

# THE ELDERLY IN A POST-WAR SHOPPING MALL



A STUDY ON THE NEEDS OF THE ELDERLY IN A  
NEIGHBOURHOOD SHOPPING MALL AND THE  
PRESERVATION OF THE NEIGHBOURHOOD SHOPPING  
MALL'S VALUES

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# COLOPHON

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***“The grey tsunami. A demographic timebomb. The ageing crisis. The apocalyptic terms in which we describe the greatest societal success of the last century”***

(Hamond, 2021)

# ABSTRACT

This research explores the evolving role of shopping malls in the lives of the growing elderly population in the Netherlands. Delving into the unique needs and desires of the elderly, the study emphasizes diversity, accessibility, community, and inclusivity within shopping centres. The research methodology integrates a comprehensive literature review, a case study of elderly-cantered architectural designs, and structured interviews with elderly individuals. Contrary to the prevalent literature portraying the elderly as fragile and facing significant challenges, the interviews unveil a diverse reality of ageing, emphasizing individuality and varied impacts on daily life. The case study elucidates themes of mobility and social community as crucial elements in the design of age-inclusive spaces. By integrating these perspectives, the research concludes that a one-size-fits-all blueprint for shopping malls is inadequate. Instead, designers should focus on incorporating practical amenities, a diverse shopping environment, promoting community, and ensuring accessibility to cater to the broad spectrum of elderly needs and preferences. Furthermore, the study advocates for ongoing research to understand how the ageing population's needs influence urban environments and various functions within these spaces. Ultimately, this research envisions an age-inclusive future, where cities and spaces are designed to meet the evolving requirements of an ageing population, promoting inclusive and enjoyable environments for all.

# PREFACE

This paper is part of the graduation studio named Adapting 20th century heritage. The focus point of this graduation project, at the faculty of architecture at the TU Delft, is the redesign of the 20th century shopping malls. The personal fascination that gives direction to this research and redesign is design for the elderly and creating an age-inclusive environment. Together with this paper and other additional research knowledge will be gathered in order to properly redesign the shopping malls so that they cater to the needs of the elderly and create an environment that is beneficial to all ages.

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# INTRODUCTION

In the Netherlands, the shopping mall concept gained traction in 1953, with Rotterdam's Lijnbaan being a pioneer (Gramberg, 1993; Van Es, 2016). Influenced by Van den Broek en Bakema's friendship model (Figure 1), it advocated for separating retail and housing, featuring lower retail buildings encircled by taller housing structures. Over the years, mall design has evolved, from indoor malls like Hoog Catherijne in the 1970s and 80s to the current trend of comprehensive mall transformations into a luxurious shopping experience such as the Mall of the Netherlands (Gramberg, 1993; Van Raaij, 2023). Amidst these changes, societal shifts like digitalization, changing mobility patterns, and shifting demographics continue

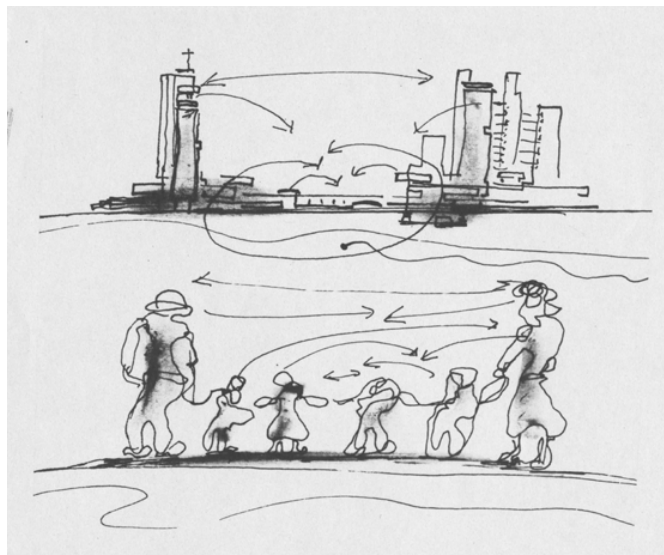


Figure 1, Friendship diagram, From Van Es, (2016)

to shape the trajectory of shopping malls. This paper focuses on a significant demographic shift: the growing elderly population in the Netherlands. Due to the ageing population, the ratio of the elderly compared to the group of adults between the ages of 20 to 65 is increasing, resulting in grey pressure (Figure 2). In 1990, the grey pressure was 20.8%, meaning that there were 5 adults between the ages of 20 to 65 for every elderly adult. In 2023, this grey pressure increased to 34%, resulting in 3 adults for every elderly individual (CBS, 2022). This demographic shift raises critical questions about sociality, such as how to take care of the elderly when the grey pressure increases or how will society need to change in order for the elderly to live more independently longer. Not only will the grey pressure have an impact on the bigger scale of society, but it will also influence neighbourhoods and their design, therefore this paper looks into how the shopping malls in neighbourhoods will evolve due to the grey pressure as well as how the shopping malls can provide some solutions or opportunities to deal with the grey pressure.

Shopping malls can function as essential community spaces, facilitating social interaction and mobility, particularly for the elderly (White, 2015). However, unlocking this potential requires addressing critical issues or opportunities within the



