



# DESIGNING FOR AGING: A STUDY OF SENIOR HOUSING CHALLENGES

Addressing Accessibility, Social Isolation, and Housing Shortages  
through Design and Intergenerational Collaboration

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# ABSTRACT

In response to the challenges of an aging population and growing social isolation among older adults, this research investigates how shared living concepts and the built environment can foster social cohesion and mobility for elderly residents. Through a combination of literature review and spatial analysis, the study examines how architectural and urban strategies can support more inclusive, accessible neighborhoods. Tarwewijk, a socioeconomically diverse neighborhood in Rotterdam, serves as a case study to explore how spatial conditions, such as housing typologies, public space, and walkability, affect social interaction and independence among el-

derly people. The research identifies key principles from cohousing models and inclusive design that promote everyday encounters and community engagement. The inquiry is further informed by firsthand experience working in elderly care settings, offering practical insight into the social and spatial needs for older adults. These insights form the foundation for a subsequent architectural design project, developed separately, that seeks to apply the research findings in practice. The study concludes that an integrated approach-bridging social, architectural, and urban dimensions, is essential to enable older adults to age in place while remaining active and connected.

# KEYWORDS

Aging population, Elderly housing, Social Cohesion, Collective living, Inclusive design, Urban accessibility, Tarwewijk

# 0 CONTENT

Chapter 1: Introduction	
1.1 Problem Statement	6
1.1.2 Statistics	7
1.3 Theoretical Framework	8
1.4 Scope	10
1.5 Design Hypothesis	11
1.6 Research Goal	11
1.7 Targetgroup	12
1.8 Research Question	12
1.9 Definitions	14
1.10 Personal Motivation	15
1.11 Methods	16
1.12 Research Diagram	18
Chapter 2: Mobility and Social Interactions	20
2.1 Design Guidelines	22
Chapter 3: Cohousing and Shared Living Spaces	25
3.1 Design Guidelines	28
Chapter 4: Accesible Housing and the Quality	30
4.1 Design Guidelines	33
Chapter 5: Design Reducing Loneliness	36
5.1 Design Guidelines	39
Chapter 6: Conclusion	41
Chapter 7: Design Guidelines Overview	46
10.0 literature	48
Appendix A	50
Appendix B	52
Appendix C	53
Appendix D	54

# CHAPTER I: INTRODUCTION

# 1.1 PROBLEM STATEMENT

The aging global population has led to a marked increase in demand for senior housing, a trend that shows no signs of slowing. In the Netherlands, this demographic shift occurs against the backdrop of a severe housing shortage affecting all age groups. According to the Nationale Woon- en Bouwagenda, the country is projected to face a shortfall of approximately 317,000 homes by 2024. This deficit particularly impacts vulnerable groups, such as the elderly, who have unique housing needs due to age-related physical, social, and emotional challenges.

As the housing market struggles to meet the demand, many seniors find themselves compelled to remain in family homes that are too large, difficult to maintain, and less suitable for their evolving needs. This situation not only affects the elderly but also exacerbates the housing crisis for younger generations, particularly young families seeking affordable, appropriately sized homes. The lack of senior-specific housing options limits the availability of family homes, hindering overall housing mobility and creating a complex, intergenerational housing challenge.

Addressing the housing shortage for seniors can alleviate pressure on the broader housing market. Creating senior-friendly environments can enhance the lives of elderly residents while simultaneously increasing the supply of family homes, benefiting the entire housing ecosystem. The concept of “housing flow”—facilitating transitions that align with life stages and needs—is crucial for addressing structural imbalances within the housing market (Mulder & Hooimeijer, 2002). By ensuring seniors have access to suitable housing, younger generations can find opportunities to move into homes that better suit their needs.

The need for senior housing is driven by the profound impact that living environments have on the health, well-being, and quality of life of elderly individuals. Research indicates that housing designed with senior-friendly features—such as accessible lay-

outs and proximity to services and social opportunities—positively influences both physical and emotional well-being (Pynoos et al., 2009; Luciano et al., 2020). Conversely, unsuitable housing contributes to increased risks of falls and difficulties with daily activities, significantly affecting quality of life.

These physical challenges are compounded by social implications, as aging in place in unsuitable environments can lead to feelings of isolation and loneliness. Social isolation is a significant risk factor for mental health issues, including depression and cognitive decline, underscoring the need for a comprehensive approach to senior living (Nicholson, 2012; Hawkey & Cacioppo, 2010).

While modifications like stairlifts and grab bars can improve safety, they often fail to address the emotional dimensions of elderly residents’ needs. Living alone in a large, isolated family home can intensify feelings of loneliness, which can be as detrimental to health as chronic illness. Therefore, senior housing solutions must integrate design elements that enhance accessibility while fostering community engagement, social interaction, and a sense of belonging.

This research aims to address the dual challenges of the Dutch housing crisis and the well-being of elderly individuals. By focusing on senior-friendly accommodations, this study seeks to identify design guidelines that create supportive living environments tailored to older adults. These guidelines should include features that promote social interaction and combat loneliness.

In summary, this study will develop guidelines for senior-friendly housing that enhance the quality of life for older adults while optimizing housing market flow for younger generations. Ultimately, these design guidelines could contribute to creating inclusive communities where people of all ages can find suitable housing, fostering a housing market responsive to the evolving needs of society as a whole.

# 1.1.2 STATISTICS

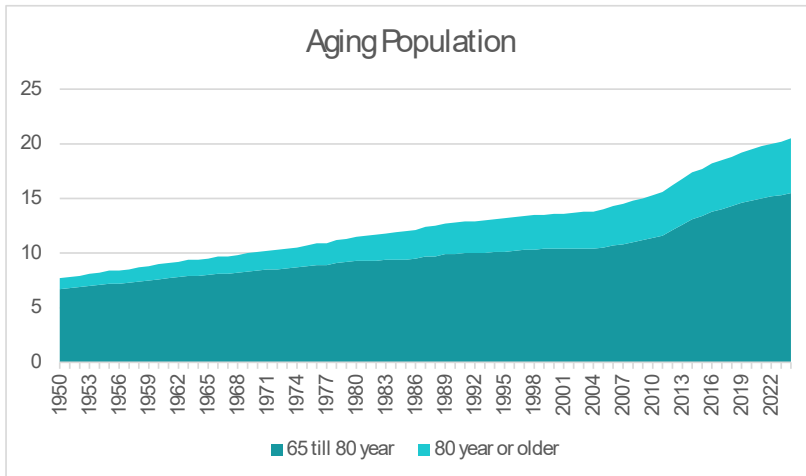


Figure 1: Aging population in The Netherlands (CBS, 2024)

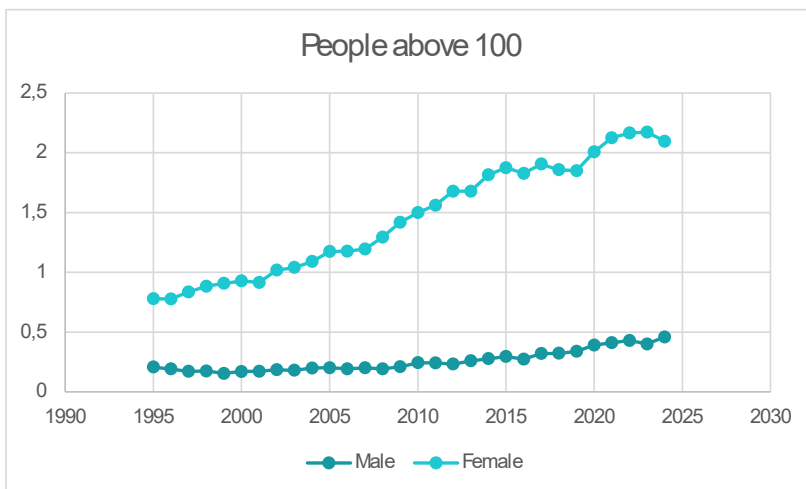


Figure 2: Population above 100 in The Netherlands (CBS, 2024)

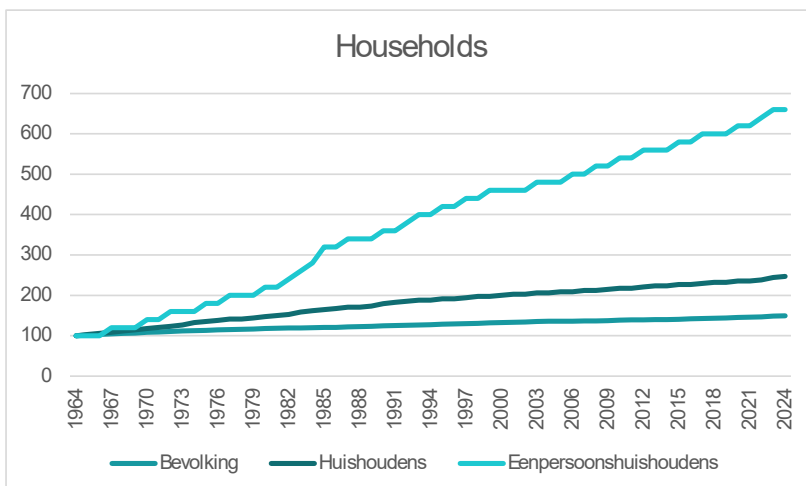


Figure 3: Household division in The Netherlands (CBS, 2024)

To better understand the current situation in the Netherlands, utilizing data from CBS (Central Bureau of Statistics) provides valuable insights into the population, their ages, and living situations. Analyzing the three charts on the left side of the page reveals a clear trend of an aging population over the years.

In Figure 1, it becomes evident that since 2007, the population in the Netherlands has been aging at an increasing rate. Figure 2 highlights that the Dutch population, particularly women, is living longer. The number of people over 100 years old has grown significantly. Lastly, Figure 3 illustrates how households in the Netherlands are distributed. The aqua blue color represents single-person households, which have been steadily rising each year.

In conclusion, the data from CBS clearly shows that the Netherlands is experiencing a significant demographic shift, with an aging population and a rise in single-person households. The increasing number of elderly, particularly women, and the growing proportion of single households present important challenges and opportunities for policymakers, particularly in areas like healthcare, social services, and housing.

# 1.3 THEORETICAL FRAMEWORK

This framework addresses the social and physical aspects influencing loneliness in older adults and people with physical challenges. By drawing on key sources and integrating the Age-Friendly Communities principles from SEMANA, it explores ways to create supportive social environments, highlights the importance of social connectivity for health, and promotes age-friendly, accessible living spaces tailored specifically to this population.

## 1. Social Support within Age-Specific and Accessibility-Focused Communities

Nicholson (2012) provides a comprehensive review of social isolation, focusing specifically on the loneliness experienced by older adults. Nicholson highlights that age-segregated or accessibility-focused communities—such as senior living facilities or adapted housing units—can play a pivotal role in mitigating loneliness by fostering a socially supportive environment tailored to the needs of elderly individuals or those with physical difficulties. By integrating Nicholson's perspective, the framework emphasizes the importance of building socially supportive, age-specific, and accessible environments that allow for meaningful social engagement and a strong sense of belonging.

## 2. Social Connectivity as a Health Priority

Holt-Lunstad, Smith, and Layton (2010) demonstrate that loneliness poses a significant health risk, with a lack of social connections linked to increased mortality. Their findings indicate that social connectivity is essential not just for emotional health but also as a key factor in physical well-being, framing loneliness as an urgent public health issue for older adults and those with physical limitations. By including social connectivity as a health priority, the framework underscores the importance of continuous social engagement. To combat the health impacts of isolation, age-specific communities and support groups within adapted housing or senior

residences can provide essential spaces for regular social interactions, positioning such environments as necessary for both emotional and physical health.

## 3. Universal Design and Accessibility in Housing

To address physical limitations and support independence, Steinfeld and Maisel (2012) advocate for universal design principles that emphasize accessibility and adaptability. Their approach provides a foundation for creating environments that allow older adults and those with physical difficulties to maintain autonomy and engage actively in their communities. Features like ramps, non-slip surfaces, adaptable living spaces, and clear signage support both safety and accessibility, enabling individuals to live independently and participate in communal activities.

## 4. WHO's Age-Friendly Cities and Communities Framework

This framework integrates the well-documented Age-Friendly Cities and Communities principles published by the World Health Organization (WHO). These were first introduced in the WHO's Global Age-Friendly Cities: A Guide (2007) and expanded in later documents such as Age-Friendly Environments in Europe (2017) and Active Ageing: A Policy Framework (2002). The WHO outlines eight key domains that contribute to an age-friendly environment:

**Outdoor Spaces and Buildings:** Safe, accessible, and pleasant public environments.

**Transportation:** Affordable and convenient mobility options for all ages.

**Housing:** Adequate, accessible, and affordable housing that supports aging in place.

**Social Participation:** Opportunities for engagement in community and cultural activities.

**Respect and Social Inclusion:** Cultivating positive attitudes and intergenerational solidarity.

**Civic Participation and Employment:** Enabling older adults to stay active through work or volunteering.

**Communication and Information:** Ensuring clear, accessible, and inclusive communication.

**Community Support and Health Services:** Providing accessible health and support services.

These domains offer a comprehensive framework that links the physical environment with social participation and inclusion, forming a foundation for both urban and architectural strategies.



Figure 4: Adapted from WHO's Age-Friendly Communities principles, highlighting key areas for creating inclusive environments for older adults (WHO, 2007).

### Integrated Model: Social and Physical Dimensions for Age-Specific and Accessibility-Focused Environments

The updated framework is built on four primary pillars: social support, social connectivity, universal accessibility, and community principles. These pillars work together to address loneliness among older adults and people with physical difficulties:

#### 1. Social Support in Age-Specific Communities:

Emphasizing supportive environments for social engagement (Nicholson, 2012).

#### 2. Social Connectivity as a Health Priority:

Highlighting the health implications of loneliness and the need for engagement (Holt-Lunstad et al., 2010).

#### 3. Accessible and Inclusive Environments:

Incorporating universal design principles for supportive living (Steinfeld & Maisel, 2012).

#### 4. Comprehensive Community Principles: Using

SEMANA's principles to create age-friendly environments.

This integrated model provides a clear approach to addressing loneliness by recognizing the specific social and physical needs of older adults and those with physical limitations. By combining social support with accessible design and community engagement principles, this framework sets the foundation for creating environments that enhance social interaction, support health, and promote independent living.

# I.4 SCOPE

This research focuses on exploring how cohousing and the concept of sharing can enhance social cohesion among elderly individuals, with a particular emphasis on the role of the physical environment in fostering mobility and social interactions. The study will specifically examine these dynamics within the Tarwewijk neighborhood in Rotterdam, investigating how accessible housing and neighborhood design can improve the quality of life for elderly residents by promoting social engagement and reducing loneliness.

The research will be limited to:

- Elderly individuals who feel lonely and are impacted by aging-related challenges, without defining a strict age threshold.

- The physical environment at both the neighborhood and dwelling levels, with a focus on how it affects mobility and social interaction.

- Cohousing and shared living spaces as a potential solution for improving social cohesion and reducing isolation among elderly residents.

The perspectives of caregivers, family members, and the broader community will also be considered, but the primary focus remains on elderly residents' experiences. This research will not address broader urban planning issues beyond the immediate concerns of housing, mobility, and social cohesion within the neighborhood.



# 1.5 DESIGN HYPOTHESIS

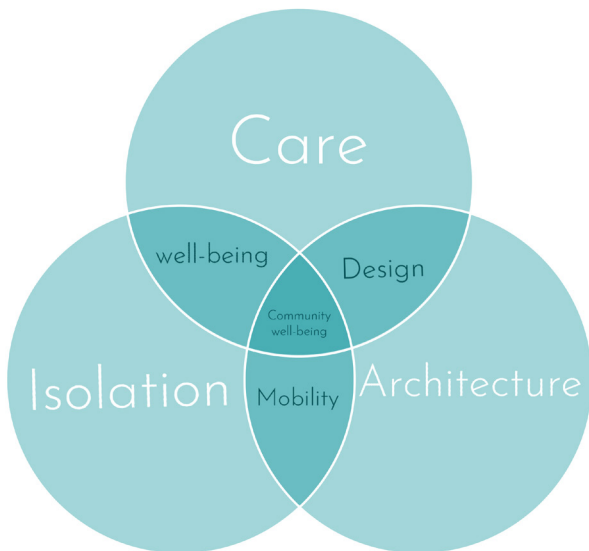


Figure 5: Research approaches on how to create a well-being community (own work)

By integrating the fields of elderly care, social isolation, and architecture, a qualitative living environment can be created for older adults (figure 3). Improving the quality of life for the elderly can enhance the efficiency of care and reduce the sense of

isolation, a growing issue among this demographic.

Since aging is a gradual process that often comes with increasing physical and cognitive challenges, this research will not focus on healing approaches. Instead, it will explore how architecture and the living environment can promote well-being and mitigate the effects of isolation and aging.

This research will examine the living environment at multiple scales: from individual rooms, apartments, and buildings to the entire neighborhood. Creating spaces that foster social connections, physical accessibility, and safety is central to this approach.

The study is user-based, focusing on the elderly person's experience, but it will also incorporate the perspectives of family members, caregivers, and the broader community. By designing environments that prioritize social interaction, physical comfort, and accessibility, the demand for care can be reduced in a society where the gap between those who need care and those who can provide it is widening.

# 1.6 RESEARCH GOAL

The goal of this research is to explore how architectural design and the built environment can be used to improve the quality of life for elderly individuals by reducing social isolation and enhancing care efficiency. By examining living environments across different scales—from rooms to neighborhoods—the research aims to identify design strategies that fos-

ter social connection, accessibility, and well-being. Additionally, the study will consider the perspectives of older adults, their caregivers, and their families, with the ultimate objective of creating supportive environments that decrease the demand for care in an aging society.

## I.7 TARGETGROUP

The target group of this research includes adults who feel lonely and aging, rather than specifying a rigid age threshold. While initially focused on individuals aged 65 and older, it's important to recognize that experiences of aging and loneliness can vary widely. With pension eligibility now set at 67 and the Dutch government considering 75 as a more appropriate age to define as "elderly,"

this research will take a more flexible approach. By focusing on individuals who experience loneliness and feel the effects of aging, regardless of their specific age, the study can better address the diverse needs and challenges faced by this group. Additionally, the perspectives of caregivers, family members, and the broader community will be considered to create supportive living environments that enhance the quality of life for older adults.

## I.8 RESEARCH QUESTION

Figure 4 illustrates how this research will be executed alongside the problem statement and its relevance. Through the use of various methods and personal experience, design guidelines will be developed. This process is visually represented in the problem statement diagram (Figure 4), which is presented on the following page.

### Research question:

"Can cohousing and the concept of sharing enhance social cohesion among elderly residents, while the physical environment—such as accessible housing in neighborhoods like Tarwewijk in Rotterdam—improves their mobility and social interactions on both the neighborhood and dwelling scale?"

### Subquestion:

1. How does the physical environment in neighborhoods like Tarwewijk influence the mobility and social interactions of elderly residents?
2. In what ways can cohousing and shared living spaces foster social cohesion among elderly residents?
3. What role does accessible housing play in improving the quality of life for elderly individuals by enhancing mobility and social engagement?
4. How can the design of neighborhoods, dwelling types, and interiors support social interaction and reduce loneliness among elderly residents?

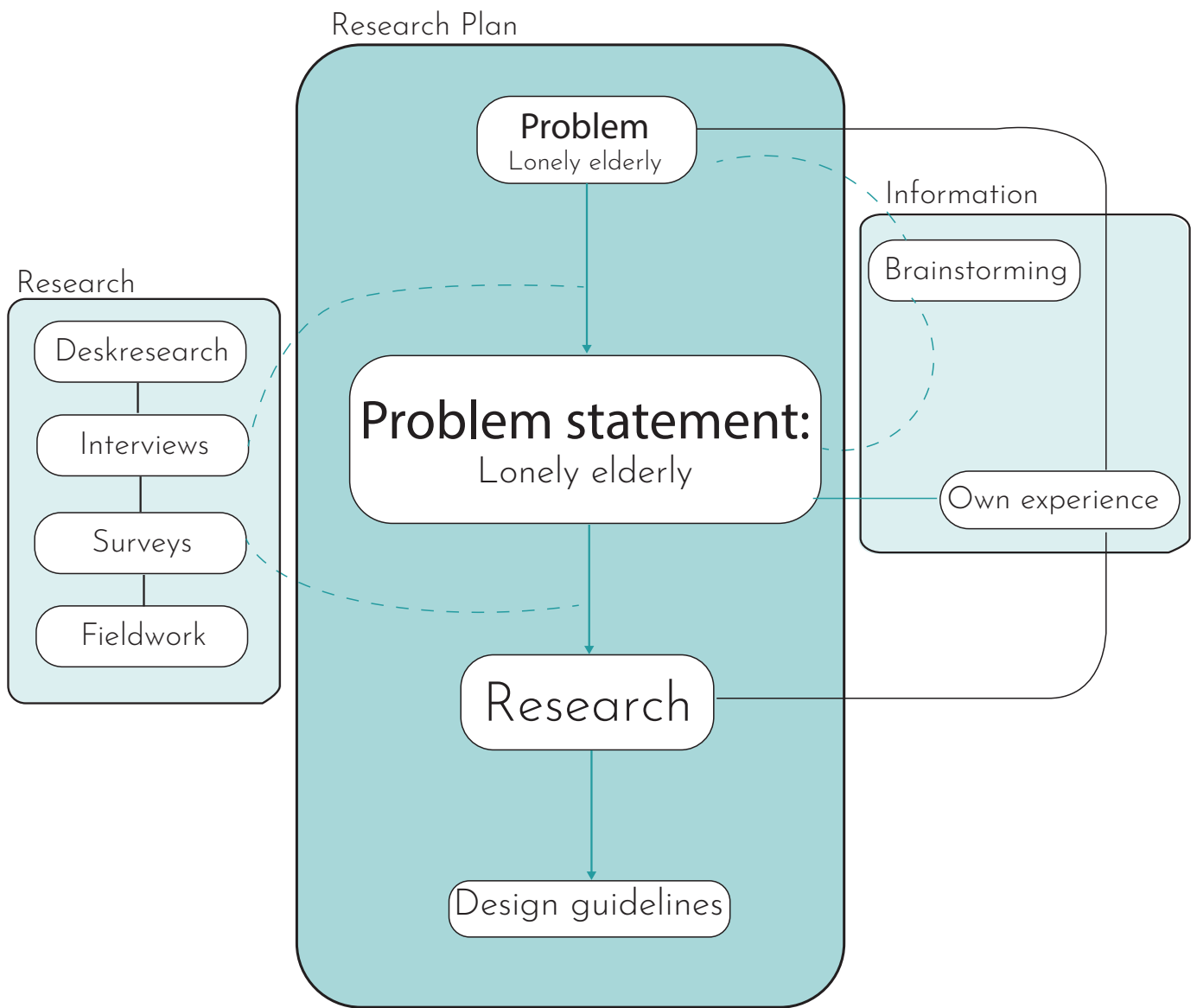


Figure 6: Problem statement diagram with all different methods to answer the problem (own work)

# 1.9 DEFINITIONS

During the research, several key terms will be referenced repeatedly and are crucial to the understanding of the study. These terms are important to define clearly, as they form the foundation for analyzing the challenges and needs of the elderly population, particularly regarding their living environments and social well-being. The five most important terms that will be elaborated on in this chapter are: Elderly, Loneliness, Non-mobile, Accessibility and Isolation. Additionally, other essential concepts such as Social interaction, Mobility and Senior-friendly housing are defined to provide a comprehensive understanding of the factors influencing the quality of life for elderly individuals.

## Elderly

Refers to adults aged 65 and older, a demographic experiencing various degrees of physical and cognitive changes that affect their daily lives. This term includes individuals with both physical difficulties and cognitive conditions, such as dementia, who may require specialized living environments or care (Gorman, 1999).

## Loneliness

Describes the emotional state experienced when an individual feels isolated or lacks social connections (Hawkey & Cacioppo, 2010), which can be especially prevalent among elderly individuals living alone or in environments that do not foster regular interaction.

## Non-mobile

Refers to individuals, particularly the elderly, who experience significant mobility challenges (Webber, Porter, & Menec, 2010), making it difficult for them to move around independently. These individuals may rely on aids such as wheelchairs or walkers and face difficulties in environments that are not designed with accessibility in mind.

## Accessibility

The design and modification of physical environ-

ments to accommodate individuals with limited mobility or other disabilities (Steinfeld & Maisel, 2012). In the context of senior housing and public spaces, accessibility refers to features like ramps, stairlifts, wide walkways, and accessible public transportation that enable elderly residents to move around safely and comfortably.

## Isolation

The condition of being physically or socially separated from others, which can lead to a lack of meaningful interaction and engagement with the outside world (Nicholson, 2012). This often exacerbates feelings of loneliness, particularly among elderly individuals living in environments that do not support community involvement or social connections.

## Social interaction

Refers to the exchanges and connections that individuals have with others (Holt-Lunstad, Smith, & Layton, 2010). For elderly individuals, meaningful social interaction is vital for maintaining mental and emotional well-being, and a lack of it can lead to loneliness and depression.

## Mobility

The ability of elderly individuals to move around freely and independently, both within their homes and in public spaces. This includes the ability to navigate physical environments safely and comfortably, which can be affected by physical disabilities or the design of the built environment (Rosenberg, Bombardier, Hoffman, & Belza, 2011).

## Senior-friendly housing

Housing that is specifically designed or modified to accommodate the needs of elderly individuals (Pynoos, Caraviello, & Cicero, 2009). This includes features that enhance safety, accessibility, and social inclusion, such as stairlifts, wide doorways, non-slip floors, and accessible bathrooms.

# I.10 PERSONAL MOTIVATION

Since June 2020, I have been working at an elderly home in Sassenheim that accommodates individuals with dementia as well as those with physical difficulties who are unable to live independently. My primary role is as a hostess in the restaurant, which provides meals for residents three times a day. In addition to these main meals, the restaurant serves as a welcoming space where residents can enjoy snacks and beverages, and where friends and family can visit.

While my main responsibility is serving food, I naturally engage in conversations with many of the residents. This interaction has provided me with valuable insights into their feelings and perspectives about living in the facility. Additionally, I have spoken with nurses and the families of residents, further enriching my understanding of the challenges and experiences faced by the elderly. This mix of hands-on experience and conversations with different people has given me a solid understanding of the research topic.

This hands-on experience has provided me with a unique perspective on the research topic, enlarging my knowledge of elderly care, social isolation, and the impact of the living environment. I will draw on this experience throughout my research, I will use this real-life experience to make sure my findings are based on real situations, leading to more useful and practical results. In Appendix D, you will find the field workbook, which provides a detailed account of my experience working in the healthcare sector. The knowledge gained from this experience has been integrated throughout the research and is thoroughly documented in the field workbook as well.



Photo 1: Courtyard in Marente for the residents and visitors (own photo)

# 1.1 METHODS

This study employs a qualitative, mixed-method approach to investigate how the built environment can support social cohesion and mobility for elderly residents. The methodology combines literature analysis, spatial mapping, and fieldwork—including personal experience and informal interviews—to build a comprehensive understanding of how age-friendly environments can be designed.

The research is guided by the Age-Friendly Cities and Communities framework developed by the World Health Organization (WHO), which outlines eight key domains that contribute to supportive environments for aging in place:

- Outdoor Spaces and Buildings** – Safe, accessible, and pleasant public environments
- Transportation** – Affordable and convenient mobility options for all ages
- Housing** – Adequate, accessible, and affordable housing
- Social Participation** – Opportunities for community and cultural engagement
- Respect and Social Inclusion** – Positive attitudes and intergenerational solidarity
- Civic Participation and Employment** – Opportunities for work and volunteering
- Communication and Information** – Clear, accessible communication
- Community Support and Health Services** – Accessible care and support services

These domains, introduced in Global Age-Friendly Cities: A Guide (WHO, 2007) and expanded in Age-Friendly Environments in Europe (2017) and Active Ageing: A Policy Framework (2002), serve as a theoretical lens through which the built environment in Tarwewijk, Rotterdam, is analyzed.

## Step 1: Literature Review

The first step involved a structured literature review to understand the relationship between aging, social well-being, and spatial design. Sources were selected using the following criteria:

**Language:** English and Dutch

**Type:** Peer-reviewed articles, WHO and government reports, relevant design publications

**Date range:** Primarily 2008–2024

**Search terms:** “cohousing elderly”, “age-friendly cities”, “social isolation aging”, “universal design”, “inclusive housing”, “mobility elderly urban design”

**Databases:** Google Scholar, JSTOR, Scopus, and ResearchGate

Key theoretical contributions included Nicholson’s model of social support for older adults, Holt-Lunstad’s research on the health impacts of social isolation, and Steinfeld & Maisel’s principles of universal design. These theories, combined with the WHO framework, informed the analysis of how spatial and social systems interact in environments for older adults.

## Step 2: Spatial Mapping and Site Analysis

Tarwewijk was selected as the case study area due to its urban density, socio-economic diversity, and relevance to housing and mobility challenges faced by older adults.

**Tools used:** QGIS, Illustrator

**Data sources:** CBS (Statistics Netherlands), Open Rotterdam GIS, aerial maps

**Layers mapped:** Housing typologies: Building age, form, access points

**Public space and walkability:** Sidewalks, crossings, benches, green areas

**Social infrastructure:** Healthcare facilities, shops, public transport, community centers

Spatial data was used to evaluate how well the built environment supports walkability, accessibility, and social interaction in the neighborhood.

