

HOME IN HOUTWIJK

Exploring age-friendly housing design

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FORWARD

Houtwijk is a neighbourhood in Den Haag with an aging population. This paper explores senior housing in Houtwijk with a focus on aging at home and on what home means to older adults. Rather than looking at home as only a physical house, the research examines how personal feelings related to home, like safety, agency and privacy, combined with social connections and physical architectural elements, can recreate a sense of home in a new dwelling.

By exploring these perspectives, this study aims to gain a deeper understanding of what makes older adults feel at home and how these experiences can be translated to spatial principles, to guide the design of senior-friendly housing.

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1

INTRODUCTION

1.1 INTRODUCTION

1.1.1 HOUTWIJK

Houtwijk is a neighbourhood in the subdistrict Loosduinen in the Hague. The neighbourhood consists of two separate parts, divided by the Houtwijklaan, which are informally known as Houtwijk 1 in the North and Houtwijk 2 in the South (Secretary Wijkberaad).

Although Houtwijk is a single neighbourhood, the two parts differ significantly and there is little sense of connection between the two.

Houtwijk 1 is characterised by private housing and residents with a higher income according to AlleCijfers (2025). Houtwijk 2 contains more social housing and lower-income residents, especially in the areas around the shopping centre and Bokkefort Park, while its southern parts resemble Houtwijk 1.

In addition to these social - economic contrasts, there is a demographic

imbalance in the neighbourhood. Houtwijk has with 23,8% an above-average large group of residents aged 65 and older, compared with the rest of Den Haag, where only 15,4% is aged 65+ (AlleCijfers, 2025). The neighbourhood is therefore experiencing noticeable population ageing.

The diversity in social background, income, and age has resulted in limited interaction between the different groups in Houtwijk, often reinforced by mutual prejudices (Representative Wijkz). These mutual prejudices have resulted in a feeling of unsafety and mistrust in the neighbourhood (Secretary Wijkberaad).

There is also a feeling of loneliness in Houtwijk. 53% of its residents across all age groups have felt a sense of loneliness (AlleCijfers, 2025). With this high percentage, Houtwijk follows a broader national

trend. Nationally, around 46% of people reported being lonely in 2024 (Nationale gezondheidsmeter).

While loneliness is a problem in all age groups, older people experience more social loneliness¹ and therefore have a greater need for regular social contact (CBS, 2025).

1 There are different forms of loneliness (Bregt, 2025):

- Social loneliness: Missing social contact with people you identify with
- Emotional loneliness: Missing emotional connection with loved ones
- Existential loneliness: Feeling lost and missing a sense of purpose

1.1.2 AGEING POPULATION

The ageing population further reinforces these challenges. The neighbourhood must accommodate a growing group of older people who increasingly rely on local social networks and accessible public spaces (Bar, 2024).

When these elements are lacking because of a sense of unsafety or mistrust, the risk of social isolation among older residents becomes even greater (Ye et al., 2024).

According to AlleCijfers (2025) the older residents are distributed over the entire neighbourhood.

Most older residents live in the private family houses in the Architectenbuurt in Houtwijk 1 or in apartments around the shopping centre in Houtwijk 2, but some also inhabit private family homes in the Raadledenbuurt en the Verzetsheldenbuurt (AlleCijfers,

2025). Most of those private houses were built for families and are often too big for one or two older people (Omroep West, 2021).

Many of those older people do not want to relocate, even when their current homes are no longer suitable for ageing (De Groot, 2015 and Ministerie van Algemene Zaken, 2025).

Adjusting the existing house can be a solution, because it can make a house more accessible, but will not make the houses smaller or easier to maintain.

Older people often have a strong attachment to their home because it carries memories and represents stability (Wiles et al., 2012). Moving is seen as stressful and risky, particularly when it involves giving up a familiar environment (Schwanen et al., 2020).

In addition, many older people

fear losing autonomy or social connections, especially when they have lived in the same neighbourhood for decades and have built up their own social network (Van der Meer, 2017).

1.1.3 LACK OF SENIOR HOUSING

If older adults do want to move, there are few alternatives in the Netherlands. In the 2013 coalition agreement, the government decided to close 800 care homes for older people and to focus more on home care (Tweede Kamer, 2013 and NOS, 2013). This intensified the already existing shortage of housing options for seniors.

Nursing homes today are mainly for older people with multiple care indications and there is a lack of privacy and independence (AD, 2025). As a result, there is a significant gap between living at home and living in a nursing home.

Although more alternatives have emerged in recent years (Ministerie van Volksgezondheid, Welzijn en Sport, 2023) such as age-friendly housing, assisted-living apartments, and communal living arrangements,

there is still a shortage in suitable housing for older people (Visser, 2025).

According to the secretary of Wijkberaad Houtwijk (2025), most residents of Houtwijk, especially older residents, have lived in the neighbourhood for decades and have built their own social networks there. It is therefore understandable that they do not want to leave their homes or the neighbourhood.

But in Houtwijk, as in the rest of the Netherlands, there are few alternatives. Apart from three care homes and one senior living community (GDO Den Haag, 2025) in Houtwijk 2, there are no other options for older adults to move to, especially if they do not want to leave the neighbourhood, but are no longer able to live in their own house.

Because a big part of Houtwijks older population is living in a house that is not suitable for ageing, but not wanting to leave the neighbourhood, this research focuses on older residents and explores **How architectural- and environmental design can create a sense of home and support the willingness of older people to relocate?**

1.2 RESEARCH QUESTION

How can architectural- and environmental design create a sense of home and support the willingness of older people to relocate?

This question will be answered in multiple subquestions:

Subquestions:

1. What does home mean to older adults?
2. How do older people in Houtwijk experience and value their current home and neighbourhood in relation to ageing?
3. What spatial qualities are indispensable in a new dwelling or neighbourhood to make it attractive enough for older people to relocate and to make them feel at home again?

1.3 RELEVANCE AND PURPOSE

The relevance of this research lies in the growing ageing population in the Netherlands and the increasing focus on ageing in place.

The concept of ageing in place is a positive approach to meeting the needs of the older adults, supporting them to live independently, or with some assistance, for as long as possible in their current house or in a new dwelling.

With a growing aging population and a shortage of suitable and age-friendly housing, there is a gap between the desire to age in place and the availability of suitable senior housing.

This research is also personally relevant, as aging is something that concerns everyone, including myself and those around me.

In time, we will all become part of the older population and experience many of the same challenges that older adults face today. The way we

design age-friendly homes now will therefore play an important role in shaping the quality of our own lives in later years.

The purpose of this research is to design an age-friendly housing alternative for older adults.

While the concept of ageing in place refers to the ability to live in one's own home, neighbourhood and community as one grows older for as long as possible, this research aims to explore how this sense of home can be recreated in a different, age-friendly housing project that better meets the needs of older adults and that is appealing enough to encourage older adults to relocate.

If necessary, the design may also incorporate social or communal functions, helping to reinforce a sense of home within the new living environment.

.2

THEORETICAL

FRAMEWORK

2.1 THEORETICAL FRAMEWORK

2.1.1 AGEING IN PLACE

Worldwide, there is an increasing societal focus on aging in place (Tanner et al., 2012).

This aging in place policy has also been implemented in the Netherlands.

Ageing in place refers to the ability to live safely, independently, and comfortably in one's own house, neighbourhood and community as one grows older for as long as possible (Morley, 2012 and Pynoos et al., 2008). One's own house refers both to the current house as well as to a new dwelling that meets the needs of older adults, supporting them to live independantly.

This concept emphasizes a shift from traditional institutional care homes to independent home-based living, made possible because of age-friendly housing design, accessible care services and a supportive social

environment (Morley, 2012 and Van Bergen en Henegouwen, 2019).

Because of this, suitable and adaptable housing for older adults are necessary to make aging in place possible, especially when ones mobility and vitality reduces (WHO, 2017).

However, the group of older adults is far from homogenous, according to De Jong et al. (2018) 'the' older adult does not exist.

Not all older adults are the same, there can be significant differences in age, vitality and lifestyles. Because of these differences their preferences and needs may differ (White et al.).

Although it is important to acknowledge these differences, this research adopts the definition used by the National Institute on Aging, which defines an older adult as a person aged 65 years or older.

Because the aging in place policy

focuses on living independently at home, the focus group of the research are adults over 65 who are still able to live on their own.

2.1.2 HOME

A key concept of aging in place is that the older adult can age at home. Most older adults have an emotional attachment to their home (Aclan et al., 2023).

The home environment is central to the lives of older people, because they spent most of their time at their home, once they are retired (Tanner et al., 2012).

According to Tanner et al. (2012) there are three domains of home, the physical home, the personal home and the social home.

The physical home refers to the design and layout of the dwelling. Use of materials and environmental

conditions like lighting, airflow and temperature are also part of the physical home. These are elements the inhabitant of the dwelling can change and adapt to their preferences.

But aging in place is focused on more than a physical building (Ivanoff, 2007).

Both architectural and environmental design are key components of the physical home.

However, the spaces created through architectural and environmental design are always experienced and interpreted by their users. For older adults in particular, these experiences are closely connected to the personal home.

The personal home plays an important role in this research, as the way spaces are designed can influence not only physical comfort and usability but also feelings of

safety, identity, and belonging. Therefore this research focuses on both the physical and personal home. Most older adults develop a strong sense of attachment to their physical house, which therefor becomes also a personal home (Aclan et al., 2023). For most of them, the home is filled with memories, especially if they have lived there for many years, making it a place that represents their life experiences and personal history (Olfat, 2023). Their home is closely associated with comfort, privacy, and safety, and it often plays an important role in shaping and maintaining their sense of identity (Aclan et al., 2023 and Tanner et al., 2012).

In this way, the home is not just a physical house, but also a space that holds emotional significance and supports the older adults connection to their past and to themselves.

Lastly, the personal home is also associated with agency and freedom

(Olfat, 2023). For most older adults, home is the place where they can be independent and have control over their lives, even when their health and vitality deteriorates.

The social home refers to the relationships and social contact that are associated with their home (Tanner et al., 2012). The home is usually the location where a person forms his/her most important social relationships.

This concept can also be extended to the neighbourhood and wider community. For older adults their environment influences their sense of place attachment (Olfat, 2023).

Older adults often have their own social cycle of neighbours, family and friends within the neighbourhood. These social connections, combined with familiar places and routines, form an extension of the home, resulting in emotional attachment (Pynoos et al., 2008).

These social connections form a barrier for older adults to relocate, because this would result in losing these connections (Tanner et al. 2012).

2.1.3 DESIGN

This research looks into how architectural- and environmental design can support the willingness of older adults to relocate to more suitable senior-friendly housing.

While architectural design focuses on the organisation and materialisation of spatial elements and forms, environmental design refers to the organisation of physical and social environmental conditions that shape how older adults experience, use, and inhabit spaces over time. The connection with the surroundings is also part of the environmental design. While both architectural and

environmental design are focused on the organisation and experience of space, they approach it from different perspectives: architectural design refers to form, layout, and spatial composition, whereas

environmental design refers to the conditions that make these spaces functional, comfortable, and the connections these spaces have with their surroundings and the outside world.

| THREE DOMAINS OF HOME | | |
|----------------------------------|--------------------|-----------------|
| PHYSICAL HOME | PERSONAL HOME | SOCIAL HOME |
| ORGANISATION OF SPACE | SENSE OF BELONGING | ROUTINES |
| LAYOUT | IDENTITY | SOCIAL CONTACTS |
| MATERIALITY | SAFETY | FAMILIARITY |
| ENVIRONMENTAL CONDITIONS/COMFORT | PRIVACY | |
| | AGENCY | |

Figure 2.1: Three domains of home

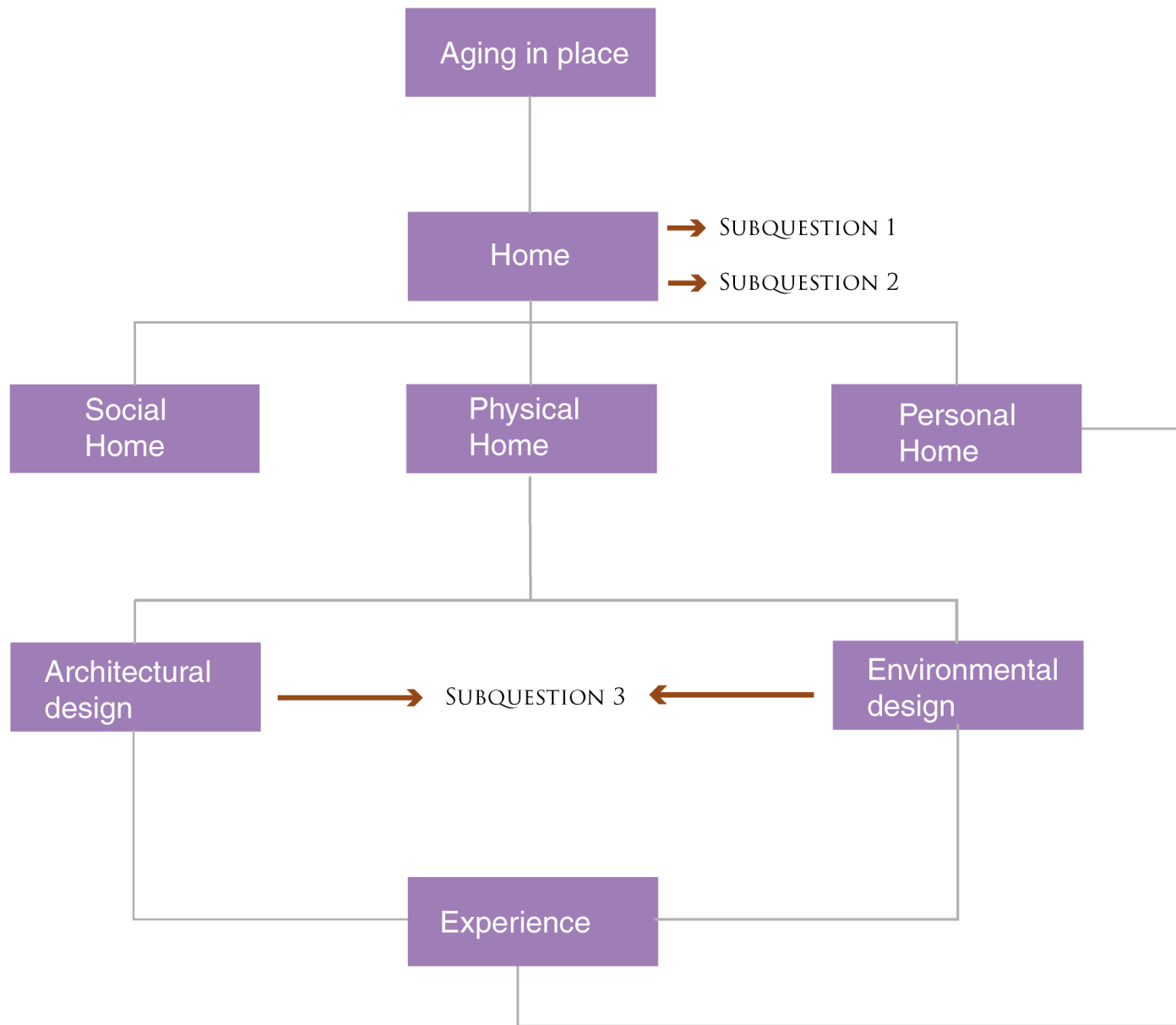


Figure 2.2: Theoretic framework

2.2 METHODS

This research was conducted with a qualitative research approach to explore what is spatially needed to support the willingness of older people to relocate.

Because the research question focuses on the willingness of the target group, a qualitative research is the most suitable approach. Two different methods are used: literature research and interviews.

Literature and already existing surveys will be used to answer the first research question: What does home mean to older adults?

The used surveys have been conducted in Den Haag and nationwide under older adults, aged 65 and older:

- Ouderenpanel Den Haag, (2024)
- Prettig oud in de buurt (2019)

- Woonwensen senioren (2022)
- 55+’ers over hun toekomstige woning CBS (2020)

The interviews were conducted during a workshop with residents aged 65 and older living in Houtwijk and will be used to answer the second subquestion: How do older people in Houtwijk experience and value their current home and neighbourhood in relation to ageing?

Although the research is also relevant beyond this neighbourhood, this project only focuses on Houtwijk. In total 16 participants aged between 65 and 85 were interviewed during a workshop.

