OPEN DENSITY

Transforming Zuidwest by densification and open city strategies

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Summary

It is estimated that by 2050 two-thirds of the world's population is living in urban areas (United Nations, 2018). To accommodate this share of the world's population, cities have to provide enough dwellings while keeping the city liveable. Densification strategies can accommodate future growth while improving the quality of the urban environment. However, for a strategy to succeed it depends on many critical contextual factors, and the implementation of it.

When fast, and big scale developments are needed to accommodate new dwellings, it is important that our cities remain liveable. Neighbourhoods that are built fast and big-scale development, with a focus on order and control, are especially subjected to social and economic ills and are more often lacking behind their surroundings (Power, 1997). This is what the sociologist and urbanist Richard Senett calls a closed city. To prevent our cities from becoming closed we should build for the open city instead.

An open city is the opposite of a closed city. An open city embraces complexity and is a collaging of different building types, people, and activities. In the long run it will prove more resilient than a single-species environment. Sennett, therefore, proposes five open building forms that are from the beginning adaptable and can evolve to the way people dwell; synchronous spaces, punctuated spaces, porous edges, incomplete forms, and seed-planning. These five building forms and the literature from the open city form an important basis for the study case of this research.

The research area of this study is The Hague Zuidwest, a district at the South-West side of The Hague and consists of three districts: Moerwijk, Morgenstond, and Bouwlust & Vrederust.

Important characteristics are the road and green network that segregate the neighbourhoods, the autonomy of every neighbourhood, and the endlessly repeated porch flat. The latter causing a monotonous building stock, a high share of social housing, and a low housing value. The district was master-planned with, paradoxically, the aim to create more openness by wide green spaces and open building blocks. The result is an area that is lacking behind its surroundings and that the municipality wants to improve. Therefore, the question that will be answered in this thesis is: How to build for the open and dense city that will address the challenges of Zuidwest?

Based on literature research six ambitions for Zuidwest are defined to guide future development. The six principles are: buildings, people, public space, mobility, amenities and resilience. The principles are the input for the Urban Strategic Framework.

To work with the challenges Zuidwest is facing - and possible future challenges - an Urban Strategic Framework is proposed that is open-ended in time which means that it can evolve, depending on how its use will change. The framework addresses the challenges by developing strategies for buildings, public space, and mobility at a regional and local level.

The Plan then illustrates how these strategies can be applied. The focus will be on new development and renovation in the intensification areas. The Leyweg will connect the intensification zones and will be further strengthened as the city district centre. The transit and cycling network will be upgraded to improve mobility. And public spaces will be redesigned where necessary, to create more attractive places that are meaningful for the whole neighbourhood.

With the right densification strategy and open city forms, the challenges of Zuidwest can be addressed, and future growth can be guided in the right direction. Zuidwest can become more diverse and complex for the people who live, work, and spend time in this area.

Preface

The life between buildings and the dynamics of a city has always interested me. The interaction between form and life, between what was built and what came to be. A city needs to be a place designed for people, that is accessible for everyone while accommodating many different needs. Before the grandeur of modernist urban planning, I think we did a decent job in building our cities. In the absence of the car, we built neighbourhoods at a human scale and in a compact form. Although cities grew organically, and evolved over time, it was not all good. Living circumstances were often dreadful, thanks to overcrowding or bad hygienic conditions. Nowadays, after many technological advances, circumstances have improved and we come to the realization that a compact and dense urban environment may be a sustainable way to accommodate future urban growth. While we favoured other planning ideals for a long time, it is this direction of urban planning with a focus on people, density and complexity that always appealed the most to me.

For this thesis, I was particularly interested in how these characteristics can be planned into a city. The city today faces new challenges but it still needs to be a place for people. A growing demand for housing and a scarcity of space in the city resulted in large scale projects and an outward expansion drift that often neglected the human scale. Also, our mobility options changed drastically over the last century, putting more pressure on the city. It is therefore interesting to investigate how we can build cities for people while at the same time face the challenges of a scarcity of space, new mobility, and a growing demand for housing. All while embracing complexity and diversity, moving away from traditional urban planning that aims for clarity and fixed forms. We have to move away from the closed city to a more open city as the sociologist Richard Sennett would argue (Sennett, 2018). The closed city stands for over-determination, balanced, integrated, and linear. While the open city means incomplete, errant, conflictual, non-linear. Sennett elaborates in his book 'Building and Dwelling: Ethics for the city' on how he thinks we can incorporate open city-based planning into our cities. In this research, I want to investigate how one can combine open city forms with compact urban growth. Many cities are now looking for ways to accommodate growth inside the city boundaries - creating a more dense and compact urban environment and thereby improving the quality of life for its citizens. I am therefore curious about how new development can improve city life while avoiding building a closed city once again.

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1 | Introduction

1.1. Challenge for Zuidwest

It is estimated that by 2050 two-thirds of the world's population will be living in urban areas (United Nations, 2018). To accommodate this share of the world's population, cities have to provide enough dwellings while keeping the city liveable. For a long time, cities expanded far beyond their city boundaries to accommodate new inhabitants. In these cities new dwellings could be built fast: there was enough space and people had the opportunity to live in a green neighbourhood. The last decade's cities started to realise that the endless expansion also brings many disadvantages with it as the degradation of valuable nature, longer travel distances, less walkable neighbourhoods and less support for transit.

On the opposite side stands the compact cities. Urban expansion with a higher density that has, compared to low-density neighbourhoods, multiple benefits that support urban sustainability. A compact city has three key characteristics; dense and proximate development patterns, urban areas linked by a public transport system and accessibility to local services and jobs, that provide many environmental, social, and economic benefits in return that are hard to realise in a lower density neighbourhood (OECD, 2012). Municipalities seek to build for the benefits a compact city can provide by means of different strategies - densifying, intensification or compact city development. Space in the city is often scarce, and it is more expensive to build in an urban environment (Claassens & Koomen, 2017). However, in the long run, it results in more resilient cities. Cities that prevent further degradation of valuable nature, cities with shorter travel distances, less automobile dependency, and more liveable neighbourhoods (OECD, 2012).

A dense environment can support urban sustainability, but it is only part of the solution (OECD, 2012). Compact cities with a relatively high density such as Amsterdam, Paris, or San Francisco are often taken as an example because of their vibrancy, liveability and preferred urban conditions. These cities all have different characteristics and different densities, and are all examples of compact cities. This illustrates that it is often not the density in itself that is sought after, but rather the quality that a dense - or compact - urban environment can provide (Boverket, 2017).

Cities seem to recognize the benefits of inward expansion and adopted policies in which creating denser and diverse environments inside the city boundaries have a high priority. Since 2000, a quarter of the total new-built dwellings in the Netherlands has been built in existing urban areas. Also, a comparable amount of dwellings has been built in urban transformation zones - such as old industrial sites. This results in 17 million extra dwellings between 2000 and 2017 (Claassens & Koomen, 2017).

The city of The Hague in the Netherlands is one of these cities that is adopting a policy with densification as one of its core principles. They want to focus on urban and centre-urban living (Gemeente Den Haag, 2016). To accommodate the expected growth of around 56.000 new inhabitants by 2030 and about 23.000 till 29.000 new households, the municipality has appointed areas where they see chances for densification as part of a wider strategy that tackles regional and local challenges.

One of the districts that is high on the list of the municipality is Zuidwest, a district at the South-East side of the city. This area consists of three neighbourhoods: Moerwijk, Morgenstond and Bouwlust & Vrederust. Zuidwest will be the area of research for this thesis. The three neighbourhoods are planned and built after the Second World War, when grand-scale development was needed. The district, originally built for the middle class, has been slowly degrading and has turned into an area with relatively many social disadvantages compared to the rest of the city (Gemeente Den Haag, 2019a). Zuidwest is a master-planned district with a mix of large modernist housing estates, low-density social housing, small neighbourhood shopping centres, and an extensive green and water structure. The districts were set-up as autonomous neighbourhoods (Gemeente Den Haag, 2002). It was built with over-specification and a focus on order and control. This has led to a building stock that is monotonous and that

proves to be difficult to adapt over time. An example of a closed city - as the Sociologist Richard Sennett would call it in his book 'Building and Dwelling: Ethics for the city'. One that was from the beginning resistant to change (Sennett, 2018).

The masterplan, which allowed for big-scale and fast development, is at the root of many of Zuidwest's problems today. The municipality wants to improve the conditions while at the same time building new dwellings to accommodate the expected increase in inhabitants. However, extra caution should be taken not to fall into the same trap of the closed city again by building fast and with closed city forms. One that is persistence to change.

In this research, the focus will be on how densification in Zuidwest can be combined while building for the open city. The aim is to create a more dense and diverse environment that embraces complexity and can evolve over time. One that is the antidote to the closed masterplan. This leads to the following research question:

"How to build for the open and dense city that will address the challenges of Zuidwest?"

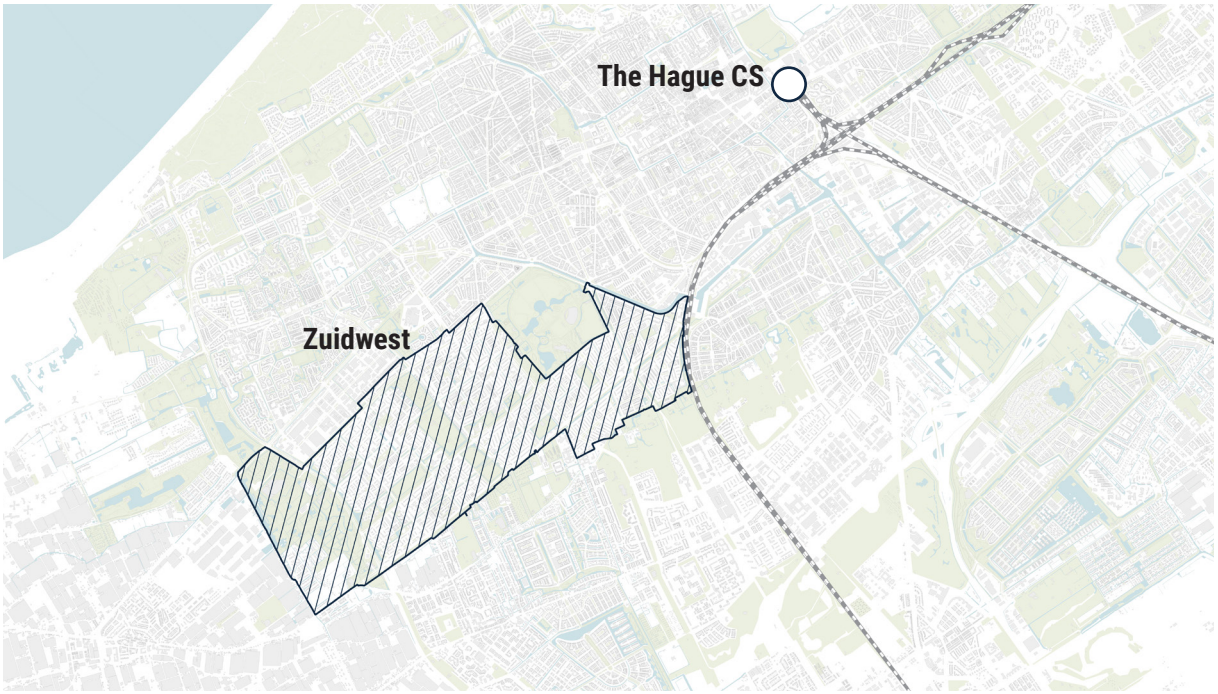


Figure 1.1: location of the study area Zuidwest

1.2. Research framework

This research is divided into 5 steps. The research phase starts with a literature review on the concept of densification to see how it is used and how it fits in the ongoing social and scientific debate. Next, a study is done on the topic of an 'Open City' which is a term that is being used by Richard Sennett in his book 'Building and dwelling: ethics for the city' (Sennett, 2018). Then a site analysis of Zuidwest is done to get a better understanding of the qualities and potentials of the site and its surroundings. The research phase will end with the ambitions for Zuidwest. These ambitions will form the input for the design phase.