### Step 3: Fieldwork and Informal Interviews

A significant part of the research involved field-based exploration through both long-term and short-term engagement in elderly care environments. This included:

- **Longitudinal fieldwork** from prior work experience in elderly care settings, where I closely observed the routines, needs, and spatial behaviors of older adults in real-life contexts.
- **A multi-day field study at Reigershove in Heemskerk**, a care environment known for its co-housing-inspired model. During this stay, I participated in daily activities and observed how spatial layout, communal living, and support systems influence social dynamics and autonomy among elderly residents.

Additionally, I conducted informal interviews (N=6) with elderly individuals and caregivers across different settings. These conversations took place in natural contexts such as shared meals or walks and focused on:

- Experiences of social interaction and loneliness
- Accessibility barriers in private and public spaces
- Preferences related to shared versus private environments

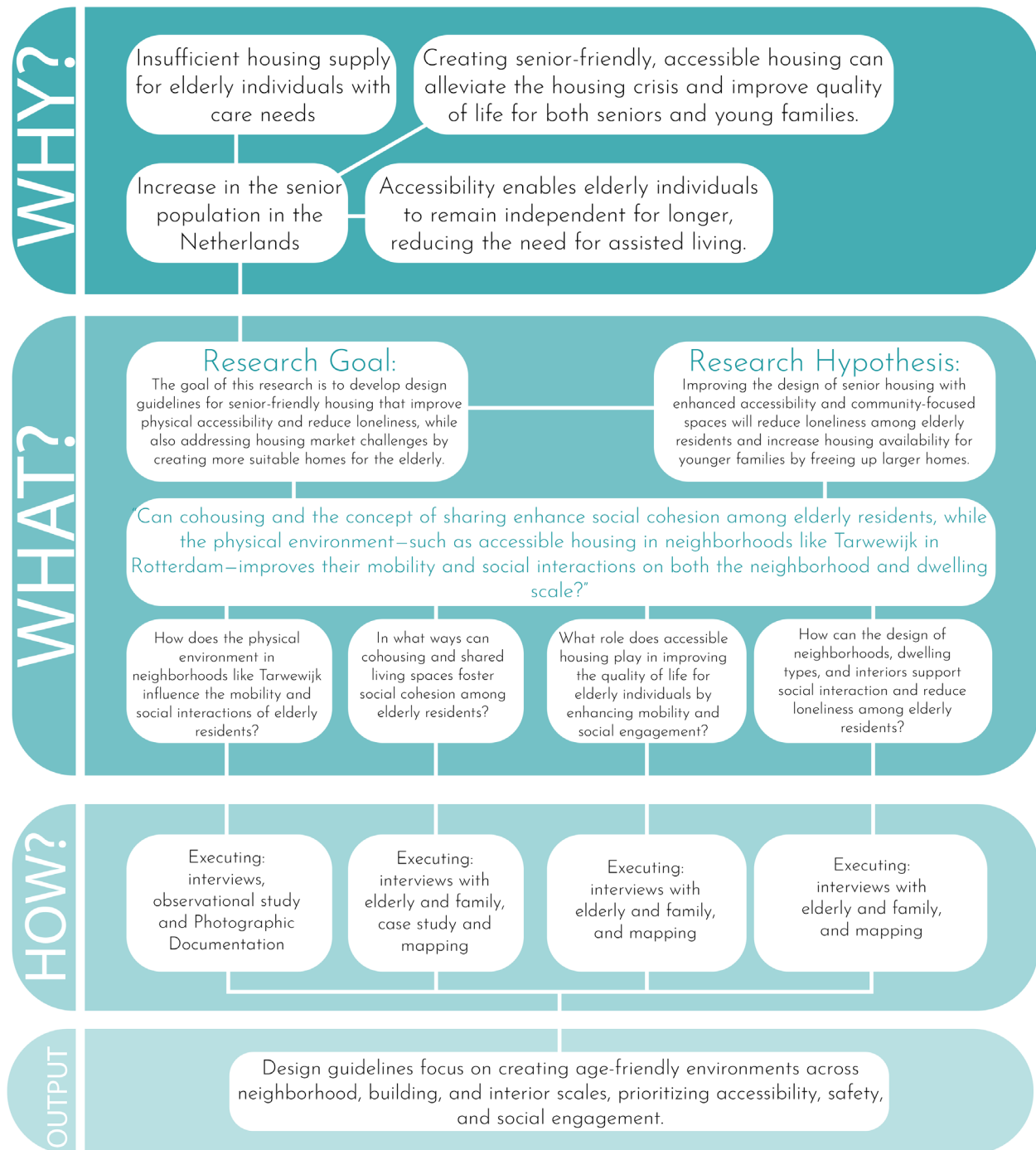
All participants gave verbal consent; interviews were not recorded but documented through detailed notes. The insights gathered helped ground the research in lived experience, enriching the analysis beyond theoretical understanding.

### Synthesis and Design Translation

Insights from the literature, mapping, and fieldwork were synthesized using the WHO domains and complementary theoretical models. This triangulation formed the basis for identifying design criteria that could inform architectural and urban interventions. These criteria are later applied in a separate design project, which stands apart from the research itself.



# 1.12 RESEARCH DIAGRAM





# CHAPTER 2: MOBILITY AND SOCIAL INTERACTIONS

As populations age globally, the design of urban neighborhoods plays an increasingly significant role in determining the quality of life for elderly residents. Urban environments can either support or hinder mobility, social interaction, and overall well-being for elderly individuals. The importance of neighborhood design cannot be overstated, as it impacts not only the ability of elderly people to navigate their surroundings, but also their access to essential services and their opportunities for social engagement. In densely populated urban areas, neighborhoods that promote walkability, connectivity to public transportation, and the presence of social spaces are critical for helping elderly residents maintain a sense of independence, freedom, and well-being.

This chapter examines the role of neighborhood design in shaping mobility and social interactions among elderly residents, using Tarwewijk, a neighborhood in Rotterdam, as an example. It delves into how features such as accessibility, walkability, proximity to services, and community spaces can either enhance or limit the ability of elderly residents to lead fulfilling lives. The chapter will further explore how such design elements have been implemented in Tarwewijk and will discuss broader implications for urban planning aimed at improving the lives of elderly populations nationally.

### Neighborhood Design and Mobility

The ability to move freely within the neighborhood is a fundamental aspect of elderly residents' independence and overall well-being. Mobility has a direct impact not only on physical health, but also on social participation and mental health. Research shows that mobility limitations in older adults are strongly correlated with social isolation, depression, and a reduced sense of purpose (Cacioppo et al., 2014). The design of neighborhoods, therefore, plays an important role in determining how easily elderly individuals can access services, visit family, attend social events, or simply maintain a routine of outdoor activity.

### Walkability and Accessibility

Among the most significant design features influencing elderly mobility is walkability. A walkable neighborhood enables older residents to safely and comfortably navigate their environment. Key elements of walkable neighborhoods include well-maintained sidewalks, pedestrian-friendly crossings, low traffic speeds, and the absence of physical barriers that might restrict movement. Such features are particularly important for elderly individuals, who may suffer from mobility impairments.

Tarwewijk, as an example, has not taken measures to enhance walkability for its residents. The neighborhood does not feature wide, accessible sidewalks (Appendix A), but does have frequent pedestrian crossings and traffic-calming measures such as speed bumps. This not only makes walking more dangerous but also less pleasant for elderly residents. Research by Saelens et al. (2003) suggests that improving walkability increases physical activity levels among elderly residents, which in turn enhances health outcomes such as reduced risk of cardiovascular disease and improved mental health.

### Proximity to Services

In addition to walkability, proximity to essential services is crucial for elderly mobility. Services such as grocery stores, healthcare facilities, public transport stations, and social spaces should be easily accessible. Elderly residents in neighborhoods like Tarwewijk benefit from having such services within walking distance, which reduces the reliance on private transportation. Access to medical facilities is especially important, as the elderly are more likely to need frequent medical appointments. Moreover, having essential services nearby also encourages more spontaneous social interaction, as residents may encounter others while completing their daily tasks.

A study by Pin et al. (2017) highlighted that neighborhoods with essential services within a short walking distance contribute to the increased physical mobility and independence of elderly residents. Tarwewijk, for example, has successfully integrated healthcare facilities, grocery stores, and community centers close to residential areas, ensuring that elderly individuals can go about their daily routines without facing long travel times. (Appendix b)

### Public Transportation

Public transportation plays a significant role in enhancing mobility, particularly for elderly individuals who are unable to drive or prefer not to. Access to reliable, affordable public transportation systems allows elderly residents to maintain their independence, visit family, and attend social activities. This is especially relevant in urban environments like Tarwewijk, where public transport networks are well-developed, but not always very accessible and offer connections to other parts of Rotterdam.

A report by the European Commission (2018) on aging urban populations emphasizes the importance of public transport systems that satisfy the needs of elderly residents, such as low-floor buses, trams with priority seating, and bus stations with seating and shelter. In Tarwewijk, the availability of trams and buses within walking distance allows elderly residents to easily access not only local services but also opportunities for social engagement outside of their immediate neighborhood (Appendix C).

### Social Interaction and Community Engagement

Social engagement plays an important role in determining the well-being of elderly individuals. Research has consistently shown that elderly people who maintain strong social networks experience better physical and mental health outcomes than those who are socially isolated (Holt-Lunstad et al., 2010). Social interaction helps mitigate the negative effects of aging, such as loneliness, depression, and cognitive decline. A well-designed neighborhood with accessible and attractive social spaces encourages residents to meet, interact, and form lasting social bonds.

### The Role of Social Spaces

Community spaces such as parks, plazas, community gardens, and communal halls provide opportunities for informal social interactions. These spaces offer a place for elderly residents to meet their neighbors, share experiences, and build supportive social networks. In Tarwewijk, for example, a local community centre (Millinxparkhuis) has become a popular gathering place for elderly residents. Here, they engage in activities, socialize with one another, and exchange tips on everything from care to local events.

Urban design that incorporates green spaces and public squares can improve the mental health and social engagement of elderly residents by encouraging outdoor activity, which has been shown to reduce feelings of depression and anxiety (Kuo, 2001). The inclusion of accessible seating, shade, and well-maintained pathways ensures that elderly individuals can comfortably use these spaces for relaxation or interaction.

### Design of Housing and Shared Spaces

In addition to outdoor public spaces, the design of residential buildings and shared areas is crucial for promoting social interaction. Shared spaces, such as dining rooms, lounges, and multi-purpose meeting rooms, serve as venues for residents to gather, organize events, or simply engage in casual conversation. In mixed-use buildings where housing is integrated with community spaces, elderly residents are more likely to have frequent opportunities for interaction.

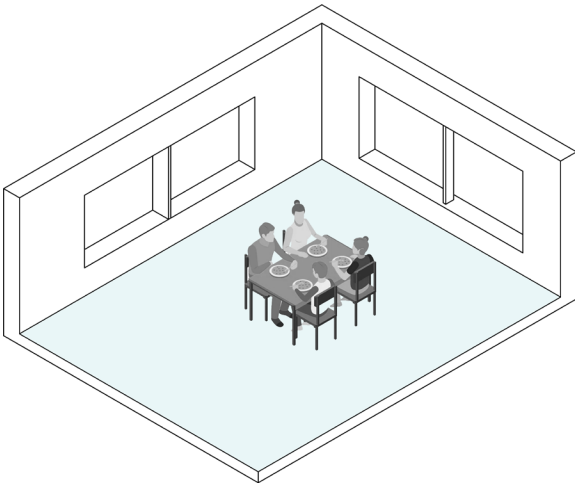
### Conclusion

In conclusion, the design of neighborhoods significantly impacts the mobility and social interactions of elderly residents. For neighborhoods like Tarwewijk, prioritizing walkability, service proximity, and accessible public transport systems helps elderly residents remain mobile and independent. Community spaces and intergenerational living initiatives further enhance social cohesion and reduce isolation. As urban populations continue to age, city planners and developers must focus on designing inclusive and accessible neighborhoods that promote both mobility and social well-being for elderly residents.

## 2.1 DESIGN GUIDELINES

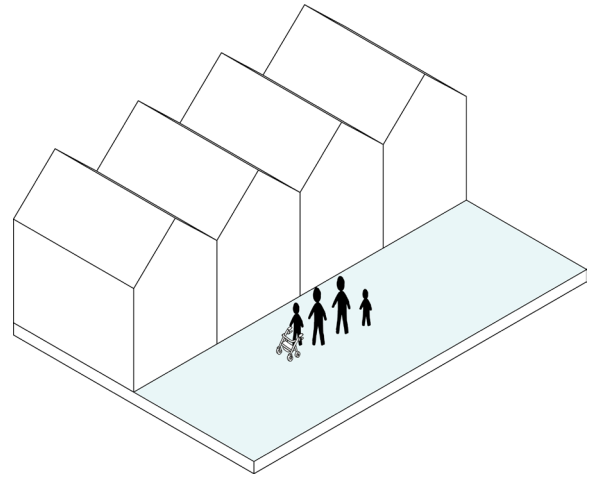
The result of this chapter gives design guidelines which will be used during the design phase. This

chapter has a result of seven design guidelines which will be explained and illustrated below.



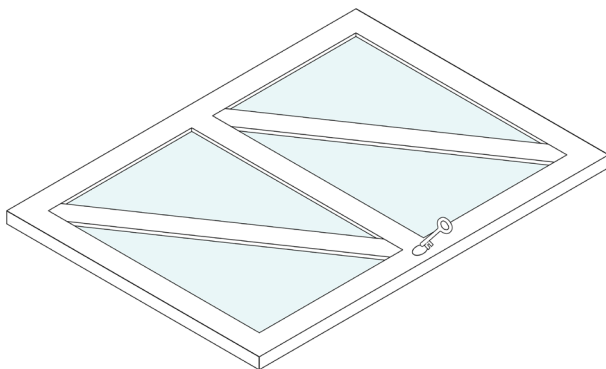
### Shared Spaces for interaction

Communal spaces, such as shared kitchens, dining areas, or lounges, are vital for fostering connections among residents. These spaces serve as central hubs where individuals can meet, share meals, and engage in conversations, creating a sense of community. Thoughtfully designed shared spaces should be inviting, accessible, and versatile to accommodate various group activities and casual interactions, helping to reduce isolation and strengthen social bonds.



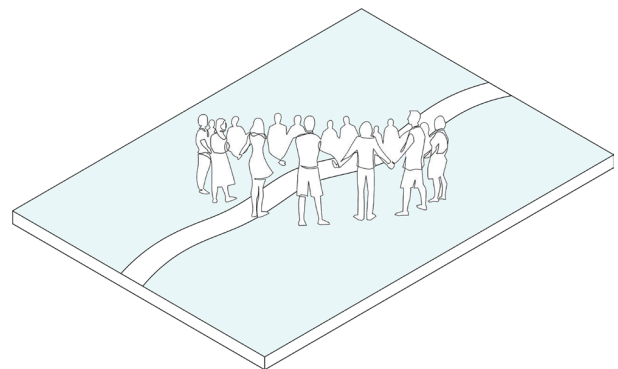
### Intergenerational living

Intergenerational living promotes meaningful relationships between older and younger generations, fostering mutual understanding and support. By creating environments where people of all ages live and interact, these cohousing models encourage knowledge sharing, mentorship, and companionship. Spaces like shared gardens or event areas can naturally facilitate these cross-generational exchanges, enriching the lives of everyone involved.



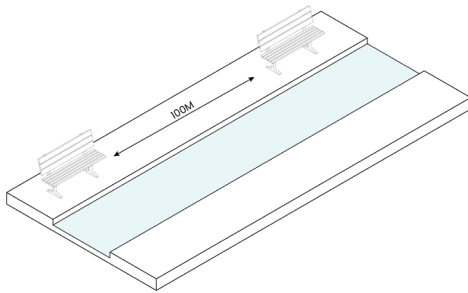
### Privacy and Autonomy

While shared spaces are essential, maintaining private areas is equally important for individual well-being. Personal rooms or apartments should offer residents the autonomy to retreat, relax, and feel secure. These spaces provide a balance between social interaction and personal privacy, ensuring that residents can maintain their independence while still participating in community life when desired.



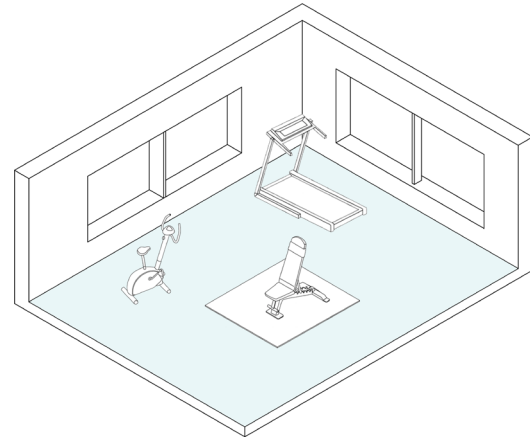
### Community Engagement

Community engagement is the heart of cohousing, emphasizing shared responsibilities and active participation in communal activities. Collaborative practices, like group decision-making or shared gardening projects, help create a sense of belonging and mutual respect. Spaces designed to support these activities, such as community halls or shared workshops, foster a spirit of cooperation and reinforce social cohesion within the group.



### Seating area

the guideline to integrate seating every 50–100 meters directly supports the need for rest stops, enabling older adults to walk longer distances comfortably and independently.



### Activity Support

in design focuses on creating environments that encourage physical, mental, and social engagement for elderly residents. This includes spaces for exercise, hobbies, and social interaction, such as fitness areas, communal gardens, and activity rooms. By facilitating active living, this guideline helps maintain cognitive function, physical health, and social well-being, promoting a more fulfilling lifestyle.



### Assistive Technologies

in design incorporate devices and systems that support the mobility, communication, and independence of elderly residents. Examples include automated lighting, voice-controlled devices, mobility aids, and home monitoring systems, all designed to enhance safety, convenience, and ease of living. These technologies empower elderly individuals to manage daily tasks more independently, improving their quality of life.

# CHAPTER 3: COHOUSING AND SHARED LIVING SPACES

As the global population ages, social connections are increasingly recognized as fundamental to the health and well-being of older adults. Loneliness, often combined by limited mobility and declining health, has become one of the most difficult challenges for elderly individuals. To address this, co-housing and shared living spaces have emerged as effective models to not only support the physical needs of older residents but also to foster community engagement, intergenerational relationships, and reduce isolation. This chapter explores how co-housing and shared living spaces can improve social cohesion, autonomy, and the overall well-being of elderly residents, while also addressing challenges and considerations in implementing these models effectively.

### The Concept of Cohousing for Older Adults

Cohousing refers to a living arrangement where a group of individuals share common spaces, such as kitchens, dining rooms, and gardens, while maintaining private living areas. This model, initially popularized in the 1960s and 1970s, has been adapted to suit the needs of older adults in recent years. The primary goal of cohousing for seniors is to provide a living environment that promotes social interaction, cooperation, and mutual support among residents, while also allowing for privacy and autonomy.

Cohousing has become particularly attractive for elderly residents because it battles the isolation that often goes with aging. Research conducted by Arentshorst, Kloet, and Peine (2019) on the Humanitas intergenerational housing project in the Netherlands highlights how cohousing models can foster a strong sense of community. In Humanitas, elderly residents live alongside university students who exchange companionship and assistance for affordable housing. This intergenerational living arrangement encourages regular social interactions and creates a sense of purpose for both groups. Elderly individuals offer guidance, companionship,

and life experience to students, while students provide help with technology, daily chores, and emotional support.

Recent Dutch research underscores these findings. Rusinovic, van Bochove, and van de Sande (2019) emphasize that senior co-housing in the Netherlands promotes autonomy and social support, although some residents experience conflict or struggle with the shared decision-making processes. Their study offers a nuanced view on both the benefits and limitations of co-housing from the perspective of Dutch residents. (Rusinovic et al., 2019)

Additionally, the TU Delft publication *Together: Towards Collaborative Living* (Czischke, Peute & Brysch, 2023) highlights how collaborative housing can provide an inclusive framework not only for seniors, but also for other groups in need of supportive environments. The authors stress the need for participatory design and governance structures that reflect the diversity of future residents.

Such exchanges reduce social isolation, help bridge generational divides, and create a vibrant, dynamic community in which both elderly residents and younger individuals benefit. The Humanitas project has demonstrated how the shared experiences between different age groups can create strong social ties and improve the overall quality of life for elderly residents. Importantly, these models also challenge traditional notions of aging by placing older adults in active roles within their communities, contributing their skills and experiences to the collective well-being.

### Shared Living Spaces and Social Engagement

One of the central features of cohousing communities is the shared living spaces that foster frequent social interaction and create a sense of belonging. These spaces—kitchens, dining rooms, lounges, and gardens—are designed to encourage residents to spend time together, engage in collective activities,

and form relationships. In traditional housing arrangements, individuals often live in isolation, with little opportunity for spontaneous social engagement. However, cohousing communities are structured to ensure that residents regularly interact and form relationships.

The design of these shared spaces is crucial to their success. According to Houben (1997), housing that prioritizes both private living areas and communal spaces supports social interaction while maintaining residents' autonomy. For elderly residents, this balance is particularly important. While having a private apartment ensures personal space, shared living spaces offer opportunities for socializing and collaboration.

This balance is emphasized in the framework proposed by Luciano et al. (2020), who argue that age-friendly housing must integrate private autonomy with accessible communal environments. Their framework highlights how built environments can contribute to sustained engagement, cognitive health, and resilience in aging communities.

Cohousing provides a structure in which residents can enjoy their own space but also participate in collective activities like shared meals, gardening, or group exercises. Additionally, shared spaces can be used to facilitate organized events and activities, such as workshops, book clubs, exercise sessions, or cultural celebrations. These activities not only promote regular social engagement but also encourage residents to explore new hobbies and skills.

For instance, gardening projects in communal spaces can provide therapeutic benefits for elderly residents while fostering collaboration and teamwork. Such initiatives enable residents to form stronger connections, work toward shared goals, and maintain an active lifestyle.

The positive impact of these shared spaces on social engagement has been shown to improve the mental and emotional well-being of elderly residents. The presence of communal areas encourages both planned and unplanned social interactions, reducing feelings of loneliness and isolation, which are often worsened by living alone. These shared spaces also often become central hubs for

community life, creating opportunities for residents to contribute to and shape their living environment.

### Building Bridges Across Generations

A key feature of many cohousing models is intergenerational living. The Humanitas project, a prime example of this, integrates elderly residents with younger individuals, including students, who reside on-site in exchange for providing companionship and assistance. This type of intergenerational living offers unique benefits to elderly residents.

Older adults in intergenerational cohousing can share their knowledge, life experiences, and emotional support with younger residents. In turn, they receive help with modern technologies, mobility aids, and socializing, which helps them stay connected with the outside world. Intergenerational relationships foster mutual respect and understanding between generations, breaking down stereotypes and enhancing community cohesion. By living and working together, residents develop a shared sense of responsibility and belonging, which benefits the entire community.

These relationships also help to battle the age bias that can often isolate older adults from society. Younger residents gain a deeper appreciation for the experiences and wisdom of the elderly, while older residents benefit from the energy and perspectives of younger generations. This dynamic creates a mutual environment where both groups can thrive.

### Addressing Social Isolation Through Shared Living

Social isolation is one of the most significant challenges faced by elderly individuals, particularly those who live alone or have limited mobility. The aging process often leads to a decline in the ability to engage in physical and social activities, which worsens feelings of loneliness. Research by Hawkey and Cacioppo (2010) highlights how loneliness among older adults is associated with negative health outcomes, including depression, anxiety, and cognitive decline.

Cohousing offers a solution to social isolation by creating a supportive, close-knit community where residents regularly interact with one another. Sha-



red living spaces, along with planned community events, encourage residents to participate in activities, reducing the risks associated with loneliness. Regular social engagement has been shown to enhance mental health, improve cognitive function, and foster a sense of purpose among elderly residents (Holt-Lunstad et al., 2010).

Moreover, cohousing communities often include support networks where residents look out for one another. This informal caregiving dynamic can provide an added layer of security for older adults who may need assistance but prefer to maintain their independence. In many cases, the sense of community fostered in cohousing settings extends beyond the immediate residents, involving families, neighbors, and local organizations.

### Challenges and Considerations

While cohousing and shared living spaces offer numerous benefits, they also present certain challenges that must be addressed to ensure their success. For instance, the initial planning and development of cohousing communities require significant investment, both financially and in terms of time and effort. Additionally, not all elderly individuals may find the communal aspect of cohousing appealing, particularly those who value a high degree of privacy or have difficulty adapting to new social environments.

Czischke et al. (2023) emphasize that one of the critical success factors of collaborative housing is early and inclusive participation. When future residents are involved in shaping the rules, space, and social dynamic, their sense of ownership increases—reducing the risk of disengagement or conflict.

Cultural differences and varying expectations among residents can also present challenges, making it essential to establish clear guidelines and open communication within the community. Ensuring accessibility and mobility-friendly designs in these living spaces is another critical consideration, particularly for residents with physical limitations or disabilities. Addressing these challenges through thoughtful planning, inclusive design, and ongoing community engagement can help maximize the benefits of cohousing for elderly residents.

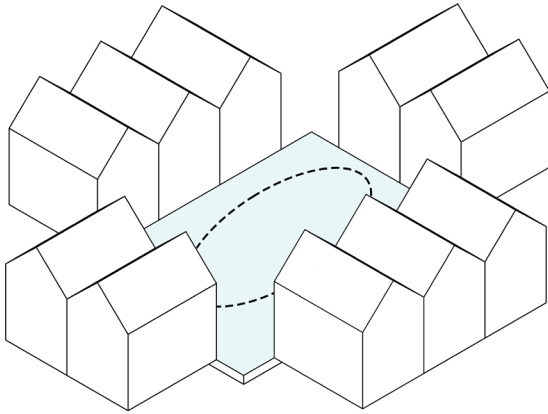
### Conclusion

Cohousing and shared living spaces offer a promising model for enhancing social cohesion and improving the well-being of elderly residents. These models provide not only physical support but also the emotional and social connections necessary for aging in place. By fostering regular social interaction, intergenerational engagement, and mutual support, cohousing communities reduce loneliness and isolation, promoting healthier, more connected lives for elderly individuals. As cities continue to struggle with aging populations, cohousing represents a potential solution to the challenges of aging, offering elderly residents a way to remain active, engaged, and connected to their communities.

By integrating recent insights from the Dutch context—such as those provided by Czischke et al. (2023) and Rusinovic et al. (2019)—we can better understand how to tailor cohousing initiatives to local needs and overcome key implementation barriers.

By understanding the potential of cohousing and addressing the associated challenges, policymakers, architects, and community organizers can create environments that support both the individual and collective needs of elderly residents. In doing so, we can pave the way for a future where aging is not synonymous with isolation but instead with connection, purpose, and community.

## 3.1 DESIGN GUIDELINES



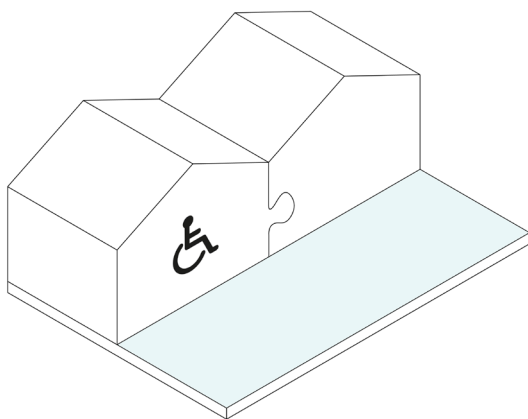
### Physical Proximity

Housing designed with close-knit arrangements encourages spontaneous interactions and fosters a sense of community. When homes are situated near shared spaces or along walkable pathways, residents are more likely to encounter one another in their daily routines, creating opportunities for connection and collaboration. This proximity helps reduce isolation and promotes a supportive neighborhood dynamic.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

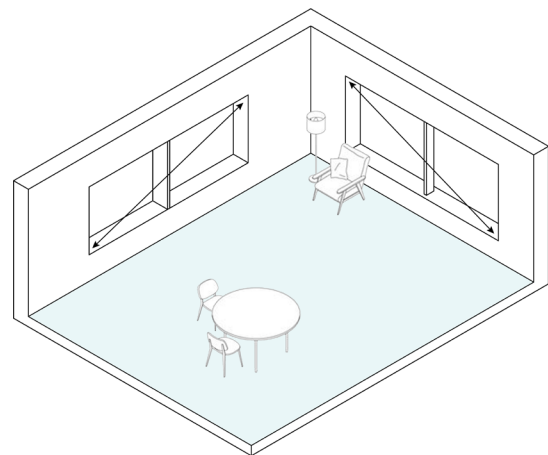
### Social Events and Activities

Organized social events and activities provide opportunities for residents to come together, share experiences, and build meaningful relationships. Whether it's a communal dinner, a hobby workshop, or a festive celebration, these events create a structured way to engage with others and strengthen the social fabric of the community.



### Inclusive Design for Diverse Needs

Inclusive design ensures that spaces are accessible and welcoming for individuals with varying abilities and mobility needs. Features like ramps, wide doorways, and grab bars make shared and private areas usable for everyone. By prioritizing universal accessibility, these designs enable all residents to participate fully in community life, enhancing overall cohesion.



### Flexible Spaces

Flexible spaces are adaptable areas within the co-housing environment that can serve multiple purposes. Whether used for yoga classes, group discussions, or casual meetups, these spaces cater to the changing needs of the community. Movable furniture and modular designs ensure that rooms can easily transition to accommodate different activities, fostering a dynamic and functional living environment.