The results of these two studies will be combined to answer the third subquestion: What spatial qualities are indispensable in a new dwelling or neighbourhood to make it attractive enough for older people to relocate

and to make them feel at home again? Based on the results a list of spatial requirements and design principles will be formulated.

Two casestudies of existing senior housing will be tested if they conform to these spatial requirements and what is missing.

The chosen casestudies are:

1. 't Aahof in Zwolle
2. Oval Senior Cohousing in Albertslund, Denmark

The results of the research and spatial design principles will be used to design a senior-friendly housing design and to answer the researchquestion.

2.3 PLANNING

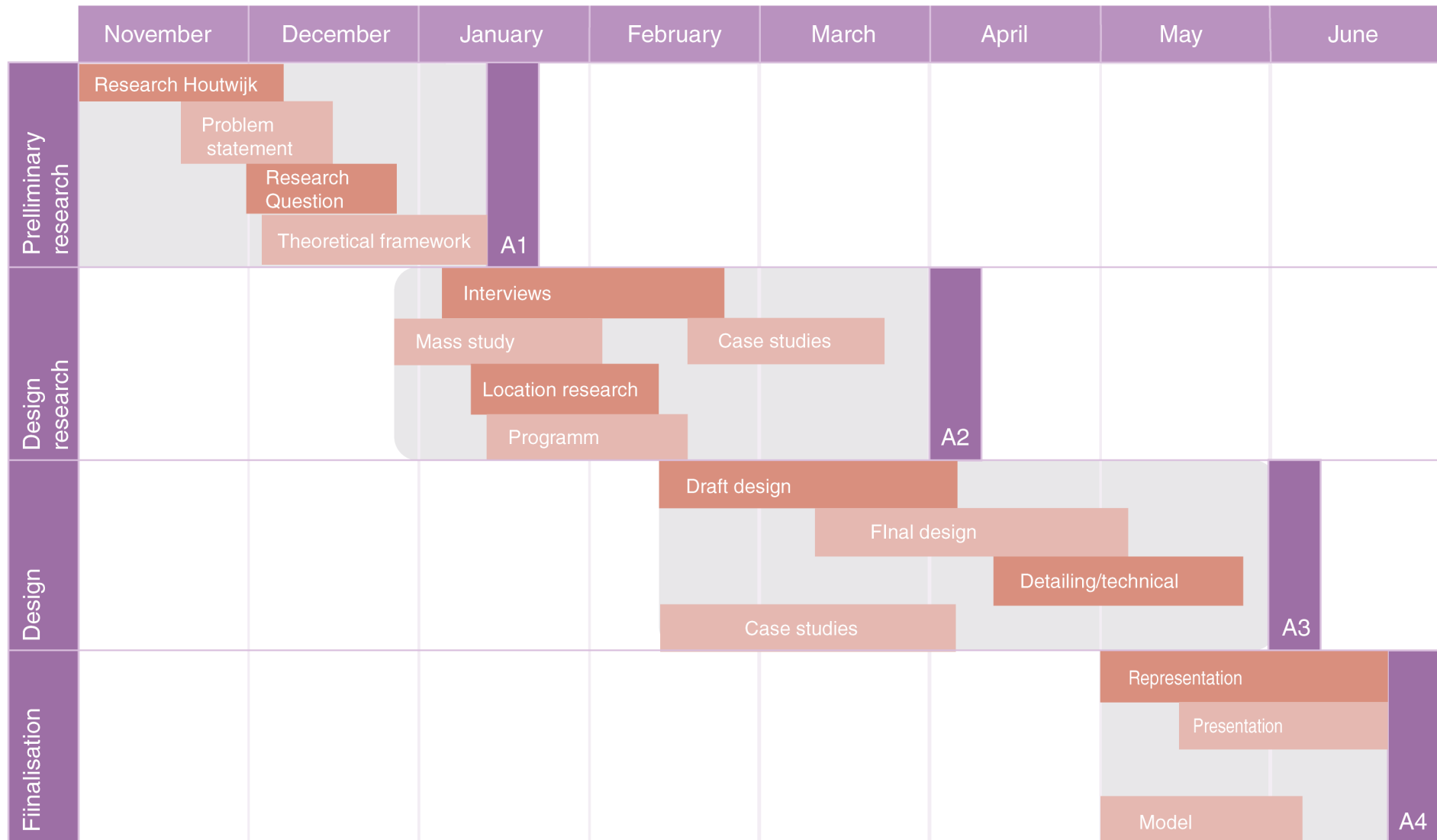


Figure 2.3: Planning

.3

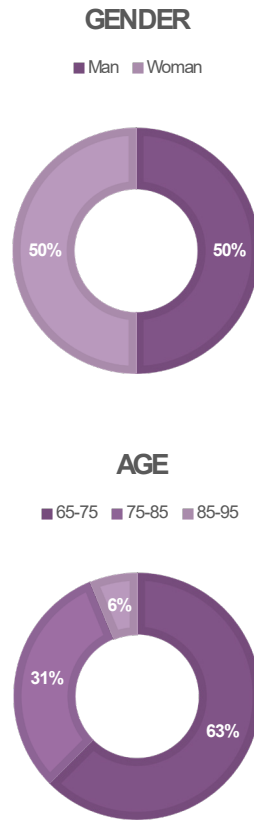
RESULTS

3.1 WORKSHOP

Sixteen older residents in Houtwijk were interviewed during a workshop. The workshop consisted of four different exercises about different themes: Facilities, Age-friendly housing, Housing types and Home.

During the workshop about home, participants were asked to write down five things related to their house that reminded them of home or made them feel at home. Afterwards, they were asked to explain why they had chosen those particular elements. The same exercise was then repeated for their neighbourhood.

Participants were also asked to choose between four housing options and explain what their ideal home would look like. In addition, they were asked to reflect on which functions and facilities they currently miss in their neighbourhood and which functions they would be willing to share with others.



| Home in your house | | Home in the neighbourhood | |
|--------------------|----|-------------------------------|----|
| Garden | 15 | Public transport | 13 |
| Spacious/Layout | 8 | Nice neighbours | 10 |
| Temperature | 6 | Shops | 10 |
| Storage | 6 | Parking | 9 |
| One-level | 6 | Safety | 8 |
| Sustainability | 5 | Nature/park | 7 |
| Safety | 5 | Supermarket | 5 |
| Pet | 4 | No nuisance | 5 |
| Nice view | 4 | Restaurant/café | 3 |
| Light | 3 | Bike | 3 |
| Memories | 2 | Maintenance | 2 |
| Stuff | 2 | Care for eachother | 2 |
| Comfort | 2 | Social cohesion | 2 |
| Family | 2 | Community centre | 2 |
| Plants | 1 | Children in the neighbourhood | 2 |
| Facilities | 1 | Sportschool | 1 |
| Balcony | 1 | Car | 1 |
| Bedroom | 1 | Creative places | 1 |
| Kitchen | 1 | Church | 1 |
| Big bathroom | 1 | Friends | 1 |
| Living room | 1 | | |

Figure 3.1: Gender, age and answers of the participants of the workshop

3.2 WHAT DOES HOME MEAN TO OLDER ADULTS?

Subquestion 1

Although home has a different meaning for everyone, literature and Dutch surveys among older adults identify five recurring factors within the physical, personal, and social domains of home: comfort, safety, privacy, autonomy, and meaningful social connections.

For older adults in particular, comfort is shaped by the design and layout of the building, as well as by environmental factors such as temperature, lighting, and accessibility on an urban, as well as on a building scale (Olfat, 2023 and Tanner et al., 2012). These features of the physical home play an essential role in creating a supportive and pleasant living environment.

Although the physical building plays an important role, the rest of the factors suggests that comfort alone is not sufficient for older adults

| RESULTS LITERATURE | | |
|---|---|---|
| PHYSICAL | PERSONAL | SOCIAL |
| SPACIOUS ACCESSIBILITY: - WHEELCHAIR ACCESSIBLE | SENSE OF BELONGING SAFETY AGENCY/CONTROL PRIVACY | FAMILIAR SURROUNDINGS CLOSE TO PUBLIC FUNCTIONS CONNECTED TO NEIGHBOURHOOD |
| RESULTS SURVEYS | | |
| PHYSICAL | PERSONAL | SOCIAL |
| SPACIOUS - STORAGE SPACE - 3 ROOMS ACCESSIBILITY - ONE-LEVEL - BICYCLE PARKING NICE VIEW GARDEN SUSTAINABILITY | COMFORT SAFETY AGENCY/CONTROL PRIVACY | FAMILIAR SURROUNDINGS CLOSE TO PUBLIC FUNCTIONS CONNECTIONS WITH OTHER AGE GROUPS MEETING PLACES |
| USED SURVEYS: OUDERENPANEL DEN HAAG, (2024), PRETTIG OUD IN DE BUURT (2019), WOONWENSEN SENIOREN (2022), CBS 55+ERS OVER HUN TOEKOMSTIGE WONING (2020) | | |

Figure 3.2: Results of literature and results of existing surveys

to truly feel at home. Rather, it is the relationship with the physical environment and the feelings that are associated with the house, that truly make someone feel at home. Feelings as safety and privacy both essential in making someone feel at home in a space (Olfat, 2023).

In addition autonomy or control is a factor that is especially important for older adults, because of loss of mobility or vitality (Aclan et al., 2023 and Wouters et al., 2016).

Lastly, it is also the social connections that make an older adult feel at home. Meaningful connections with neighbours, family and friends both contribute to the perception of safety and the sense of belonging to a place.

3.3 HOW DO OLDER ADULTS IN HOUTWIJK EXPERIENCE AND VALUE THEIR CURRENT HOME AND NEIGHBOURHOOD IN RELATION TO AGEING?

Subquestion 2

The majority of the participants in the workshop had lived in Houtwijk for decades and expressed a strong connection to the neighbourhood. Most participants were generally positive about their current homes and were quite satisfied with their living conditions.

The aspect participants valued most was their garden, particularly the visual connection between the house and the garden. Nature in general was also frequently mentioned as an important contributor to feeling at home, as long as it is well maintained.

The second aspect that was highly valued in their current living situation was the amount of storage space. Older adults have accumulated a large number of belongings over the years and therefore need sufficient

| RESULTS WORKSHOP | | |
|---|--|---|
| PHYSICAL | PERSONAL | SOCIAL |
| <p>SPACIOUS</p> <ul style="list-style-type: none"> - STORAGE - BIG BATHROOM - PRIVATE OUTSIDE SPACE <p>ACCESSIBILITY:</p> <ul style="list-style-type: none"> - ONE-LEVEL - BIG BATHROOM - PARKING <p>SUSTAINABLE:</p> <ul style="list-style-type: none"> - REGULATED TEMPERATURE - LIGHT <p>CONNECTIONS TO GREEN:</p> <ul style="list-style-type: none"> - VIEW - PRIVATE OUTSIDE SPACE | <p>COMFORT</p> <p>SAFETY</p> <p>NO NUISANCE</p> | <p>CONNECTION WITH NEIGHBOURS</p> <p>BEING TOGETHER WITH FAMILY</p> <p>ACCESSIBILITY</p> <ul style="list-style-type: none"> - CLOSE TO PUBLIC TRANSPORT <p>CLOSE TO PUBLIC FUNCTIONS</p> <p>CONNECTIONS WITH OTHER AGE GROUPS</p> |

Figure 3.3: Results of the workshop divided over the physical, personal and social domain.

space to store them. In addition, temperature, light, and sustainability were mentioned as important factors in feeling at home in ones house.

Although participants were generally satisfied with their homes, several indicated that their houses had become too large over time. Approximately half preferred a one-level dwelling over a multi-level house, as stairs may become increasingly difficult to use with age. At the same time, many participants were open to downsizing, provided that a smaller home would still offer sufficient storage space and rooms large enough to support comfortable daily living.

Safety, with 13 mentions, was one of the most important factors in feeling at home, both within the house and in the neighbourhood. Houtwijk does not always feel safe, especially

in the evenings when there is less supervision in the neighbourhood. As a result, some residents sometimes feel unsafe in their own homes.

Accessibility in the neighbourhood was another concern. The older adults expressed dissatisfaction with the accessibility of public transport, as some locations in the neighbourhood require more than a ten-minute walk to reach the nearest stop. This becomes increasingly difficult as mobility decreases with age. Parking was also mentioned as an issue. The older adults value parking close to their homes, but indicated that there is a shortage of parking spaces in Houtwijk.

In short, the older adults in Houtwijk value their gardens, storage space, and overall living comfort in their current homes. At the same time, they have concerns about the size

and accessibility of their houses, as well as safety in both their homes and the wider neighbourhood. While many participants were open to downsizing, they stressed that a smaller home should still offer sufficient storage and enough spatial quality to support comfortable everyday living.

3.4 WHAT SPATIAL QUALITIES ARE INDISPENSABLE IN A NEW DWELLING OR NEIGHBOURHOOD TO MAKE IT ATTRACTIVE ENOUGH FOR OLDER ADULTS TO RELOCATE AND TO MAKE THEM FEEL AT HOME AGAIN?

Subquestion 3

The results of the workshop and the valuation of the current living conditions related to home, combined with the literature and surveys done across the country, show that there are multiple physical, personal and social factors that make older adults feel at home in their dwelling or neighbourhood.

But what does that mean spatially?

| RESULTS TOTAL | | |
|--|--|---|
| PHYSICAL | PERSONAL | SOCIAL |
| <p>SPACIOUS:</p> <ul style="list-style-type: none"> - 2 OR 3 ROOMS - PRIVATE STORAGE SPACE <p>ACCESSIBILITY:</p> <ul style="list-style-type: none"> - WHEELCHAIR ACCESSIBLE - BIG BATHROOM - ONE-LEVEL - PARKING - BICYCLE PARKING <p>SUSTAINABLE:</p> <ul style="list-style-type: none"> - REGULATED TEMPERATURE - LIGHT <p>GREEN CONNECTIONS:</p> <ul style="list-style-type: none"> - VIEW - PRIVATE OUTSIDE SPACE - GARDEN | <p>COMFORT</p> <p>SAFETY</p> <p>AGENCY/CONTROL</p> <p>PRIVACY</p> <p>NO NUISANCE</p> | <p>FAMILIAR SURROUNDINGS</p> <p>CLOSE TO PUBLIC FUNCTIONS</p> <p>CLOSE TO PUBLIC TRANSPORT</p> <p>CONNECTIONS WITH OTHER AGE GROUPS</p> <p>CONNECTED TO NEIGHBOURHOOD</p> <p>MEETING PLACES</p> |

Figure 3.4: Results of the literature, existing surveys and the workshop combined.

3.4.1 PHYSICAL ASPECTS

The physical qualities that came out of the research can be directly translated in new dwellings, by adding them to the Programm of requirements. Most of these qualities relate primarily to the private dwelling rather than to collective functions or an entire building block. These physical requirements are shown in figure 3.5.

| PHYSICAL REQUIREMENTS DWELLING | |
|--|---|
| PRIVATE | COLLECTIVE |
| SPACIOUS: <ul style="list-style-type: none"> - 2 OR 3 ROOMS - PRIVATE STORAGE SPACE | |
| ACCESSIBILITY: <ul style="list-style-type: none"> - WHEELCHAIR ACCESSIBLE - BIG BATHROOM - ONE-LEVEL | ACCESSIBILITY BUILDING BLOCK: <ul style="list-style-type: none"> - PARKING SPACE - BICYCLE PARKING |
| SUSTAINABLE: <ul style="list-style-type: none"> - REGULATED TEMPERATURE - LIGHT | |
| GREEN CONNECTIONS: <ul style="list-style-type: none"> - VIEW - PRIVATE OUTSIDE SPACE - GARDEN | GREEN SPACE: <ul style="list-style-type: none"> - VIEW - GARDEN |

Figure 3.5: Physical requirements of a senior-friendly dwelling.

3.4.2 PERSONAL ASPECTS

The personal and social aspects are not directly physical and therefore cannot be directly spatial requirements. However, these factors are strongly influenced by spatial design. Architecture and spatial design can support feelings related to home and facilitate the social connections needed to create a sense of belonging.

As discussed in chapters 3.2 and 3.3, the personal feelings associated with home are comfort, safety, agency, and privacy. Although these aspects can sometimes contrast each other, they can also work together within one design.

Safety

Safety can be divided into physical and mental safety. Feelings of

physical safety are closely related to control and a clear overview, meaning that visual connections and clear sightlines are important (Cozens et al., 2005 and Dubey et al., 2024). To feel safe, spaces should be easy to understand and navigate.

