

A NEW KIND OF NEIGHBOR

building a multigenerational housing community to improve social cohesion

Colophon

Delft University of Technology
Master Architecture, Urbanism and Building Sciences
Dwelling Graduation Studio_AR3AD110
Designing for Health and Care in an Inclusive Environment

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2024-2025

Abstract

The concept of community living is transforming as rising urban individualism weakens social bonds and reduces mutual support. In Rotterdam, where nearly half of the households are single occupants, fostering meaningful social connections requires intentional effort. This growing fragmentation intensifies social isolation and undermines community well-being. To address these challenges, this study explores how multigenerational housing communities, through thoughtful architectural and spatial design, can foster environments where relationships across age groups thrive and mutual support flourishes. The research highlights practical ways to strengthen social cohesion by combining diverse perspectives and providing explicit examples.

Focusing on Tarwewijk, a demographically diverse neighborhood in Rotterdam, this study investigates how architectural design and built environments can promote social interaction and reduce isolation. It addresses the question: “Can a multigenerational housing community concept promote social cohesion, in for example the Tarwewijk?” Employing an integrative approach, the research combines literature review, site analysis, mapping, quantitative research, and case studies to identify architectural features and spatial strategies that encourage connection among residents and generations.

The findings of the study emphasize the value of shared spaces and inclusive design in facilitating casual and meaningful interactions. Communal gardens, shared indoor areas, and adaptable access systems emerge as key elements for fostering intergenerational bonds. Equally important is balancing private and communal spaces to accommodate diverse needs while supporting autonomy and engagement.

Multigenerational housing communities hold significant potential to enhance social cohesion in neighborhoods like Tarwewijk. By leveraging the area’s demographic diversity and addressing gaps in social infrastructure, these communities can foster stronger intergenerational relationships and create a more connected, resilient urban environment. Beyond Tarwewijk, the insights from this research can inform urban policies, guide architects and planners in designing inclusive housing, and shape future developments that prioritize social well-being and community building.

This study offers actionable strategies for creating adaptable, inclusive environments that promote meaningful social interactions and a sense of community.

Keywords

multigenerational housing, social cohesion, architectural design, community building

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Chapter 1

Introduction

The concept of community living is transforming. With urban individualism on the rise, social bonds are weakening, leading to isolation and a lack of mutual support. Multigenerational housing communities offer a potential solution, providing environments where meaningful relationships can flourish across age groups. This chapter outlines the problem, research goals, theoretical foundation, and methodology of this study, which explores how architectural design can promote social cohesion and reduce social isolation.

1.1 Problem Statement

The growing population and the widespread desire for a comfortable life often promote individualism and reduce social cohesion, as people prioritize personal interests over community well-being. In Rotterdam, where 49.3% of households consist of just one person, meaningful social interaction often requires a deliberate effort (Gemeente Rotterdam, n.d.).

Yet, as individualism grows, forming connections becomes increasingly difficult. This weakens social bonds and trust, reducing mutual support and leading to greater isolation, inequality, and division—creating a cycle of fragmentation that undermines collective progress. Caring for others has always been close to my heart. The idea that a small gesture can have a big impact on someone else brings a sense of joy that everyone should experience.

Loneliness is often associated only with the elderly, but it affects all of society. Being alone while needing a bit of help can lead to hiring a professional, even though a neighbor could easily assist. What could be a small gesture then becomes a 'big operation'. One example of addressing this is done by the organization Knarrenhof, which creates multigenerational housing communities, known as 'Meergeneratiehofjes'. While primarily for people aged 45 and older, Knarrenhof also reserves space for up to two younger residents. These younger adults, along with older seniors and the elderly, live together in vibrant communities where neighbors provide support when needed—fostering attention and connection rather than formal care (Knarrenhof, 2024).

According to an NPO Radio 1 interview, there is (already) a waitlist for this type of housing with 37.000 people, resulting in a wait of three to four years (NPO Radio 1, 2023). This waitlist highlights the growing need for a little more attention to one another while maintaining independence.

1.2 Research Subject

The research focuses on the role of multigenerational housing communities and their architectural design in promoting social cohesion and reducing isolation. It aims to investigate how housing models, through thoughtful architectural features and shared spaces, can bring different generations together to address the growing issue of social isolation and individualism. These communities, like Knarrenhof's 'Meergeneratiehofjes', offer a living environment where seniors, adults, young adults, and families coexist and actively interact, supported by architectural elements that encourage this connection.

The research explores how architectural design and community structure strengthen social bonds by fostering daily interactions, encouraging informal neighborly support, and reducing the need for professional services often required in traditional, more isolated housing settings. By focusing on the relational dynamics shaped by these environments, the study highlights how the design facilitates mutual assistance, emotional support, and a sense of belonging among residents of different ages. Additionally, the research assesses how these communities balance the need for independence with the benefits of social interdependence.

Ultimately, the research aims to evaluate the potential of a multigenerational housing concept, enhanced by thoughtful architecture, as a solution to address wider societal challenges like social fragmentation, professionalized care dependency, and intergenerational disconnect.

1.3 Theoretical Framework

Emphasizing the importance of inclusive public spaces for fostering healthy communities highlights the critical role that well-designed, accessible environments play in enhancing physical, social, and mental well-being. Inclusive design focuses on creating environments that accommodate individuals of all ages, abilities, and socioeconomic backgrounds. Public spaces—such as parks, plazas, sidewalks, and community centers—serve as vital places where people from diverse backgrounds and ages can interact, exercise, relax, and participate in civic activities. When designed inclusively, these spaces promote universal access and foster healthier, more connected communities (Gardner et al., 2018).

Building on this concept, the Inclusive Healthy Places Framework by Gardner et al. (2018) part of the Gehl Institute—focused on building a global policy movement supporting the goal of people-first cities—offers a structured approach for evaluating and creating public spaces that promote health equity. Synthesizing research from public health, urban planning, and design, the framework addresses social determinants of health through the lens of public spaces. However, this framework's principles should extend beyond traditional public spaces alone. By applying these concepts to direct living environments public spaces become integrated into the fabric of daily life, transforming shared living environments into places of interaction and support.

Co-housing and multigenerational housing models are prime examples of how inclusive design principles can be seamlessly integrated into daily life. In *Together Towards Collaborative Living*, Czischke et al. (2023)—comprising an urban housing specialist, anthropologists, and an architect—advocate for shared spaces and collective decision-making as essential for fostering a sense of belonging and ownership.

Rui (2015)—an urban and environmental sociology lecturer at Northumbria University—expands on this by exploring how co-housing generates social capital, promoting collaboration, strong social ties, and the integration of residents into the broader community.

Expanding on this approach, *Intergenerational Housing: The Case of Humanitas Netherlands* by Arentshorst et al. (2019)—which includes a researcher specializing in age-friendly homes and neighborhoods, a policy maker and project leader in the care system, and a professor focused on population aging—emphasizes the significance of intergenerational housing as a solution to the challenges posed by aging populations. The study illustrates how nurturing relationships between elderly individuals and younger generations help reduce social isolation, thereby enhancing the quality of life for everyone involved. It fosters mutual support and a sense of community while providing sustainable, equitable solutions to demographic challenges, making it a promising approach for future housing policies.

Together, these sources and different perspectives create a comprehensive framework illustrating how inclusive design and collaborative living can transform public and private spaces into vibrant, supportive communities. They collectively emphasize the importance of creating environments that enhance residents' well-being and social cohesion while addressing key societal challenges.

This research hypothesizes that multigenerational housing communities can enhance social cohesion by integrating diverse age groups into shared living environments, fostering daily interactions and mutual support, and ultimately balancing independence with social interdependence.

1.4 Research Question

To effectively explore the complex role of multigenerational housing communities in fostering social cohesion, the following research question is proposed:

“Can a multigenerational housing community concept promote social cohesion, in for example the Tarwewijk?”

1.5 Sub-Questions

A set of research sub-questions has been developed to delve deeper into the necessary background information, ultimately aiming to identify suitable solutions for the identified challenges. The sub-questions are as follows:

1. What architectural features and shared spaces encourage social interaction between different generations in multigenerational housing?
2. How can a housing community balance privacy with communal spaces, and how does this affect residents' well-being?
3. What housing types and amenities can meet the diverse social needs of multigenerational residents while fostering understanding between generations?
4. What design insights from projects focused on community building can be used to improve social cohesion in future housing developments?

1.6 Theoretical Definitions

Key terms from the research question are defined or clarified to facilitate more focused research (figure 1).

Multigenerational housing

As defined by AARP (2023)—an organization advocating for the priorities of older Americans—multigenerational housing refers to living arrangements where people from different generations, whether related or not, live together. This can be within the same household, in a shared residential building, or within the same neighborhood. Ideally, multigenerational housing fosters opportunities for meaningful interaction and engagement across age groups, promoting social connections and support beyond physical proximity only.

Community

Based on the (sub)definitions from the Merriam-Webster Dictionary (2024), the term community is defined as a unified body of individuals who share common interests, characteristics, or goals. This can encompass people living in a specific area, a group bound by shared values or activities within a larger society, or individuals connected by a common social, economic, or political interest.

Concept

According to Sen (2023), a concept is a thought, idea, or notion that forms the foundation of a design project and acts as the driving force that propels it forward. It embodies the power and identity of the architectural project's development and is regularly referenced and consulted at every stage of the design process. It can be described as an idea, thought, abstraction, philosophy, belief, inspiration, intention, theory, or hypothesis, forming the essential core that shapes and guides the creative and functional direction of a project.

Social cohesion

As described in the Encyclopedia of Quality of Life and Well-Being Research, social cohesion refers to the level of connectedness and solidarity among groups in society. It encompasses a sense of belonging within a community and strong relationships among its members. This process seeks to unite diverse individuals by reducing inequality and socioeconomic disparities. It addresses the people's needs for personal development and belonging, linking individual freedom with social justice while promoting fair resource sharing and common rules for conflict resolution (Manca, 2014).

Social isolation

Social isolation is defined as the lack of social interactions, connections, and relationships with family, friends, neighbors, and the broader community or society. It encompasses both individual-level disconnection and a broader sense of detachment from societal engagement (Berg & Cassells, 1992).

Intergenerational vs multigenerational

Villar (2007) explores the distinction between the terms and clarifies this distinction.

He explains that the term intergenerational refers to the involvement of members from two or more generations in activities that foster awareness of different perspectives. It emphasizes increasing interaction and cooperation to achieve common goals, highlighting mutual influence and the potential for positive change.

In contrast, multigenerational is used in a broader context, referring to shared activities or characteristics among generations without necessarily implying interaction or influence. In academic research, a study can be classified as multigenerational if participants come from different generations. However, it is considered intergenerational only if it focuses on the mutual influence among these generations and how such interactions can alter beliefs, attitudes, behaviors, and material circumstances.

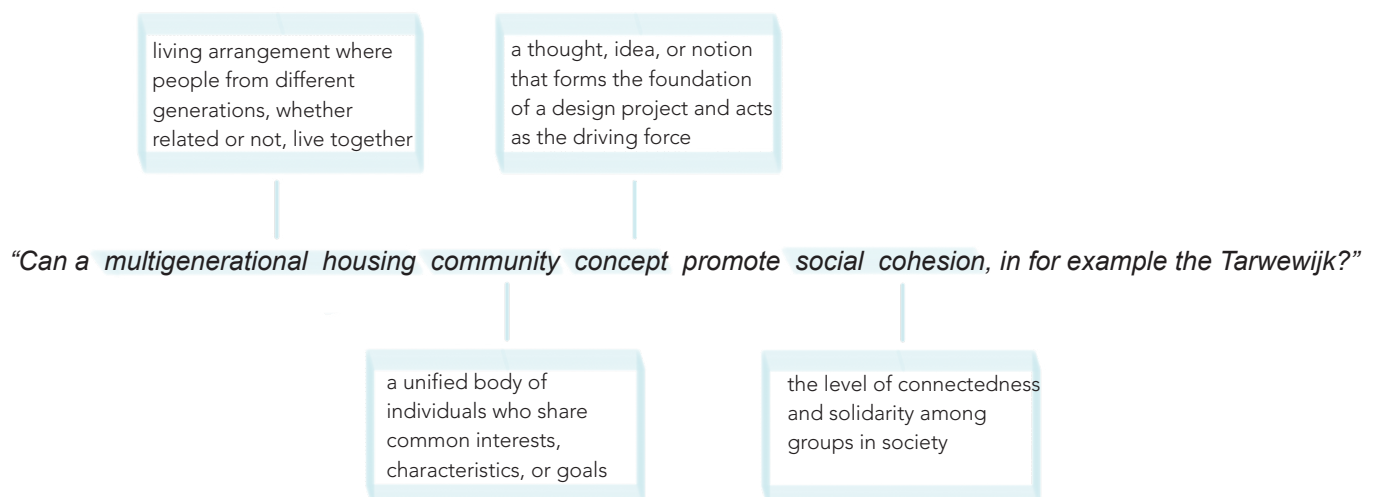


Figure 1. Research question with definition (by author)

1.7 Scope

The research will focus on how key architectural elements in multigenerational housing communities can foster social cohesion. It will explore design features, housing, and shared spaces that encourage interaction between generations. The study will also examine how these communities can balance individual privacy with communal spaces, assessing the impact on residents' well-being and autonomy. Additionally, it will analyze how housing and amenities address the physical, social, and emotional needs of multigenerational residents while promoting intergenerational understanding.

The study will focus on case studies of projects that focus on community building and integrate independent housing units with communal spaces to encourage social interaction across age groups and balance independence and social support.

Excluded from the research are non-architectural factors, such as cultural or economic influences, unless they directly relate to the built environment. The study will not focus on individual behavioral studies, elderly care facilities, or projects without communal spaces. Long-term impacts of multigenerational living will be reviewed through existing literature, but no longitudinal studies will be conducted.

1.8 Methodology

To address the research question and sub-questions, a comprehensive research methodology is defined. It integrates literature research, site analysis and mapping, quantitative research, and case studies. This approach aims to identify suitable solutions for the challenges of multigenerational housing.

Literature Research

Analyze existing studies to identify architectural features and shared spaces that foster intergenerational interaction, as well as explore theories on balancing privacy with communal areas and their impact on residents' well-being. It will provide insights into housing and amenities that meet the diverse social needs of multigenerational residents and promote intergenerational understanding.

