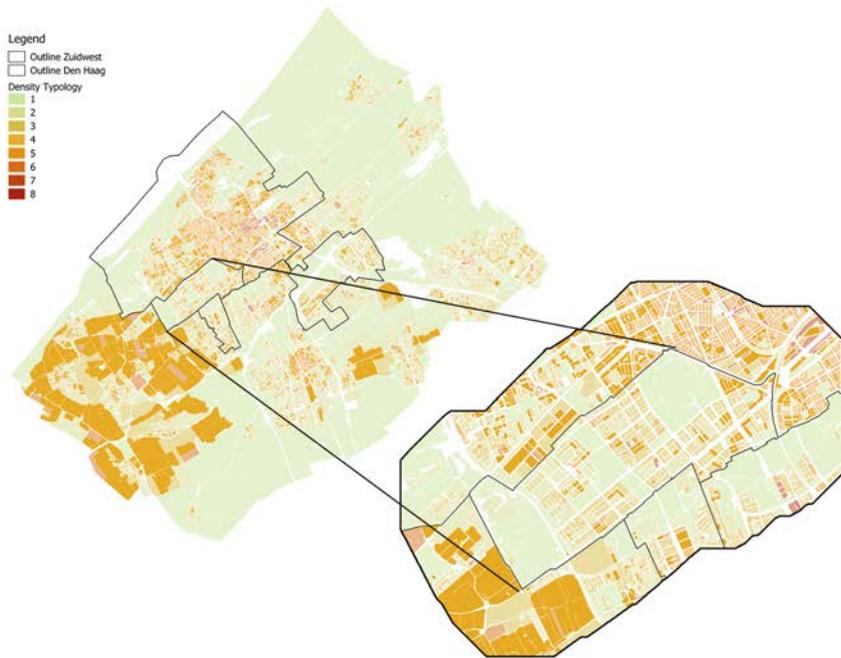




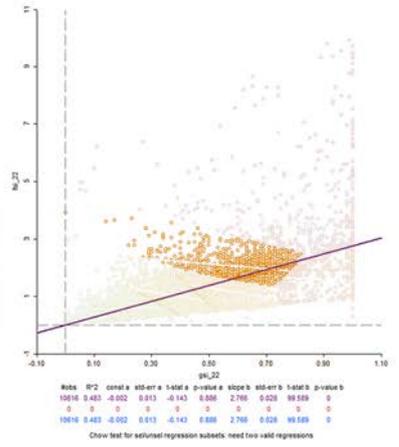
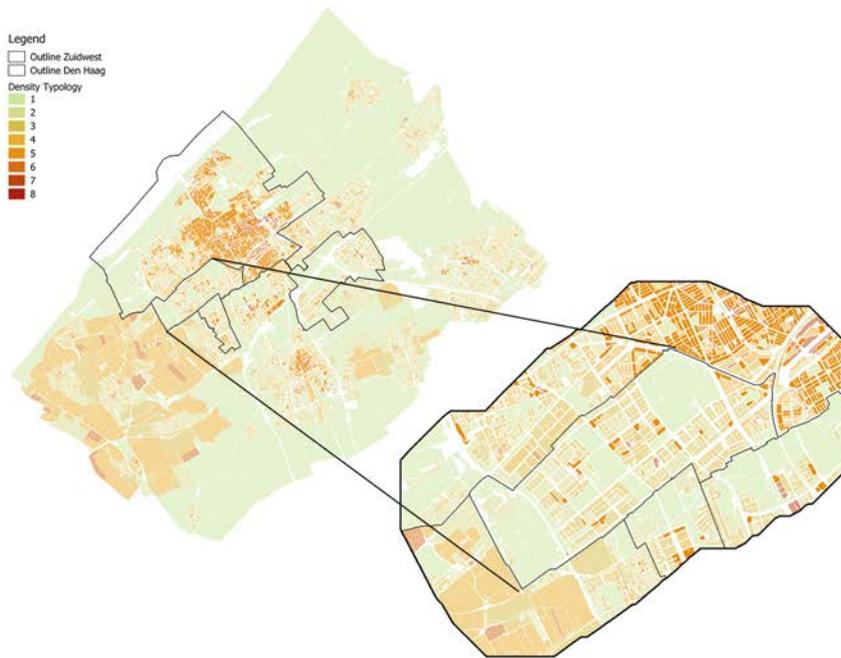