Safety is also created through social control and the awareness of being seen by others. (Dubey et al., 2024), which further reinforces the importance of visibility within spatial design.

In addition, organic forms in architecture are often associated with safety (Fierro-newton, 2024 and Bar & Neta, 2006). Curved forms create softness, restfulness, and a sense of security, while avoiding dark corners and unclear spaces, making spaces feel more open and easier to oversee.

In addition, soft forms such as curves can reduce anxiety and increase restfulness, contributing to improved mental health and a greater sense of mental safety (Strachan-Regan & Baumann, 2024).

Privacy and agency

At the same time, there is also a strong need for privacy. These two qualities can coexist when layering is introduced within the spatial design. By introducing different levels of privacy and creating transitions between these levels, residents can maintain a clear overview of the space while having a choice in the amount of privacy they need (Atmoko & Sari, 2026). In this way, safety and privacy are not contradicting qualities but can reinforce each other (Ramadan & Kamel, 2019).

Different levels of privacy also strengthen agency, as residents experience more control over their environment by having different choices (Atmoko & Sari, 2026). Clear wayfinding further supports this sense of control.

Comfort

Organic forms, openness, and visibility also contribute to overall spatial comfort within a space (Strachan-Regan & Baumann, 2024). Aesthetic qualities of the building, as well as views towards greenery, further enhance spatial comfort by contributing to a visually pleasing environment (Ko et al., 2022). In addition, thermal, visual, and acoustic conditions, such as temperature, daylight, and sound, play also a significant role in perceived comfort (Wu et al., 2019) in a space.

3.4.3. SOCIAL ASPECTS

Most of the social aspects of feeling at home are related to the location of senior housing. Housing should be located close to public functions and public transport, while also remaining within familiar surroundings; for Houtwijk, this means staying within Houtwijk itself.

Connection to the rest of the neighbourhood can be achieved through visual connections and openness towards the surrounding neighbourhood, while maintaining sufficient privacy for the residents (Vergara & Viada-Ferrari, 2026). Adding public functions to a senior housing project can also encourage interaction with other age groups, ensuring the building remains an active part of the neighbourhood

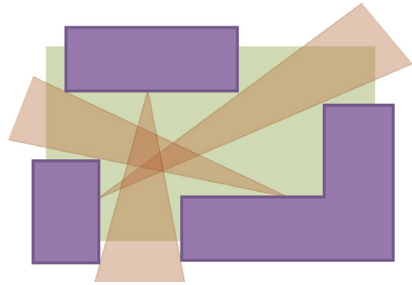
rather than becoming isolated (Henkin & Patterson, 2020).

Lastly, Figure 3.4 shows the importance of connection with nearby neighbours. By orienting dwellings towards a shared social space and including both formal and informal meeting spaces to the living environment (Hamers et al., 2024), neighbours are encouraged to interact with one another, while still giving residents a choice to engage in social interactions or not.

3.4.4. SPATIAL REQUIREMENTS

The personal and social aspects combined result in the following 7 spatial requirements for senior housing to create a sense of safety, privacy, control and comfort, and making older adults feel at home in a building.

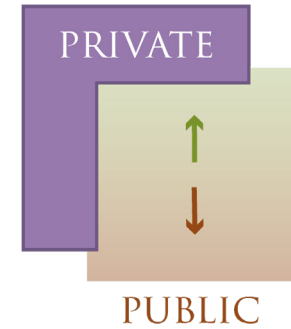
3.4.4 SPATIAL REQUIREMENTS



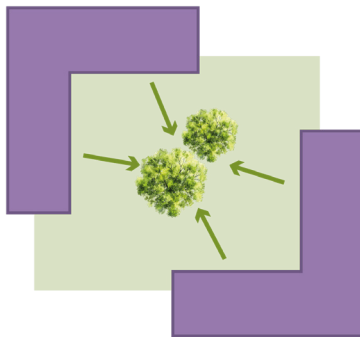
1. Sightlines/clear overview



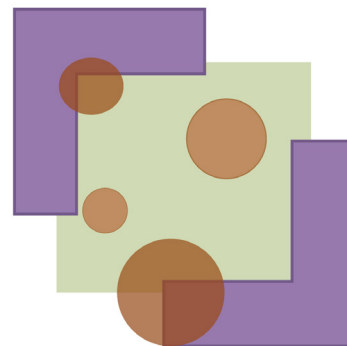
2. Organic/soft forms:



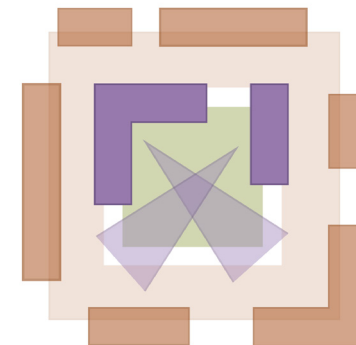
3. Layered privacy



4. Oriented to greenery



5. Formal and informal meeting places



6. Openness to neighbourhood

3.5 CASESTUDIES

Worldwide, many different types of senior housing have already been developed. Two case studies were selected and checked if they conform to the six spatial requirements that came out of chapter 3.4.

1. 't Aahof in Zwolle, which was the first “Knarrenhof” in the Netherlands (Aahof-Zwolle, 2025).

‘Het hofje’ is a traditional Dutch housing type consisting of small homes arranged around a shared courtyard. Since 2018, the modern Knarrenhof has adapted this concept for older adults by combining the social qualities of the hofje with age-friendly housing (Stichting Knarrehof, 2024)

2. Oval senior housing in Albertslund in Denmark is new co-housing community, where the designers have used organic forms around a shared courtyard. The focus of the project is to create a space where people have the ability to socialize or withdraw on their own terms (Vandkunsten, 2024).

Both case studies show that several of the identified spatial requirements are already present in existing senior housing projects. However, neither project combines all six requirements, highlighting the opportunity to bring these qualities together in a single design proposal.

CASESTUDY 1: 'T AAHOF, ZWOLLE (Aahof-Zwolle, 2025)

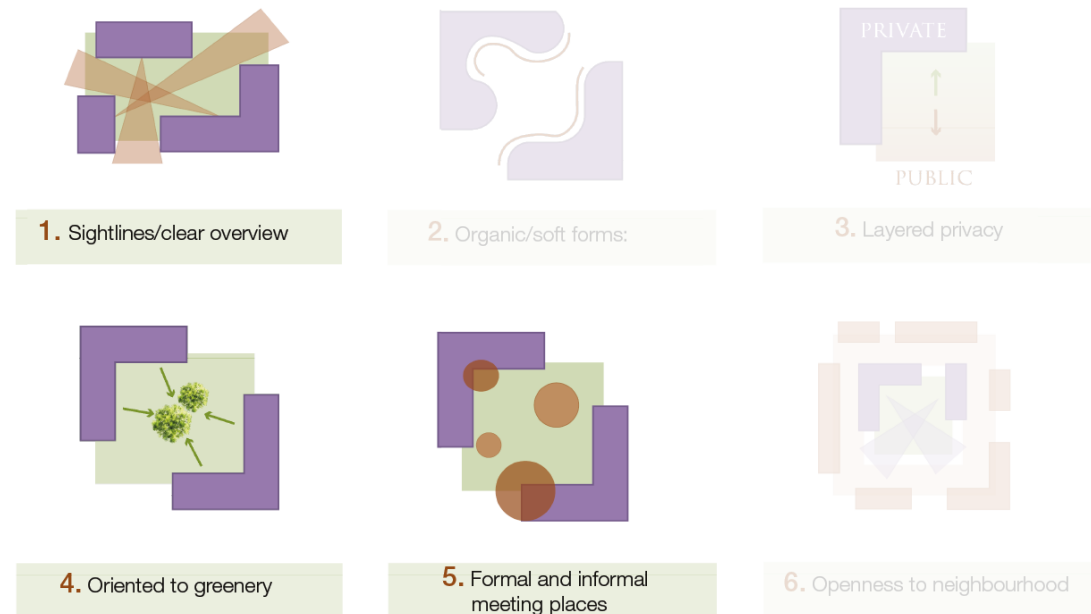
Architect: Trude Vroomen and Olof Schonewille, INBO
Year: 2018
Location: Zwolle, Netherlands
Dwellings: 48 houses

't Aahof in Zwolle, the first Knarrenhof in the Netherlands, only partially matches the six spatial requirements.

The design consists of senior housing arranged around a collective green courtyard, providing clear sightlines and overview. However, the connection to the wider neighbourhood is limited, as the project is primarily focused on the internal community.



Figure 3.6: Knarrenhofje 't Aahof in Zwolle (Aahof-Zwolle, 2025)



CASESTUDY 2: OVAL SENIOR HOUSING, ALBERTSLUND (Vandkunsten, 2024)

Architect: Vandkunsten Architecten
 Year: 2024
 Location: Albertslund, Denmark
 Dwellings: 50 apartments

The Oval also does not comply to all the six spatial requirements.

The project stands out because of its unusual form. The building uses an organic shape to create an enclosed courtyard.

Although the project is open on all four sides, its connection to the wider neighbourhood remains limited. The building is surrounded by greenery and lacks a direct relationship with the surrounding neighbourhood.

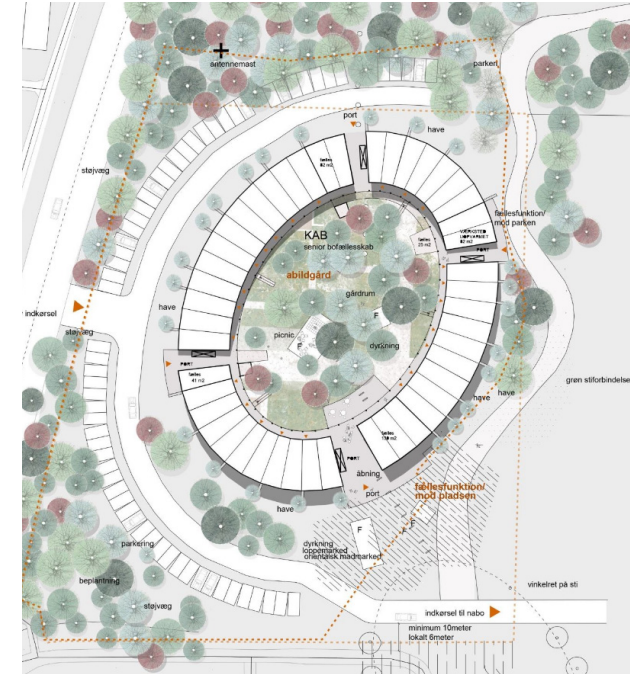
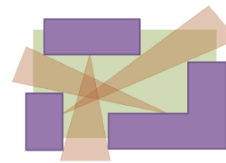


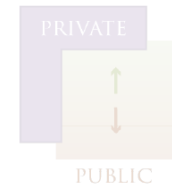
Figure 3.7 and 3.8: Impression and site plan of Oval senior cohousing community (Vandkunsten, 2024)



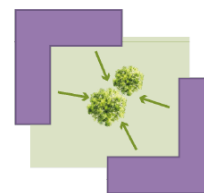
1. Sightlines/clear overview



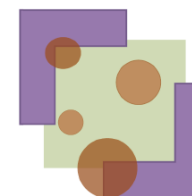
2. Organic/soft forms:



3. Layered privacy



4. Oriented to greenery



5. Formal and informal meeting places



6. Openness to neighbourhood

3.6 DESIGN CHALLENGE

The design challenge is to design senior friendly housing that complies to all of these six spatial requirements, in order for older adults to feel at home, and that is attractive enough to support the willingness of older adults to relocate.

Beside the six spatial principles the building also has to conform to the physical requirements, mentioned in chapter 3.4.1. In addition the design has to be wheelchair accessible and low maintenance in order to make it suitable for ageing in place.

| PHYSICAL REQUIREMENTS DWELLING | |
|--|---|
| PRIVATE | COLLECTIVE |
| SPACIOUS: <ul style="list-style-type: none"> - 2 OR 3 ROOMS - PRIVATE STORAGE SPACE | |
| ACCESSIBILITY: <ul style="list-style-type: none"> - WHEELCHAIR ACCESSIBLE - BIG BATHROOM - ONE-LEVEL | ACCESSIBILITY BUILDING BLOCK: <ul style="list-style-type: none"> - PARKING SPACE - BICYCLE PARKING |
| SUSTAINABLE: <ul style="list-style-type: none"> - REGULATED TEMPERATURE - LIGHT | |
| GREEN CONNECTIONS: <ul style="list-style-type: none"> - VIEW - PRIVATE OUTSIDE SPACE - GARDEN | GREEN SPACE: <ul style="list-style-type: none"> - VIEW - GARDEN |

Figure 3.9: Physical requirements of a senior-friendly dwelling, mentioned in chapter 3.4.1.

.4

DESIGN

4.1 CONCEPT

The six spatial requirements, together with the design brief and design principles, result in the concept of an **Inside-Outside world**. This concept brings contrasting spatial elements together in one building. Within the concept there is room for both connection and openness as well as withdrawal and privacy.

The outside world represents the connection with the neighbourhood: openness, interaction, and being part of the surrounding urban context. The inside world represents the opposite condition: privacy, security, and a stronger connection to nature. By creating a gradual shift between these worlds, transitioning from public to private, the two remain connected while still clearly distinct.

In this way, the building can be part of the wider context and at the same time function as a world of its own.

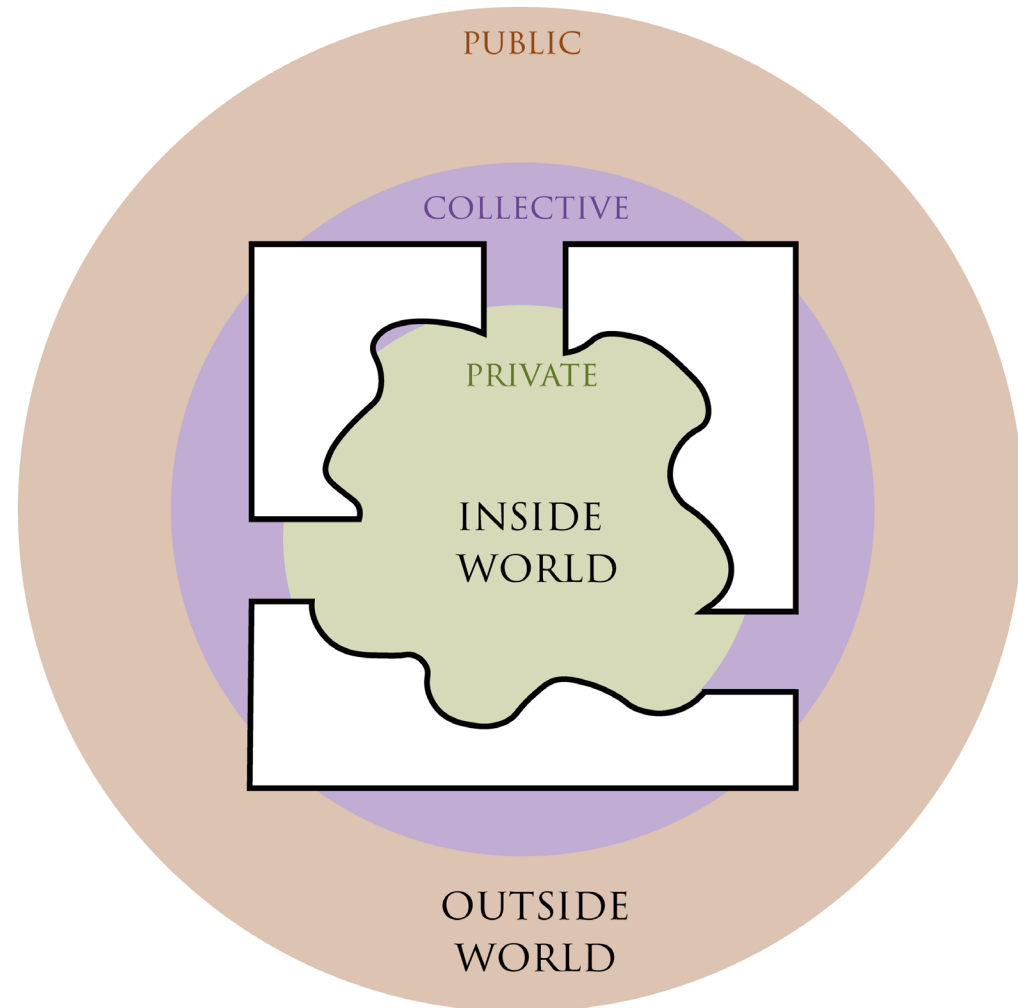


Figure 4.1: Concept of the Inside-Outside world

4.2 PROGRAMM OF REQUIREMENTS

Based on the results from chapter 3.2 and 3.3 the following programm was created. The programm consists of public, collective and private functions:

In chapter 3.3 was stated that the design needs to have a public function that attracts both residents of the senior housing project and residents of the rest of Houtwijk from different age groups. Furthermore Houtwijk has a variety of facilities, but no places to sit and grab a drink. So the function that would attract both senior residents and residents from the rest of Houtwijk is a Buurtcafé.