The design phase starts with the Urban Strategic Framework in which strategies will be compiled regarding three aspects; buildings, public spaces, and mobility. The

Research phase

framework consists of strategies and design principles at different scale levels, from regional to local, that will guide future development in Zuidwest. The framework is a form of planning that continues to evolve and can be adjusted to time-specific needs. Its main focus will be determined by the ambitions drafted earlier. In the Plan, the strategies are further developed and a design is made showing how the building, public space, and mobility strategies work together.

Finally, the booklet and presentation will be compiled with advice on how Zuidwest can be improved in the long-term, thereby providing enough dwellings and improving the living conditions for the people of Zuidwest.

Urban Strategic Framework

Buildings

Developing strategies for typology, parking, renovation, and inner courtyards.

Public Space

Developing strategies for public spaces, activities, streets, parks, sustainability, nature, and water.

Mobility

Developing strategies for modes of transport, regional accessibility, public transport, and road hierarchy.

The Plan

The Plan

Further developing the Urban Strategic Framework into a plan for Zuidwest.

Advise

Conclusion, Report & Presentation

Discussing the future of Zuidwest and proposing the masterplan in a report and presentation.

Design phase

2 | Research

2.1. Urban densification

The space we - as people - occupy in cities has increased dramatically over the last century. Dwellings are shared by fewer people, dwellings have become larger and the city is built less densely. Cities kept expanding and today half as many people live in three times bigger houses at two times bigger terrains (Berghauser Pont & Haupt, 2009). This comes at the cost of valuable nature and urban areas that are not sustainable. The last decade, as a reaction to this trend, many cities have adopted densification and compact city policies to accommodate future urban growth to - hopefully - provide a better urban environment for its inhabitants (Ahlfeldt & Pietrostefani, 2017; OECD, 2012). But what is densification and how can it help sustainable urban growth?

Densification - increasing the density in an environment - is a popular word in today's city planning. It is also a concept that connotes different things for many people (Boverket, 2017; Cheng, 2010). Some may associate it with something positive and environmentally sustainable. While for others, it implies crowdedness and a loss of trees and vegetation (Churchman, 1999). To use densification as a tool to build new dwellings and improve our city first a better understanding of the concept itself is needed.

The word 'density' is a multidisciplinary concept that can be used in different contexts with multiple definitions (Cheng, 2010). In the urban realm, there is a distinction between physical density and perceived density. The physical density is a quantitative objective measurement that can be used to describe the relationship between a given area and the number of certain entities in that area; people, dwellings, service or floor space (Cheng, 2010) This way density can be quantified and measured and compared - given that the same scale is being used. The perceived density is about the individual's perception of a space and is thus subjective (Berghauser Pont & Haupt, 2009; Cheng, 2010).

Measuring the physical density can be done in numerous ways. There is not one accepted measure of density. Also net and gross vary from place to place, which makes it difficult to compare (Churchman, 1999; Uythenhaak, 2008). In city planning, two distinctive categories are used to measure density: people density - the number of people or households per given area - and building density - the ratio of building structures to an area unit (Cheng, 2010). Building density can be measured in different ways: regional density, residential density, occupancy density, Floor Space Index (FSI), Ground Space Index (GSI), Open Space Ratio (OSR), or Levels (L).

Physical density can be either descriptive - to describe a built environment - or prescriptive - used as a norm in the process of planning or designing a city (Berghauser Pont & Haupt, 2009). However, critics argue that density as a statistical given poorly reflects the spatial properties of an urban area. This makes it questionable to use as a planning tool since this would neglect many factors that can contribute to urban quality (Berghauser Pont & Haupt, 2009; Boverket, 2017).

One factor that is neglected in the physical density is the way people perceive a dense environment. The perception of an individual about the number of people present in a given area, the space available and the organisation can differ from a measured physical density (Cheng, 2010; Rapoport, 1975). Perceived density can be divided into two categories: spatial density and social density. Spatial density refers to the relationship between spatial elements such as building height, width of the sidewalk, spacing, trees, etc (Cheng, 2010; Sennett, 2018). Social density refers to the interaction between people such as the size and nature of the group involved, its homogeneity, and the behaviour of the group. A high spatial density is often the result of too little space, a high social density the result of too many people and too many possible interactions. When there is a high social density, people often refer to this as overcrowding (Cheng, 2010).

Whether a high-density environment is perceived as something with many advantages or disadvantages highly depends on the society or individual's norms (Berghauser Pont & Haupt, 2009; Cheng, 2010; Churchman, 1999). What one may see as the solution to our future cities, is perceived by others as crowdedness within a polluted environment.

Also, cultural norms, personal preferences and opinions about a dense environment are subjected to changing views over time. What today may seems ideal could be a disaster in the future (Berghauser Pont & Haupt, 2009). Zuidwest, for example, was once viewed as the antidote to the overcrowded city, while it is now subjected to densification strategies.

When cities want to create a denser environment it is often part of a broader strategy that aims for compact urban development (Ahlfeldt & Pietrostefani, 2017; Boverket, 2017; OECD, 2012). It is not the pure physical density that is their aim, but rather the urban quality that a dense and compact urban environment can provide. A compact city can provide dense and proximate development patterns, urban areas linked by a public transport system and accessibility to local services and jobs (OECD, 2012).

In their exhaustive review of over 300 academic papers on the effects of compact urban growth, Ahlfeldt & Pietrostefani (2017) found that 69% of the papers reviewed showed that an increase in density had positive effects on many factors. Increasing the social density - the number of people living in an area - shows positive effects mainly in improved productivity and better access to jobs, amenities and services. And further positive effects on the preservation of urban green space, efficiency of public services, social equity, greater energy efficiency, pollution reduction, sustainable mode choice and a safer urban environment. However, literature also suggests that an increase in compactness may have negative impacts on social and ecological dimensions as open space preservation and biodiversity, traffic flow, health, and well-being.

To benefit from the positive effects and minimising the downsides it is important that compact city development is accompanied by policy interventions. A case study by Searle & Filion (2011) compared two intensification strategies - with a different density as goal - in Sydney, Australia and Toronto, Canada. Sydney aimed for a medium-density by public-sector stimulus measures and regulations. Toronto adopted a high-density strategy driven by mostly market trends. The study showed how a different context translated into two different policies and outcomes. For example, a widespread rail network may offer a great opportunity for a green modal choice. Also, old industrial sites may provide a great opportunity for intensification. While national policies may counteract the intensification strategy (Searle & Filion, 2010).

To conclude, for an intensification, densification or compact city strategy to succeed it depends on many critical contextual factors. As for example spatial and cultural factors, morphological qualities, or the political situation. If cities want to build compact urban environments to benefit from the positive outcomes that are associated with it much depends on the implementation. Decision-makers will need to carefully design their housing and transport policies to utilize the positive benefits a compact urban environment may provide while at the same time minimise the downsides that higher density can have (Ahlfeldt & Pietrostefani, 2017; Berghauser Pont & Haupt, 2009; Searle & Filion, 2010).

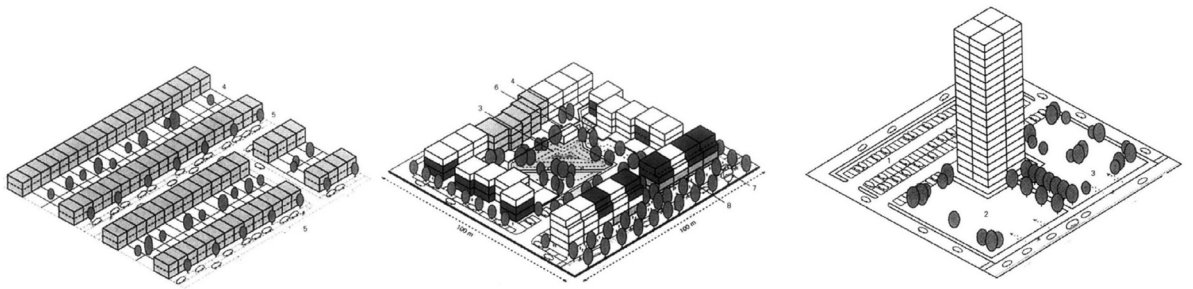


Figure 2.1: Three areas that have the same density of 75 dwellings per hectare (Mozas & Fernández, 2004, pp. 206-207)

2.2. The open city

The literature study showed that a densification strategy improves the urban quality depending on how it is being dealt with the context. When fast, and big scale development is needed, it can come at a cost of the liveability. Zuidwest has once been built and master-planned this way which is at the root of many challenges Zuidwest is facing today. This is what the sociologist and urbanist Richard Sennett in his book 'Building and Dwelling: Ethics for the city' calls a closed city. He proposes that we move away from a closed city and start building for an open city (Sennett, 2018).

Sennett argues that when building a city or district, we have for too long built in a closed manner. When master-planning a district as Zuidwest, the aim was clarity, the end was known. The masterplan produced a clear picture where buildings, zones and streets logically relate to each other. This is a closed process where things can not change. A closed system can be compared to a linear equation; it can be broken into pieces, and each piece can be solved separately, while a nonlinear system - an open system - can not be taken apart, it has to be examined at once, as one coherent entity (Sennett, 2018).

