

HEALTHY AGING IN THE TARWEWIJK

ARCHITECTURAL RESEARCH ON AN AGE-FRIENDLY DESIGN FOR ELDERLY



ARCHITECTURE GRADUATION STUDIO

RUBEN BOGERT
5272157
20-01-2025

TU DELFT BOUWKUNDE
MSC ARCHITECTURE, URBANISM AND BUILDING SCIENCES
AR3AD110 - DESIGNING FOR HEALTH&CARE

HEALTHY AGING IN THE TARWEWIJK

Abstract

This study focuses on the challenges and opportunities in developing age-friendly living environments in Tarwewijk, Rotterdam. The research highlights the importance of supporting elderly to live independently within their community by addressing deficiencies in housing, accessibility, and social cohesion. Using the WHO Age-Friendly Cities framework and case studies, including the Knarrenhof concept, the study explores design solutions such as fostering interactions in various zones of a building, shared spaces and routes, and accessible infrastructure. The three pillars – building, community, and care – form the foundation, with a stronger community reducing the need for formal care for elderly. The findings serve as a design guide for creating sustainable, supportive environments that promote independence and social cohesion.

Age-friendly design, Elderly housing, Independent living, Supportive environments, Community-based living reduces healthcare needs, Tarwewijk, Rotterdam

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01

AGING INDEPENDENTLY IN TARWEWIJK**Aging healthily in one's own neighbourhood**

People in the Netherlands are living longer, and the aging population is steadily increasing. There are numerous social issues associated with the aging of the population (Centraal Bureau voor de Statistiek, n.d.). Aging and the elderly have become a hot topic in politics. The challenges related to the aging population are widespread and affect all layers of society. Older people are forced to live at home for longer periods, and nursing and care homes are under pressure (Van De Klundert, 2023; Stols, 2024). Additionally, the number of seniors is rising. The burden must be carried by the working generation, but this group cannot keep up with the growth of the elderly population (Centraal Bureau voor de Statistiek, n.d.). The government is making substantial cuts to elderly care, and seniors feel like a burden on society (Wageman, 2024; Post, 2013). Furthermore, the elderly population has increased more than tenfold in the past century (Centraal Bureau voor de Statistiek, n.d.), and people are living longer. The life expectancy forecast for 2040 is 85.8 years (Centraal Bureau voor de Statistiek, n.d.), compared to 81.5 years in 2015.

In Tarwewijk, located in the Charlois district of Rotterdam, however, the average life expectancy is lower than the national average. The life expectancy for men in Tarwewijk is no more than 74 years. (Van De Klundert, 2023). As of 2024, the average life expectancy in the Charlois district is 78.3 years. For further details, see chapter 01.8 Birth Rate & Life Expectancy in the analysis document Health and Care in Tarwewijk: A Neighbourhood Analysis (Presură et al., 2024). The article in NRC points to various reasons for this, such as the correlation between lower socio-economic status and earlier death (Stols, 2024). Another factor is education level. "Those with lower education levels smoke more (which reduces life expectancy by 1.5 years), are unemployed or do physical work, maintain an unhealthy lifestyle, live in poorer housing and neighbourhoods, and feel they have no control over their own lives," according to

Figure 1.1
Map of Tarwewijk and Rotterdam



Note. Own image

Wageman (2024).

In addition to the lower life expectancy, the neighbourhood faces other problems. Residents no longer feel safe in their area, and there is a decrease in social cohesion. The low social cohesion is mainly due to the high turnover of residents (Post, 2013). One in three residents moves to a different neighbourhood each year (Schram and Lankhaar, 2023; Veldacademie, 2020; Gemeente Rotterdam, 2024).

Tarwewijk has relatively few elderly residents. Only 8% of the population is over 65 years old (Gemeente Rotterdam, 2024). The housing supply is insufficient and inaccessible for the elderly. The majority of the housing stock consists of stacked apartments, and 8% consists of single-family homes (Gemeente Rotterdam, 2024).

However, older residents indicate that they would like to remain in their neighbourhood as they age. Those aged 65 and older are deeply connected to their community. When elderly people move to another neighbourhood, they lose their social network (Van Dijk, 2017). The reason why fewer elderly people live in Tarwewijk is unknown, but it is crucial that people are able to age in their own neighbourhoods. The challenges facing elderly residents in Tarwewijk highlight a broader issue in elderly care and housing.

During the 2023 parliamentary elections, politicians suggested reintroducing small-scale nursing homes to improve elderly care. A former director of a nursing home has criticized this election proposal, stating that small-scale care homes would be too expensive and would not offer a solution (Van Den Bergh, 2023). She points to the shortcomings of the care system for elderly people with mild care needs, who are now dependent on overloaded informal caregivers. There is an urgent need for an intermediate step between independent living and nursing homes (Ministerie van Volksgezondheid, Welzijn en Sport, 2023).

Architecture can partly contribute to solutions for this social problem. This research focuses on the elderly in Tarwewijk and examines how they can stay longer in their own neighbourhood without having to move later in life.

Figure 1.2
Aerial Photo of Tarwewijk



Note. This image is retrieved from: Google LLC (2023)

02

CREATING AN AGE-FRIENDLY ENVIRONMENT

Framework for an age-friendly neighbourhood

This research focuses on aging in one's own neighbourhood, specifically in Tarwewijk. The area has few elderly residents and a low life expectancy, with a limited number of homes for older people. These factors indicate a low level of age-friendliness within the neighbourhood.

The World Health Organization (WHO) has developed a framework to make cities and the built environment more accessible, inclusive, and supportive for elderly (World Health Organization, n.d.-b). This framework, outlined in *Global Age-Friendly Cities: A Guide* (World Health Organization, 2007), forms the basis of this research (fig. 5.1). The core of the framework is that cities should be inclusive environments for all ages, with specific attention to the needs of elderly. The framework includes the following domains:

- Outdoor Spaces and Buildings: Accessible and safe public spaces that promote physical activity and social interaction.
- Transportation: Reliable public transport and infrastructure that support mobility.
- Housing: Suitable and affordable housing that meets the needs of older people.
- Social Participation: Opportunities for elderly to engage in social and cultural activities.
- Respect and Social Inclusion: Promotion of respect and inclusion for elderly.
- Civic Participation and Employment: Opportunities for elderly to actively participate in society.
- Communication and Information: Access to clear information through various media.
- Community Support and Health Services: Availability of health and support services.

Research into alternative living concepts highlights the limited current approach and the need for innovative solutions (Handler, 2018).

Cities must respond to the needs of elderly to enable them to live independently for longer. In the Netherlands, the Knarrenhof (fig. 2.1) concept has been developed, which helps elderly remain at home longer by fostering social support (Nijkamp & Bosker, 2020).

Hypothesis

By designing age-friendly cities, neighbourhoods, and communities, elderly can age more healthily in their own environment. Current designs lacks in this regard, sometimes leading elderly to move. Innovative concepts, such as Knarrenhof, can better meet these needs, thereby alleviating pressure on the healthcare system. This research focuses on elderly (with low care needs) and explores how design can contribute to independent living within their own neighbourhood.

Figure 2.1
Artist Impression of a Knarrenhof



Note. This image is retrieved from: actiefonline.nl (2024)

03

RESEARCH QUESTION

Research question and subquestions

The main research question of this study is: **“How can the living environment, in areas such as Tarwewijk, be improved to allow elderly to live independently at home for longer?”** To answer this question, the main research question is divided into three sub-questions:

- What is the current housing situation for elderly (in Tarwewijk)?
- What are the needs of elderly regarding their living environment?
- What design principles have been implemented in reference projects to enhance the living environment for the elderly?

Definitions:

Living environment: The term “living environment” has been deliberately chosen. It emphasises architecture, but also allows for exploration of the context and the neighbourhood. Therefore, within the living environment, both the built environment and the living environment are examined. The living environment and the built environment are considered at different levels of scale, namely the neighbourhood level, the local level, the residential building, and the interior.

Elderly: This term refers to anyone aged 55 or older.

Independent living at home: Living in an independent dwelling with potential (informal) assistance.

Scope

This research focuses on the housing of elderly (55+). The target group includes both healthy elderly and those with mild care needs who still live at home. The form of housing is not defined; thus, the research does not focus on any one specific type of housing. The study investigates which forms of living together are best suited to an urban environment in the Netherlands, such as Tarwewijk. The ultimate goal of this research is to examine which form of living together can be applied, considering the parameters of the

environment.

This research addresses the societal issue of elderly housing and how architecture and urban planning can contribute. The first sub-question examines the current housing situation for elderly in Tarwewijk, focusing on the physical living environment and the context of the neighbourhood. The second sub-question looks at the needs of elderly who wish to remain living at home for as long as possible. The third sub-question explores reference projects to compare existing solutions.

Output

The conclusion will be translated into design guidelines, which can be applied in the design of a residential building for elderly, broken down into different levels of scale: the neighbourhood level, the local level, the residential building, and the interior.

04

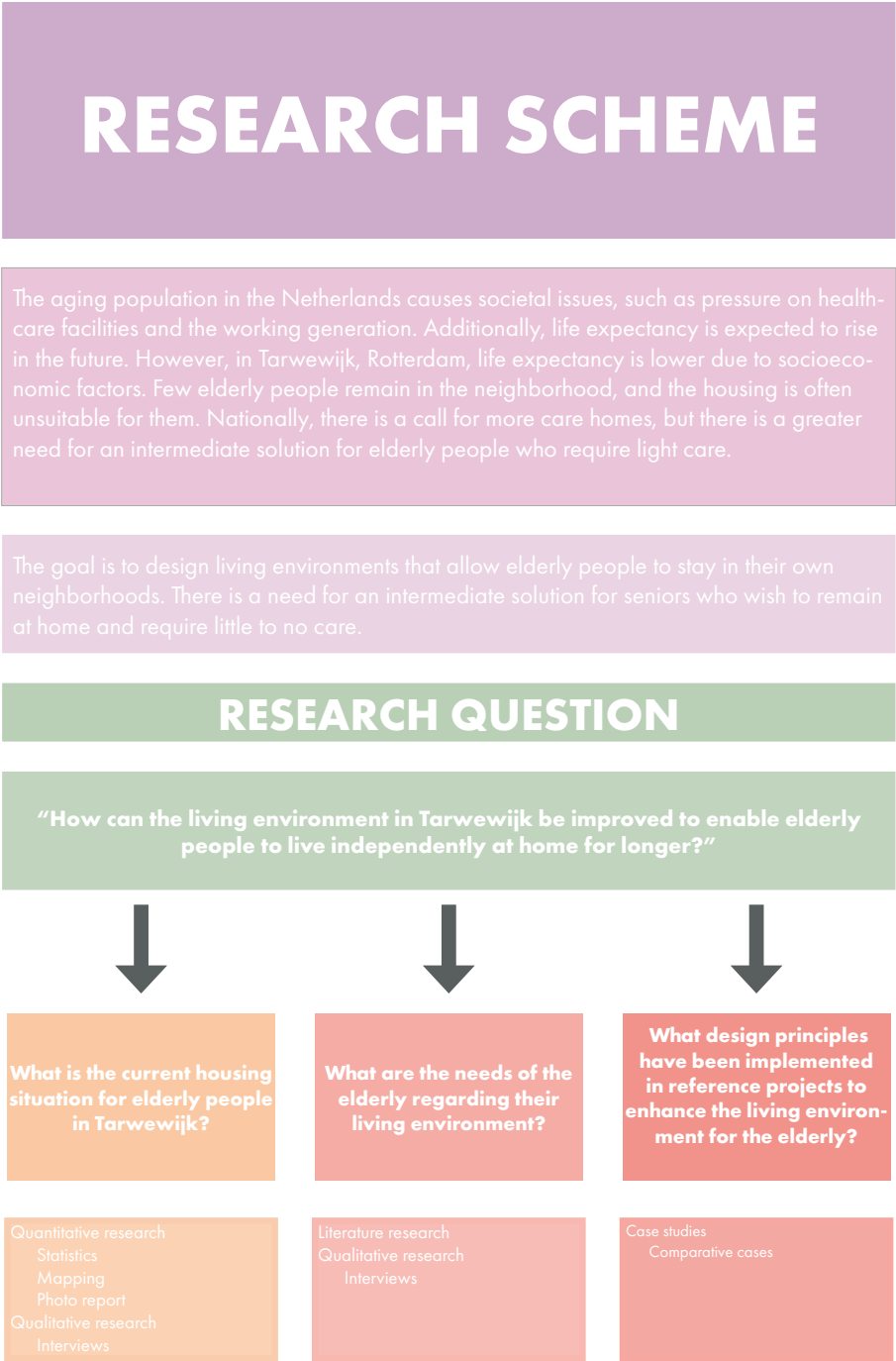
METHODS

Description of the methods

The first sub-question, “What is the current housing situation for elderly in Tarwewijk?”, is a description of the current situation. A part of this will involve quantitative research, using statistics to provide an overview of the current situation. The results may be presented through mapping. Part of the description of the current situation can be documented through a report with photos. Additionally, elderly will be interviewed to describe their current housing situation.