Chapter 3.3 also concluded that there is a need for gardens and collective meeting spaces.

| PROGRAMM OF REQUIREMENTS | | |
|--|--|---|
| URBAN LEVEL | BUILDING LEVEL | APARTMENT LEVEL |
| <p>Location:</p> <ul style="list-style-type: none"> - In Houtwijk - Close to public transport - Close to public facilities | <p>Public programm:</p> <ul style="list-style-type: none"> - Buurtcafé - Terrace <p>Collective programm:</p> <ul style="list-style-type: none"> - Collective garden - Collective vegetable garden - Collective living room <ul style="list-style-type: none"> - Kitchenette - Toilet - Collective storage - Car parking - Bike parking - Technical room - Trash - Guest room/studio <p>Private programm:</p> <ul style="list-style-type: none"> - Apartments | <p>Programm:</p> <ul style="list-style-type: none"> - Kitchen - Living room - Bedroom - Bathroom - Toilet - Extra room - Storage - Private outdoor space |

Figure 4.2: Programm of requirements, based on the results of the research.

4.3 LOCATION

Based on the outcomes of chapter 3.3, the location of the project should be:

1. Close to facilities
2. Close to public transport
3. Close to greenery
4. In the same neighbourhood:
Houtwijk
5. Connected to the surrounding
neighbourhood

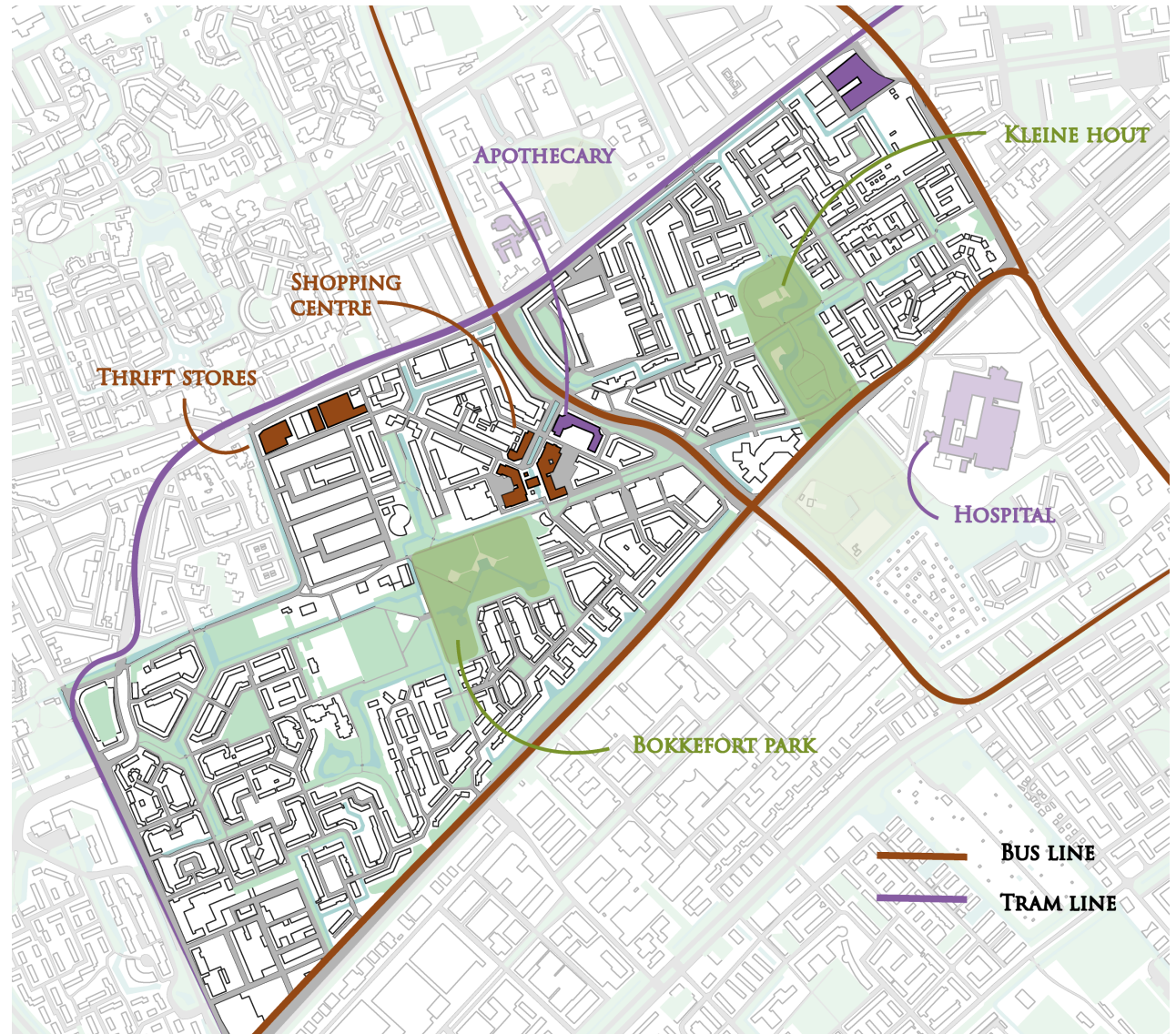


Figure 4.3: Facilities in Houtwijk

4.3 LOCATION: CONNEXION PLOT

The best location, fitting with these requirements is the former Connexion plot, because of the following characteristics:

1. Opportunity to connect the location to the shopping centre
2. The location is close to public transport stops
3. Park Kleine Hout is less than a 5 minute walk
4. The location is close to the centre of Houtwijk
5. On one side, the plot is open toward the existing neighborhood, creating an opportunity to connect the site with the existing surroundings.



Figure 4.4: Facilities of Connexion plot

4.3 LOCATION: EXISTING PLAN

There is already an existing housing plan for the Connexion plot: Nieuw Houtwijk, aimed at families with children, which has been approved by the municipality (BPD, 2025).

The existing plan consists of 139 new dwellings, divided over 6 buildings blocks:

- 2 apartment blocks with social and normal rent and a public plint.
- 4 blocks with private-owned terraced housing with 3 or 4 stories.



Figure 4.5: Existing plan: Nieuw Houtwijk

4.3 LOCATION: TRANSFORMATION OF THE EXISTING PLAN

Although there is support in the neighbourhood for the new plan, there is a lack of connection within the plan itself:

- There is no connection between the different building blocks. The apartment blocks are oriented inward, towards the public plinth, resulting in a weak connection between the private owned houses and the public facilities. In addition, the plinth is placed in a closed-off corner, limiting its connection to the rest of Houtwijk.

- The private housing blocks are poorly connected to each other, as their front facades face closed side facades and fences, which limits visual connection.

- There is no connection with the wider neighbourhood. Although the plot offers the opportunity to connect to existing public facilities, this is not achieved due to closed facades that block this connection.

Furthermore, Houtwijk already consists mostly of private owned terraced housing, while there is a shortage of senior housing, which is not addressed in the current proposal.

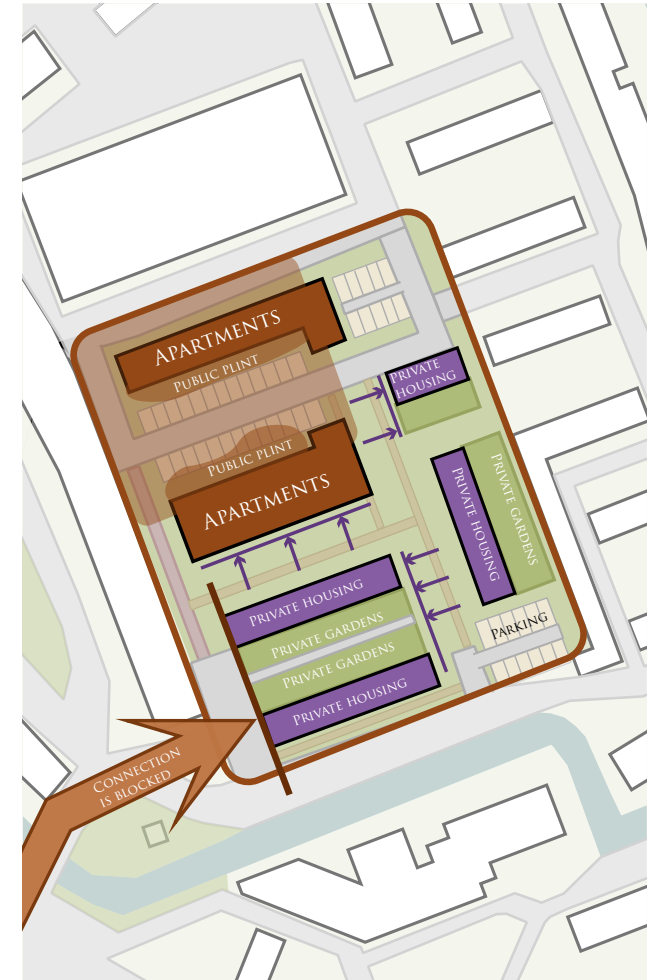


Figure 4.6: Lack of connection in the existing plan.

4.3 LOCATION: TRANSFORMATION OF THE EXISTING PLAN

Because there is support in the neighbourhood for the new plan and it has been approved by the municipality, it would be a waste to discard it entirely.

Chapter 3.3 showed that connection with the rest of the neighbourhood and other age groups is important for senior housing.

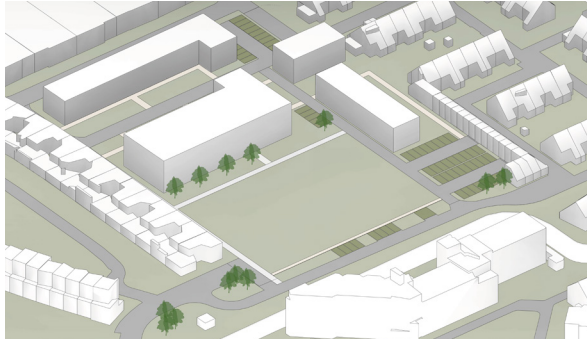
That is why part of the existing plan is replaced with a senior housing project, namelijk the south-west corner of the site.

In this way the senior housing project can be used to open the project to the rest of Houtwijk and to connect the shopping centre with the new public plinth.

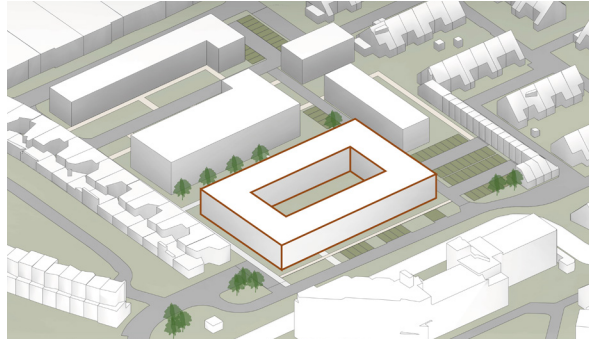


Figure 4.7: Chosen location

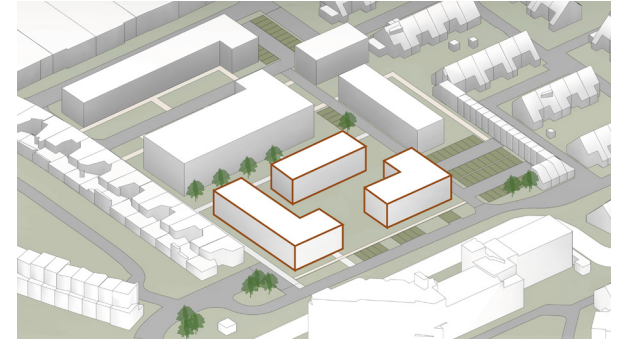
4.4 MASS STUDY



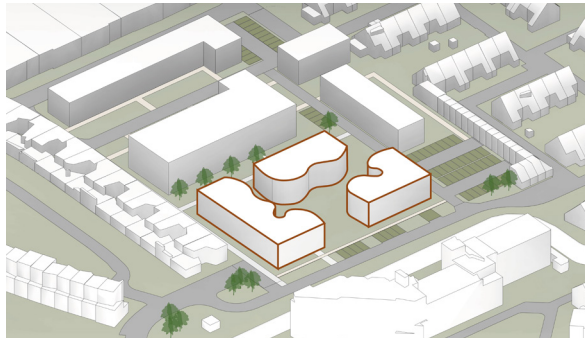
1. Empty location



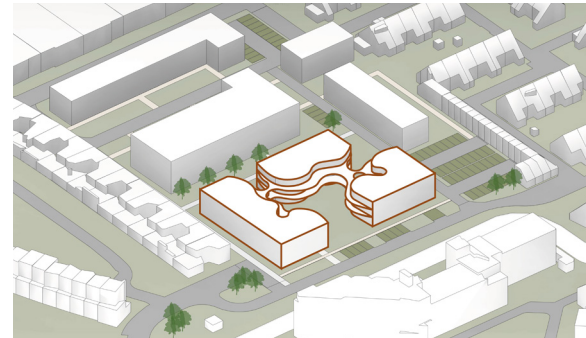
2. Create a building with an inside and outside world



3. Create openings to connect the building to the neighbourhood and to create a visual connection with the outside.



4. Adding curved facades on the inside to create a safe and secure environment and strengthen the contrast between the outside and inside world.



5. Adding a gallery to connect the buildings together and make space for informal meeting places.

4.4 MASS STUDY

The concept of the Inside–Outside world and the six spatial requirements come together in the final shape of the building.

The building's shape creates both an inside and outside world without fully separating them. Organic shapes on the inside contrast with the straight lines on the outside, emphasizing the difference between the two worlds without creating a strict boundary.

The galleries are oriented towards the inner space, where there is room for greenery and meeting spaces. At the same time, openings on all sides and clear sightlines maintain a connection with the surrounding neighbourhood.