A closed city, as Zuidwest, makes a seductive promise: life can be made simpler, clearer, more user friendly, if only the experts do the organising. The rules of experience are laid out. What one gains in clarity, is lost in freedom. In Zuidwest the closed city can be seen in the neighbourhoods that have been built as autonomous entities, the roads and green strokes that separate the neighbourhoods, and the building monotonous building stock (Gemeente Den Haag, 2002; van de Beek & van der Heijden, 1987).

The latter is especially subjected to social and economic ills. In farming, monocultures exhaust the soil and are subject to rampant diseases, whereas biodiverse fields are healthier and more resilient (Power, 1997; Sennett, 2018). This logic also applies to urban environments. Zuidwest is a plan made of additive parts which are repeated all over the area. Anne Power (1997) shows that in British public housing estates characterised by monoculture, that once one block begins to degrade, there's no reason other blocks, exactly similar in form, will not follow. When problems begin it will spread quickly, 'like a plague', affecting the whole community.

An open system counsels the alternative to a monoculture; a collaging of different building types, people, and activities. It embraces complexity. It may appear socially and visually a mess, and it may be the nightmare of the paper architect, but in the long run, it will prove more resilient than a single-species environment (Sennett, 2018).

Complexity evolves over time; it emerges through feedback and the shifting of information. A closed system as Zuidwest has been built by big and fast development (Gemeente Den Haag, 2002). An open city emerges slowly and incrementally. It is open-ended in time which means that the way an object will change cannot often be predicted in advance. However, slowly and incrementally, may be inadequate to provide mass housing in a short manner of time. The question therefore arises: when redeveloping Zuidwest how can at a large scale be built for an open city - one that can adapt and embrace complexity - while not falling for the same seductive promise of the closed system again? As the answer to this, Sennett (2018) proposes five-building forms that can be used to build for the open city.

1. **Synchronous spaces**; spaces like squares, shopping streets, or a bazaar where many people are doing many different things at the same time. It is the opposite of a sequential space - a stadium of theatre - where people are doing only one thing at a time. A mixture of uses can support asynchronous space (Jacobs, 1992). Also, inviting people to stay in a space is of importance to reinforce a synchronous space (Gehl, 2010).

2. **Punctuated spaces**; to guide a space and to give it character it needs things - buildings, shop fronts, benches, trees - that stand out. In a closed system, there is often nothing that stands out, a uniform sameness. Just as in writing, it is possible to give a place character by punctuating it with as for example the exclamation points - an important

building, park, facade, etc. -, the semicolon - a corner, or a crossroad thereafter a new experience starts -, or the quote mark - which draws your attention to where you are, a bench in front of an ordinary building.

3. **Porous edges;** in natural ecologies, there is a distinction between two kinds of edges: boundaries and borders. The boundary is an edge of low intensity where things end. A border is a porous edge where different groups interact and which is an active zone of exchange. The closed city is dominated by boundaries. In Zuidwest this is the blank facade with little interaction with the street, the road structure that segregates the neighbourhoods or the green strokes that are low-intensity areas for most of the day. The open city is characterised by borders; facades where different groups interact, streets that enable people to meet, or public spaces full of life.

4. **Incomplete forms**; a closed city has a stranglehold of function on form, which makes buildings tightly-fit for purpose. These buildings have a hard time to adapt, nothing can be added or revised internally when this is needed as the habitation changes. This shortens the lifespan of a building. Sennett (2018) proposes that we design buildings as a combination of shells with type-forms. The shell is empty; the type-form is, as it were, the snail inside. A shell creates forms that support many configurations and many different type-forms. A classic example is a row-house which transformed over the years from a dwelling, then became an office and is now a yoga studio. The idea is similar to the Open Building concept established by N. John Habraken in the late 1960s. This concept looks at creating adaptable spaces that change with the uses. As Habraken would say: 'We should not forecast what will happen, but try to make provisions for the unforeseen (Habraken, 1999).'

5. **Seed plannin**g; this refers to farming in which the same seed produces different colonies of plants due to different circumstances of water, wind and soil. In a master-plan, the city is divided in a closed system where each place and function logically relates to each other. Seed planning counsels against the whole and seeks to create 'pocket of orders'. The same seeds take different shapes under different circumstances. Planners can, for example, specify the maximum and minimum construction costs, the maximum height and width, or other general characteristics and then leave it to the individual communities and architects to work out what the buildings will look like. The essence is that minimum specification of how form relates to function leaves maximum room for variation and innovation.

There is a paradox in creating an 'open' environment in Zuidwest. The intention of Dudok was to create more openness by large open spaces, wide green strokes, and gardens for the community. Paradoxically he created the exact opposite by building a closed city, with a focus on order and control, that is dominated by monotone buildings and borders that segregate the urban fabric. Today, we see that Zuidwest has slowly become more open. The area is becoming more complex and diverse due to the way people dwell. However, at its root is still the master-plan that is persistent to change. For future development, the challenge therefore is to build open city forms that are from the beginning adaptable and can evolve to the way people dwell.

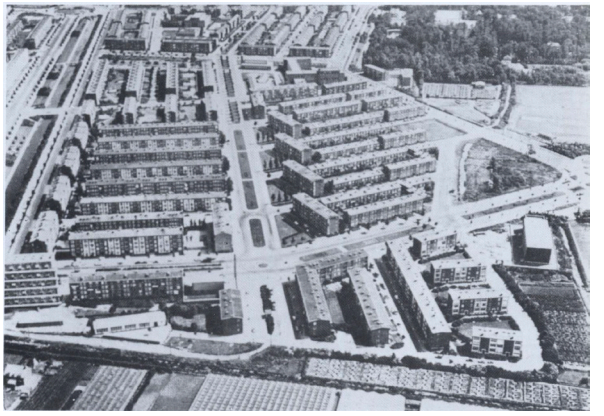


Figure 2.2: the master-planned neighbourhood Moerwijk, with at the top right the zuiderpark van de Beek & van der Heijden, 1987

Figure 2.5: impressions of The Hague Zuidwest

2.3. Study case: The Hague Zuidwest

Spatial structures

In 1949, after the Second World War, W.M. Dudok was asked by the municipality of The Hague to design a structural plan for The Hague that would serve as a guideline for the expansion and rebuilding of the city. Dudok based the contours of his plan on the previous structural plan that was designed by H.P. Berlage in 1908. After an extensive survey held by the municipality, it was concluded that in the foreseen future the city would stop growing and would have a limited number of inhabitants. Dudok incorporated this outcome in his plan by applying the decentralisation concept. This concept assumed a matter of autonomy for every new neighbourhood, which were seen as independent from the city, with their own amenities, jobs and recreation (van de Beek & van der Heijden, 1987).

This research focuses on the expansion on the South-East side of the city, which is called Zuidwest and consists of three districts: Moerwijk, Morgenstond, and Bouwloust & Vrederust. The main road structure of Zuidwest is determined by a grid network of roads that are guided by long building strokes, with at some junctions high-rise buildings to accentuate the urban character. By extending the roads that are running parallel to the sea from The Hague into Zuidwest Dudok sought to make a connection

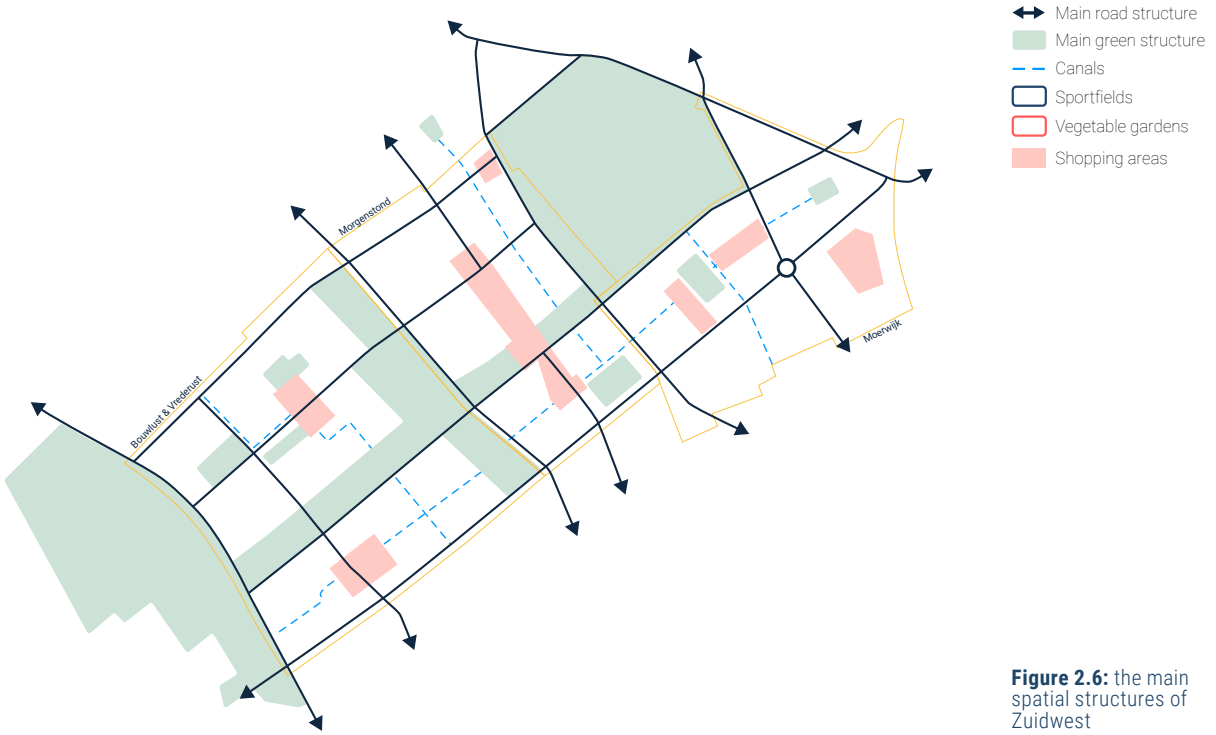


Figure 2.6: the main spatial structures of Zuidwest

Figure 2.7: the sperical building ordening principle with long strokes at the edges and more diverse buildings inside

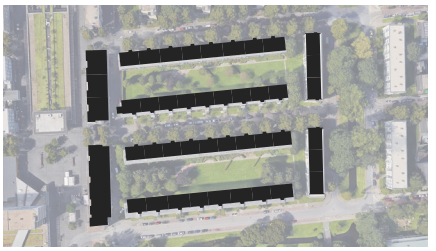


Figure 2.8: the dudok block ordening principle; long strokes with at its head smaller buildings.

