Improving Neighbourhood Satisfaction in Post-War Neighbourhoods

ARCHITECTURAL DESIGN STRATEGIES FOR LIVEABILITY

HERITAGE & ACHITECTURE
Resourceful housing: Adapting 20th Century Heritage

DELFT UNIVERSITY OF TECHNOLOGY

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01.

Introduction

This introduction chapter provides the background to the research, along with contextual information about the subject and the research approach.

The largest gypsy ghetto in Europe - Stolipinovo, Bulgaria - YOMADIC (Robert, N.,2020)

1.1 Background

In the wake of World War II, Europe faced an unprecedented housing crisis. Between 1945 and 1970, a building boom occurred in cities throughout the continent as a result of the need to provide homes for their war-weary citizens. This boom would have a lasting impact on the shape of urban landscapes for future generations (Jansen, 2000; Argilou et al., 2008). These post-war neighbourhoods, which were conceived out of necessity and idealism, incorporated modernist principles into their clean lines, functional layouts, and innovative prefabrication methods (van Beckhoven et al., 2005). Despite their initial perception as progressive, numerous of these neighbourhoods have since been linked to social and economic difficulties, resulting in the term "problem neighbourhoods." (Argiolu et al., 2008).

Problem neighbourhoods are typically characterized by high unemployment rates, low-income levels, crime, and poor physical conditions of buildings and public spaces. The very design features that once were revolutionary, such as large open spaces between buildings, now feel isolating and unsafe. These issues are not just about the physical environment, but are connected with social and economic factors, creating a complex chain of problems that require comprehensive solutions.

Neighbourhood satisfaction is an essential factor in addressing the challenges of problem neighbourhoods. It refers to residents' overall satisfaction with their living environment and it encompasses aspects such as safety, amenities, social cohesion, and aesthetic appeal. In Amsterdam, the Research & Statistics department of the Municipality of Amsterdam conducts a biennial survey on neighbourhood satisfaction. This survey assesses various aspects of liveability, including the development and quality of the built environment, social cohesion, social integration, amenities, safety, and nuisance (Dienst Onderzoek en Statistiek, 2007). When residents are satisfied with their neighbourhoods, they are more likely to engage with their communities and contribute to local initiatives, leading to a stronger social fabric. The quality of the built environment, the availability of amenities, and the overall sense of safety and community all contribute to this satisfaction.

Liveability is a comprehensive concept that includes various factors that influence the quality of life in a specific area. It encompasses the physical environment, social environment, and economic opportunities. Enhancing liveability in post-war housing and problem neighbourhoods requires improving these aspects to establish a more conducive living environment (Camagni et al., 1997). The construction of numerous post-war housing developments was influenced by modernist planning principles that prioritized efficiency and uniformity, frequently disregarding the diverse requirements of residents. This has led to environments that are functional, but do not always promote the well-being of their inhabitants.

The built environment and neighbourhood satisfaction are significantly influenced by architecture. Architectural tools can be implemented to enhance the overall liveability and address the deficiencies of the original designs in the context of post-war neighbourhoods. Recent urban renewal initiatives in various European cities aim to address the socio-economic challenges faced by residents while enhancing liveability and neighbourhood satisfaction. Innovative design strategies, such as modular construction techniques, are being implemented to develop housing solutions that are adaptable to the diverse requirements of families (Abedini & Mahdavinejad, 2019). Furthermore, these revitalization initiatives prioritize improving public spaces, enhancing connectivity, and integrating green infrastructures. The goal is to transform post-war neighbourhoods into lively communities where residents feel safe, engaged, and proud of their surroundings.

The critical relationship between the constructed environment and community well-being is underscored by the examination of architectural design strategies in post-war housing, particularly in problem neighbourhoods. By focusing on enhancing liveability and neighbourhood satisfaction, this research aims to uncover actionable insights that can inform future urban renewal efforts. Ultimately, the objective is to establish inclusive, resilient communities that not only meet the needs of their residents but also foster a sense of belonging and pride in their neighbourhoods.

1.2 Problem Statement

Despite decades of government interventions and urban renewal initiatives, post-war neighbourhoods in numerous European cities continue to encounter significant challenges related to liveability, social cohesion, and overall quality of life. These areas, which are often characterized as "problem neighbourhoods" or "deprived neighbourhoods," are characterized by a complex interplay of infrastructural, economic, and social deficiencies that remain despite a variety of policy interventions (Probleemwijk – ANW, 1995; Manley et al., 2013).

The persistence of these issues raises critical questions about the efficiency of current urban regeneration strategies and the role of architectural design in addressing the multifaceted challenges faced by residents in these areas. The underlying issues remain largely unsolved, despite the fact that governments have implemented a variety of approaches, including household redistribution in the United States, demolition and renovation in the United Kingdom, and a combination of investment, redevelopment, and redistribution in the Netherlands (Manley et al., 2013).

In the Netherlands, the 2007 initiative "From problem neighbourhood to beauty neighbourhood" highlighted the scale of the challenge, identifying 140 neighbourhoods with significant physical and socio-economic problems, of which 40 were classified as having severely critical issues (Vogelaar, 2007). This initiative emphasized the urgent need for comprehensive solutions that address not only the physical aspects of these neighbourhoods but also the complex social and economic factors contributing to their decline.

The main problem this research aims to address is the gap between the expected outcomes of urban renewal projects in post-war neighbourhoods and the actual improvements in liveability and resident satisfaction. In particular, the study aims to explore how architectural design strategies can be more effectively employed to enhance the quality of life in these areas, while considering the challenges and opportunities that the urban structure of post-war developments present.
Key aspects of this problem include:

1. The relationship between the urban structure of post-war neighbourhoods and their perceived liveability (van Beckhoven et al., 2005).

2. The potential for design strategies to enhance resident satisfaction and promote community cohesion in areas with a diverse demographic composition and high residential turnover.

