

This paper is a reflection on the graduation year 2024–2025 within the studio ‘Designing for Health and Care in an Inclusive Environment’.

1. Relation Between the Graduation Project and My Master Track and Programme

The central theme of my project focuses on how architectural design choices can shape the built environment to bring different generations together. By emphasizing visibility and encounters, I aim to stimulate social interaction and create a ‘new kind of neighbor’, where people do not just live next to each other but look out for one another and form a close-knit community.

The studio’s overarching theme of designing for health and care aligns well with my research and design objectives. Within architecture, people are often forgotten, leading to spaces where individuals feel alienated and unable to relate to their surroundings. My project attempts to show the contrary by designing an environment that fosters connection and community. Beyond social interaction, the design also contributes to mental well-being by reducing loneliness and creating a sense of belonging. The inclusion of flexible communal areas and natural features ensures that residents of all generations can engage with their environment comfortably. Compared to traditional housing models, which often separates demographics, my approach encourages intergenerational support and collaboration, reinforcing the idea of community resilience.

2. Influence of Research on Design and Vice Versa

During the research phase, I identified key factors contributing to the feeling of a community (figure 1). The living environment is transforming as individualism weakens social bonds and reduces mutual support, highlighting the importance of forming communities. 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.

The findings of the study emphasize the value of shared spaces and inclusive design in facilitating casual and meaningful interactions. The research led to the development of design guidelines for shaping a multigenerational housing community concept. These guidelines address various spatial scales, from the neighborhood to building design to individual homes, ensuring that the built environment actively



Figure 1. Community aspects (by author)

supports social cohesion (figure 2). Key principles include strategically placing communal areas along walking routes, integrating semi-private spaces to encourage spontaneous conversations, and designing living units that cater to the needs of different household sizes, generations, and abilities.

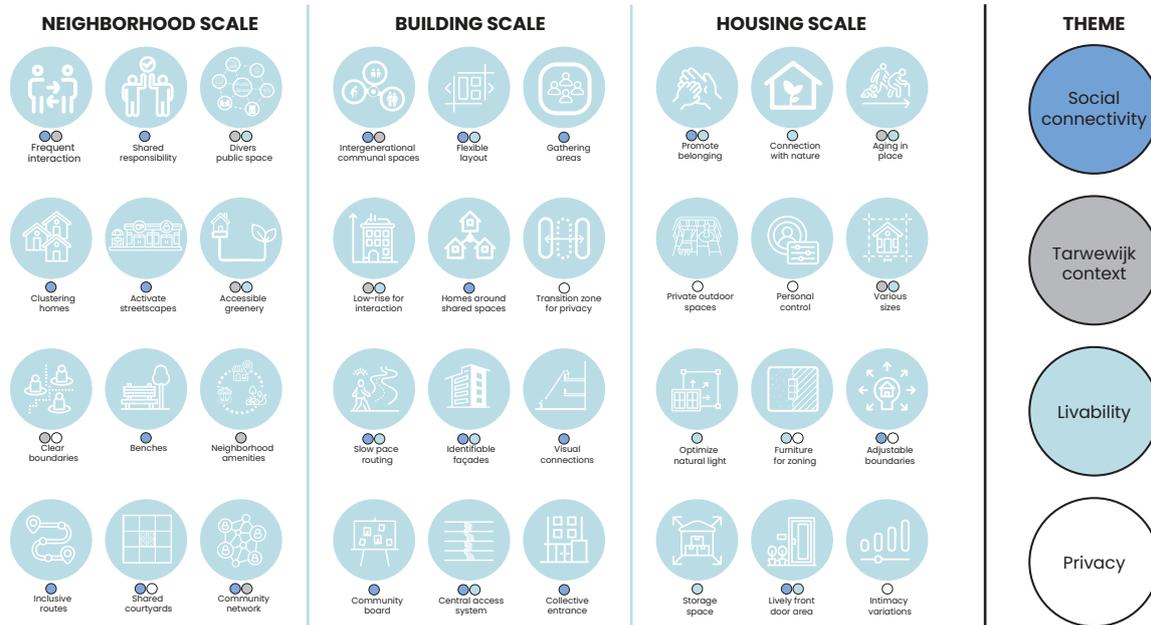


Figure 2. Design Guidelines (by author)

Throughout the process, my research directly informed my design decisions. For instance, the maximum building height of four stories was a direct outcome of research findings (figure 3). Similarly, both the research and insights gained during the fieldwork week shaped the design of various communal spaces.

Since the research report was completed prior to the start of the design phase, the design process did not influence the research itself. Looking back, revisiting the research during the design phase might have been beneficial, allowing for adjustments or additions as new insights emerged.