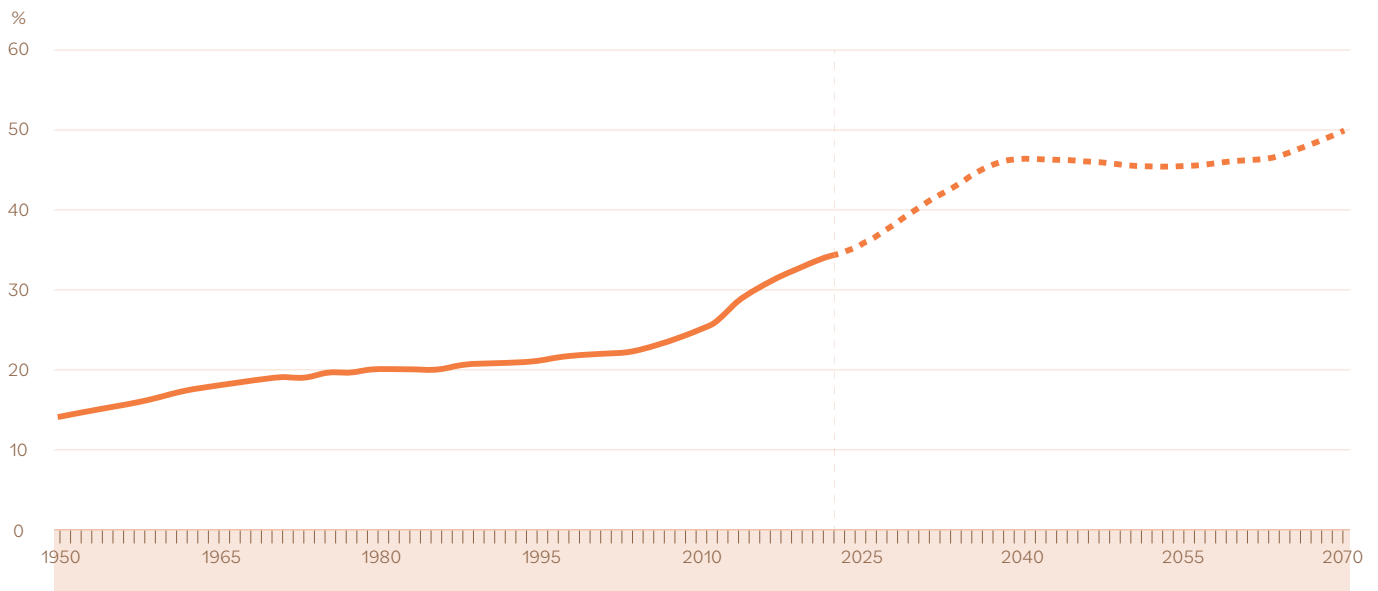


Figure 2, The gray pressure, Population elderly compared to the population of between the age of 20-65 years. From CBS (2022)

shopping mall. Firstly, creating dedicated and suitable spaces within malls for elderly social interaction is imperative, as highlighted by the emergence of ‘hangouderen,’ elderly individuals congregating in malls and public spaces, which can sometimes disrupt the mall environment (Van Doorn et al., 2008). By providing better social spaces within the shopping mall the elderly can still enjoy their social interactions in more enjoyable surroundings for them and the other users of the shopping mall. Secondly, the unique shopping habits of the elderly, characterized by reduced reliance on non-food-oriented shops due to having the essentials, challenge mall sustainability if not accommodated (ABN AMRO, 2022). Lastly, mobility concerns, encompassing access to and movement within malls, can deter elderly shoppers. Issues like entry thresholds and malfunctioning escalators can pose significant hurdles (White, 2015). On a larger scale, reaching malls can be challenging due to long walking distances and inadequate public transport options, directing elderly consumers toward neighbourhood centres and changing the role of urban malls (ABN AMRO, 2022). Failure to address these changes could impact mall owners and neighbourhood shopping malls.

This research paper aims to identify ways to design an environment, with a specific focus on neighbourhoods and their shopping

malls, that fits the needs of the growing population of the elderly while ensuring they remain inclusive spaces for all. To address this challenge, the following research question is posed:

“How can the needs of the growing elderly population in the Netherlands influence the design of post-war shopping malls and their neighbourhoods?”

To delve into this societal issue, specific sub-questions are explored:

How does the process of ageing impact individuals?

What are the personal needs of the elderly in a neighbourhood shopping mall and its surroundings?

This research aims to illustrate the evolving role of shopping malls in the lives of the elderly and their neighbourhoods, offering valuable insights for designers, stakeholders, and policymakers as they navigate the changing landscape of urban and architectural spaces in an ageing society.

# METHODOLOGY

The research methodology comprises three critical components. Initially, a comprehensive literature review was conducted to explore the subjects of ageing and the specific needs of the elderly. This literature review established a foundational knowledge base and incorporated scholarly perspectives on these subjects into the research. Subsequently, in order to gain an additional perspective on the topic of the elderly, a case study was conducted on designs for the elderly submitted to the architectural competition ‘Who cares.’ These designs provide insight into the perspective and knowledge provided by architects and designers, offering design tools for creating an elderly-friendly, inclusive environment. Lastly, the research sought to gather the direct perspectives of elderly individuals on these topics through a series of structured interviews held in the neighbourhoods of two shopping centres in The Netherlands, the Bogaard in Rijswijk and Leyweg in The Hague. By referring to two different shopping centres, the goal was to obtain a more accurate and diverse understanding of how the elderly view shopping malls so that this research was not bound to a specific shopping mall. The interviews were transcribed and subsequently subjected to a systematic coding process using the software tool Atlas.ti. This coding process facilitated the organisation and categorisation of the interview data. The

way of coding was to extract the mentioned topics during the interviews and place them within the category of positive or negative comments or if it is a ‘want’ or ‘need’ according to the elderly. Following this coding phase, a thorough analysis of the interviews was undertaken, allowing for a meaningful comparison between the insights garnered from the interviews and the existing literature. By adopting this triple-pronged approach, of looking into the perspectives of the scholars, the designers and the elderly themselves, this research aimed to provide a well-rounded understanding of the issues surrounding ageing and the specific personal needs of the elderly population. This comprehensive methodology ensured that the findings were grounded in academic and professional research and enriched by the authentic voices and lived experiences of elderly individuals. In summary, the research methodology was designed to bridge the gap between scholarly knowledge, professional viewpoints, and real-world experiences, offering a multifaceted perspective on ageing and the unique needs of the elderly population. Through the synthesis of academic literature, case studies, and direct interviews, the research contributes to a more comprehensive and empathetic understanding of these vital topics, with the ultimate goal of informing policies and practices that enhance the quality of life for elderly individuals in our society.

# THEORETICAL FRAMEWORK

Forming a base of knowledge is the first and essential part of this research. Doing a literature review on the topic of the elderly gives academic insight into the topic of ageing and the needs of the elderly in daily life and in the shopping mall. It is important to understand the demographic group better since it can be difficult to imagine what the elderly are going through from the viewpoint of the younger generations. Therefore this literature review is a first step in answering the questions on what the elderly struggle

with when ageing and what the specific needs result from these struggles. In other words, the literature review will serve as a way to get more familiar with the demographic group of the elderly. The knowledge gathered from the existing literature is discussed according to the following categories: the elderly and ageing, the elderly and design, and the elderly and the shopping centre. Each category will describe important findings within the literature that will help create a better understanding and a starting point for further research.