# CHAPTER 4: ACCESSIBLE HOUSING AND THE QUALITY

Accessible housing is a cornerstone in ensuring elderly individuals can live independent, healthy, and fulfilling lives. As mobility limitations increase with age, housing must adapt to meet the changing physical and social needs of elderly residents. Accessible housing plays a critical role in facilitating mobility, reducing barriers to daily activities, and enhancing social engagement, which is vital for mental and physical well-being. This chapter explores the role of accessible housing in improving the quality of life for elderly individuals, particularly in terms of enhancing mobility and social engagement, and how such housing can contribute to greater social cohesion in neighborhoods like Tarwewijk, Rotterdam. The discussion will also delve into the long-term benefits of investing in accessible housing and its broader implications for urban planning and aging societies.

In the Dutch context, accessibility has become an increasingly integral part of housing regulation and design practice. The Bouwbesluit (Dutch Building Decree) includes specific provisions aimed at ensuring accessibility for people with disabilities and elderly residents, such as requirements for stair-free access, minimum turning radius, and accessible sanitary facilities. Moreover, many housing associations now follow the Woonstandaard, a framework that guides the development of socially inclusive and accessible homes. Additionally, the Woonkeur certification developed by project developers sets further criteria for accessibility, usability, and safety in housing, providing a comprehensive approach that goes beyond basic regulatory compliance.

### Accessible Housing and Mobility

Mobility is one of the most important factors affecting the quality of life for elderly residents. As individuals age, many experience declines in physical strength, balance, and stamina, making mobility a central concern. Accessible housing is specifically designed to accommodate these changes, allowing elderly residents to maintain independence while promoting engagement with the broader commu-

nity.

### Design Elements that Enhance Mobility

Several key design features contribute to the accessibility of housing for elderly residents. According to Steinfeld and Maisel (2012), universal design principles—such as no-step entries, wide doorways, grab bars, and lever handles—are essential for facilitating mobility within the home. These elements ensure that elderly residents can move through their living spaces without encountering obstacles that could lead to falls or injury. In neighborhoods like Tarwewijk, where residents often experience varying degrees of mobility challenges (Appendix A), accessible housing design can enhance daily functioning and ensure greater autonomy.

In the Netherlands, many of these principles are already implemented in WoonKeur and De Woonstandaard guidelines, which require practical features like extra-wide doors, barrier-free showers, and adjustable kitchen counters to accommodate changing physical abilities.

Besides, accessible housing should be adaptable. The ability to modify spaces over time as an individual's needs change is crucial. For example, as mobility declines, the installation of ramps or the conversion of a bathtub into a walk-in shower can ensure continued access to key areas of the home. Research by Pynoos et al. (2009) emphasizes the importance of creating lifelong housing solutions that can evolve alongside residents' needs. In this sense, accessible housing contributes to a sense of security and stability, reducing the stress of future uncertainty about living arrangements.

### Reducing Mobility Barriers through Accessible Housing

Accessible housing not only supports physical movement within the home but also removes barriers to accessing essential services and amenities in the surrounding neighborhood. The integration of accessible transport links and pedestrian-friendly

infrastructure can create an environment that promotes active engagement and movement beyond the immediate home. A study by Webber et al. (2010) highlights that accessible housing, when combined with neighborhood-wide accessibility features, enhances overall mobility, contributing to better physical health and reduced feelings of dependence.

For elderly residents in neighborhoods like Tarwewijk, the proximity of accessible housing to public transportation, healthcare services, and community spaces (Appendix B) further supports their ability to navigate and engage with the environment. Accessible housing in these contexts reduces the reliance on family or external caregivers, allowing elderly residents to continue participating in social activities, running errands, and enjoying their communities. Furthermore, well-planned urban areas that integrate accessible housing with parks, marketplaces, and recreational areas ensure that elderly residents are not isolated from the broader community.

### **The Impact of Accessible Housing on Social Engagement**

The role of accessible housing extends beyond mobility to the scope of social engagement. Social interaction is critical for elderly residents, as it battles loneliness, provides emotional support, and contributes to a sense of purpose. According to Holt-Lunstad et al. (2010), strong social networks in later life are associated with improved physical and mental health outcomes. Accessible housing, by enabling elderly residents to move comfortably within and outside their homes, facilitates opportunities for social interaction.

### **Designing Homes for Social Interaction**

In accessible housing, design elements that prioritize communal areas can encourage residents to interact. Shared spaces such as common lounges, gardens, and dining areas can serve as venues for spontaneous social interactions, thus reducing isolation. Housing complexes designed with accessibility in mind may also include features like low-maintenance gardens or social halls, encouraging elderly residents to participate in organized events or casual meetings with neighbors.

By promoting movement within the home and between communal spaces, accessible housing encourages more frequent engagement with neighbors and community events. In Tarwewijk, for example, neighborhoods with accessible housing and nearby social centers create an environment where elderly individuals can enjoy active social lives without facing the challenges posed by inaccessible physical spaces. These interactions, in turn, help build social cohesion and contribute to the overall well-being of elderly residents.

### **Strengthening Community Bonds Through Accessible Design**

Accessible housing also fosters community bonds by creating opportunities for collaboration and mutual support among residents. For instance, communal kitchens or laundry facilities can become spaces where elderly individuals share tasks and engage in conversations.

In neighborhoods like Tarwewijk, integrating accessible housing with intergenerational living initiatives can provide additional ways for social engagement. Younger residents can assist older individuals with tasks like grocery shopping or navigating technology, while older residents can offer mentorship and life advice. These interactions not only bridge generational gaps but also enhance the sense of belonging and purpose among elderly individuals.

### **Broader Implications of Accessible Housing**

Investing in accessible housing has benefits that extend beyond individual residents. On a societal level, accessible housing reduces healthcare costs associated with injuries from falls or other mobility-related accidents. It also reduces the workload on caregivers and healthcare providers by enabling elderly residents to live more independently. For cities like Rotterdam, accessible housing initiatives can be a cornerstone of age-friendly urban planning, contributing to more inclusive and resilient communities.

Accessible housing also supports the concept of aging in place, allowing elderly individuals to remain in their homes and communities for as long as possible. This continuity fosters a sense of stabi-

lity and connection to familiar surroundings, which is particularly important for mental and emotional well-being. Furthermore, accessible housing can serve as a model for other cities and regions looking to address the challenges of an aging population, highlighting the importance of proactive planning and investment in inclusive design.

As the demand for accessible living environments grows, particularly with the aging of the Dutch population, municipalities and housing providers must continue to implement Bouwbesluit's guidelines and expand the application of tools like WoonKeur and De Woonstandaard in both new builds and renovations. These frameworks not only ensure physical accessibility but also contribute to broader societal goals like social inclusion, independence, and community resilience.

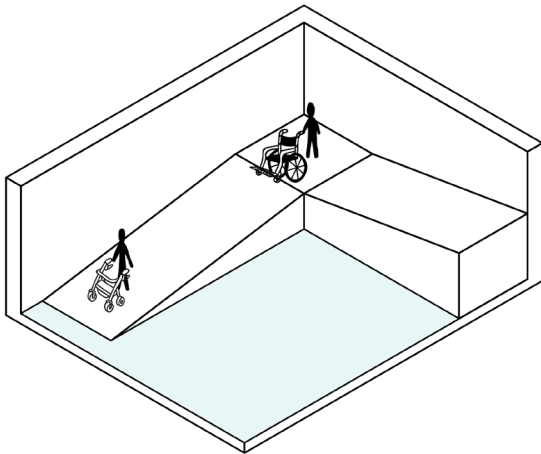
## Conclusion

In conclusion, accessible housing plays a critical role in improving the quality of life for elderly individuals by enhancing mobility and fostering social engagement. Through the integration of universal design principles, adaptable features, and communal spaces, accessible housing removes barriers that might otherwise limit the independence and social participation of elderly residents. When combined with accessible neighborhoods, it creates an environment that supports both mobility and social interaction, leading to greater social cohesion and improved well-being.

In the Netherlands, these benefits are increasingly supported by regulatory and voluntary frameworks such as Bouwbesluit, WoonKeur, and De Woonstandaard, which emphasize the importance of accessibility and inclusivity in housing policy.

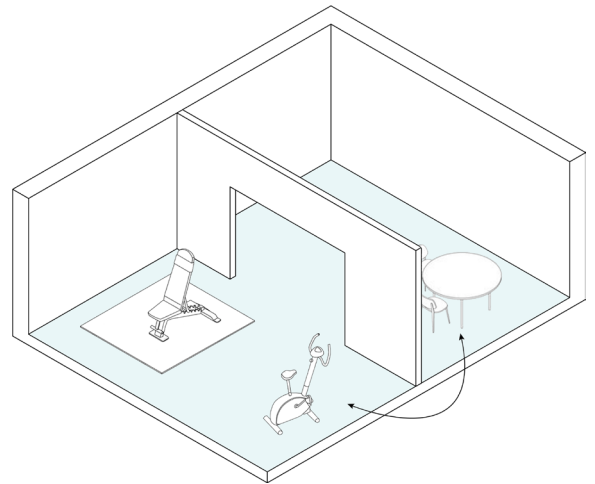
By addressing the diverse needs of elderly residents, accessible housing not only enhances individual quality of life but also strengthens communities and reduces societal costs. As cities like Rotterdam continue to evolve, prioritizing accessible housing can ensure that aging populations are supported in ways that promote dignity, independence, and connection. Ultimately, accessible housing represents a vital component of age-friendly urban planning, offering a pathway to more inclusive and equitable communities for people of all ages.

# 4.1 DESIGN GUIDELINES



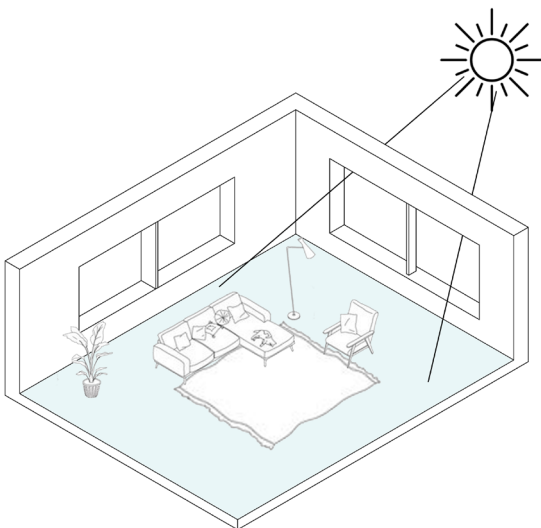
## Universal Design

Universal design ensures that all spaces are inclusive and accessible, regardless of age or physical ability. Features like step-free entrances, wide hallways, and accessible bathrooms create a welcoming environment where everyone can navigate and participate fully in daily activities. This approach fosters independence and equality within the community.



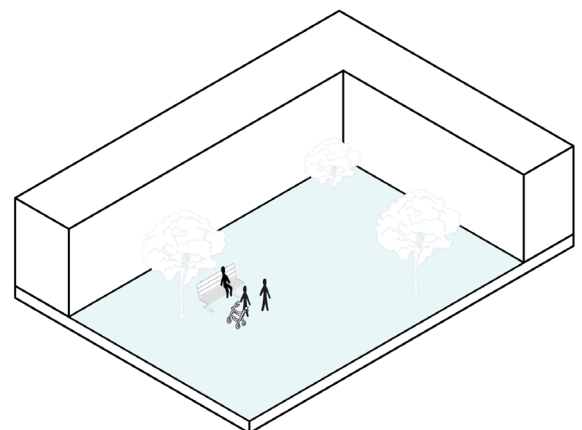
## Adaptable Housing Layouts

Adaptable housing layouts accommodate the changing needs of residents over time. These designs include features like movable walls, adjustable furniture, or multi-functional spaces that can evolve with the resident's requirements. This flexibility allows the environment to support aging in place and enhance comfort throughout life's transitions.



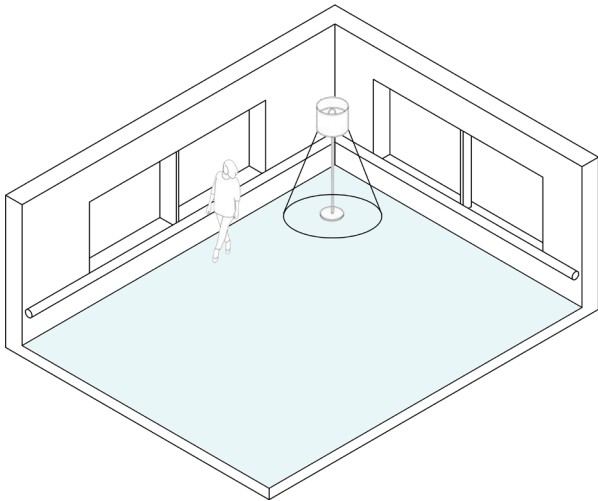
## Natural Light and Ventilation

Living spaces with abundant natural light and proper ventilation promote physical and mental well-being. Sunlight boosts mood and regulates circadian rhythms, while good airflow ensures a healthy indoor environment. These elements create a pleasant atmosphere that enhances the quality of life for residents.



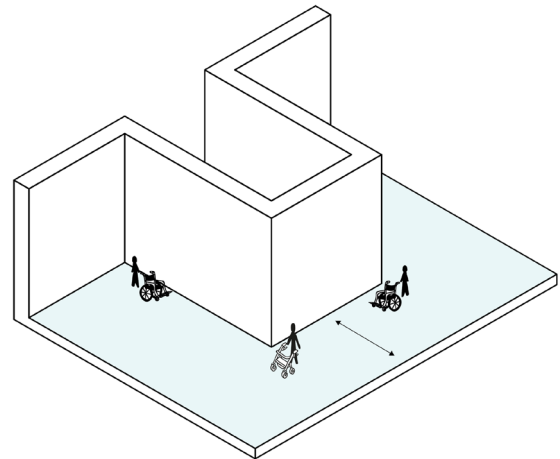
## Outdoor Spaces for Interaction

Outdoor spaces like gardens, parks, or courtyards encourage relaxation, social interaction, and connection with nature. These areas provide opportunities for informal gatherings, exercise, and recreational activities, helping to strengthen community bonds and promote an active lifestyle.



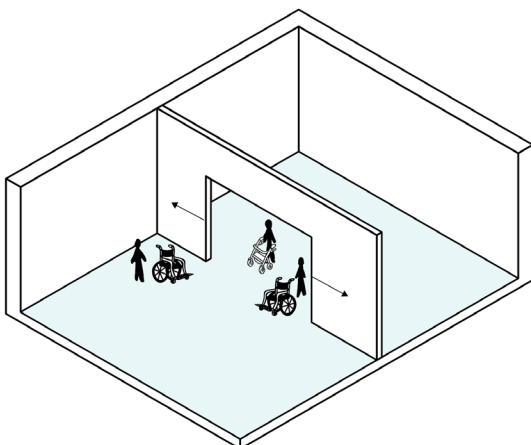
### Safety Features

Safety is a top priority in housing for elderly residents. Features like well-lit pathways, non-slip flooring, and handrails help prevent accidents and ensure a secure environment. These measures provide peace of mind and allow residents to move confidently within their living spaces.



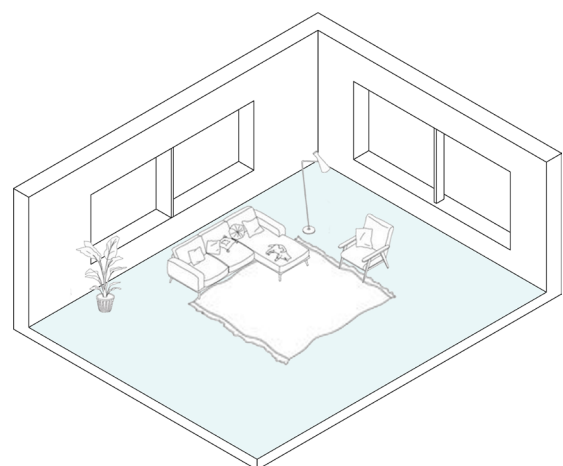
### Spacious Hallway

Hallways must be wide enough to allow two wheelchair users to pass each other comfortably. Generous hallway dimensions not only improve accessibility but also help reduce congestion during busy times, such as meal or activity transitions.



### Wide openings

Doors and room transitions should have wide openings to accommodate wheelchair users. This ensures that residents can easily pass through without obstructions, even when moving in pairs or passing another wheelchair. Wide doorways also create a more accessible and welcoming environment for all mobility aids, such as walkers or rollators.



### Safety and Comfort

in design ensures environments are secure and physically supportive while promoting relaxation. It includes features like slip-resistant floors, proper lighting, and ergonomic layouts, all aimed at enhancing well-being and independence for elderly residents.



# CHAPTER 5: DESIGN REDUCING LONELINESS

# 5.0 DESIGN REDUCING LONELINESS

As populations age, the design of neighborhoods, dwelling types, and interior spaces becomes increasingly important for the social integration and mental health of elderly residents. Traditional housing models, which often isolate elderly individuals, contribute to feelings of loneliness, exclusion, and even depression. The design of living environments, however, has the potential to counter these effects by promoting social interactions and fostering a sense of community. This chapter explores how neighborhood and dwelling design—including interior spaces—can be tailored to support social interaction and reduce loneliness among elderly residents. Special focus will be given to the role of shared spaces, communal living, and the potential for fostering relationships among elderly residents in environments like Tarwewijk, Rotterdam.

In the Netherlands, loneliness among older adults has received growing national attention. According to the official platform [Eenzaamheid.info](http://Eenzaamheid.info), around 1 in 2 elderly individuals experience loneliness, with causes often linked to social isolation, physical limitations, or environmental barriers. The Dutch Ministry of Health, Welfare and Sport actively addresses this issue through its campaign *Eén tegen eenzaamheid* (One Against Loneliness), which promotes community involvement and neighborhood-based solutions ([www.eentegeneenzaamheid.nl](http://www.eentegeneenzaamheid.nl)). These national initiatives underline the importance of integrating social design strategies in local housing and public space to counter loneliness in later life.

## The Design of Neighborhoods for Social Interaction

The layout and design of a neighborhood play a crucial role in promoting social interaction among elderly residents. A well-designed neighborhood can encourage face-to-face interactions, creating an environment in which individuals feel comfortable engaging with others, reducing feelings of isolation. Features such as pedestrian-friendly streets,

community centers, and green spaces are all key components of neighborhood design that facilitate social engagement.

These neighborhoods include accessible public spaces and social hubs, such as community centers, parks, and outdoor markets, which provide opportunities for elderly residents to meet, share experiences, and participate in group activities. A study by Nicholson (2012) demonstrates that neighborhoods with accessible communal spaces reduce feelings of social isolation by providing venues for interaction. When residents frequently engage with one another in shared public spaces, a sense of belonging and community is cultivated, encouraging more active lifestyles and mental well-being.

Furthermore, the physical design of a neighborhood—such as the incorporation of safe walkways, benches, and proper lighting—can increase accessibility for elderly residents, enabling them to move around independently while also enhancing safety. In environments designed to encourage socialization, elderly residents are more likely to feel a sense of comfort and security that invites participation in daily activities with others.

## Dwelling Types that Promote Social Cohesion

The choice of dwelling type has a significant impact on the social dynamics within a neighborhood. For elderly residents, dwelling types that foster proximity to others can lead to stronger relationships and a more supportive community environment. Multi-generational or mixed-use dwellings, for example, can support social cohesion by fostering interactions between elderly residents and younger individuals. In cohousing models, where residents share common spaces like kitchens, gardens, and dining areas, the regularity of social interactions is significantly increased, allowing for deeper connections among residents.

Additionally, mixed-use dwellings that combine residential spaces with commercial and social fa-

ilities further encourage interaction by bringing people together in shared spaces. Elderly residents in these types of dwellings are more likely to interact with others who live nearby or who work within the same area, whether it be in the shared lounge area, communal kitchen, or garden. The integration of residential and social spaces can increase the frequency of social interactions, reduce isolation, and contribute to overall well-being. The presence of community services—such as grocery stores, health clinics, and recreational facilities—within walking distance can help elderly individuals feel more connected to their community.

### Interior Design for Reducing Loneliness

Interior design plays an important role in promoting social interaction and reducing feelings of loneliness among elderly residents. In contrast to isolated, traditional housing layouts, homes designed with open floor plans, larger windows, and spaces that can accommodate guests or shared activities are more likely to encourage socializing. The creation of cozy social areas, the strategic placement of seating to facilitate conversation, and the inclusion of versatile spaces for different activities can foster connection within the home.

The presence of comfortable seating, social areas, and easily accessible communication tools (e.g., phones, computers) can enhance social connectivity within the home, allowing elderly residents to remain in touch with family members, neighbors, and other community members. According to Smets (2012), the interior design of a dwelling should be flexible and adaptable, allowing elderly individuals to host visitors or engage in group activities. Well-designed spaces not only encourage residents to invite others into their homes but also create an environment where they feel comfortable engaging in activities that bring them joy and mental stimulation.

Furthermore, the use of natural light, color schemes, and furniture placement can influence the atmosphere of a home. Warm, inviting colors, for instance, can create a sense of comfort and security, while maximizing natural light can enhance mood and energy levels. Thoughtful design can ensure that elderly residents feel a sense of ownership over their space, contributing to their overall emotional well-being.

### The Role of Shared Living Spaces in Fostering Social Interaction

Shared living spaces, whether within private homes or community centers, are essential for fostering social interaction. These spaces, by their very nature, serve as venues for residents to engage in organized activities or spontaneous gatherings. Housing models that emphasize shared living, such as cooperative housing or senior cohousing, facilitate interaction by providing residents with the opportunity to meet regularly. These spaces serve not only as functional areas but also as symbolic spaces that encourage residents to come together and build a sense of collective identity.

The design of shared spaces in housing communities has a profound influence on the extent of social engagement. For example, in a cohousing environment, shared dining rooms or recreational areas encourage residents to come together, share meals, and engage in group activities such as cooking classes, hobby workshops, or movie nights. These shared activities reduce isolation and create a sense of belonging, making it easier for residents to form meaningful relationships. The physical presence of others in these spaces fosters spontaneous interactions, allowing elderly residents to cultivate friendships and social ties that otherwise might not have developed.

Additionally, creating communal gardens or outdoor spaces within housing developments can offer a peaceful and inviting environment where residents can connect with nature and with each other. Gardening, for instance, has been shown to have therapeutic effects on mental health, and communal gardens provide a venue for social engagement while also enhancing the aesthetic value of the neighborhood.

### Community Engagement Beyond Housing

Beyond the design of the immediate living space, community engagement initiatives can further support the reduction of loneliness. Programs that bring elderly residents into the wider community—such as organized neighborhood events, health workshops, or volunteer opportunities—can complement the social benefits of shared living spaces.

This aligns with national strategies promoted through Eentegeneenzaamheid.nl, a campaign by the Dutch Ministry of Health, Welfare and Sport,

which encourages municipalities, organizations, and local residents to take action against loneliness through practical, community-based initiatives. The website offers tools, examples, and research to support local solutions, particularly for elderly people who are at risk of social isolation.

A community that fosters inclusivity and values the contributions of elderly residents helps to break down generational divides and promote social cohesion. In addition, integrating healthcare services and transportation options into the community's infrastructure is crucial for elderly residents to remain socially engaged. Access to regular check-ups, physical activities, and social outings can help combat the isolation that often accompanies old age. Public transportation systems should be tailored to meet the needs of elderly individuals, ensuring that they have easy access to essential services, as well as the opportunity to engage with the wider community.

## Conclusion

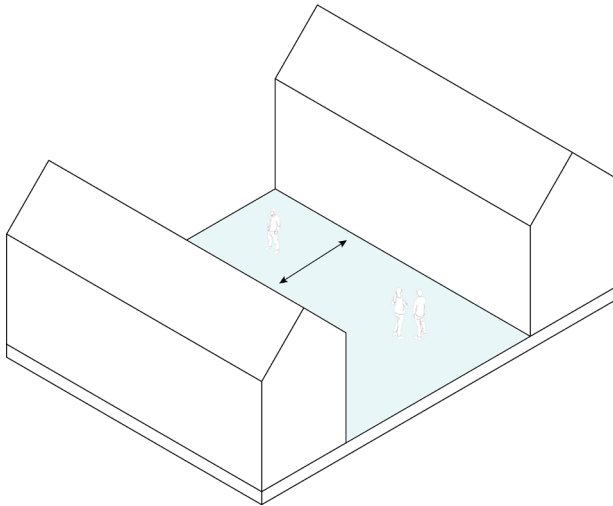
Neighborhood and dwelling design, including interior spaces and shared living areas, play a crucial role in fostering social interaction and reducing loneliness among elderly residents. By creating environments that encourage engagement—whether through accessible public spaces, mixed-use housing, or communal living arrangements—elderly individuals are more likely to experience meaningful connections with others. These interactions not only improve their quality of life but also contribute to greater social cohesion within the broader community.

In neighborhoods like Tarwewijk, where design elements support mobility and social participation, elderly residents can maintain a sense of purpose and remain actively engaged with their communities. By focusing on both the physical environment and the community spirit within these spaces, neighborhoods can play an active role in reducing loneliness, promoting well-being, and supporting the mental health of elderly residents. Through thoughtful design and a commitment to inclusivity, these spaces can offer elderly individuals a richer, more fulfilling life.

With national platforms such as Eenzaamheid.info and Eentegeneenzaamheid.nl providing clear

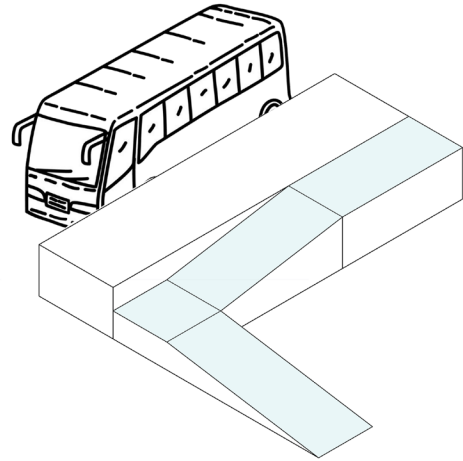
direction and support, there is a strong foundation for embedding social strategies in the built environment. Through thoughtful design and a commitment to inclusivity, these spaces can offer elderly individuals a richer, more fulfilling life.

# 5.1 DESIGN GUIDELINES



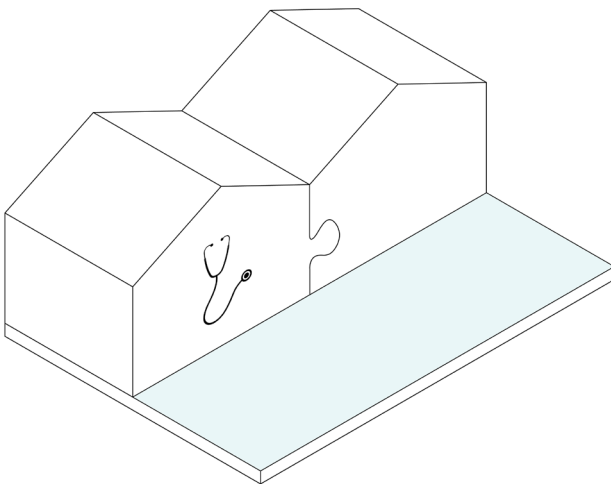
## Pedestrian-Friendly Infrastructure

Walkable streets and pedestrian-friendly paths encourage mobility and outdoor activity. Wide, smooth sidewalks, safe crossings, and traffic-calming measures make it easier for elderly residents to navigate their surroundings, promoting independence and an active lifestyle.



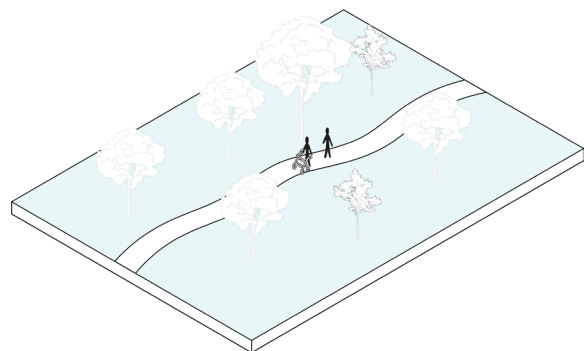
## Accessible Public Transportation

Accessible public transport ensures that elderly and mobility-impaired residents can travel conveniently and safely. Features like low-floor buses, wheelchair ramps, and audible announcements enable inclusivity and encourage greater engagement with the broader community.



## Access to Healthcare

Proximity to healthcare services ensures that elderly residents have quick and easy access to medical care when needed. Whether through nearby clinics, in-home care, or telehealth options, these services provide security and contribute to overall well-being.



## Well-Maintained Streets and Pathways

Safe and well-maintained streets and pathways ensure easy movement for residents. Regular upkeep, proper lighting, and features like non-slip surfaces reduce the risk of accidents and create an environment where residents feel confident walking or using mobility aids.

# CHAPTER 6: CONCLUSION

As populations age globally, the importance of creating environments that support the independence, social interaction, and well-being of elderly residents cannot be overstated. The design of neighborhoods, dwellings, and interior spaces has profound implications for the lives of elderly individuals, particularly in urban settings like Tarwewijk, Rotterdam. With the physical, social, and psychological challenges that often accompany aging, thoughtful housing and neighborhood design can help mitigate feelings of isolation, promote physical mobility, and encourage meaningful social interactions.