3. The balance between preserving the historical and cultural significance of post-war urban planning and adapting these spaces to meet contemporary needs and expectations.

The goal is to identify architectural design strategies that improve the physical environment and also address the underlying social and economic factors that contribute to the persistent challenges faced by these communities. This problem statement sets the stage for a comprehensive examination of innovative design solutions that have the potential to transform post-war problem neighbourhoods into vibrant, liveable communities that meet the diverse needs of their residents and contribute positively to the broader urban fabric.

1.3 Research Goals

The main aim of this research is to create architectural design strategies that can improve neighbourhood satisfaction and enhance the liveability of post-war housing, with a particular emphasis on Amsterdam Nieuw-West. By integrating multidisciplinary approaches and resolving gaps in existing research, this study aims to advance the current state-of-the-art. The goal is to identify and assess architectural design strategies that have the potential to enhance the quality of life and neighbourhood satisfaction in post-war neighbourhoods. This includes an understanding of the distinctive challenges and opportunities that the urban structure of these developments presents, as well as the development of design interventions that address both physical and socio-economic issues.

It is essential to acquire knowledge regarding the values, requirements, and methods for enhancing liveability in order to develop these architectural design strategies while preserving the post-war housing heritage.

The Ballarat Imagine method, which has been previously utilized to reimagine Ballarat, Australia (Buckley et al., 2015; Ji et al., 2021), is an essential component of this research. The research endeavours to provide fresh perspectives on the adaptability and applicability of this method in an entirely new urban and cultural context by adjusting it to Amsterdam Nieuw-West. This method will incorporate values and needs of residents, providing a perspective on resident satisfaction and contributing to the expanding body of knowledge on the heritage value of post-war neighbourhoods.

The purpose of this research is to develop a set of design strategies that are aimed at enhancing liveability in post-war housing. The overarching goal is to bridge the gap between theoretical research and practical application, ensuring that the proposed design strategies are relevant and applicable. These strategies will be visualized into 'design strategy cards' inspired by Babu Ganesh's his pattern language from his master's thesis, "Reterritorializing Zuidoost, Towards Sustainable, Livable and Just Assemblages in Amsterdam Zuidoost,". The cards should serves as a valuable tool for translating these strategies into practical solutions.

1.4 Research Questions

To address the problem statement, research should be conducted with several research questions, starting with the main research question, to develop a strategy for the identified challenges. The main research question for this research is as follows:

What architectural design strategies can be applied to post-war housing to improve neighbourhood satisfaction by enhancing liveability, while considering the values and attributes perceived by residents?

To further develop the necessary background knowledge, two sub-questions have been formed. The answers to these sub-questions will provide the foundation for answering the main research question.

The sub-questions for this study are as follows:

1. *What are the current values and attributes of Amsterdam Nieuw-West based on residents perception?*

2. *How can architecture contribute to the liveability of a post-war building?*

1.4 Research Hypothesis

This research hypothesizes that the appliation of architectural design strategies that address the distinctive challenges of post-war housing in problem neighbourhoods, particularly in Amsterdam Nieuw-West, can significantly improve neighbourhood satisfaction and enhance liveability. These strategies will integrate architectural interventions derived from literature reviews with resident perceptions and values, which will be gathered through the application of the Ballarat Imagine method. These interventions will preserve the heritage of post-war urban planning while meeting contemporary needs. This approach will demonstrate that targeted architectural design can transform problem neighbourhoods into vibrant, satisfying living environments by emphasizing the interaction between the built environment, community cohesion, and resident well-being.

These strategies will be applied to the design case of Amsterdam Nieuw-West to test and demonstrate the potential of architecture to contribute to the revitalization of post-war housing areas, thereby establishing a more socially sustainable and liveable urban fabric

1.6 Theoretical Framework

The complex interplay between heritage values and liveability in post-war housing neighbourhoods requires a multifaceted theoretical approach. This research employs two complementary frameworks to address this complexity: the Value Framework by Ana Pereira Roders (2007) and the Liveability Framework by Leby and Hashim (2010). These frameworks provide a comprehensive foundation for understanding the intricate relationship between heritage significance and contemporary liveability.

1.6.1 Heritage value framework

To understand the current values of Amsterdam Nieuw-West based on residents' perceptions of liveability, this research utilizes the Value Framework developed by Ana Pereira Roders (2007). This framework is designed to assess and strengthen heritage conservation by integrating diverse values into sustainable urban development practices. It offers a nuanced approach to understanding and categorizing heritage values, which is crucial for assessing the significance of post-war housing in Amsterdam Nieuw-West. Pereira Roders' framework identifies eight categories of cultural values (see figure 1.1).

1. Ecological: *Addresses the relationship between heritage and the natural environment.*
2. Social: *Reflects the community's sense of identity and social cohesion.*
3. Economic: *Considers the economic benefits and potential of heritage.*
4. Age: *Considers the value attributed to the passage of time and patina.*
5. Political: *Addresses the role of heritage in governance and policy-making.*
6. Scientific: *Relates to the potential for research and knowledge generation.*
7. Aesthetical: *Focuses on the visual and sensory appeal of the built environment.*
8. Historic: *Encompasses the historical significance and narrative of the area.*

This comprehensive framework allows for a multifaceted understanding of how residents perceive and value their neighbourhood. By applying this framework to Amsterdam Nieuw-West, the research can gain insights into the diverse ways residents attribute value to their surroundings, thereby shaping their perception of liveability.

The Value Framework is particularly relevant in the context of post-war housing, as it allows for the consideration of both tangible and intangible heritage aspects. For instance, while the architectural style of post-war buildings might be valued for its historic and aesthetic qualities, the social structures and community networks that have developed over time contribute to the social value of the neighbourhood.