Site Analysis and Mapping

Site analysis and mapping of the Tarwewijk will provide valuable insights into the neighborhood's current demographics, social cohesion, and available amenities. This localized focus will help to identify existing opportunities and challenges within the area.

Beyond the Tarwewijk, the mapping will take a more general approach, examining physical layouts and key architectural features of existing projects to identify potential locations for interaction. The balance between privacy and shared spaces can be understood by evaluating the spatial arrangement and distances between private and communal areas. Additionally, an assessment of housing composition and amenities will explore how these elements cater to the diverse needs of various age groups and household sizes. Finally, floor plan analysis will investigate the relationship between 'public' and 'private' spaces within homes, offering broader insights into how architectural design fosters social cohesion while maintaining individual privacy.

1.9 Research Output

Quantitative Research

Through interviews, fieldwork, and observations, the study will explore the impact of architectural features and shared spaces on intergenerational interaction. Feedback from residents will assess how the balance between privacy and communal areas influences their well-being. It will also help identify how housing and amenities best meet the needs of multigenerational residents while promoting intergenerational understanding. Additionally, visiting these residents and observing their daily lives will provide valuable insights from real-life examples.

The fieldwork findings are compiled in a separate Fieldwork Booklet.

Case Studies

Analyze real-world projects, focusing on practical examples of how architectural features and shared spaces encourage interaction. Determine the balance between privacy and communal spaces and their impact on well-being, and reveal how housing and amenities successfully meet residents' diverse needs while fostering intergenerational connections. The cases will offer concrete lessons to inform future design strategies for enhancing social cohesion in a multigenerational housing community.

The output of the research will be design guidelines for shaping a multigenerational housing community concept in Tarwewijk, Rotterdam. These guidelines will address various spatial scales—neighborhood, building design, and individual homes—and are connected to four themes: social connectivity, tarwewijk context, livability, and privacy.

Neighborhood scale

The guidelines will emphasize shared public spaces that encourage daily interactions between residents of all ages. These spaces will focus on creating meaningful connections between the diverse inhabitants of Tarwewijk, ensuring the community remains accessible and welcoming to all generations.

Building scale

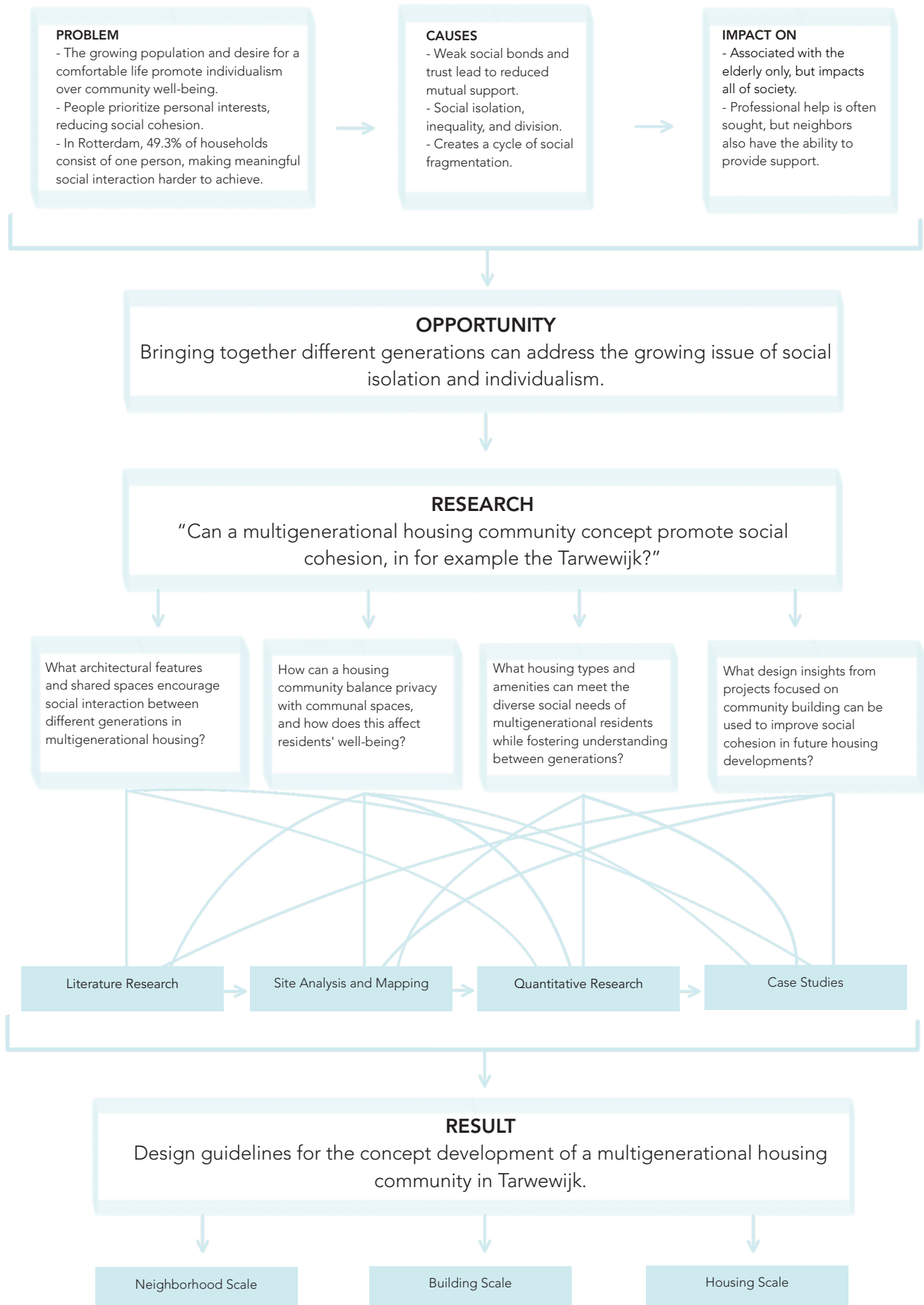
The design will promote interconnectedness while maintaining a balance between community and privacy. This will include communal spaces that encourage informal social encounters, while offering diverse housing units tailored to accommodate varying family sizes and generational needs, ensuring inclusivity for all life stages.

Housing scale

Homes will be designed to meet the needs of families of different sizes and ages. The layout will encourage interaction but also provide spaces for solitude and reflection, recognizing the importance of balancing social engagement with personal privacy for overall well-being.

The guidelines are rooted in the belief that architecture plays a key role in promoting or inhibiting social cohesion. They offer a structured approach to creating environments that nurture belonging and support. Prioritizing flexibility, accessibility, and inclusivity, the guidelines provide a comprehensive approach to multigenerational living, addressing the complexities of building strong, interdependent communities while maintaining individual autonomy.

1.10 Research Diagram



Chapter 2

Building Connections

Human connection is rooted in belonging, a fundamental need that drives meaningful relationships and emotional well-being. This sense of belonging is nurtured within communities where active participation and shared values create a collective sense of ownership and mutual responsibility. As communities grow stronger through collaboration, the importance of intergenerational connections becomes evident. These relationships foster understanding, sharing of wisdom, and empathy across age groups. Bridging generational gaps not only strengthens individual bonds but also supports the resilience and unity of the community as a whole.

2.1 Belonging: The Foundation of Human Connection

Belonging is a fundamental human need rooted in the drive to form and maintain meaningful relationships. According to Baumeister and Leary (1995), this sense of belonging involves two key criteria: frequent, positive interactions with a few individuals and a stable relational context marked by mutual care and concern. These interactions are most fulfilling when they occur with consistent and familiar individuals, rather than a changing set of new acquaintances. A lack of belongingness can lead to severe deprivation, negatively affecting mental and emotional well-being (Allen, 2019).

Belonging extends beyond mere social contact; it is deeply tied to the quality, meaning, and satisfaction derived from connections. Allen (2019) emphasizes that a sense of belonging is not solely dependent on proximity or participation in groups but arises from the perception of meaningful and satisfying relationships. It may also relate to a connection to places or events, making it a dynamic and personal experience unique to each individual.

Long-term, stable connections provide a sense of security and satisfaction that cannot be replicated in interactions with strangers or casual acquaintances. These enduring bonds create a relational context that stimulates interactions with a deeper, subjective significance, fostering a belief that one is cared for and valued (Baumeister & Leary, 1995).

Belonging also plays a critical role in social development, particularly for adolescents learning social norms and boundaries. Poor social and emotional skills, such as difficulty regulating emotions, can hinder one's ability to form meaningful relationships, impacting one's sense of belonging. Allen (2019) suggests that fostering a culture of social inclusion—rooted in acceptance, empathy, and inclusion—can help establish belonging as a societal norm. Promoting these values can create environments where individuals feel connected, valued, and understood, supporting their emotional and social well-being.

2.2 Community: Shared Values and Collaboration

The concept of community is often regarded as a valued achievement, representing shared values, participation in a collective way of life, group identification, and mutual recognition (Mason, 2000). Central to the idea of community is the principle that environments work best when the people who live, work, and play in them are actively involved rather than being treated as passive consumers. This notion is based on the movement, by Wates and Knevitt (2013), known as “community architecture”, which encompasses various practices such as community planning, design, development, and technical aid.

Community architecture emerged in response to the recognition that poor management of the built environment significantly contributes to social and economic challenges. It advocates for participatory planning and design as a means to address these issues, emphasizing that environments—from homes and workplaces to parks, social facilities, neighborhoods, and cities—are more

effective and meaningful when shaped collaboratively by their users. Collaborative efforts to shape neighborhoods strengthen the ability of individuals to work together, promoting mutual understanding and collective action. This involvement not only enhances the functionality of environments but also fosters a sense of pride and ownership among community members, leading to better care and responsiveness to shared aspirations and needs (Wates & Knevitt, 2013).

In essence, a community is both a social and physical construct, intricately tied to the principles of collaboration, adaptability, and shared responsibility. These principles form the foundation for creating environments that are not only functional but also inclusive and resilient (figure 2).

Together, these elements are crucial for cultivating thriving, sustainable environments where people feel connected, empowered, and supported in their daily lives.



Figure 2. Community principles (by author)

2.3 Generations: Crossing Boundaries, Creating Bonds

Life unfolds as a cycle of distinct stages, each contributing uniquely to an individual's development. Each phase holds meaning not only for the person experiencing it but also for others within their social sphere, highlighting the interconnectedness of social interactions and relationships. Erik Erikson's "Stages of Development" is one of the most influential frameworks for understanding this process. It emphasizes the profound impact each stage has on personal and social growth, illustrating how generational experiences are interwoven and the importance of fostering connections across age groups (Alexander et al., 1977; Cherry, 2024).

According to Alexander et al. (1977), individuals at every stage of life both contribute to and benefit from their community. However, such interactions across generations have become increasingly rare, as generations become more isolated from one another. Knight et al. (2014) point out that the opportunity for older generations to share their wisdom can promote a sense of integrity and well-being. In turn, younger generations benefit from this wisdom to navigate personal challenges, which fosters personal meaning and purpose. Thus, the psychosocial benefits of intergenerational interactions are significant, including improved attitudes, reduced stereotypical thinking, broader self-perspectives, greater social connectedness, decreased depression, and renewed hope for the future.

The practice of intergenerational engagement is seen as a powerful tool to enhance the quality of life for individuals and communities. The exchanges bring renewed enthusiasm and vitality to all community members, strengthening intergenerational ties. They create an environment where the past, present, and future come together through conversations and storytelling, giving these narratives new meaning. This process not only deepens mutual understanding but also strengthens the broader community, fostering connections across generations through the sharing of experiences and wisdom (MacCallum et al., 2010).

A practical example of this approach is the Communities for All Ages (CFAA) model. This framework promotes environments intentionally designed for both growing up and growing older, with a focus on values such as interdependence, reciprocity, and collective responsibility. It creates spaces where people of all ages can actively participate in civic and community life.

By using collaborative intergenerational strategies, CFAA aims to improve outcomes for all residents, particularly vulnerable children, families, and elders, through inclusive and participatory practices. In doing so it connects diverse organizations and residents of all ages to address shared goals and foster meaningful connections. Older adults, for instance, have engaged as mentors, tutors, organizers, and advocates, finding renewed purpose and reduced feelings of isolation—benefits that contribute to healthy aging. Intergenerational activities, such as art projects, oral histories, exercise programs, and community gardening, build trust and encourage interactions. These initiatives create opportunities for individuals to share joys and support one another through major life challenges, forging strong, lasting bonds. Additionally, the profound impact of these initiatives showed that participants aged 14 to 80 reported increased engagement in community events, collaborative problem-solving efforts, and strengthened relationships with people from different backgrounds (Brown & Henkin, 2014).

This model emphasizes how intergenerational interaction between children, families, and elders fosters a sense of shared responsibility and mutual investment in community well-being. Furthermore, by creating spaces for intergenerational collaboration and connection, communities can bridge differences, nurture understanding, and build resilience across the lifespan.

Chapter 3

Architecture and Shared Spaces

Architecture plays a key role in shaping social interaction and fostering community cohesion. Thoughtful design of building layouts, entrances, and communal areas can facilitate connections among residents and encourage engagement. By incorporating elements such as inviting front yards, strategically placed benches, and adaptable spaces, the built environment can support interaction across generations and strengthen neighborhood bonds. Accessible and well-designed shared spaces are essential for creating a sense of belonging and nurturing a vibrant, connected community.

3.1 Architecture: Designing for Interaction

Social interaction begins when people see and recognize each other, fostering a sense of familiarity and connection. In particular, the design and height of buildings can significantly influence the ease of these interactions. Above the fifth floor, it becomes harder to recognize individuals, which diminishes the connection to life at ground level and the broader cityscape (Gehl, 2011; Mantingh et al., 2021). This principle is illustrated in figure 3.