In this book, we have explored the crucial role of accessible housing and social integration in fostering environments where elderly individuals can thrive. Through the lens of universal design principles, cohousing models, and community engagement, we have seen how well-designed spaces can enhance mobility, reduce loneliness, and contribute to greater social cohesion. This chapter synthesizes these insights, emphasizing the interconnectedness of physical spaces, social interaction, and overall quality of life for elderly residents.

### **Accessible Housing and Mobility: A Foundation for Independence**

Accessible housing is foundational to supporting elderly residents in maintaining autonomy and engaging with their communities. The design elements that contribute to accessible housing—such as no-step entries, wide doorways, grab bars, and lever handles—ensure that elderly individuals can navigate their homes safely and independently. These features are not only vital for preventing falls but also enable continued participation in daily activities, reducing dependence on caregivers. The adaptability of accessible housing is another key consideration, as homes can be modified to meet the changing needs of residents over time.

The integration of accessible transport links and pedestrian-friendly infrastructure further enhances mobility. Elderly residents in neighborhoods

like Tarwewijk, where services such as healthcare centers, public transportation, and community spaces are within reach, experience fewer barriers to daily life. Accessible housing in these contexts allows elderly individuals to remain connected to their community, improving their physical health and mental well-being. As research indicates, neighborhoods designed to support mobility contribute to reduced healthcare costs and foster a sense of security and stability for residents, empowering them to remain independent for longer.

### **Neighborhood Design: Fostering Social Interaction and Reducing Loneliness**

The design of neighborhoods plays a pivotal role in reducing isolation and encouraging social interaction. In urban areas like Tarwewijk, pedestrian-friendly streets, accessible public spaces, and communal hubs such as parks and community centers provide elderly residents with opportunities to engage with their neighbors. These spaces facilitate casual encounters, whether through organized activities or chance meetings, helping to build a sense of belonging and community. Well-lit, safe walkways and the inclusion of seating areas in these spaces ensure that elderly individuals can move around with ease, further enhancing their engagement in the neighborhood.

Neighborhoods that emphasize mixed-use and intergenerational living models also contribute significantly to social cohesion. Elderly residents who live in close proximity to younger individuals are more likely to engage in daily interactions that bridge generational divides, enriching both social and emotional support networks. These types of communities foster mutual respect and understanding, creating an environment where people of all ages contribute to each other's well-being.

### **Dwelling Types: Promoting Social Cohesion**

In addition to accessible design, the type of dwelling plays a critical role in supporting social interaction and community ties. Cohousing models, where resi-

dents share common spaces like kitchens, gardens, and dining areas, create regular opportunities for social engagement. These models not only foster a sense of community but also encourage residents to develop deeper connections with one another through shared responsibilities and activities.

Mixed-use housing, where residential areas are integrated with social and commercial spaces, also enhances social interaction by bringing elderly residents into contact with a broader community. The integration of healthcare services, grocery stores, and recreational facilities within walking distance ensures that elderly individuals remain connected to the wider world. This connection reduces feelings of isolation and supports mental health by fostering a sense of purpose and involvement.

### **Interior Design: Reducing Loneliness and Encouraging Socialization**

Interior design is equally critical in promoting social interaction and emotional well-being. Homes designed with open floor plans, natural light, and adaptable spaces encourage communication and shared activities. For elderly residents, the ability to host guests or participate in group activities within their own homes can counteract feelings of loneliness and provide regular opportunities for connection. The strategic placement of seating areas, the use of warm colors, and the inclusion of flexible spaces all contribute to creating an inviting atmosphere that promotes socialization.

Moreover, technology and communication tools within the home, such as computers and phones, can help elderly residents stay connected to family and friends, even when physical mobility is limited. Thoughtful interior design that fosters both comfort and social interaction enhances the quality of life and emotional well-being of elderly individuals, ensuring that they remain active participants in their social circles.

### **Shared Living Spaces and Community Engagement**

Shared living spaces, whether within private homes or community centers, serve as crucial venues for fostering social engagement. The design of these spaces, such as shared dining rooms, recreational areas, and communal gardens, encourages spontaneous interactions and strengthens relationships among residents. In co-housing environments, these spaces allow elder-

ly residents to form close-knit communities that provide mutual support, whether through shared meals, group activities, or just casual conversations.

Community engagement initiatives that extend beyond housing—such as neighborhood events, health workshops, and volunteer opportunities—complement the social benefits of shared living spaces. Programs that facilitate elderly residents' participation in wider community activities can strengthen their social networks and improve their mental and physical health. By promoting inclusivity and creating spaces for elderly individuals to contribute to their communities, these initiatives help bridge generational gaps and foster a sense of collective identity.

### **Conclusion: A Vision for Inclusive and Engaged Communities**

The importance of designing neighborhoods, dwellings, and interior spaces that foster mobility, social interaction, and emotional well-being for elderly residents cannot be overstated. Through accessible housing, well-planned neighborhoods, and community-oriented design, we can reduce the isolation and loneliness that often accompany old age. In neighborhoods like Tarwewijk, where accessible housing and shared spaces promote social cohesion, elderly individuals can live more fulfilling lives, engaged with their communities and supported by their neighbors.

As cities like Rotterdam and others around the world adapt to the challenges of aging populations, prioritizing accessible and socially inclusive design is essential. The integration of universal design principles, mixed-use developments, and community engagement programs can create environments that enhance the quality of life for elderly individuals. These spaces not only support the physical and emotional well-being of residents but also contribute to the creation of more resilient, inclusive, and cohesive communities for people of all ages.

Ultimately, the design of neighborhoods and homes for elderly residents represents a critical opportunity to address the needs of an aging population. By fostering environments that prioritize mobility, social interaction, and community connection, we can ensure that elderly individuals are not only able to age in place but also thrive in environments that promote dignity, independence, and a sense of belonging.



# DISCUSSION

This research set out to investigate how shared living concepts and the physical environment can contribute to social cohesion and mobility for elderly residents in urban contexts. The findings underline that architectural and urban strategies play a fundamental role in shaping the everyday experiences of older adults, particularly in terms of accessibility, independence, and opportunities for informal social contact. Cohousing principles and inclusive design emerged as key frameworks for facilitating not only functional, but also emotionally supportive environments for aging in place.

The analysis of Tarwewijk highlighted both the potential and limitations of existing urban fabric. While the neighborhood's walkability and compactness provide a foundation for accessible living, challenges such as limited public seating, fragmented green space, and a lack of shared indoor amenities restrict opportunities for spontaneous interaction. These local observations align with broader literature, reinforcing that successful aging environments require more than just barrier-free design; they demand spaces that actively encourage community building.

Importantly, the research was informed by both interviews with elderly individuals and my own professional experience in elderly care, offering insights grounded in day-to-day realities. These conversations and lived observations provided a valuable understanding of how older adults perceive their environment and what they value in terms of autonomy, connection, and routine. This form of embedded, longitudinal fieldwork strengthened the empirical basis of the study and helped bridge the gap between theoretical principles and real-world needs.

Nonetheless, certain limitations remain. The study focused on a single case study in Rotterdam, which means its spatial conclusions may not be directly generalizable to all urban contexts. Future research could expand the comparative scope or involve co-design methods to further develop design criteria alongside elderly participants themselves.

## REFLECTION

Working on this research has really helped me understand how much the design of spaces affects the well-being of older adults. Because of my own experience working in elderly care, I already had a close-up view of their daily lives—what they need, what they struggle with, and how important small things in their surroundings can be. That background gave me a more personal perspective and helped me look beyond the theory to see what actually matters to people in practice.

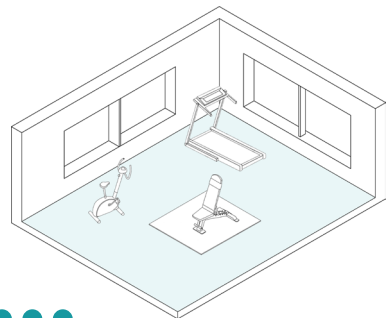
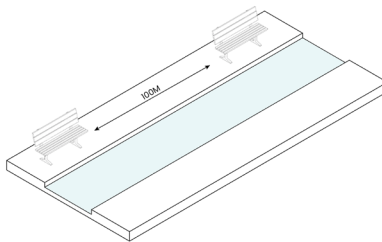
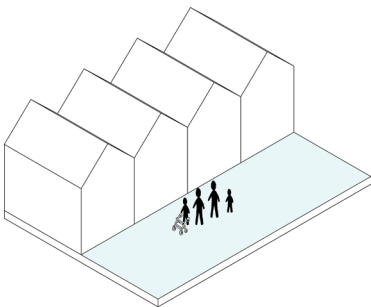
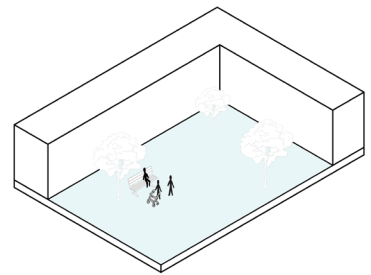
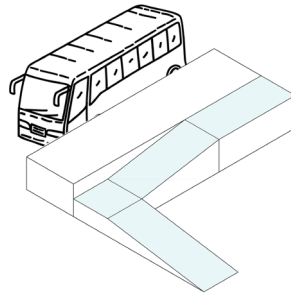
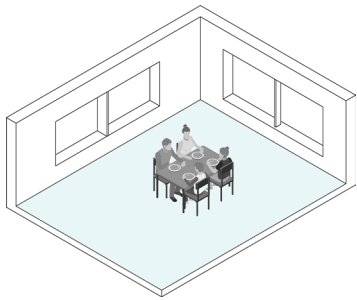
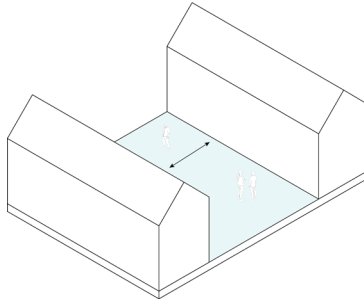
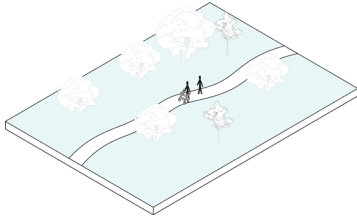
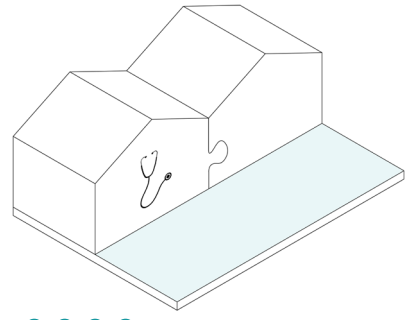
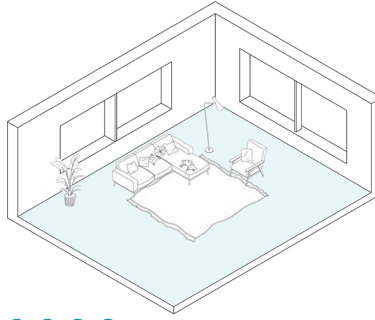
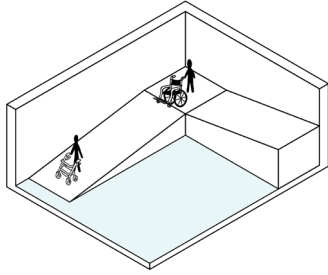
What I found especially interesting was figuring out how to translate bigger ideas—like “social cohesion” or “inclusive design”—into something real and physical. Things like where you place a bench, how people move through a building, or

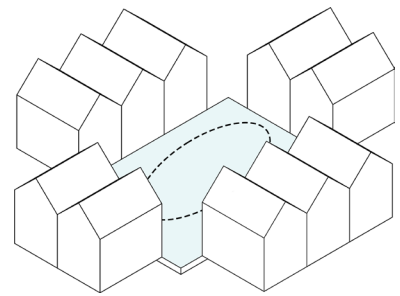
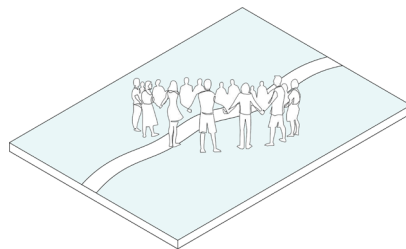
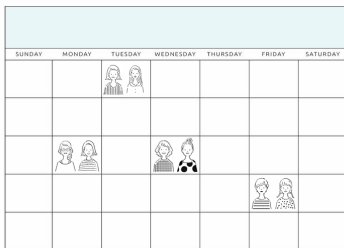
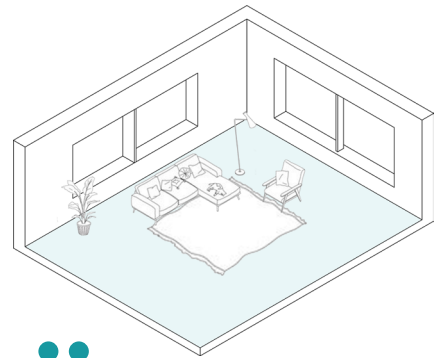
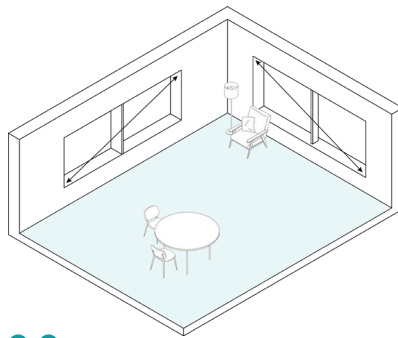
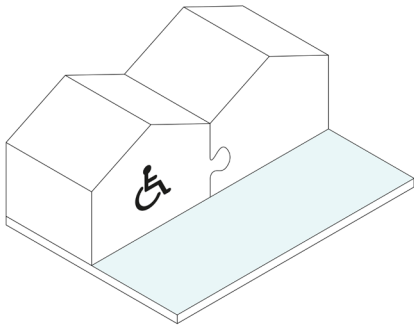
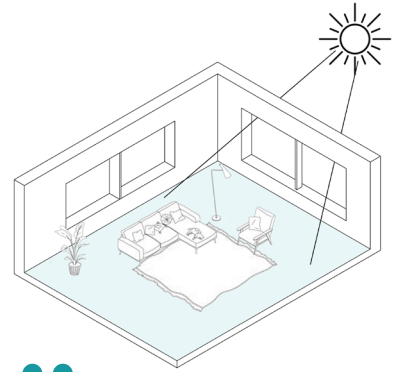
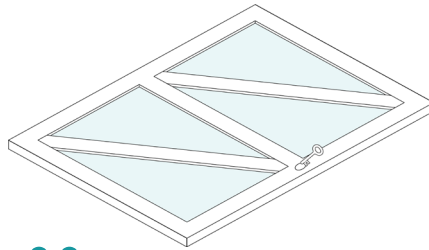
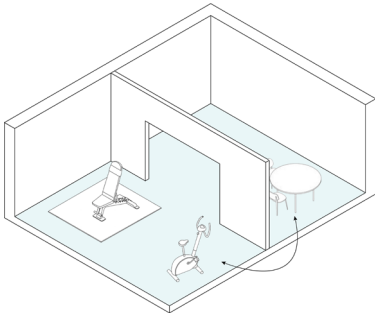
how shared spaces are designed suddenly became much more meaningful. I’ve also come to see that designing for older adults can’t be reduced to a standard solution. Everyone has different needs, and giving people choice and freedom in how they live is just as important as accessibility.

This project has shown me how important it is for architects and urban designers to take aging seriously—not just as a challenge, but as a chance to make life better and more connected. I want to keep working on projects where research and design go hand in hand to create spaces that are thoughtful, flexible, and truly inclusive—not only for older people, but for everyone.

# CHAPTER 7: DESIGN GUIDELINES

## OVERVIEW







# 10.0 LITERATURE

Arentshorst, M. E., Kloet, R. R., & Peine, A. (2019). Intergenerational housing: The case of Humanitas, Netherlands. *Journal of Housing for the Elderly*, 33(3), 244-256. <https://doi.org/10.1080/02763893.2018.1561592>

Boelhouwer, P. J. (2007). The future of Dutch housing associations. *Journal of Housing and the Built Environment*, 22, 383-391.

Boer, A. D. (1999). Housing and care for older people: A macro-micro perspective.

Brouwer, J. (2004). Vergrijzing en de gevolgen voor het woonbeleid. ABF Research.

CBS. (2023). Prognose: 4,8 miljoen ouderen in 2040. Centraal Bureau voor de Statistiek. <https://www.cbs.nl>

Czischke, D., Peute, M., & Brysch, C. (2023). Together: Towards Collaborative Living. A Handbook for Collaborative Housing. Delft University of Technology, Faculty of Architecture and the Built Environment.

Gorman, M. (1999). Development and the rights of older people. In *The ageing and development report: Poverty, independence and the world's older people* (pp. 3-21). Earthscan Publications Ltd.

Hawkey, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, 40 (2), 218-227. <https://doi.org/10.1007/s12160-010-9210-8>

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review.

*PLOS Medicine*, 7(7), e1000316. <https://doi.org/10.1371/journal.pmed.1000316>

Houben, P. (1997). Challenges in the modernisation of Dutch housing and care for the elderly. *Housing Studies*, 12(3), 355-368. <https://doi.org/10.1080/02673039708720901>

Houben, P. P. J. (2001). Changing housing for elderly people and co-ordination issues in Europe. *Housing Studies*, 16(5), 651-673. <https://doi.org/10.1080/02673030120080107>

Luciano, A., Pascale, F., Polverino, F., & Pooley, A. (2020). Measuring age-friendly housing: A framework. *Sustainability*, 12(23), 10136. <https://doi.org/10.3390/su122310136>

Ministerie van Volksgezondheid, Welzijn en Sport. (n.d.). Eén tegen eenzaamheid. Retrieved April 30, 2025, from <https://www.eentegeneenzaamheid.nl/>

Movisie. (n.d.). Eenzaamheid.info - Kennis over eenzaamheid. Retrieved April 30, 2025, from <https://www.eenzaamheid.info/>

Mulder, C. H., & Hooimeijer, P. (2002). Leaving home in the Netherlands: Timing and first housing. *Journal of Housing and the Built Environment*, 17(3), 237-268. <https://doi.org/10.1023/A:1020218404845>

Nicholson, N. R. (2012). A review of social isolation: An important but underassessed condition in older adults. *The Journal of Primary Prevention*, 33(2), 137-152. <https://doi.org/10.1007/s10935-012-0271-2>

Okun, M. A., Olding, R. W., & Cohn, C. M. (1990). A meta-analysis of subjective well-being inter-

ventions among elders. *Psychological Bulletin*, 108(2), 257-266. <https://doi.org/10.1037/0033-2909.108.2.257>

Pynoos, J., Caraviello, R., & Cicero, C. (2009). Life-long housing: The anchor in aging-friendly communities. *Generations*, 33(2), 26-32.

RIGO. (2022). Het effect van de vergrijzing op de woningvraag. RIGO Research en Advies. <https://www.rigo.nl>

Rosenberg, D. E., Bombardier, C. H., Hoffman, J. M., & Belza, B. (2011). Physical activity among persons aging with mobility disabilities: Shaping a research agenda. *Journal of Aging Research*, 2011, Article ID 708510. <https://doi.org/10.4061/2011/708510>

Rusinovic, K., van Bochove, M., & van de Sande, J. (2019). Senior co-housing in the Netherlands: Benefits and drawbacks from the residents' perspective. *Journal of Housing and the Built Environment*, 34(2), 519-538.

Smets, A. J. H. (2012). Housing the elderly: Segregated in senior cities or integrated in urban society? *Journal of Housing and the Built Environment*, 27(2), 187-205. <https://doi.org/10.1007/s10901-011-9257-6>

Sociaal en Cultureel Planbureau. (2023). Wonen en zorg voor ouderen: trends en knelpunten. <https://www.scp.nl>

Steinfeld, E., & Maisel, J. L. (2012). *Universal design: Creating inclusive environments*. Wiley.

Van Egdom, G. (1997). Housing for the elderly in

the Netherlands: A care problem. *Ageing International*, 24(3), 20-37. <https://doi.org/10.1007/BF02728979>

Webber, S. C., Porter, M. M., & Menec, V. H. (2010). Mobility in older adults: A comprehensive framework. *The Gerontologist*, 50(4), 443-450. <https://doi.org/10.1093/geront/gnq013>



## 03 PROCESS // SAFETY

### 03.1 INFRASTRUCTURE SAFETY

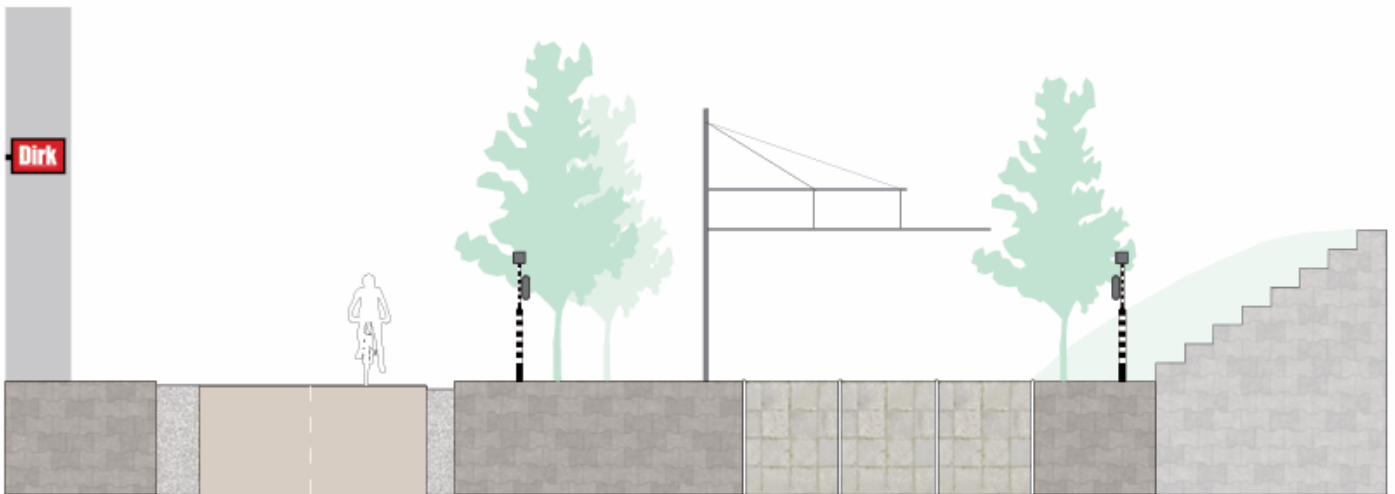
Infrastructure safety in Tarwewijk faces several challenges, particularly in terms of accessibility and ease of movement for residents, especially those with physical disabilities. One of the primary issues is the noticeable height differences throughout the neighborhood. Many streets are lower than the sidewalks, and while this may seem minor, it creates difficulties for people with mobility issues, making it hard to cross streets safely. The lack of proper crosswalks

only demonstrates this issue, as pedestrians often have no designated or safe places to cross, increasing the risk of accidents.

In addition to height differences, many areas in the neighborhood are inaccessible to people with disabilities. Uneven sidewalks, in particular, present significant barriers. The abundance of uneven pavement not only makes it uncomfortable for pedestrians but also poses a severe obstacle for wheelchair

users and those with limited mobility. In some cases, the inaccessibility of certain routes forces residents to take significant detours to get from point A to point B, as a direct route may be blocked by steep curbs or uneven ground. These uneven surfaces are not just inconvenient but dangerous, increasing the risk of tripping or falling, and making it nearly impossible for those with disabilities to navigate freely.

Adding to the challenges is the presence of tramlines running through the neighborhood. While public transport is essential, tramlines can complicate pedestrian movement, especially when coupled with the lowered roads. For people using mobility aids, crossing tramlines safely can be particularly difficult, as the gaps and tracks can catch wheels or trip pedestrians.



LISA & DESIRÉ 149

### 03.1 INFRASTRUCTURE SAFETY- WHEELCHAIR PERSPECTIVE

Looking through the lens of a wheelchair user or mobility-impaired person also shows significant challenges, particularly when it comes to crossing streets and navigating sidewalks.

One of the main issues is the limited time allocated for crossing streets at traffic lights. When the lights turn green, pedestrians, including wheelchair users, have only 7 seconds to cross, which is often insufficient for those who require more time to move safely. This becomes even more problematic when the access slope leading up to the sidewalk is too steep, making it impossible for wheelchair users to ascend without assistance. In these situations, they are left vulnerable in the middle of the road, potentially in the path of oncoming traffic.

Navigating the neighborhood in a wheelchair is already physically demanding, as it requires significant strength to move forward. Slopes in the streets, such as the inclines at crosswalks or even the humps created by speed bumps, are particularly hard to overcome. The constant strain needed to maneuver through these obstacles adds to the daily challenge faced by wheelchair users, making moving around the area both exhausting and frustrating.

Many sidewalks in Tarwewijk are also too narrow for wheelchair users to navigate safely. Fixed objects like lampposts, street

signs, and overgrown bushes further reduce the available space, forcing wheelchair users to veer into the street, where they risk being hit by passing vehicles. This not only limits their mobility but also increases the danger of accidents.

Moreover, not all sidewalks are equipped with access slopes, and in many cases, the existing slopes are too steep for independent use. Without properly designed ramps, wheelchair users are either forced to take long detours to find accessible routes or rely on others for help. These obstacles create unnecessary barriers to movement and severely limit the independence of individuals in wheelchairs.

In conclusion, infrastructure safety in Tarwewijk presents considerable challenges for wheelchair users, from insufficient crossing times at traffic lights to steep slopes and narrow sidewalks. These barriers limit mobility, increase the risk of accidents, and create a frustrating, physically demanding environment that compromises the independence and safety of mobility-impaired individuals.



LISA VERMEER & DESIRÉ VERLAAN 80



03.1 INFRASTRUCTURE SAFETY- BLIND PERSPECTIVE

Significant challenges regarding navigation and awareness of potential hazards also affect individuals who are blind or have visual impairments.

One of the key issues is the lack of contrast in colors and textures throughout the neighborhood. Effective navigation for blind users often relies on tactile feedback and clear visual cues. When there is insufficient contrast between the ground

surfaces, obstacles, and the surroundings, it becomes exceedingly difficult for individuals to identify safe pathways or potential dangers, increasing the risk of accidents.

Moreover, blind users often encounter dangers only when they are very close, which requires them to maintain heightened awareness and quick reflexes. This reliance on keen auditory senses and touch can be stressful and puts them at a

disadvantage when navigating through busy areas, especially when vehicles or other pedestrians may approach unexpectedly.

While there are tactile tiles on the access slopes leading to sidewalks, these textures are not consistently integrated along the entire route, leaving significant gaps in guidance. Without a continuous tactile pathway leading from point to point, individuals who are blind may struggle to orient themselves and

navigate safely through the neighborhood.

In conclusion, infrastructure safety for visually impaired individuals in Tarwewijk is compromised by a lack of consistent tactile guidance and insufficient color contrast. These challenges make navigation difficult and hazardous, increasing the risk of accidents and forcing individuals to rely on heightened awareness and quick reflexes to avoid potential dangers.



LISA VERMEER & DESIRÉ VERLAAN || 81

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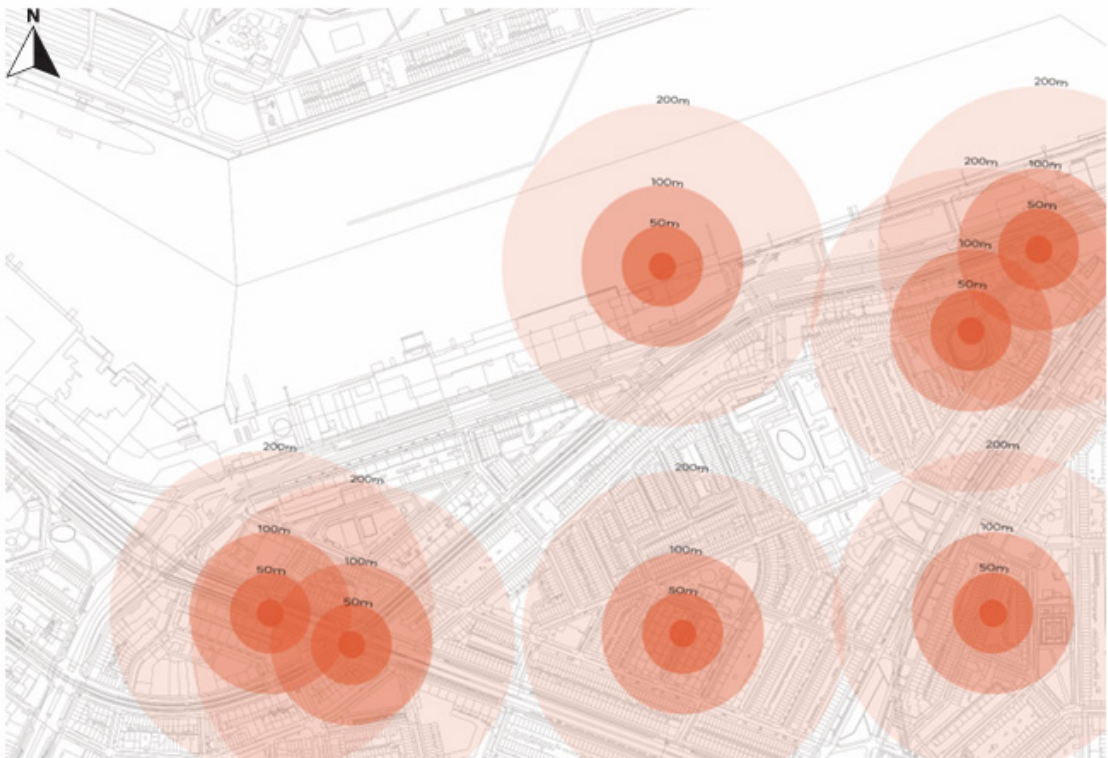




01.27 PROXIMITY TO THE SUPERMARKET

The Tarwewijk has one large supermarket, Dirk, located on the northern side of the neighborhood. This is the main place where people go for groceries. In the southern part of the Tarwewijk, there are also smaller grocery shops spread around, which are convenient for quick shopping and often sell special products from different cultures.