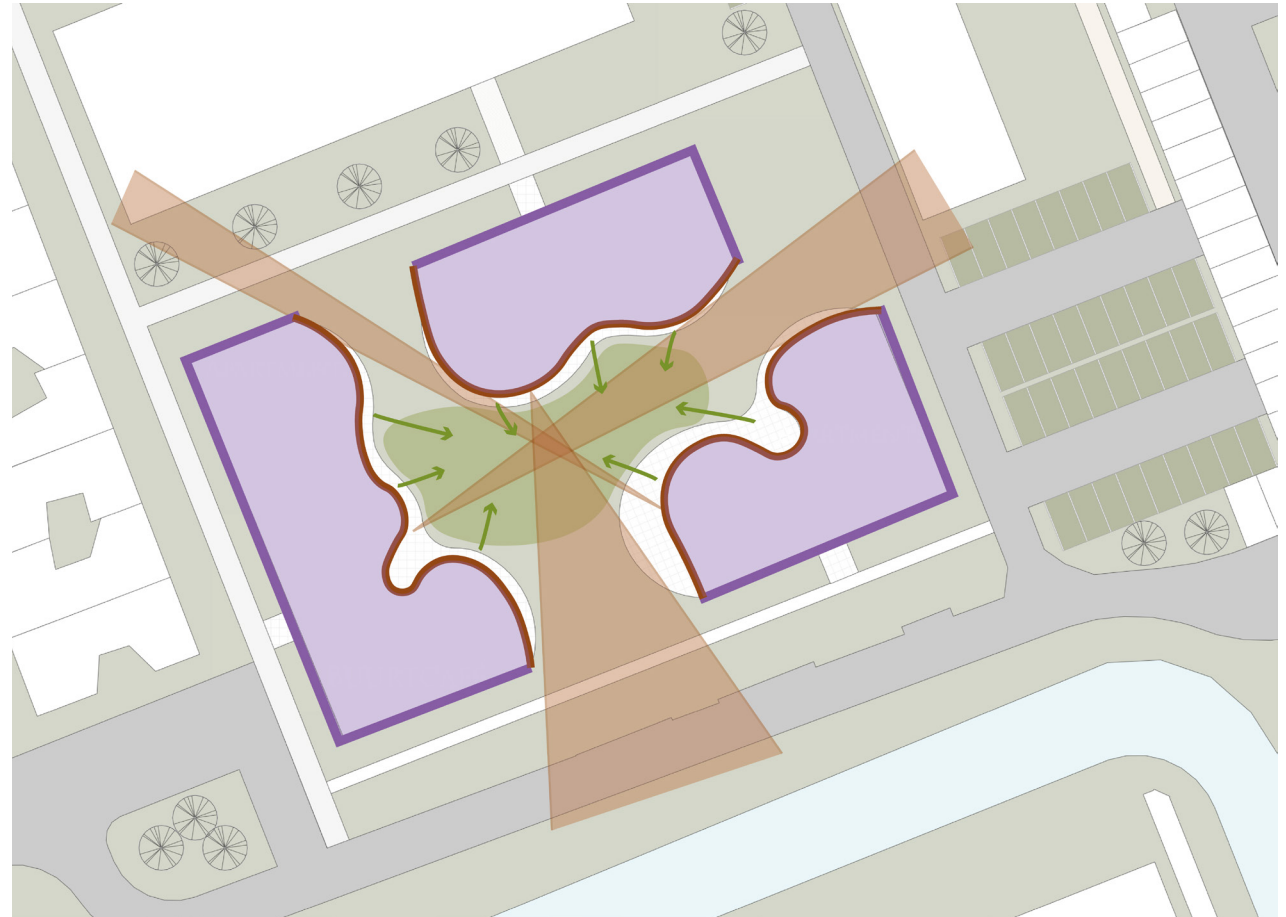


Figure 4.8: Final mass

4.5 LAYOUT PLAN

The transition from public to private is a key principle of the project. The southern corner, directly connected to Houtwijklaan, is the most public part of the plan. Moving away from this corner, the plan gradually becomes more private.

This hierarchy is further expressed through the circulation network. Routes for cars, cyclists, and pedestrians are clearly distinguished, also going from public to more private.

This all comes together in the final site plan.

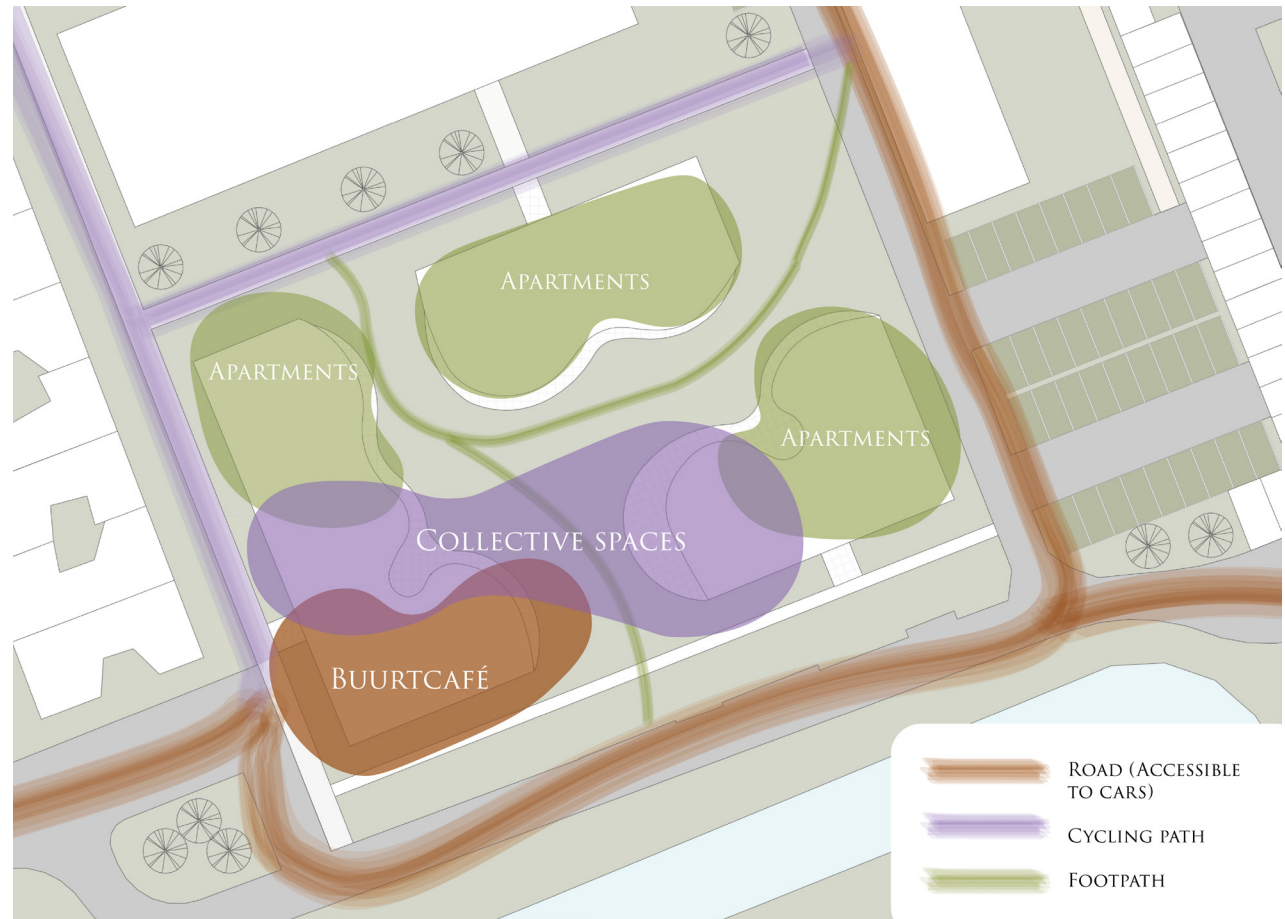


Figure 4.9: Layout plan

4.6 SITE



Figure 4.10: Site plan 1: 1000

4.7 PLANS

The layered privacy comes back in the overall plan of the building, not only horizontally, but also vertically. While the ground floor consists of a public function and multiple collective spaces, the first and second floor consist of only private dwellings with a collective gallery.

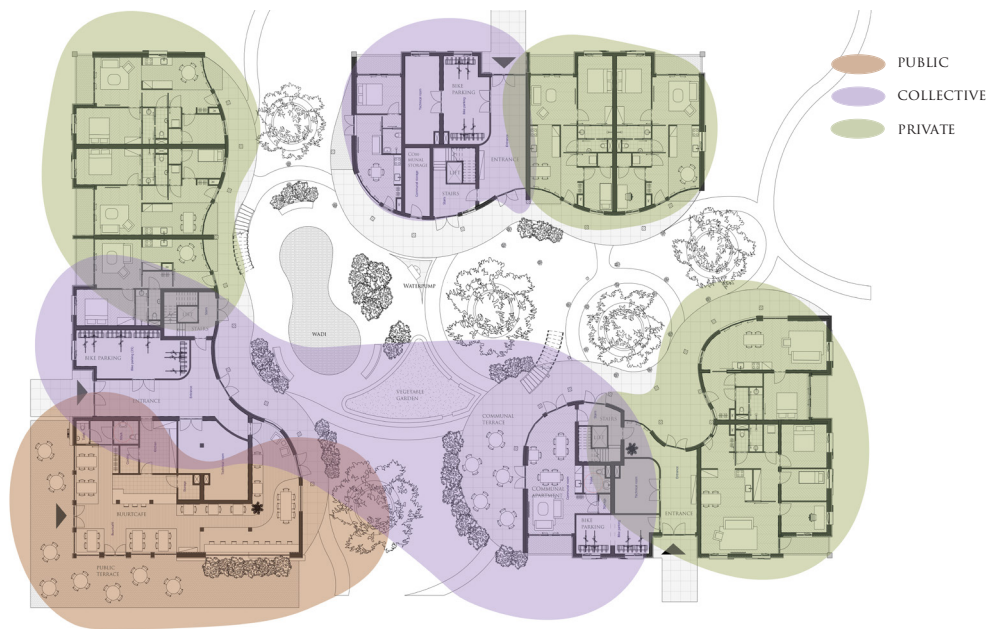


Figure 4.11: Layered privacy on ground floor

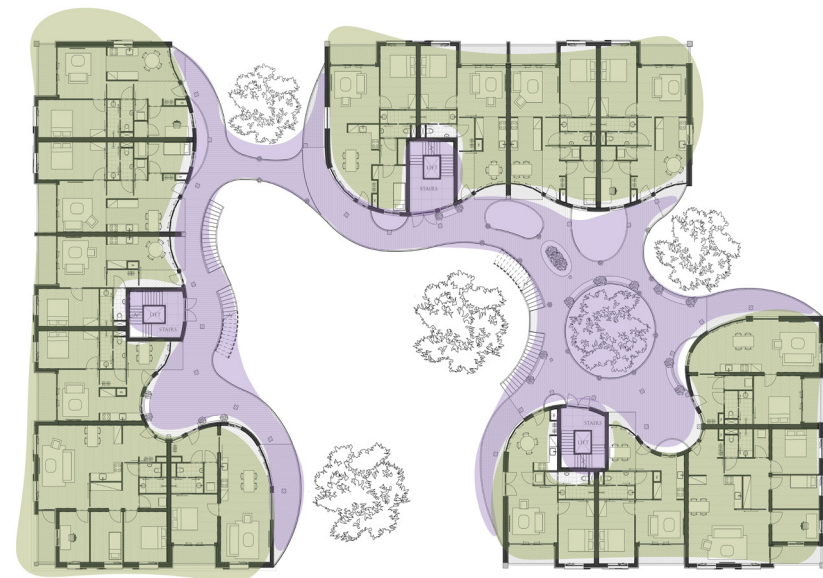


Figure 4.12: Layered privacy on first and second floor

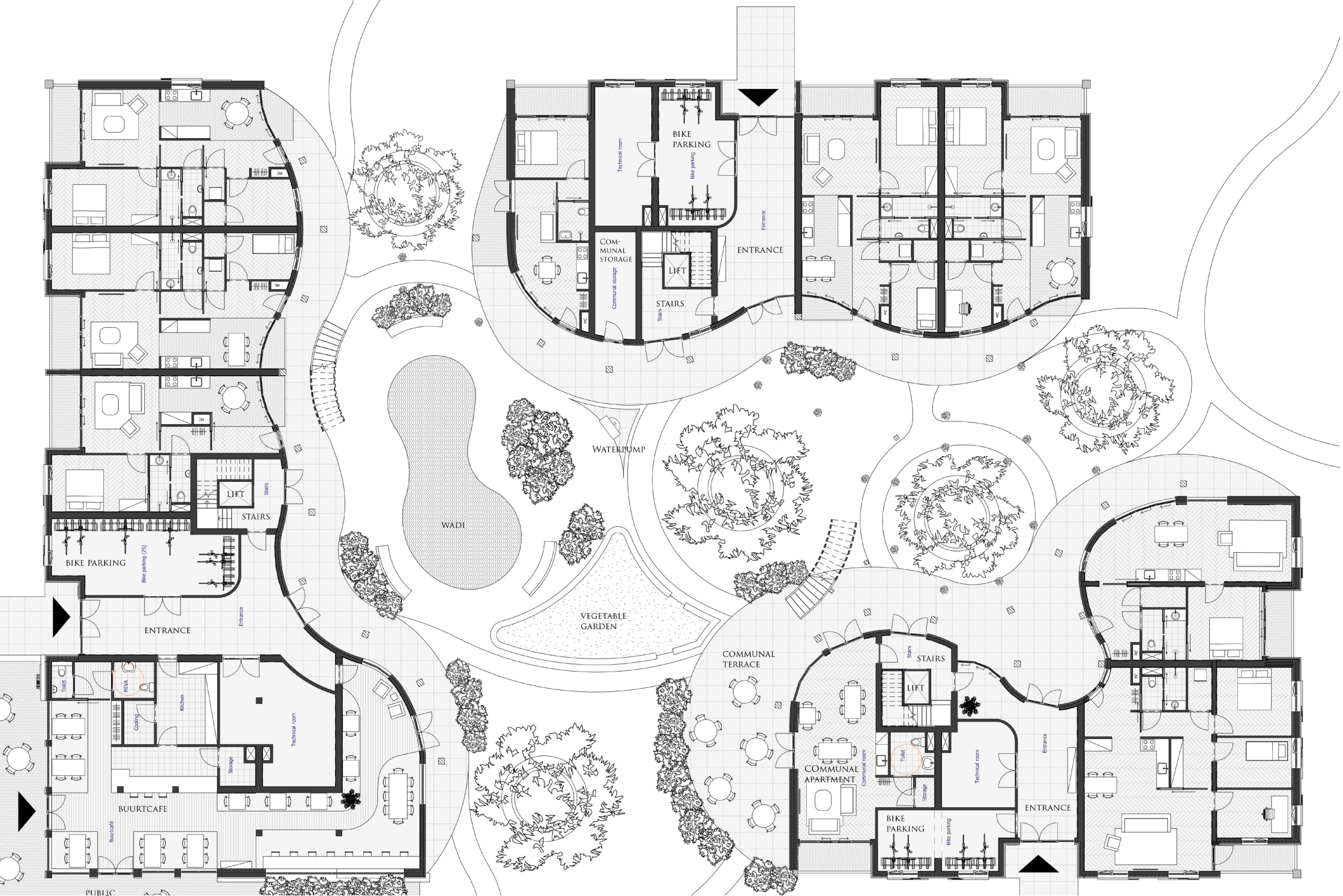


Figure 4.13: Plan ground floor: 1:500

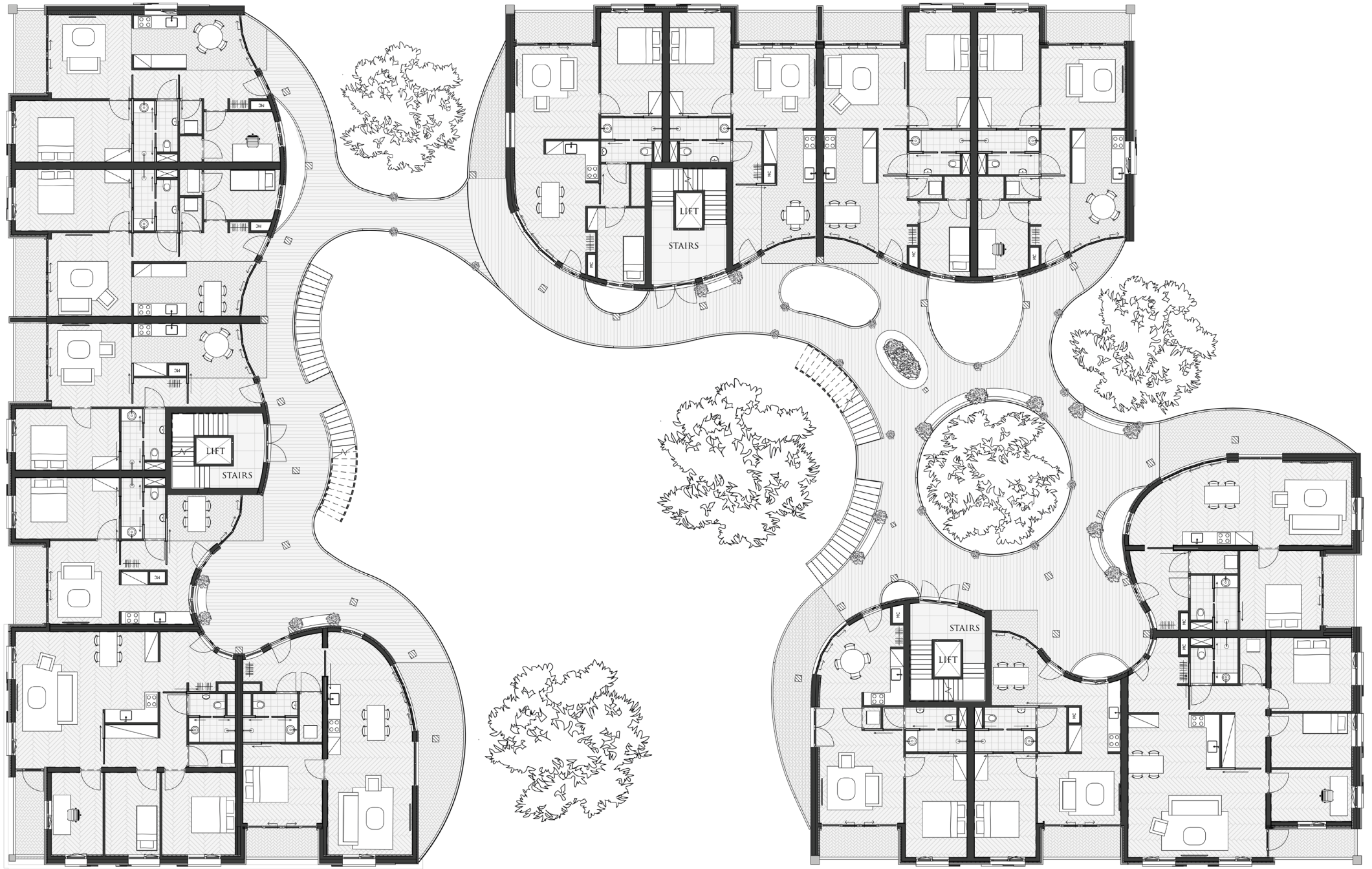


Figure 4.14: Plan first and second floor: 1:500

4.8 APARTMENTS

The principle of layered privacy is present at all scales of the design and also forms the basis of the apartment layouts. The floor plans are organised in such a way that the level of privacy gradually increases as one moves further into the dwelling.