That said, research continued to play a role throughout the design phase. Whenever I encountered challenges or explored new possibilities, I actively turned to research to guide my decisions and ensure they were well-founded (figure 4).

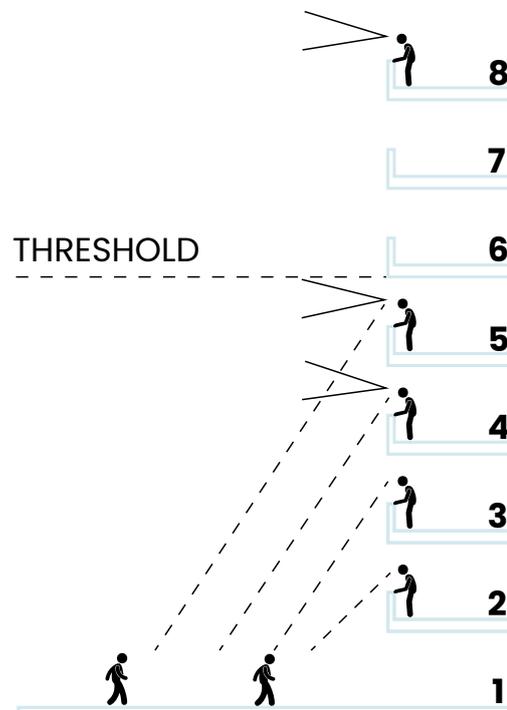


Figure 3. Influence of building heights on interaction Gehl (2011) (by author)

Ecosystem Research

A well-functioning ecosystem supports biodiversity and fosters a resilient urban environment. In designing the multigenerational housing community in Tarwewijk, it was focused on creating a habitat that attracts and sustains local bird species while enhancing the quality of outdoor spaces. To achieve this, I explored the most common birds in Tarwewijk using the **Urban Birdwatching Handbook (2023)**, which provides an overview of local bird populations based on site code. That tool generates a list of frequently observed species, offering insight into which birds are naturally present in the area and how the design can cater to their needs.

From this research, I selected five bird species to integrate into the plan. These species were chosen based on their prevalence in the neighborhood and their ecological role in supporting a balanced habitat. Each of these birds has specific nesting, foraging, and sheltering requirements that will influence the choice of vegetation, structural elements, and green interventions in the project.



Common bird species (Diergezondheidscentrum, 2023)

1. Koelmees > Great tit

- Nest: Prefers climbing plants oriented towards the sun and positioned higher up; also nests in birchhouses with an entrance hole of 28 mm.

- Food: Sunflowers attract many caterpillars and insects, and the seeds are also eaten.

2. Merel > Blackbird

- Nest: Favours climbing plants such as wisteria, which can grow up to 17 meters high, preferably supported by a helix rather than a straight support. Hedgehog hedges provide additional safe nesting sites.

- Food: Wisteria attracts a variety of insects. Beech hedges retain their leaves in winter, offering both shelter and food (insects).

3. Spreuwe > Starling

- Nest: Nests in birchhouses with an entrance hole of 45 mm, preferably in groups since they breed in colonies.

- Food: Berry-producing shrubs such as Hawthorn, elderberry, and rowan. Grassland and insect-rich areas are also important food sources.

4. Heggennuus > Dunnock

- Nest: Prefers nesting lower to the ground (and in trees) in shaded areas and dense shrubs.

- Food: Fresh fruit in shaded areas and provides both berries and shelter. Blackberry bushes are also valuable as they attract insects and berries.

5. Pimpelmee > Blue tit

- Nest: Nests in birchhouses with an entrance hole of 25-28 mm, ideally placed at 2-3 meters height, with the opening facing northeast.

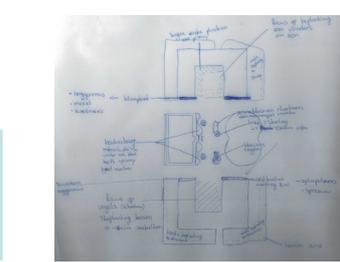
- Food: Feeds on insects and berries. Oak leaves attract many caterpillars, a crucial food source for young blue tits.

Conclusion

By incorporating targeted planting strategies—such as berry-producing shrubs, insect-attracting flowers, and climbing vegetation—the design also strengthens the connection between residents and their natural surroundings. Additionally, elements like nesting boxes, green facades, and varied vegetation layers provide essential resources for these species.

This approach aligns with the broader vision of creating a socially and ecologically sustainable living environment, where both people and nature thrive together.