The map shows the proximity of supermarkets, highlighting areas where residents need to walk 200 meters or more to reach one. This distance can pose a challenge for individuals with mobility issues, especially since the walkways are often not fully wheelchair accessible. For these residents, navigating longer distances on uneven or inaccessible paths can make getting to the supermarket difficult.



1:5000 MAP OF SUPERMARKETS IN THE TARWEWIJK

MAUD BURCKSEN 43

01 PROFILE // COMMUNITY FUNCTIONS

01.30 HEALTHCARE ACCES


In Tarwewijk, there is a clear difference in the location of healthcare facilities. In the eastern part of the neighborhood, you can find a dentist, general practitioner, and pharmacy, along with a health center where multiple services like physiotherapy and dental care are offered under one roof.

However, in the western part of the neighborhood, there are no healthcare facilities at all. Most of the healthcare services are concentrated along the main roads surrounding the neighborhood and in the eastern part of the Tarwewijk. This means that people living in the western part of the Tarwewijk have less convenient access to healthcare.

In conclusion, the unequal distribution of healthcare in Tarwewijk creates a gap in access, especially for residents in the west.



LEGEND

-  = Health centre (different health facilities)
-  = Dentist
-  = GP (general practitioner)
-  = Pharmacy

02.7 PUBLIC TRANSPORT

In Tarwewijk, multiple public transportation options are available, including the **metro**, **tram** and **bus**. The book *Global Age-Friendly Cities* (World Health Organization, 2007) outlines a set of criteria that public transportation systems should meet to enhance inclusivity. These criteria will be applied to the Tarwewijk in order to evaluate the current state of public transport in this area.

- 1. **Affordability** | Public transport must be affordable for all individuals to ensure that no one is excluded from its use
- 2. **Reliability and Frequency** | Public transport must be reliable and operate at frequent intervals, with services available during nighttime and weekends
- 3. **Travel Destinations** | Public transport must facilitate access to key destinations, including hospitals, public parks, shopping centres or healthcare facilities
- 4. **Age-Friendly Vehicles** | Vehicles of public transport must be accessible, featuring low floors, low steps and wide seats. They should be clean and well-maintained and clearly display the vehicle number and destination
- 5. **Priority seating** | Within the vehicles of public transport, priority should be given to individuals who require it

- 6. **Transport driver** | Drivers of the public transport must adhere to traffic regulations, stop at designated stations and stops and ensure that all passengers are safely accommodated before departing
- 7. **Safety and comfort** | Public transport must be safe from criminal activity and not overcrowded
- 8. **Transport stops and stations** | Public transportation stops or stations must be located near residential areas and equipped with seating, shelter from weather conditions and maintained cleanliness, along with adequate lighting. The stations must be accessible and clearly readable.
- 9. **Information** | Public transport must be clear and readable information regarding the use of public transport, including schedules, routes and accessibility for individuals with disabilities



Public transport in Tarwewijk

**LEGEND**

● Metro station	— Metro line
● Tram station	— Tram line
● Bus station	— Bus line

## APPENDIX D



# FIELDWORK BOOKLET





# CONTENT

Bernardus, sassenheim	4
Own experiece	5
Design guidelines	8
interviews at Bernardus	9
Design guidelines	17
Persona's	18
Day in the life	21
Photographs	29
Dwelling	32
Design guidelines	33
Conclusions	34
Reigershoeve, heemskerk	35
Experience	36
Interviews at reigershoeve	38
Design guidelines	40
Persona's	41
Day in the life	43
Photographs	47
Dwelling	55
Design guidelines	56
Conclusions	57
Tarwewijk, rotterdam	59
Interviews in Tarwewijk	60
Photographs	64
Design guidelines	68
End of fieldwork	70

# BERNARDUS, SASSENHEIM





# OWN EXPERIENCE

Over the past 2.5 years, I have worked at Bernardus, a large care facility for elderly somatic patients and patients with dementia. I have only been working in the restaurant where the somatic patient come to eat. This experience has given me a deep understanding of the daily challenges and opportunities faced by residents in such settings. Through my role as a hostess, I have observed the physical, social, and emotional dynamics that shape the lives of residents, as well as how the facility's design impacts their well-being. These insights have profoundly influenced my approach to designing for elderly care, forming a foundation for the principles that guide this project.

This chapter explores my observations at Bernardus, delving into the practical and emotional realities of life in a care facility. By reflecting on these experiences, I aim to connect the needs of residents with innovative design solutions that promote accessibility, comfort, and community. These insights serve as a key reference throughout this booklet and the accompanying design documentation, linking personal experience to practical outcomes.

## **The Impact of Scale and Accessibility**

One of the most significant aspects of Bernardus is its scale. The facility comprises a five-story main building and a connected three-story structure, creating a sprawling layout that houses numerous residents, almost all of whom rely on wheelchairs for mobility. Essential facilities, such as the restaurant, are located on the ground floor, making vertical movement a necessity for most residents. However, the building's reliance on only

two aging elevators poses serious challenges.

During my time at Bernardus, elevator malfunctions occurred approximately 12 times, and on two occasions, both elevators were out of service simultaneously. These breakdowns left residents feeling trapped and isolated, as they had no way to access the ground floor for meals or activities. Beyond mechanical failures, many residents expressed fear of using the elevator alone. For instance, I am not trained as a nurse and am therefore not permitted to accompany residents in the elevator due to liability concerns. If a medical emergency, such as a heart attack, were to occur in the elevator, I would not have the skills to assist. While I can help residents in wheelchairs move from one place to another, around 60% of them are too afraid to enter the elevator alone, even for a short ride.

This experience highlights a critical design principle for elderly care facilities: reducing dependence on elevators. Where possible, accessible apartments should be placed on the ground floor, eliminating the need for vertical movement for essential activities. For higher floors, multiple elevators or alternative vertical mobility solutions, such as ramps, are essential to ensure residents are never stranded. Designing for mobility and independence is not just practical but also profoundly affects residents' sense of autonomy and security.

## **Navigating a Large, Complex Layout**

The size and layout of Bernardus also present challenges related to navigation and wayfinding. The facility's long corridors



and uniform design can feel overwhelming, especially for elderly residents with memory impairments or cognitive challenges. It is not uncommon for residents to wander the halls, struggling to locate their apartments. The uniform appearance of apartment doors exacerbates the problem, as each door has only a small nameplate and room number positioned at standing height—difficult for wheelchair users to see.

This confusion often results in residents mistakenly trying to enter the wrong apartments, which can lead to frustration and embarrassment. Addressing this issue requires thoughtful design solutions. For instance, shorter hallways with clear sightlines could reduce confusion and create a more homelike atmosphere. Individual apartment doors should feature unique, recognizable elements such as colors, patterns, or personal decorations, helping residents identify their homes more easily. These changes would enhance both usability and emotional comfort, making the facility feel less institutional and more welcoming.

### **The Restaurant as a Social Hub**

At the heart of Bernardus is a central restaurant that serves as both a dining area and a social hub. Residents gather here for three meals a day, and the space is also open to visitors, creating opportunities for meaningful interactions between residents and their loved ones. As a hostess, I have seen how much joy and connection this space brings to residents' lives.

However, architectural changes to the building have affected the restaurant's surroundings. Initially, a large seating area near the entrance provided an additional space for gathering, but this area was later converted into a communal living room for residents requiring more intensive care. While this change has benefited those in need, it has significantly reduced

seating options for visitors. The restaurant is now one of the few places where visitors can sit, leading to occasional complaints about the lack of alternative spaces.

Future designs must strike a balance between creating functional spaces for care and preserving areas for social connection. Flexible, multipurpose spaces could address these competing needs, ensuring that both residents and visitors have access to comfortable, inviting environments.

### **Apartments: Balancing Functionality and Comfort**

The apartments at Bernardus are notably spacious compared to those in similar facilities, such as Reigershoeve. Each unit includes a private bathroom designed for wheelchair users, a bedroom, and a living room with a small kitchenette featuring a sink and fridge. While each apartment also has a balcony, these are unfortunately not very accessible, limiting their use.

The layout of the apartments is practical and adaptable. A sliding glass door separates the bedroom and living room, though this is often left open during the day. The living area is large enough to accommodate a table for four people and a sofa with a TV. Conversations with residents reveal a high level of satisfaction with their living spaces, which are appreciated for their functionality and comfort.

Each floor also includes a "sleepover room," originally intended for family members to stay overnight during end-of-life care or visits from distant locations. However, these rooms are no longer used for their intended purpose due to the increasing demand for residential care. While this repurposing demonstrates flexibility, it also underscores the growing need for facilities to accommodate the diverse and evolving needs of residents and their families.

## Activities and Accessibility

Daytime activities at Bernardus play an essential role in enhancing residents' quality of life. Organized events include "Moving to Music," where residents participate in wheelchair-accessible dances, and a Tuesday game night featuring games like *sjoelen*, *Rummikub*, and card games. However, one striking observation is that most participants in these activities are residents with dementia. When I inquired about this, caregivers explained that the lack of staff prevents somatic residents from being brought to and from activities.

This highlights a critical consideration for future designs: the strategic placement of activity spaces. By situating these rooms closer to residents' living areas or integrating them into common pathways, it becomes easier for all residents, including those in wheelchairs, to access these spaces without requiring extensive staff assistance. Thoughtful design can help bridge the gap between staff availability and residents' participation, ensuring that everyone has the opportunity to engage in enriching activities.

## Designing for the Future

My time at Bernardus has provided a wealth of insights into the interplay between architectural design and the lived experiences of residents. From addressing mobility challenges to creating intuitive navigation, fostering social connection, and ensuring functional yet comfortable living spaces, each observation underscores the importance of resident-centered design. By integrating these lessons, this project aims to create a facility that not only meets the practical needs of its users but also enhances their sense of independence, dignity, and community.

# DESIGN GUIDELINES

- Minimize Dependence on Elevators
- Design Wheelchair-Friendly Corridors and Pathways
- Accessible Balconies
- Enhance Apartment Identification
- Flexible Social Spaces
- Proximity of Activity Rooms
- Incorporate Safety Features in Vertical Mobility
- Non-Slip Flooring and Well-Lit Spaces
- Maintain Spacious and Functional Layouts
- Repurpose Flex Rooms Thoughtfully
- Accessible Daytime Activities
- Facilitate Movement to Activities

# INTERVIEWS AT BERNARDUS

**Wilma**, a 73-year-old resident of Bernardus, has lived in the care facility for three years. Her story is remarkable because, when she first arrived, she was in poor health. Surprisingly, her condition improved significantly over time, and she is now considered “too healthy” to reside in an elderly care home. Nevertheless, given her positive experiences and history at Bernardus, she has been allowed to stay. Wilma’s active and mobile lifestyle, along with her enthusiastic participation in various activities, makes her an engaging subject for this research.

On the next page, you will find a detailed persona and a “day in the life” profile of Wilma, illustrating her daily routine. She represents an intriguing case study for this project, as her independence and vitality offer valuable insights into the needs and preferences of healthier and more self-sufficient residents in care facilities.

## Interview Insights

During a recent fieldwork week, I had the opportunity to conduct an in-depth interview with Wilma about her experiences at Bernardus and her life before moving there. This was a rewarding experience, as it allowed me to go beyond casual small talk and explore her thoughts and perspectives in greater detail.

## Shared Spaces: Preferences and Challenges

One key topic we discussed was her perspective on shared spaces. Currently, Wilma only shares the communal kitchen, as each apartment is equipped with a small kitchenette that includes a sink, fridge, and, in some cases, a microwave or other

small appliances brought by the residents. The communal kitchen is primarily used by the chef to prepare three daily meals, with no resident participation in cooking.

Reflecting on her past, Wilma shared that she once lived in a student house with 25 people sharing a single kitchen. As a result, she wouldn’t mind sharing a kitchen in a future housing arrangement. However, she was clear that she would not want to share a bathroom. Wilma explained that maintaining cleanliness can be a challenge for some older people, and a shared bathroom would make it difficult for her to keep the space to her standards. Additionally, she values the ability to personalize her bathroom with her own items, which would be inconvenient in a shared setting.

## Activities and Participation at Bernardus

Wilma enjoys staying active and regularly participates in the activities organized at Bernardus. The main space for these events is the \*Tuinzaal\* (Garden Room), located at the front of the building. Interestingly, the room’s name no longer reflects its purpose or appearance; it originally overlooked a small animal farm, but this is no longer the case, and there’s nothing particularly “green” about the space today.

The day I interviewed Wilma, I joined her in the Moving to Music activity held in the Garden Room. It was a lively and enjoyable event where residents danced, laughed, and left feeling noticeably happier than when they arrived. The joy was infectious, and the camaraderie among

participants was heartwarming. However, one notable observation was that very few non-dementia residents participated in the activity.

Curious about this, I asked the organizer why this might be the case. She explained that a major issue is the lack of staff to assist residents in getting to and from the Garden Room. This saddened me, as it suggests that some residents who might enjoy such activities are unable to participate simply due to logistical challenges.

This issue was further highlighted at the end of the activity when one of my colleagues asked me to escort a resident back to her apartment on the fifth floor. Without my help, the resident would have faced a long wait. During our conversation in the elevator, I learned that it was her first time attending the activity and that she hadn't known it was a recurring weekly event. She mentioned that there was no clear signage or schedule to inform her about upcoming activities, which contributed to her previous lack of participation.

### **Accessibility and Centralization of Activities**

Another challenge is the distance between the Garden Room and other areas of the building. Many residents use wheelchairs, making it difficult for them to attend activities located far from their apartments. This highlights the importance of centralizing activities in easily accessible spaces to ensure inclusivity and maximize participation.

### **Implications for Future Design**

My conversation with Wilma offered valu-

able insights into her priorities and preferences, which will be essential in informing the design of the future care facility. Key takeaways include:

- The importance of personal space and the challenges of sharing amenities like bathrooms.
- The value of clear communication about available activities to encourage participation.
- The need for central, accessible spaces to accommodate residents with mobility challenges.
- Addressing staffing limitations to support greater involvement in social and recreational events.

Wilma's story exemplifies the importance of designing care facilities that balance independence with community, ensuring that all residents—regardless of their health status—can live fulfilling and active lives.



# INTERVIEWS AT BERNARDUS

**Jan**, an 89-year-old resident of Bernardus, has lived in the care facility for over five years. His story is compelling, marked by a lifetime of creativity and teaching. Once a beloved high school art teacher, Jan has always had a passion for inspiring others and expressing himself through painting, woodworking, and writing. Despite his declining physical health, Jan continues to move around independently, using his electric wheelchair indoors and his scootmobile for outdoor adventures. The only significant challenge he faces is transitioning between the two, which requires assistance.

Jan's scootmobile provides him with a sense of freedom, allowing him to take daily rides around the neighborhood, weather permitting. These outings remain a cherished part of his routine, helping him feel connected to the world outside Bernardus. Meanwhile, his electric wheelchair ensures he can navigate the care facility independently, giving him the mobility he needs to pursue his passions.

On the next page, you will find a detailed persona and a "day in the life" profile of Jan, illustrating his daily routine. His story offers valuable insights into the needs of residents transitioning from independence to greater reliance on care, particularly those with a strong passion for creativity and self-expression.

## Interview Insights

During a recent fieldwork week, I had the privilege of sitting down with Jan to discuss his experiences at Bernardus and his life before moving there. This in-depth interview was an enlightening experi-

ence, shedding light on his perspectives, frustrations, and the ways he navigates his changing circumstances.

## Shared Spaces: Practicality and Privacy

Jan shared his thoughts on shared spaces and how they impact his daily life. Currently, he uses the communal spaces sparingly, as he prefers the privacy of his own apartment for creative activities. His apartment includes a small kitchenette, which he finds sufficient for preparing snacks and drinks. However, he appreciates the communal dining area for social interaction, as long as he can choose when and how often to participate.

When it comes to shared amenities, Jan expressed a strong preference for maintaining his own bathroom. He explained that, as his physical health worsens, he values having a private space where he can safely and comfortably manage his personal hygiene. Sharing such a space, he feels, would add unnecessary stress and compromise his dignity.

## Activities and Participation at Bernardus

Jan remains an active participant in the creative workshops held at Bernardus. His favorite space is the Atelier, located on the ground floor, where residents can paint, craft, and collaborate on projects. Jan often spends hours there, losing himself in his art. He recently completed a series of watercolor paintings inspired by his scootmobile rides through the nearby park.

However, the Atelier's location presents a challenge. While it is on the ground floor, it is far from Jan's apartment, making it difficult for him to access on bad



days when he feels less energetic. Though his electric wheelchair allows him to navigate independently, the effort required to reach the Atelier can sometimes discourage him from attending. Additionally, transitioning from his wheelchair to his scootmobile for outdoor projects or trips adds complexity to his routine, requiring assistance from staff or family members.

### **The Role of Communication**

During our conversation, Jan mentioned that he sometimes misses opportunities to join new activities due to a lack of clear communication. While he enjoys his routine in the Atelier, he would like to explore other options but often feels unaware of what is available. He suggested a weekly bulletin or improved signage to help residents stay informed and plan their schedules more effectively.

### **Accessibility and Mobility Challenges**

Jan's increasing reliance on assistance during transitions between his mobility devices has made him more aware of the limitations within the facility. While his electric wheelchair provides him with independence indoors, the distances between key areas, like the Atelier and his apartment, can still be taxing. On less active days, this discourages him from fully participating in the activities he enjoys. He emphasized the importance of designing facilities where transitions and distances are minimized to better accommodate residents with mobility challenges.

### **Implications for Future Design**

My conversation with Jan provided valuable insights into the priorities and challenges faced by residents who are both cre-

ative and increasingly reliant on care. Key takeaways include:

- The importance of maintaining private, personalized spaces, particularly for essential activities like hygiene.
- Designing accessible creative spaces that allow residents to pursue their passions without physical barriers or exhausting transitions.
- Improving communication about available activities to encourage participation and foster engagement.
- Addressing mobility challenges through centralized activity locations and better support for residents during transitions between mobility devices.

Jan's story highlights the need for care facilities to strike a balance between independence and support, ensuring that residents can continue to pursue their passions and maintain their dignity as their needs evolve. By designing environments that nurture creativity and inclusivity, care homes can empower residents like Jan to live fulfilling and meaningful lives.



# INTERVIEWS AT BERNARDUS

**Maria**, a 91-year-old resident of Bernardus, has been living in the care facility for four years. A former tailor, Maria's creativity and attention to detail remain central to her life. Though she no longer works professionally, her passion for sewing and crafting continues, as she often spends hours in her apartment working on handmade projects for her grandchildren. Maria's cozy apartment is her sanctuary, where she combines creativity with cherished moments spent with her large family, who visit her regularly.

Despite her age, Maria remains independent in many aspects of her daily life. She walks with the help of a walker, which allows her to move around the facility comfortably. Her love for cooking and sharing meals has found a new outlet in the bi-weekly cooking classes she attends every other Saturday. These classes not only bring her joy but also provide a chance to socialize and share recipes with other residents.

On the next page, you will find a detailed persona and a "day in the life" profile of Maria, capturing her vibrant routine and offering valuable insights into how her independence and creativity shape her experience at Bernardus.

## Interview Insights

During my interview with Maria, I was struck by her warmth and enthusiasm for life. She spoke fondly of her time as a tailor, reminiscing about the joy of creating beautiful garments for her clients. Now, she channels that same passion into sewing for her loved ones, particularly her great-grandchildren, who adore the toys and clothes she makes for them.

## Shared Spaces: Comfort and Independence

Maria enjoys the balance between her private apartment and the communal areas of Bernardus. While she prefers to work on her creative projects in the comfort of her own space, she appreciates the opportunity to connect with others during her cooking classes. The communal kitchen used for these classes is well-equipped, and Maria looks forward to these sessions as a chance to learn new recipes, share her culinary expertise, and enjoy the company of others.

Unlike some residents, Maria is not overly reliant on shared spaces for her day-to-day activities, as her apartment provides her with everything she needs to feel at home. However, she mentioned that she values having the choice to participate in communal activities when she wants to.

## Activities and Family Connections

Maria's Saturdays are her favorite days of the week. Every other Saturday, she eagerly joins the cooking class, where residents and staff prepare a variety of dishes together. For Maria, these classes are not just about food—they are a celebration of life and culture, as recipes from different backgrounds are shared and enjoyed.

Her family also plays a vital role in her life. Maria's children and grandchildren visit her frequently, often bringing homemade treats or sharing a meal in her apartment. These visits fill her apartment with laughter and warmth, creating a lively atmosphere that Maria treasures deeply. Her family often marvels at



her ability to maintain her independence and creativity, even at 91 years old.

### **Mobility and Accessibility**

Maria uses a walker to move around the facility, which allows her to maintain her independence. While she acknowledges that her mobility is not what it once was, she appreciates the accessibility of Bernardus, which enables her to navigate the building with ease. Her apartment is thoughtfully designed to accommodate her walker, and the proximity of the cooking class to her living space ensures that she can participate without feeling overly fatigued.

### **Implications for Future Design**

My conversation with Maria highlighted several key factors that are important for designing care facilities that support residents like her:

- Providing private, comfortable living spaces where residents can continue to pursue hobbies and host family visits.
- Offering engaging and well-organized communal activities that allow residents to socialize and learn while respecting their independence.
- Ensuring that shared spaces, such as kitchens or activity rooms, are easily accessible and thoughtfully designed for those with mobility aids.
- Recognizing the importance of family connections and creating welcoming environments where residents can host loved ones.

Maria's story emphasizes the importance of balancing independence with opportunities for connection and engagement. By creating spaces that support both private

creativity and communal activities, care facilities can ensure that residents like Maria continue to lead fulfilling and meaningful lives.



# INTERVIEWS AT BERNARDUS

**Henk**, an 88-year-old resident of Bernardus, has been living in the care facility for three years. A lifelong soccer enthusiast, Henk's love for the game remains a central part of his identity. Despite partial paralysis in his right arm and using a wheelchair for mobility, he continues to lead an active and social lifestyle. Whether spending time with old soccer friends, enjoying a glass of wine, or cheering for his local team, Henk's days are filled with moments of joy and connection.

Henk's routine reflects his strong desire to remain engaged with his passions and the people around him. The care facility's accessibility and range of activities provide him with opportunities to stay mobile and socially active, ensuring his days are both fulfilling and dynamic.

On the next page, you will find a detailed persona and a "day in the life" profile of Henk, capturing his vibrant routine and showcasing how his social spirit and love for soccer shape his experience at Bernardus.

## Interview Insights

During my interview with Henk, his zest for life and his deep connection to soccer were immediately evident. He spoke with pride about his years as a player and the enduring friendships he built on the field. Today, his old soccer buddies still visit him at Bernardus, and their conversations often drift to the camaraderie and memories of their playing days.

Henk's Saturdays are particularly special to him. Whether he's biking on a specially designed wheelchair-accessible bike

or attending a local soccer match, these outings reconnect him with his love for the game and the world beyond the care home.

## Shared Spaces: A Hub for Social Connection

Henk thrives in the communal areas of Bernardus, particularly the restaurant space, which he has made his unofficial home base. Here, he enjoys watching TV—sometimes alone, but often with others who join him for a chat. For Henk, the restaurant is more than just a dining area; it's a place to observe, interact, and feel connected to the lively rhythm of daily life at Bernardus.

While Henk values the independence of having his private apartment, he spends most of his time in shared spaces. The restaurant provides him with a vibrant social setting where he can enjoy his wine, engage in conversations, or simply soak in the atmosphere.

## Activities and Family Connections

Henk's daily schedule is a blend of activities that keep him active and connected. Saturdays are his favorite day of the week. On some Saturdays, he enjoys the thrill of riding a specially designed bike, which allows him to experience the outdoors while someone else pedals. On others, he attends local soccer matches, where he cheers passionately for the team and reconnects with his love for the sport.

In the afternoons, his wife visits him, bringing with her a sense of comfort and familiarity. Together with another couple, they spend hours playing card games,

sharing laughter, and strengthening their bond. These moments with his wife and friends are highlights of his day, providing him with joy and companionship.

### **Mobility and Accessibility**

Although Henk is confined to a wheelchair and has limited use of his right arm, he remains mobile and independent thanks to the accessibility of Bernardus. The facility's design allows him to navigate the building with ease, and the special bike enables him to enjoy outdoor excursions. His active participation in community life is a testament to how well-thought-out design can empower residents with physical challenges.

### **Implications for Future Design**

Henk's story offers valuable insights into designing care facilities that support residents like him:

- Providing accessible and welcoming shared spaces that foster social interaction and connection.
- Incorporating opportunities for outdoor activities, such as wheelchair-accessible bikes, to enhance mobility and engagement with the outside world.
- Designing spaces that accommodate visitors and encourage family connections, such as areas for games or group activities.
- Offering support for residents to maintain their passions, such as attending local events or connecting with old friends.

Henk's experience underscores the importance of creating environments that balance accessibility, social opportunities, and personal passions. By designing spa-

ces that support mobility and connection, care facilities can help residents like Henk continue to lead active, meaningful lives.



# DESIGN GUIDELINES

- Personal Space and Privacy
- Shared Spaces
- Accessibility and Activity Participation
- Encouraging Social Participation
- Independence and Community Balance
- Accessible Creative Spaces
- Communication and Scheduling
- Mobility and Transitions
- Fostering Independence and Engagement
- Promoting Family Connections
- Supporting Creativity and Independence

# PERSONA'S



AGE: 91  
GENDER: Female  
PREVIOUS OCCUPATION: Tailor  
LIVING SITUATION: Elderly care home



AGE: 73  
GENDER: Female  
PREVIOUS OCCUPATION: Farmer  
LIVING SITUATION: Elderly care home



AGE: 89  
GENDER: Male  
PREVIOUS OCCUPATION: Teacher  
LIVING SITUATION: Elderly care home



AGE: 88  
GENDER: Male  
PREVIOUS OCCUPATION: Accountant  
LIVING SITUATION: Elderly care home









“ Inside, I’m still 25... until I try to get up too quickly ”

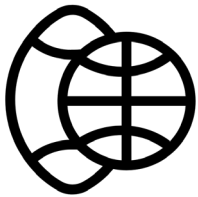
AGE: 91

GENDER: Female

PREVIOUS OCCUPATION: Tailor

LIVING SITUATION: Elderly care home

## Physical Activities



The physiotherapist has a variety of bikes that she uses once a week under professional supervision. This helps her stay active in addition to her daily walks inside the building.

Crafting is one of her favorite hobbies, and the on-site atelier provides her with a perfect space to visit regularly, where she can be creative, social, and stay active all at once.



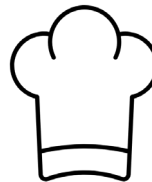
Duo biking is a tandem bike that allows a resident and a guide to ride together. She enjoys this activity once a month, or more often if the weather is nice.

## Social Activities



She looks forward to Wednesday evenings, when she spends time playing card games with her grandchildren.

Family frequently visits her in the afternoons, and they often settle in with a cup of tea, spending hours catching up and sharing stories. It's a cherished routine, filled with warmth, laughter, and conversation.



Every Saturday, she joins other residents for an organized cooking class, where they come together to learn new recipes and enjoy cooking as a group.