Figure 4.15: Layered privacy in apartment plan

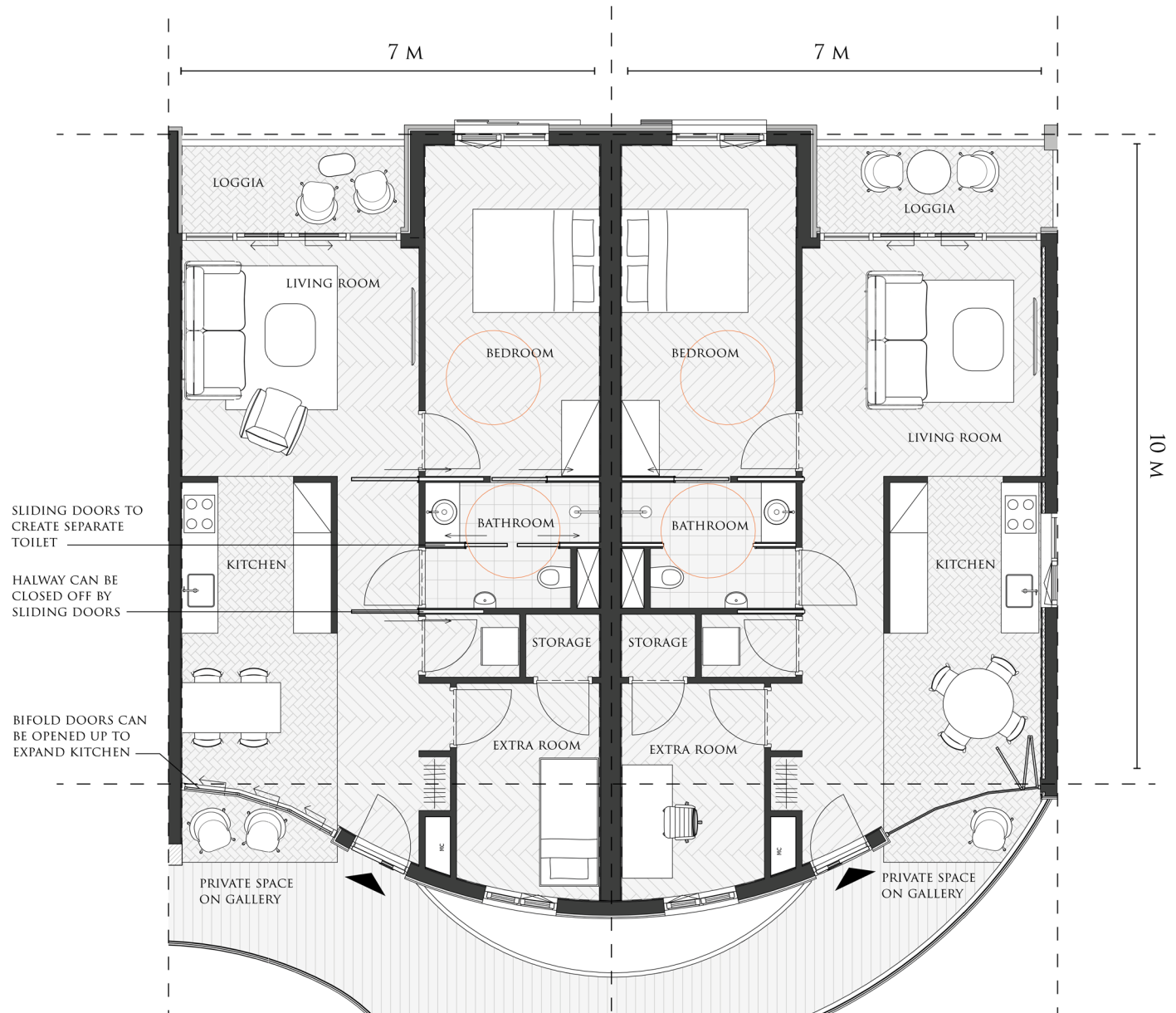


Figure 4.16: Apartment layout 1:100

4.9 FACADES AND MATERIALS

The facades are key in showing the contrast between the inside and the outside world. While the outside facade is part of the rest of the neighbourhood, the inside world is a world on its own, characterized by organic and natural forms and privacy.

| CHARACTERISTICS FACADE | |
|---|--|
| OUTSIDE WORLD | INSIDE WORLD |
| <ul style="list-style-type: none">- URBAN- PART OF THE REST OF THE NEIGHBOURHOOD- STRAIGHT LINES- PUBLIC- FIRM- MATERIALS LIKE SURROUNDING BUILDINGS- ORIENTED TO OUTSIDE | <ul style="list-style-type: none">- NATURAL- WORLD ON ITS OWN- CURVED LINES- PRIVATE- SOFT- BIOBASED MATERIALS- ORIENTED TO INSIDE |

Figure 4.17: Requirements for facades

4.9 FACADES AND MATERIALS



Figure 4.18: Facade Outside world



Figure 4.19: Facade Inside world

4.10 CLIMATE

Because comfort is one of the main factors that contributes to a sense of home for older adults, and because comfort is strongly influenced by the indoor climate, it is important that the building can adapt to future climate changes. This ensures that a comfortable indoor environment can be maintained, even as outdoor conditions change over time.

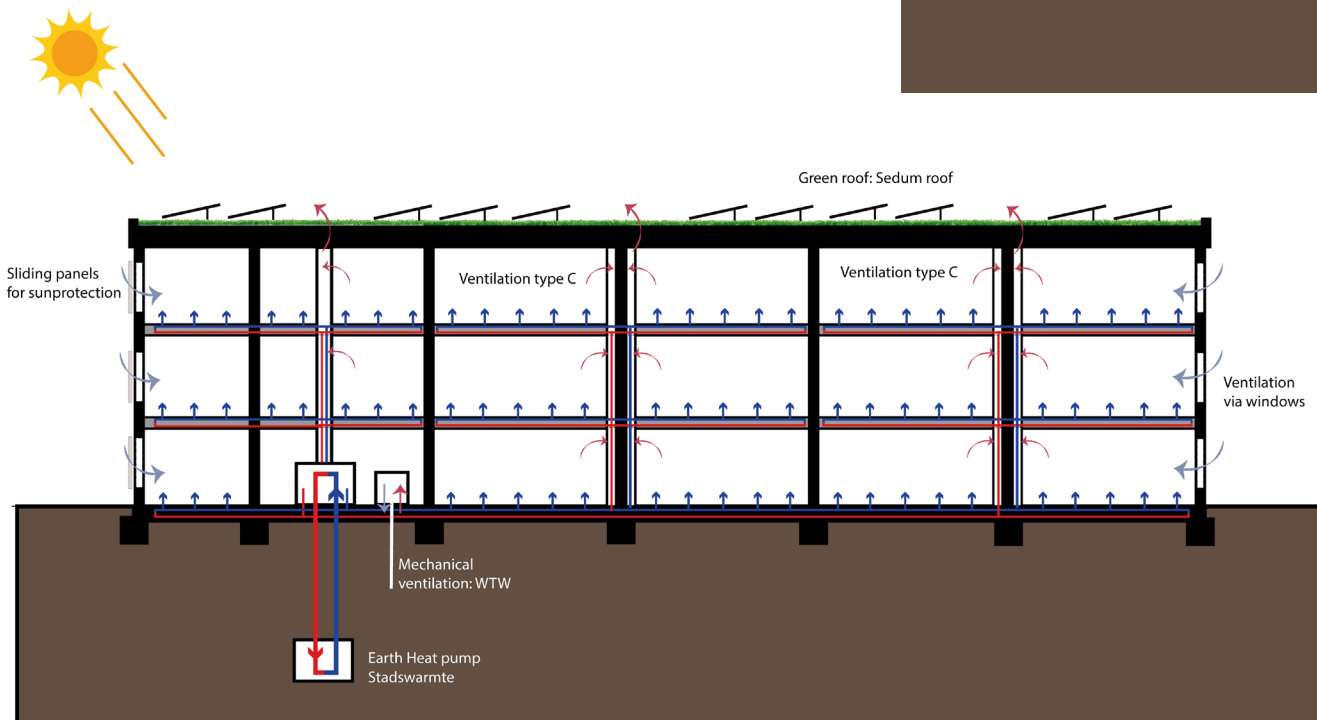


Figure 4.20: Climate section A summer

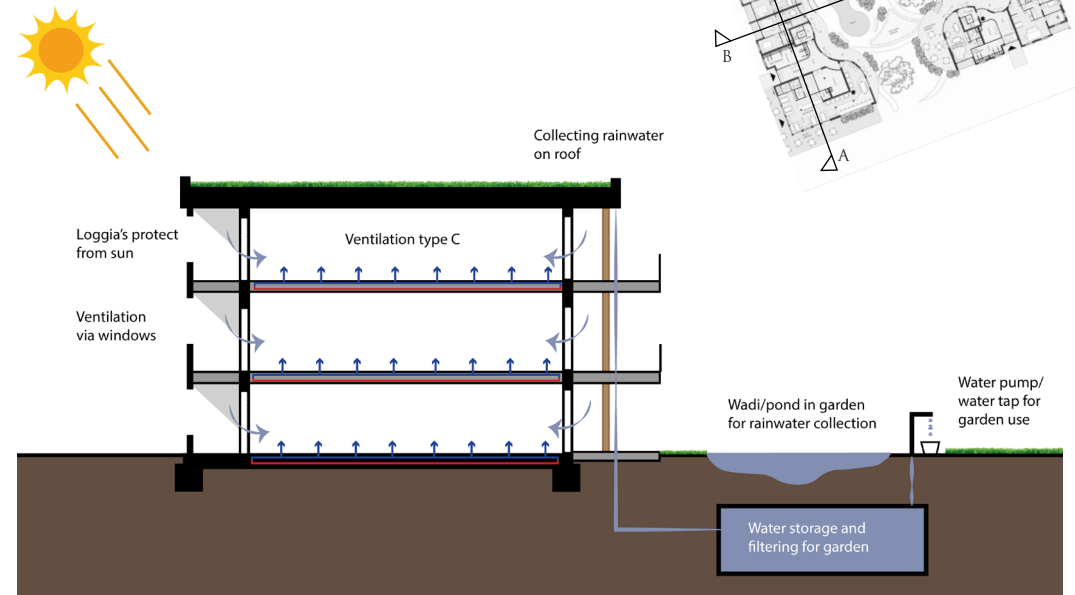


Figure 4.21: Climate section B summer

The design makes use of sunlight, natural ventilation, district heating, and the reuse of rainwater. By integrating these strategies, the building is better able to respond to future climate changes while maintaining a comfortable and sustainable living environment for its residents.

.5

CONCLUSION

5.1 CONCLUSION

This research explored the main question of how architectural and environmental design can create a sense of home and support the willingness of older adults to relocate. The research shows that a sense of home is influenced by more than just physical and spatial qualities. It is created by a combination of physical, personal, and social factors.

Both literature, existing surveys, and the workshop with residents of Houtwijk show that the main factors that support a sense of home for older adults are comfort, safety, privacy, agency, and social connections. These factors are not only related to the dwelling itself, but also to the wider environment and neighbourhood in which people live.

These five factors are not physical factors, but they can be supported through thoughtful physical design.

This means that architectural and environmental design does not directly create a sense of home, but it does strongly influence it by shaping the conditions that support these five factors of feeling at home.

Concept

The research shows that these five factors are translated into six spatial requirements, namely: clear sightlines and overview, organic and soft forms, layered privacy, orientation towards greenery, formal and informal meeting spaces, and openness towards the neighbourhood.

These requirements come together in the concept of the Inside–Outside world. The outside world represents connection with the neighbourhood and is in a more urban style. While the inside world represents privacy and security and is more green and

natural.

By creating a gradual transition between these two contrasting worlds, the design allows residents to move between different levels of privacy and social interaction, depending on their needs. This also gives residents agency and choice, as the building can respond to different preferences and ways of living.

Design

The concept is translated into a senior housing design through the careful organisation and layout of the building, based on the idea of the Inside–Outside world. The final design consists of three buildings organised around a collective courtyard. Rather than creating a closed-off space, the courtyard remains open on all sides, creating a gradual transition from public to private as people move further into the project.

Public functions connect the project to the rest of Houtwijk and attract people from different age groups. In addition, visual connections and sightlines maintain a relationship with the surrounding neighbourhood. Collective spaces are located between the public and private parts of the project, creating a gradual transition between the two.

This layering of privacy is present throughout the design, both horizontally and vertically, as well as within the dwellings themselves. As a result, residents have a choice in how much interaction or privacy they prefer at any given moment.

Central to the design is the contrast between the inside and outside world, allowing seemingly opposing qualities to coexist within one project. By having these two worlds in one design, there is both space for

privacy and connection, safety and openness, and urban and natural qualities.

The final design brings together privacy and connection, resulting in a living environment that supports comfort, safety, agency, and social interaction. Through the gradual transition between public, collective, and private spaces, residents can choose how they engage with others and their surroundings. In this way, the design creates the conditions that support a sense of home for older adults with different lifestyles and social needs.

Final conclusion

Based on this research, it can be concluded that architectural and environmental design can support the willingness of older adults to relocate by creating the conditions

that contribute to a sense of home. Although design does not directly create a sense of home, it can support the comfort, safety, privacy, agency, and social connections that help older adults feel at home in a new living environment. When these conditions are present in a new dwelling or living environment, older adults are more likely to recognise it as familiar and to feel at home again. This sense of familiarity and belonging can reduce the emotional barrier of relocating, and therefore makes it easier for older adults to consider moving to a new dwelling.

5.2 DISCUSSION

Significance

The project contributes to the current discussions on ageing in place and housing mobility of older adults by showing how senior housing can support both the practical and emotional needs of older adults.

Instead of focusing only on functional requirements like accessibility and possibilities for care, the design focuses on the sense of home and how this is influenced physical space.

The concept of the Inside-Outside world translates abstract qualities that contribute to feeling at home, such as comfort, safety, privacy, agency, and social connection, into spatial principles. It provides a concrete example of how senior housing can be designed not just as a building, but as a place that is lived and experienced.

As the demand for suitable senior housing increases, this design shows how relocation can be supported not only through providing dwellings, but by creating environments that feel familiar, comfortable, and socially connected, which can help lowering the barrier to relocation.

Reflection

Because the research and the design are largely based on experiences, and because “home” means different things to different people, most of the research is based on interviews conducted during the workshop.

A total of 16 people took part. It is therefore important to keep in mind that the answers of these 16 participants do not represent all of Houtwijk. If a different group had participated, the outcomes could have been different.

There is also a strong chance that the people who joined the workshop already had an interest in the topic, because participation was entirely voluntary. This means that a large group of people was not reached, such as older adults who are lonely or older adults with a migration background.

At the same time, the answers from the workshop largely correspond with findings from literature and existing surveys, meaning that the answers are representative of the what home means in general for older adults in the Netherlands.

During the interviews, it also became clear that many people find it difficult to clearly express what ‘home’ really means to them. Instead, their answers often come down to naming things they do or do not like in their living environment. This shows that ‘home’

remains an abstract concept for many people and some conclusion may therefore be an interpretation of the given answers.