	Koelmees > Great tit	Merel > Blackbird	Spreuwe > Starling	Heggennuus > Dunnock	Pimpelmee > Blue tit
Climbing plants	X	X		X	
Permanent planting and shrubs	X	X	X	X	X
Planting for butterflies			X		
Beech hedge		X		X	X
Wisteria				X	
Sunflowers	X				
Flower mix	X				X
Maple tree					
Wisteria		X			
Berry shrubs			X	X	X
Birchhouses	X		X	X	X



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Ecosystem integration in the Masterplan

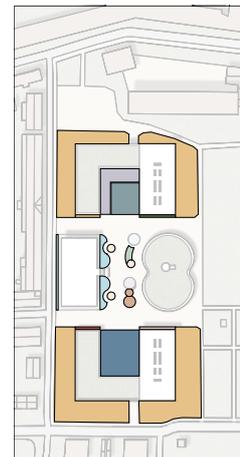
The masterplan incorporates the carefully designed ecosystem that enhances biodiversity while contributing to the overall functionality and experience of the space. The shared garden oriented to the South has been planned specifically to **attract butterflies**, featuring insect-rich flowering plants that support pollinators. Additionally, the **outer edges of the building** are designed with strategic planting that not only contributes to biodiversity but also enhances **privacy for residents**.

To maximize ecological benefits, **bird facades** have been utilized for climbing plants and bird-friendly features. These surfaces provide **nesting opportunities** for species such as the dunnock and blackbird, which prefer dense vegetation for shelter. In **shaded areas**, dedicated bird nesting spots offer safe breeding environments, particularly for species like the blue tit and great tit, which require a mix of both planting and concealed nesting sites.

A critical ecological feature is the **flight path for birds**. To support this, the birchhouses are positioned on the **north facade**, ensuring an unobstructed approach route over the community center. This placement aligns with the natural flight patterns of species like starlings and blue tits, which prefer north-facing nesting spots for temperature regulation.

The central plaza is designed as a multi-functional green space, featuring **large trees** that provide shade while supporting a **mix of flowering plants** to introduce seasonal color and attract insects, essential for bird populations. Additionally, the **pergola** is covered with colorful climbing plants to serve as a visual and social focal point that also attracts 'innocent' insect-beneficial prey for insectivorous birds such as the great tit and blackbird.

By integrating these ecological principles, the masterplan creates a balanced, nature-inclusive living environment that supports both biodiversity and community well-being.



Legend

- Permanent planting and shrubs
- Permanent plants for privacy
- Focus on planting for butterflies, located in the sun
- Beech hedge for privacy / retaining leaves in winter is important for privacy and attracts insects
- Sunflowers + great tit and flower mix + insects
- Maple tree + provide shade
- Pergola with wisteria + blackbird
- Focus on planting for birds, more in the shade / plants with berries and those that attract insects
- Climbing plants oriented to the south for nest building + dunnock, blackbird and great tit
- Nesting boxes in the facade for blue tits and starlings / facing north with slight path from the northwest
- Flowerbed growing on the facade / dunnock

Tutoring Takeaways (BT)

- Very good insight into ecosystem
- Possible to make schematic diagrams of all you choices within the masterplan
- Separate them on keep it simple
- Start researching materials and what about sustainable materials

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Figure 4. Pages of design booklet with research done during design phase and integration into design

3. Assessment of Approach, Methods, and Methodology

My approach integrates literature research, site analysis and mapping, quantitative research, and case studies. This combination of methods aimed to identify suitable solutions for the challenges of multigenerational housing. The use of these different methodologies proved to be beneficial in capturing different perspectives and providing a comprehensive analysis.

Fieldwork conducted in 't Kampje was particularly valuable for understanding the perspective of the elderly. However, due to time constraints, it was not possible to engage deeply with my other target groups, limiting a more balanced insight. To compensate, I examined secondary research on young professionals and families in housing settings and incorporated insights from case studies.

While the overall approach was beneficial, the connection to the specific context of Tarwewijk remained relatively limited. Although the topic of multigenerational housing is universally relevant, I recognize that a more thorough investigation into the neighborhood's multicultural framework would have enriched my research. Cultural backgrounds significantly influence how people use and interpret public and private spaces. As such, different communities might have unique needs when it comes to communal areas, such as flexible prayer or meditation rooms, or culturally specific seating arrangements that support various social customs. Incorporating these considerations would ensure that the design responds meaningfully to the needs of the diverse population within Tarwewijk.