Figure 1.1 The values framework by Pereira Roders (Pereira Roders, 2007)

1.6.2 Liveability framework

To address the aspects of liveability in post-war housing neighbourhoods, this research adopts the Liveability Framework developed by Leby and Hashim (2010). The liveability framework is used to evaluate the dimensions based on their relative importance as perceived by neighbourhood residents. This framework provides a comprehensive approach to understanding and assessing liveability in urban environments.

The framework developed by Leby and Hashim identifies of four liveability dimensions, each with specific attributes that serve as indicators (see figure 1.2).

1. Functional dimension: This dimension relates to the accessibility and availability of essential services and amenities, such as transportation, healthcare, and education. It evaluates how well the neighbourhood meets the daily needs of its residents.
2. Physical dimension: The physical environment of the neighbourhood, including the quality and maintenance of infrastructure, housing, and public spaces, falls under this dimension. It assesses the aesthetic and functional aspects of the built environment.
3. Social dimension: This dimension focuses on the social aspects of a neighbourhood, including community interactions and social networks. It considers how well residents can engage with one another and participate in community activities.
4. Safety dimension: Safety is a critical concern for residents, and this dimension focuses on the perception and reality of crime and hazards in the areas. It included indicators such as crime rates, traffic safety, and the presence of emergency services.

This framework enables a comprehensive evaluation of livability, encompassing both tangible and intangible factors that impact residents' well-being. Implementing this framework in Amsterdam Nieuw-West allows for a systematic assessment of the diverse factors influencing livability in post-war housing neighborhoods.

The integration of Pereira Roders' Value Framework and Leby and Hashhim's Liveability Framework provides a robust theoretical foundation for this research. This combined approach allows for a nuanced understanding of how heritage values intersect with contemporary liveability concerns in post-war neighbourhoods.

For instance, the aesthetic value identified in Pereira Roders' framework can be directly related to the physical quality dimension of the Liveability Framework. Similarly, the social value in the heritage framework corresponds to the social quality dimension of liveability. This integration enables a comprehensive analysis of how the preservation of heritage values can contribute to, or potentially conflict with, liveability goals.

Liveability dimension	Theme
Social dimension (social relations)	Behaviour of neighbours (nuisance) Community life and social contact Sense of place
Physical dimension (residential environment)	Environment quality Open spaces Maintenance of built environment
Functional dimension (facilities and services)	Availability and proximity of amenities Accessibility Employment opportunities
Safety dimension (crime and sense of safety)	Number of crime Number of accidents Feeling of safety

Figure 1.2 Liveability framework by Leby and Hashim (by author)

Moreover, this integrated approach allows for the exploration of how residents' perceptions of heritage values influence their assessment of liveability. It provides a theoretical basis for understanding how the unique characteristics of post-war housing, often criticized for their uniformity and lack of traditional aesthetic appeal, might still contribute positively to residents' sense of place and overall satisfaction with their living environment.

By employing these complementary frameworks, this research aims to provide a holistic understanding of the complex relationship between heritage preservation and liveability enhancement in Amsterdam Nieuw-West. This approach not only contributes to the academic discourse on urban regeneration and heritage conservation but also offers practical insights for policymakers and urban planners working on the revitalization of post-war neighbourhoods.

1.7 Research Methods

This study employs a mixed-methods approach to investigate the architectural design strategies that can enhance liveability and improve neighbourhood satisfaction in post-war housing, with a specific focus on Amsterdam Nieuw-West. The research combines qualitative and quantitative methods to provide a comprehensive understanding of the complex interplay between built environment, heritage values, and residents' perceptions of liveability.

To assess the current values of Nieuw-West based on residents' perception of liveability, a qualitative interview method was conducted, utilizing the Ballarat Imagine method developed by Buckley, Cooke, and Fayad (2015). This method, inspired by the Historical Urban Landscape (HUL) approach, serves as a valuable tool for comprehensively identifying urban context. It enhances heritage values, improves the quality of life for local populations, and connects the past to the future (Ji et al., 2021).The Ballarat Imagine method serves as an initial step in participatory engagement, asking local residents to envision their surroundings from a positive perspective.

A total of 58 interviews were conducted with Cindy Rkman and Nienke Smit, who are fellow students. Of these, 30 interviews were conducted in Geuzenveld-Slotermeer and 28 in Osdorp. In order to guarantee that inhabitants from all demographic categories were represented, the interviews were conducted on a variety of days over the course of two weeks, including morning, afternoon, and evening time slots on both weekdays and weekends (see Appendix D and E).

The interview protocol aims to elicit both tangible and intangible values held by the residents, extending the existing three questions of the method to assess various aspects:

1. What do you love in ...?
   This question reveals the values and attributes the users highly appreciate.
2. How do you imagine ...?
   Participants paint a visionary image of the future that reflects their needs and identifies what is currently lacking.
3. What do you want to retain in ...?
   This question helps identify which aspects of their environment hold significant value and must not be omitted in the future plan.

By framing the questions positively and using affirmative language such as "love" and "imagine," the aim is to gain a clear understanding of residents' values and needs. Additionally, this method promotes community pride by celebrating the city's values (Buckley et al., 2015).

The Imagine method questions were translated into Dutch and expanded to seven questions, maintaining a similar formulation (see Appendix A). The attributes referenced by the participants were converted into categorized data for classification within Pereira Roders' qualitative Value Framework. An example of the raw data categorized is provided for question 5 (see table 1).

Interviewer:
"How do you imagine your neighbourhood?"

Participant 7 Geuzenveld-Slotermeer:
"Safe and everyone feeling involved. Beautiful and green is how I hope to see it."