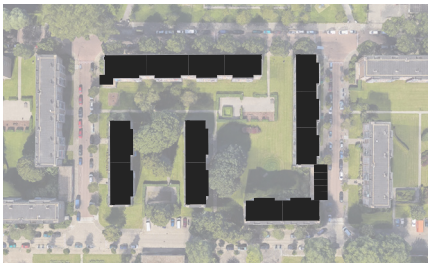


Figure 2.9: the spatial organisation in Bouwlust & Vrederust. The buildings are set in a landscape and do not organise the space

with the city (van de Beek & van der Heijden, 1987). These roads - the Meppelweg, the Hengelolaan, the Melis Stokelaan and the Erasmusweg - form long coherent and continuous routes, while the roads perpendicular to these have a more fragmented character and are often disconnected from their surrounding (Gemeente Den Haag, 2002).

In contradiction to the plan of Berlage, where the main roads were an expression of the urban fabric, the road structure in Zuidwest was clean and monotonous. It was the green structure, with a lot of variation, that should connect the three autonomous districts (van de Beek & van der Heijden, 1987). Dudok planned a wide green stroke in the form of a cross in the middle of Zuidwest. Within the North-South axis of this stroke he made room for sports fields and community gardens, and in the East-West axis for amenities and other buildings. At the heart of the autonomous neighbourhoods he situated smaller green parks and amenities that gave each neighbourhood its own shopping centre. These parks and shopping areas are connected by canals that run through Zuidwest. Together the road structure, the green cross, the parks, and the canals form the main spatial structure of Zuidwest (Gemeente Den Haag, 2002; van de Beek & van der Heijden, 1987).

After the structural plan, Dudok was asked to design the districts Morgenstond and Moerwijk in Zuidwest. Berlage had made in his structural plan a proposal for Moerwijk, and Dudok was asked to make an adapted design based on new planning insights. He based the spatial layout on this plan and adapted them in a slightly different form. At the edges of the urban block, long horizontal buildings of 4 layers guided the main streets, moving inwards smaller parcels with a variety of building forms followed, and at its heart was a green space. The edge buildings function as a wall, creating a sort of bowl, where neighbourhood life takes place behind it. This way autonomous islands were shaped that are connected by the green structure and canals (van de Beek & van der Heijden, 1987).

In Moerwijk Dudok used his version of the building block, a rectangular shape with at the long side two stretched out strokes with a small block at the head, as part of the bigger urban block. Dudok deviated from the bowl organisation in Morgenstond and here used this building block to organise the space. The block is not closed, which results in a continuous green space around the buildings and a publicly accessible courtyard. By continuous paths running through the green spaces, he connected the building blocks.

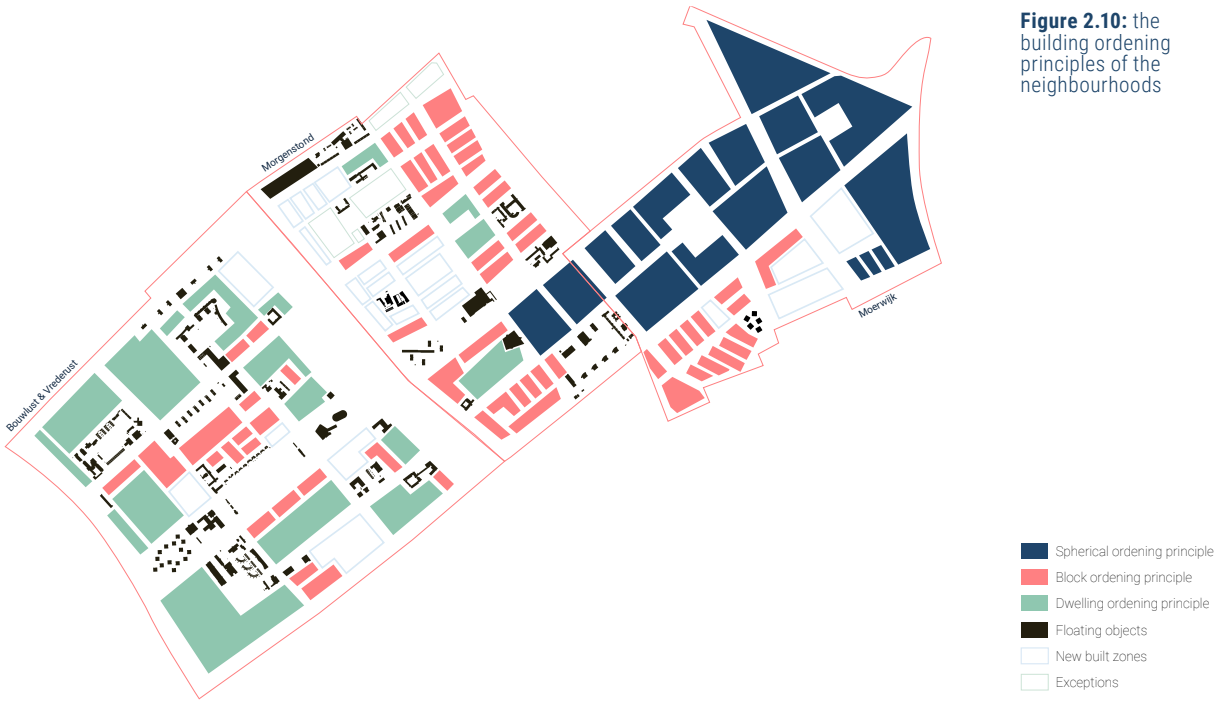


Figure 2.10: the building ordening principles of the neighbourhoods

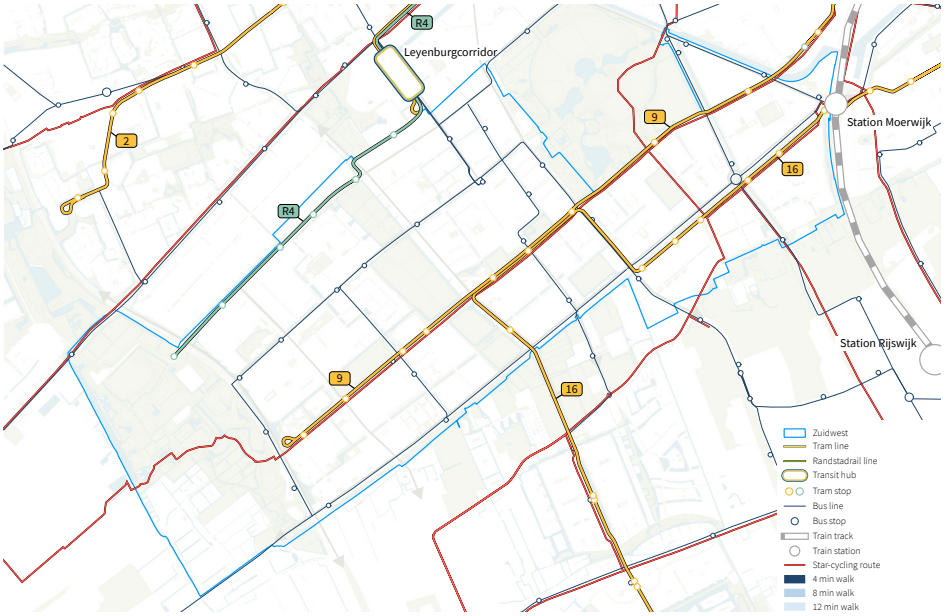
Dudok provided the foundation for Zuidwest, but he only designed Moerwijk and Morgenstond. The latter was constructed according to Dudok his planning principles while the first was a mixture of previous plans and Dudok his vision. The other two areas in Zuidwest, Bouwlust and Vrederust, became known for a different type of organisation with floating parcelling of strokes in green space. Buildings are placed in green rather than fitted to the urban structure, thereby making spatially limitless configurations of buildings possible (Gemeente Den Haag, 2002).

Mobility

Zuidwest is connected to the city centre by tram, bus and train. Trainstation Moerwijk, a way station, is at the upper right corner and connects to the main train stations. Three tram lines are running through Zuidwest; line 9 starts at the Melis Stokelaan with Scheveningen as endpoint, line 16 runs from Wateringse Veld to the Statenkwartier and line 4 is a RandstadRail that starts at the Meppelweg with Zoetermeer as its destination. The RandstadRail runs at a higher frequency, reaches further and goes through the tram tunnel in the city to save time.

The bus lines fill in the gaps that the tram lines do not cover. An important junction where many buses and trams cross is the Leyenburgcorridor just

Figure 2.13: the transit structures in Zuidwest



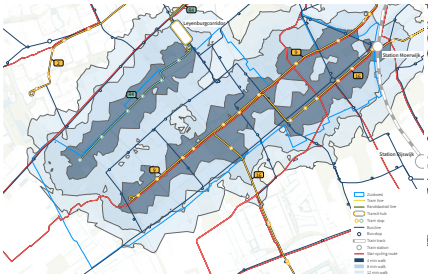


Figure 2.11: the 4, 8 and 12 min travel times from a tram stop which is a 10 minute transit service

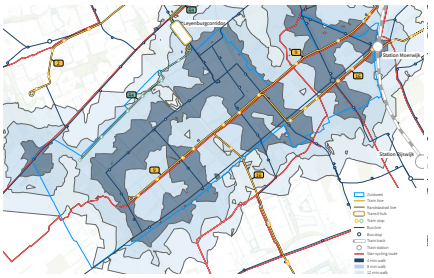


Figure 2.12: the 4, 8 and 12 min travel times from a bus stop

outside Zuidwest. This hub plays a role in connecting the region with the city centre.

From the isochronic analysis, we see the areas that are within a 4, 8 and 12 min walk from the tram stops which is a 10 min transit service. In a 4 min walk, 48 % of the households can reach a tram stop, in 8 min 92% and in 12 min 99%. For the bus lines in 4 a min walk 55% of the households can reach a bus stop, in 8 min 97% and in 12 min 99%.

For cyclists, the main network consists of a separated bicycle lane along every main road. Recently the municipality wants to deploy the 'star cycling routes', which is a network of routes that are faster, safer and more comfortable than normal cycling routes. They form the most important thoroughfares in the cycling network. To make cycling attractive these routes run along calm streets, green, water and through residential areas (Gemeente Den Haag, 2019b).

Housing

Zuidwest is an area built mainly after World War 2: when there was an urgent need for new housing and fast development was necessary. The biggest share of dwellings in Zuidwest consist of workers' homes, executed as stacked apartments with three or four rooms - also known as porch

apartments. These buildings are often built with 4 floors, which was the maximum height before an elevator was needed. This typology is repeated all over Zuidwest alternated with some single-family dwellings and high-rise buildings. All neighbourhoods have high-rise buildings, wherein Morgenstond and Bouwlust & Vrederust these were part of the original plan and in Moerwijk they have been added only after 1960 (Gemeente Den Haag, 2002). The porch apartments are distinctive for Zuidwest. In 2020, 87% of the dwellings in Zuidwest consisted of apartments of any type - compared to 76% for The Hague. Further, 68% of the rental properties are owned by corporations, compared to 31% for The Hague. And only 23% of the dwellings are owner-occupied properties, compared to 44% for The Hague (Den Haag, 2020).