4. Assessment of the Academic and Societal Value of the Project

The project holds both academic and societal value by addressing urgent social challenges such as the rise in individualism and the growing reliance on professionalized care. The design proposes a housing model that fosters informal support networks and daily interaction between residents of different generations. By prioritizing relational design principles and a human approach, the project seeks to create spaces that not only accommodate diverse needs but also promote well-being and a sense of belonging.

From an academic perspective, my work contributes to typological innovation in intergenerational housing by offering new spatial strategies for inclusive community design within dense urban environments. These strategies explore how spatial configurations can support both independence and interdependence, responding to demographic shifts and urbanization trends.

Ethically, the project also engages with the responsibility of architects to create environments that empower vulnerable groups, particularly older adults, without separating them or reinforcing dependency. The project advocates for spatial solutions that embed care and connection into the fabric of everyday life.

Furthermore, on an environmental level, my design integrates sustainability by rethinking waste materials as usable resources and establishing an ecosystem that minimizes waste and incorporates flora and fauna. By treating sustainability as a broader system involving both residents, the built environment, and flora and fauna, the design fosters a circular approach.

5. Transferability of Project Results

The design guidelines formulated in this project are general and adaptable, allowing for interpretation based on specific project needs, location, and demographics. While these guidelines form a strong foundation for building communities, it remains crucial to tailor them to each project's unique context. For instance, in a suburban setting, the guidelines might emphasize larger outdoor communal areas, whereas in a dense urban environment, vertical connectivity might be more appropriate.

6. Reflection on Mentor Feedback

Throughout the graduation year, the weekly feedback sessions were a cornerstone of my development process. They offered critical moments for reflection, recalibration, and growth. My mentors consistently provided not only constructive feedback but also the reasoning behind their suggestions, drawn from their professional experience to explain why certain design choices might not function well or could be strengthened. This helped me develop a more critical and analytical mindset, allowing me to revisit my work with 'fresh eyes' and recognize opportunities for improvement that I might have overlooked otherwise.

One particularly impactful area of feedback concerned the design of the various apartment types and how different target groups, such as elderly residents, young professionals, and families, need different spatial configurations to accommodate their needs. This prompted me to rethink spatial flexibility and accessibility in the layouts, resulting in more inclusive designs.

Another key area of guidance was the refinement of the landscape design within my masterplan. Feedback helped me consider not just the aesthetics and circulation, but also how outdoor spaces could actively support community interaction and offer quiet moments of retreat. This input elevated the landscape from a passive connecting element between the buildings to a vital part of the project's social and spatial strategy.

Moreover, I was encouraged to explore innovative strategies for integrating sustainable materials and systems, particularly in relation to waste reuse and circular construction. This pushed me beyond conventional approaches and expanded my knowledge of emerging practices in sustainable design.

After each feedback session, I revisited my notes, documented insights in my design booklet, and clearly outlined steps for the following week (figure 5). This structured and reflective workflow enabled consistent progress and kept the project grounded in both critical thinking and creative development.

Square Design Sketch

The square serves as the heart of the masterplan, designed as a central gathering space for the community and a venue for events. To contrast the rigid layout of the overall plan, rounded shapes are introduced to soften the space and create a more inviting atmosphere. The square is anchored by a residential building and the community center, reinforcing its role as a vibrant social hub.

1. Zones

Different zones within the square help attract varying levels of activity. A calmer area is placed at the center, providing a quiet retreat, while a busier path runs alongside the community center to encourage movement and interaction.

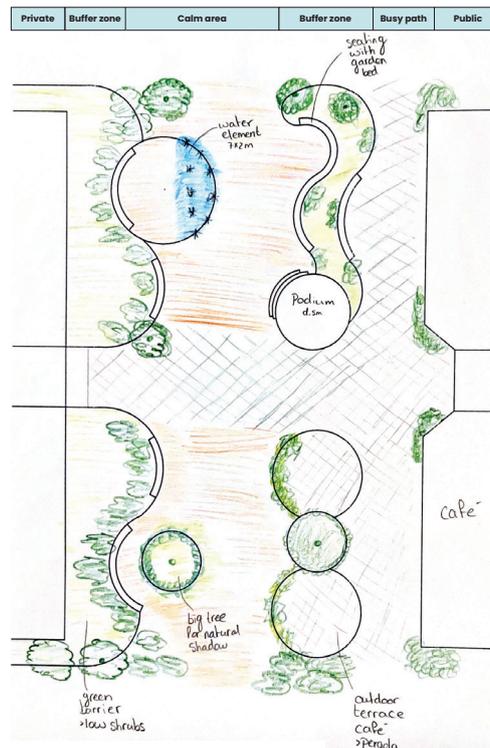
2. Elements

Greenery is incorporated throughout the design, serving as natural buffers and creating shaded areas for comfort. A **water element** is introduced, recognizing its ability to draw people in and enhance the overall experience. Additionally, a **podium** for live entertainment is centrally located and oriented to allow space for audiences to gather. To the south, a **pocket park** with a large tree and seating offers a shaded, relaxing environment during the summer. Across from the community center café, a **pargola** with greenery extends the café's presence into the square, creating a lively and active atmosphere throughout the day.