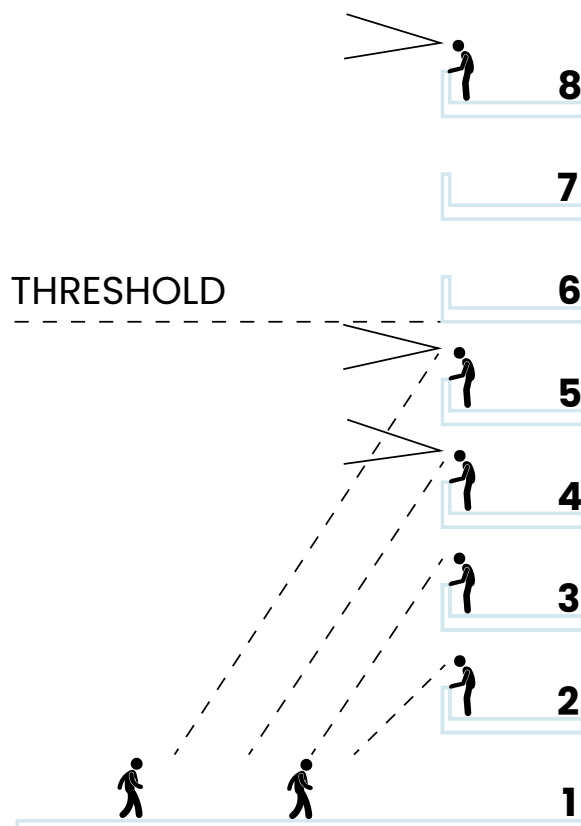


Figure 3. Influence of building heights on interaction
Gehl (2011) (by author)

Orienting entrances, balconies, verandas, front yards, and gardens toward access streets enables residents to observe and engage with life in public spaces. This encourages frequent encounters as part of daily activities (Gehl, 2011). Furthermore, Hertzberger (1991) highlights that a building's gallery is more likely to be utilized when there is a clear visual connection to it. These architectural elements highlight that prioritizing visual connectivity can actively promote social interaction.

Sim (2019) emphasizes that incorporating identifiable, non-monotonous facades in architectural design fosters place attachment, which serves as an extension of place identity. This sense of attachment provides individuals with a reason to occupy a space, creating opportunities for social interaction. Additionally, features such as niches in facades, recessed entrances, porches, verandas, and plantings in front yards enhance the quality of stationary activities. These elements offer the dual advantage of partial concealment in shaded areas while maintaining a clear view of the surrounding space, encouraging comfort and engagement (Gehl, 2011).

Building on the role of façades in fostering place attachment and interaction, the design of front door areas plays a crucial role. These spaces amplify opportunities for social engagement by serving as welcoming, transitional zones that connect private residences to the public realm. Front yards serve as semi-private, transitional spaces where people naturally interact with one another (Roe & McCay, 2021).

According to Gehl (2011), a front yard depth of 3.25 meters is ideal for encouraging casual conversations and fostering connections with neighbors and passersby. Instead of dedicating the entire front yard to such interactions, benches strategically placed near the entrance door can be just as effective. A bench sheltered from rain and wind, with a clear view of the street, offers a modest but highly effective way to promote social interaction. The entrance door itself is frequently used throughout the day, year-round, and if an inviting and convenient place to sit is available, it is likely to be used often.

Thoughtfully designed front door areas, with seating areas and even small gardens, motivate residents to spend more time outdoors, engaging in activities like gardening that keep them visible and connected to the community.

Moreover, Gehl (2011) also emphasizes that these smaller, localized spaces are more frequently used and versatile than larger, more distant recreational areas, making them more effective at encouraging social interactions. However, larger outdoor spaces directly connected to residences create a sense of responsibility, as they feel like extensions of the home. When access roads and open areas are clearly linked to individual or shared outdoor spaces, they enhance this sense of ownership and encourage residents to take pride in their surroundings.

While front yards and their thoughtful design foster outdoor engagement and community connections, the interior arrangement of spaces plays a similarly critical role in shaping perceptions of openness, comfort, and functionality. This transition from outdoor to indoor space emphasizes how both outside and inside design elements contribute to creating inclusive and supportive environments for residents of all ages.

Effective lighting design, both natural (from windows) and artificial (electric lighting), and thoughtful use of color and texture influence the sense of spaciousness and the perception of crowding in a space. Furthermore, furniture arrangements play a crucial role in regulating the availability of space within a room, helping to create an impression of openness or enclosure. How space is appropriated contributes to a person's sense of identity, reducing feelings of alienation and crowding. However, arranging furniture against the walls to create a more open and inviting atmosphere can have a downside: it may remove impromptu grab bars. Many elderly individuals rely on the backs of chairs and couches for support as they move across a living space, and while these improvised supports are effective, they don't carry the stigma of purpose-designed handrails (Parker, 2000).

The significance of furniture arrangements was evident during the fieldwork at 't Kampje by Vermeer and Verlaan (2024). In the chapter "Dwellings" (starting on page 53), various homes are analyzed, illustrating how residents used furniture to create a sense of openness or enclosure. In these single-room homes, residents often used couches, bookshelves, and closets to visually separate the living (public) and sleeping (private) areas. Figure 4 provides an example of a resident's apartment, showing how furniture was arranged not only to define spaces but also to offer support for mobility within the home.

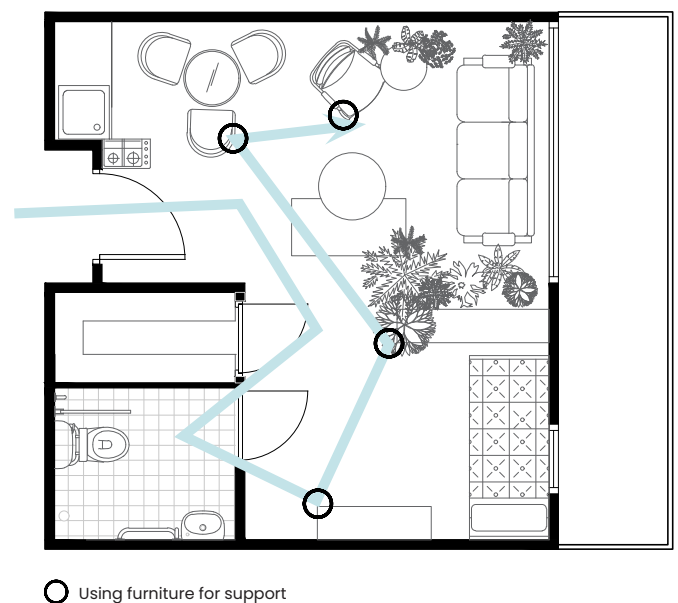


Figure 4. Resident's apartment in 't Kampje (Vermeer & Verlaan, 2024)

3.2 Shared Spaces: Flexibility and Engagement

Altman (1975) critiques the design mentality that spaces can only have one function based on the level of interaction. This mentality implies that people must go to different places to meet specific social needs. Instead, he argues that spaces should be adaptable, capable of serving multiple functions and transforming with the social dynamics of individuals and communities. This flexibility allows spaces to meet various social needs, providing opportunities for both individual reflection and social engagement, thus strengthening the sense of community and encouraging interaction across generations.

Gehl (2011) highlights the concept of “inviting by seeing”, where visibility of activities in public spaces encourages social interaction. When people can observe activities around them, it naturally invites engagement and fosters connections. This concept is particularly important for intergenerational spaces. Gehl further emphasizes that activities for adults and the elderly positively influence children, suggesting that when older generations are active and visible in shared spaces, they contribute to the development of safe, secure environments that foster connections across generations.

Additionally, his principle of “eyes on the street”, where a lively street filled with people promotes mutual protection, can also apply to shared spaces. Active participation and visibility in these spaces create informal surveillance, which enhances safety and contributes to a vibrant, engaging atmosphere. This dynamic strengthens the sense of community and supports intergenerational interactions, providing spaces where different generations can connect and collaborate.

A study by Kleeman et al. (2023) emphasizes the critical role of greenery in communal areas for fostering neighborly engagement. Gardens and green spaces enhance social interactions, strengthen community bonds, and improve residents’ overall well-being.

Beyond their aesthetic appeal, these spaces provide practical benefits, such as moderating weather conditions and creating inviting environments that encourage outdoor activities (Kleeman et al., 2023). Parks, plazas, and sidewalks further serve as essential gathering points where individuals from diverse backgrounds can connect, engage in physical activities, and participate in civic life. Thoughtful and inclusive design ensures universal accessibility, promoting healthier and more cohesive communities (Gardner et al., 2018).

To maximize the benefits of communal spaces, Kleeman et al. (2022) suggest that these spaces should be centrally located and easily accessible, ideally intersecting with shared pathways or thoroughfares. Ground-floor areas are often more accessible than isolated spaces like rooftop gardens, encouraging greater interaction. However, while thoroughfares can increase pedestrian traffic, they tend to be ‘sociofugal’—pushing people through spaces rather than encouraging lingering. Therefore, it is essential to balance these with ‘sociopetal’ design features, which promote stopping and social interaction. For example, spaces designed with wide, circular layouts or benches arranged at angles rather than in straight lines can offer greater opportunities for social engagement (Gehl, 2011).

Ewen et al. (2023) also note that recessed areas, concave seating, and play areas can further encourage resident interaction. They emphasize how integrating spaces like playgrounds, informal open areas, and outdoor dining encourages both generational and intergenerational connections, creating a vibrant, socially engaging environment where different generations can interact and build relationships.

Chapter 4

Balancing Privacy with Communal Living

The relationship between private and public sphere, reflects the deeper dynamic between the individual and society. This interplay, mediated by spaces ranging from the personal to the communal, shapes how individuals interact with their environment and one another (Madanipour, 2003). Balancing privacy with communal spaces is essential for fostering social cohesion while respecting individual autonomy. Thoughtful design of spaces can support both personal privacy and collective well-being, enhancing mental, emotional, and social health in diverse community settings.

4.1 Privacy: A Dynamic Balance

Privacy, as defined by Altman (1975), is a dialectical process involving both restriction and seeking of interaction. Rather than being a complete withdrawal, privacy is a continuous negotiation of opening and closing oneself to others, vital for personal autonomy and meaningful relationships.

Madanipour (2003) describes personal space as an invisible, mobile layer surrounding the body, functioning as both an extension of the self and a protective boundary. Personal space exists within a spectrum of distances, categorized by Gehl (2011) into intimate, personal, social, and public (figure 5).

Supporting privacy enhances well-being. Environments that allow individuals to retreat and recharge—such as private homes—encourage meaningful future interactions (Mantingh et al., 2021).

The importance of transitional zones is highlighted by Sim (2019), who explains how private edges bridge private and public spaces, fostering informal interactions while preserving personal privacy.

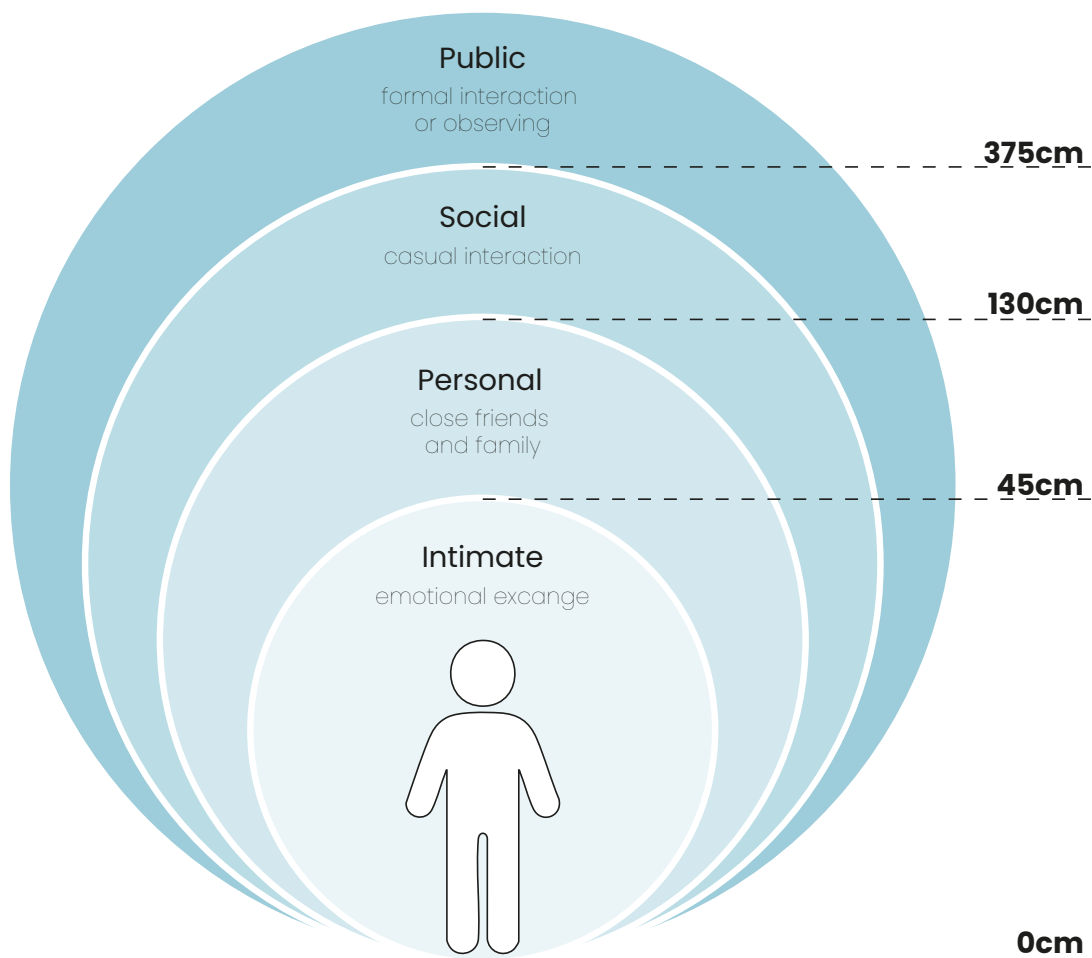


Figure 5. Spectrum of distances (by author)

4.2 Territories: Organizing Social Interaction

Territories are fundamental in structuring social interactions within housing communities. Altman (1975) classifies territories into primary, secondary, and public, noting that the level of interaction increases or decreases as one moves between them (figure 6). The design and arrangement of these spaces influence the balance of privacy and community.

Parker (2000) emphasizes that territoriality contributes to stable social structures by visibly organizing roles and hierarchies, reducing ambiguity in shared spaces. Altman (1975) further notes that designated spaces eliminate the need to negotiate boundaries constantly, simplifying daily life. Architecturally, the configuration, size, and relationships between spaces shape territorial boundaries and the activities within them.