Although the project is largely based on experiences, residents of Houtwijk were only involved in the research phase and not in the design process. In hindsight, it might have been valuable to also involve them during the design phase and gather their feedback. This would have allowed testing whether the spatial requirements that came out of the research actually contribute to a sense of home for the target group.

Finally, it is important to keep in mind that feeling at home is not the only factor that influences older adults' willingness to move. Many other aspects besides spatial design, also play a role. However, from an architectural perspective, it

proved valuable to design from lived experience rather than from a fixed list of physical requirements. This has resulted in a final design that is more than just a physical building, but rather a living environment where older adults can feel at home.

.6

LITERATURE

Aahof-Zwolle. (2025, 15 mei). Aahof-Zwolle. Consulted on 25 april 2026, via <https://www.aahof-zwolle.nl/>

Aclan, R., George, S., Block, H., Lane, R., & Laver, K. (2023). Middle aged and older adult's perspectives of their own home environment: a review of qualitative studies and meta-synthesis. *BMC Geriatrics*, 23(1), 707. <https://doi.org/10.1186/s12877-023-04279-1>, consulted on 22 december 2025.

Algemeen Dagblad. (2025, 11 mei). Het gapende gat tussen thuis en verpleeghuis: 'We hebben geregeld boze families tegenover ons'. Consulted on 6 december 2025, van <https://www.ad.nl/binnenland/het-gapende-gat-tussen-thuis-en-verpleeghuis-we-hebben-geregeld-boze-families-tegenover-ons~a03148cb/>

AlleCijfers.nl. (2025, 4 december). AlleCijfers.nl. Consulted on op 6 december 2025, van <https://allecijfers.nl/ buurt/houtwijk-den-haag/>

Atmoko, R., & Sari, S. R. (2026). SPATIAL HARMONIZATION THROUGH BIOPHILIC TRANSITIONAL SPACES MULTI-STAGE SENIOR HOUSING ANALYSIS STUDY. *Journal Of Architecture&ENVIRONMENT*, 25(1), 115. <https://doi.org/10.12962/j2355262x.v25i1.a23500>. Consulted on 15 may 2026.

Bar, M., & Neta, M. (2006). Humans prefer curved visual objects. *Psychological Science*, 17(8), 645–648. <https://doi.org/10.1111/j.1467-9280.2006.01759.x>, consulted on 11 March 2026.

Bar, M. (2024, 23 mei). Langer thuis wonen door ouderen vergroot de druk op andere zorg. Erasmus University Rotterdam. Consulted on 28 november 2025, van <https://www.eur.nl/nieuws/langer-thuis-wonen-door-ouderen-vergroot-de-druk-op-andere-zorg>

BPD [Bouwfonds gebiedsontwikkeling]. (2025). Nieuw Houtwijk | Nieuwbouw Den Haag. Consulted on 12 January 2026, via <https://www.nieuwhoutwijk.nl/>

Breget, I. (2025, 23 september). 3 soorten eenzaamheid: emotioneel, sociaal, existentieel | iPractice. iPractice. Consulted on 10 January 2026, van <https://ipractice.nl/klachten/eenzaamheid/soorten-eezaamheid/>

- Centraal Bureau voor de Statistiek. (2020). 55-plussers over hun (toekomstige) woning. In CBS. Consulted on 21 February 2026, via <https://www.cbs.nl/nl-nl/longread/statistische-trends/2020/55-plussers-over-hun--toekomstige---woning>
- Centraal Bureau voor de Statistiek. (2022, 30 november). Alleenstaande oudere vrouwen wonen het grootst. Centraal Bureau Voor de Statistiek. Consulted on 8 december 2025, via <https://www.cbs.nl/nl-nl/nieuws/2022/48/alleenstaande-oudere-vrouwen-wonen-het-grootst>
- Cozens, P. M., Saville, G., & Hillier, D. (2005). Crime prevention through environmental design (CPTED): a review and modern bibliography. *Property Management*, 23(5), 328–356. <https://doi.org/10.1108/02637470510631483>, consulted on 13 april 2026.
- Dahlin-Ivanoff, S., Haak, M., Fänge, A., & Iwarsson, S. (2007). The multiple meaning of home as experienced by very old Swedish people. *Scandinavian Journal Of Occupational Therapy*, 14(1), 25–32. <https://doi.org/10.1080/11038120601151714>, consulted on 6 December 2025.
- De Haagse Hogeschool & Kennisplatform Seniorvriendelijk Den Haag. (2021). Seniorvriendelijke Stad 2020 Integrale rapportage. De Haagse Hogeschool. Consulted 11 January 2026, van <https://extranet.who.int/agefriendlyworld/wp-content/uploads/2015/03/2021-Rapport-Monitor-Seniorvriendelijk-Den-Haag-DIGI47632.pdf>
- Dikken, J., Van Hoof, J., & Kennisplatform Seniorvriendelijk Den Haag. (2025). INTEGRALE RAPPORTAGE MONITOR SENIORVRIENDELIJKE STAD DEN HAAG. De Haagse Hogeschool. Consulted on 13 March 2026, via <https://www.dehaagsehogeschool.nl>
- Dubey, S., Bailey, A., & Lee, J. (2024). Women's perceived safety in public places and public transport: A narrative review of contributing factors and measurement methods. *Cities*, 156, 105534. <https://doi.org/10.1016/j.cities.2024.105534>, consulted on 13 april 2026.
- Erasmus School of Health Policy & Management & Movisie. (2018). Prettig oud in eigen buurt. In *Inspiratiebundel* (pp. 2–32). Consulted on 24 February 2026, via <https://www.movisie.nl/sites/movisie.nl/files/2019-03/prettig-oud-in-de-buurt.pdf>
- Fierro-Newton, P. (2024, december). The Emotional Impact of Curved vs. Angular Designs. <https://neurotectura.com/2024/12/31/the-emotional-impact-of-curved-vs-angular-designs/>, consulted on 10 March 2026

GDO Den Haag. (2025, 20 januari). Romeinse Schans - GDO. GDO. Consulted on 5 december 2025, via <https://gdo-den Haag.nl/romeinse-schans/>

De Groot, C. (2015). Aanpassen of verkassen? Langer zelfstandig in een geschikte woning. PBL Planbureau Voor de Leefomgeving. Consulted on 8 december 2025, via <https://themasites.pbl.nl/o/aanpassen-of-verkassen/>

Hamers, K., Moor, N., & Mohammadi, M. (2024). A typology of clustered housing for older adults towards opportunities for social interaction: A case study of Dutch social housing. *Frontiers Of Architectural Research*, 13(3), 561–574. <https://doi.org/10.1016/j.foar.2024.02.010>, Consulted on 13 May 2026.

Henkin, N., & Patterson, T. (2020). Senior Housing as a Community Hub for Intergenerational Interaction. In *Intergenerational contact zones* (pp. 181–193). Routledge. <https://doi.org/10.4324/9780429199097>. Consulted on 21 may 2026.

De Jong, P. A., Van Hattum, P., Rouwendal, J., & Brouwer, A. E. (2018). ‘The older adult’ doesn’t exist: using values to differentiate older adults in the Dutch housing market. *Housing Studies*, 33(7), 1014–1037. Consulted on 5 December 2025.

NOS Nieuws & NOS Nieuws. (2013, 20 februari). Sluiting verzorgingshuizen dreigt. NOS. Consulted on 6 december 2025, via <https://nos.nl/artikel/476348-sluiting-verzorgingshuizen-dreigt>

Ministerie van Algemene Zaken. (2025, 10 juli). Ontwikkelingen woningmarkt senioren. Seniorenwoningen | Rijksoverheid.nl. Consulted on 6 december 2025, via <https://www.rijksoverheid.nl/onderwerpen/seniorenwoningen/ontwikkelingen-woningmarkt-senioren>

Ministerie van Volksgezondheid, Welzijn en Sport. (2023, 28 september). Woonvormen voor ouderen. Woonvormen | Regelhulp - Ministerie van VWS. Consulted on 5 december 2025, via <https://www.regelhulp.nl/onderwerpen/wonen/woonvormen-voor-ouderen>

Keating, N., & Phillips, J. (2008). Rural ageing: A good place to grow old? In *Policy Press eBooks*. Consulted on 12 december 2025, via <https://doi.org/10.1332/policypress/9781861349019.001.0001>

- Olfat, M. (2025). Exploring the meaning of home for the older adults: A bibliometric analysis of environmental and psychological needs (1969–2023). *Journal Of Aging Studies*, 73, 101332. <https://doi.org/10.1016/j.jaging.2025.101332> Consulted on 29 december 2025.
- Omroep West. (2021, 30 december). “Ouderen in te grote huizen belangrijkste oorzaak woningcrisis”. NOS. Consulted on 11 december 2025, via <https://nos.nl/regio/zh-west/artikel/216218-ouderen-in-te-grote-huizen-belangrijkste-oorzaak-woningcrisis.com>
- Pynoos, J., Nishita, C., Cicero, C., & Caraviello, R. (2008). Aging in place, housing, and the law. *Elder LJ*, 16, 77. Consulted on 27 december 2025.
- Ramadan, A., & Kamel, E. (2019). Spatial Design Stimuli to Promote Wellness through Buildings’ Design. *International Journal Of Architecture Engineering And Construction*, 8(4). <https://doi.org/10.7492/ijaec.2019.023>, consulted on 21 may 2026.
- RIGO Research en Advies. (2022). Conclusie: eerst de hardware, dan de software? – Woonwensen Senioren. Consulted on 12 March 2026, via <https://woonwensen-senioren.nl/conclusie/>
- Stichting knarrenhof, (2025, 13 mei). Knarrenhof. Consulted on 27 March 2026, via <https://knarrenhof.nl/door-wie/>
- Stijlvol Ouder, USP Marketing Consultancy, Haag Wonen, Staedion, Vestia, Woonzorg Nederland, Stichting Duinrust, Stichting Saffier De Residentiegroep, Stichting Zorggroep Oldael, Bouwinvest, BPD, MVGM, Syntrus Achmea Real Estate & Finance, & Gemeente Den Haag. (2015). Hoe willen senioren wonen in Den Haag? Consulted on 10 januari 2026, via https://www.stijlvoulouder.nl/wp-content/uploads/StijlvolOuder_HaagseOuderen_v9.pdf
- Strachan-Regan, K., & Baumann, O. (2024). The impact of room shape on affective states, heartrate, and creative output. *Heliyon*, 10(6), e28340. <https://doi.org/10.1016/j.heliyon.2024.e28340>. Consulted on 24 march 2026.
- Tanner, B., De Jonge, D., & Aplin, T. (2012). Meanings of Home for Older People. In Elsevier eBooks (pp. 246–250). Consulted on 27 december 2025. <https://doi.org/10.1016/b978-0-08-047163-1.00368-4>

Tweede Kamer. (2013). Dreigende sluiting ouderenzorglocaties (p. TK 74 74-11-63). Consulted on 4 december 2025, van https://www.eerstekamer.nl/behandeling/20130411/debat_over_de_dreigende_sluiting/document3/f=/vjadfntouizt.pdf

Van Bergen en Henegouwen, L. J. (2019). A Dutch framework for housing models to age in place [Thesis]. TU Delft. Consulted on 29 december 2025.

Vandkunsten. (2025). Ovalen in Roholmsparken + program of values! Albertslund | Rikke Møller Andersen | Jan Albrechtsen. Consulted on 16 april 2026, via <https://vandkunsten.com/en/projects/roholmsparken-ovalen>

Vergara, L. M., & Viada-Ferrari, L. (2026). Collaborative housing for active aging: an international comparative analysis. *International Journal Of Architectural Research Archnet-IJAR*, 1–26. <https://doi.org/10.1108/arch-10-2025-0454>. Consulted on 15 april 2026

Visser, X. (2025, 14 januari). Waarom worden er zo weinig seniorenwoningen gebouwd? 'Weinig aan te verdienen'. Pointer. Consulted on 8 december 2025, via <https://pointer.kro-ncrv.nl/waarom-weinig-seniorenwoningen-gebouwd-weinig-aan-verdiene>

White, H. K., Corazzini, K., Twersky, J., Buhr, G., McConnell, E., Weiner, M., & Colón Emeric, C. S. (2012). Prioritizing Culture Change in Nursing Homes: Perspectives of Residents, Staff, and Family Members. *Journal Of The American Geriatrics Society*, 60(3), 525–531. Consulted on 11 december 2025, <https://doi.org/10.1111/j.1532-5415.2011.03840.x>

WHO. (2017). *Global Age-friendly Cities: A Guide*. World Health Organization. Consulted on 11 december 2025, via <https://www.who.int/publications/i/item/9789241547307>

Wu, H., Wu, Y., Sun, X., & Liu, J. (2019). Combined effects of acoustic, thermal, and illumination on human perception and performance: A review. *Building And Environment*. Consulted on 20 april 2026. 169, 106593. <https://doi.org/10.1016/j.buildenv.2019.106593>.

Ye, L., Bally, E., Korenhof, S. A., Fierloos, I., Borrás, T. A., Clough, G., Raat, H., & Van Grieken, A. (2024). The association between loneliness and frailty among community-dwelling older adults in five European countries: a longitudinal study. *Age And Ageing*, 53(10). Consulted on 28 november 2025, via <https://doi.org/10.1093/ageing/afae210>

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APPENDIX

7.1 INTERVIEWS WORKSHOP

PARTICIPANT 1: MAN, 75-85

Feeling at home in your house:

1. One-level
2. Temperature
3. Safety
4. Garden
5. Layout

Yes, I'm also starting with a single-level home. One of the things about getting older is that it becomes more difficult to go up the stairs. My current home is not single-level, but I would prefer it to be.

The second thing is temperature. Keeping the house warm, so double glazing and underfloor heating are very important to me. Safety is also important. We have a small gate, and young people often hang around there. There are also frequent burglaries in the architect district. That makes you feel less safe. Furthermore, my garden is very important to me, as is the layout of my house. I think it is very important that the kitchen and living room are kept separate from each other.

Feeling at home in Houtwijk:

1. Parking
2. Neighbours
3. Public transport
4. Nature
5. Supermarket

I have very good contact with my neighbours, this is something that I find very important. We are all getting older and it is important to look out for each other. In addition, I am very happy with the supermarket and that it is so nearby.

PARTICIPANT 2: WOMAN, 65-75

Feeling at home in your house:

1. One-level
2. Memories
3. Safety
4. Family
5. Plants

What I find most important is safety, but also my family. I also have a lot of memories here. Furthermore, a single-level home is very important to me. I have a lung

condition, so stairs are difficult for me. I haven't lived in my current house for very long, but if I had to explain that, we'd still be here tonight. It's a very long story.

Feeling at home in Houtwijk:

1. Parking
2. Neighbours
3. Public transport
4. Community centre
5. Supermarket

Parking is very important, right now I can park in front of my house. Furthermore I visit the community centre often, I think it is really nice that there is a place to meet other people who are on their own.

PARTICIPANT 3: MAN, 65-75

Feeling at home in your house:

1. One-level, layout
2. Pet
3. Current house is too big
4. Garden
5. Sustainability

First of all, the garden and the layout. My wife and I currently live in a house with three floors, and the idea of a single-level home comes up at home quite often. Especially now that we are getting older. We actually have quite a large house for just the two of us.

Sustainability is very important to me: insulation, solar panels, and all that sort of thing. Lastly, our cat is very important. A home also means that our cat can live there.

Feeling at home in Houtwijk:

1. Church
2. Neighbours (care)
3. Public transport/shops
4. Nature and maintenance
5. Safety

Safety is very important. There is a lot of drug dealing in this area. There is also no neighbourhood police officer we can call in the evening. So if you call about nuisance, nothing is done about it. On the positive side, it is nice that there is so much greenery in the neighbourhood, but it is very poorly maintained. There is a lot of litter. The municipality is supposed to maintain it, but that does not happen.

PARTICIPANT 4: WOMAN, 65-75

Feeling at home in your house:

1. No nuisance
2. Spacious
3. Garden/balcony
4. Gas/light/water
5. Sustainability

First of all, I don't want any nuisance from neighbours in terms of noise; that is very important to me. I currently do experience that, and I just want a nice, quiet neighbourhood. I live in this area now, in the Raadsleden neighbourhood.

I also want reasonably sized rooms. It

doesn't have to be very large, but not too small either. I mainly find it important to have enough storage space for my belongings. Lastly, I think it is important to have my own outdoor space, whether that is a garden or a balcony doesn't matter much to me.