## AGEING

ABNAMBRO, (2022)  
*De consument van morgen, onderzoek naar toekomstig koopgedrag in een vergrijzende samenleving*

Carstens, D. Y. (1993)  
*Site planning and design for the elderly, Issues, guidelines, and Alternatives.*

Farage, M. A., Miller, K. W., Ajayi, F., & Hutchins, D. (2012).  
*Design principles to accommodate older adults.*

Schultz A. B. (1992).  
*Mobility impairment in the elderly: challenges for biomechanics research.*

## DESIGN

ARUP (2015)  
*Shaping ageing cities,*  
ARUP (2019)  
*Cities Alive; Designing for ageing communities,*

Blackler, A., Brophy, C., O'Reilly, M., & Chamorro-Koc, M. (2018).  
*Seating in aged care: Physical fit, independence and comfort.*

Farage, M. A., Miller, K. W., Ajayi, F., & Hutchins, D. (2012).  
*Design principles to accommodate older adults.*

Gamme, A., Rafoss, A. B., The Norwegian Association of Local and Regional Authorities (2020)  
*Handbook for age-friendly communities,*

Hammond, M., Saunders, N., (2021)  
*A design for Life, Urban practices for an age-friendly city*

Meuser, P., Pogade, D., & Tobolla, J. (Eds.). (2019). *Accessibility and wayfinding.*

World Health Organization. (2007).  
*Global age-friendly cities: a guide.*

## SHOPPING MALL

Carstens, D. Y. (1993)  
*Site planning and design for the elderly, Issues, guidelines, and Alternatives.*

White, R., Toohey, J., Asquith, N., (2015)  
*Seniors in shopping centres.*

ABNAMBRO, (2022)  
*De consument van morgen, onderzoek naar toekomstig koopgedrag in een vergrijzende samenleving*

Figure 3, Theoretical framework, From, K.K.Delis (2023)

## THE ELDERLY AND AGEING

Ageing, an inherent aspect of human life, occurs universally as time progresses. Beyond mere wrinkle formation, ageing embodies a profound shift in the functionality of our bodies. According to the National Library of Medicine (2000), the definition of ageing is the following: ‘Ageing can be defined as the time-related deterioration of the physiological functions necessary for survival and fertility. The characteristics of ageing—as distinguished from diseases of ageing (such as cancer and heart disease)—affect all the individuals of a species.’. With this definition in mind, this research focuses on ageing with a specific focus on time-related deterioration, such as sensorial and mobility deteriorations, and their impact on individuals, with an additional focus on the impact of ageing on time management among the elderly.

**SENSORY CHANGES:** Age-related alterations in sensory perception, particularly in vision and hearing, are a prominent focus of this research. These changes are well-documented in the literature and can have significant implications for the daily lives of elderly individuals. Vision, in particular, undergoes several alterations with age. Notable findings include lens thickening, reduced colour perception, heightened sensitivity to light, and a decline in peripheral vision (Carstens, 1993; Farage, 2012). These changes necessitate more deliberate environmental scanning and adaptation strategies among the elderly. Similarly, hearing undergoes age-related modifications, leading to reduced perception of high-pitched tones and difficulties in filtering auditory information (Farage, 2012). These hearing changes can present challenges in understanding conversations and engaging in social interactions. Understanding the nuances of these sensory changes is essential for creating environments that accommodate the evolving needs of the elderly population.

**MOBILITY:** The decline in mobility is a common feature of ageing and has profound consequences for an individual’s quality of life. This research delved into the factors contributing to reduced mobility among elderly individuals, shedding light on the physical and functional aspects of this phenomenon. The identified factors encompass reduced joint range of motion, diminished muscle function, slower reaction times, and compromised proprioception. These changes collectively affect an individual’s reach, trunk height, balance, walking speed, and accuracy, impacting their overall mobility (Schultz, 1992). Understanding the multifaceted nature of mobility changes is crucial for designing environments and services that facilitate the continued independence and well-being of the elderly population.

**TIME MANAGEMENT:** Transitioning to retirement is a significant life event that profoundly impacts how elderly individuals manage their time. This literature review explored the various choices made by the elderly in utilizing their newfound leisure time. These choices are diverse and reflect the evolving priorities of this demographic. Many elderly individuals opt for increased social interactions, enjoy holidays, engage in hobbies, enjoy some reading time and prioritize regular exercise (Figure 4). This shift in time management represents a transition from a more structured and work-centric life to one characterized by greater flexibility and personal fulfilment. Recognizing these evolving preferences is essential for designing age-inclusive environments that support the varied interests and activities of the elderly (ABN AMBRO, 2022).