3. Pavement types

The pavement design further supports the functionality of the space. A durable, easy-access surface is used along the busy pathways and toward the residential entrance, ensuring smooth movement, while a softer, more textured pavement defines the quieter zones, such as the area around the water element and pocket park, encouraging a slower, more relaxed pace.

By integrating activity, natural elements, and thoughtful material choices, the square becomes a versatile and welcoming space that strengthens the sense of community.



Main feedback

- Water element will attract a lot of people so that area will not be 'calm'; if you want it to be calm consider moving it more toward the community center
- Using one pavement in front of the community center and toward the residential building does not reflect public to private transition; to achieve this use different materials
- Incorporate the "Layers of privacy" in square too
- Look into different options for the shape of the community center; make it really different than the residential buildings > is it a possibility to connect the rounded square design with the center?

Tutoring Takeaways (A)

- Define which elements of "Starting by seeing each other" I want to implement and expand on different levels
- Make "Layers of privacy" into square
- Look at the design language of the community center in relation to the design of the square and the existing park; should it also use rounded shapes?
- Start working on the floorplans

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Figure 5. Page of design booklet with feedback tutor and takeaways for the next week

7. Looking Ahead: The Final Phase of the Graduation Project (from P3 to P4)

As I entered the final phase of my graduation project from P3 to P4, my focus was on refining and strengthening the design through continuous development and the implementation of tutor feedback. This stage was dedicated to deepening the project's core objective: fostering social cohesion through architectural design. A key priority was enhancing the integration of communal spaces and access systems to encourage organic social interactions among residents. I further developed strategies to promote engagement across different generations, ensuring that shared spaces were both inviting and functional.

Additionally, I worked on optimizing the design of the facades and the public square to create a harmonious relationship between the built environment and the surrounding urban fabric. This involved balancing aesthetics, functionality, and climate responsiveness while ensuring that the design resonates with the needs of the community. By addressing these elements across multiple scales—from individual units to shared spaces and the broader neighborhood—the project achieved a holistic and well-integrated outcome.

Reflection Questions

Finally, I developed two questions that reflect on the core ambitions of my project and offer a pathway to further explore its spatial, social, and ecological implications.

1. *In what ways can architectural design foster spontaneous social interaction across generational and cultural boundaries?*

This question lies at the heart of my graduation project. Throughout the design process, I discovered that fostering genuine, spontaneous interaction begins with creating opportunities for encounter. Design elements such as semi-public thresholds, collective

entrances, shared green spaces, and visual connections act as subtle invitations to connect. Yet fostering cross-generational and intercultural interaction requires more than spatial adjacency, it demands empathy-driven design.

Through fieldwork, literature, and case studies, I learned that different groups engage with space in different ways. Elders may seek quiet but visible places to observe, while young professionals may value multifunctional or informal meeting points. Culturally diverse communities bring varied customs around gathering, privacy, and gender dynamics. As a result, spaces must be designed to be accessible, adaptable, and open to interpretation. By layering zones of privacy, enabling different rhythms of use, and avoiding too strict programming, architecture can become an enabling framework for spontaneous connection. This requires balancing inclusivity with respect for difference—a design attitude I aim to carry forward.

2. How can sustainable strategies in architecture be designed to influence residents' daily behaviors and contribute to broader environmental systems?

Sustainability is not just a technical ambition in this project, it is embedded in how people live and interact with their surroundings. From the reuse of waste materials to the integration of ecological systems, like bird habitats and pollinator friendly planting, sustainability is designed to be visible, tangible, and participatory.

My masterplan promotes behavioral change by integrating sustainability into everyday life. Features such as rainwater collection, integrated greenery, and the shared communal vegetable garden make ecological systems a part of the communal experience. The presence of birdhouses and planting that attract local species encourages residents to engage with seasonal change and biodiversity. These small design moves cultivate a sense of connection, residents are not passive users but active participants in a shared ecosystem.

Crucially, these design strategies go beyond symbolic gestures. They are directly aligned with broader environmental objectives, including climate adaptation, circular resource management, and ecological resilience. In this way, architecture becomes a mediator between sustainability ambitions and human behavior, translating complex environmental goals into accessible, habitual actions embedded in the rhythms of daily life.