The second sub-question, “What are the needs of elderly regarding their living environment?”, will be partly addressed through a literature review. Literature will primarily be sourced from Google Scholar. Keywords used will include “elderly housing,” “independent living for seniors/elderly,” “age-friendly living environment,” “housing needs for elderly,” and “age-friendly neighbourhoods.” The results will provide general information. For specific information, fieldwork is necessary. Interviews will be conducted with elderly.

The third sub-question, “What design principles have been implemented in reference projects to enhance the living environment for the elderly?” will be answered through case studies of existing reference projects. These reference projects will be examined for their underlying principles and qualities. Case studies include Knarrenhof in Zwolle, Bruville in Bruinisse, and Scheldehof and Kop van Dok in Vlissingen, where people aged 55 and older live together. The context of these case studies can be either a rural, village-like, or urban environment. The various projects will be compared. It is important to consider the context when studying reference projects. Rural reference projects have different characteristics compared to the urban setting of Tarwewijk.



05

CURRENT SITUATION

Current living situation of elderly in Tarwewijk

The first sub-question focuses on the current housing situation of elderly in Tarwewijk. In-depth interviews were conducted with elderly from Rotterdam (Crooswijk) and Bruinisse to answer this sub-question. The choice of these locations was influenced by the researcher’s network, as attempts to interview elderly in Tarwewijk were unsuccessful. Crooswijk offers an urban context similar to Tarwewijk, while Bruinisse represents a more rural environment. The senior complex in Crooswijk contains 66 apartments with one-sided orientation and access via a corridor (fig. 5.2). In Bruinisse, there are 37 apartments, accessed via a gallery in an atrium (fig. 5.3). A total of seven elderly were interviewed, four from Crooswijk and three from Bruinisse.



Outdoor Spaces and Buildings

Elderly indicated in the interviews (see appendix) that their environment is not inclusive, particularly regarding the use of mobility scooters in public spaces. Furthermore, half of the elderly live in environments without essential amenities within 500 meters (De Klerk et al., 2019).

The living environment in Tarwewijk is characterized by the dominance of cars, limited green spaces, narrow pavements, and obstacles. The transition between public spaces and residential areas is often abrupt, with a few steps or doorways, but many front doors open directly onto the street. There are few pedestrian crossings for elderly, and cars often have priority at intersections.

The apartments in Bruville are accessed via a gallery in an atrium, which promoted social interaction (fig 5.6). However, new fire safety regulations have prohibited the use of this space, reducing spontaneous encounters. Residents could previously place tables, chairs, and flowerpots in front of their door, which contributed to the social atmosphere.

In Rotterdam, apartments are accessed via a corridor with limited

Figure 5.1
The 8 Domains of Age-Friendly Environment



Note. Own image based on World Health Organization (n.d.-b)

daylight, making the space less inviting for extended stays or interaction (fig. 5.7) . In Crooswijk, residents experience few spontaneous encounters due to the design, where the elevator is the only point of contact for residents on different floors. The design seems focused on efficiency, with little room for social interaction.



Transportation

In Tarwewijk, cars dominate, and vehicles almost always have priority. The area is largely accessible for wheelchair users, but there are obstacles that hinder mobility (fig.5.12-5.13). Details can

Apartment Building in Crooswijk, Rotterdam



Note. This image is retrieved from Google LLC (2022)

Figure 5.3

BruVille, Bruinisse



Note. This image is retrieved from Zeeuwlant (2016)

Figure 5.4

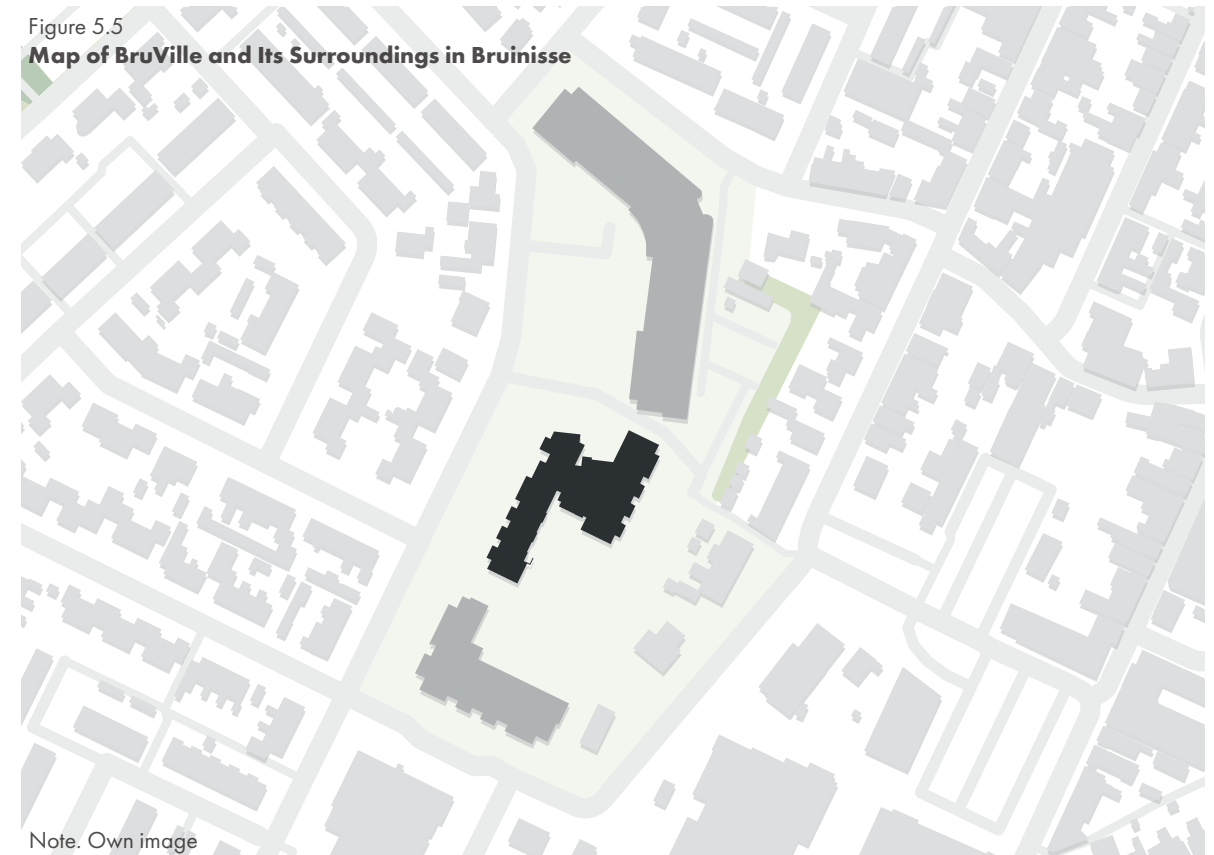
Map of Apartment Building and Its Surroundings in Crooswijk, Rotterdam



Note. Own image

Figure 5.5

Map of BruVille and Its Surroundings in Bruinisse



Note. Own image

be found in chapters 02.1 Street Profiles, 02.3 Road Accessibility & Obstacles, 02.4 Slow/Fast Traffic Zones, and 02.6 Infrastructural Safety - Crosswalks from the document Health and Care in Tarwewijk: A Neighbourhood Analysis (Presură et al., 2024).

Outside the building, residents find the public space difficult to access, particularly for those with mobility restrictions (fig.5.8-5.11). Crossing busy intersections is a challenge. One resident stated that they avoid using a mobility scooter due to fear of dangerous crossings, resulting in long walking distances. Pavements are often inaccessible and the buildings are not designed for mobility scooter or wheelchair use. Elevator dependency was also mentioned as a problem; when elevator break down, residents with mobility issues have a problem.

Many elderly emphasize the importance of proximity to amenities, especially for shopping, pharmacies, and doctors.

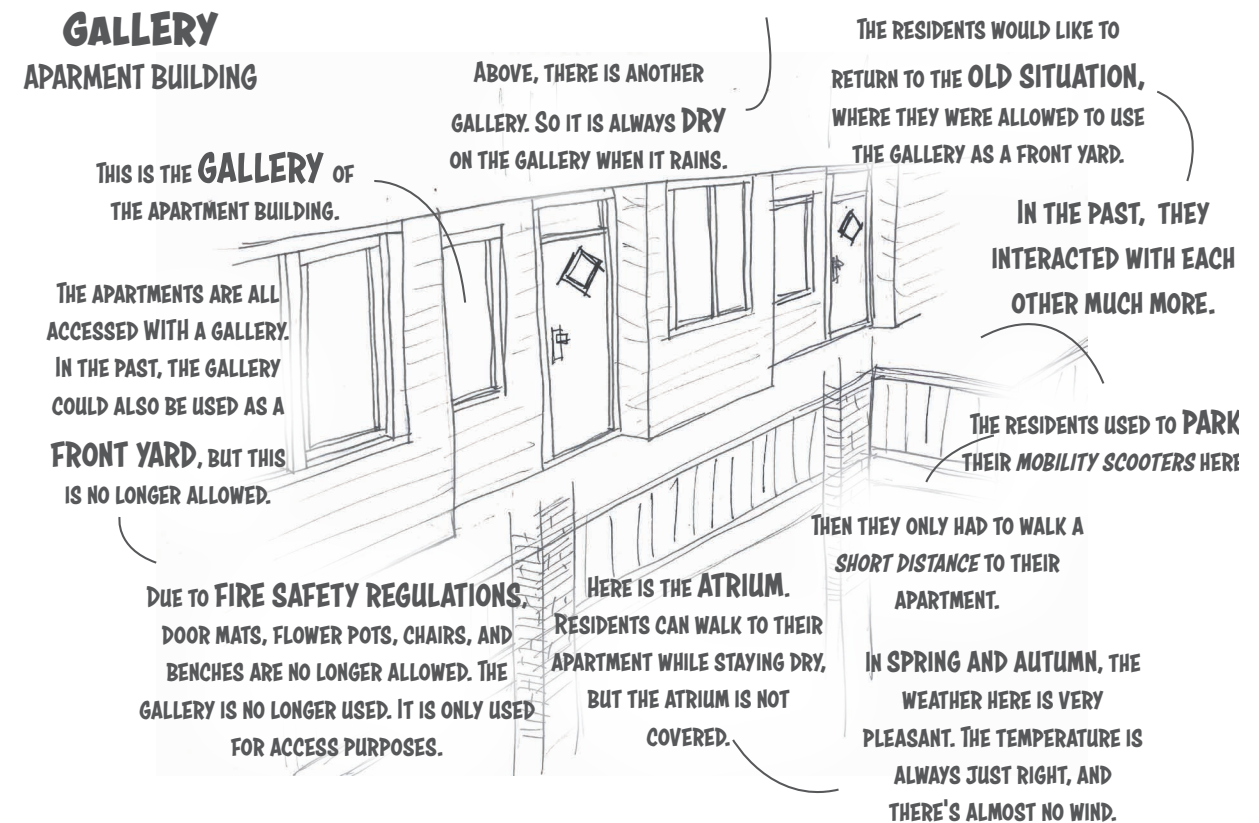
Housing

The housing situation for elderly in the Netherlands has changed due to budget cuts in healthcare, requiring them to stay at home longer, which demands greater independence, supported by home care, informal care, and assisted living (Verkooijen, 2020). Only elderly with severe care needs are eligible for a nursing or care home (Verbeek-Oudijk et al., 2017).