Feeling at home in Houtwijk:

1. Nuisance from youth
2. Neighbours
3. Public transport/shops
4. Nature and maintenance
5. Safety

I like that there is a lot of greenery in Houtwijk, but it is not well maintained, there is a lot of trash everywhere. The neighbourhood is also not safe anymore, there is a lot of hangyouth, especially in the evenings, when it is getting dark.

PARTICIPANT 5: MAN, 75-85

Feeling at home in your house:

1. Garden
2. Layout
3. Stuff
4. Storage
5. Cat

First of all, the garden, that speaks for itself. Furthermore, I really like the layout of our current house. We also have a very nice storage room. When I step outside, we immediately have our shed, where we can store a lot of things. And of course, our cat makes us feel at home.

Feeling at home in Houtwijk:

1. Parking
2. Public transport
3. Park
4. Cycling
5. Supermarket

I love cycling together with my wife, so a place to park my bike is essential. The cycling route through Houtwijk is very nice.

PARTICIPANT 6: WOMAN, 75-85

Feeling at home in your house:

1. Temperature
2. Garden
3. Stuff
4. Storage
5. Cat

I have actually written exactly the same as my husband, but I also find the temperature in the house very important.

Feeling at home in Houtwijk:

1. Shopping
2. Public transport
3. Cycling

The public transport in Houtwijk is insufficient. All the public transport goes around the neighbourhood and does not go through it. It is not accessible when you have problems with walking. You sometimes have to walk more than 10 minutes to reach the busstop.

I enjoy shopping and I am very happy with the shopping centre in the middle, but I often go to the other shopping centre as well, the one in Loosduinen.

PARTICIPANT 7: WOMAN, 65-75

Feeling at home in your house:

1. Spacious
2. Rest
3. Parking
4. Garden

For me, I feel at home when I have enough space in my house. I know that we, older people, have to go live smaller, but I enjoy having enough space. In addition, I feel at home, when there is rest, I don't want nuisance.

Feeling at home in Houtwijk:

1. Care for each other/social
2. Public transport
3. Neighbours/coffee
4. Peaceful road
5. Shops

For me, the most important thing to feeling at home in the neighbourhood is the social contacts. I have good contacts with all my neighbours and we often drink a cup of coffee with each other. It is nice to have people who look out for each other.

I live at a very peaceful street, there is

no nuisance and no hang youth, which I am very happy about, because there are streets in this neighbourhood where this is very different.

PARTICIPANT 8: MAN, 65-75

Feeling at home in your house:

1. Heat
2. Light
3. Spacious
4. Garden
5. Layout

For me, the most important things in my house are light and the temperature. Always when I come home at the temperature is warm and cozy, I feel directly at home. Furthermore the layout of my house makes me feel at home. I have a nice living room with a beautiful view of the garden. It is also very spacious, which I find important.

Feeling at home in Houtwijk:

1. Parking
2. Public transport/shops
3. Social cohesion
4. Safety

For me, accessibility is most important, accessibility of parking, public transport and shops. But I also find it important to feel safe in my own neighbourhood and to have good contact with my neighbours.

PARTICIPANT 9: WOMAN, 75-85

Feeling at home in your house:

1. Garden
2. One-level
3. Memories

I have a lot of memories in my home, but I do not want to elaborate further on that. I have lived in the same house for more than 40 years with my husband, so I have lived here more the most part of my life.

Feeling at home in Houtwijk:

1. Neighbours
2. Café
3. Public transport inside Houtwijk
4. Nature/park
5. Restaurant

PARTICIPANT 10: WOMAN, 65-75

Feeling at home in your house:

1. Temperature
2. One-level
3. Garden
4. Safety
5. Bedroom

My favourite place in the whole house, is my bedroom. I feel most at home, when I am laying in my bed. I think a lot of the other things I wrote down, where already mentioned. Safety is very important, I want to feel safe in my own home. I think that is also why I feel most at home in my bedroom, I feel safe there.

I would like it if my house was one-level. My current house is not, and it becomes increasingly more difficult to manage the stairs.

Feeling at home in Houtwijk:

1. Parking
2. Safety
3. Sport school
4. Park
5. Supermarket

I think safety is lacking right now in Houtwijk. The street lighting is insufficient and lot of paving stones are uneven, which makes it easy to trip. I am very happy with the sport school in the middle of the neighbourhood, I go there often, so it is nice that it is so nearby.

PARTICIPANT 11: MAN, 65-75

Feeling at home in your house:

1. Temperature
2. Connection kitchen and garden
3. Storage
4. Safety
5. Pet

I feel most at home when I enter my house and I see my cat. He is very important to me. Indoor temperature is also very important, I always make sure that it is very warm in the house. And I have a lot of storage space right now, which I value a lot, because I have a lot of stuff. I find it very hard to throw stuff away.

Feeling at home in Houtwijk:

1. Parking
2. Safety
3. Public transport
4. Neighbours
5. Restaurant

I like my neighbours, although I do not visit them. But we always say hello to each other. I would like it if there was a restaurant in Houtwijk. I now always have to go outside the neighbourhood when I want to eat out with my friends or family. Lastly parking is important, there are too little parking spaces in Houtwijk. I always have to search for at least 10 minutes to find a parking space.

PARTICIPANT 12: MAN, 85-95

Feeling at home in your house:

1. One-level
2. Spacious bathroom
3. View
4. Comfort
5. Garden

I live in a very big house right now with my wife and it is getting too big for us. We are searching for a senior friendly house. Especially the bathroom is too small. It would be nice to have a more spacious bathroom. Furthermore we have a beautiful view from our living room to the park, which I value very high.

Feeling at home in Houtwijk:

1. Neighbours
2. Safety
3. Shops
4. Car
5. Parking

I have good contact with my neighbours and I am very happy with the facilities in Houtwijk, I am not missing anything. I have lived in Houtwijk for more than 30 years, so I feel quite at home. At this age, it is also nice to have a car, so you do not have to walk or cycle everywhere.

PARTICIPANT 13: WOMAN, 65-75

Feeling at home in your house:

1. Safety
2. Garden
3. Storage -> Spacious
4. Comfort (Temperature)
5. View

I want a lot of storage space, a lot! I need space for my stuff, but also to live in. I paint, so that is why I need a lot of storage. Furthermore I find the view from my house very important, I now have a beautiful view of my garden.

Feeling at home in Houtwijk:

1. Nature/park
2. Safety/social control
3. Public transport
4. Neighbours
5. Shops

I feel at home when I know I am looked after, social control makes me feel safe in the neighbourhood. What I miss is public transport in Houtwijk itself, the public transport stops are quite far away.

PARTICIPANT 14: WOMAN, 75-85

Feeling at home in your house:

1. Sustainability
2. Garden
3. Storage
4. No noise nuisance
5. Temperature

For me, sustainability is very important, I put a lot of money into my current house to make it more sustainable. I also value rest, I hate it when there is noise nuisance. I now live near the Escamplaan and there is a lot of nuisance from street races on that street.

Feeling at home in Houtwijk:

1. Neighbours
2. Cycling
3. Nature
4. Creative workplaces
5. Shops
6. Public transport
7. Children in the neighbourhood

I am a very creative person, so I would like it if there were more creative workplaces in the neighbourhood for workshops for

example. I also enjoy cycling and the parks here in Houtwijk are very nice to cycle through. Lastly, I live in a street with a lot of kids and I enjoy seeing them play outside.

PARTICIPANT 15: MAN, 65-75

Feeling at home in your house:

1. View
2. Garden
3. Sustainability
4. Light
5. Temperature

I feel at home in my own house, where I have my own garden and a beautiful view. For me light and temperature is very important to feel at home as well, because it is familiar.

Feeling at home in Houtwijk:

1. Neighbours
2. Public transport
3. Safety
4. Parking in front of my house
5. Shops/supermarket

For health reasons I find it very important to park in front of my house, walking long distances is not always possible. That is why I am also glad that the shops and public transport are nearby.

PARTICIPANT 16: MAN, 65-75

Feeling at home in your house:

1. Living room
2. Garden
3. Sustainability
4. Light
5. View

My living room has a beautiful view of the greenery on the other side of the road. There are no houses on the opposite side of our street. I also enjoy that our house is very light, because of the big windows.

Feeling at home in Houtwijk:

1. Childred, grandchildren, friends
2. Shops
3. Social structure
4. Children in the neighbourhood
5. Park/nature

I feel most at home with my family. I am always very happy when my kids, grandchildren and friends visit. Social contact is what makes me feel most at home.

There are a lot of families with children in our street, so there are always childred playing. I think it is very important to have different age groups in one neighbourhood, because of the ageing population in Houtwijk.

7.2 DATAMANAGEMENTPLAN

Plan Overview

A Data Management Plan created using DMPonline

Title: Home in Houtwijk

Creator: Elise van de Zande

Affiliation: Delft University of Technology

Template: TU Delft Data Management Plan template (2025)

Project abstract:

My research is focused on housing in Houtwijk, with a focus on the sense of home and agefriendly housing. The research question is as follows: How can architectural and environmental design create a home and support the willingness of older adults to relocate? The research focuses on feeling of home and its relation with the built environment. For this research I need to talk to residents of Houtwijk to know their willingness to move to agefriendly housing in the future and what home means to the residents of Houtwijk.

To talk to residents of Houtwijk, I will organize a workshop in the neighbourhood, where they are asked questions about their living environment and their perspective on home. The workshop consists of small interviews with the participant, because the participants have to answer questions. Because the workshop is without obligation and people will be recruited with flyers in the neighbourhood, it is not sure how many people will participate, but it will be somewhere between 10-30.

Furthermore I planned to interview some experts on the topic, but that is something I am not going to do in the end. So it is only the workshop.

ID: 196050

Start date: 10-11-2025

End date: 26-06-2026

Last modified: 19-05-2026

Home in Houtwijk

0. Administrative questions

1. Provide the name of the data management support staff consulted during the preparation of this plan and the date of consultation. Please also mention if you consulted any other support staff.

Kobe Macco, thesis supervisor at the Faculty of Architecture has reviewed this DMP on 21-02-2026.

2. Is TU Delft the lead institution for this project?

- Yes, the only institution involved

1. Data/code description and collection or re-use

3. Provide a general description of the types of data/code you will be working with, including any re-used data/code.

| Type of data/code | File format(s) | How will data/code be collected/generated? <i>For re-used data/code: what are the sources and terms of use?</i> | Purpose of processing | Storage location | Who will have access to the data/code? |
|---|-----------------------|---|--|---|---|
| Personally Identifiable Information (PII): participants' name, and email adress | .pdf .xlsx | Contact information for participants taking part in interviews. Name and email adress are only known to get in contact. Participants will be asked to sign an informed consent form. | For contact only, data will not be used in the research | TU Delft Onedrive | Master's student: Elise van de Zande and Thesis supervisor: Kobe Macco |
| Audio- recordings of interviews with | .mp3 | Interviews are conducted during a workshop in Houtwijk Audio- recordings are made on an external device, before being moved to OneDrive Recordings are deleted after transcription. | Capturing the opinions on living environment, home and housing from participants and experts | TU Delft Onedrive | Master's student: Elise van de Zande and Thesis supervisor: Kobe Macco |
| Anonymous transcriptions of interviews | .docs | Anonymous transcriptions created manually based on audio- recordings. | Privacy- preserving data on living environment, home and housing from participants and experts | TU Delft Onedrive | Master's student: Elise van de Zande and Thesis supervisor: Kobe Macco |
| Anonymized data on opinion on living environment, home and housing + age and gender | .pdf | Data obtained from coding anonymised transcriptions and the results of the assignments done at the workshop | Privacy- preserving data on living environment, home and housing from participants and experts | TU Delft Onedrive | Master's student: Elise van de Zande and Thesis supervisor: Kobe Macco |
| Report/thesis | .pdf | Serves as record of the process as well as documentation | Long-term documentation | TU Delft Onedrive and TU Delft repository | Master's student: Elise van de Zande and Thesis supervisor: Kobe Macco |

II. Storage and backup during the research process

4. How much data/code storage will you require during the project lifetime?

- < 250 GB

5. Where will the data/code be stored and backed-up during the project lifetime? (Select all that apply.)

- TU Delft OneDrive

III. Data/code documentation

6. What documentation will accompany data/code? (Select all that apply.)

- Data - Methodology of data collection

IV. Legal and ethical requirements, code of conducts

7. Does your research involve human subjects or third-party datasets collected from human participants?

If you are working with a human subject(s), you will need to obtain the HREC approval for your research project.

- Yes - please provide details in the additional information box below

I intend to apply for ethical approval from the Human Research Ethics Committee, but have not yet done so.

8. Will you work with personal data? (This is information about an identified or identifiable natural person, either for research or project administration purposes.)

- Yes

I will work with data about gender and age of the participants of the workshop, this data will be anonymized.

9. Will you work with any other types of confidential or classified data or code as listed below? (Select all that apply and provide additional details below.)

If you are not sure which option to select, ask your Faculty Data Steward for advice.

- No, I will not work with any other types of confidential or classified data/code

10. How will ownership of the data and intellectual property rights to the data be managed?

For projects involving commercially-sensitive research or research involving third parties, seek advice of your [Faculty Contract Manager](#) when answering this question.

This is an internal TUD MSc thesis project.

11. Which personal data or data from human participants do you work with? (Select all that apply.)

- Proof of consent (such as signed consent materials which contain name and signature)
- Audio recordings
- Date of birth and/or age
- Gender

12. Please list the categories of data subjects and their geographical location.

Interview participants are residents of Houtwijk in Den Haag

13. Will you be receiving personal data from or transferring personal data to third parties (groups of individuals or organisations)?

- No

16. What are the legal grounds for personal data processing?

- Informed consent

17. Please describe the informed consent procedure you will follow below.

The researcher will inform the potential participants about the goals and procedures of the research project. The researcher will also inform them about the personal data that are being processed and for what purpose. This information will be provided to the potential participants as follows: The information will be told in person and will also be typed out on the informed consent form. . All participants will be asked for their consent for taking part in the study and for data processing by signing a physical informed consent form before the start of the interview.

18. Where will you store the physical/digital signed consent forms or other types of proof of consent (such as recording of verbal consent)?

On the TU Delft Onedrive

19. Does the processing of the personal data result in a high risk to the data subjects? (Select all that apply.)

If the processing of the personal data results in a high risk to the data subjects, it is required to perform a Data Protection Impact Assessment (DPIA). In order to determine if there is a high risk for the data subjects, please check if any of the options below that are applicable to the processing of the personal data in your research project.

If any category applies, please provide additional information in the box below. Likewise, if you collect other type of potentially sensitive data, or if you have any additional comments, include these in the box below.

If one or more options listed below apply, your project might need a DPIA. Please get in touch with the Privacy team (privacy-tud@tudelft.nl) to get advice as to whether DPIA is necessary.

- None of the above apply

23. What will happen with the personal data used in the research after the end of the research project?

- Anonymised or aggregated data will be shared with others

The anonymised data will be used in the master thesis, which will be published on the TU Delft repository

24. For how long will personal research data (including pseudonymised data) be stored?

- Personal data will be deleted at the end of the research project

25. How will your study participants be asked for their consent for data sharing?

- In the informed consent form: participants are informed that their personal data will be anonymised and that the anonymised dataset is shared publicly

V. Data sharing and long term preservation

27. Apart from personal data mentioned in question 23, will any other data be publicly shared?

Please provide a list of data/code you are going to share under 'Additional Information'.

- I do not work with any data other than personal data

**29. How will you share research data/code, including those mentioned in question 23?
Select all that apply and provide additional details below.**

- I am a Bachelor's/Master's student at TU Delft and I will share the data/code in the body and/or appendices of my thesis/report in the TU Delft Repository

30. How much of your data/code will be shared in a research data repository?

- < 100 GB

31. When will the data/code be shared?

- At the end of the research project

32. Under what licence(s) will the data/code be released?

- Other – please explain below

copyrighted thesis

VI. Data management responsibilities and resources

33. If you leave TU Delft (or are unavailable), who is going to be responsible for the data/code resulting from this project?

My supervisor Kobe Macco.

34. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

4TU.ResearchData is able to archive 1TB of data/code per researcher per year free of charge for all TU Delft researchers. We do not expect to exceed this and therefore there are no additional costs of long term preservation.

35. Which faculty do you belong to?

- Faculty of Architecture and the Built Environment (ABE)