4.3 The Private and Public Spheres: Navigating Autonomy

The private and public spheres reflect the intricate relationship between the individual and society, as well as the balance between the self and others.

The private sphere offers individuals autonomy and control over their environment, fostering psychological and social well-being. It serves as a sanctuary where people can express themselves freely, regulate their exposure to others, and shape their identity. Madanipour (2003) highlights the significance of the private sphere as a domain protected from external scrutiny or interference, allowing individuals to navigate the balance between solitude and social engagement.

In contrast, the public sphere is where social interactions unfold and identities and differences are expressed and negotiated. The character of the public sphere is shaped by its accessibility and the agency it affords individuals, creating opportunities for collective expression and meaningful connections. It is within the public sphere that people establish common opinions and manage the interplay between openness and concealment in their relationships (Madanipour, 2003).

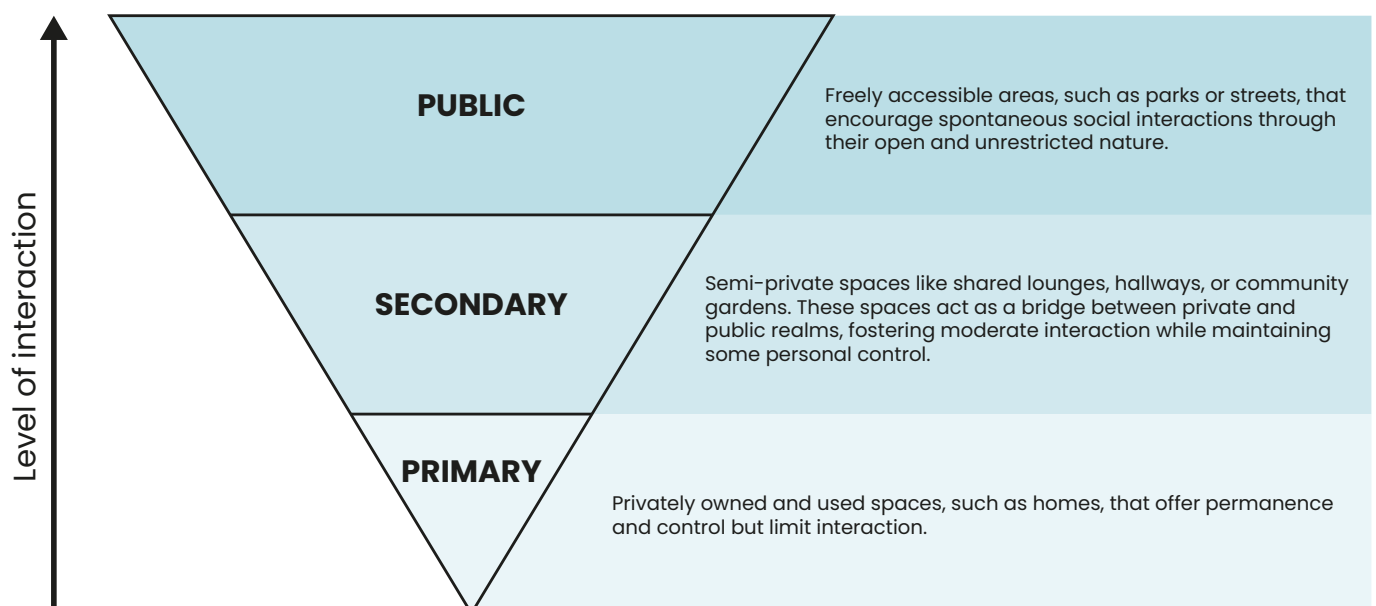


Figure 6. Classification of territories (by author)

4.4 Communal Spaces: Bridging Realms

Communal spaces serve as a bridge between private and public realms, fostering environments that encourage intermingling and social cohesion. These spaces play a critical role in promoting tolerance and unity, particularly in times of social fragmentation and the decline of welfare systems. A vibrant communal sphere, distinct from the private realm, is vital for societal well-being, offering a platform for individuals to connect and emphasizing the importance of collective belonging (Madanipour, 2003).

Communal spaces often blend elements of secondary and public territories. For example, shared kitchens, courtyards, or lounges in multigenerational housing communities function as secondary spaces, facilitating interactions among residents. In contrast, activity areas, workplaces, and outdoor spaces like parks or plazas act as public territories, bringing together individuals of different communities, fostering connections, and encouraging intergenerational engagement.

Additionally, informal shared spaces such as driveways, corridors, or mailboxes provide opportunities for spontaneous and low-pressure social interactions, further strengthening community bonds (Thompson & Kent, 2014).

Chapter 5

Housing and Amenities for Multigenerational Needs

Effective housing design and amenities are key to fostering understanding and connection between generations in multigenerational communities. To meet the diverse social needs of residents, housing must prioritize adaptability, inclusivity, and thoughtful spatial planning. The layout of homes, along with the integration of surrounding amenities, can balance privacy with opportunities for social interaction, enhancing residents' sense of belonging. By addressing both individual and collective needs, neighborhoods can be designed to encourage cross-generational engagement, promoting well-being, open communication, and the development of strong, supportive community bonds.

5.1 Housing: A Place for Everyone

To address the diverse social needs of multigenerational residents while fostering understanding between generations, housing must combine adaptability, inclusivity, and thoughtful spatial design. As Madanipour (2003) notes, a home serves as both a private sphere and a social node—providing security, intimacy, and identity while enabling social engagement (figure 7).

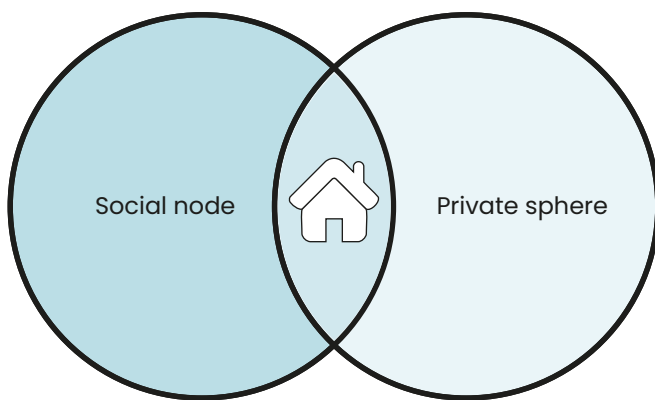


Figure 7. Function of the home (by author)

Clusters of homes around shared public spaces enhance privacy and communication, fostering a sense of community among residents. One effective approach involves mixing smaller and larger homes, as well as integrating social and private sectors within building blocks. This strategy promotes inclusiveness by accommodating varied household types and fostering a sense of belonging across diverse groups (Mantingh et al., 2021).

Additionally, the design of individual dwellings plays a critical role in multigenerational housing. According to Leupen et al. (2011), factors such as the size, orientation, and façade surface area of a dwelling determine its internal flexibility, natural light exposure, and overall usability. For instance, wider homes allow for more façade access, which improves light distribution and creates additional functional spaces, supporting the needs of diverse household types.

Depth also influences usability. Leupen et al. (2011) emphasize that deeper dwellings can place naturally lit spaces closer to façades, while locating non-lit zones, such as bathrooms and storage, in the center of the dwelling. This configuration helps optimize the use of space while maintaining comfort and functionality. Adding stories further increases floor space and introduces natural separations between private and communal activities, offering areas for individual activities or rest.

Lastly, Leupen et al. (2011) describe that access space enhances the functionality of multigenerational housing by creating transitional zones between private homes and public spaces. These shared spaces encourage informal encounters, helping to strengthen social cohesion among neighbors. Whether through collective staircases, shared hallways, or accessible public areas, the design of these spaces must strike a balance between facilitating collective interaction and ensuring individual privacy.

5.2 Amenities: Spaces for Generational Needs

The design and presence of amenities within a neighborhood significantly impact the social and physical well-being of residents, fostering connections across generations. According to Zhang and Yan (2023), neighborhoods play a crucial role in supporting urban sustainability, fulfilling daily needs, and enhancing residential satisfaction. They suggest that communities functioning as “enabling places”—offering opportunities for physical activity, recreation, and social interaction—promote overall well-being. Features such as public service institutions, transportation systems, secure environments, retail stores, parking, and accessible green spaces contribute to favorable living conditions (figure 8).

Gehl (2011) highlights the importance of designing public spaces that cater to various social needs. Clearly defined spaces, ranging from communal areas for entire neighborhoods to smaller, more private zones near stairways or apartments, ensure that residents can connect in ways suited to their preferences. Features like mailboxes, restaurants, and shops provide “acceptable pretexts” for individuals to linger in public areas, fostering informal interactions.

The concept of “bumping places” by Roe and McCay (2021) underlines the value of informal settings—such as parks, play areas, and community centers—where people can meet organically in safe, attractive environments. Hertzberger (1991) adds that incorporating lively functions along neighborhood routes increases both safety and opportunities for social interaction, effectively creating vibrant, interconnected communities.

Ecological spaces, particularly urban green areas, are of significant importance in densely populated neighborhoods. These spaces play a dual role in promoting physical activity and fostering social connections. Green spaces and community gardens encourage residents to engage with nature while also serving as hubs for both incidental and organized social interactions, helping to strengthen social bonds in culturally diverse settings (Thompson & Kent, 2014; Zhang & Yan, 2023).

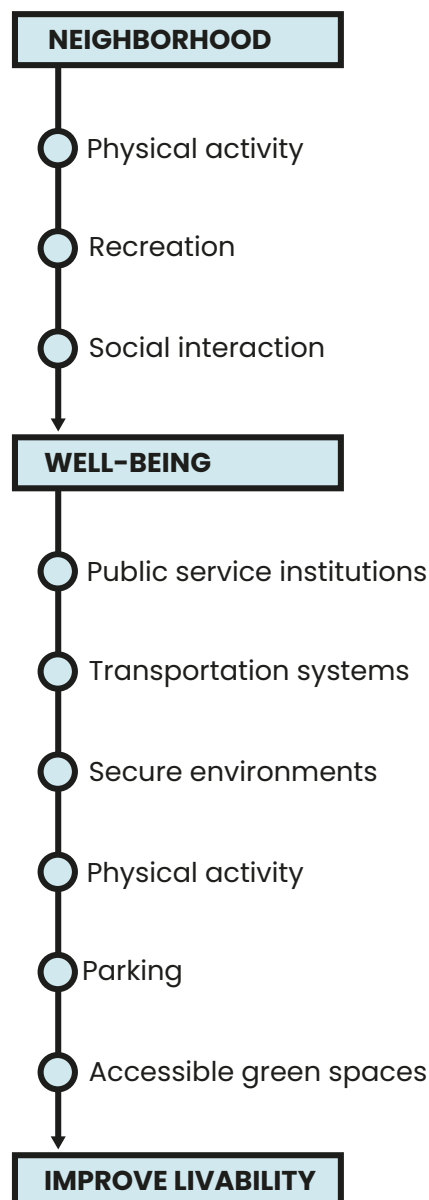


Figure 8. Neighborhood elements that influence well-being and livability (by author)

Gehl (2011) further highlights that gardens not only provide recreational opportunities but also act as venues for social engagement, with their visibility often prompting connections between passersby. Additionally, Roe and McCay (2021) emphasize the value of urban green spaces in facilitating activities like walking, jogging, and playing, naturally bringing together diverse groups of people. These shared spaces are crucial in creating vibrant, interconnected communities where physical and social well-being can thrive.

Overall, a thoughtfully designed neighborhood with a mix of functional and recreational amenities can meet the diverse social needs of its residents. While fostering interaction, enabling physical activity, and providing spaces for both incidental and planned engagements, amenities help bridge generational gaps and create cohesive, thriving communities.

Chapter 6

Case Studies

Five case studies—Grønne Eng Cohousing (AP.1), Groene Mient (AP.2), De Warren (AP.3), OurDomain (AP.4), and The House of Generations (AP.5)—demonstrate how housing projects can facilitate community building by incorporating outdoor spaces, shared facilities, and thoughtfully designed housing and access systems.

6.1 Outdoor: Sharing in Greenery

Outdoor spaces play a key role in fostering community interaction and shared experiences in various housing projects.

In Grønne Eng Cohousing (AP.1), the garden is fully enclosed by the surrounding building, creating a protected communal space. Ground-floor homes feature private gardens that transition into the shared garden, while upper apartments have balconies facing the garden. The garden includes distinct zones, such as lawns, a playground, and terraces, all connected by walking paths. Rooftop terraces provide additional shared spaces.

Like Grønne Eng Cohousing, Groene Mient (AP.2) features an enclosed garden surrounded by houses and fences, creating a secluded and communal environment. Ground-floor homes have private gardens that merge into the communal garden. The space is divided into grassy areas, vegetable gardens, and planting beds, with a central pavilion for gatherings and events.

OurDomain (AP.4) contrasts with its publicly accessible park that connects the three separate buildings. The park fosters interaction among residents and the broader community. Most balconies face the park, reinforcing the connection between private and public spaces. Rooftop gardens offer quieter, more private outdoor areas for residents.

6.2 Indoor: Sharing in Common Spaces

Indoor communal spaces are designed to foster connection and interaction, offering diverse facilities that cater to residents' needs.

At Grønne Eng Cohousing (AP.1), the 1.053m² communal area includes guest rooms, a youth space, a rehearsal room, a communal laundry, shared workplaces, a bicycle workshop, a rooftop greenhouse, and a fitness room. These spaces enhance community cohesion and provide both functional and social opportunities.

De Warren (AP.3) features 800m² of shared spaces, including an auditorium, greenhouse, children's playroom, co-working spaces, multifunctional rooms, guest rooms, a music studio, bike parking, a meditation room, a maker space, a roof terrace, laundry facilities, and communal living rooms and kitchens. A central staircase connects these spaces, integrating them into residents' daily routines to foster interaction.

The House of Generations (AP.5) adopts a multigenerational design with a gradient of public to semi-private spaces connected by the access system. Its program includes a daycare center, outdoor green spaces, a café, a theatre, and collective circulation spaces. These facilities encourage interaction among residents of all generations, creating a vibrant and inclusive community.