More than 1.2 million individuals aged 75 and older live independently, nearly half of whom live alone. Loneliness and care needs are particularly prevalent among those living alone, older seniors, and those with lower incomes (De Klerk et al., 2019). Only a small percentage move into nursing homes, primarily women, as men often have younger partners and live independently for longer. In Tarwewijk, half of the households consist of single-person households (see chapter 01.9 Household Types in the analysis document Health and Care in Tarwewijk: A Neighbourhood

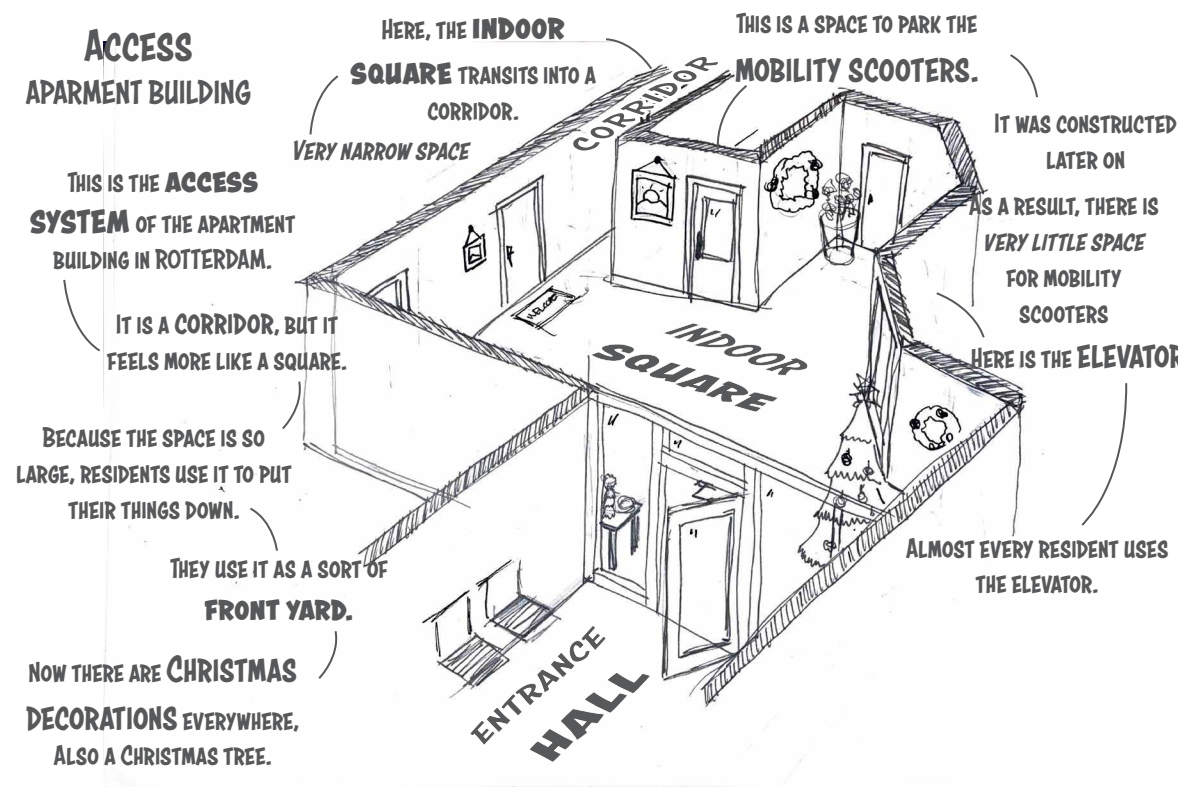
Figure 5.6

Drawing of the Access System in BruVille



Note. Own image

Figure 5.7
Drawing of the Access System in Flat Crooswijk



Note. Own image

Analysis (Presură et al., 2024)) (fig.5.14). Many elderly wish to maintain their independence, which requires adjustments to their homes and environment. Approximately 40,000 seniors aged 65 or older live in homes that are difficult to access, especially in older urban rental apartments (De Klerk et al., 2019). Housing adjustments are often expensive and are not always reimbursed, making it difficult for elderly with low incomes to adapt their homes. In Rotterdam and Bruinisse, residential buildings contain lifetime apartments, which residents are generally satisfied with. Improvements are needed in practical matters such as toilet and window heights. The homes are on one level and suitable for future adaptations, such as a walk-in shower or stairlift, but residents still see room for improvement, especially in terms of accessibility.



Social Participation
According to the Sociaal en Cultureel Planbureau, the majority of people aged 75 and older in the Netherlands remain actively involved in society (De Klerk et al., 2019). Most elderly regularly meet friends, go outside daily, and make use of neighbourhood facilities. Four out of ten interviewees do voluntary work. In Bruinisse, elderly consider social cohesion as a given, while in Rotterdam, social cohesion is especially valued for its role in social control. Many residents mentioned that their social networks became smaller as they aged. Communal spaces have been created in the residential buildings for activities such as coffee mornings and bingo, but attendance is often low. In Bruinisse, only 16 out of 44 residents participated in coffee mornings, while in Rotterdam, this was 32 out of 80 residents. In Rotterdam, participation was limited to the same group of people, and multicultural residents in Crooswijk did not participate in certain activities due to communication barriers.

Drawing of the Public Space in Tarwewijk



Note: Own image

Drawing of the Public Space in Tarwewijk



Note: Own image

Drawing of the Public Space in Tarwewijk



Note: Own image

Drawing of the Public Space in Tarwewijk



Note: Own image



Respect and Social Inclusion

Residents place great importance on respectful interaction and social inclusion. In Crooswijk, where residents have diverse backgrounds, efforts were made to increase everyone’s involvement. However, elderly noted that the language barrier remains a persistent obstacle to their participation in social activities. In Bruinisse, most residents preferred like-minded neighbours in the residential building. However, residents from other parts of the country generally adapted well to the subculture within the village.



Civic Participation and Employment

Social participation includes social skills, contacts, and involvement in society (De Klerk et al., 2019). Research shows that people aged 75 and older actively participate in society. Nearly 90% meet friends monthly, 80% are satisfied with their social contacts, and many elderly go outside daily and make use of neighbourhood

Figure 5.12
Photo Report of Public Space in Tarwewijk



Note. This image is retrieved from: Presură et al. (2024)



Communication and Information

The information provided to elderly about care and support is often inadequate. It is frequently unclear what care is available, who qualifies, and where it can be obtained. Much information is only available online, but not all elderly are digitally literate. Additionally, the information is often difficult to understand (De Klerk et al., 2019). Residents expressed dissatisfaction with their contact with the housing corporation but appreciated the continuity of domestic help of cleaners. Cleaners not only perform cleaning tasks but also act as

Figure 5.13
Analysis of Roads in Tarwewijk



Note. This image is retrieved from: Presură et al. (2024)

social contacts, offering social support to the elderly.



Community Support and Health Services

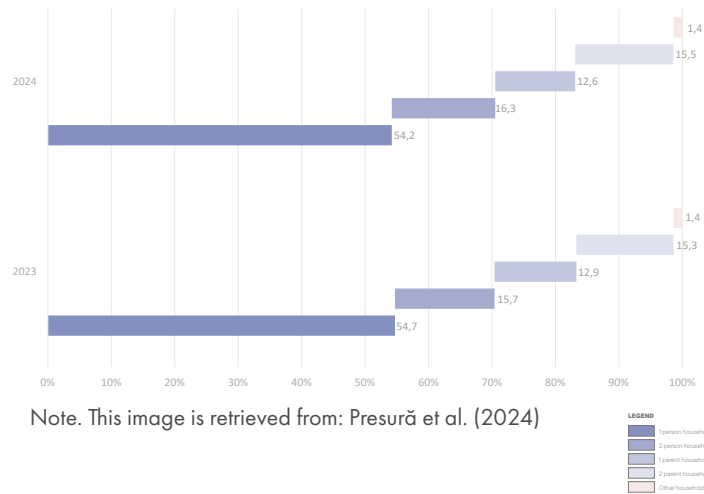
Many residents receive domestic help, often two hours per week, which also provides social contact. The cleaner not only assists with cleaning but also serves as a social contact person and sometimes takes time for a cup of coffee with the residents.

Residents stated that they wanted to stay in their own homes, even as their health declines, and would like to receive home care. Only two residents preferred assisted living. Five out of seven residents would appreciate an alternative living concept, such as the Knarrenhof, although they expressed no interest in a shared garden due to maintenance obligations.

Most interviewed residents stated that they generally do not need care, except for occasional domestic help. Elderly living independently and needing care make use of district nursing, home care, and informal care (De Klerk et al., 2019). Women are often alone five years before their death, while men typically have a partner during this period (De Klerk et al., 2019).

According to the Sociaal en Cultureel Planbureau, various care and support options are available in the neighbourhood, such as

Figure 5.14
Household Types in Tarwewijk



Note. This image is retrieved from: Presură et al. (2024)

Figure 5.15
Care Facilities in Tarwewijk



Note. This image is retrieved from: Presură et al. (2024)

district nursing, home care, and informal care (De Klerk et al., 2019). The research highlights that elderly often seek support through their social network or private assistance. In Tarwewijk, there are various care providers (fig. 5.15), but their spread can make accessibility more challenging (see chapter 01.30 Health Care Access in the analysis document Health and Care in Tarwewijk: A Neighbourhood Analysis (Presură et al., 2024)).

Conclusion

The interviews with seven elderly provide insights into their housing situation. Most interviewees live independently, often alone, and use aids such as walkers and mobility scooters. The findings show that elderly in Tarwewijk, as well as in comparable neighbourhoods, are less able to live independently due to their environment and the built environment.

Although the buildings are of good quality and suitable for lifetime living, some aspects limit the liveability for elderly. The buildings and surroundings provide few opportunities for spontaneous social interaction, and the accessibility of public spaces is insufficient, especially for elderly with limited mobility.

While activities are organised to improve social interaction, they are not well attended. Furthermore, communication with the housing corporation is perceived as problematic. This highlights the need for a holistic approach to elderly housing, which requires both physical and social adjustments to improve the well-being of elderly.

06

NEEDS OF ELDERLY

Needs of elderly regarding their living environment

The second sub-question focuses on the needs of elderly. The question is: "What are the needs of elderly concerning their living environment?" Building on the first sub-question about the current situation, this question addresses the specific desires and requirements of elderly. This is partly answered through in-depth interviews with older residents of apartment buildings in Bruinisse and Crooswijk, Rotterdam, as well as through literature research.



Outdoor Spaces and Buildings

Conversations with residents revealed that both outdoor spaces and the design of the residential buildings require improvement. Many residents expressed a desire to use the galleries and corridors for spontaneous meetings, but this was not allowed. The residents were disappointed, especially by elderly with limited mobility. The importance of (outdoor) spaces as meeting places was highlighted in the interviews.

The research *Ontwerp voor Ontmoeten* emphasizes that the built environment is crucial for social participation (Mantingh & Duivenvoorden, 2021). Weak social contacts, formed through brief encounters with neighbours, are crucial for self-sufficiency and a strong network. Five levels of scale are described at which encounters should occur: neighbourhood, route, apartment block, threshold zone, and home (fig.6.1).