Table 1. Categorisation example of referenced attributes

Raw data	Categorized data
Safe	Safety
Feeling involved	Social inclusion
Beautiful	Appearance
Green	Greenery

The categorized data attributes were classified within the primary and secondary value types using the value framework definitions by Tarrafa Silva & Pereira Roders (2012). The primary value types in the Value Framework were ranked according to the quantity of classified attributes, with percentages indicating how often an attribute was classified under each primary value type. This process introduced a quantitative element to the analysis. (see figure 1.3)

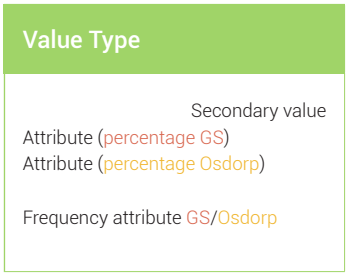


Figure 1.3 Classify method of Value Framework

In the subsequent analysis, Geuzenveld-Slotermeer and Osdorp, two districts within Amsterdam Nieuw-West, were compared. This comparative approach allows for a nuanced understanding of how different areas within the same post-war neighbourhood may have distinct value perceptions and liveability challenges. The selection of locations where the interviews were conducted is substantiated in the case study chapter.

A comprehensive qualitative analysis was conducted through an extensive literature review to investigate the relationship between liveability and the built environment. This methodological approach aimed to clarify the intricate connections between the four dimensions of liveability—Social, Physical, Functional, and Safety—as defined in the Liveability Framework devised by Leby and Hashim (2010). The primary goal was to investigate the correlation between urban environments and architectural design and the constituent aspects of these dimensions.

Particular attention was paid to seminal works by well-known urban theorists such as Jan Gehl and Jane Jacobs. Gehl's "Cities for People" (2010) and Jacobs' "The Death and Life of Great American Cities" (1961) provided foundational insights into the human-centered approach to urban design and the importance of social interactions in public spaces. These works were complemented by more specific studies, such as Vogt et al. (2020) on the significance of parks and outdoor spaces for urban liveability, and Zhu et al. (2020) and Carmona (2019) on the impact of design interventions on social cohesion and well-being in urban environments.

By employing this mixed-methods approach, the research aims to provide a comprehensive understanding of the complex interplay between heritage values, liveability, and architectural design in post-war problem neighbourhoods. The combination and relation of qualitative interviews, quantitative analysis of value classifications, and an extensive literature review offers a robust framework for developing a set of architectural design strategies that can enhance liveability while respecting the unique heritage and values of Amsterdam Nieuw-West (see diagram 1.1).

The architectural design strategies will be visualized into 'Design Strategy cards' (DS cards) inspired by Ganesh Babu's pattern language in his master thesis, "Reterritorializing Zuidoost, Towards Sustainable, Livable and Just Assemblages in Amsterdam Zuidoost." This approach is designed to serve as a valuable tool during the design phase of the graduation project. The cards are organized by theme, attributes, and applicability across different scales, including neighbourhood, street, and building levels, allowing for targeted interventions that address specific liveability (see diagram 1.2). By structuring the strategies in this way, the research ensures that the proposed interventions are both relevant and actionable.

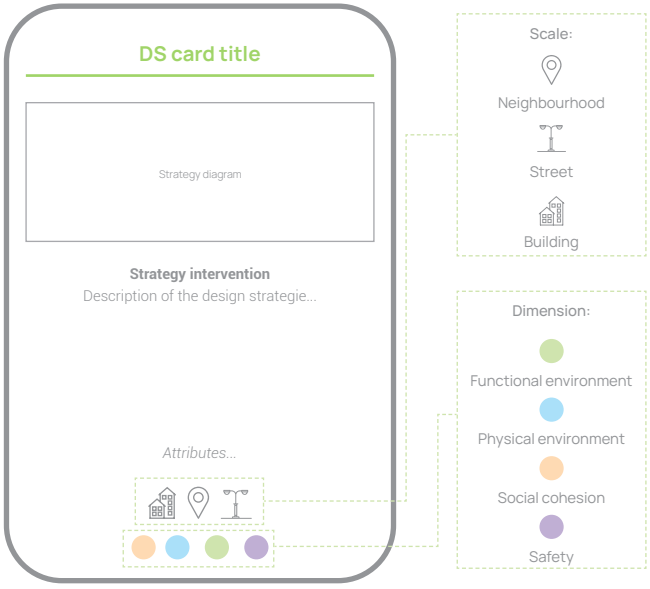


Diagram 1.2 DS card clarification

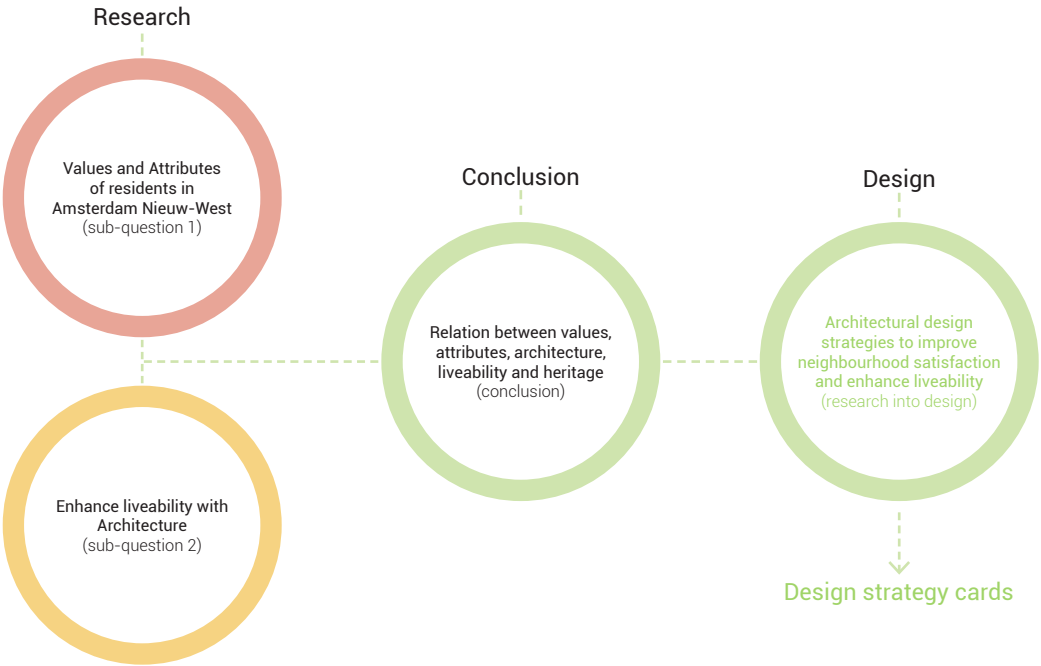


Diagram 1.1 Structure research into design (by author)

02.