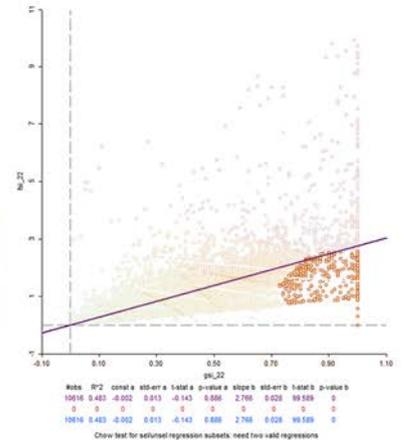




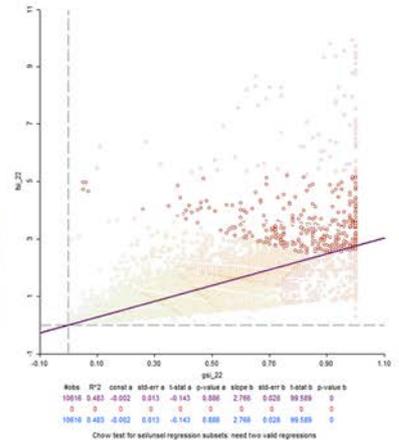
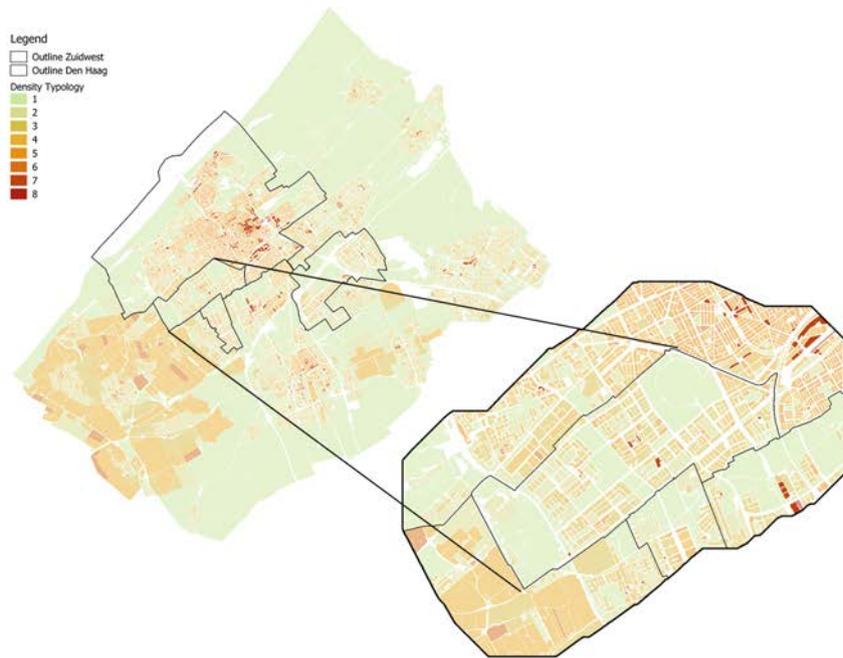




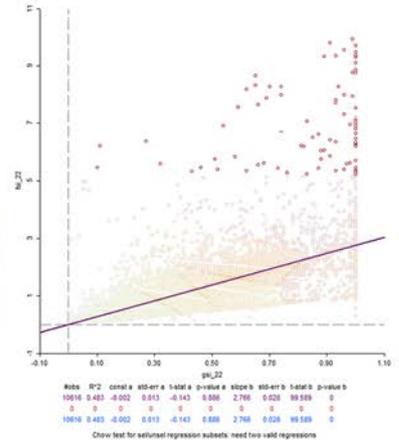
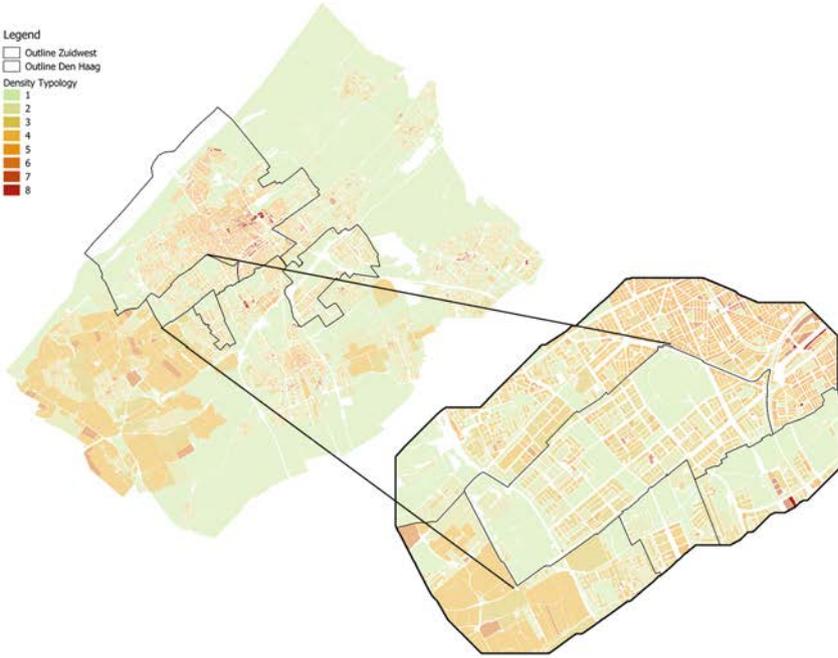














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