The neighbourhood plays a role in promoting encounters and social interaction. This can be achieved by offering parks, squares, and public spaces where residents can meet, as well as designing a good network of streets and walking paths that facilitate encounters. Shared facilities such as shops, cafés, and sports amenities encourage residents to meet and engage in community activities.

The routes residents take daily, and the design of the apartment block play a significant role in social interaction. Shared spaces like gardens and spacious access systems promote encounters. In

summary, a well-designed neighbourhood that facilitates social interaction contributes to a connected community.



Transportation

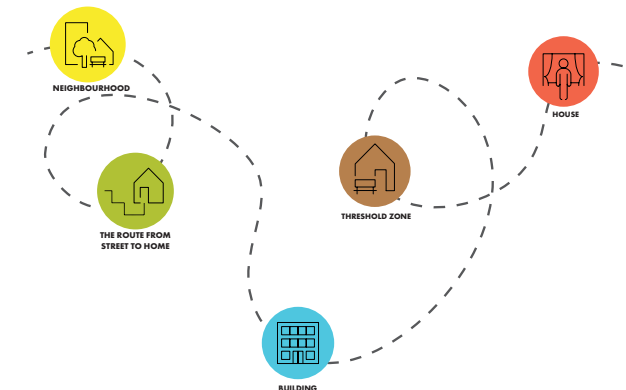
Many elderly feel that the accessibility of residential buildings does not meet their needs, particularly due to the increased use of mobility scooters. Residential and common spaces should be better aligned with changing mobility needs, for example, by having wider doorways, adapted sanitary facilities, and additional storage space for mobility aids.

According to the WHO (*Global Age-Friendly Cities: A Guide*), transport facilities must meet specific guidelines for elderly, such as well-positioned bus stops with seating, shelter, good lighting, and escalators or lifts for accessibility. Sidewalks should be obstacle-free, flat, and suitable for walking aids (World Health Organization, 2007).

Kenniscentrum Sport & Bewegen (2023) highlights the importance of safe routes to promote mobility and social contact, as well as safe walking and cycling paths to encourage active movement.

Figure 6.1

Different levels of encounters



Note. This image is retrieved and adapted from Mantingh and Duivenvoorden (2021)

Municipalities must also ensure facilities that give elderly access to essential places such as doctors and supermarkets. Well-designed routes, with green spaces and seating areas, can promote social interaction (Mantingh & Duivenvoorden, 2021). Social places along the route, such as cafés or shops, provide residents with the opportunity to stop and talk to others.

Housing

The apartments were in general appreciated. Most are age-friendly. However, residents indicated that improvements are needed, particularly in the common areas, and that social cohesion within the buildings could be enhanced.

The research *Ontwerp voor Ontmoeten* (Mantingh & Duivenvoorden, 2021) emphasizes how social participation can be improved by encounters between residents, with the threshold zone playing a crucial role. This is the space between private and public areas, such as the area in front of the door, which fosters informal encounters between residents. The threshold zone allows for contact with neighbours, contributing to strengthening weak social contacts, which are essential for community building (Mantingh & Duivenvoorden, 2021). These weak social contacts are essential for building a social network and strengthening the community. Residents can express their identity to the outside world, for example by placing plants or furniture. This makes the space more personal and invites others to make contact.

In summary, the threshold zone contributes to encounters by offering residents space to be present, make contact with others, and create a sense of community. It is an essential element for social interaction and strengthening social networks within a neighbourhood.

Social Participation

Social participation is influenced by both the social and the built

environment. While in both apartment buildings social activities are offered, such as coffee mornings and game afternoons, attendance is often low. Residents indicated that it is difficult to involve others, especially people from different cultural backgrounds (as in Crooswijk) or elderly who prefer more privacy. Efforts to promote social contact are only partially successful.

The research *Ontwerp voor Ontmoeten* (Mantingh & Duivenvoorden, 2021) emphasizes the role of the built environment in stimulating both spontaneous and organized interactions. Encounters are crucial for self-sufficiency and social participation, which are key elements of an age-friendly city.

Respect and Social Inclusion

Social inclusion was seen as important, especially in multicultural communities like Crooswijk. Residents indicated that language barriers are a significant obstacle to participation in social activities. There is a need for more inclusive approaches that take language and cultural differences into account, which can help strengthen the sense of unity and respect between different groups.

Civic Participation and Employment

Residents indicated that they would prefer to house younger residents in the buildings, rather than only elderly over 75 with care needs. The residents who expressed this wish were actively involved in the residents' associations. They noted that the burden of the associations rests heavily on a small number of people, who are getting older. This leads to a decrease of the residents' association, with no succession taking place. For this reason, the residents expressed the desire to attract younger elderly to bring more activity and dynamism back to the residents' association.



Communication and Information

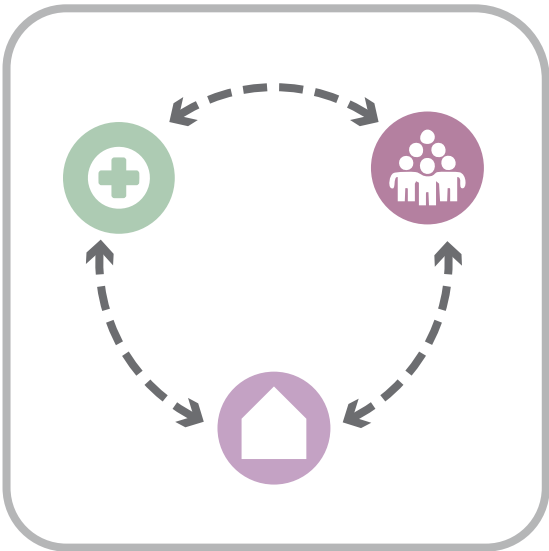
Many residents experience communication with the housing corporation as problematic. They indicated a need for more direct communication, as well as greater influence over decisions affecting their living environment. Such an approach could contribute to a stronger sense of involvement and responsibility among residents, enhancing their enjoyment of living and fostering cooperation.



Community Support and Health Services

Most residents receive domestic help and prefer care within their own home, even as their health declines. There is interest in alternative (shared) living concepts such as the Knarrenhof, which offer shared facilities and care close to home, allowing independence to be maintained. Habion, a social investor in sustainable housing for elderly, operates with three pillars: the building, the community, and healthcare providers (fig. 6.2) (Habion, 2022). The building offers

Figure 6.2
Building, Community, and Health Care



Note. Own image

independent living spaces with care options, while shared spaces foster contact between residents. The community organizes activities and supports each other, with professional care in the background. Additionally, professional care must be available. These three pillars are interconnected: a strong community reduces the need for professional care.

Conclusion

The findings from the in-depth interviews and literature research show that the living environment of elderly can be improved in several manners. Outdoor spaces and common areas are appreciated, but the current limitations on their use are felt as a loss. The accessibility of residential buildings and public spaces, especially for mobility scooters, is insufficient. Improvements are needed, such as wider doorways, adapted sanitary facilities, more accessible outdoor spaces, and a safer public space. Common areas within buildings enhances social cohesion. There is a need for more inclusive social activities that align with the desires and cultural backgrounds of residents. Promoting social networks and accessible common spaces can increase participation. Additionally, it is important to involve younger residents more in the community, which will also enhance the sense of responsibility. Communication with housing corporations is often perceived as inadequate, with a need for more transparency and input. Furthermore, the preference for care within one’s own home remains strong, with interest in alternative (shared) living concepts such as the Knarrenhof, where care and shared facilities are available close to the home. This allows elderly to maintain their independence, while care remains accessible when needed. In summary, the living environment of elderly can be significantly improved by creating accessible, social, and inclusive spaces that better meet their needs.

07

CASESTUDIES

Design principles from age-friendly reference projects

The third sub-question addresses reference projects. Through case studies, it explores which elements from existing age-friendly reference projects can be applied in the Tarwewijk area. The three selected cases are residential buildings for people aged 45 or 55 and older. The projects are compared and analysed based on the WHO Age-Friendly Cities framework, focusing on the eight domains.

KNARRENHOF, ZWOLLE

The Knarrenhof in Zwolle (fig.7.1 -7.2) is a collective housing model that helps elderly people live independently in a social environment. This project, completed in 2018, is the first Knarrenhof in the Netherlands and consists of 48 homes spread across two courtyards (Aahof Zwolle, n.d.-a). It targets people over 45 who want to stay active in their residential environment. The 48 houses are divided into 34 owner-occupied houses and 14 social rental houses. The goal of the Knarrenhof is to offer the elderly maximum independence, applying the concept of "noaberschap" (neighbourly support) (Aahof Zwolle, 2023). This means that residents assist each other through neighbourly help, shared responsibilities, and the organisation of social activities. Instead of informal caregiving, the focus is on neighbourly assistance, where residents take responsibility for one another.

The Knarrenhof also has a communal building, the 'Hofhuys', which is owned by the residents' association and is used for meetings and other social activities (Aahof Zwolle, 2023).

Outdoor spaces and buildings

The homes are located around two courtyards (fig.7.3). These shared garden spaces are owned by the residents and are maintained collectively, contributing to social cohesion (Aahof Zwolle, 2023). The gardens provide opportunities for meeting and strengthening bonds between residents. All residents contribute, as much as



possible, to maintaining the gardens. The communal building, the Hofhuys, is used for various activities, such as social gatherings, recreation, and private use (Aahof Zwolle, 2023).



Transport

Knarrenhof is located in the Aalanden district in Zwolle (fig.7.4). The shopping centre, De Dobbe, is 500 meters away, and public transport is accessible on foot (Aahof Zwolle, 2023). The area is also easily accessible, with well-connected public spaces. Residents can use walking and cycling paths, which link them not only with the neighbourhood but also with the city centre of Zwolle.



Housing

The homes at Knarrenhof are designed with wide doors, a bedroom and bathroom on the ground floor, and each house has its own terrace or garden and a storage room (Aahof Zwolle, 2023). The homes are aimed at promoting independence, allowing residents to stay in their homes for as long as possible.



Social participation

Knarrenhof encourages social participation through the housing concept itself (Aahof Zwolle, 2023). The shared gardens act as