Case Study

This Case Study chapter introduces the location of the design project for the graduation and provides contextual information on the research location for the Imagine Ballarat method.

Verfdoos - Vanschagen Architecten (Vanschagen Architecten,2024)

2.1 Amsterdam

The case study for this research is located in Amsterdam, the capital of the Netherlands, which has long been recognized for its innovative approach to urban planning and development. With a population of approximately 931.298 as of 2024, Amsterdam serves as the country's principal commercial and financial center (CBS, 2024). The city is characterized by its extensive canal system and UNESCO World Heritage status.

2.1.1 General Expansion Plan

The General Exppanion Plan (Algemeen uitbreidingsplan, AUP) was developed in 1934 as a result of Amsterdam's rapid expansion in the early 20th century, which made it necessary to adopt a comprehensive urban planning approach. The population of the city had grown significantly since the late 19th century, rising from approximately 224,000 in 1850 to over 750,000 by 1930. This significant expansion resulted in concerns about housing and placed a strain on existing urban infrastructure (Nio et al., 2016).

There were numerous factors that contributed to the necessity of the AUP. Initially, the rapid population growth resulted in a severe housing shortage, with a significant number of residents residing in substandard and congested conditions (Somer, 2007). Furthermore, Amsterdam's economy was in the process of transition, demanding additional space for the development of new industries that were located outside the city's historical core (Helleman & Wassenberg, 2004). Public health concerns also appeared as a result of the congested living conditions in certain areas of the city, which raised significant issues regarding sanitation and overall health (Wagenaar, 2011).

The General Expansion Plan, also known as Algemeen Uitbreidingsplan (AUP) was established to guide Amsterdam's expansion until the year 2000. It was conceived in 1934, authorized by the city council in 1935, and ratified by Royal Decree in 1939. A committee at the Department of Public Works, which included L.S.P. Scheffer, Theodoor Karel van Lohuizen, and Cornelis van Eesteren, was responsible for the plan (Somer, 2007).

One of the most significant aspects of the AUP was functional zoning, which created distinct zones for housing, industry, recreation, and transportation. The plan also included the garden cities concept, which advocates for expansive layouts with abundant green spaces in new neighbourhoods. Detailed plans for roads, waterways, and public transportation were essential components of comprehensive infrastructure planning. Additionally, the AUP prioritized the provision of high-quality social accommodation to working-class families.

The AUP was primarily implemented after World War II, which resulted in the establishment of new neighbourhoods including Bos en Lommer, Slotermeer, Geuzenveld, Osdorp, and Buitenveldert. These regions, collectively referred to as the Western Garden Cities, epitomized the modernist urban planning principles of the era and have had a substantial impact on the urban landscape of Amsterdam as it is today (Helleman & Wassenberg, 2004).