The WOZ-value of the dwellings in Zuidwest is significantly lower compared to the average of The Hague. The average WOZ-value in 2020 in Zuidwest is € 155,727.- with Moerwijk being the lowest €141,936.- and Bouwlust & Vrederust the highest €168,830.-. The average WOZ-value in The Hague is €269,314.- (Den Haag, 2020).

Since 2000 new development has slowly started to take off but it still falls behind compared to The Hague. Of the total building stock, 85% is

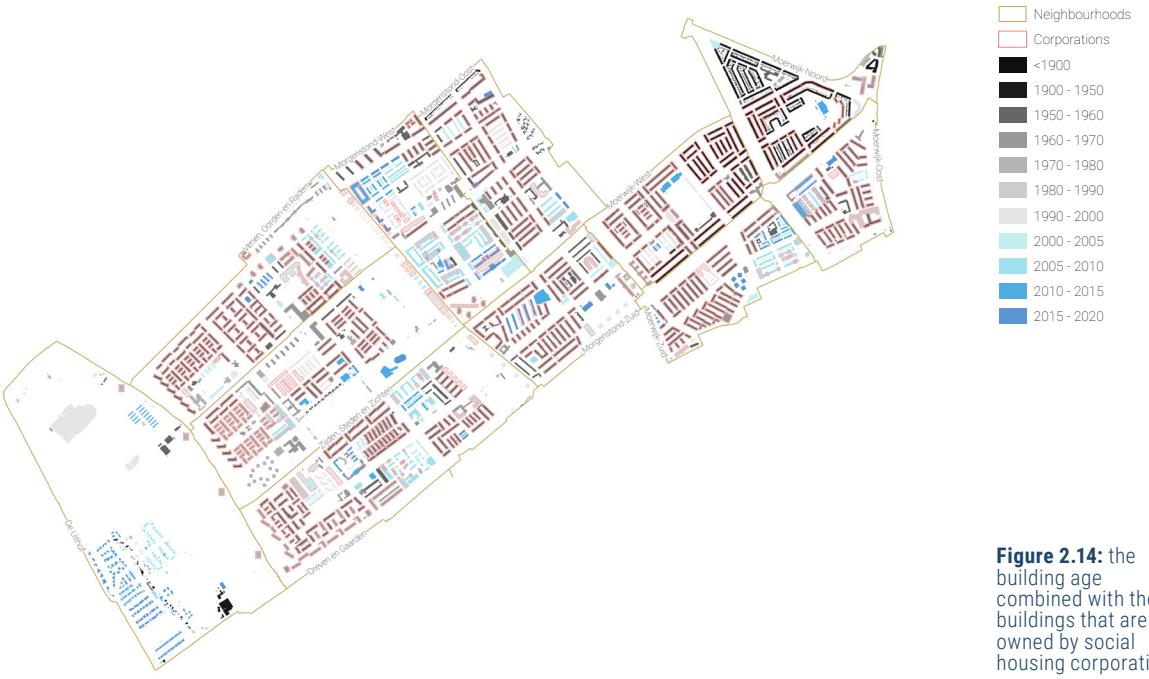


Figure 2.14: the building age combined with the buildings that are owned by social housing corporations

from before 2000 and only 15% from after. The total dwelling stock has grown with 2.7% over the last 5 year, compared to 4.4% for the Hague in total. Only Morgenstond is an exception whereas a lot of new development has been built with a growth of 3.1% of the building stock (Den Haag, 2020).

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Living quality

Zuidwest, originally built for the middle class, has over the last years slowly degraded to a neighbourhood that lags behind its surrounding. From the 1980s people left Zuidwest and moved to the newer 'vinex' districts while the value of the houses decreased. Today demographic changes in combination with public housing policy have changed the neighbourhood into one with relatively many social disadvantages compared to the rest of the city (Gemeente Den Haag, 2019a).

From the '90s the social housing corporations and the municipality have cooperated to tackle the monotonous housing stock and upgrade the area. First with small interventions, later with big scale redevelopment projects. Besides the housing, the focus was also on buildings with a public function such as the city office, the library, a theatre, a sports campus, and school buildings (Gemeente Den Haag, 2019a). These renewal projects had their effects on Zuidwest, as can be seen in the 'Leefbaarometer'.

The 'Leefbaarometer' is an objective measurement that predicts the liveability in The Netherlands by assessing over 100 environmental characteristics as the quality of the housing stock, the proximity of amenities, quality of the green, etc. and combines them with the housing

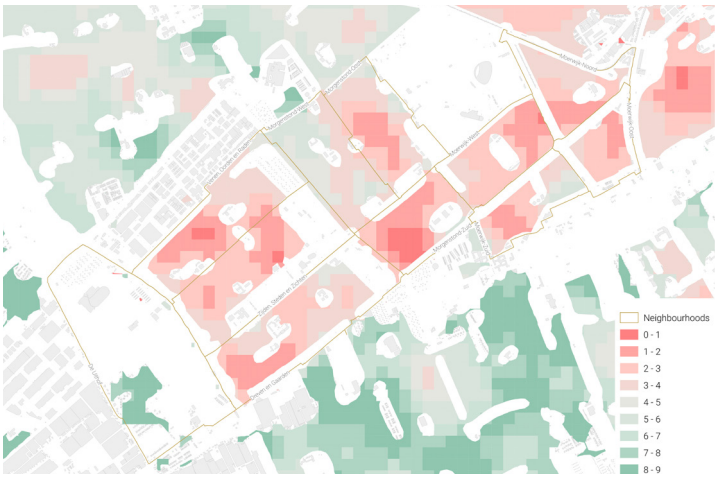


Figure 2.16: the leefbaarometer shows how every neighbourhood scores on living quality

prices (Ministerie van BZK, 2020). It reveals that most of the parts of Zuidwest are lacking behind by its surrounding with the exceptions of areas in Morgenstond and Moerwijk, that have been renovated.

Amenities

Zuidwest has a wide range of social facilities; many sport facilities - especially soccer clubs - and a wide range of social support facilities - such as churches - and health care institutions. The sport facilities are located in the green strokes that spatially organise Zuidwest. Other local amenities are mainly clustered in small neighbourhood centres (Gemeente Den Haag, 2019a). These neighbourhood districts mainly consist of daily groceries facilities, while cultural amenities - like museau, libraries, or a cinema - and smaller retail facilities - like bars and restaurants - are scarce in Zuidwest. There are many educational facilities for elementary schools, however education facilities of a higher level as Havo, VWO and MBO/HBO are missing. The main shopping area is the Leyweg area, which is at the centre of Morgenstond and provides a wider range of shops and amenities. The companies that are located in Zuidwest are mainly small-scale entrepreneurs while larger companies or large offices are scarce (Den Haag, 2020).

Figure 2.17: the amenities of Zuidweest are mainly clustered inside the neighbourhoods, along the canals, and sawy from the roastructure

In the **'Coalition Agreement 2018-2022'** of The Hague, the following regional goals are specified that are related to Zuidwest (Gemeente Den Haag, 2018):

1. Densification around the Leyweg shopping district.
2. Accelerate public transport towards the centre and a new tram line to from Rijswijk to Kijkduin
3. Urban renewal of the city districts
4. Transformation of the zone around the Lozerlaan to create a better traffic flow and a connection with the upgraded Uithof Park.
5. Strengthening the slow green traffic connections
6. Strengthening the water connections.

Vision of The Hague

It is expected that the population of The Hague keeps growing until 2030 by 11,8% from 539.040 to 595.000 and until 2040 even till 605.000 till 629.000 inhabitants. The amount of households is expected to grow to between 23.000 till 29.000 households in 2030 (Gemeente Den Haag, 2019c). The municipality seeks to combine these challenges of regenerating Zuidwest and providing more dwellings. The 'Exploration of Zuidwest' (2019) shows that there is room for about 10.000 dwellings in Zuidwest, of which most in the free market segment (Gemeente Den Haag, 2019a).

The aim is that by densification the area will be transformed from a fragile one into an attractive, vital, resilient and sustainable area. A dense environment supports more employment opportunities, educational ambitions, strengthening of the facilities, better accessibility and a diverse housing supply. The densification challenge can be combined with regional goals as described in the Coalition Deal 2018 - 2022 and the Transit Vision of Metropolitan area The Hague & Rotterdam (Gemeente Den Haag, 2018; MRDH & Gemeente Den Haag, 2018).

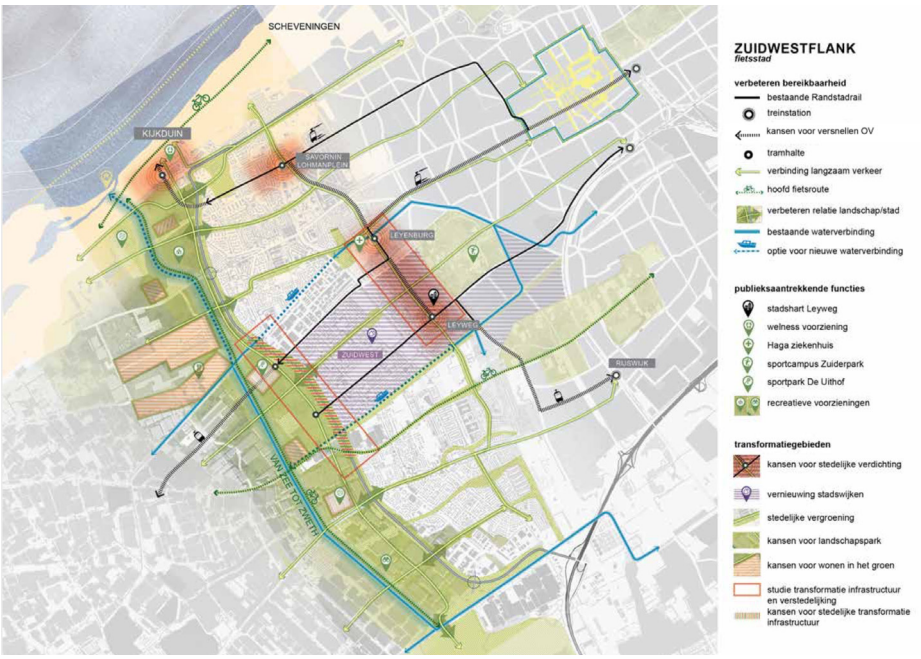


Figure 2.18: the plans of the municipality for the South-East side of the city (Gemeente Den Haag, 2018)

3 | Ambitions

3.1. Ambitions

3.1. Ambitions

The research showed that for an intensification, densification or compact city strategy to succeed it depends on many critical contextual factors. The positive outcomes that are associated with densification can improve the urban quality, but planners need to be careful and minimise the possible downsides that a higher density can have.