Figure 7.1
Knarrenhof, Zwolle



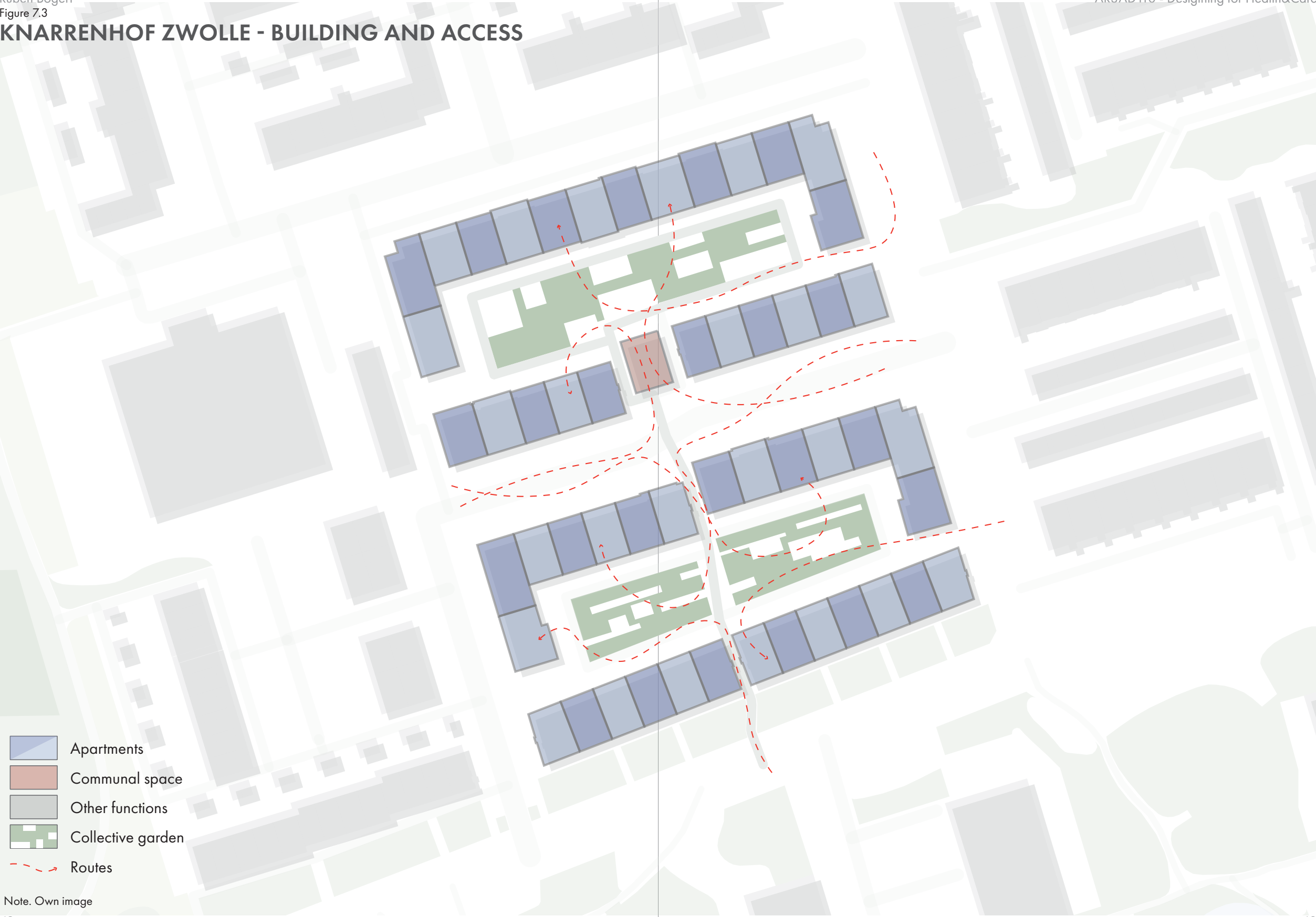
Note. This image is retrieved from: Knarrenhof® (n.d.)

Figure 7.2
Aerial Photo of Knarrenhof in Zwolle



Note. This image is retrieved from: Knarrenhof® (n.d.)

KNARRENHOF ZWOLLE - BUILDING AND ACCESS



Note. Own image

meeting places, where residents collaborate and maintain their environment. The Hofhuys provides a versatile space for social activities and gatherings (Aahof Zwolle, n.d.-b). Social interaction and participation are further stimulated by "noaberschap" (Stichting Knarrenhof®, n.d.). This system ensures that residents not only live next to each other but also with each other. While "noaberschap" is not a replacement for professional caregiving, it does offer practical support for residents who, for example, do not have a caregiver (Stichting Knarrenhof®, n.d.). It strengthens social cohesion and creates a supportive network within the community (Stichting Knarrenhof®, n.d.).



Respect and social inclusion

Knarrenhof emphasizes mutual support and solidarity among residents (Aahof Zwolle, 2023). Through the principle of "noaberschap", residents are actively involved in each other's well-being. The design of Knarrenhof ensures a diverse and balanced community, maintaining a balance between younger and older residents (Stichting Knarrenhof®, n.d.-b).



Civic participation and employment

Knarrenhof aligns with the domain of civic participation by actively involving residents in the management and maintenance of the community (World Health Organization, n.d.-b). The residents' association plays a key role in managing the courtyards and the Hofhuys (Aahof Zwolle, 2023). Residents are responsible for maintaining the communal spaces. Volunteering plays an important role at Knarrenhof, with residents actively contributing to the community (Stichting Knarrenhof®, n.d.-b). It is also considered a benefit that some residents are still employed, contributing to a lively and dynamic community (Stichting Knarrenhof®, n.d.-b).



Communication and information

The WHO Age-Friendly Cities framework highlights the accessibility and clarity of information for older people so they can remain well-informed and actively participate in their community (World Health

Organization, n.d.-b). The design of Knarrenhof emphasizes social connection, with residents regularly in contact with each other (Aahof Zwolle, 2023). This creates a network of support and information exchange, mainly through personal communication. Residents are therefore quickly informed about important events and changes within the community. Knarrenhof adheres to the principles of the Communication and Information domain of the WHO framework.



Community and health services

Knarrenhof focuses not on formal care but on informal support between residents, contributing to a safe and social environment (Oussoren, n.d.). Instead of informal caregiving, the focus is on social connectivity and practical help, such as doing the groceries or walking together. Residents sign a social contract agreeing to support each other (Oussoren, n.d.). The homes are designed to allow residents to live independently for as long as possible (Aahof Zwolle, 2023).

Conclusion

The Knarrenhof in Zwolle is an example of an age-friendly housing model that meets the needs of older people. Through the concept of "noaberschap", where neighbourly help and informal support are central, residents can maintain their independence while benefiting from a strong social network. This not only promotes social cohesion but also encourages active participation in the environment. The design of Knarrenhof, with shared outdoor spaces and a communal building, amenities meetings and strengthens social interaction.

The accessibility of facilities such as shops and public transport, along with the focus on adaptable homes, contributes to the physical and social inclusion of older people. The project demonstrates that a good balance between independence and social connection can lead to a high quality of life for the elderly, while enabling them to live independently for longer in a supportive community. Knarrenhof is thus a valuable reference for the development of age-friendly living environments, such as in the Tarwewijk.

KNARRENHOF ZWOLLE - BUILDING AND CONTEXT



BRUVILLE, BRUINISSE

The second case study is the BruVille apartment complex in Bruinisse, a standard housing complex for people aged 55 and older (fig. 7.5). This building includes some age-friendly features, but lacks a specific community model like Knarrenhof. The complex consists of 37 apartments, mostly inhabited by single residents. The residents of BruVille identified several areas for improvement in both the design of the building and the accessibility of the outdoor spaces and social interaction. Although BruVille does not have an innovative housing concept, this case study was chosen because it incorporates (practical) age-friendly design principles.



Outdoor spaces and buildings

The apartments in BruVille are arranged around an atrium, providing sheltered access (fig. 7.6). This design previously encouraged social interaction, as residents used the gallery for tables, chairs, and flowerpots, leading to spontaneous meetings. Due to new fire safety measures, the use of the gallery is now prohibited, so interactions now mostly occur at the main entrance, for example, by the mailboxes. The main entrance still serves as a meeting place, especially in the spring and summer, where elderly men often converse. This demonstrates that the design originally promoted social interaction through the access routes.

However, the design's long-term sustainability is uncertain due to the fact that multiple entrances create separate traffic flows, which reduce spontaneous encounters. Merging the routes could improve social contact. The communal garden is rarely used, mainly due to the temperature – either too cold or too warm for many elderly people to enjoy.





Transport

Residents of BruVille find the public space outside the building difficult to access, especially for mobility scooter users (fig.7.7). Crossing points and curbs present obstacles that limit mobility. The proximity of facilities such as the pharmacy, doctor, and shops (within 500 meters) is essential and well within reach. However, the public space is not optimal for elderly residents, particularly with crossing busy streets, which some view as a significant barrier.



Housing

The apartments at BruVille are designed for lifetime living but have some areas for improvement. Residents noted that the buildings are not designed for mobility scooter use, which presents a practical limitation. The reliance on elevators during malfunctions can also be problematic for people with mobility impairments. Although the homes are accessible for wheelchair users, they are not flexible enough to accommodate changing care needs, such as those associated with dementia. Unlike Knarrenhof, BruVille does not have a “noaberschap” system, making active support between residents, all of whom are over 70, more difficult.



Social participation

The residents of BruVille indicated that their social networks became smaller as they aged. While there are communal spaces for activities such as coffee mornings and bingo, participation in these is limited. Residents expressed a clear need for more opportunities for social interaction.



Respect and social inclusion

Although respect for each other is important, there is a preference for like-minded neighbours, especially due to the local dialect and shared history of the residents in Bruinisse. Residents from other

Figure 7.5

BruVille, Bruinisse



Note. This image is retrieved from Zeeuwlant (2016)

BRUVILLE BRUINISSE - BUILDING AND ACCESS



Note. Own image

regions typically adapt well, but cultural and language differences sometimes create distance between neighbours. In contrast, Knarrenhof has a more diverse mix of residents.



Civic participation and employment

There are no specific findings on employment, but residents of BruVille take initiative for activities in the communal spaces, usually led by a small group, while participation from others is limited. The residents' association handles various matters, but the lack of younger residents (around 60 years old) who can take over tasks poses a risk. If the current members stop, the association may decline. A balanced age composition, like that of Knarrenhof, is therefore important.



Communication and information

Residents experience communication with the housing corporation as problematic, and the information provided about care and support is deemed insufficient, primarily due to the use of jargon and the lack of digital accessibility for elderly people. However, the presence of regular domestic help, who also serves as a social contact point, is highly appreciated by residents.



Community and health services

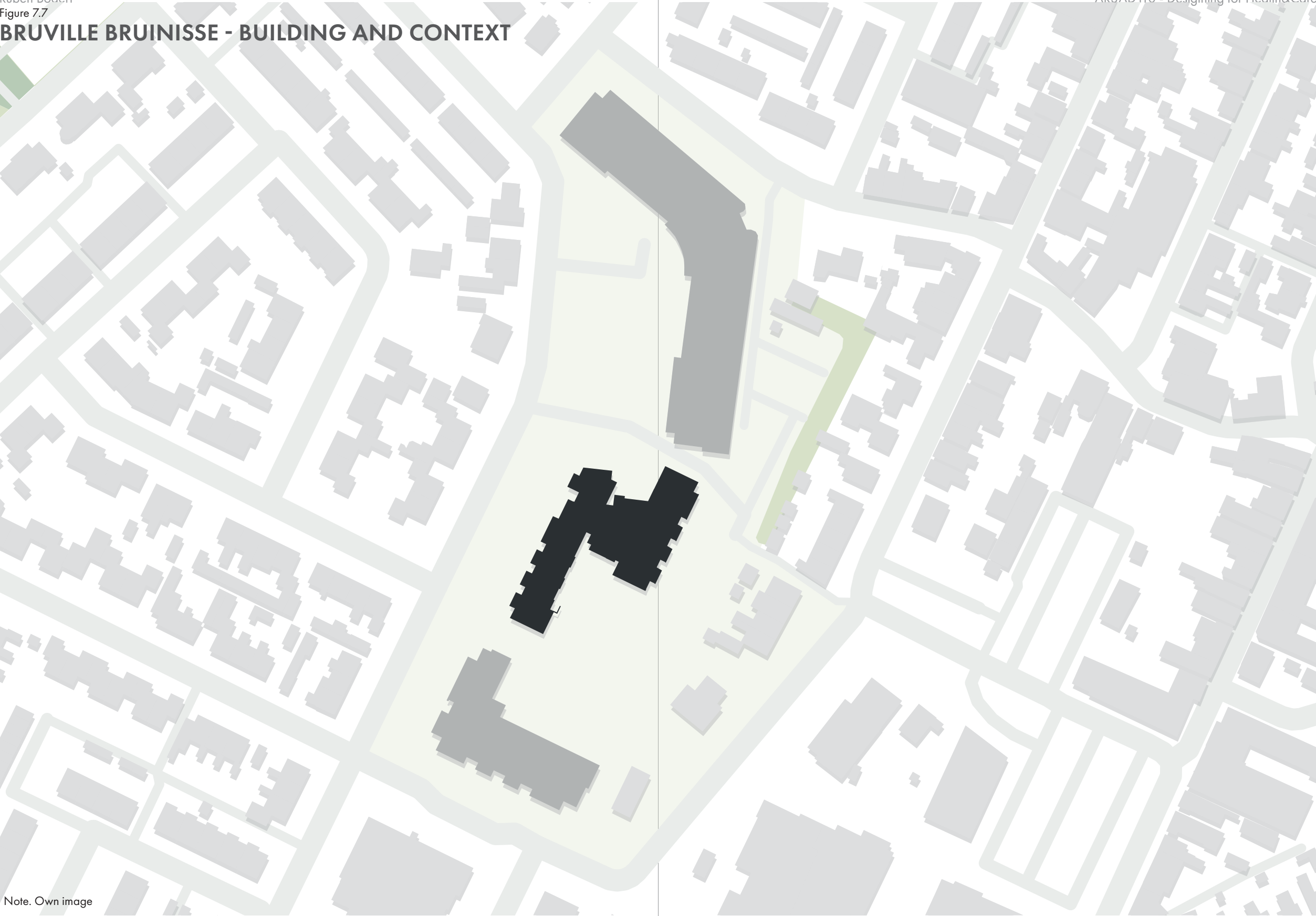
Many residents receive domestic help, with continuity of care being valued since the same person often assists them. Residents state that they would prefer to stay at home, even if their health declines, and would like to receive home care in such cases. Several residents already use home care and find it possible to remain living at home, even with poorer health. While most residents do not require intensive care, they would prefer to receive care services at home rather than move to a nursing home.