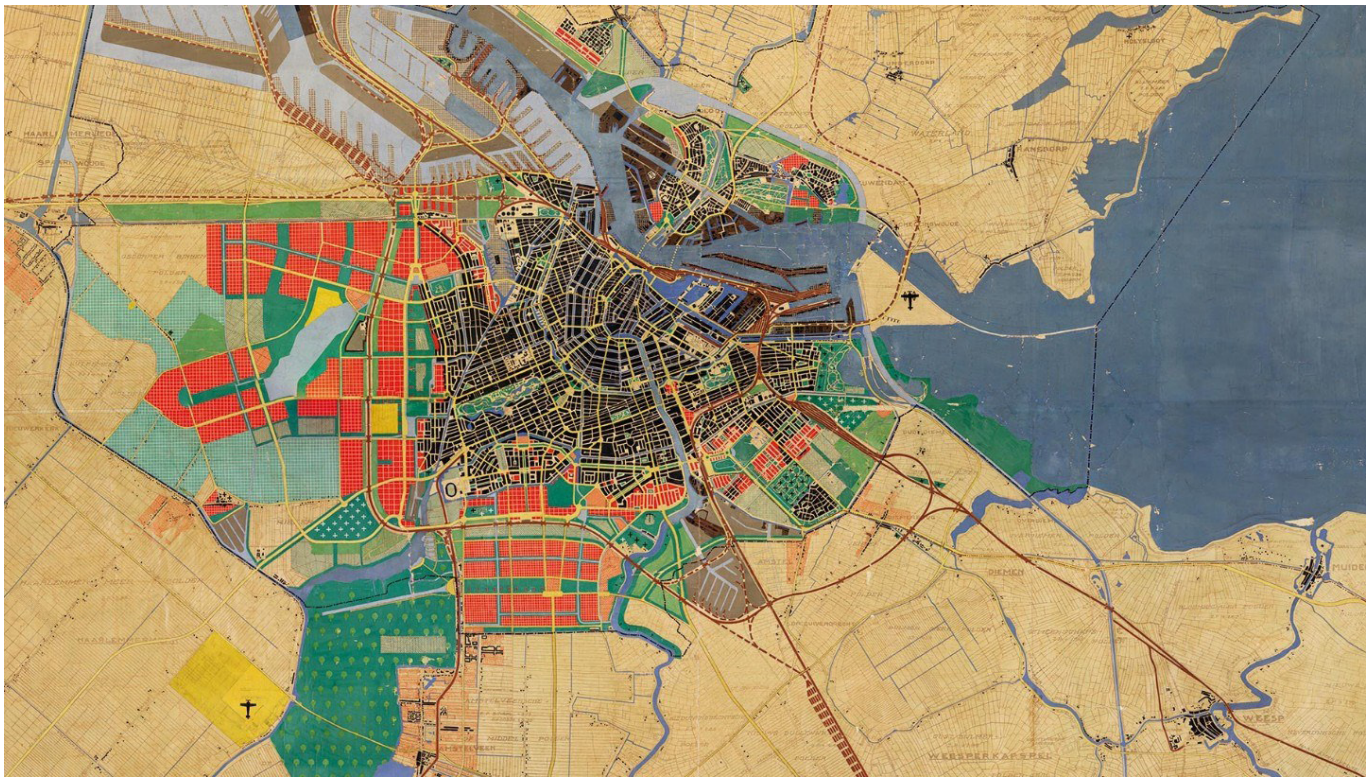


Figure 2.1 Algemeen Uitbreidingsplan (AUP) https://onsamsterdam.nl/artikelen/amsterdam-nieuw-west

2.2 Western Garden Cities

The Western Garden Cities (Westelijke Tuinsteden) of Amsterdam are a significant urban planning initiative that influenced the city's post-World War II expansion. The garden city principles that were popular in mid-20th century urban design are embodied in these neighbourhoods, which were developed as part of the Algemeen Uitbreidingsplan (General Expansion Plan). The construction of the Western Garden Cities, which encompasses the neighbourhoods of Slotermeer, Geuzenveld, Slotervaart, Overtoomse Veld, and Osdorp, primarily occurred between thee 1950s and 1960s. Some new developments, such as Nieuw Sloten and De Aker, continued into the 1990s (Nio et al., 2016).

These areas are characterized by spacious layouts that feature abundant green spaces and water elements, designed to create a pleasant living environment for residents (Helleman & Wassenberg, 2004). The planning of the Western Garden Cities adhered to modernist urban principles, emphasizing the functional separation of living, working, recreation, and traffic areas (van der Cammen & de Klerk, 2003). This design philosophy resulted in a mix of housing types, including low-rise and mid-rise apartment buildings alongside single-family homes, aimed at accommodating diverse household compositions (Wagenaar, 2011).

Centrally located amenities such as shopping centres, schools, and community facilities were integrated into the neighbourhoods to create self-contained communities (Nio et al., 2016). The development of the Western Garden Cities was overseen by Cornelis van Eesteren, who played a crucial role in shaping Amsterdam's post-war urban landscape as the head of the Urban Development Department from 1929 to 1959 (Somer, 2007). One of the oldest and most notable areas within the Western Garden Cities is Slotermeer. Opened by Queen Juliana on October 7, 1952. The neighbourhood features the lively Plein '40-'45 square, which hosts a daily market and is surrounded by shopping streets, and various commemorative elements related to World War II (World Garden Cities, n.d.).

In recent years, the Western Garden Cities have undergone significant urban renewal projects. The "Richting Parkstad 2015" plan, implemented since 2001, has led to the demolition and replacement of thousands of homes, partially departing from the original garden city concepts (Nio et al., 2016). These renewal efforts aim to address challenges such as aging housing stock, changing demographics, and evolving urban needs while preserving the unique character of these neighbourhoods.

Despite these changes, many areas within the Western Garden Cities still retain their original atmosphere and design principles. For instance, the Van Eesteren Buitenmuseum in Slotermeer serves as a protected city site, preserving and showcasing the early garden city design and atmosphere (World Garden Cities, n.d.).

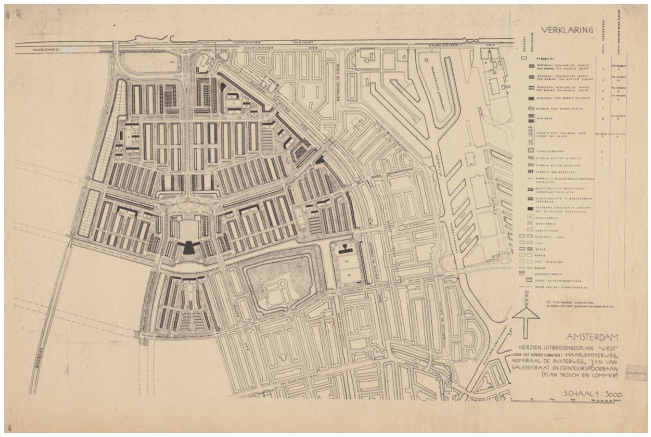


Figure 2.2 Bos en Lommer (van Eesteren)

Figure 2.3 Slotermeer (van Eesteren)

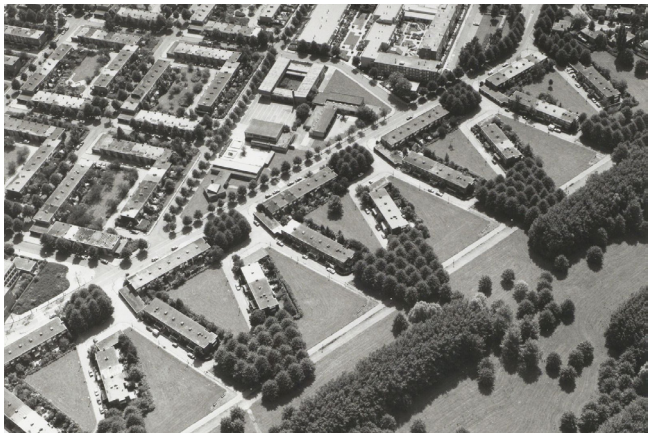


Figure 2.4 Slotervaart (van Eesteren)

2.3 Wonen in Amsterdam Survey

The "Wonen in Amsterdam" (Living in Amsterdam) survey is a biennial study conducted by the Municipality of Amsterdam to assess the satisfaction of residents with their living conditions and neighbourhoods. This survey provides valuable insights into the perceived quality of life in different areas of the city. The survey encompasses a variety of liveability aspects, including housing quality, public spaces, safety, and social cohesion (Gemeente Amsterdam, 2019).