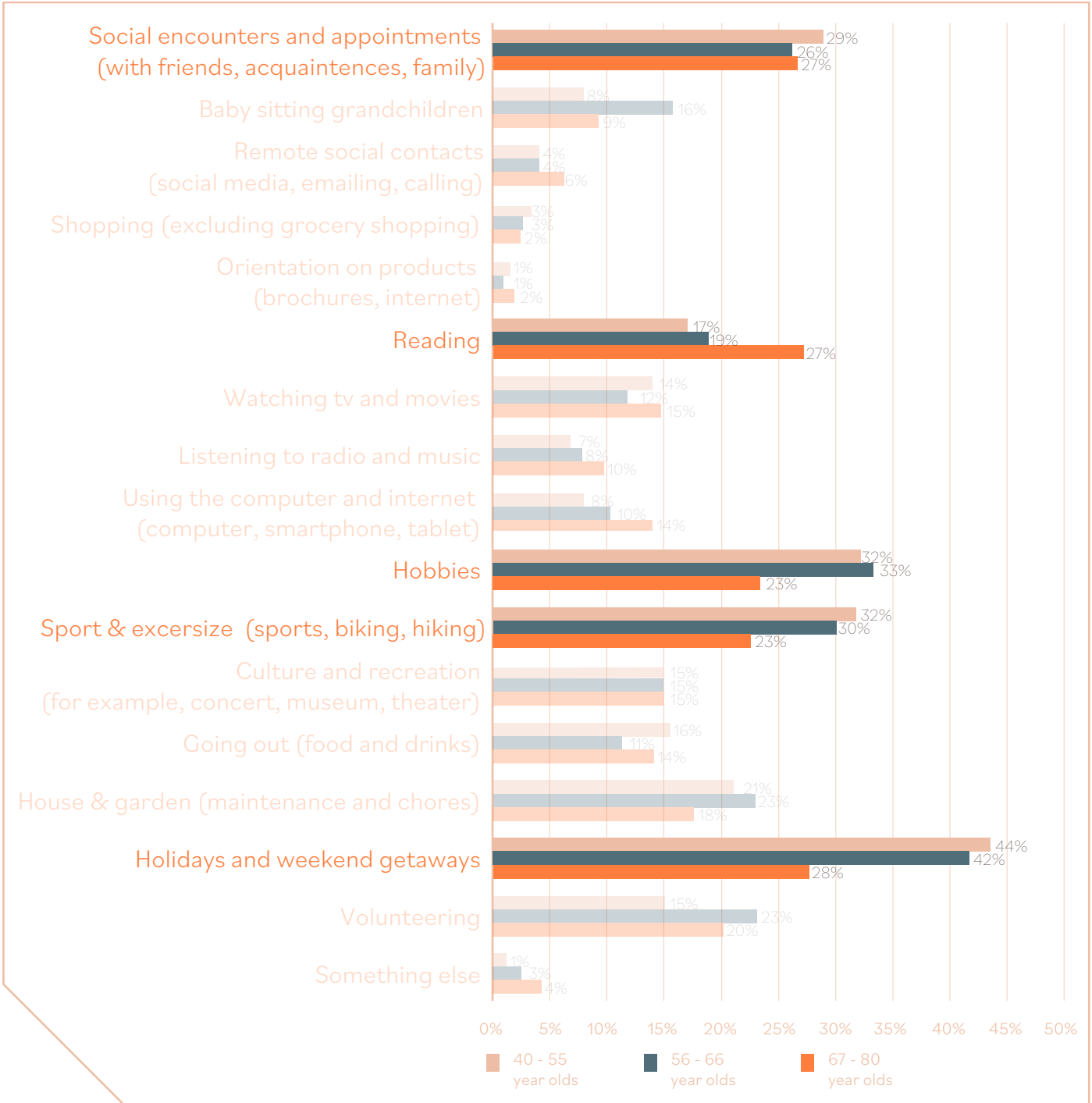


Figure 4, Activities done in free time per age group (ABN-AMBRO, 2022)

## THE ELDERLY AND DESIGN

Expanding on the previous paragraphs' topic of ageing's sensory and mobility effects, this paragraph delves into these needs of the elderly in terms of design. Additionally, it examines how the elderly function in society and how this can possibly influence the design. Engaging with these requisites deepens understanding of the elderly's daily experiences. This represents the first step in creating an age-inclusive environment promoting security, comfort, and connection not just for the elderly but for everybody.

**AGE-INCLUSIVE DESIGN:** Age-inclusive design is a fundamental aspect of creating environments that are accessible and accommodating to individuals across different age groups. This research aligned with the principles outlined by the World Health Organization (2007) and further refined by ARUP (2019). These principles encompassed four essential categories: autonomy and independence, health and well-being, social connectedness, and security and resilience, encompassing fourteen strategies, as seen in figure 5. Compared to the principles of the



Figure 5, Age-inclusive design categories and strategies, (ARUP, 2019)

World Health Organization, the principles and strategies by Arup are more elaborate. These strategies give clear insight into the important focus points for designing an age-inclusive environment. Therefore they can be very helpful for designers who must consider which aspects can and should be incorporated into the design they are making.

**SENSORY AND MOBILITY NEEDS:** Addressing sensory needs within the context of age-inclusive design involves considerations such as controlled lighting, surface distinction, and reduced background noise. The elderly benefit from warmer indoor temperatures, tactile stimuli, and well-designed lighting that enhances visibility and comfort. In terms of mobility, clear pathways, accessible shelves, appropriate seating height, and considerations for walking ranges are

critical factors to ensure that environments are navigable and accommodating for the elderly (Figure 6) (ARUP, 2015; Blackler, 2018; Farage, 2012; Meuser, 2019; World Health Organization, 2007).

**FUNCTIONAL AND SOCIAL NEEDS:** Designing environments that cater to the functional and social needs of the elderly is essential for promoting their well-being. This includes ensuring access to public transport, health services, green spaces, and community support. The promotion of mixed-use areas that facilitate independence and social interaction is a key aspect of age-inclusive design. Additionally, considering restroom accessibility and addressing extreme weather conditions is vital for creating safe and supportive environments (ARUP, 2019; Gamme, 2020; Hammond, 2021).



Figure 6, Walking range of elderly, (ARUP, 2015)

## THE ELDERLY AND THE SHOPPING CENTRE

Narrowing into the topic of the shopping centre, shopping habits of the elderly, design needs and wishes, literature provides insights into designing shopping centres as elderly-friendly as possible. Understanding how and why the elderly use the shopping centre helps improve the feeling of comfort and safety in a shopping centre for the elderly as well as better security and stability for shop owners.

**SHOPPING HABITS:** Understanding the shopping habits of the elderly is crucial, as these habits evolve with age and changing needs. The research uncovered fascinating shifts in shopping behaviour among this demographic (ABN-AMBRO, 2022). Despite accumulating possessions over time and exhibiting reduced shopping needs, many elderly individuals find shopping to be an enjoyable and meaningful activity. Literature review reveals a preference among the elderly for physical stores, particularly for shopping related to sports and gardening (figure 7). Neighbourhood shopping malls emerged as primary destinations for daily needs, serving as convenient and accessible hubs for elderly shoppers. In contrast, larger urban malls tend to attract younger generations and leisure shoppers, underscoring the importance of tailoring shopping environments to the preferences of different age groups (ABN-AMBRO, 2022). An intriguing trend that emerged from the literature review is the growing popularity of online shopping among the elderly, representing 22.5% of their total shopping activities (Figure 8). Electronics emerged as the most popular category for online purchases. Recognizing the significance of these shifting shopping habits is essential for retailers and designers looking to provide convenient and enjoyable shopping experiences for elderly consumers (ABN-AMBRO, 2022).

### NEEDS WITHIN THE SHOPPING CENTRE:

Shopping centres play a central role in the lives of many elderly individuals, offering a diverse range of activities and services. The research highlighted the importance of addressing specific needs within these shopping environments to enhance the overall experience for the elderly. Ensuring safety through adequate lighting, sightlines, ramps, accessible restrooms, and surveillance is paramount (Carstens, 1993; White, 2015). Design considerations should include spacious and comfortable elevators, accessibility through appropriate seating, thoughtful flooring choices, and effective wayfinding solutions. Creating comfortable buffer zones and transitional spaces can enhance the overall comfort and usability of shopping centres. Moreover, designing spaces that encourage interactions among the elderly and effective crowd management strategies can further contribute to a positive shopping experience (Carstens, 1993; White, 2015).