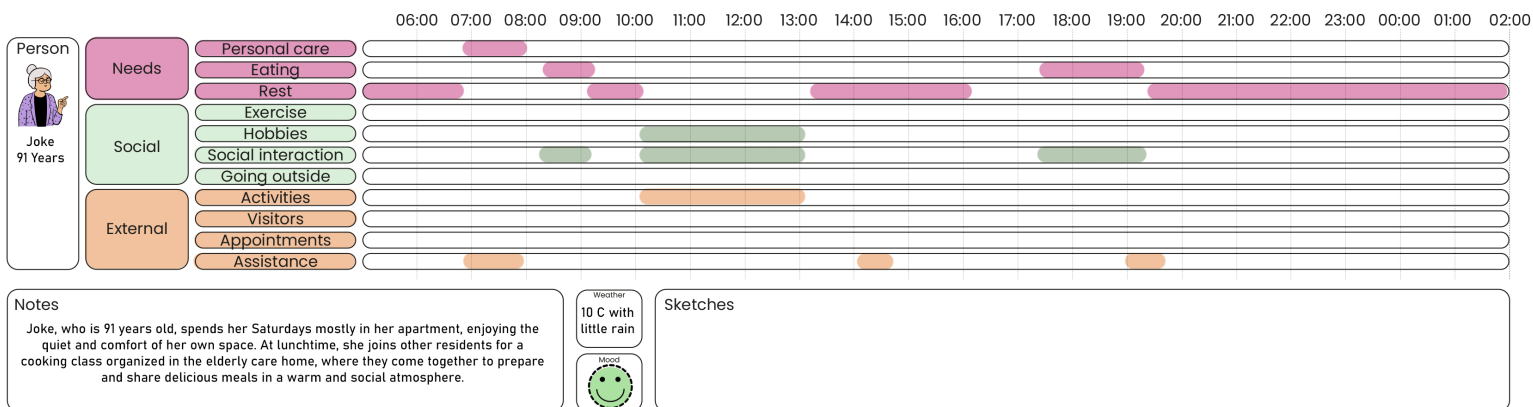
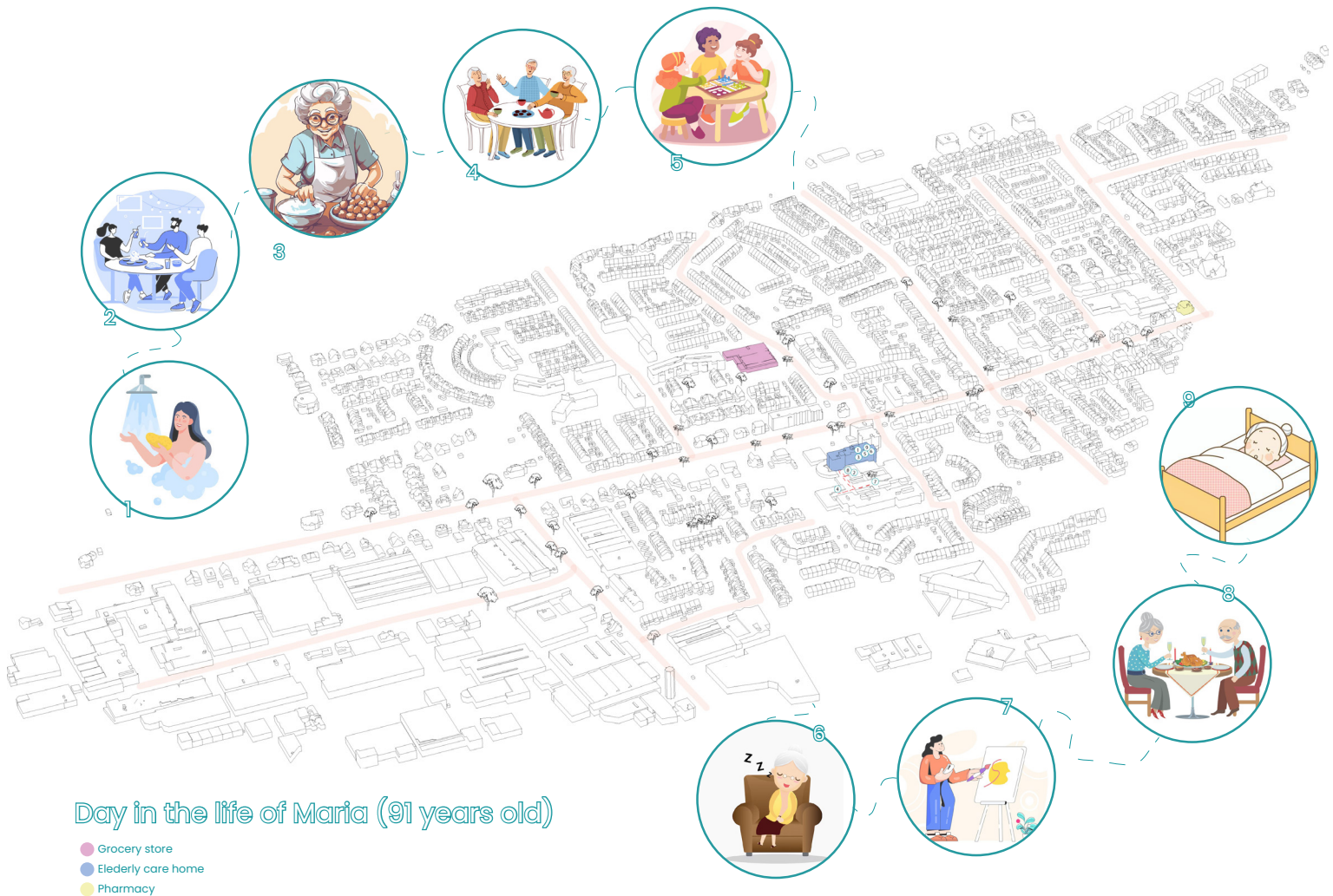
## Frustrations

- Living in a communal environment with limited personal space often leaves her feeling that her privacy is invaded, and she struggles to find moments of solitude.
- Difficulty communicating with staff or family members, due to hearing loss, speech issues, or cognitive decline, often frustrates her as it becomes harder to express her needs or desires.

## Positives

- Despite these challenges, she finds joy in the small moments of connection with others. She appreciates the support of the friendly staff and enjoys the activities available, especially the crafting sessions, where she can express her creativity and socialize.
- Even with the difficulties she faces, she takes comfort in the sense of security and routine the home provides. She also values the opportunities to stay active, whether through regular walks or participating in the duo biking sessions with a guide.

# DAY IN THE LIFE







“Age brings reflection, but it also brings a deeper appreciation for the little things in life.”

AGE: 73

GENDER: Female

PREVIOUS OCCUPATION: Farmer

LIVING SITUATION: Elderly care home

## Physical Activities



On Mondays, Willma joins the weekly Dancing to Music activity, where she moves to the rhythm, enjoys the lively atmosphere, and shares joyful moments with other residents.

One of her favorite hobbies is crafting, and she regularly visits the on-site atelier—a perfect space where she can express her creativity, socialize with others, and stay active all at the same time.



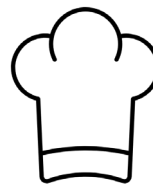
She loves tending to the shared garden, watering plants, pulling weeds, and keeping it beautiful. It's a peaceful routine that connects her with nature and her community.

## Social Activities



She looks forward to Tuesday nights, when she joins fellow residents in the communal restaurant to enjoy card games and good company.

Family frequently visits her in the afternoons, and they often settle in with a cup of tea, spending hours catching up and sharing stories. It's a cherished routine, filled with warmth, laughter, and conversation.



Every Saturday, she helps organize a cooking class for fellow residents, bringing everyone together to learn new recipes and enjoy the experience of cooking as a group.

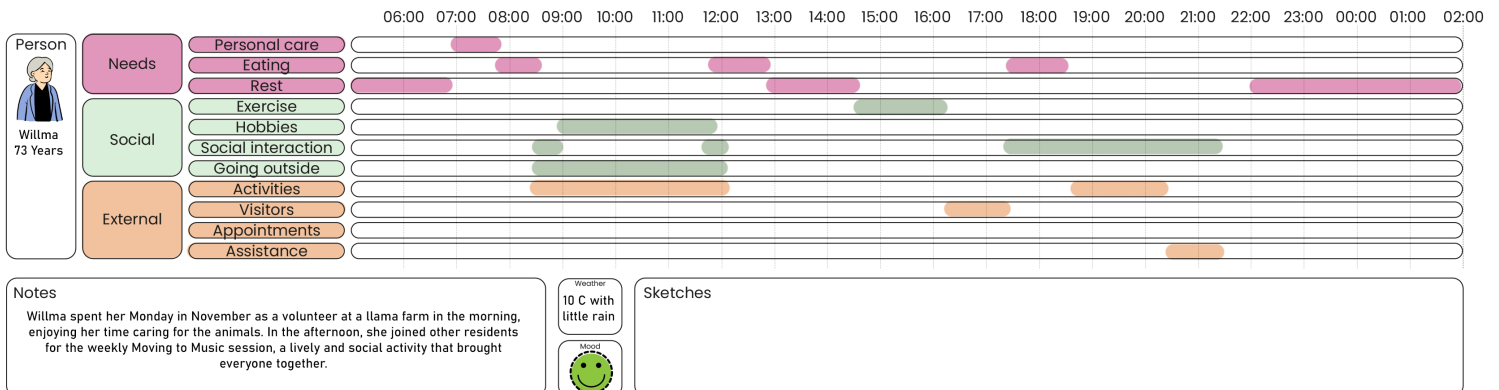
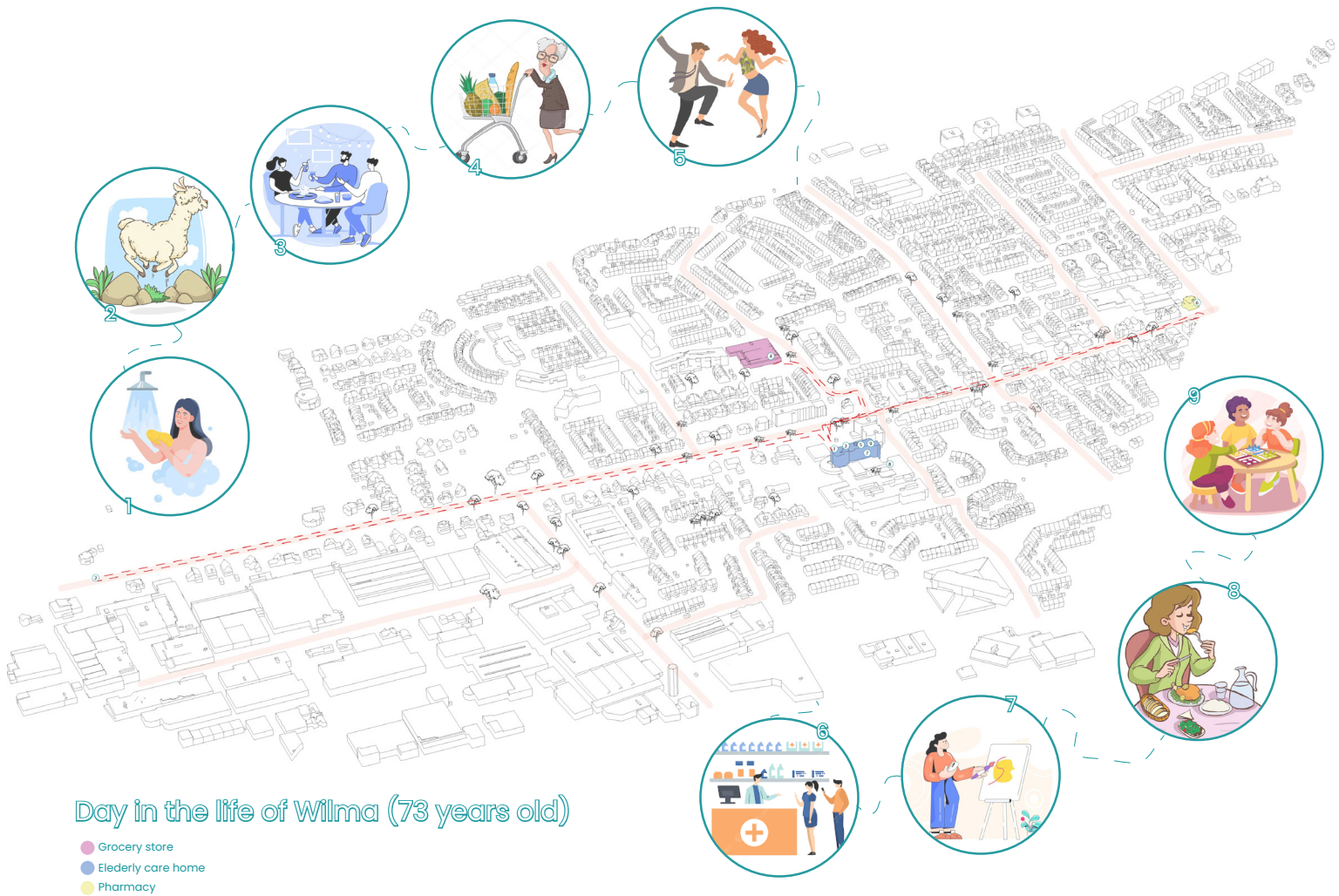
## Frustrations

- As someone who enjoys staying active, she sometimes feels frustrated when outdoor activities are restricted due to weather or staff availability to supervise.
- While she enjoys socializing, she can occasionally feel annoyed by group disagreements or the differing personalities of other residents during shared activities.

## Positives

- She appreciates the close-knit community in the home, where she can easily connect with other residents, share experiences, and build friendships that enrich her daily life.
- She enjoys the wide range of activities available, from creative workshops to physical exercises, which keep her engaged and provide opportunities to try new things and stay active.

# DAY IN THE LIFE





## “Interesting or fun quote”

AGE: 89

GENDER: Male

PREVIOUS OCCUPATION: Teacher

LIVING SITUATION: Elderly care home

### Physical Activities



He enjoys a weekly Moving to Music class, combining gentle movement with classic tunes. It keeps him active, sparks fond memories, and brings joy through music and connection with others.

One of his favorite hobbies is crafting, and he often spends time at the on-site atelier—a great space where he can enjoy being creative, connect with others, and stay active.



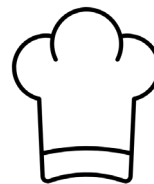
He rides about 120 km per week, weather permitting, making it a regular routine to get some fresh air and connect with friends in the town center.

### Social Activities



He loves playing cards, board games, and trivia with fellow residents. It's a chance to keep his mind sharp, share laughs, and enjoy friendly competition. Game night has become a highlight of his week, bringing both fun and connection.

His family visits him often, spending time chatting and sharing updates from their lives. He enjoys hearing about his grandchildren's activities and catching up with his kids over tea. These visits are a welcome break in his routine and keep him connected to his loved ones.



Every Saturday, Harold attends a cooking class where he helps prepare classic dishes. He enjoys the hands-on activity, learning new tips, and sharing stories and meals with others.

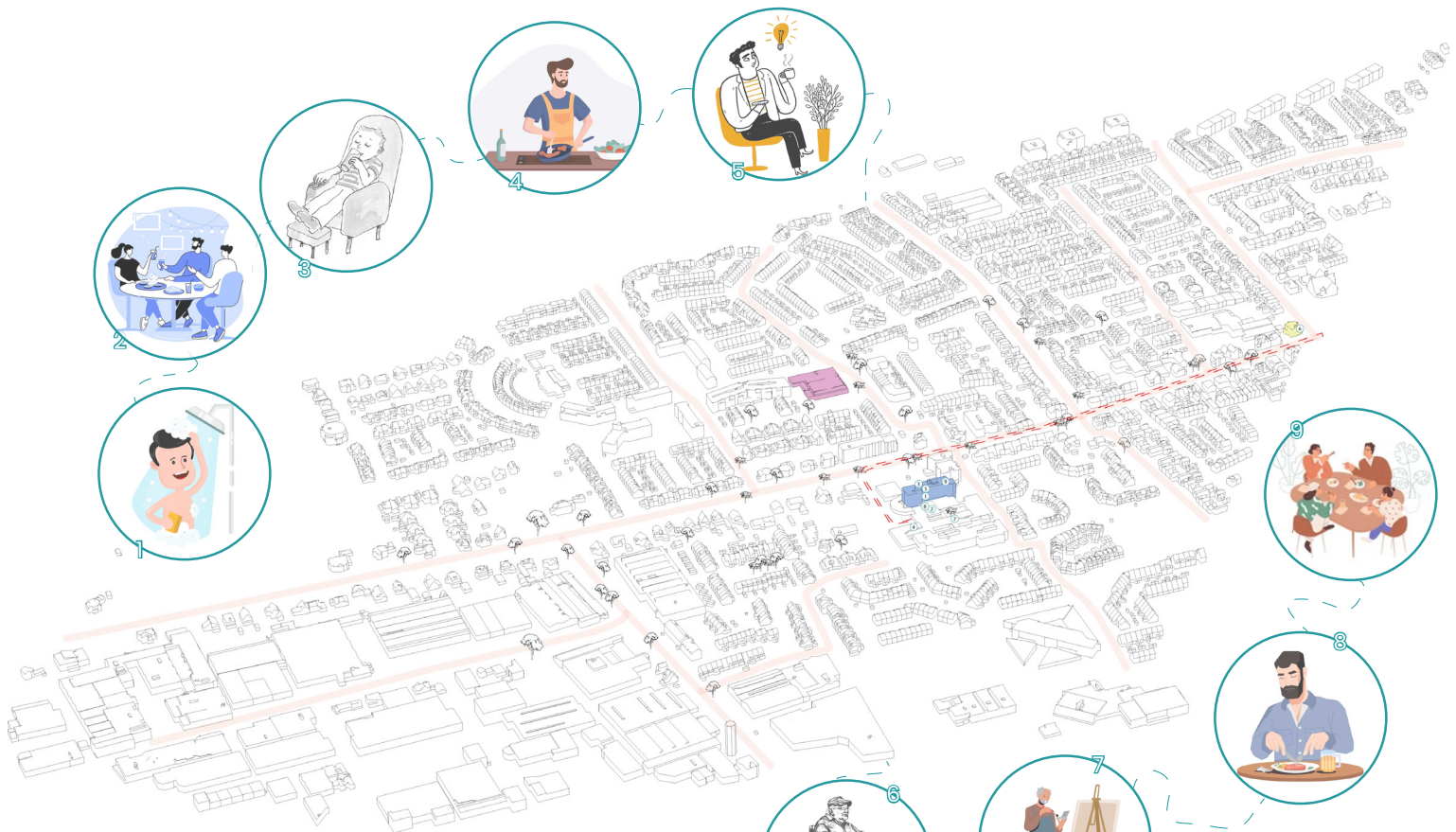
### Frustrations

- He misses the independence he once had, especially the ability to go out whenever he pleased without needing to plan ahead or rely on assistance.
- At times, he feels lonely when his family visits are less frequent, and he longs for more regular connection with them. Despite the company of fellow residents, there's a sense of emptiness when those visits don't happen as often as he'd like.

### Positives

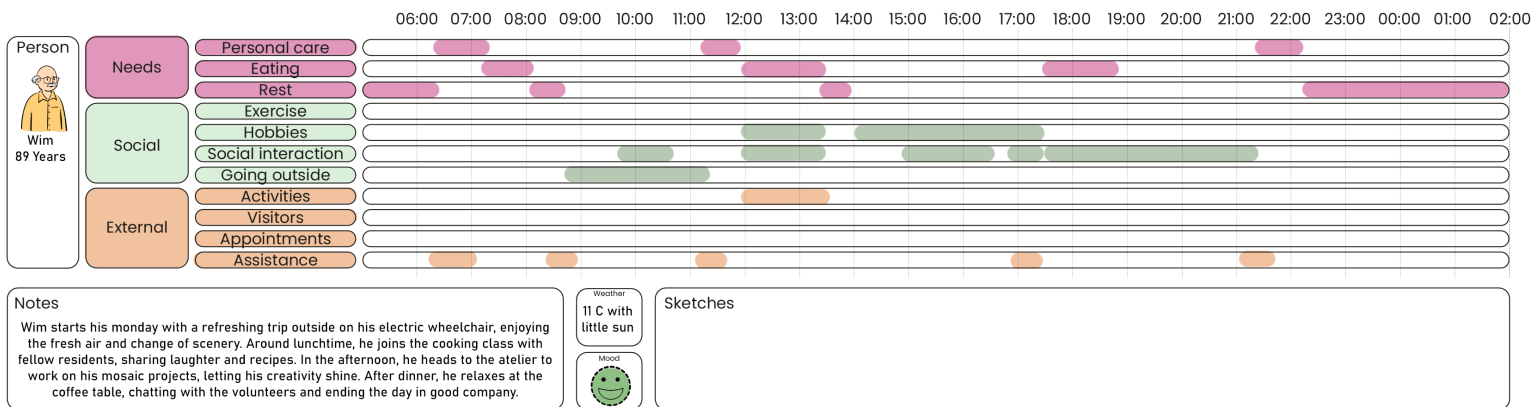
- The Saturday cooking class gives him a sense of accomplishment and the chance to share meals and stories with others, keeping him engaged and involved.
- He values the connections he's made with other residents, particularly during weekly game nights, where he has fun and engages in friendly competition.

# DAY IN THE LIFE



## Day in the life of Jan (89 years old)

- Grocery store
- Elderly care home
- Pharmacy







“ In this place, we don’t just age—we continue to live, learn, and share our stories. ”

AGE: 88

GENDER: Male

PREVIOUS OCCUPATION: Accountant

LIVING SITUATION: Elderly care home

## Physical Activities



Using a hand-powered cycle machine allows him to engage in a cardiovascular workout, strengthening the arms and improving endurance while seated.

He can engage in painting, drawing, or sculpting with clay while seated, expressing his creativity and improving fine motor skills. Art can also be a therapeutic way to relax and focus.



Each week, he enjoys a bike ride on a special duobike, where a wheel-chair can be securely placed at the front. It’s a wonderful way for him to stay active and experience the outdoors, with the added bonus of sharing the ride with a companion, making it a fun and social outing.

## Social Activities



Every Saturday, his wife visits, and they join another couple for an afternoon of their favorite card games—a fun way to stay social and keep their minds sharp.

Every day, he looks forward to his cup of tea in the communal restaurant, where he catches up with fellow residents. It’s a relaxing time to share stories, enjoy good conversation, and connect with others over a warm drink.



He enjoys joining the weekly quiz sessions with other residents, where they test their knowledge on various topics in a friendly, competitive atmosphere. It’s a fun way to stay mentally engaged, learn new things, and bond with others in the community.

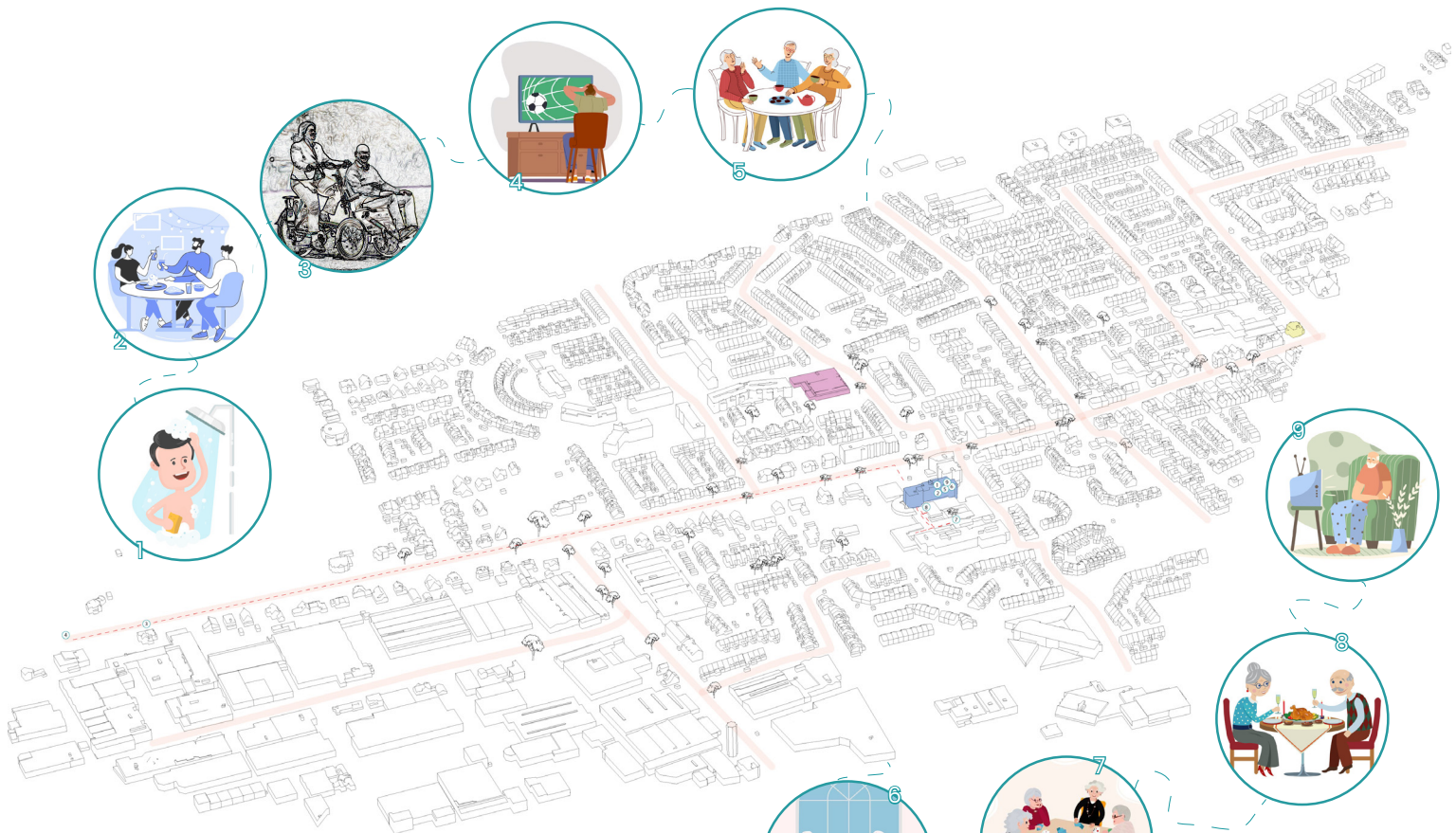
## Frustrations

- He occasionally feels the communal spaces lack a sense of individuality, wishing for more personal touches or choices in how his living space is arranged.
- He sometimes feels frustrated by the lack of variety in the activities offered, wishing there were more options to choose from that align with his interests and keep him engaged.

## Positives

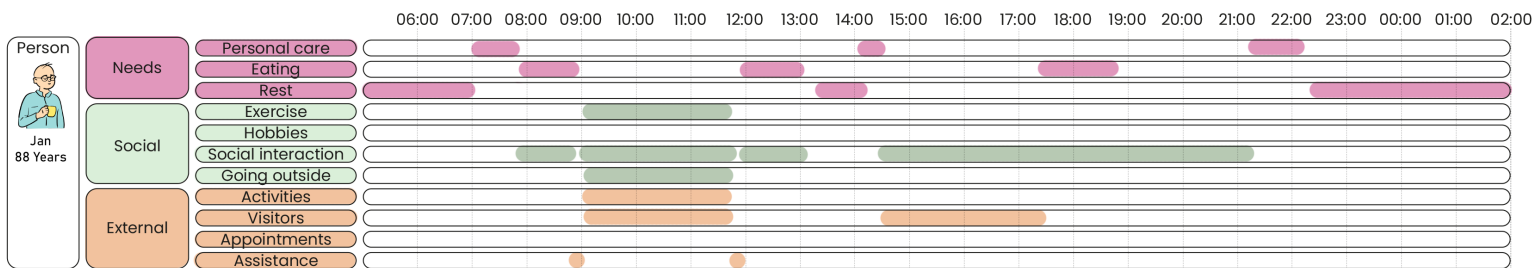
- He finds great satisfaction in helping organize events or activities for other residents, which gives him a sense of purpose and connection to the community.
- He appreciates the caring and attentive staff who make sure his needs are met, providing him with comfort and security while also respecting his independence.

# DAY IN THE LIFE



## Day in the life of Henk (88 years old)

- Grocery store
- Elderly care home
- Pharmacy



### Notes

Jan, 88 years old and in a wheelchair, begins his morning with a refreshing ride on a special bike designed for wheelchair users, allowing him to enjoy the outdoors and stay active. After lunch, his wife visits, joined by another couple, and they spend the afternoon playing card games together. With glasses of wine and plenty of laughter, it's a cherished time for connection and good company.