Conclusion

The apartments at BruVille meet the requirements for lifetime living, but there are areas for improvement, particularly in the communal spaces and the accessibility of the outdoor areas. The design of the building and the limited accessibility for residents with mobility impairments hinder social interaction. The ban on using the galleries and the separate entrances reduce spontaneous encounters. There is a need for more opportunities for social interaction and better accessibility in the surrounding area and communal spaces.

Communication with the housing corporation is problematic, widening the gap between residents and administrators. The case study of BruVille shows that elderly housing must include not only physical aspects but also social, communicative, and societal elements. Greater focus is needed on fostering social interaction, creating a diverse community, and improving accessibility for residents with mobility limitations.

BRUVILLE BRUINISSE - BUILDING AND CONTEXT



SCHELDEHOF AND KOP VAN DOK, VLISSINGEN

The third case study concerns the Scheldehof and Kop van Dok care complex in Vlissingen, which combines care homes and apartments for seniors (fig. 7.8-7.9). The complex consists of 91 nursing home units and 52 senior apartments and offers a diverse mix of functions, including a grand café, studio, theatre, and various course rooms (ZorgSaamWonen, 2024). The design of Scheldehof and Kop van Dok focuses not only on providing care but also on creating a homely atmosphere.



Outdoor spaces and buildings

The building design (fig. 7.10) is open and accessible, promoting interaction between residents. It is essential for residents that the space serves not only as a living place but also as a meeting area to encourage social contact and prevent loneliness (Atelierpro, n.d.). A communal area has been created between the homes, inviting people to come together.

The dementia care units are built around a winter garden (ZorgSaamWonen, 2024). The multifunctional use of spaces contributes to a lively atmosphere. Residents from Vlissingen use the facilities in Scheldehof and Kop van Dok, such as the film theatre, brasserie, and exhibitions (ZorgSaamWonen, 2024).



Transport and location

Scheldehof and Kop van Dok is located in the centre of Vlissingen, making it easy for residents to participate in urban life (fig. 7.11). The complex is well-served by public transport, with a bus stop just 500 meters away (WVO Zorg, n.d.). Additionally, shops, supermarkets, a pharmacy, and a doctor are within walking distance, allowing residents to meet their daily needs without having to travel far. The location in a car-free zone ensures a safe and accessible environment for residents.

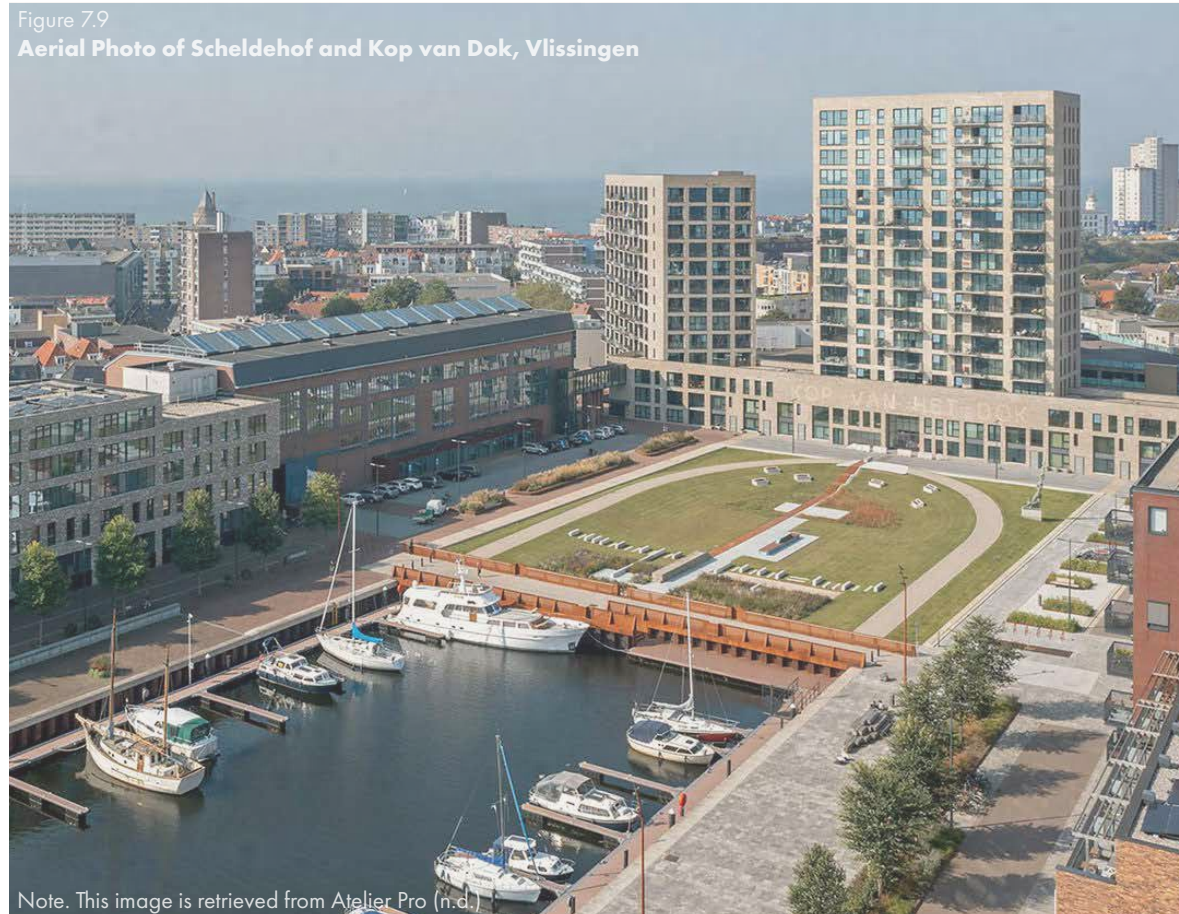




Note. This image is retrieved from Atelier Pro (n.d.)

Figure 7.9

Aerial Photo of Scheldehof and Kop van Dok, Vlissingen



Note. This image is retrieved from Atelier Pro (n.d.)



Housing

The apartments and rooms are fully adapted to the needs of older people, offering a high standard of care (Atelierpro, n.d.). While the care units are for those who need more intensive care, the apartments provide a more independent living environment, allowing residents to live independently for as long as possible. There is a strong focus on social interaction, and residents can enjoy a wide range of activities in the complex. The apartments are designed to promote accessibility and mobility, with wide doors and barrier-free rooms.



Social participation and inclusion

Scheldehof and Kop van Dok encourage social interaction through various communal activities. The facility includes a theatre, grand café, and exhibition space, offering residents opportunities to engage in cultural activities. The presence of a variety of spaces fosters a lively and inclusive atmosphere, where residents are encouraged to participate in activities and socialize with others (ZorgSaamWonen, 2024).

The community fosters social contacts, and there is a significant effort to include people with varying levels of care needs.



Respect and social inclusion

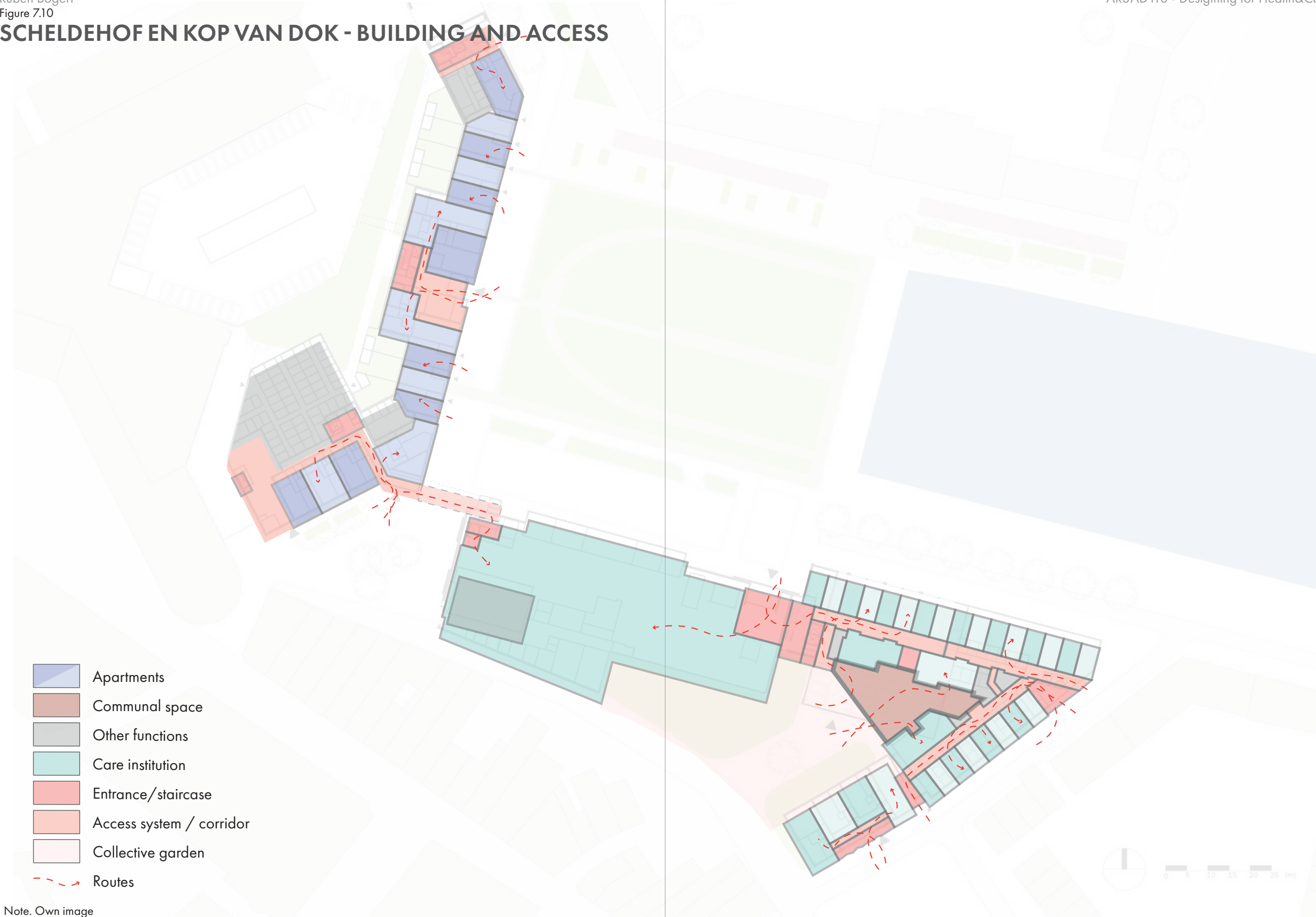
Respect is valued in Scheldehof and Kop van Dok, with the emphasis on creating a welcoming and homely atmosphere for all residents, regardless of their level of care needs. The facility focuses on creating a warm, community-centered environment, promoting inclusivity and mutual respect.