### How do you feel about buying products in the category:

	Fashion/ Shoes	Garden	Sports	Electronics	Hardware	Living	Super- Markets	Specialty Stores
<b>Buying online I find</b>								
No fun at all	11%	17%	7%	4%	10%	7%	13%	8%
No fun	14%	21%	14%	11%	18%	13%	18%	18%
Neutral	<b>33%</b>	<b>32%</b>	<b>42%</b>	<b>39%</b>	<b>44%</b>	<b>42%</b>	<b>31%</b>	<b>36%</b>
Nice	28%	18%	25%	31%	15%	31%	16%	23%
Very nice	7%	3%	6%	11%	3%	2%	5%	5%
I do not buy online	6%	8%	5%	4%	10%	5%	17%	9%
<b>Buying in physical stores I</b>								
No fun at all	2%	1%	2%	1%	1%	0%	5%	1%
No fun	8%	2%	5%	7%	4%	5%	8%	5%
Neutral	24%	19%	22%	31%	31%	22%	<b>37%</b>	29%
Nice	<b>45%</b>	<b>49%</b>	<b>52%</b>	<b>42%</b>	<b>48%</b>	<b>47%</b>	36%	<b>42%</b>
Very nice	20%	29%	17%	18%	15%	26%	12%	22%
I do not buy physical	1%	0%	1%	0%	0%	0%	1%	0%

Figure 7, The enjoyment of shopping in a type of store, either online or physical among people aged 67 and above (ABN-AMBRO, 2022)

### What percentage of your purchases in the category do you do online?

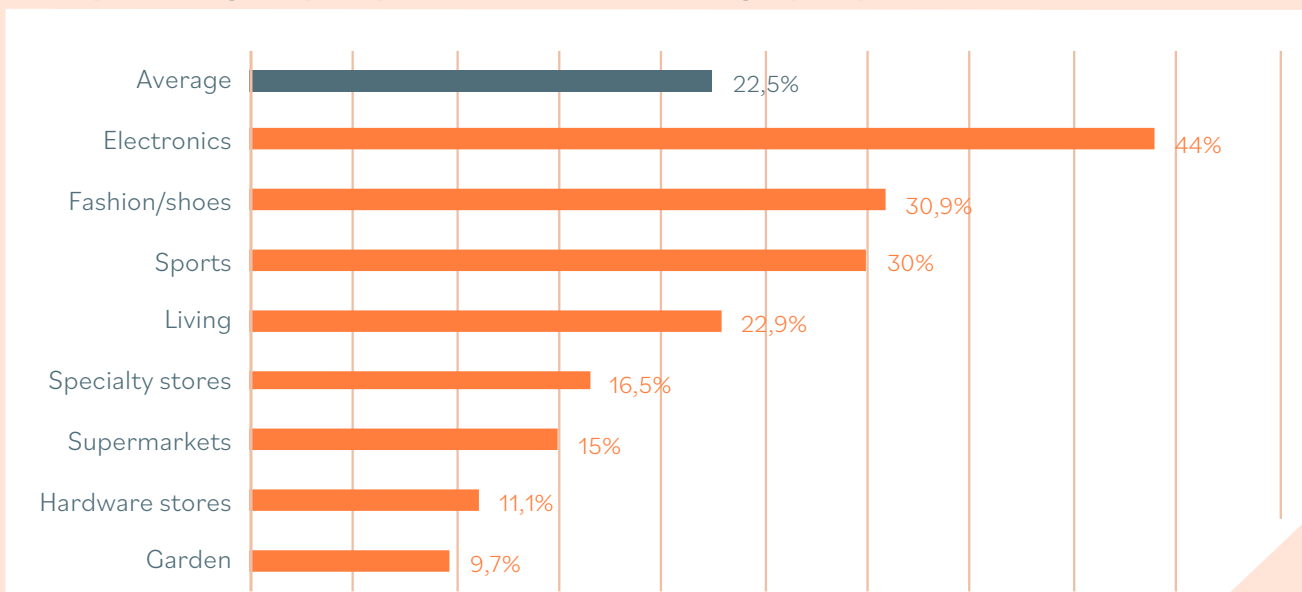


Figure 8, What percentage of you purchases in the category do you do online? Asked to people aged 67 and above (ABN-AMBRO, 2022)

# FINDINGS

In this chapter, the two aspects of the research will be discussed, the case study and interviews. The findings will be laid out so that the professional perspective of the designer and the insider perspective of the elderly will be made clear.

## CASE STUDY

Architects and designers face a growing challenge to design spaces to meet the unique needs of the elderly, emphasizing well-being, connectivity, and accessibility. Due to the shift in demographics designers need to adapt to accommodate the growing population of the elderly. In the Netherlands, the chief government architect was faced with this exact challenge. So in 2019, he set up an architectural competition named ‘Who Cares’ to learn and explore design solutions to accommodate this target group. The cases from this competition offer a practical approach, delving into projects focused on elderly-centred design. The ‘Who Cares’ architectural competition showcases innovative projects reimagining urban spaces for the elderly, providing valuable insights into successful approaches and lessons learned. These case studies, including Care2Share, Bloemkoolburenbond, Michi-Noeki, De hofjes van Carnisse, and Wijk als [t]huis, illuminate common trends and creative solutions that transcend borders, highlighting the value of

## CARE2SHARE



Figure 9, Care2share, (Polyfern, 2023)

shared experiences and expertise in elderly design. Even though these cases do not line up with the topic of the shopping mall, they showcase design solutions for elderly-friendly environments, therefore they offer valuable insights into this research.

Care2Share, located in Groningen’s Oosterparkwijk neighbourhood, centres on a fulfilling life by connecting residents with life coaches to engage with community services. Tailoring living spaces to preferences, purposeful outdoor design, and inclusive

## WIJK ALS [T]HUIS



Figure 10, Wijk als [t]huis, (De wijk als [t]huis, 2023)

## MICHI-NOEKI



Figure 11, Michi-Noekie, (Vollmer+partners, 2023)

## BLOEMKOOLBURENBOND



Figure 12, Bloemkoolburenbond, (Bureau Sla, 2023)

community facilities are key features.

Bloemkoolburenbond in Almere Haven draws from Dutch hofjes typology, prioritizing professional support and communal collaboration. A community counter, neighbourhood coach, and familiar living environments foster a sense of comfort and security.