### Weather

11°C with little sun

### Mood



### Sketches







# PHOTOGRAPHS

LIVINGROOM

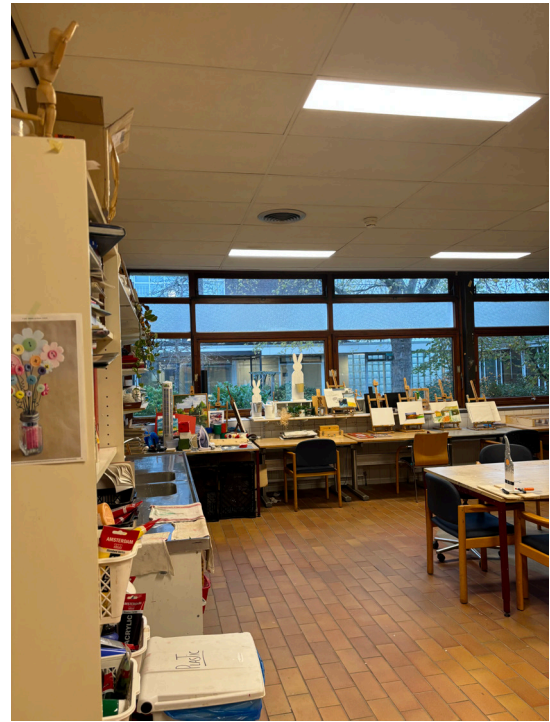


BEDROOM





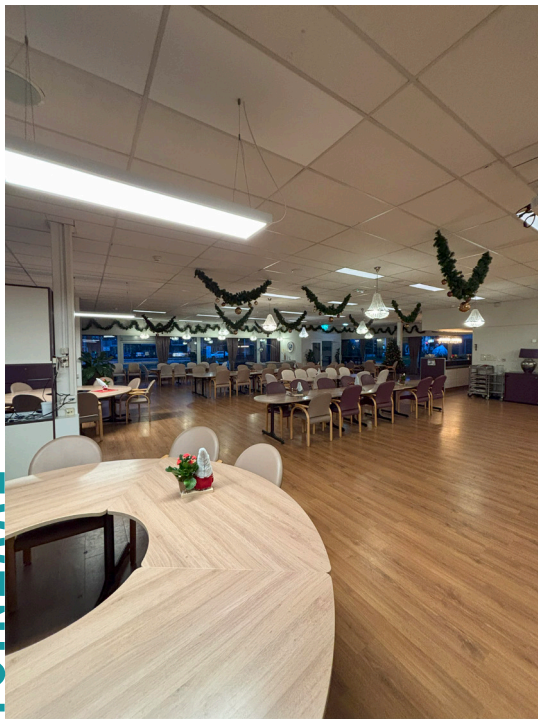
ATELIER



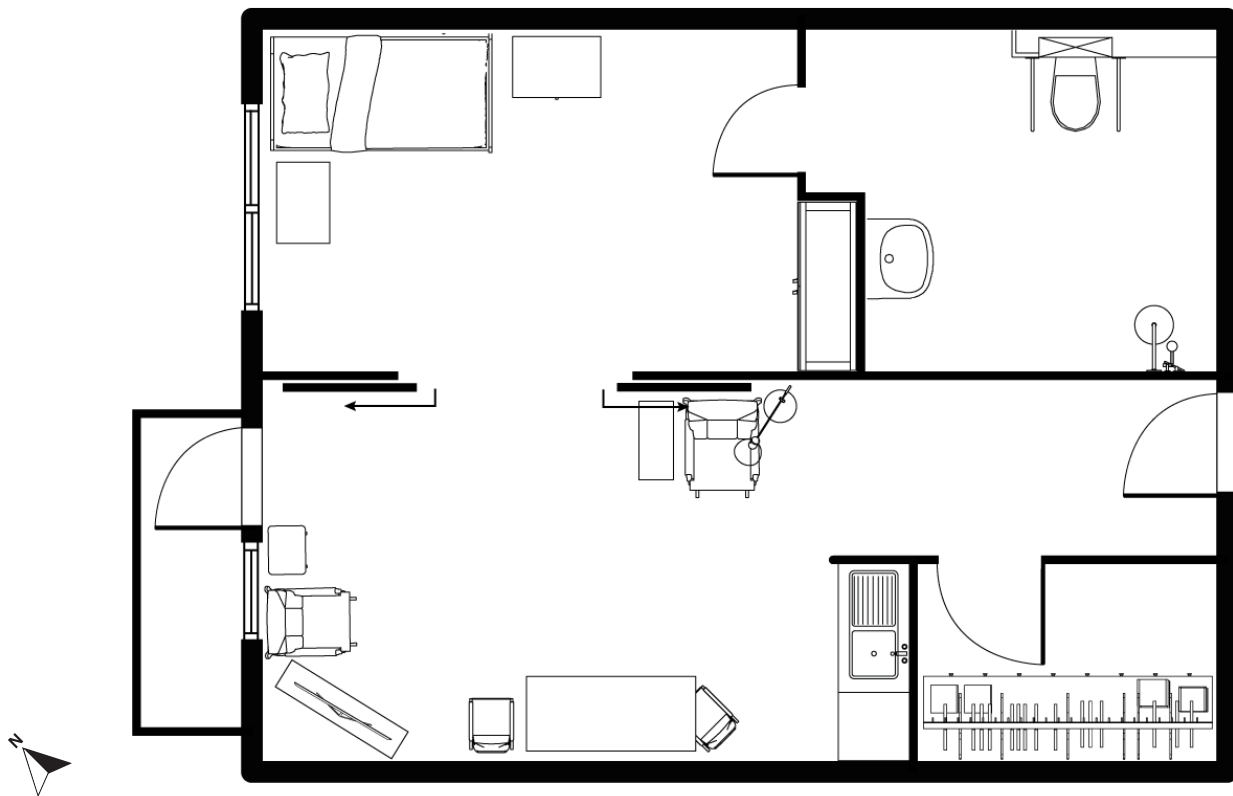
SHARED GARDEN







# DWELLING



The map above depicts the layout of a typical dwelling at Bernardus. Each apartment measures 35 square meters and includes a bedroom, living room, bathroom, and storage area. The kitchen is compact, equipped with a sink and fridge, and the apartment has a small balcony overlooking a green area in front of the building.

The living room and bedroom are separated by sliding doors, which in many apartments are often left open. This arrangement creates a more open and connected space, while the large windows throughout the apartment bring in ample natural light. These features contribute to a bright and airy atmosphere, with the design allowing residents to feel a sense of spaciousness within a modestly sized living area.

# DESIGN GUIDELINES

- Compact but Functional Layout
- Balcony with Green View
- Natural Light
- Adaptable Living Space

# CONCLUSIONS

The interviews with residents and my experience working at Bernardus have provided a profound understanding of the complexities of elderly care. Through my interactions with residents like Jan, Maria, and Henk, I have gained valuable perspectives on their needs, desires, and challenges in a care facility setting. These insights have deepened my appreciation for the importance of designing environments that support both independence and connection, while also addressing the unique physical and emotional needs of elderly individuals.

The residents' stories revealed the central role of creativity, social connections, and maintaining personal passions, even as they face physical limitations. Jan's love for art, Maria's dedication to sewing, and Henk's commitment to staying active and socially engaged through his passion for soccer all highlighted the need for spaces that foster individual expression and community interaction. The importance of private, personalized spaces for activities like art, cooking, and family visits became clear, as did the desire for more accessible and functional communal spaces that enhance socialization and participation in shared activities.

Furthermore, my experience at Bernardus illuminated the critical role of accessibility in design. The challenges posed by the facility's scale, such as reliance on malfunctioning elevators and difficulty navigating long, uniform corridors, underscored the need for thoughtful design solutions that minimize physical barriers and improve wayfinding. Residents with mobility challenges, like those in wheelchairs, often face additional hurdles when accessing essential spaces. Thoughtfully

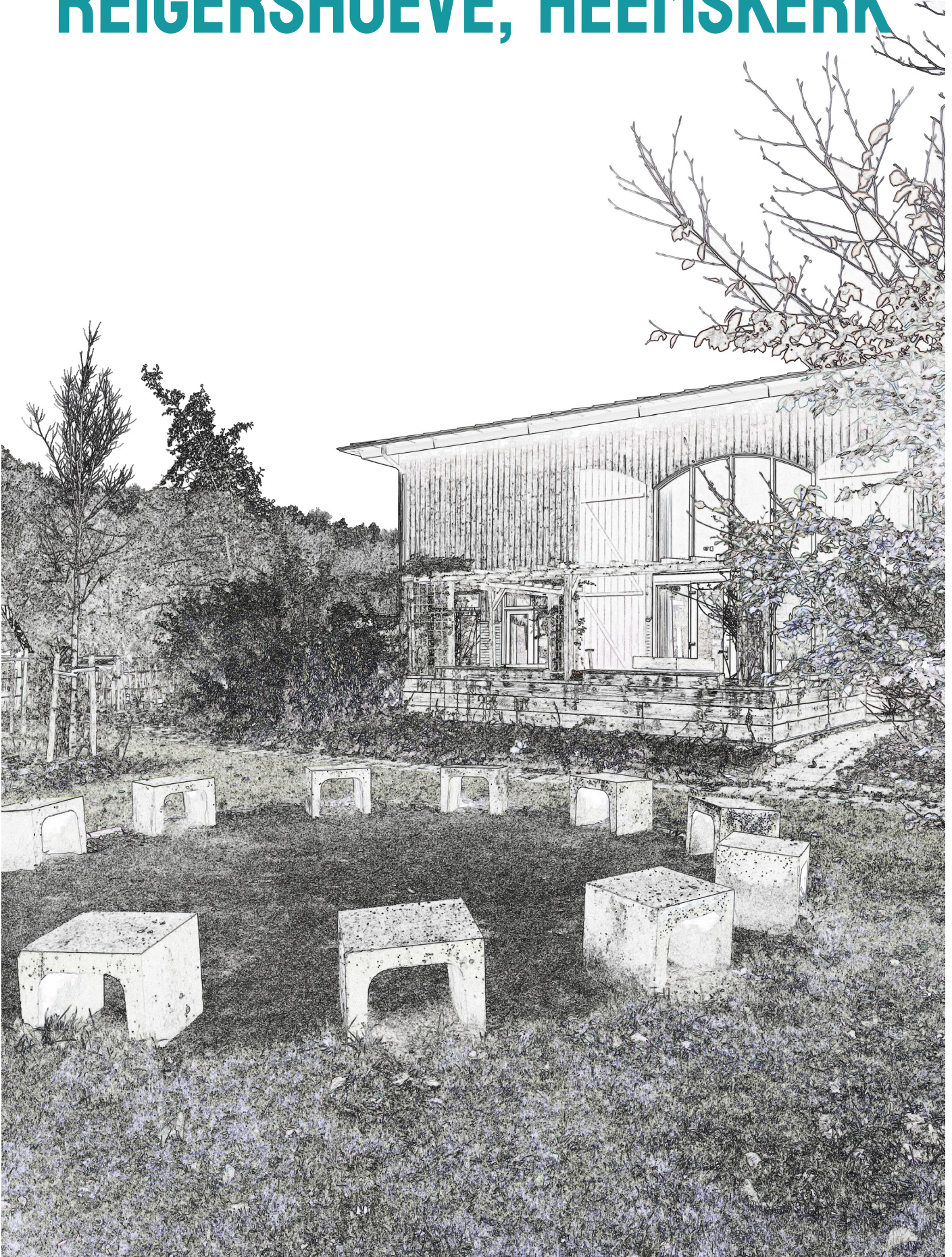
positioned activity rooms and communal spaces can ease these challenges and allow residents to remain active and engaged in their routines.

One key takeaway from my time at Bernardus is the importance of flexibility in design. Whether it's adapting communal spaces to meet the needs of different residents or ensuring that apartments offer both functionality and comfort, the ability to respond to evolving needs is vital. Additionally, fostering a sense of autonomy and dignity for residents requires spaces that allow them to make choices about when and how they engage with others, as well as the option to maintain privacy when desired.

In conclusion, the combination of interviews with residents and my firsthand experience at Bernardus has reinforced the significance of designing care facilities that prioritize accessibility, community, and personal autonomy. By integrating these insights into future design projects, we can create environments that truly enhance the lives of elderly residents, ensuring they are not only cared for but also empowered to live fulfilling and meaningful lives.



# REIGERSHOEVE, HEEMSKERK





# EXPERIENCE

Over two days, I, along with two other students, had the opportunity to visit the Reigershoeve in Heemskerk. This residential care farm provides a home for 27 individuals with dementia who require intensive care. Unlike larger facilities like Bernardus, Reigershoeve offers a unique approach to care that emphasizes small-scale living and personalized attention.

This chapter explores my observations at Reigershoeve, delving into its design, care model, and overall atmosphere. By reflecting on these experiences, I aim to draw parallels and contrasts with larger facilities, highlighting principles that could inform future care facility designs.

## **A Unique Residential Model**

The Reigershoeve consists of four group homes, each accommodating seven residents, except for one home specifically designed for individuals who developed dementia at a younger age (under 65). Each home has a shared living room and kitchen, creating a warm, family-like environment. Individual apartments, connected by a hallway, offer private spaces with bathrooms and small kitchenettes equipped with a sink and fridge.

This layout fosters both independence and community. Residents can retreat to their apartments for privacy or join others in the shared spaces for meals and activities. The thoughtful arrangement allows residents to experience a balance of autonomy and support, catering to their varying needs and preferences.

## **Personalized Care and Support**

What stood out most during my visit was the high level of personalized care at Reigershoeve. Each group home has two

caregivers, meaning there is one caregiver for every 3–4 residents. This staffing ratio is significantly higher than in larger facilities, enabling caregivers to provide tailored attention and support.

The atmosphere in Reigershoeve is calm and unhurried, a stark contrast to the often hectic pace of larger care facilities. Caregivers have the time to truly understand each resident's needs, preferences, and routines, creating a nurturing and supportive environment. This individualized approach to care enhances the quality of life for residents and helps them feel valued and understood.

## **The Importance of Shared Spaces**

The shared living rooms at Reigershoeve are more than just spaces for eating and relaxing—they are the heart of each group home. Meals are prepared in the main kitchen by caregivers, and residents are encouraged to join in small tasks, fostering a sense of purpose and community.

This approach differs from the larger-scale dining areas in facilities like Bernardus, where food is prepared in a centralized kitchen and brought to residents. By keeping the preparation and dining experiences more intimate, Reigershoeve strengthens the bond between residents and caregivers and makes the environment feel more homelike.

## **Accessibility and Mobility**

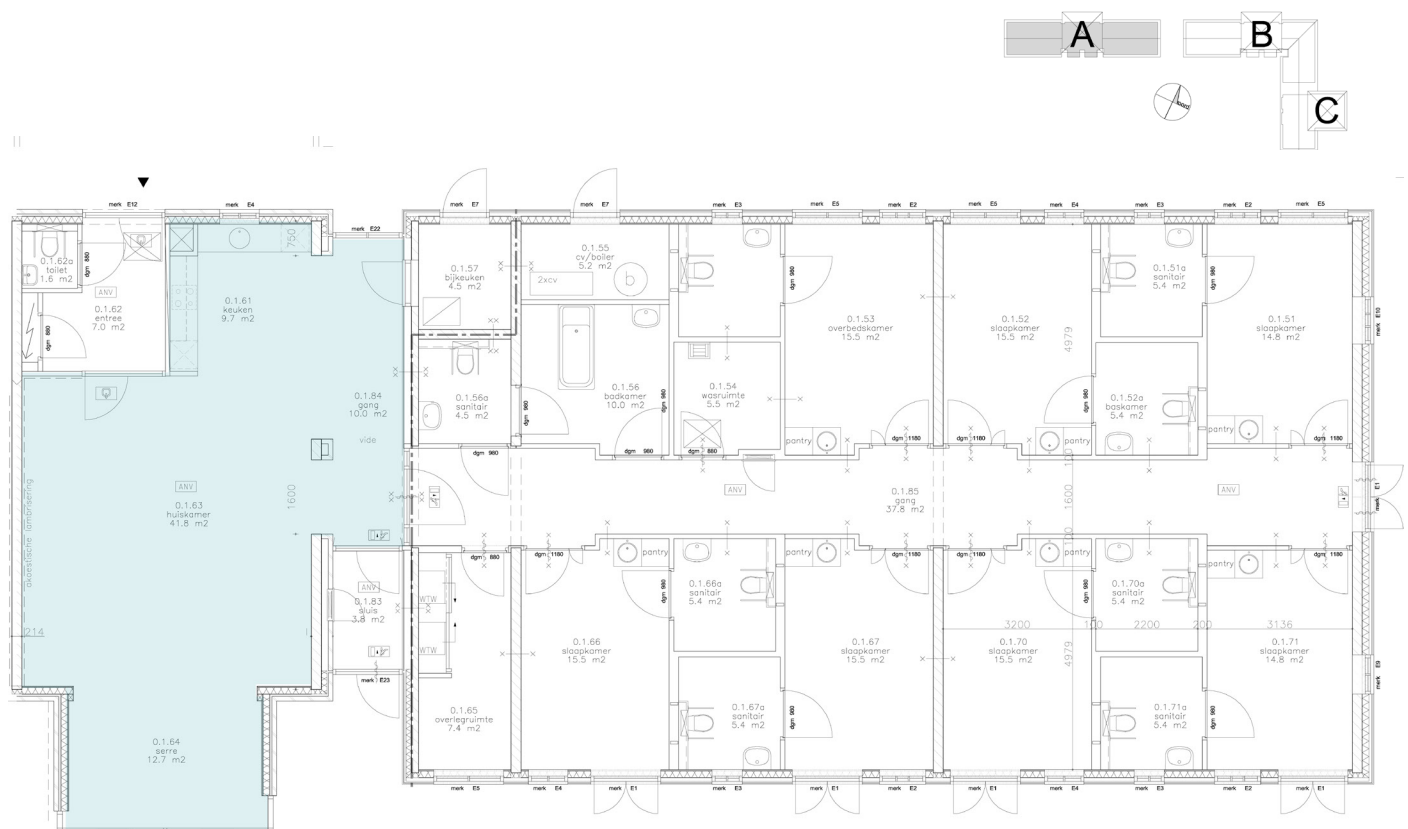
The single-story design of Reigershoeve eliminates the need for elevators, making it inherently more accessible for residents with mobility challenges. This contrasts sharply with the multi-story layout of Bernardus, where elevator malfunctions and fears often hinder residents' movement.

At Reigershoeve, residents can move freely between their apartments, shared spaces, and outdoor areas. This ease of movement contributes to a greater sense of independence and reduces feelings of isolation or confinement.

### Activities and Engagement

Reigershoeve places a strong emphasis on meaningful activities tailored to residents' interests and abilities. From gardening and crafts to music sessions, these activities are designed to stimulate cognitive and emotional well-being.

The outdoor spaces at Reigershoeve also play a significant role in residents' daily lives. Unlike Bernardus, which is more urban and enclosed, Reigershoeve benefits from its rural setting. The natural surroundings, including gardens and animal enclosures, provide therapeutic benefits and opportunities for outdoor engagement.





# INTERVIEWS AT REIGERSHOEVE

**Disclaimer:** The interviews with residents at Reigershoeve are shorter than those from Bernardus due to the nature of the visit and the challenges posed by dementia. Many residents at Reigershoeve found it difficult to communicate and share coherent stories due to the effects of their condition. As a result, the interactions were more brief and focused on key observations. Despite this, these interviews still offer valuable insights into the residents' experiences and the impact of the facility's design on their well-being.

## Resident Interviews at Reigershoeve

During my visit to the Reigershoeve, I had the opportunity to meet several residents whose lives are shaped by the unique approach to care at the facility. These residents' stories offered valuable insights into the impact of Reigershoeve's design, care model, and environment on their well-being. Their experiences highlighted the benefits of smaller, more intimate living spaces and the emphasis on personalized care.

**Anna**, a 74-year-old resident of Reigershoeve, has lived in the facility for three years. Diagnosed with dementia at an early age, Anna's connection to the natural world remains a central part of her life. She frequently spends time in the garden, tending to flowers or simply enjoying the fresh air. Anna's days are filled with outdoor activities, from walking along the paths to interacting with the animals in the enclosures. She spoke fondly of the peace she finds in the natural surroundings, noting how the rural setting provides a sense of calm that she finds difficult to experience in more urban environments.

Anna shared how much she enjoys parti-

cipating in gardening sessions, where she and the caregivers work together to plant and care for the garden. "It's such a joy to see things grow," she said, "it gives me a sense of accomplishment and peace." The shared spaces and the opportunity to engage with nature have significantly improved her quality of life, offering both a sense of autonomy and the chance for meaningful participation in daily activities.



**Piet**, a 88-year-old resident, has lived at Reigershoeve for two years. A former carpenter, he still takes great pleasure in creating small wooden crafts, which he often gifts to other residents or caregivers. In the shared living room, Piet can be seen working on his projects, sometimes enlisting the help of other residents who enjoy watching or contributing in small ways. The intimate environment of the group home allows him to maintain this creative hobby, something he values deeply.

Piet mentioned that the high caregiver-to-resident ratio has made a significant difference in his experience at Reigershoeve. "The caregivers have time for me," he explained, "and they know what I enjoy doing. It makes a big difference." This personalized attention enables him to engage with activities that bring him joy and fulfillment, helping him maintain a sense of purpose and connection to his past.



**Tom**, a 82-year-old resident, has lived at Reigershoeve for just under a year. He particularly enjoys the communal dining experience, where residents eat together in the shared living room. "It's so nice to have dinner with everyone," he said. "We talk, laugh, and share stories. It feels like a family meal." Tom values the intimacy of shared meals and the opportunity to connect with others over food.

This sense of community, coupled with the caregivers' attentiveness, has been important to Tom's experience at Reigershoeve. He feels that the caregivers know him well and understand his preferences, which makes the environment feel warm and familiar. "The caregivers don't just take care of us, they get to know us," he explained. "It makes all the difference."

These interviews with residents at Reigershoeve underscore the value of personalized care and the importance of creating an environment where individuals can engage with their interests, maintain autonomy, and feel supported by their caregivers. The design of Reigershoeve, with its small-scale group homes and emphasis on community, provides a model for care that fosters both independence and a sense of belonging. The integration of natural spaces and meaningful activities further enhances the well-being of residents, making it clear that a smaller, more intimate care model can lead to a higher quality of life.

**Maria**, a 79-year-old resident, has been at Reigershoeve for a year and a half. Her condition has made her less mobile, but she continues to enjoy the social aspects of life at Reigershoeve, often spending time in the shared living room with other residents. Maria highlighted the calm and unhurried atmosphere of the facility, saying, "It's so peaceful here. The caregivers are always kind and patient, and we are treated with respect. It's much different from where I was before."

Maria appreciates the home-like feel of Reigershoeve, where the staff is deeply involved in day-to-day activities. "The caregivers cook the meals here, and we can help if we want," she shared. "It feels like a family." The smaller group homes and more personalized approach to care have allowed Maria to feel more secure and valued, which has contributed to her overall well-being.



# DESIGN GUIDELINES

- Small-Scale, Group-Based Housing
- Private and Shared Spaces
- Shared Living and Dining Spaces
- Engagement with Nature and Outdoor Spaces
- Therapeutic and Meaningful Activities
- Design for Comfort and Safety

# PERSONA'S



AGE: 74  
GENDER: Female  
PREVIOUS OCCUPATION: Office job  
LIVING SITUATION: Dementia care home



AGE: 79  
GENDER: Female  
PREVIOUS OCCUPATION: Restaurant owner  
LIVING SITUATION: Dementia care home



AGE: 88  
GENDER: Male  
PREVIOUS OCCUPATION: Kitchen tools shop  
LIVING SITUATION: Dementia care home



AGE: 82  
GENDER: Male  
PREVIOUS OCCUPATION: Farmer  
LIVING SITUATION: Dementia care home



“ In this place, we don’t just age—we continue to live, learn, and share our stories. ”

AGE: 79

GENDER: Female

PREVIOUS OCCUPATION: Restaurant owner

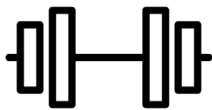
LIVING SITUATION: Dementiacare home

## Physical Activities



She enjoys daily walks with her dog, staying active and finding joy in their companionship. It gives her a purpose and it helps with the bond between them.

She loves helping in the shared garden alongside other residents, enjoying the company, laughter, and fun moments it brings.



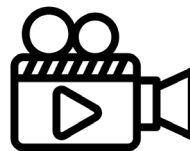
Every week, the caregivers host a fun “workout” class designed to help the residents get some extra movement while providing an opportunity to meet one another and enjoy small talk before and after the session.

## Social Activities



She enjoys cooking and baking, especially when she can do it together with one of the caregivers. It provides a wonderful opportunity for small talk and sharing stories about their day.

During the day, she enjoys her cups of tea and coffee in the living room together with the other residents. With her past experience working in restaurants, she takes pleasure in serving coffee or tea to everyone.



The caregivers at Reigershoeve are very creative and strive to host fun activities almost every day. During our stay, there was a movie night, and Lida joined in to watch \*Mamma Mia!\* She enjoyed it very much.

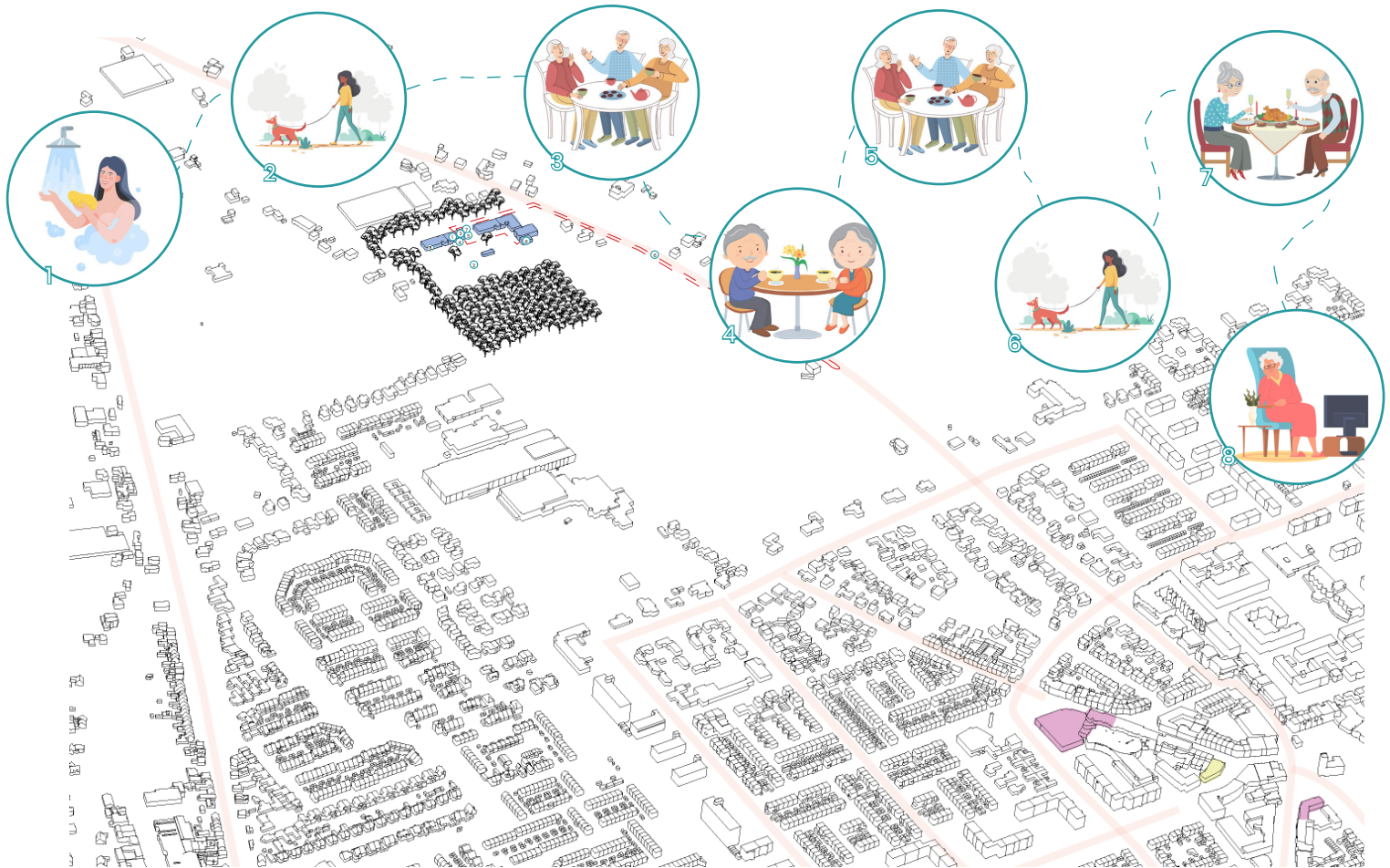
## Frustrations

- Feeling frustrated about needing assistance for daily activities like dressing, eating, or grooming, which can affect their sense of autonomy.
- Struggling to express thoughts or understand others due to cognitive challenges, leading to feelings of isolation or misunderstanding.

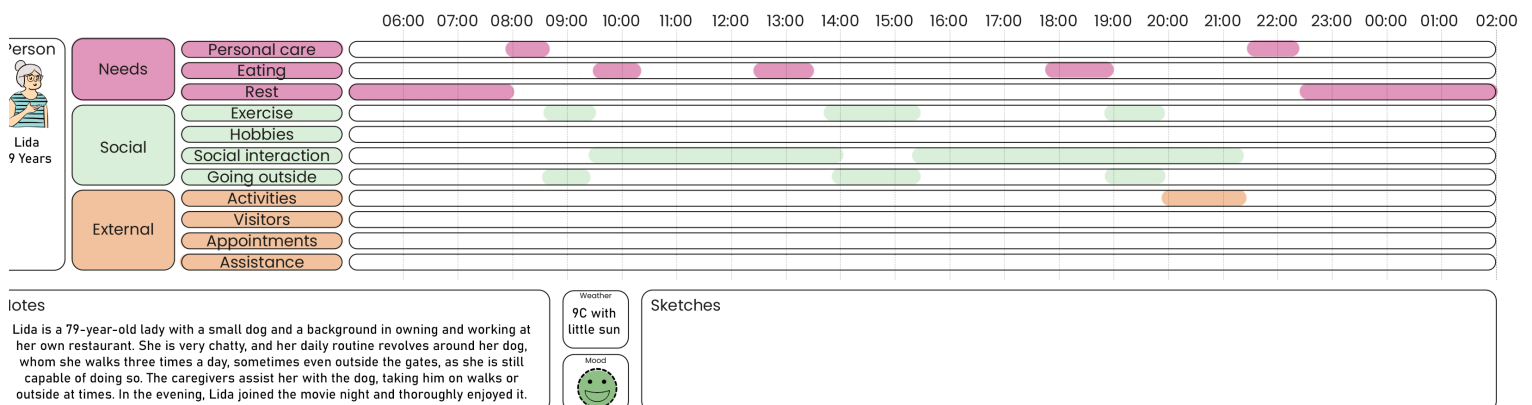
## Positives

- Having a consistent schedule for meals, activities, and care can provide a sense of stability and reduce anxiety.
- Opportunities to engage with other residents and staff can reduce loneliness and promote a sense of community.

# DAY IN THE LIFE



Day in the life of Lida (79 years old)







“ In this place, we don’t just age—we continue to live, learn, and share our stories. ”

AGE: 88

GENDER: Male

PREVIOUS OCCUPATION: Accountant

LIVING SITUATION: Elderly care home

## Physical Activities



The area surrounding the apartments is part of Reigershoeve, and she enjoys walking through the natural surroundings, feeling a sense of freedom.