6.3 Indoor: Housing and Access System

The housing and access systems in these projects are designed to optimize space, encourage interaction, and cater to diverse resident needs.

In De Warren (AP.2), apartments are compact to emphasize the use of communal spaces. The unit sizes include studios of 20m², one-bedroom apartments of 35m², two-bedroom units of 40–50m², and family apartments of 60–65m². The access system is designed to encourage interaction, with generously sized pathways that pass through communal areas, integrating daily movement with shared experiences.

OurDomain (AP.3) offers only apartments, with unit sizes ranging from studios of 20.8–60m², one-bedroom apartments of 37–60m², and two-bedroom units of 55–83.4m². The access system consists of narrow corridors supported by a standout architectural feature: a large central staircase, complemented by additional staircases. This design blends functionality with opportunities for social engagement.

The House of Generations (AP.5) focuses on inclusivity with apartments tailored to various demographics, including nursing homes, senior homes, family homes, youth housing, and homes for individuals with physical disabilities. Units are clustered along hallways that lead through semi-private communal spaces. The access system prioritizes equality, with uniform staircases promoting cohesion across generations while maintaining accessibility and interaction.

6.4 Case Study Overview

The table provides an overview of the key design features across the five case studies—Grønne Eng Cohousing, Groene Mient, De Warren, OurDomain, and The House of Generations. It summarizes the differences and overlaps in aspects such as the project scale, outdoor spaces, indoor communal spaces, shared facilities, housing types, access systems, and focus on multigenerational living.

	Grønne Eng Cohousing (AP.1)	Groene Mient (AP.2)	De Warren (AP.3)	OurDomain (AP.4)	The House of Generations (AP.5)
Amount of housing units	75	33	36	1.559	304
Outdoor spaces	Enclosed garden, private and communal garden, rooftop terraces	Enclosed garden, private gardens, vegetable gardens	Rooftop garden, greenhouse	Public park, balconies face park, rooftop gardens	Outdoor green spaces, roof terraces
Indoor communal spaces	Shared office, fitness room, youth space, rehearsal room		Children's playroom, co-working places, music studio, multifunctional room, several living rooms and kitchens, meditation room	Cinema room, lounge, game room, music room, study/work places	Circulation system with diverse smaller collective spaces like living room, kitchen
Shared facilities	Guest rooms, laundry, bicycle workshop	Pavilion in garden for gatherings	Auditorium, bike parking, guest room, laundry, maker space	Bike and car parking, maker space, laundry, (paid) fitness room	Daycare centre, cafe, theatre
Housing types	Townhouses and apartments	Townhomes	Compact apartments with varied sizes (studio to family)	Apartments of varying sizes (studio, 1-2 bedroom)	Nursing homes, elderly homes, youth homes, family homes, homes for physically impaired
Access system	Entrance at street level and gallery access	Entrance at street level	Central staircase, encourages interaction	One large central staircase, with additional small staircases and connected to arrow corridors	Uniform staircases, hallways leading through communal spaces
Focus on multigenerational			Promote interaction among generations	Providing different housing types	Designed to cater to all generations

Chapter 7

Tarwewijk Rotterdam

The Tarwewijk neighborhood, located in Rotterdam South, is a vibrant and diverse area with a complex social and physical landscape. This chapter explores key aspects shaping the neighborhood, including its demographic composition, community dynamics, and available amenities. It examines the diverse population, the gap between perceived and actual levels of social cohesion, and the strengths and challenges of the local infrastructure. The chapter offers a concise overview of Tarwewijk's current state to highlight opportunities to enhance its social and physical fabric, fostering a more connected and thriving community. A comprehensive analysis of the entire neighborhood has been conducted in collaboration with all students of this studio. This analysis is documented in a separate booklet.

7.1 Demographic Diversity: A Tapestry of Ages

The neighborhood is characterized by a diverse demographic profile that includes residents of all ages. While the largest proportion of the population falls between 18 and 54 years, as shown in figure 9, individuals from all age groups are represented. This diversity presents a unique opportunity to foster connections and bring together people from various life stages into a vibrant and dynamic community.

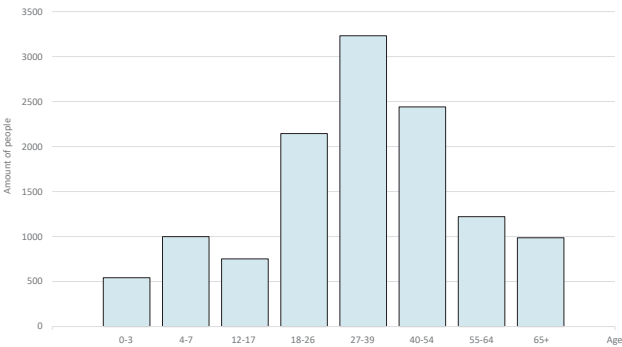


Figure 9. Age distribution Tarwewijk (Gemeente Rotterdam, n.d.)

7.2 Social Cohesion: Perception and Reality

The community of the Tarwewijk embodies a rich yet complex social dynamic. The collective analysis reveals a significant gap between the objective and subjective assessments of social cohesion within the neighborhood.

While objective data suggests that Tarwewijk performs comparably to the average for Rotterdam, residents report a lower sense of social connectedness. This discrepancy points to a potential misalignment between the community’s lived experiences and the formal or informal services available to them (Presură et al., 2024).

Addressing this gap and improving residents’ perception of social cohesion could have a meaningful impact on their overall quality of life.

7.3 Amenities: Community Infrastructure

The neighborhood offers a wide range of amenities that cater to the everyday needs of its residents (figure 10). The area is home to numerous schools, healthcare facilities, religious buildings, and several well-maintained playgrounds, providing essential services and recreational spaces for families. In addition, a diverse selection of shopping options, including a large supermarket and several smaller shops reflect the area’s cultural diversity. These amenities contribute significantly to the functionality and vibrancy of the community.

limited spaces dedicated to fostering community interaction, such as meeting places or hospitality venues like cafés and restaurants. Expanding these amenities could enhance social cohesion and improve the connection between residents.

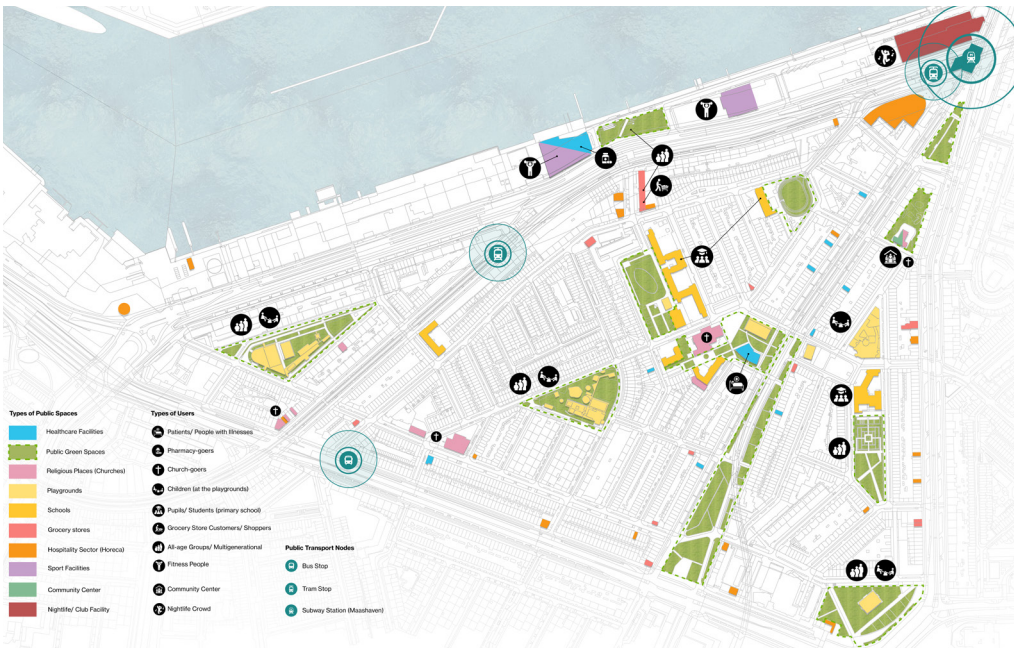


Figure 10. Amenities in the Tarwewijk (Presură et al., 2024)

Despite these strengths, the neighborhood faces notable shortcomings in its social and recreational infrastructure. There are

Chapter 8

Conclusion and Discussion

8.1 Conclusion

This research addressed the main research question:

“Can a multigenerational housing community concept promote social cohesion, in for example the Tarwewijk?”

To answer this question, four sub-questions were explored:

1. What architectural features and shared spaces encourage social interaction between different generations in multigenerational housing?
2. How can a housing community balance privacy with communal spaces, and how does this affect residents' well-being?
3. What housing types and amenities can meet the diverse social needs of multigenerational residents while fostering understanding between generations?
4. What design insights from projects focused on community building can be used to improve social cohesion in future housing developments?

Findings from the Sub-Questions

1. Architectural Features and Shared Spaces

Multigenerational housing that prioritizes connectivity, inclusivity, and adaptability fosters social interaction across generations. Key architectural elements, such as communal gardens, shared indoor facilities, and adaptable spaces, help encourage casual encounters and meaningful interactions. These shared spaces bridge generational divides and enhance mutual understanding, promoting social cohesion and well-being.

2. Privacy and Communal Spaces

Balancing privacy with communal spaces is crucial for fostering well-being. Thoughtfully designed spaces, such as shared courtyards or informal meeting spots, encourage low-pressure interactions while preserving privacy. The integration of varied spaces—private, semi-private, and public—meets the diverse needs of residents and strengthens relationships, contributing to a resilient community.

3. Housing and Amenities

To meet the social needs of multigenerational residents, housing should feature flexible layouts and mixed home sizes, allowing for diverse household structures. Public amenities like parks, community gardens, and social hubs also play a key role in encouraging intergenerational connections. These spaces support organic interactions and create a sense of belonging, promoting understanding between generations.

4. Design Insights from Case Studies

Case studies reveal that well-designed shared spaces, both outdoor and indoor, are essential for enhancing social cohesion. Communal areas such as co-working spaces, playrooms, and green spaces foster interactions, while housing compositions that balance private and shared areas encourage both autonomy and engagement.

8.2 Discussion

Conclusion to the Main Research Question

A multigenerational housing community has significant potential to promote social cohesion in neighborhoods like Tarwewijk, aligning with the area's demographic diversity and the need to improve social connections. The Tarwewijk neighborhood is home to a wide range of age groups, which presents a unique opportunity to foster intergenerational bonds. However, a noticeable gap exists between the actual and perceived levels of social cohesion in the community. While essential services are available, the sense of connectedness could be enhanced.

Multigenerational housing, with its focus on shared spaces and inclusive design, can address this gap. By creating environments that encourage casual and meaningful interactions—through communal gardens, shared indoor areas, and adaptable access systems—these spaces foster social cohesion and well-being. Additionally, balancing private and communal spaces in housing designs allows for a mix of autonomy and social engagement, supporting diverse needs and strengthening relationships.

While Tarwewijk already offers essential amenities like schools and healthcare, the limited availability of spaces for community engagement, such as cafés and meeting venues, signals a need for improved infrastructure. Introducing multigenerational housing could address this gap by providing both physical spaces and social opportunities for spontaneous interactions.

In conclusion, a multigenerational housing community in Tarwewijk could significantly improve social cohesion by enhancing the area's demographic strengths and addressing the current gap in social connectedness. By applying all the knowledge from this research, future housing developments can create inclusive, adaptable environments that foster intergenerational interaction, strengthen relationships, and contribute to a more connected, resilient community.

This research investigated how a multigenerational housing community can foster social cohesion in the Tarwewijk. By examining relational dynamics, daily interactions, neighborly support, and the balance between independence and interdependence, the study contributed to the broader discourse on housing models addressing societal challenges. Loneliness emerged as a central theme, emphasizing the critical need for creating belonging within a community.





The study discussed diverse perspectives on multigenerational living from architects, sociologists, and urbanists. While some stakeholders valued its potential to reduce isolation and foster mutual support, others raised concerns about privacy, conflicts, and differing lifestyles. These viewpoints highlighted the need for a multidisciplinary approach to designing housing that promoted social cohesion. Despite the challenges, all fields agreed on the potential of multigenerational housing to counteract loneliness by creating meaningful connections across age groups.

Nonetheless, the research revealed a significant gap between theoretical frameworks and actionable strategies. While existing studies affirmed the benefits, they often lacked detailed implementation guidance. This highlights the need for context-specific, interdisciplinary research integrating architectural, sociological, and community-focused perspectives.

Classic literature, such as Alexander et al. (1977) and Altman (1975), remained relevant for understanding belonging, privacy, and social interaction. Yet, these insights are rarely implemented in contemporary housing projects. Additionally, financial constraints and the absence of universal prioritization of social cohesion often lead to the exclusion of design features that support community building. This research provided a positive perspective by bridging this gap and demonstrating that innovative designs and targeted interventions could become feasible within a design.

8.3 Design Guidelines

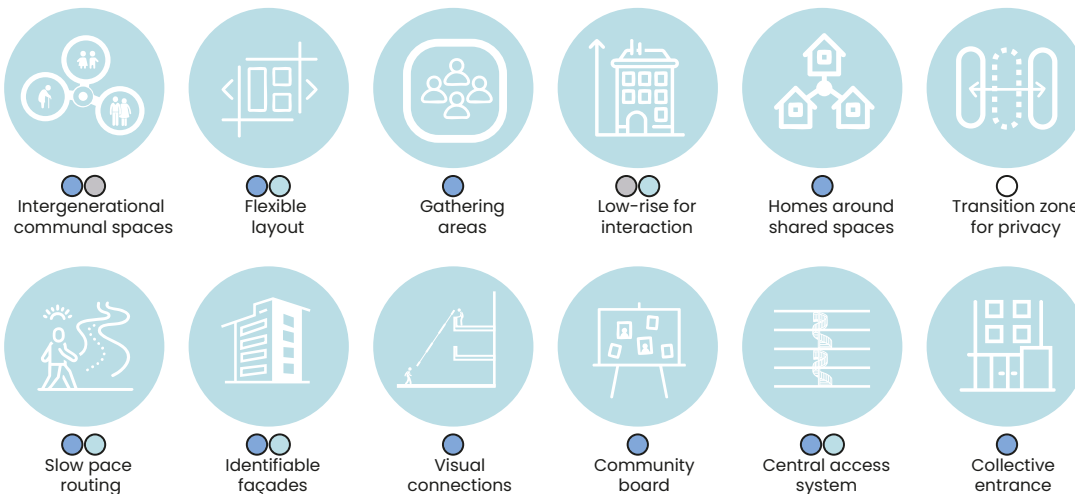
The guidelines visualize the key conclusions and are categorized into three scales: Neighborhood, Building, and Housing, and connected to four themes: Social connectivity, Tarwewijk context, Livability, and Privacy.