The site analysis revealed the challenges and strengths of Zuidwest. The challenges are; the road network and the green structure that segregates the neighbourhoods. The autonomy of every neighbourhood. And the porch flat that is endlessly repeated - which causes a monotonous building stock, a high share of social housing, and a low housing value. These challenges influence the living quality which is lacking behind its surroundings, as the Leefbaarometer illustrated. The strengths of Zuidwest are; the transit network, the cycling paths, the Leyweg shopping area, the green - with two regional parks - and water structure, and the abundance of space.

Finally, it was shown that while the aim was to create more openness by wide green spaces and more open building blocks the result was, paradoxically, what Sennett (2018) calls a closed city. The master plan was at the base of this closed area, with a focus on order and control, dominated by a monotone building stock, segregated by borders and resistance to change. It is the opposite of an open city, one that embraces complexity and is a collaging of different buildings, peoples, and activities. Complexity evolves over time; it emerges through feedback and the shifting of information. Today, we see that Zuidwest has slowly become more complex and open. For future development, that is needed fast and at a large scale, the open city may prove inadequate since it needs time to evolve. Sennett, therefore, proposes five open building forms that are from the beginning adaptable and can evolve to the way people dwell; synchronous spaces, punctuated spaces, porous edges, incomplete forms, and seed-planning.

Based on the research six ambitions for Zuidwest are defined to need to guide future development and are the foundation of the Urban Strategic Framework. The aim is to improve the urban quality for the people who live, work and spend time in Zuidwest.

1 Buildings

Focus on densification along the city streets and combine this with open city forms that can be adapted over time, and allow people to engage with the city.

2 People

Retain what's good, renovate where possible, and avoid as much as possible that people have to move out of Zuidwest because of new development.

3 Public space

Create clearly defined and meaningful public space while drawing upon the qualities of the green and water structure.

4 Mobility

Focus on green modes of transport such as cycling, walking and public transport, to improve mobility for the people of Zuidwest and to create a better connection with the city.

5 Amenities

Strengthen the economic and social functions to create more jobs, more diverse amenities, and to improve the liveability and vitality of the area.

6 Resilience

Sustainable development in combination with the energy transition of Zuidwest.

4 | Urban Strategic Framework

4.1. Buildings

The Urban Strategic Framework is a set of strategies that will give direction to new development and future urban growth in Zuidwest. The foundation of the framework are the ambitions which were, in return, the result of the research phase. The framework consists of three categories - buildings, public space, and mobility - which will all incorporate a set of strategies at a regional and local level. The framework is an example of seed-planning, where pockets of orders are created, and which allows the strategies to adapt and evolve over time. The essence, as described earlier, is that with a minimum specification of how form relates to function, it leaves maximum room for variation. The strategies leave room for infill later, and encourages input from everyone that is involved with the future of Zuidwest.

The building strategies will focus on a regional level at where intensification will first take place. This can be either along streets or in important areas for the district. At a local level, the strategies will be about; when and how to renovate, when to build new development, how to deal with parking, transformations with cultural importance, educational facilities, and what kind of edges are desirable. The aim is to create a neighbourhood with a more diverse dwelling stock and an improved public space for the people who live, work and spend time in Zuidwest. That means the aim is also to keep as many people in their current home while searching for possibilities to densify.

Regional

Intensification along city streets; these long continuous routes have a good connection with the city centre, main transit lines run along these streets, they are well connected to their surrounding, and they connect the Uithof to the Zuiderpark. Therefore, intensification will first take place along and in proximity of these streets.

Leyweg and De Stede as district centres; the Leyweg is traditionally the most important regional centre that serves Zuidwest. New development will, therefore, focus on the Leyweg and its surrounding area. Further, 'De Stede' can become the second important district centre due to renovation and new construction.

Intensification hub Moerwijk; the municipality wants to focus future development in proximity of transit hubs for growth in The Hague (Gemeente Den Haag, 2016). With the improvement of the connection with the city centre and Rotterdam, station Moerwijk becomes a desired place for new transit-oriented development.

Local

Renovation: upgrade and new front- and backyard; the aim is to renovate whenever possible to improve the quality of life and to prevent people from moving out. By renovation the apartments get an upgrade and a street connection. Full renovation will be done when; the building is not recently renovated, the building has a low-intensity edge, and when it is in bad condition. When the buildings are still in good condition only a new street connection is necessary. In both cases, the buildings get a new front- and backyard.

New built: enclosed building blocks; possible locations will be determined when it meets the renovation criteria plus it is free-standing in space and the green around it has little quality. In this case, new development can improve the neighbourhood and the public space. New development will be enclosed building blocks that are a combination of single-family dwellings, apartments, offices, and other amenities. The block creates clearly define public space, it allows for different typologies and densities, and it creates porous edges with many front doors.

Inner-block parking; new build development will have inner-block parking that can either be at ground level in a more dwelling orientated block or semi-underground in a more compact oriented block with apartments and offices.

Redevelopment to cultural centre; with 'Zuid 57' Zuidwest showed that the transformation of a former school building can be used as a new cultural centres (Studio Leon Thier, 2012). This strategy aims at transforming more old school or office buildings to cultural hubs. This is to stimulate more cultural amenities in Zuidwest.

Combination of technology, healthcare and education; in Zuidwest there are chances to combine the educational facilities with either technology - in the industrial area above Zuidwest - or with healthcare - in the hospital or nursing homes. A combination in which students can learn and work at the same time.

Sustainable development; development with incomplete forms, that means shells that can be adapted over time and are not tightly-fit for purpose. It is important that buildings have a long lifespan and can be reused and re-fitted over time. With renovation and new built, sustainable materials will be used that last long and have a small footprint. Also, with renovation and new built, the dwellings will be connected to the heat-grid.

4.2. Public space

The public space strategies will focus on a regional level at the important regional parks and the upgrade of the green and water structure. At a local level, they will focus on smaller neighbourhood parks, public space in shopping centres, and green and water at a local level. The aim is to create clearly defined and meaningful public spaces in which people can stay, meet, play and live. Public spaces that improve the living quality for the people of Zuidwest.

Regional

Transformation of the Uithof to a regional park; the Uithof is a park at the edge of Zuidwest. It currently has little value as public space. The aim of this strategy is to transform this city boundary to a lively edge that serves as a regional city park. This will be combined with the redesign of the Lozerlaan, to make the park accessible directly from the city streets.

City streets as attractive public spaces; to support the intensification, the city streets will also be upgraded. That means a higher quality green, more seating possibilities, a mix of amenities, wider sidewalks, and new front gardens. All with the focus on the pedestrian.

Lively water areas; together with the new cycling routes that run along most of the canals, the streets will be upgraded to create a safer environment with more green and enclosure. Along the canals seating possibilities and ramps will be placed.

Local

Vegetable gardens; when buildings are renovated people get - besides a new front- and backyard - also the space between their buildings back. This space will be transformed into vegetable gardens. It is based on the Moe'sTuin in Delft, in which in a similar environment the space between the buildings was transformed into a vegetable garden that is managed by the inhabitants themselves.

Transformation neighbourhood parks; the smaller neighbourhood parks are often open green spaces with no use or reason for people to stay. Therefore, the parks will be transformed and new elements will be added that invite people to stay and play. Elements can be fitness courts, soccer fields, seating possibilities, skate courts, or flower gardens.

Attractive district centres; the district centres form an important meeting place. Currently they are dominated by cars, have little seating possibilities, and have little green. These centres will be transformed into attractive areas that are inviting to stay or to pass through. With more seating, green and space for people - instead of cars. They will be connected by the new cycling network that runs along them.

Rooftop park Leyweg; the transformation of the district centres into attractive areas also apply to the Leyweg area. Especially creating more greenery is important. In addition, an extra element is added; the rooftop garden. The green roof on the lower buildings in the centre of the shopping aisle will be made accessible and transformed into a public park.

Resilient public spaces; when transforming a public space as the neighbourhood parks, special attention will be given to the integration of nature. The strategy is to work with nature rather than against it. Rainwater will be naturally drained to the canals and new overflow areas will be created. Further, green will provide shade and paved areas will be transformed into natural surfaces to reduce heat stress.

4.3. Mobility

The mobility strategies will focus on a regional level at improving the cycling connections, reducing travel times, and a new tram line for a north-south connection. At a local level, the strategy will focus on creating safe crossings or junctions for cyclists, attractive transit stops in the Leyweg area, and overpass junctions at the Lozerlaan. The aim is to improve the connection with the city centre by transit and bicycle to improve the accessibility for the people in Zuidwest and to support the intensification strategies.

Regional

Improved cycling network; the new cycling network will be an extension of the starcycling network of The Hague. This is a network of designated cycling paths that are faster, safer, and more comfortable than normal routes. The routes run along calm streets, green, water and through residential areas. In Zuidwest the cycling routes will run along the streets with canals and will provide a safer, and faster connection to the city centre.

Improved transit network; the vision for the transit network as proposed in the 'transit vision 2040' will serve as the strategy for the improved network in Zuidwest (MRDH & Gemeente Den Haag, 2018). The tram line at the Melis Stokelaan will ride at a higher frequency, the Randstadrail along the Meppelweg will have a faster connection to the city centre due to the extension of the tram tunnel in the city centre. And the bus network will be revised and simplified.

New tram line; also part of the vision is a new tram line from Rijskwijk to Kijkduin. This line will serve as a North-South connection and will run directly through the Leyweg area. This line further increases support for transit-oriented development and improves accessibility for the inhabitants.

Local

Crossings for cyclists; to strengthen the starcycling network, the cyclist will be prioritized at most crossings. Wherever possible, new crossings with a roundabout that prioritizes cyclists will be realized. At other junctions, zebra crossings designed for cyclist will be applied. And at the Lozerlaan an overpass junction will make sure that pedestrians and cyclist can get safely to the Uithofpark.