Michi-Noeki, inspired by Japanese roadside stations, envisions neighbourhood-scaled spaces enhancing walking paths and fostering community interactions. Providing facilities and encouraging intergenerational connections, creates a safe network of hubs.

De hofjes van Carnisse introduces densification to accommodate elderly housing, fostering supportive communities within existing neighbourhoods. Shared spaces for interaction and care, like courtyards and small parks, enhance the overall environment.

Wijk als [t]huis integrate hofjes and carree hoeve typologies, promoting neighbourly interactions through front doors facing inner courtyards. Besides housing, shared facilities and interconnected walking paths enhance community connection and accessibility.

## DE HOFJES VAN CARNISSE



Figure 13, De Hofjes van Carnisse, (Dutch Urban Solutions, 2023)



Reflecting on these projects, two recurrent themes stand out: community-oriented housing blocks, influenced by hofjes typology, emphasize shared spaces and support networks. Additionally, a focus on safe, accessible walking paths interconnects neighbourhoods and ensures convenient facility access, promoting social interaction. The 'Who Cares' competition showcases architectural visions prioritizing the well-being and interconnectedness of elderly communities.

## INTERVIEWS

This next part of the research focuses on researching the perspective of the elderly themselves through the method of interviews. In total, 33 interviews were conducted with elderly participants, of which 22 interviews were recorded and transcribed, following the interviewees' consent. These interviews were held in the proximity of two shopping centres, first Leyweg in the Hague, and second the Bogaard in Rijswijk. The most important objective of the interviews is to obtain a better understanding of the wants and needs of the elderly in shopping centres and the surrounding neighbourhood, as well as compare the perspective of the academics and professionals with the perspective of the elderly themselves. In order to do this it is important to not steer the interviews based on the knowledge gathered through the literature and case study, but to let the elderly themselves steer the conversation in the direction of their own needs and preferences. This means that the approach of these interviews was to ask a question to start a conversation and only ask a new question when the conversation came to a halt. This resulted in very diverse interviews that were hard to compare. Therefore the coding system with atlas.ti was used to code reoccurring themes mentioned by the elderly which were then categorized into positive and negative aspects as well as the wants and needs. The

results that are the outcome of the coding can be seen in Figures 14 and 15. As seen in the figures the most talked about topics in both shopping centres are the current state of the shopping mall, moving, practical functions, social functions and shops. Then also each mall has some other topics that are often mentioned, such as the original state in The Bogaard in Rijswijk and atmosphere, accessibility, indoor, outdoor, and sitting in Leyweg in The Hague. Another this that can be seen in figure 14 and 15 is that the negative comments in the Bogaard are much lower than the positive comments whereas in Leyweg the negative comments are much higher than the positive comments.

### THE ELDERLY PERSPECTIVE ON AGEING:

The literature describes all the previous changes and influences of the process of ageing. However, an important question arises: How do elderly individuals themselves perceive and experience these changes? These interviews included inquiries about the themes identified in the literature, as well as questions about any challenges encountered within the shopping mall setting, with the intention of determining whether elderly participants would mention the issues described in the literature. An intriguing finding emerged during the analysis. While the literature highlighted the challenges faced by the elderly in terms of sensory perception and mobility, the elderly participants themselves did not mention these problems (Figures 14 and 15). Furthermore, when specifically asked about issues related to sensory perception in combination with the built environment, the majority of elderly respondents reported not experiencing any difficulties. This observation raises two potential explanations: either elderly individuals in real-life situations do not appear to notice these problems or the built environment provides conditions that mitigate such issues, such as improved visibility or enhanced contrast to facilitate surface distinction. The aspect that was mentioned by

the elderly themselves is the desire or the need to keep on moving, in order to stay healthy and go out of the house for some time, as well as the desire for better accessibility. With the need for movement and walking comes also the need for seating. It seemed as if this need was higher in the shopping mall Leyweg than in the Bogaard. Why this difference in needs occurred is unclear since both shopping centres do provide seating areas.

**THE ELDERLY PERSPECTIVE ON NEEDS:**  
 In this section, a condensed summary of the key findings on the needs of the elderly is presented, considering the impracticality of discussing every small detail due to time constraints. Instead, a focused selection

		needs Gr=41	negative Gr=27	positive Gr=38	Wants Gr=48
accessibility	Gr=8	3	3	2	1
atmosphere	Gr=13	2	2	5	4
bikes	Gr=3	3	2	0	0
cheap	Gr=1	0	1	0	0
coffee	Gr=4	0	0	1	2
cultural functions	Gr=6	2	1	1	4
current state	Gr=16	0	10	6	0
elevator	Gr=2	1	0	0	1
food/eating	Gr=8	0	0	3	4
future plans	Gr=6	1	1	4	0
green	Gr=5	1	0	2	2
housing	Gr=3	1	0	0	1
indoor	Gr=6	1	0	2	5
moving	Gr=13	9	3	0	2
neighbourhood	Gr=6	0	0	1	5
nothing	Gr=2	0	0	0	2
orientation	Gr=7	1	2	2	2
original state	Gr=9	0	0	8	2
outdoor	Gr=4	1	0	0	4
practical functions	Gr=10	6	0	0	4
quality	Gr=2	1	0	0	1
safety	Gr=3	3	2	0	0
senses	Gr=7	2	2	3	0
shops	Gr=34	11	6	4	11
sitting	Gr=7	4	1	1	3
social	Gr=7	4	0	0	3
social functions	Gr=12	4	1	0	7
terraces	Gr=2	1	0	1	0

		needs Gr=66	negative Gr=83	positive Gr=62	Wants Gr=81
accessibility	Gr=13	2	8	5	5
atmosphere	Gr=16	2	11	2	4
bikes	Gr=6	2	6	0	3
cheap	Gr=6	0	6	0	0
coffee	Gr=8	1	0	3	4
contrast	Gr=1	1	0	0	1
cultural functions	Gr=6	0	0	3	4
current state	Gr=20	0	17	3	2
elevator	Gr=5	0	5	1	1
escalator	Gr=3	0	3	0	2
food/eating	Gr=9	2	3	2	2
green	Gr=8	2	2	2	3
housing	Gr=2	1	0	0	1
indoor	Gr=11	3	2	3	11
liveliness	Gr=4	1	2	2	0
market	Gr=3	0	0	2	1
middle part	Gr=5	0	4	1	3
moving	Gr=12	11	1	1	1
neighbourhood	Gr=10	2	5	2	4
orientation	Gr=7	1	1	4	1
original state	Gr=15	3	2	7	3
outdoor	Gr=10	4	0	3	10
pasage	Gr=7	0	3	4	3
practical functions	Gr=21	14	1	1	5
public transport	Gr=6	4	0	5	1
quality	Gr=2	1	0	0	2
safety	Gr=6	4	3	0	3
senses	Gr=7	0	2	6	0
shops	Gr=49	10	17	13	17
sitting	Gr=17	10	2	4	5
social	Gr=10	8	0	0	3
social functions	Gr=11	8	1	1	3
terraces	Gr=2	0	1	1	2