-  Social connectivity
-  Tarwewijk context
-  Livability
-  Privacy

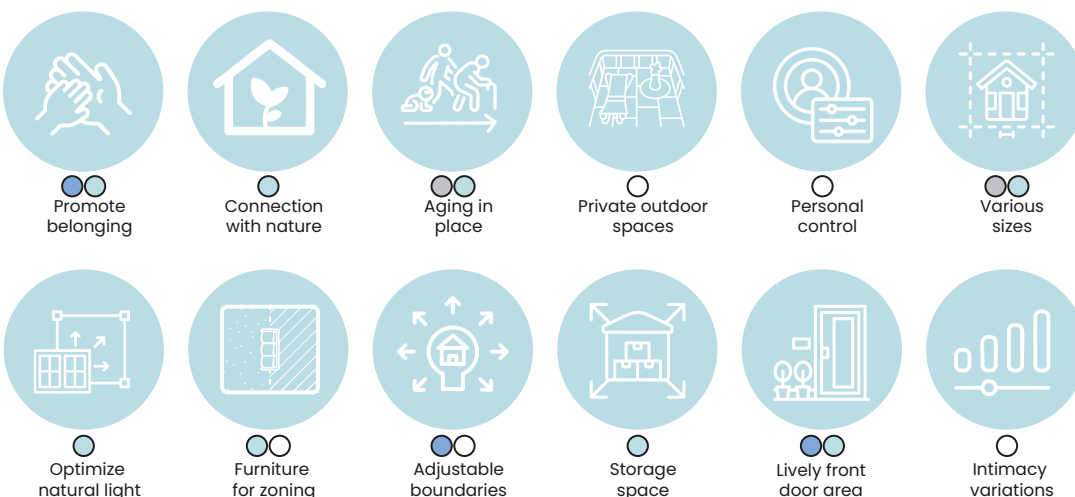
NEIGHBORHOOD SCALE



BUILDING SCALE



HOUSING SCALE



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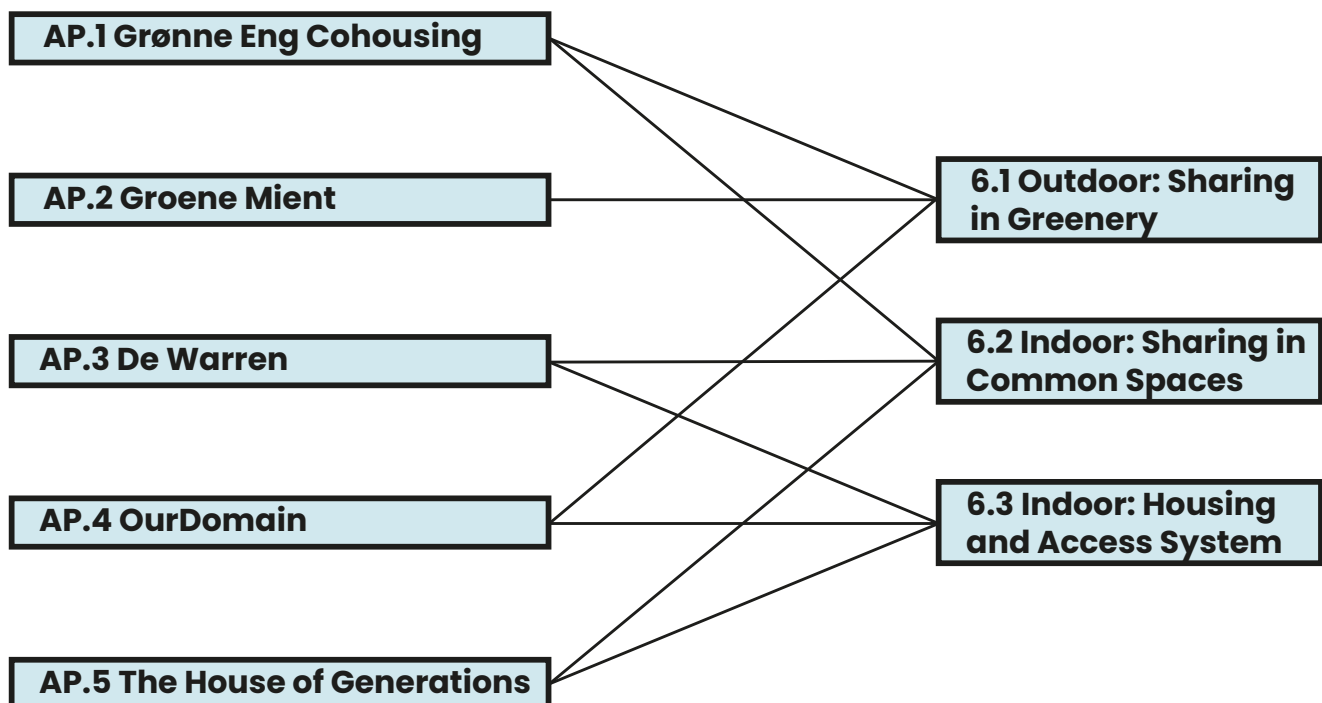
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Appendix

Appendix used for sub-chapters of chapter 6



AP.1 Grønne Eng Cohousing

Location: Copenhagen, Denmark

Architect: Vandkunsten Architects

Year of completion: 2023

Site Area: housing 7.436m² (common house 1.053m²) and 493m² basement

Typology: co-housing

Number of units: 75 housing units; 41 cooperative apartments + 34 condominiums

Collective spaces: guest rooms, youth space, rehearsal room, communal laundry utilizing rainwater reuse, shared office space, bicycle workshop, rooftop greenhouse, fitness room, and inner garden.

Grønne Eng Cohousing is a co-housing community comprising 75 homes offering a variety of sizes and flexible floor plans. The development is constructed in 2-6 stories and features a combination of townhouses and apartments (figure 1). The communal house of 1.053m², hosts an array of shared facilities such as guest rooms, youth space, rehearsal room, communal laundry utilizing rainwater reuse, shared office space, bicycle workshop (figure 6), rooftop greenhouse (figure 8), and fitness room.

The building is constructed using concrete and brick, with a focus on designing for easy disassembly to facilitate material reuse. The courtyard serves as a central element of the community, incorporating a nature playground and space for vegetable gardens, fruit trees, and other green features (figure 2 and 7). The homes also feature private garden areas that seamlessly transition into the inner communal garden or create front gardens (figure 4).

The design was developed in collaboration with a resident working group, which played a significant role in shaping the courtyard's features. Residents contributed to decisions regarding the inclusion of outdoor kitchens, playgrounds, clotheslines, greenhouses, and raised garden beds, ensuring the space reflects the needs and desires of the community.
(Vandkunsten Architects, nd)

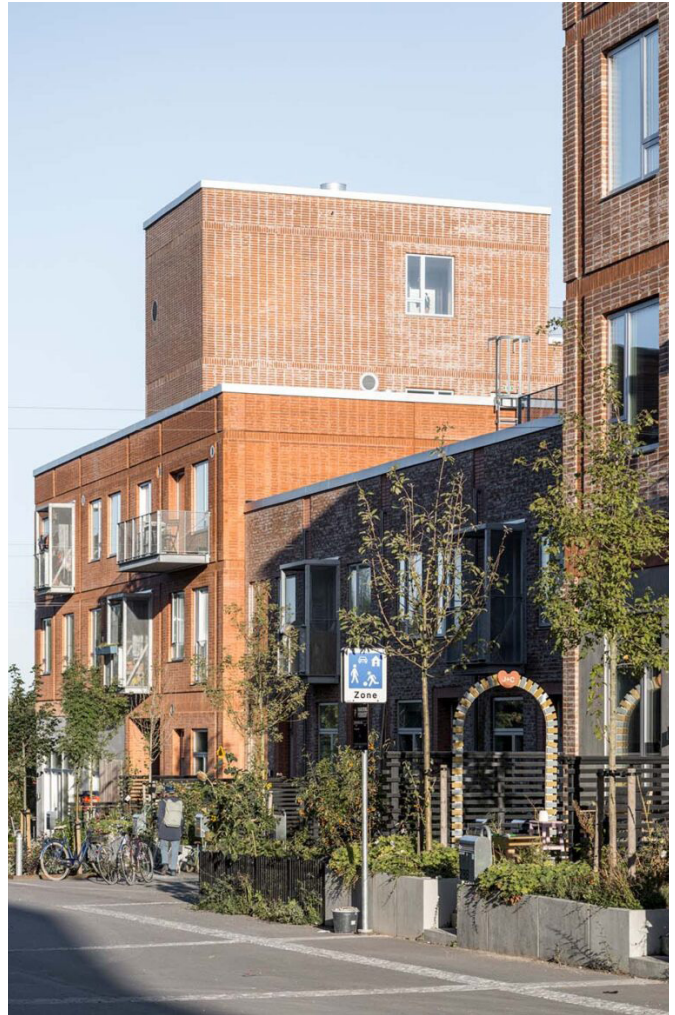


Figure 1. Grønne Eng Cohousing (Vandkunsten Architects, nd)



Figure 2. Overview inner garden (Vandkunsten Architects, nd)

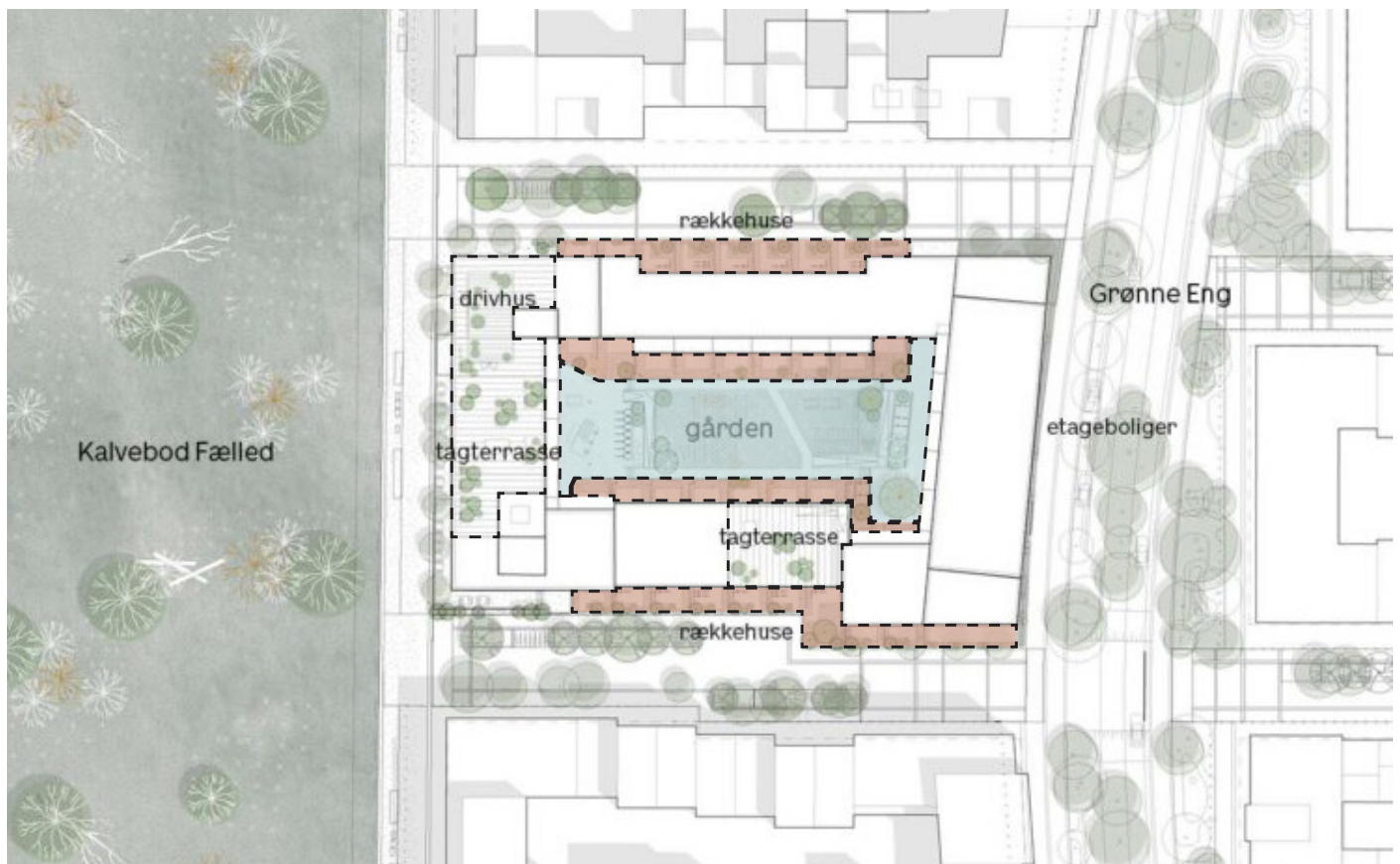


Figure 4. Site plan (Vandkunsten Architects, nd), analysis by author

Legend
 Shared space
 Private spaces

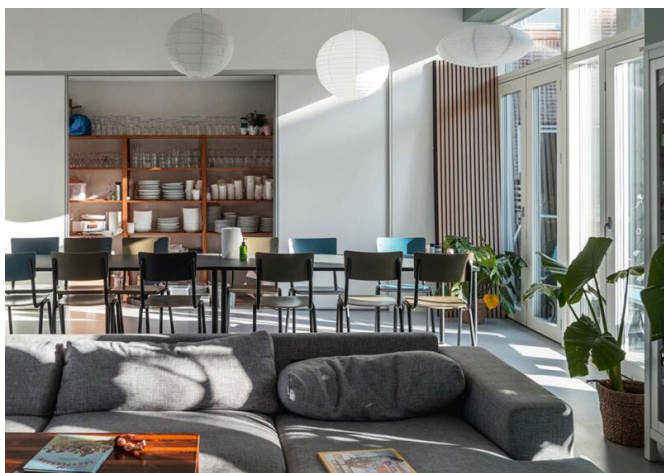


Figure 5. Communal living area (Vandkunsten Architects, nd)