Civic participation and employment

Scheldehof and Kop van Dok encourage civic participation through activities like volunteer opportunities and cultural events, fostering a

SCHELDEHOF EN KOP VAN DOK - BUILDING AND ACCESS



Note. Own image



sense of belonging (ZorgSaamWonen, 2024).

Communication and information

The facility is committed to providing residents with clear and accessible information. Residents have easy access to information about the services available to them and can communicate easily with the staff. The design of the complex also includes clear signage, making it easy for residents to navigate the space (ZorgSaamWonen, 2024).



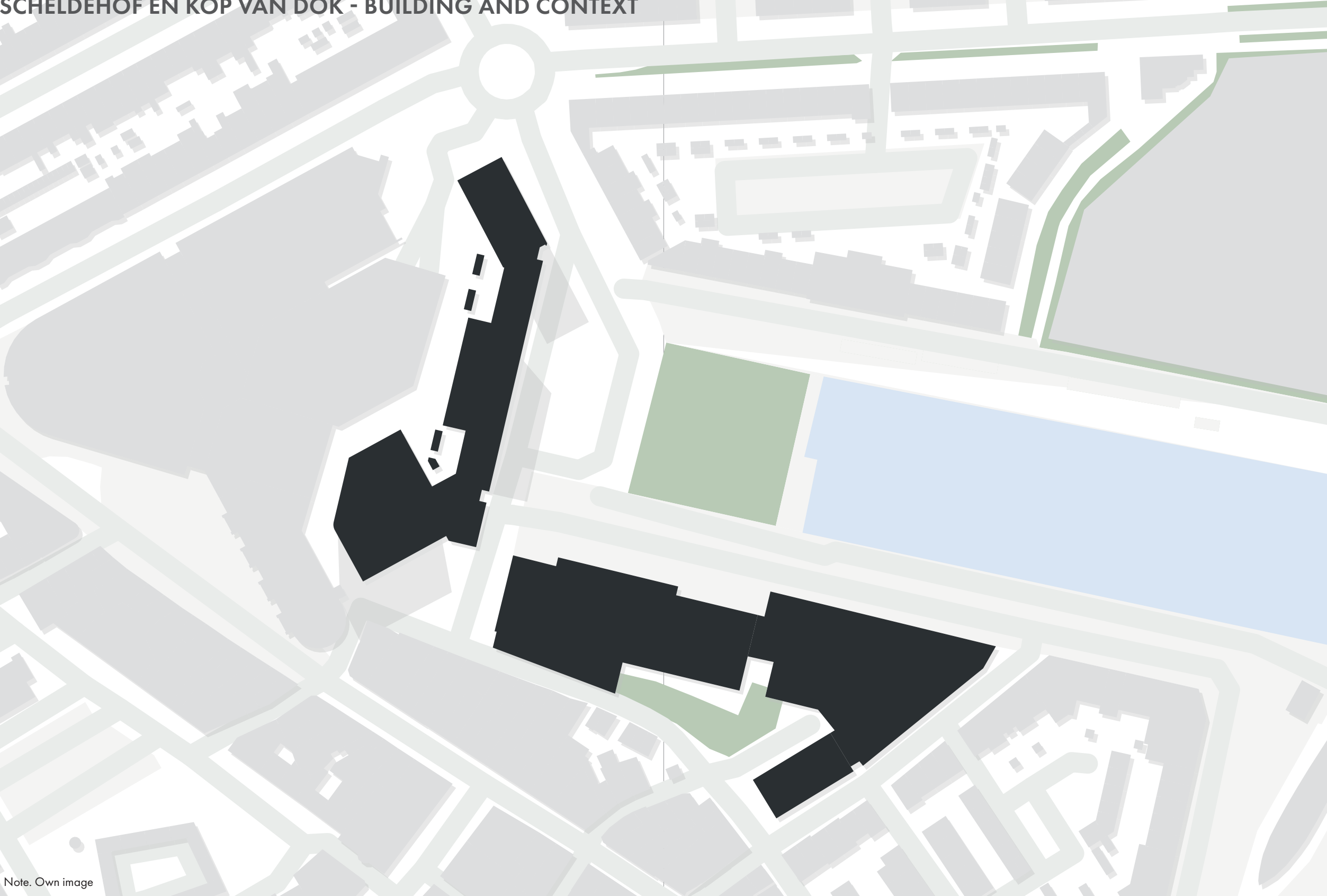
Community and health services

Scheldehof and Kop van Dok provide residents with access to health services, including nursing and care services, physiotherapy, and other healthcare professionals. The proximity to medical services and the availability of home care for residents who need it ensures that the health needs of older people are met. The facility also offers health and wellness programs, contributing to the overall well-being of residents (ZorgSaamWonen, 2024).

Conclusion

Scheldehof and Kop van Dok are examples of age-friendly housing that incorporate social participation, accessibility, and health services. The mixed use of spaces, combined with a focus on social interaction and community building, creates an environment where elderly people can live independently for as long as possible while still receiving the necessary care and support. The complex's central location in Vlissingen provides easy access to shops, medical services, and public transport, enhancing the overall accessibility of the area. This case study underscores the importance of integrating care with community, as well as the value of a central location and social infrastructure. While care is more prominently featured in this complex than the community aspect, residents can remain in their homes for longer in Scheldehof due to the extensive professional care available at Kop van Dok.

SCHELDEHOF EN KOP VAN DOK - BUILDING AND CONTEXT



Note. Own image

08

CONCLUSION

The aim of this research was to define architectural design guidelines that help to improve the living environment for elderly people in Tarwewijk so that they can age in place. To achieve this, the living environment of the elderly in Tarwewijk was analysed, the needs of elderly people were researched, and four architectural reference projects were studied.

Research Question 1: What is the current housing situation of older adults in Tarwewijk? The research shows that the current housing situation for older adults in Tarwewijk is characterised by a uniform housing stock consisting mostly of outdated apartment blocks, which are often not suited to the needs of the elderly. Many older adults live alone and experience reduced mobility, while the dwellings themselves are poorly accessible and offer limited options for adaptation or support at home. Social cohesion in the neighbourhood is limited, contributing to feelings of loneliness. These factors make it difficult for older adults to continue living independently in their own homes.

Research Question 2: What are the needs of older adults with regard to their living environment? The case study analysis and interviews indicate that older adults need an accessible, safe, and clearly structured living environment with opportunities for social interaction. There is also a demand for lifetime-proof housing, with features such as elevators, wide doorways, level floors, and proximity to healthcare and amenities. Social involvement and informal contact within the building or neighbourhood are also considered important to maintain a sense of community.

Research Question 3: Which elements from existing reference projects can be applied to the living environment in Tarwewijk? The analysis of the reference projects reveals that several spatial and

social design principles can contribute to an age-friendly environment. Elements such as communal spaces that foster social interaction, clear distinctions between private and public zones, green areas that encourage movement and encounter, and small-scale residential communities prove to be applicable. These can be translated to the context of Tarwewijk through compact housing forms with shared amenities, integrated into the existing urban context.

In summary, it can be stated that the Tarwewijk, can be transformed into a more inclusive and supportive neighbourhood and housing area for older people. By applying design principles, the independence and well-being of older residents can be promoted, enabling them to live in their own neighbourhood for longer and reducing the strain on healthcare services.

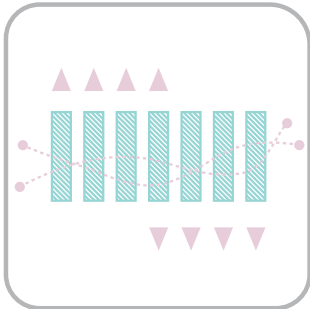
DESIGN GUIDELINES



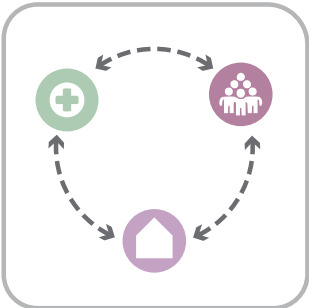
PROVIDE KEY AMENITIES LIKE GENERAL PRACTITIONERS, PHARMACIES, AND SUPERMARKETS WITHIN A 500-METRE WALKING DISTANCE.



ENSURE THAT ROUTES TO THE APARTMENTS INTERSECT.



ENSURE SAFE AND ACCESSIBLE ROUTES TO KEY AMENITIES



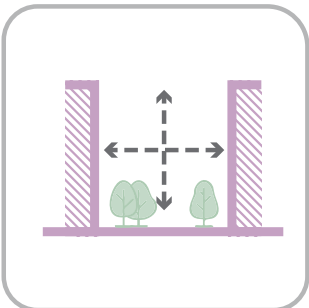
IN ADDITION TO HOUSING AND COMMUNITY ELEMENTS, INTEGRATE CARE SERVICES INTO THE LIVING ENVIRONMENT. LEVERAGE EXISTING CARE FACILITIES NEARBY FOR SMALLER-SCALE PROJECTS OR INCLUDE ON-SITE CARE SERVICES THAT ALSO SERVE THE SURROUNDING COMMUNITY. NOTE THAT A



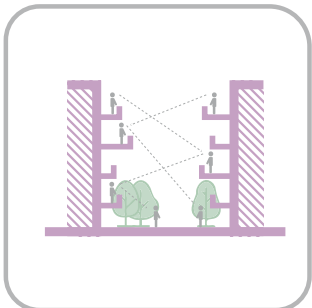
ENSURE THAT A SHOP, PHARMACY, AND GP ARE AVAILABLE WITHIN A 500M RADIUS FOR THE ELDERLY.



CREATE SMALL MEETING SPACES IN LOGICAL LOCATIONS WITHIN THE CITY WHERE ELDERLY CAN ENCOUNTER EACH OTHER SPONTANEOUSLY



ENSURE THAT THE HEIGHT-TO-WIDTH RATIO REMAINS APPROPRIATE FOR THE HUMAN SCALE.



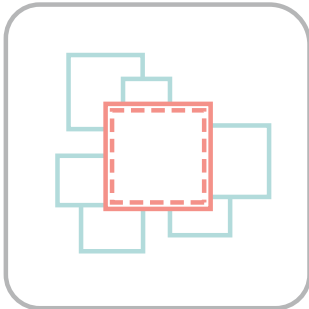
ENSURE THE CONNECTION IS MAINTAINED IN HIGH-RISE BUILDINGS, ALLOWING RESIDENTS TO CONTINUE SEEKING CONTACT WITH ONE ANOTHER.



PROVIDE ACCESSIBLE OUTDOOR SPACES WITH WELL-MAINTAINED PATHS, KERBS, AND CROSSINGS, PAYING PARTICULAR ATTENTION TO RESIDENTS WITH MOBILITY LIMITATIONS, SUCH AS WHEELCHAIR OR MOBILITY SCOOTER USERS.



DESIGN HOMES THAT ACCOMMODATE DIVERSE CARE NEEDS, WITH FLEXIBLE LAYOUTS THAT CAN BE ADAPTED AS CARE REQUIREMENTS CHANGE, ENABLING RESIDENTS TO AVOID RELOCATING.



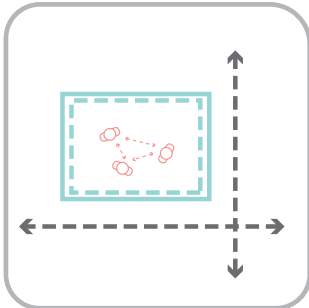
ENCOURAGE THE USE OF SHARED FACILITIES, SUCH AS COMMUNAL ROOMS OR GARDENS, TO ACTIVELY INVOLVE RESIDENTS IN THE COMMUNITY. ENSURE THESE SPACES ARE WELCOMING AND ACCESSIBLE.