She enjoys spending time in the garden, appreciating the flowers and growing fruits and vegetables. Gardening alongside the other residents creates a special bond as they share the experience together.



Each apartment group is responsible for taking care of a specific type of animal, and her group looks after the pigs. She enjoys this responsibility, as it provides a sense of purpose both individually and collectively as a group.

## Social Activities



She loves playing games, especially with a caregiver, and remains very competitive, always enjoying the thrill of winning.

She enjoys her cups of coffee and tea just as much as Lida, and together with the other residents, she loves chatting at the dining table about life and sharing fun anecdotes.



She enjoys listening to music, especially from the past. The music often lifts up her mood and stimulates thinking about fun memories and is a good conversation starter.

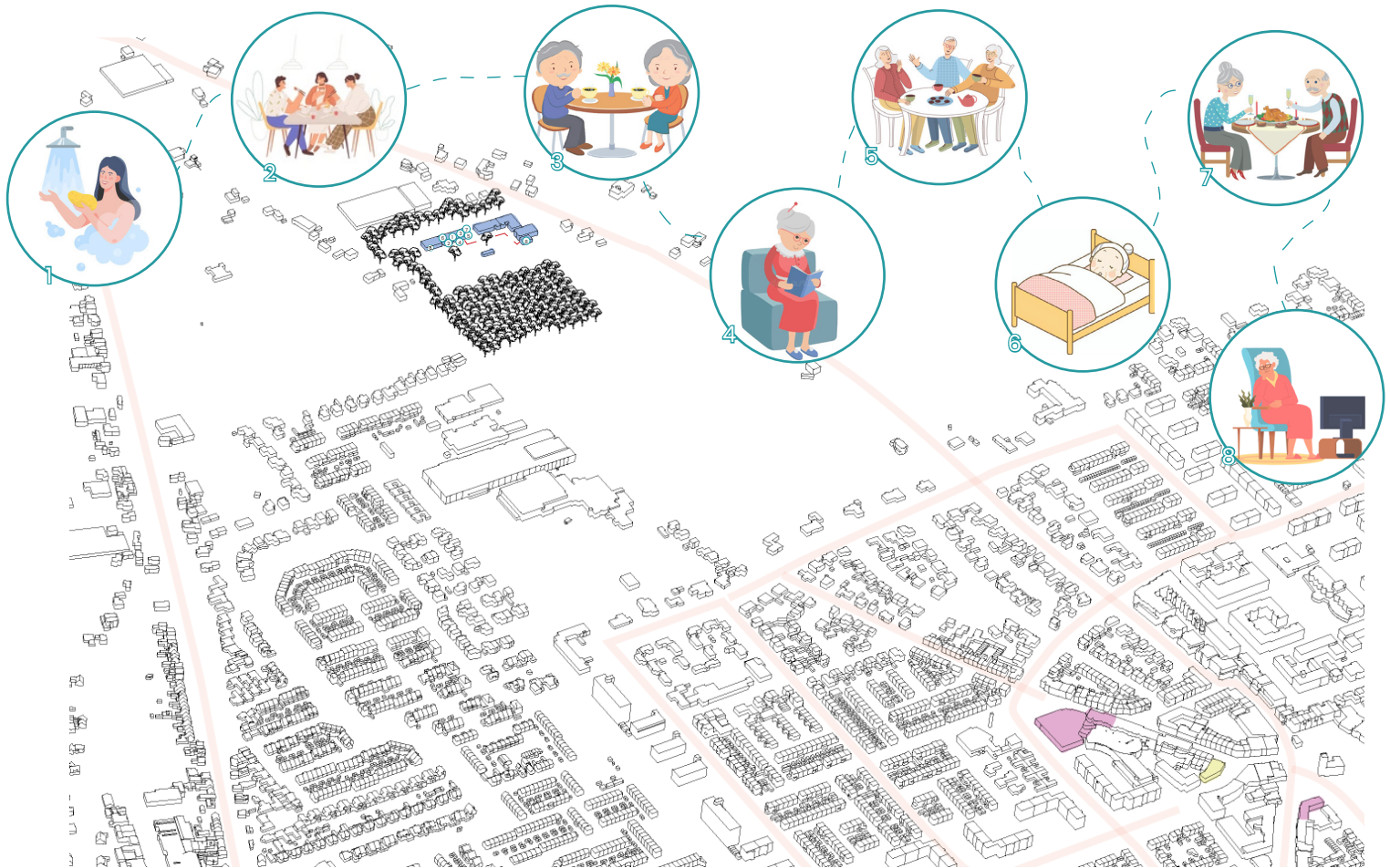
## Frustrations

- Adjusting to a new setting can be confusing and distressing, especially when residents struggle to recognize their surroundings.
- Sharing spaces with others and constant staff presence may feel invasive and diminish their sense of personal space.

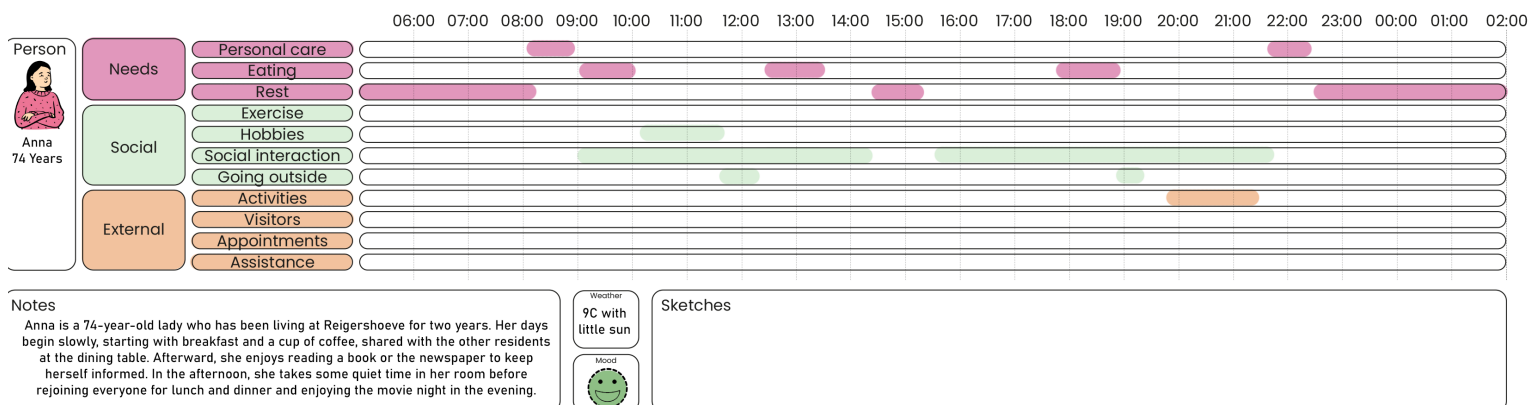
## Positives

- Participating in activities like music therapy, crafts, or light exercises can bring moments of joy, purpose, and mental stimulation.
- Receiving professional and compassionate support tailored to their needs can improve their overall quality of life and well-being.

# DAY IN THE LIFE



## Day in the life of Anna (74 years old)









# PHOTOGRAPHS





LIVING ROOM





ATELIER







SHARED GARDEN







## DAYCARE ROOM









GREENHOUSE



HALLWAY

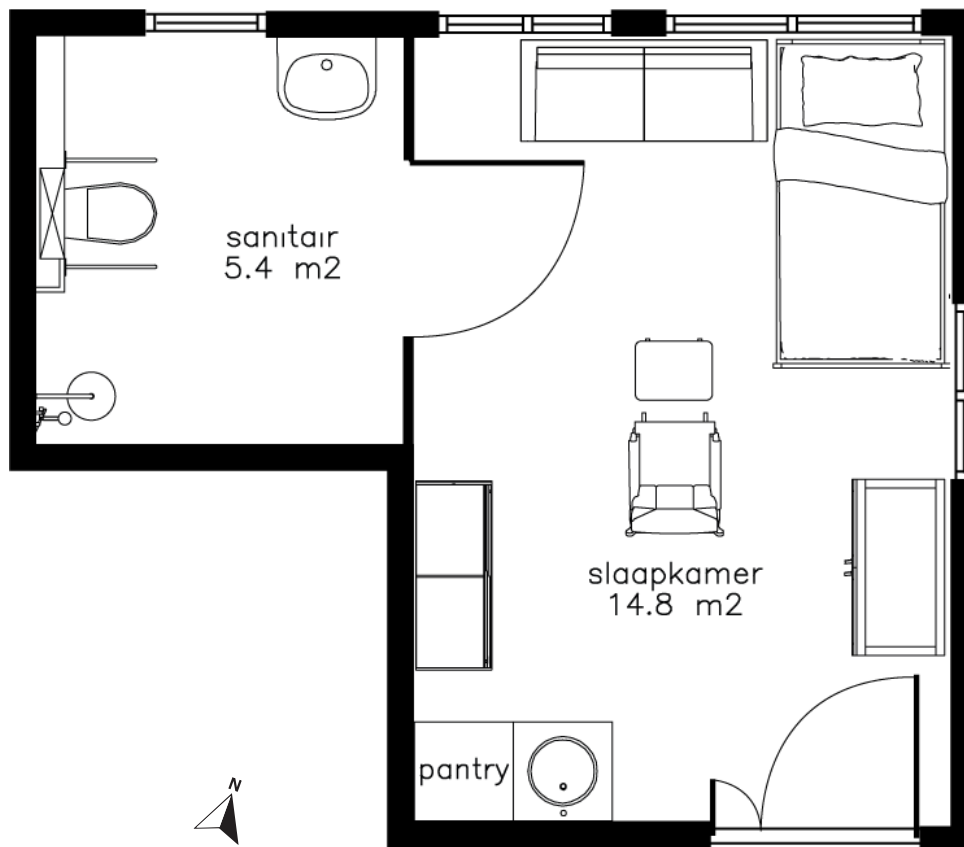






## ANIMALS

# DWELLING



The layout shown above depicts a typical dwelling at Reigershoeve, featuring a small combined living and sleeping area, along with a bathroom. Although compact, the design is functional, reflecting the fact that residents at Reigershoeve spend little time in their apartments, using them mainly for sleeping or accessing the bathroom.

Each dwelling includes a small kitchen with a sink, a fridge, and a few cabinets for storage. In contrast to the living/sleeping

area, the bathroom is relatively spacious and specifically designed to accommodate wheelchair users, ensuring accessibility and ease of use.

All dwellings at Reigershoeve are identical in layout and measure approximately 20 square meters. However, their orientation varies: those on the south side feature a door that opens directly into the garden, while apartments like the one shown above, positioned on the north side, do not have this feature.

# DESIGN GUIDELINES

- Compact, Functional Layout
- Spacious, Accessible Bathrooms
- Orientation and Access to Nature
- Consistency in Layout with Variability in Orientation
- Minimizing Clutter and Maximizing Space



# CONCLUSIONS

My visit to Reigershoeve offered valuable insights into a unique and innovative approach to dementia care. Over two days, I observed how the facility's small-scale, personalized care model fosters a sense of autonomy, community, and well-being among its residents. Unlike larger care facilities, Reigershoeve places significant emphasis on creating a homelike environment, where the needs and preferences of each individual are deeply understood and respected.

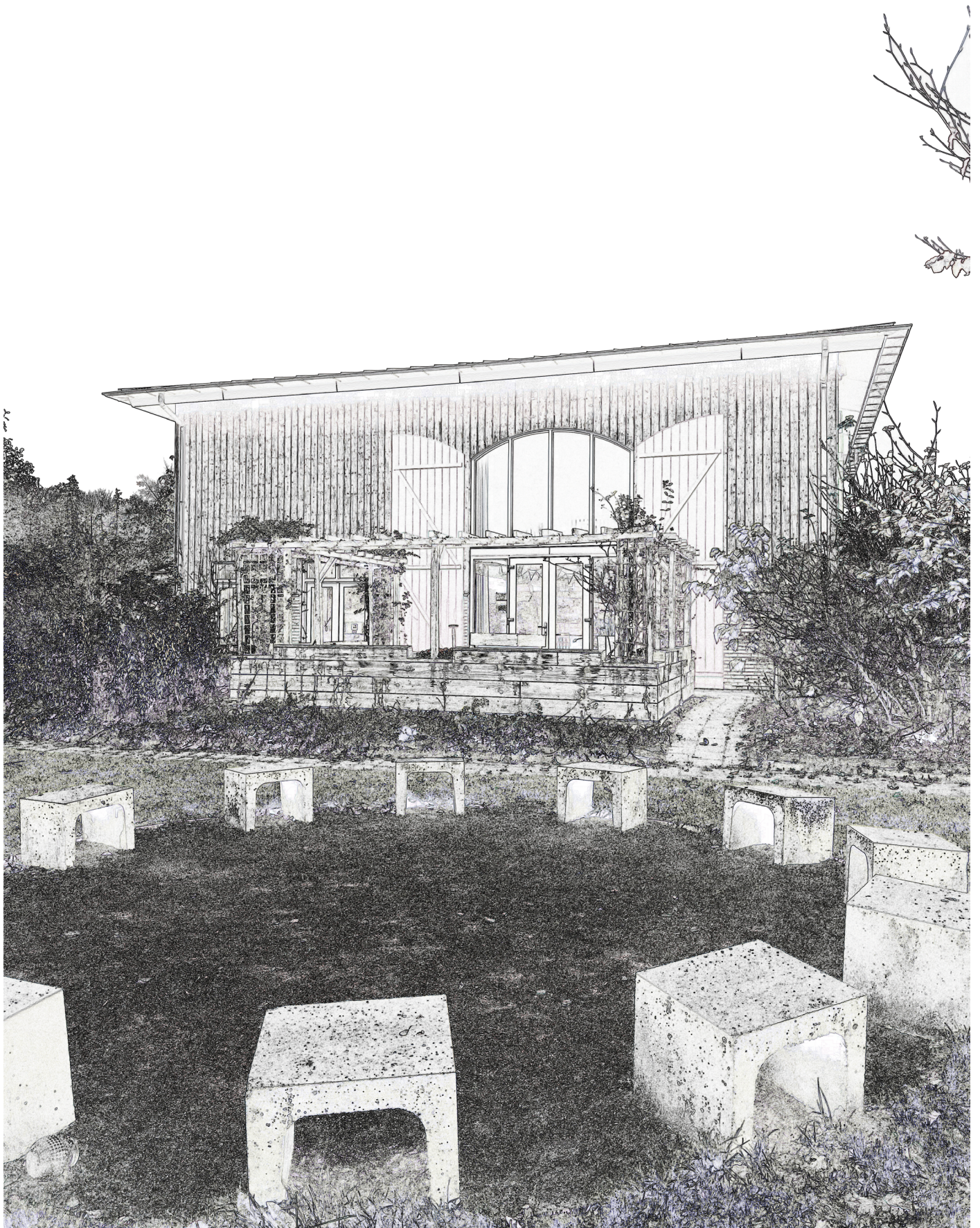
The thoughtfully designed group homes, each housing only seven residents, create an intimate atmosphere where meaningful relationships between residents and caregivers can flourish. This is further supported by the high caregiver-to-resident ratio, allowing for tailored care that accommodates the unique challenges faced by each individual. The shared spaces, particularly the kitchens and living rooms, serve as hubs of activity, promoting social interaction and a sense of purpose through communal meals and group activities.

Another standout feature of Reigershoeve is its rural setting, which enhances residents' quality of life by providing access to nature and outdoor spaces. Activities like gardening, walking, and engaging with animals not only stimulate cognitive and emotional well-being but also offer therapeutic benefits that are hard to replicate in urban environments. These aspects of daily life at Reigershoeve reflect the facility's commitment to holistic care, where physical, emotional, and social needs are all prioritized.

Interviews with residents further highlighted the positive impact of this approach. From Anna's joy in gardening to Piet's satisfaction in pursuing his woodworking hobbies, and from Maria's appreciation of the calm environment to Tom's enjoyment of shared meals, each resident's experience reinforced the value of a care model centered on respect, understanding, and meaningful engagement.

In contrast to larger institutions like Bernardus, where the scale and pace can sometimes feel impersonal, Reigershoeve demonstrates the potential of smaller, community-oriented care settings to transform the lives of individuals with dementia. By combining thoughtful design, personalized care, and an emphasis on community and nature, Reigershoeve offers not just a place to live but a place to thrive. My experience there has provided me with a deeper understanding of what compassionate dementia care can look like and how these principles can inspire future care facility designs.







# TARWEWIJK, ROTTERDAM





# INTERVIEWS IN TARWEWIJK

*Informal conversation with a person with a Moroccan background at the house of hope in the Tarwewijk.*

- In Moroccan culture, **caring for one's parents is a deeply ingrained tradition.** Elderly family members are not placed in nursing homes but are instead **cared for at home until the end of their lives.** Grandparents often hold a central, authoritative role within the household.

- The person's mother still resides in Morocco, **living in her own home with one other sons and his children.** This arrangement allows the children to live and study within the family household. Other siblings have relocated to major cities for work but frequently visit their mother.

- The person also described her aunt, who has dementia and was moved into the home of her daughters. Despite living with her children, the aunt repeatedly expressed a desire to return to her own home, highlighting the profound importance of a **familiar environment** for individuals with dementia.

- Since 1990, the person has lived in Rotterdam South, moving several times within the area. **She is determined to remain in the Tarwewijk** permanently. She currently resides in an independent home with her husband and one son, while her two other sons have moved to different parts of Rotterdam.

- Following a recent knee operation, the person now uses a walker and receives additional home care services. These include assistance with dressing, bathing, and putting on compression stockings.

- Interactions within the Tarwewijk are generally amicable but remain superficial, limited mostly to greetings. **To foster a greater sense of connection, the individual frequently visits the "House of Hope," a local community center where neighborhood residents gather.** She values social interactions and enjoys the short walk from her home to the center. She appreciates **having the choice** to engage in neighborhood activities when desired, while also being able to **maintain her independence.**

- The person owns a mobility scooter but struggles with accessibility at her home. The step at her front entrance makes it impossible to bring the scooter inside, leaving her no choice but to store it at a friend's nearby residence. Although she manages with her walker, the lack of adequate access to her scooter remains a significant obstacle.

*Informal conversation with a person with Surinamese background at the house of hope in the Tarwewijk.*

- Many people with multicultural backgrounds often **prefer to care for their own parents** rather than placing them in care homes.
- However, societal changes mean that this is **not always possible**. Due to personal commitments such as work and other responsibilities, some people can no longer provide full-time care for their parents. In such cases, elderly parents may need to move to care facilities.
- Many elderly **residents in Tarwewijk live alone and are heavily reliant on their neighbors** for everyday needs, such as grocery shopping.
- "My boyfriend's mother has an Asian background, she is beginning to show early signs of dementia. My boyfriend **visits her almost every day** to spend time with her and help with her grocery shopping. Fortunately, **we live close by**, which allows us to provide this support."
- In Suriname, elderly care is very different. While care homes exist there as well, the **warmer climate greatly influences lifestyles**. Unlike in the Netherlands, where elderly people often remain indoors, in Suriname, **life happens outdoors**. Elderly individuals are frequently outside, enjoying an active and social lifestyle.

*Informal conversation with a person with a Cape Verdean background at the house of hope in the Tarwewijk.*

- "In Cape Verdean culture, we take care of our elderly."
- "I offered to spend a weekend with my grandmother, but she did not accept it."
- "I do the **grocery shopping** for her."
- "**Safety** isn't always great in the Tarwewijk, especially because of the youth hanging around on the streets sometimes."
- **Outdoor spaces** in this neighborhood **need improvement** because they currently look neglected.
- "Initiatives like House of Hope should also be more focused on supporting the elderly."
- "Within the **Turkish community**, it is very common to care for one's parent."



*Conversation with a person with an Antillean background and a person with a Turkish background at the Millinparkhuis:*

- **In the Turkish community, it is customary for children to care for their parents, often inviting them to live in their homes.** Sending elderly parents to a nursing home is not part of the cultural norm. One Turkish individual described temporarily relocating from the Netherlands to Turkey to care for their parents.

- Similar practices are observed within the Antillean and Surinamese communities, where **families take responsibility for their elderly** members. These communities are known for their care and attentiveness, and placing parents in nursing homes is rare.

- The Antillean person currently lives alone, as her children reside in another city. **She relies heavily on the support of her Turkish neighbors,** who are extremely helpful. She deeply values their assistance, emphasizing her belief in divine care: acts of kindness are ultimately rewarded. The connection with her neighbors especially meaningful given her physical distance from her children. She believes in mutual support, which is further reinforced by community centers and organized activities that foster social bonds.

- The Antillean person is also a caregiver for a friend with dementia who lives alone in the Tarwewijk. This caregiving role is physically and emotionally demanding, as it involves household chores like cleaning and preparing coffee, especially since the caregiver is elderly herself. The friend's situation underscores a broader issue in the Tarwewijk: **many elderly resi-**

**dents live independently and alone, with little or no external support.** In some tragic cases, elderly individuals pass away unnoticed, only discovered days later due to the smell.

- Reacting on the past, both persons recall that 40 years ago, many elderly people lived alone on the ground floor, often isolated, with only occasional visits from their children. They both express a strong desire for **more shared housing arrangements,** such as 50+ housing complexes, **where seniors can live closer to one another and provide mutual support.**

- The Turkish community is particularly social, often sharing meals with neighbors regardless of familiarity. Both individuals feel this sense of community is currently lacking in the Tarwewijk.

- While multicultural diversity is a strength, it can also create challenges such as language barriers, which sometimes hinder interpersonal connections between different cultural groups.

*Conversation with an Organizer of the Mil-  
linxparkhuis*

- The Polish community in the Tarwewijk primarily consists of labor migrants. Recently, however, older family members of this group have also begun settling in the neighborhood. A strong sense of solidarity characterizes this community.

- In non-Western cultures, individuals are often reluctant to identify themselves explicitly as caregivers. **Providing care is perceived as a moral obligation rather than a task that warrants recognition or compensation.** This perspective is particularly common among women, who frequently assume the responsibility of caring for their mothers. Consequently, they are less likely to utilize support services provided by the municipality.

- **Interaction between different cultural groups in the Tarwewijk is challenging.** Language barriers and social divides often hinder connections, leading people to remain within their cultural circles during community activities.

- While there are spaces in the Tarwewijk where residents can gather, their accessibility and utilization remain limited. Municipal initiatives focus heavily on youth, leaving adult residents with fewer resources and opportunities. Language schools, however, are well-attended.

- Engaging and mobilizing residents in the Tarwewijk presents a significant challenge. Traditional communication methods, such as community newspapers or social media, are ineffective since approximately one-third of residents need to be more functionally literate.

- The Tarwewijk is often perceived as a 'closed' neighborhood. **The area lacks green spaces and opportunities for social interaction, discouraging neighborly engagement.** Additionally, there are few inviting spaces for residents to connect at the community level.

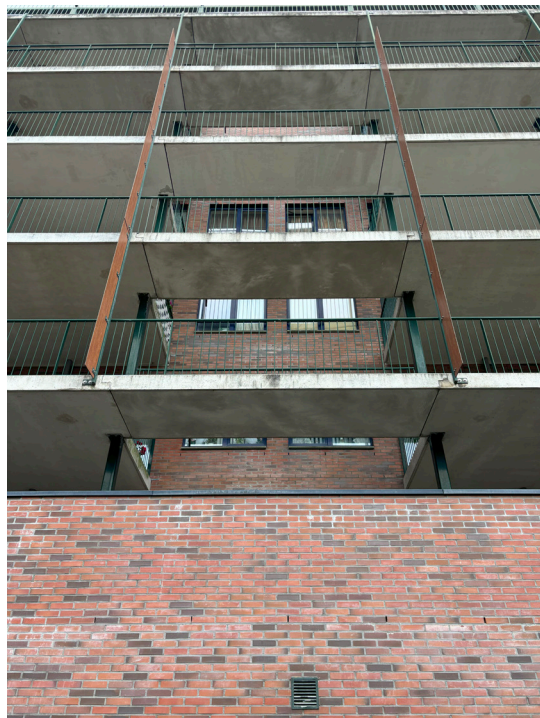
# PHOTOGRAPHS











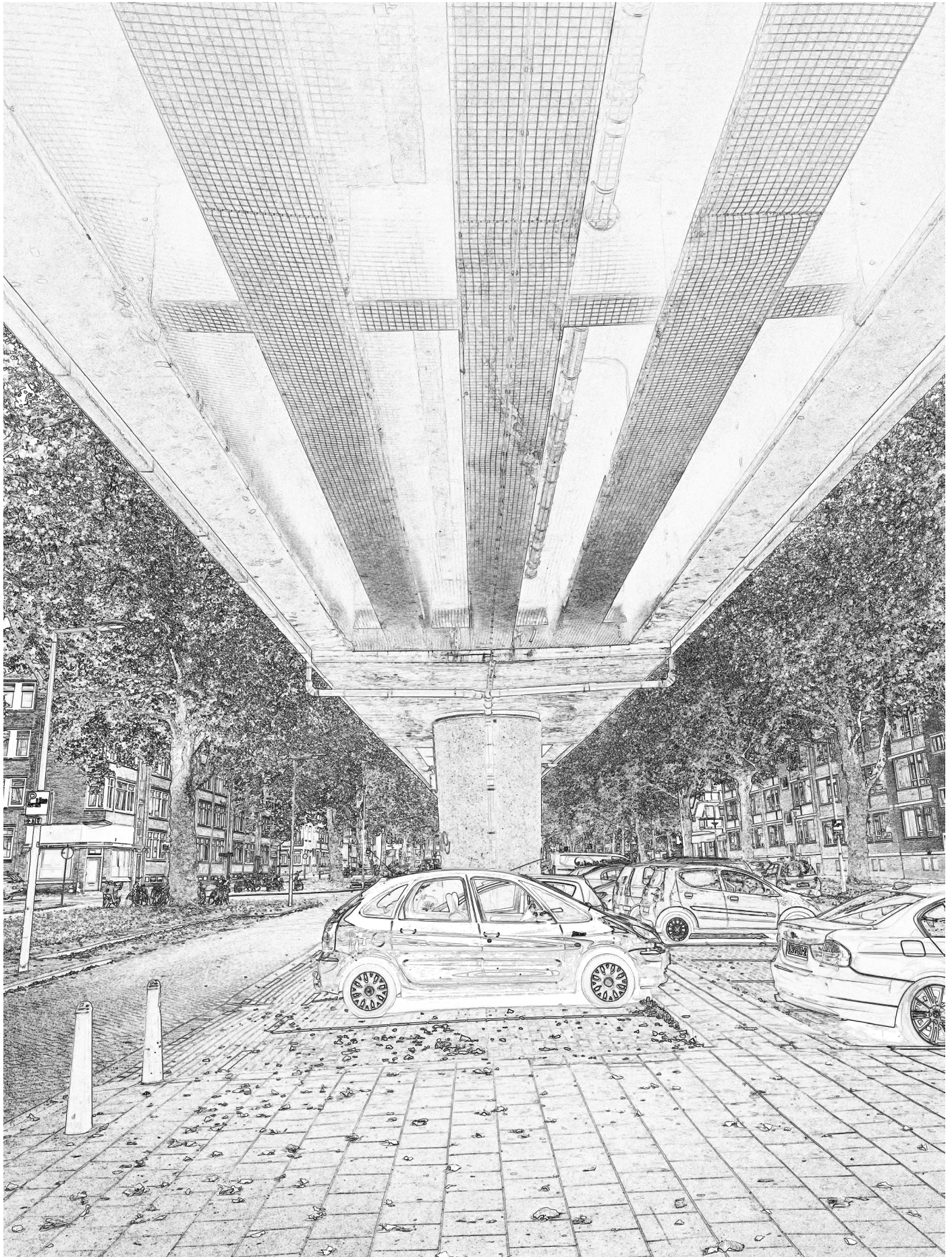




# DESIGN GUIDELINES

- Culturally Sensitive Housing Design
- Accessibility and Mobility
- Social Engagement and Community Building
- Cultural Sensitivity in Design
- Safety and Security
- Engaging the Broader Community
- Sustainability and Environmental Considerations
- Support for Informal Caregiving
- Neighborhood Connectivity







# END OF FIELDWORK

Over the past 2.5 years, I have worked at Bernardus, a large care facility for elderly somatic patients and patients with dementia. Although my role was in the restaurant where somatic residents dined, this experience provided me with a profound understanding of the daily challenges and opportunities faced by residents. Observing the physical, social, and emotional dynamics that shape their lives, I also recognized how design choices influence well-being. These insights formed a strong foundation for this fieldwork project.

At Reigershoeve, I witnessed how a smaller-scale, more personalized approach could enhance the daily lives of residents, particularly those with dementia. This contrast underscored the importance of tailoring environments to the specific needs of individuals while promoting independence and community.

In addition to my work at care facilities, I conducted interviews in Tarwewijk, engaging with residents and community members to gain a broader perspective on how local environments shape daily life. These interviews provided valuable insights into the practical needs of individuals and their views on accessible and community-oriented spaces. It was clear that fostering connection and supporting people's independence were key themes in both the care facility setting and the community spaces of Tarwewijk.

This fieldwork experience has reinforced the significance of thoughtful design in elderly care. By addressing accessibility, social connection, and personalized spaces, we can create environments that foster dignity, comfort, and joy. I hope this booklet serves as a meaningful reflection on these challenges and inspires solutions that contribute to better living conditions for those in care facilities and beyond.