Figure 7. Inner garden (Vandkunsten Architects, nd)

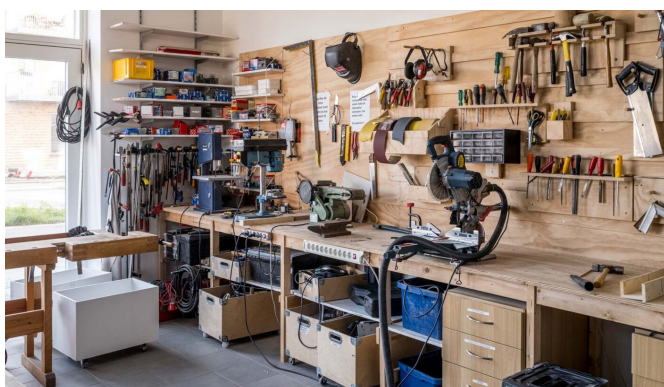


Figure 6. Communal bicycle workshop (Vandkunsten Architects, nd)



Figure 8. Rooftop terrace (Vandkunsten Architects, nd)

AP.2 Groene Mient

Location: The Hague, The Netherlands
Architects: Architektenkombinatie and Fillié Verhoeven Architecten
Year of completion: 2017
Site area: 7.653m²
Built-up area: 2.089m²
Typology: private housing around courtyard
Number of units: 33 private homes
Collective spaces: inner garden with pavilion

Groene Mient is a resident-led initiative featuring 33 privately owned sustainable homes in The Hague. The project combines a cohesive architectural design with individual customization, allowing each household to tailor their home to their specific needs (figure 1). As a result, the living spaces range from 85 to 165m², with facades crafted from slate and Douglas wood for a natural and durable finish (figure 7).

The homes are arranged around a shared ecological garden, with each home featuring a private garden that transitions into the inner communal garden, creating a harmonious connection between personal and shared outdoor spaces (figures 2, 3, 5, 6). This garden includes a pavilion designed as a meeting space for residents.

Embracing permaculture principles, the garden is cultivated as an ecological and edible space, fostering biodiversity and benefiting both people and the environment. Monthly gardening days bring residents together to collaborate on planting, care, and maintenance, strengthening the sense of community (figure 4).

To manage rainwater sustainably, the project features semi-permeable paving and a WADI system—Water Drainage Through Infiltration—around the garden. This system allows rainwater to infiltrate the soil naturally, enhancing the garden's sustainability and resilience. This thoughtful integration of design, ecology, and community demonstrates Groene Mient's commitment to sustainable living and shared responsibility.
(Groene Mient, n.d.)



Figure 1. Groene Mient (Fillié Verhoeven Architecten, n.d.)



Figure 2. Bird eye view of site (Groene Mient, n.d.)



Figure 3. Inner garden (Fillié Verhoeven Architecten, n.d.)



Figure 4. Maintenance inner garden (Groene Mient, n.d.)



AP.3 De Warren

Location: Amsterdam, The Netherlands
Architect: Natrufied Architecture
Year of completion: 2021
Site Area: 3.070m²
Typology: co-housing
Number of units: 36 apartments for social and affordable rental housing
Collective spaces: auditorium, greenhouse, children’s playroom, co-working places, multifunctional room, guest rooms, music studio, bike parking, meditation room, maker space, roof terrace, laundry, and several communal living rooms and kitchens



Figure 1. De Warren (Koshta, 2024)

De Warren is a cooperative housing project located in Amsterdam with 36 apartments for social and affordable rental housing. The building has an ‘EPC’ of -0.16 (energy-positive building) and the facade cladding is made of recycled retaining walls (Azobe) that are untreated and as a result maintenance-free (figure 1). The supporting structure is a wooden column-and-beam system. This design allows for future flexibility, as the lightweight interior walls can be removed to modify the building’s layout if needed (Natrufied Architecture, 2024).

The core idea of De Warren is collective living. In collaboration with the future residents, it was decided that 30% of the building should consist of collective spaces. This creates approximately 800m² of communal functions. Table 1 shows an overview of the different shared spaces. These collective spaces are arranged along the so-called ‘Machu Picchu’ staircase that connects all floors (figure 2). By placing the collective spaces centrally, they become part of everyone’s daily route, and contact between residents is maximized (Natrufied Architecture, 2024). Figure 3 highlights the shared spaces in both the floorplans and the section.

There are six different apartment sizes: 12 studios of 20m², 4 one-bedroom starter homes of 35m², 4 two-bedroom starter homes of 40m², 4 two-bedroom apartments of 50m², 4 family homes of 60m², and 8 homes of 65m² (Wooncoöperatie De Warren, n.d.).

Table 1. Overview of the shared spaces

Shared Spaces	Area in m ²
Communal living rooms and kitchens	194
Living and kitchen area, playroom, and entrance	138
Bike parking	75
Multifunctional room	50
Co-working places	42
Storage	36
Guest rooms	35
Maker space	35
Communal douches and toilets	29
Music studio	22
Meditation room	12
Auditorium	
Laundry	
Greenhouse	
Roof terrace	
TOTAL	800

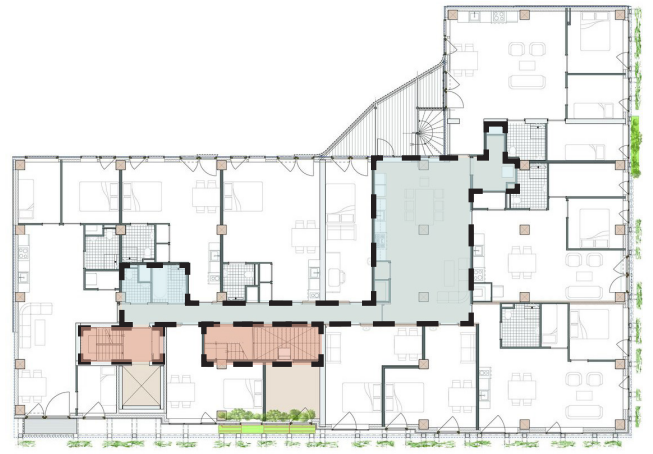
(Wooncoöperatie De Warren, n.d.)



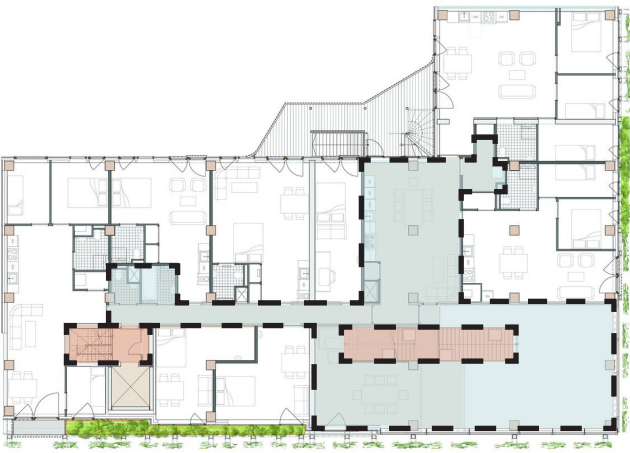
Figure 2. ‘Machu Picchu’ staircase (Natrufied Architecture, 2024)



Ground Floor



Third Floor



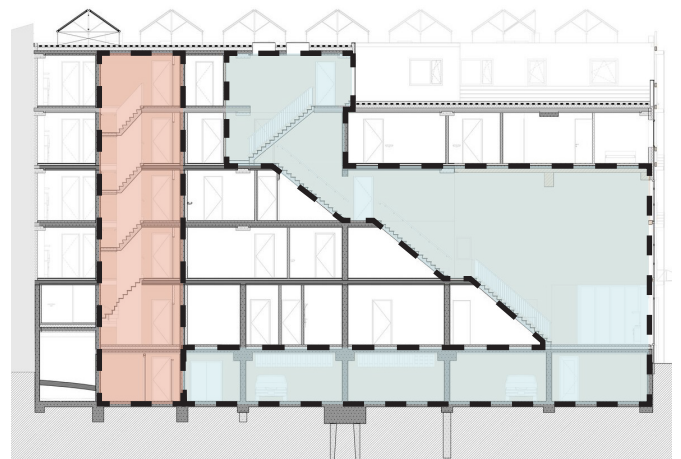
First Floor



Fourth Floor



Second Floor



Section through 'Machu Picchu' staircase

Legend
 ■ Shared spaces
 ■ Access system

Figure 3. Floor plans and section (Koshta, 2024), analysis by author

AP.4 OurDomain

Location: Amsterdam, The Netherlands
Architect: OZ Architects
Year of completion: 2020
Site Area: 90.000m² including 18.000m² park
Typology: affordable rental housing
Number of units: 1.559 apartments for affordable rental housing
Collective spaces: cinema room, bike parking, lounge, music room, game room, terrace, study/work places, and green park

OurDomain, a housing project in Amsterdam Southeast, comprising 1.559 apartments spread across three distinct buildings: East House (figure 1), North House, and West House (figure 2). Apartment sizes range from 20.8 to 83.4m², catering to diverse residential needs (OurDomain, 2023). Figure 4 illustrates the various apartment types. The buildings are interconnected through a central inner park designed to foster a sense of community (figure 3). The emphasis in the park is on openness, with water and greenery thoughtfully transformed into connecting elements rather than dividers (Caballero, 2024). The housing complex accommodates a wide range of target groups, including students, young professionals, couples, families, and those interested in shared living arrangements (OurDomain, 2023).

The East House spans 40.000m² and contains nearly 1.000 student apartments. The North House features a central corridor, with smaller apartments on the northeast façade and larger units with balconies on the southwest side. The West House is designed to harmonize with neighboring buildings, incorporating shared terraces. The terraces provide semi-public spaces for residents to connect with the community while maintaining the privacy of their homes (OZ Architect, 2024). Figures 5, 6, and 7 show the floorplans of the three buildings, highlighting the shared spaces and access system.

Shared spaces on the lower floors offer a mix of included and paid services, enhancing residents’ experience and fostering interaction. Table 1 provides a detailed breakdown of these services.



Figure 1. OurDomain (Caballero, 2024)

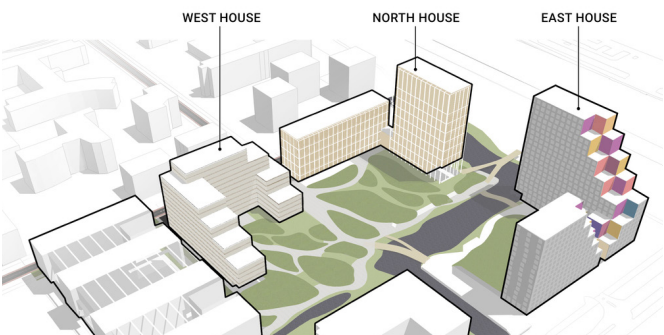


Figure 2. Building overview (Caballero, 2024)

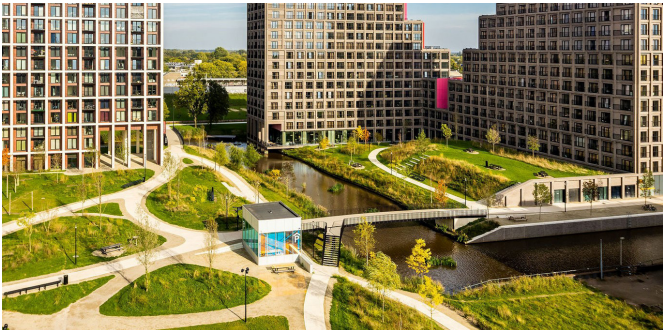


Figure 3. Connecting Park (Caballero, 2024)

Table 1. Overview of the shared spaces

Shared Spaces (free use)	Shared Spaces (paid use)
Cinema room	Resaurant
Bike parking	City supermarket
Lounge	Laundry
Game room	Car parking
Music room	Fitness room
Terrace	
Study/Work places	
Maker space	
Green park	

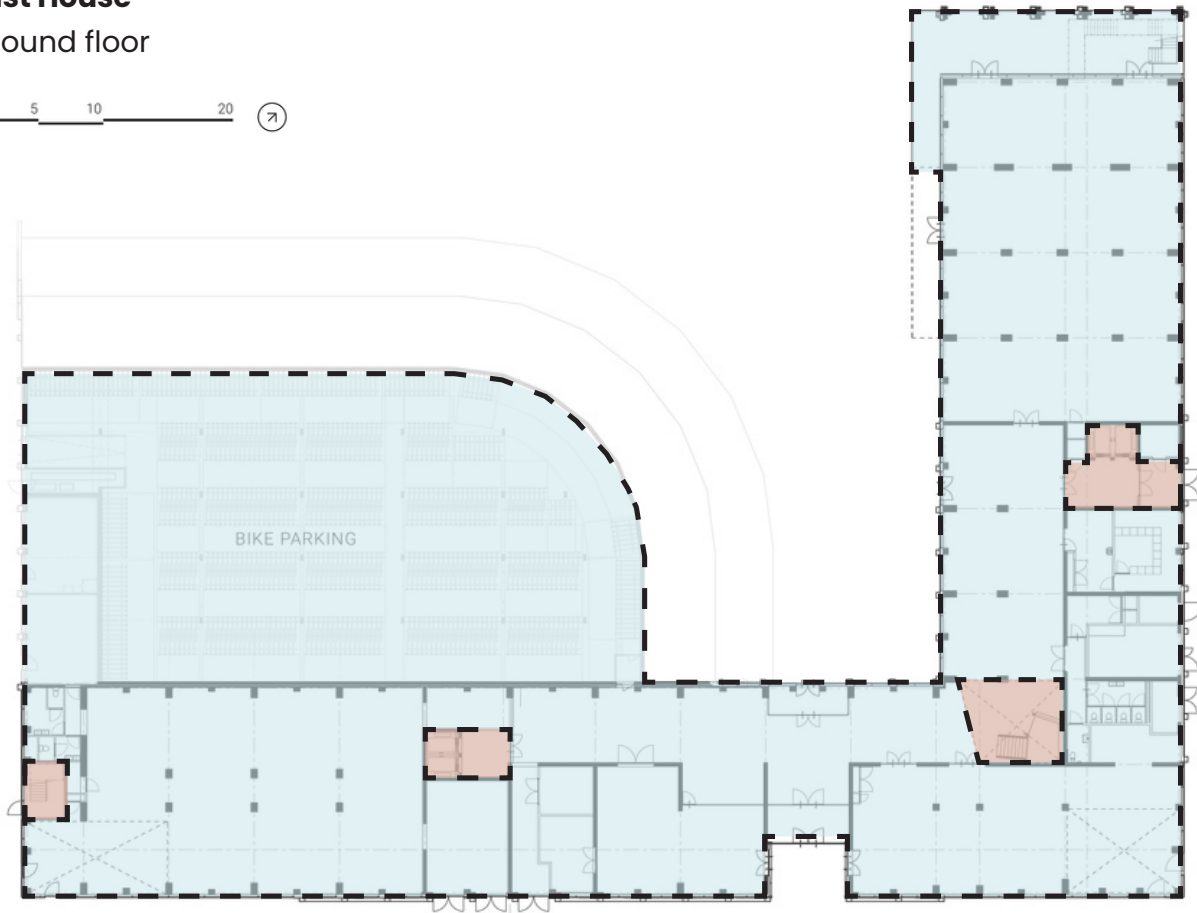
(OurDomain, 2023)