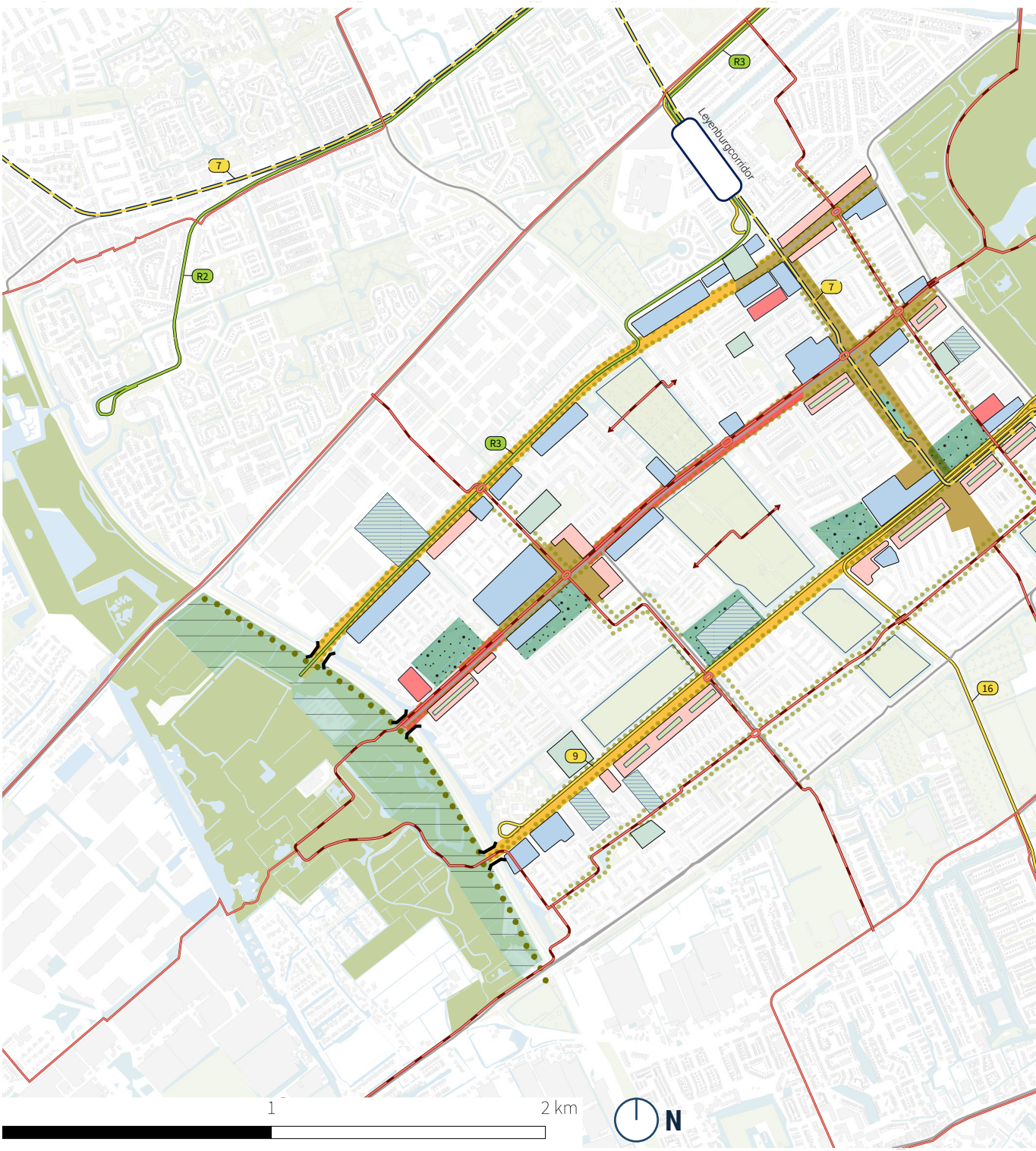
Attractive transit stops in the Leyweg area; the new transit line will make the Leyweg an important section of the transit network. Three lines come together at the junction with the Melis Stokelaan and the bus station in the middle also becomes an important transit hub. Therefore, the transit stops will be attractive stops that will be integrated in the shopping area and from which people can continue their journey to the city centre or the neighbourhoods.

Overpass junctions Lozerlaan; the junctions of the city streets with the Lozerlaan - the street that runs along the Uithofpark - will be transformed to overpass junctions. This will improve the connection of the city streets with the Uithofpark and it will allow for a better traffic flow at the Lozerlaan.

Focus on transit hubs; the Leyenburgcorridor and Moerwijk hub are important transit hubs for the whole area. From here, the centre, the region, and other cities can be quickly reached. Therefore, the strategy will be about improving the surroundings of these hubs with better bicycle parking, attractive public spaces, and new amenities.

5 | The Plan

5.1. The Plan



The Plan is the result of the ambitions and the Urban Strategic Framework. It illustrates how the strategies can create a more dense area that moves away from a closed city and that addresses the challenges of Zuidwest. The city streets are the guiding structures of the area. New development and renovation will take place mainly along these axes. The streets are well connected to the city centre by transit, car and bicycle. The improved transit network runs along them and the new transit line will run directly through the Leyweg centre, which is at the heart of the area. Together with De Stede, these two areas form the most important economic areas of Zuidwest.

Further, smaller neighbourhood centres are well connected by the new cycling network. This network provides a fast, safe and convenient route through Zuidwest and further to the city centre and the region. The green along the canals will be upgraded to meaningful public spaces together with the construction of the cycling paths. The Uithof will become connected by overpass junctions at the Lozerlaan and the park itself will be upgraded to a regional city park. Smaller neighbourhood parks will get reasons for a stay; fitness courts, soccer fields, seating possibilities and attractive green. Green between buildings will be transformed into vegetable gardens and to improve the connection with the street buildings will get a front- and backyard.

The following pages will explain the design further and elaborate on the choices that are made and the relationships all the strategies have.

5.2. Intensification areas

Figure 5.1: the intensification zones run along the city streets, connected by the Leyweg area

The intensification areas consist of the city streets and the transit-oriented development around Hub Moerwijk. New development and renovation focuses on these areas.

1. The yellow areas are the city streets, the Melis Stokelaan and the Meppelweg that are transit-oriented. A tram line runs along both, providing a direct connection to the city centre.
2. The red area is the Hengelolaan which is the main axis of the cycling network and the main connection between the Zuiderpark and the Uithof. It will have a green character and plenty of space for the cyclist.
3. The Leyweg centre forms the connection between the city streets. In and around this area new development will be built with a focus on new amenities, offices, cafés, or shopping.
4. Development around the Moerwijk hub will be transit-oriented. From here the centre, the region and other cities are well accessible.

5.3. Transit

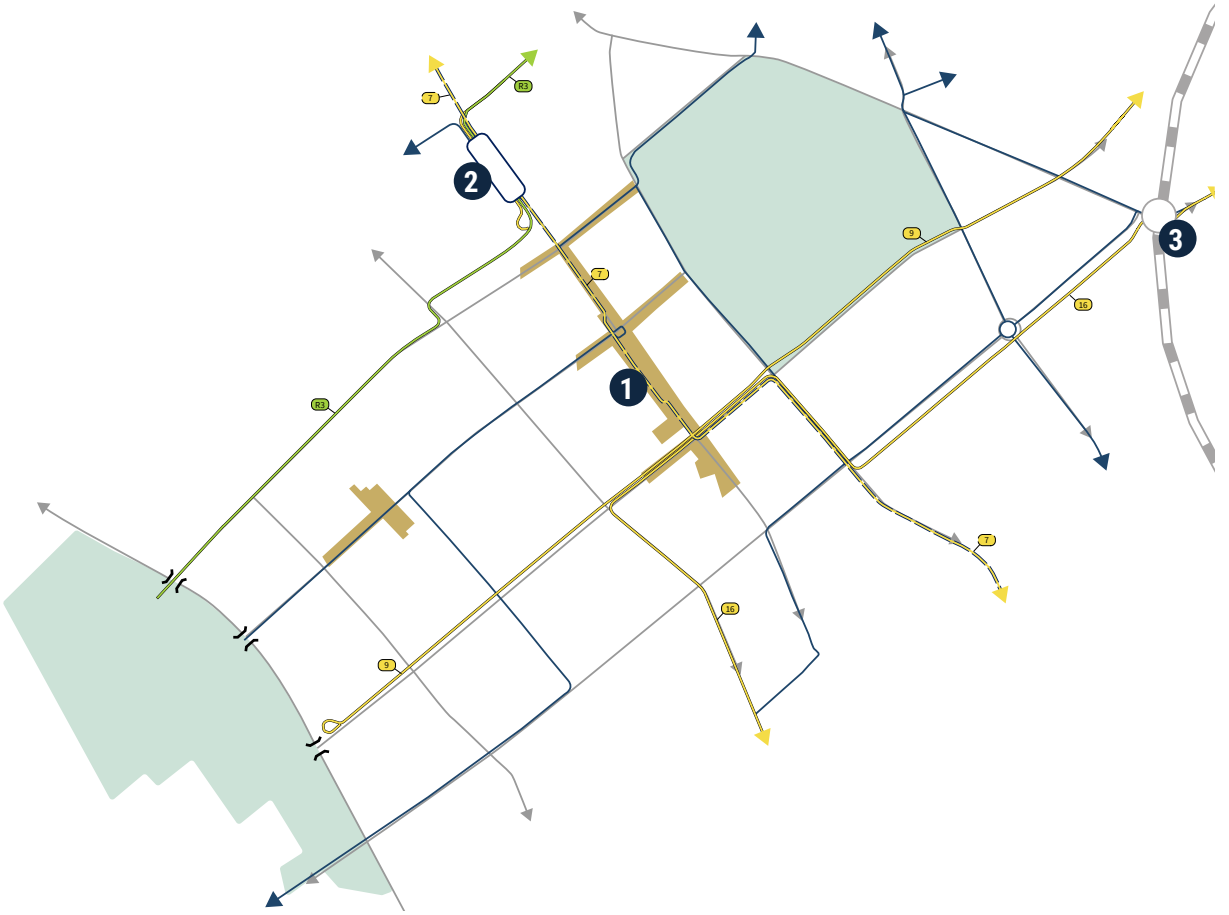


Figure 5.2: the transit network will be upgraded and a new tram line will run through the Leyweg area

The transit network will be upgraded as part of the 'Transit Vision 2040' (MRDH & Gemeente Den Haag, 2018). This will result in a better connection with the region and a faster connection with the city centre.

1. Part of the vision is a new tram line - a North-South connection - from Rijswijk to Kijkduin. Currently all tram lines are running towards the city centre, but this line aims to connect the surrounding areas to each other and to the sea. It will run through the Leyweg area which will further improve the accessibility of this area.
2. The Leyenburgcorridor becomes an important transit hub. The new tram line, and the improved Randstadrail connects to it. Further, it becomes an important hub for the connection of bus lines with the region.
3. The train station Moerwijk will be renovated and the frequency of the train network will be increased. Therefore it will play a more important regional role in connecting the area to the centre and to other cities.