Neighbourhood satisfaction in the "Wonen in Amsterdam" survey is measured through a comprehensive set of questions that evaluate various dimensions of liveability. Residents are asked to rate their satisfaction with aspects such as the quality of housing, availability and condition of public spaces, safety, social interactions, and local amenities. The survey uses a scale from 1 to 10, where residents can express their level of satisfaction with each aspect, providing a detailed picture of the strengths and weaknesses of different neighbourhoods (Gemeente Amsterdam, 2019).

Liveability encompasses both tangible and intangible factors that contribute to residents overall well-being. Tangible factors include the physical quality of housing, infrastructure, and public spaces, while intangible factors involve social cohesion, safety, and the sense of community. The survey results offer a nuanced understanding of how these factors interact to influence residents' perceptions of their neighbourhoods.

2.3.1 Neighbourhood Satisfaction

In the 2023 survey, the average neighbourhood satisfaction score for Amsterdam as a whole was 7,5 out of 10. This indicates a generally positive perception of living conditions across the city. However, the survey revealed significant disparities between different neighbourhoods, particularly highlighting challenges in parts of Amsterdam Nieuw-West. (Gemeente Amsterdam, 2023)

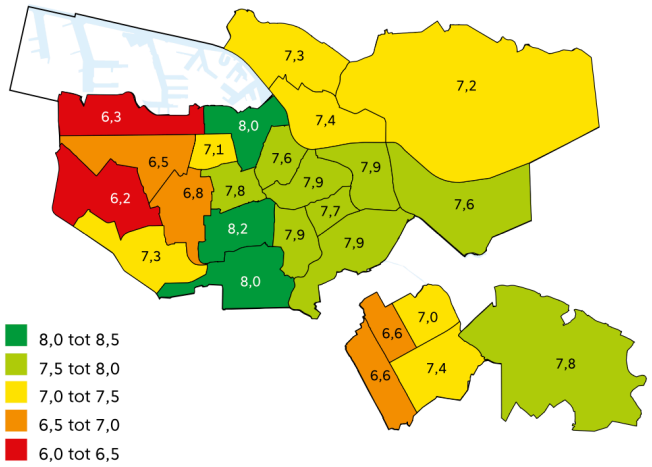


Figure 2.5 Satisfaction with own neighbourhood per area (Gemeente Amsterdam, 2023)

Several neighbourhoods in Amsterdam Nieuw-West received lower satisfaction scores compared to the city average. Specifically, neighbourhoods within Geuzenveld-Slotermeer received satisfaction scores between 6,5 and 7,0, depending on the specific area. Also parts of Osdorp scored below the city average, with ratings around 6,8 to 7,2. Most notably, Osdorp-Oost stood out with one of the lowest scores in the city, receiving a rating below 6,0.These lower scores are often attributed to factors such as the quality of housing stock, concerns about safety, and the availability and quality of public spaces and amenities.

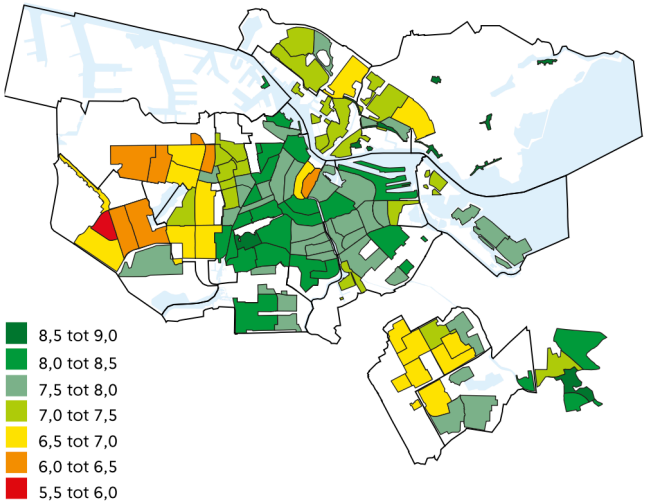


Figure 2.6 Satisfaction with own neighbourhood (Gemeente Amsterdam, 2023)

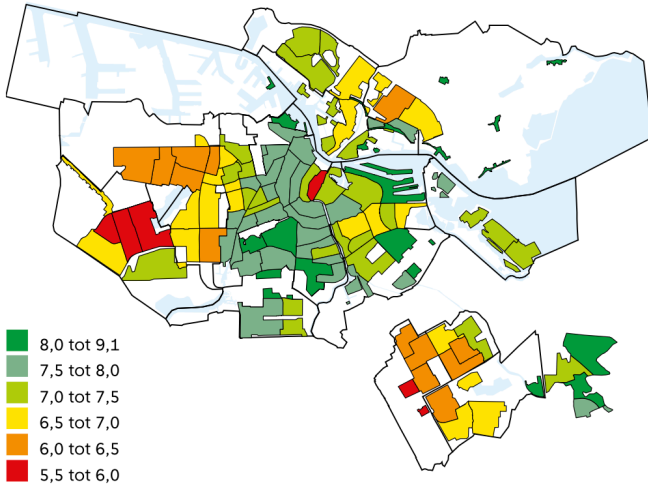


Figure 2.7 Feeling of safety in the evening (Gemeente Amsterdam, 2023)