Figure 4. Floor plans dwellings (OurDomain, 2023), analysis by author

East House

Ground floor



Third floor

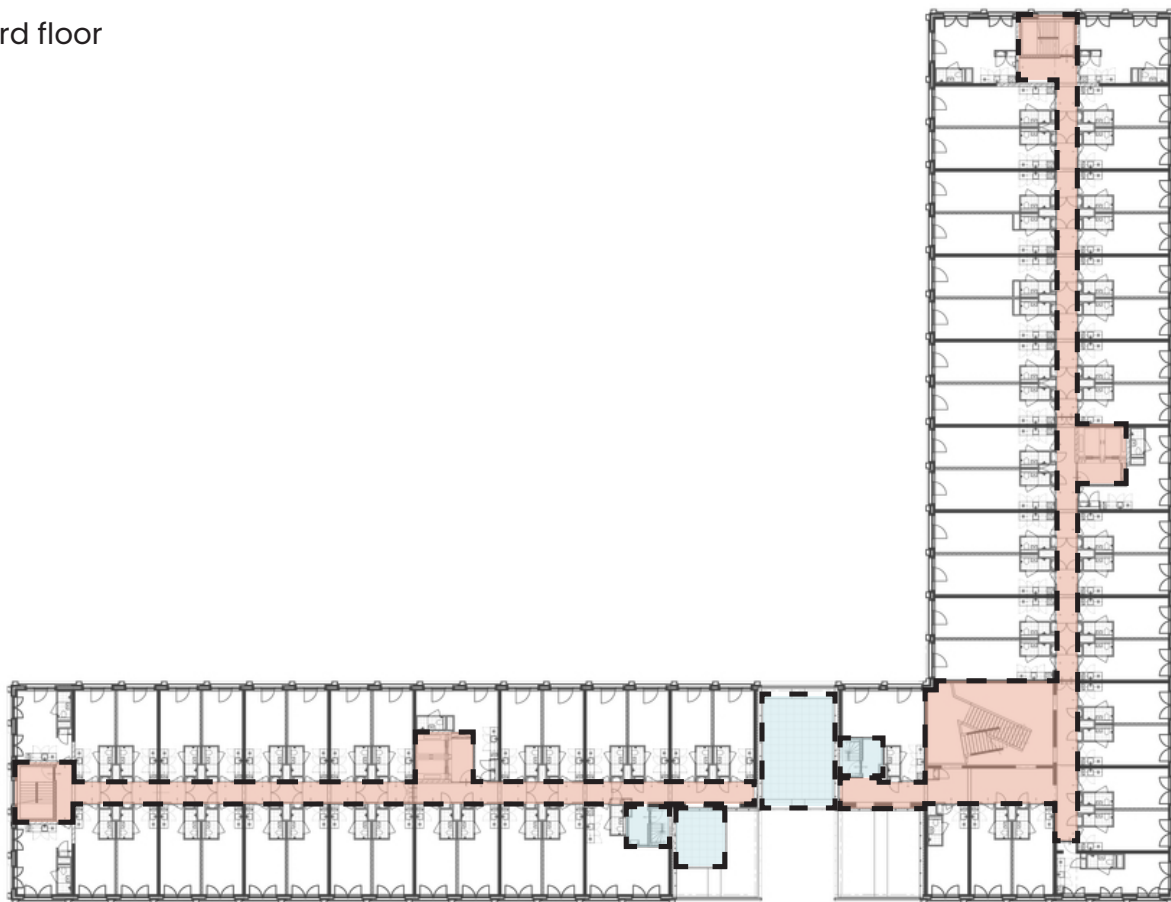


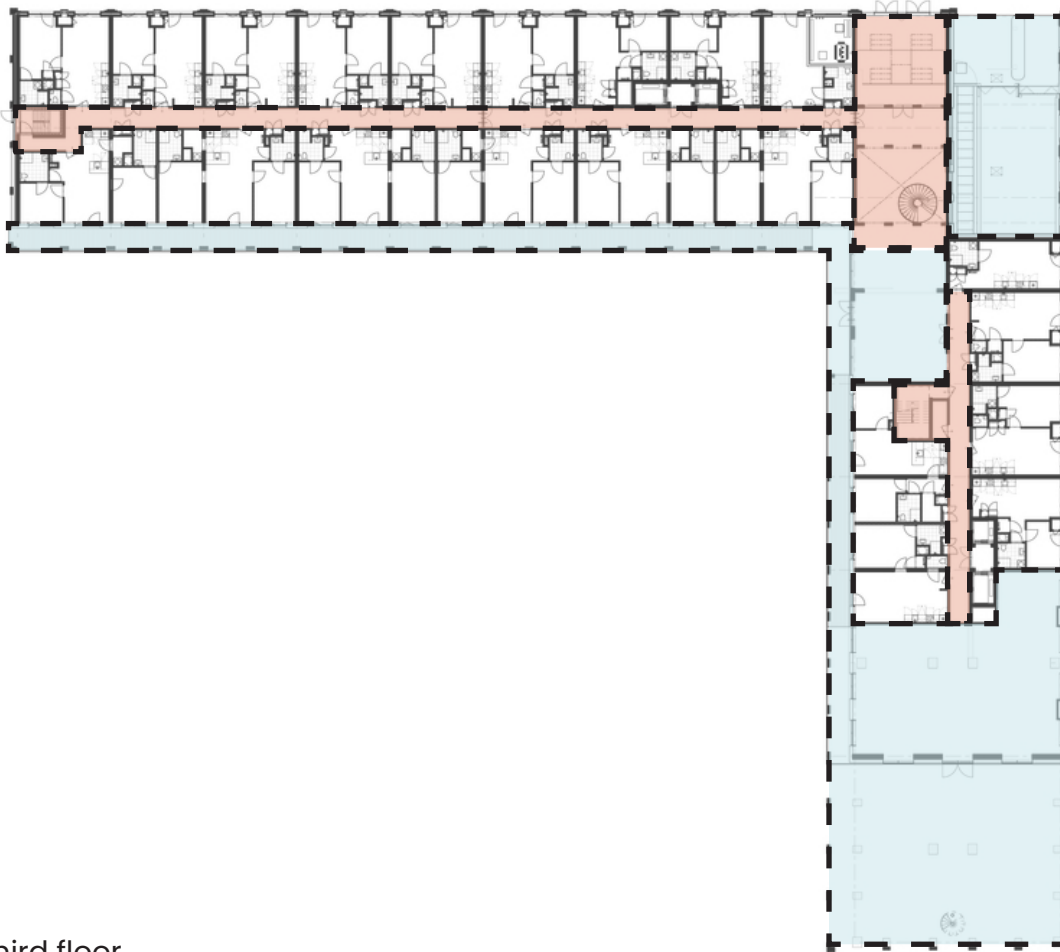
Figure 5. Floor plans East House (Caballero, 2024), analysis by author

Legend
Shared spaces
Access system

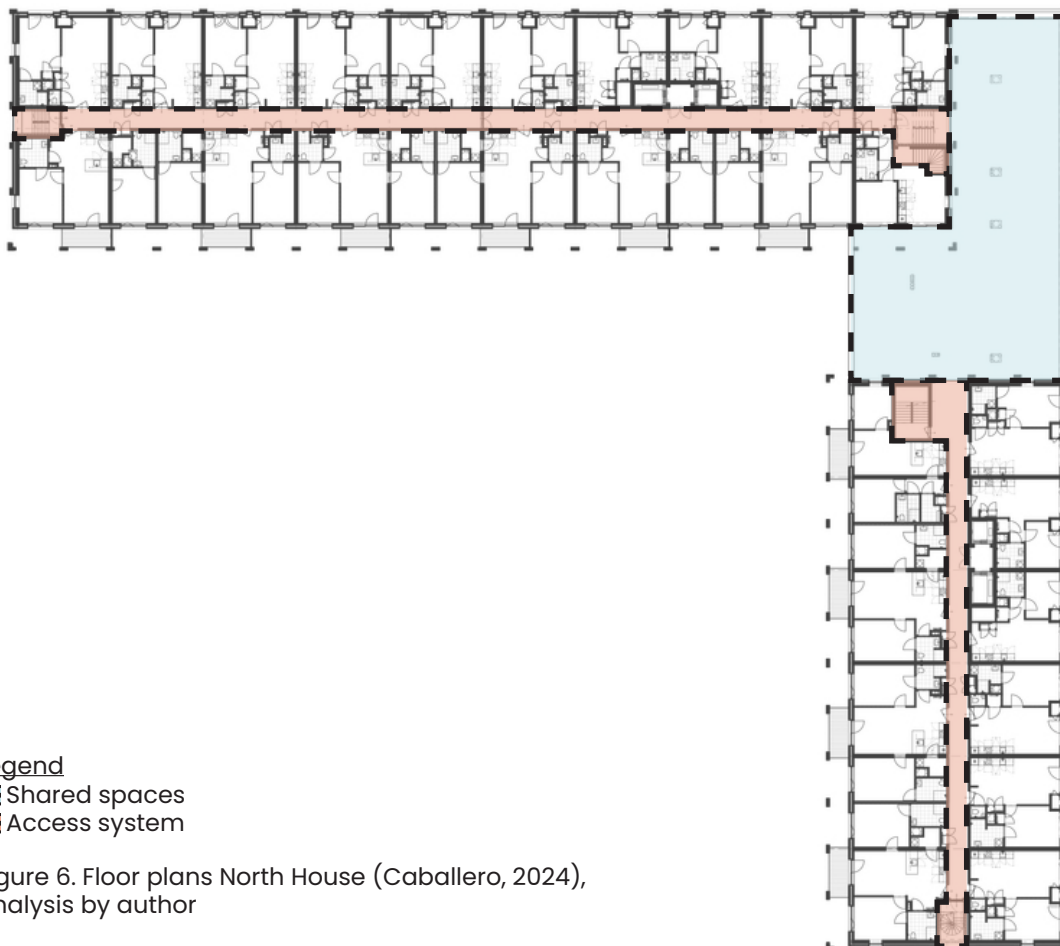
North House

Ground floor

5 10 20 



Third floor



Legend



-  Shared spaces
-  Access system

Figure 6. Floor plans North House (Caballero, 2024), analysis by author

West House

Ground floor



Ninth floor



Legend

- Shared spaces
- Access system

Figure 7. Floor plans West House (Caballero, 2024), analysis by author

AP.5 The House of Generations

Location: Aarhus, Denmark

Architects: ERIK Arkitekter, RUM

Year of completion: 2020

Site area: 27.400m²

Typology: multigenerational housing

Number of units: 304 apartments for 6 different target groups

Collective spaces: daycare centre, outdoor green spaces, cafe, theatre, and collective circulation spaces

The House of Generation project integrates a diverse range of housing and facilities, including elderly homes, nursing homes, family homes, youth housing, and daycare institutions, to foster intergenerational living and meaningful relationships. The building is divided into eight distinct houses, each with its own identity and architectural expression (figure 1 and 2). This design approach enables residents to connect with their specific house and cluster, creating a sense of belonging (RUM, 2023).

The project includes 100 nursing homes, 100 homes for the elderly, 40 youth homes, 40 family homes, and 24 homes for individuals with physical disabilities (Ibler, 2021). Shared public and communal spaces are strategically located on the ground floor of each building, extending beyond the project to engage with the surrounding neighborhood. These spaces include a daycare center, outdoor green areas (figure 3), a café, and a theatre (H O M E, 2018).

Additionally, semi-private gathering spaces are situated on every floor, close to individual homes. These areas are designed to maximize the use of circulation spaces (figure 4), encouraging interaction and connection among residents, while fostering a sense of community across all generations (H O M E, 2018).

Figure 5 illustrates the programmatic division of the ground floor alongside a typical floor plan, highlighting the transitions between public, semi-public, and semi-private spaces. The section further emphasizes the vertical relationship between the public and communal areas.



Figure 1. The House of Generations (RUM, 2023)



Figure 2. The House of Generations (RUM, 2023)



Figure 3. Outdoor space (RUM, 2023)



Figure 4. Collective circulation space (RUM, 2023)

Public space Staff area Communal space

1st floor

Legend:

- Semi-private circulation spaces
- Semi-public common spaces
- Outdoor public spaces

Key areas and labels on the floor plan:

- Opholdsstue** (Living room)
- Køkken / Alrum / Plejebefællesskab** (Kitchen / Living room / Care community)
- Bofællesskab** (Apartment community)
- Naboskab** (Neighborhood)
- Tagterrasse** (Day terrace)
- klyngekøkken** (Cluster kitchen)

Figure 5. Floor plans and section (H O M E, 2018)

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