5.4. Cycling network

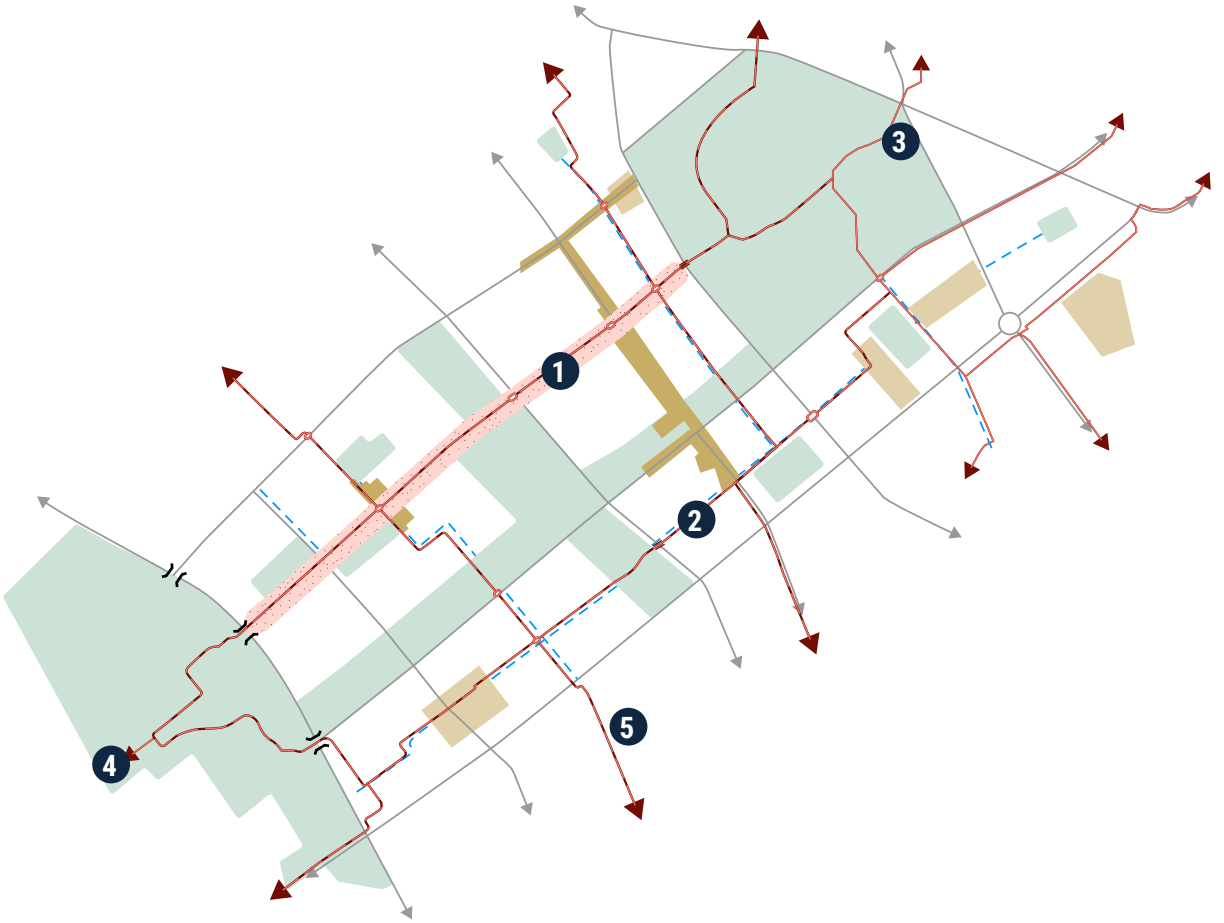


Figure 5.3: the Hengelaan in the middle will become the main cycling route, connecting the region with the city and the Uithof park with the Zuiderpark

The improved cycling network will form a network of fast, safe, and comfortable routes that connect Zuidwest to the city centre and to the region. The routes will run along the canals and will connect the district centres with each other.

1. The main axis is the Hengelolaan. This is the fastest connection from the region to the city centre. Thereby connecting the Uithof park and the Zuiderpark with each other, while it also crosses the Leyweg district.
2. The more fine-grained cycling paths run along the canals inside the neighbourhoods. They form a comfortable and safe ride and connect the smaller neighbourhood centres with each other. The streets will be cyclist orientated, cars will be guests and have to adapt their speed.
3. At the North-East side, the network will connect to the existing starcycling network to provide a fast connection with the city centre.
4. At the South-West side, the network will be connected to the regional cycling paths. These are part of a wider network that connects the cities in South-Holland with each other.
5. The lines from North to South connect the surrounding neighbourhoods with the dunes and the sea.

5.5. Public spaces

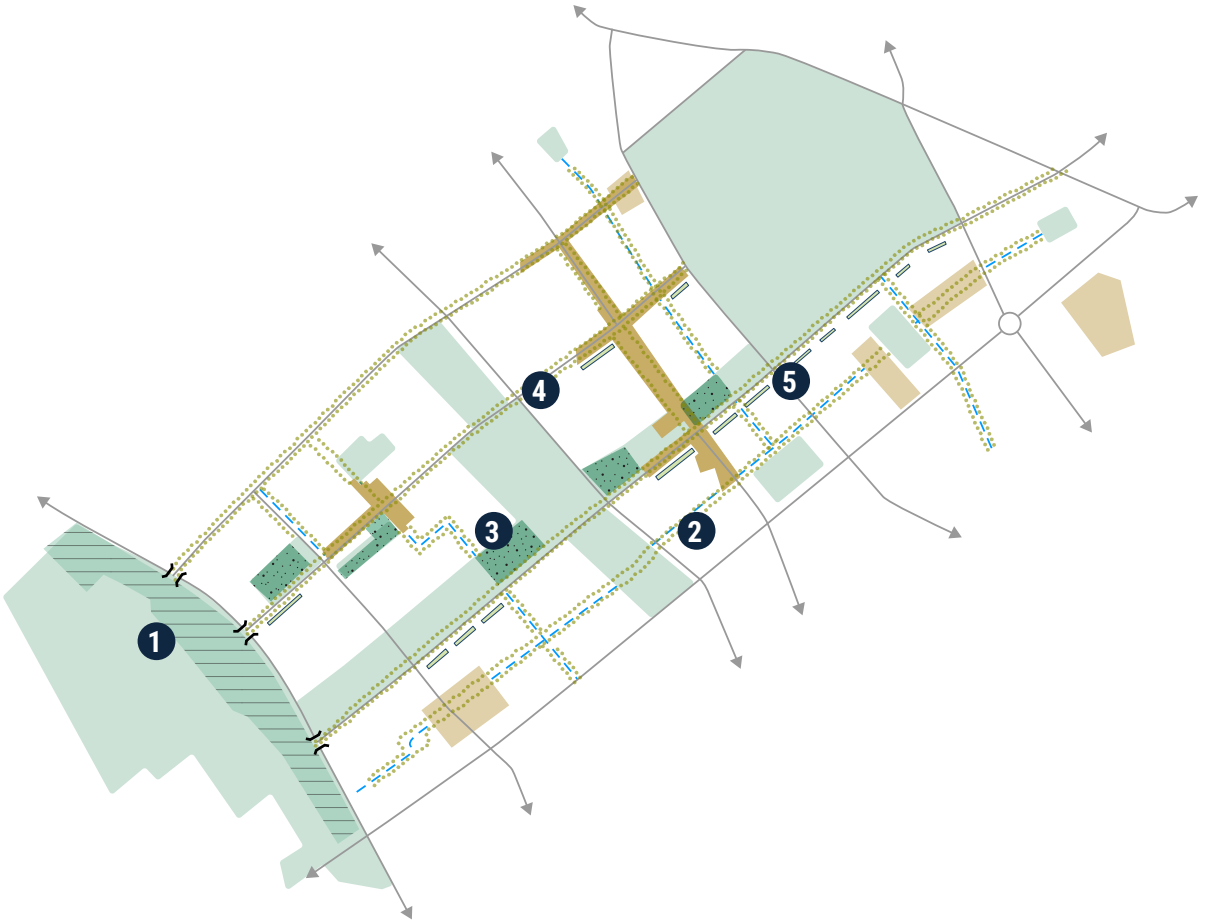


Figure 5.4: public spaces will play an important role in Zuidwest to connect the neighbourhoods

The extended green network of Zuidwest will be updated at strategic places. The intensification areas will become greener, the canals and cycling routes will be transformed, smaller neighbourhood parks will get a facelift, and the Uithof park will become a new regional park.

1. The Uithof will be transformed to a meaningful city boundary and new regional park. The connection with Zuidwest will also be improved by the overpass junctions.
2. Along the canals, the greenery will be strengthened together with transformation to cycling streets. The streets will be designed for cyclists and pedestrians. Along the canals new seating possibilities - as benches and ramps - will be situated.
3. The smaller neighbourhood parks will be upgraded and will get a reason to stay; fitness courts, soccer fields, seating possibilities and attractive green.
4. The city streets also are transformed into more green streets that are safer for the pedestrian and cyclist. With wider sidewalks, trees that protect people from cars, and new connection with the buildings.
5. Green between buildings will be transformed into vegetable gardens in which the community can grow their own food.

6 | Conclusion

6.1. Future Zuidwest

6.1. Future Zuidwest

The need to build new housing to accommodate future growth can be combined with strategies to address the numerous problems and social disadvantages Zuidwest has compared to surrounding neighbourhoods. This research shows that densification or intensifications strategies aimed at creating a more dense and compact urban environment can support sustainable urban growth and improve the urban quality. For these strategies to succeed it depends on many critical contextual factors as spatial characteristics, cultural factors, morphological qualities and political strategies. Research identified critical factors as the masterplan that was at the root of the closed city, the monotonous building stock, the road structure, the transit and cycling network, the green areas, and the Leyweg centre. To work with these challenges - and possible future challenges - an Urban Strategic Framework is proposed that is open-ended in time which means that it can evolve, depending on how its use will change. The end is not known beforehand, it is shaped by the process. The framework addresses the challenges by applying strategies at a regional and local level regarding building, public space and mobility. New strategies can be added later or current strategies can be revised. The strategies will guide future development with a minimum of specifications and a maximum of freedom.

The Plan then illustrated how these strategies can be applied. The focus will be on new development and renovation in the intensification areas to create a more dense environment. The Leyweg connects the intensification zones and will be further strengthened as the city district centre. To support these areas the transit network will be upgraded and a new tram line will be added that runs through the Leyweg shopping area. The new cycling network will connect to the starcycling network and will provide a fast, safe and comfortable connection with the city centre and the region. It also connects the neighbourhood centres with each other. The cycling streets, that run along the canals, will be redesigned and cyclists will be prioritized. Public spaces will be redesigned where necessary, to create more attractive places that are meaningful for the whole neighbourhood.

With the right densification strategy and open city forms, the challenges of Zuidwest can be addressed, and future growth can be guided in the right direction. Zuidwest can become more diverse and complex for the people who live, work, and spend time in this area.

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