↑ Figure 14, Analysis of the interviews conducted in Rijswijk, (Delis, 2023)

↑ Figure 15, Analysis of the interviews conducted in The Hague, (Delis, 2023)

Understanding the table: The blue boxes on the y-axis represent frequently mentioned topics by the elderly. The blue boxes on the x-axis indicate the categories for analyzing these topics. Within the orange boxes, the number of times the elderly mentioned a particular topic within an analysis category is displayed. Lastly, the “GR=X” on both the x and y axis signifies the overall count of mentions for a topic. It’s possible for the “GR” indicator to show a lower count of mentions than observed in the table, indicating that one mention can be categorized under two different categories.

of three pivotal findings is highlighted. Firstly, a recurring theme among the elderly participants revolves around their desire for practical amenities within the shopping centre. Many emphasized the importance of having functional facilities that align with their daily needs, such as grocery stores, pharmacies, and opticians. Additionally, the significance of social and cultural aspects emerged prominently. Numerous interviewees expressed their use of or desire for, the shopping centre as a gathering point to meet friends and family. Furthermore, the potential inclusion of cultural venues, cinemas, theatres, or other entertainment options received enthusiastic endorsement from some respondents. Secondly, a crucial insight drawn from the interviews underscores the individuality of the elderly demographic. Their diverse preferences and needs necessitate a flexible approach to design. Factors such as sunlight preference, mobility levels, and autonomy considerations vary widely. Thus, while it's essential to incorporate insights from existing literature, design solutions must also account for the broad spectrum of individual requirements. Lastly, the value assigned by the elderly to high-quality and diverse shopping experiences emerged consistently. While some elderly view shopping as a recreational activity, others consider it a practical means of obtaining necessities. The shopping centre's role as a motivator for leaving home and engaging in daily activities was a sentiment shared by many participants.



# DISCUSSION

Upon analysing the interview data, literature review, and case study, a noticeable discrepancy emerges. The literature often portrays the elderly as fragile individuals facing significant challenges related to senses, mobility, and other needs. This perspective presents a one-sided view of ageing, primarily focusing on the rapid decline in health, social engagement, and independence, with the only positive aspect being increased free time as one grows old. However, the interviews with the elderly reveal a more diverse reality. Ageing is a unique and varied process for each individual, showcasing a wide array of implications or sometimes minimal impact. This diversity in the ageing experience translates into diverse needs. The case study revealed elements that were not prominent in the literature as well as in the interview. However, the connection between the case study and the other results is apparent. The themes that emerge from the case study can be described as mobility and wanting to stay mobile as well as the desire for a social community in the daily life of the elderly. So even though the design elements might not seem to be connected, the themes that are connected to these design solutions do overlap with the other findings. Furthermore, it becomes evident that personal preferences should be considered when discussing the needs of the elderly—an aspect often overlooked in existing literature on this subject. In summary, these findings emphasize the nuanced and multifaceted nature of addressing the needs of the elderly population. The design process must account for practicality, individual preferences, various functions, spatial arrangements, and design solutions to create an age-inclusive shopping centre that fosters social interaction and physical activity.



# CONCLUSION

In conclusion, meeting the needs and desires of the elderly necessitates designers to address diversity, accessibility, feeling of community and inclusivity within the shopping mall. This implies that the response to the research question, “How will the needs of the growing elderly population in the Netherlands influence the design of post-war shopping malls and their neighbourhoods?” does not manifest as a straightforward blueprint for the perfect shopping mall and neighbourhood. Diversity, community, and accessibility should be the focal points to attract the elderly, ensuring that the shopping centre and its neighbourhood are perceived as inclusive for not only the elderly but the entire community.

Based on the research conducted, it is evident that diversity, community, and accessibility should be emphasized. This includes incorporating diverse functionalities within the shopping mall, enhancing gathering spaces for the neighbourhood, and redesigning seating to accommodate various individual needs. Additionally, the specific needs of the elderly influenced by the ageing process, as outlined in the literature, should be carefully integrated into the design. This indicates that not only should the concept and central focus be considered during shopping mall design, but the design’s intricate details may also be equally important for an age-inclusive design. Elements such as shelf and seating height or the choice of materials should be meticulously thought out. Although these details may not be immediately noticeable to visitors, they can significantly impact visitors’ experiences when absent or poorly executed. This is because these details influence the overarching priorities of diversity, community, and accessibility. As a result, diversity, community, and accessibility remain the principal objectives of this research.

This study offers a distinctive perspective on the elderly target demographic within shopping malls. However, for a more thorough response to the research question, further research is essential. Future research should concentrate on post-war shopping mall designs in particular, considering the needs of the elderly to develop a precise blueprint for redesigning a shopping mall in an inclusive manner. This future research should consider the specific needs in conjunction with diverse functionalities and solutions, analysing how these needs affect the design of various post-war shopping malls. Understanding these dynamics will ensure that our cities and spaces adapt to meet the demands of an ageing population, fostering inclusive, accessible, and enjoyable environments for everyone. The research should not conclude here; rather, it should serve as a foundation for a more inclusive future, especially for the elderly.

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# APPENDIX 1

About a year ago, my graduation journey commenced, exploring the modern mall and heritage as the foundation and pondering, ‘What is the future of the shopping mall?’ Implicitly, my curiosity extended to questions like ‘What does the future hold?’ and ‘What societal changes will shape our future?’ As designers, our impact on future living environments is significant, and it’s our duty to create spaces that cater to each individual’s needs in society and anticipate future changes. With these considerations, I honed in on the demographic shift, specifically the growing elderly population and the associated ‘grey pressure.’ Younger generations will have fewer means to care for the elderly, necessitating new ways to share and shoulder the responsibility of caring for and assisting them. Thus, the question of the future of shopping malls is intricately linked to the needs of the elderly. My research question emerged: ‘How can the needs of the growing elderly population in the Netherlands influence the design of post-war shopping malls and their neighbourhoods?’