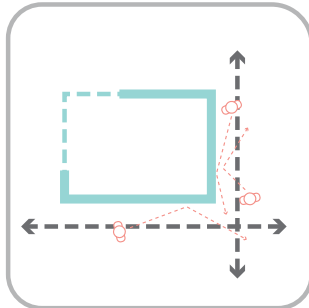
ENSURE A DIVERSE RESIDENT GROUP WITH A BALANCED MIX OF AGE GROUPS. DURING A HOUSING SHORTAGE FOR OLDER ADULTS, CAREFULLY MONITOR THE ALLOCATION TO MAXIMISE AVAILABILITY FOR SENIORS.



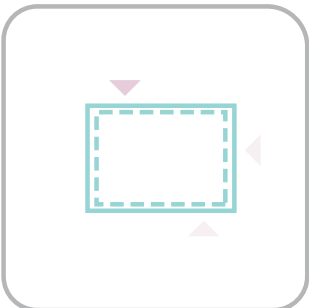
ENSURE CIRCULATION ROUTES RELY ON LOW-TECH SOLUTIONS; DO NOT SOLELY DEPEND ON LIFTS, CONSIDERING THE POSSIBILITY OF MALFUNCTIONS.



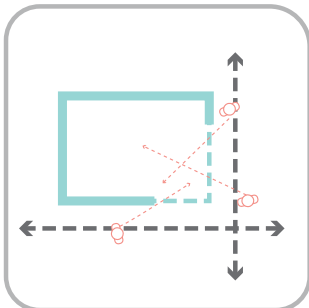
DESIGN COMMUNAL SPACES THAT ENCOURAGE SPONTANEOUS MEETINGS, SUCH AS SEATING AREAS IN HALLWAYS, GARDENS, AND OTHER CENTRAL GATHERING PLACES



AVOID HIDDEN COMMUNAL SPACES. MAKE COMMUNAL SPACES AS VISIBLE AS POSSIBLE



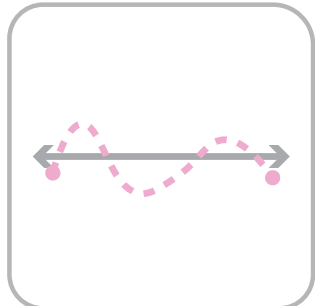
AVOID DESIGNS THAT LIMIT SOCIAL INTERACTION, SUCH AS SEPARATE ENTRANCES



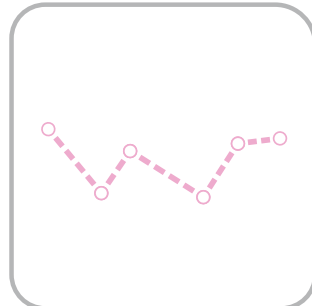
AVOID HIDDEN COMMUNAL SPACES. MAKE COMMUNAL SPACES AS VISIBLE AS POSSIBLE



CREATE PATHWAYS THAT NATURALLY ENCOURAGE ENCOUNTERS AMONG RESIDENTS, FOSTERING SPONTANEOUS INTERACTIONS. AVOID SEGREGATED ROUTES TO INDIVIDUAL HOMES.



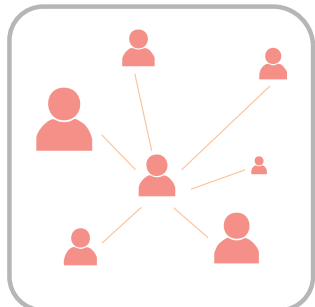
USE THE ROUTE HOME AS AN OPPORTUNITY TO MEET EACH OTHER. ALONG THE WAY, PROVIDE PLACES TO PAUSE AND STAY. SLOWING DOWN IS MORE IMPORTANT THAN SPEED.



PROVIDE PLACES TO STAY ALONG THE ROUTE SO THAT PEOPLE CAN MEET EACH OTHER.



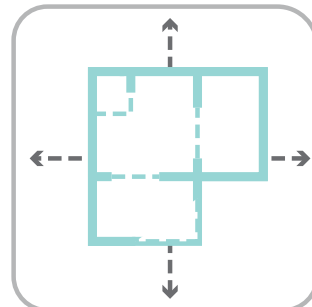
CREATE OPPORTUNITIES FOR RESIDENT PARTICIPATION, SUCH AS INVOLVING THEM IN ORGANISING ACTIVITIES AND MANAGING THE BUILDING. MANY OLDER ADULTS REMAIN ACTIVE WELL INTO LATER LIFE.



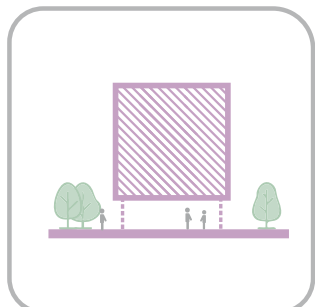
PROVIDE OPPORTUNITIES FOR RESIDENTS TO MAINTAIN AND EXPAND THEIR SOCIAL NETWORKS THROUGH SHARED ACTIVITIES AND EVENTS. THESE NETWORKS MAY CONSIST OF CASUAL ACQUAINTANCES RATHER THAN CLOSE FRIENDS, AS WEAK SOCIAL TIES ARE OFTEN HIGHLY VALUABLE.



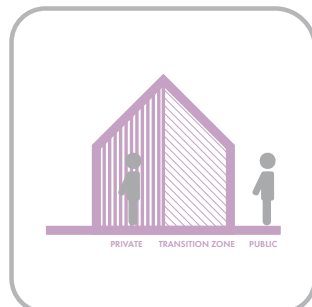
ESTABLISH CLEAR COMMUNICATION CHANNELS BETWEEN RESIDENTS AND MANAGERS, ENSURING RESIDENTS ARE ACTIVELY LISTENED TO AND RECEIVE PROMPT RESPONSES TO THEIR REQUESTS.



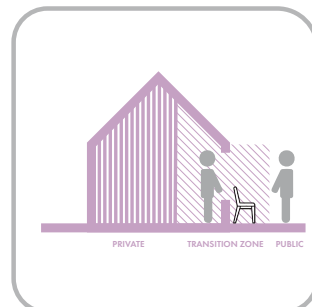
DESIGN HOMES THAT ACCOMMODATE DIVERSE CARE NEEDS, WITH FLEXIBLE LAYOUTS THAT CAN BE ADAPTED AS CARE REQUIREMENTS CHANGE, ENABLING RESIDENTS TO AVOID RELOCATING.



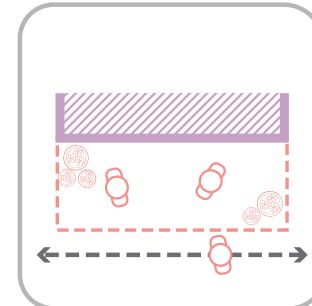
ENSURE THE GROUND LEVEL IS ATTRACTIVE AND INVITING, AS PEOPLE LOOK AHEAD RATHER THAN UP, SO FOCUS MOST ATTENTION AND DETAIL ON THE BASE



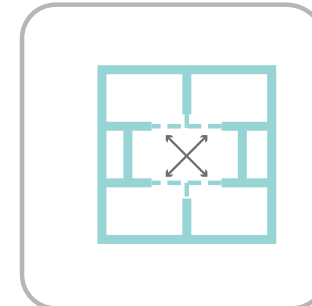
PAY ATTENTION TO THE TRANSITION FROM PUBLIC TO PRIVATE, PARTICULARLY AT THE FRONT DOOR.



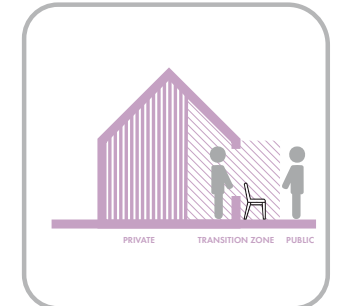
PAY ATTENTION TO THE TRANSITION FROM PUBLIC TO PRIVATE. CREATE A THRESHOLD ZONE THAT RESIDENTS CAN USE. THIS WILL LEAD TO MORE INTERACTIONS.



PAY ATTENTION TO THE TRANSITION FROM PUBLIC TO PRIVATE. CREATE A THRESHOLD ZONE THAT RESIDENTS CAN USE. THIS WILL LEAD TO MORE INTERACTIONS.



ENSURE A FLEXIBLE AND ADAPTABLE LAYOUT, SO THAT THE APARTMENT REMAINS SUITABLE IN THE EVENT OF CHANGING CARE NEEDS.



PAY ATTENTION TO THE TRANSITION FROM PUBLIC TO PRIVATE. CREATE A THRESHOLD ZONE THAT RESIDENTS CAN USE. THIS WILL LEAD TO MORE INTERACTIONS.



EMPLOY CLEANERS WHO ALSO SERVE AS SOCIAL CONTACTS FOR TWO OR MORE HOURS A WEEK. THESE SOCIAL CONTACTS CAN SUPPORT ELDERLY INDIVIDUALS.



IN A MULTICULTURAL GROUP OF RESIDENTS, TAKE NOTE OF LANGUAGE AND CULTURAL DIFFERENCES AMONG RESIDENTS AND PLACE MULTIPLE HOMOGENEOUS GROUPS TOGETHER.

09

DISCUSSION

This study examines the housing situation and accessibility of the Tarwewijk for elderly, with a focus on their needs and possibilities. The findings highlight key themes, but the validity of the results may be influenced by certain limitations. The discussion covers the results and provides suggestions for further research.

Validity of the Study

Qualitative methods such as interviews and observations were used to map the residents' experiences. While this provides in-depth insights, the limited sample size and focus on specific neighbourhoods may affect the generalisability. Future research could incorporate quantitative data to offer a broader perspective.

Interpretation of the Results

The results of this study largely aligned with the expectations. The Tarwewijk proved to be accessible for wheelchair users, but mobility scooter users faced challenges due to narrow pavements and traffic congestion. Many elderly residents expressed a desire to live independently and also in communal buildings. However, not every older person wants to be forced to share. Therefore, it is important not to pressure the elderly into interacting with one another, but rather to encourage organic connections.

Limitations of the Study

The small sample size and focus on the Tarwewijk limit the applicability of the results. Additionally, interview-based research is subject to interviewer bias, and the subjective experiences of the respondents may affect the representativeness and validity of the findings. Respondents' personal biases, preferences, or misunderstandings could influence the way they report their needs and experiences.

Implications

The findings underscore the need for an integrated approach to care and community building. Improving infrastructure and promoting alternative (shared) living concepts could alleviate pressure on the care system.

Suggestions for Further Research

Future research could focus on the effectiveness of housing concepts like Knarrenhof and the strengthening of social networks in neighbourhoods to improve the quality of life for elderly.

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REFLECTION

The research into the living situation and accessibility of the Tarwewijk for older people was a valuable learning experience. It has deepened my understanding of the needs of older people and the complex issue of elderly care and housing needs.

Initially, I had a simplistic view of the challenges faced by older people. However, by delving deeper into the experiences of the residents, I realised how many factors influence the quality of their lives. The conversations with residents about their experiences in the neighbourhood gave me a better understanding of how the environment affects the well-being of older people.

This research has deepened my understanding of the challenges faced by older people and highlighted the importance of both physically accessible and socially supportive living environments. It has further sparked my interest in this area of research.

Additionally, I have learned that architecture is closely linked to social issues. Buildings and cities are not just physical structures; they influence daily life and the interaction between people. Architecture can promote or hinder social interaction, and the way communities are organised is strongly influenced by their environment.

In short, architecture is key to solving social issues. Architects should not design solely for the wealthy elite but for all layers of society. As Oscar Niemeyer said, "The architect's role is to fight for a better world, where he can produce an architecture that serves everyone and not just a group of privileged people" (Basulto, 2017).

11

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