## **Research Approach:**

My research employed a multifaceted approach, encompassing literature review, insights from professionals in design and architecture, and direct engagement with the elderly. This strategy aimed to yield comprehensive and objective findings, although the broad scope of information collected necessitates deeper exploration into specific topics. Topics such as accessibility, diversity, and community, and their conversion into designs for the elderly, warrant further investigation. While my research delved into these aspects through design, additional academic research could enhance our understanding. Due to the constraints of paper length, other relevant topics, such as the value of shopping malls and the heritage’s significance for the elderly, were left unexplored.

*Recommendation for Future Research:* Further research into accessibility, community, diversity, and how these aspects influence mall design for the elderly is recommended. Additionally, exploring the heritage of shopping malls from the perspective of the elderly should be pursued.

## **Interview Approach:**

The second research aspect I want to highlight is the interviews that were held. The aim of the interviews was two-fold. First, I tried to gain an understanding of the needs of the elderly and how the process of ageing has impacted their lives. By having an open conversation and taking the time to listen to what the elderly mentioned during the conversation, I was able to

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gather a lot of information, sometimes even on topics which I had not thought of beforehand. In these interviews, the topic that surprised me the most was the topic of housing. Therefore, I can highly recommend taking the time and sitting down with an interviewee and not steering the conversation too much. With such an approach, unexpected topics might be discussed. The second aim of the interviews was to gain a better understanding of architectural aspects of shopping malls that are experienced positively or negatively. However, when planning these interviews, I had not fully considered that individuals who aren't designers might not view buildings from a designer's perspective. This oversight made it challenging to gather information about the architectural aspects and the architectural value of shopping malls within the neighbourhood. In light of this, I recommend conducting the interviews more as individual workshops. In this approach, I recommend providing participants with images and floor plans of the shopping mall, encouraging them to express their views on its positive and negative aspects. Doing the interviews in this way, the lack of input on the architectural aspects of the shopping mall could be overcome, and a clearer understanding of what the elderly considered to be the architectural heritage of the shopping mall could be obtained.

*Recommendation for Future Research:* When preparing the research, take into account the knowledge you want to obtain from your target group and think about whether this target group can provide you with this knowledge. If not, think about interactive ways to make your target group think more deeply about the questions you would like answers.

## **My Own Learning Curve:**

Looking back on the graduation process, I can say that I learned a lot. Firstly, I gained a lot more knowledge on the topic of the elderly. Doing the research into this topic has helped me to focus more on how to design environments that cater to everybody's needs and not just to the average individuals of society. This made me want to devote myself more to understanding the smaller groups in society to create a space that they feel comfortable in. This brings me to the second thing I learned. Personally, I learned that I want to be a social architect who is committed to creating a better world by designing buildings and areas that make people happy, comfortable, and safe. This knowledge about myself will help me in the working years to come. And lastly, I learned that I tend to make design choices out of practical considerations. This means that I sometimes pass up on certain design choices because they might not be practical or functional in my eyes. However, due to the conversations, I have with my tutors and the feedback they give me, I learned not to quickly push creative ideas to the side but to

give them a bit more time to evolve and sketch some more to see if they indeed are ideas that do not work or if they might provide an interesting design element to the project.

*Recommendation for Future Research and Design:* When designing or doing research, keep an open mind to approaches your tutors or other people might suggest, and do not be afraid to step out of your own design or research comfort zone. Also, be open to your ideas and trust that your ideas can be good. Give yourself the time to process these ideas and do not brush them aside so quickly.

### **Reflection on the Design:**

Approaching the culmination of my graduation journey, I took a pivotal step in furthering the exploration of my project and reflecting on its progress. Returning to the Leyweg shopping mall, I engaged in interviews with the elderly to garner their insights into the proposed new design. The collective sentiment among those interviewed affirmed that the proposed plan signifies a substantial improvement over the current state of the mall. Enthusiasm permeated the discussions as individuals expressed their endorsement of the community-centric approach delineated in the proposed plan for Leyweg. Many articulated their aspirations for this revitalized sense of community to breathe life back into the 'gezelligheid' (a Dutch term embracing cosiness and a vibrant atmosphere) in both the shopping mall and the surrounding neighbourhood.

The community centre's potential to provide spaces for youth gatherings and areas for the elderly to engage in activities like reading books or newspapers garnered significant appreciation. Moreover, the concept of an accessible rooftop garden elicited considerable excitement among the elderly. Amidst the overwhelmingly positive feedback, certain participants raised pertinent questions and contributed additional insights. One individual underscored the importance of more accessible public toilet facilities, prompting my reassurance that the new design incorporated ample public toilets within the community centre. Another concern revolved around the maintenance of greenery, with one elderly person expressing apprehension about the potential deterioration of the shopping mall due to inadequate upkeep. They drew attention to existing maintenance issues and stressed the imperative for a robust plan to address this aspect in the new design.

Lastly, an exceptionally enthusiastic elderly participant expressed a desire to reside in the project, confidently asserting their belief that the neighbourhood would warmly embrace the newly proposed design. As I reflect on this phase of the project, I extend my gratitude to

my tutors for their invaluable guidance throughout this journey. Looking ahead to the post-graduation period, I anticipate delving into topics related to creating comfortable, peaceful interiors and exploring innovative ways to present this project. Additionally, I hope that this project, post-graduation, will contribute to raising awareness among designers about the needs of the elderly, as outlined in my research, and encourage thoughtful consideration of these needs in the design process. The overarching message I aim to convey is an invitation to contemplate the future we envision for our ageing selves and to design with that future in mind.

**Closing Note:**

At the end of this reflection, I want to thank my tutors for all the time they invested in me so far to help me learn and guide me through this journey of graduating. With all that I have learned during my graduation project, I feel that I'm ready to start working within the field of architecture learn more about architectural projects in practice and take the knowledge about the elderly and community-driven design with me to a new workplace. Also, I hope that after graduating, this project will help create awareness of the fact that as a designer, we need to learn more about the elderly and when designing, keep their needs in mind, this means the needs described in my research as well as needs that might stem from further research. So, the appeal I hope the research and design make is to think about the future you want to grow old in and to design for that future.