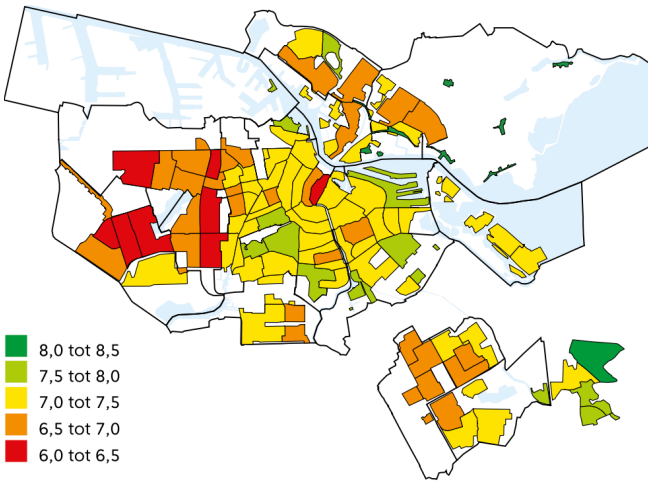


Figure 2.8 Cohesion between groups of people (Gemeente Amsterdam, 2023)

It's important to note that while parts of Nieuw-West face challenges, the borough is diverse, and satisfaction levels can vary significantly between different neighbourhoods within the district. The Municipality of Amsterdam uses these survey results to inform urban planning and policy decisions aimed at improving liveability across all areas of the city, with particular attention to neighbourhoods showing lower satisfaction scores

By focusing on Amsterdam Nieuw-West, this research aims to delve deeper into the specific factors contributing to these lower satisfaction scores. Understanding these factors is crucial for developing targeted architectural strategies that can effectively address the liveability issues in post-war neighbourhoods. The insights gained from this case study can potentially inform approaches to improving similar urban areas not only in Amsterdam but also in other cities with comparable challenges.

Furthermore, the choice of Nieuw-West allows for an examination of how the original principles of the General Expansion Plan and the garden city concept have fared over time, and how they might be adapted or reimagined to meet contemporary needs and expectations. This makes Amsterdam Nieuw-West an exemplary case for studying the intersection of historical urban planning ideals with current liveability challenges.

In essence, the lower neighbourhood scores in Amsterdam Nieuw-West provide a compelling justification for chosing this area as the focus of the research. It offers a rich context for exploring how architectural interventions can address liveability issues in post-war urban environments, potentially leading to insights that could significantly improve residents' quality of life.

03.

Research

This research chapter presents the findings from the studies on the values and needs of residents in Amsterdam Nieuw-West, utilizing the Ballarat Imagine method alongside a literature review on the role of architecture in enhancing liveability.

Picture take by author

3.1 Values and Attributes of residents in Amsterdam Nieuw-West

This chapter describes the results of interviews conducted using the Ballarat Imagine method, a participatory approach that explores the diverse values and aspirations of residents in Amsterdam Nieuw-West, with a particular emphasis on the districts of Geuzenveld-Slotermeer and Osdorp. A total of 58 interviews were conducted to investigate the perceptions of residents regarding their neighbourhoods, their future aspirations, and the aspects they wish to retain. The interview responses were analysed and categorized according to the Value Framework developed by Ana Pereira Roders, facilitating the classification of attributes into various themes. This chapter is structured into sections corresponding to each question theme, allowing for a detailed exploration of the categorized data. Furthermore, the results from the two districts are compared to provide a nuanced understanding of how different areas within the same post-war neighbourhood may have distinct value perceptions and liveability challenges. Through this analysis, the chapter aims to offer a comprehensive understanding of the factors that contribute to liveability and heritage appreciation in these post-war areas.

3.1.1 What residents love about their neighbourhood

When participants were asked what they love about their neighbourhoods, a rich tapestry of attributes emerged, revealing both shared values and unique perspectives. 17% of residents in Geuzenveld-Slotermeer and 18% of residents in Osdorp, spoke passionately about greenery, multiculturalism, and peace, with greenery being a common thread. As a participant from Osdorp answers *"The surroundings, the nature. We live here in a beautiful park, so that's fantastic"*. However, the emphasis on multiculturalism diverged significantly: it resonated deeply in Geuzenveld-Slotermeer (37%) but was less prominent in Osdorp (11%). A participant, from Geuzenveld-Slotermeer, observed not only the multiculturism, but also social equality among residents *"It's multicultural... and well distributed. You don't see a difference between rich and poor, people have moderate incomes..."*. This contrast hints at the different social dynamics at play in these communities.

Some attributes, like Sloterplas lake, were celebrated as both an economic and ecological treasure in Geuzenveld-Slotermeer (33%), while Osdorp highlighted the Meervaart Theater (25%) as a cultural beacon. The love for these places reflects not just their physical presence but the emotional connections residents have with them. Some participants also have this emotional connection, because of how long they have resided in the neighbourhood, a participant from Geuzenveld-Slotermeer notes *"...I've known this neighbourhood since the 1970s when I attended school by the Sloterplas. Back then, you wouldn't want to be caught dead here. This area was just dull and dry, and now, look at it, it's vibrant with terraces, markets; it's really something"*. Overall, the attributes cherished by participants predominantly fall under social values (97%) and economic values (59%), with no mention of age-related values, which were thus excluded from the Value Framework. Aesthetic and scientific values were only represented by a single attribute each: appearance (3%) and innovation (14%), respectively.

Geuzenveld-Slotermeer

In Geuzenveld-Slotermeer, participants expressed their affection for both tangible and intangible attributes. They spoke fondly of Sloterplas and embraced multiculturalism, which was a standout at 37%. Other beloved aspects included diverse parks (30%), the vibrant Square 40-45 (23%), and a sense of acceptance and conviviality (both at 17%). This emphasis on parks and social acceptance paints a picture of a community that values connection and inclusivity, where the people and their interactions are at the heart of what makes the neighbourhood special.

Osdorp

Meanwhile, Osdorp residents also highlighted a mix of tangible and intangible attributes, with the Meervaart Theater (25%) and the concept of diversity (25%) taking centre stage. They appreciated greenery (18%), peace (14%), and recognition (14%), suggesting a longing for tranquillity and acknowledgment within their community. The presence of cultural venues like the Meervaart Theater indicates that Osdorp has its own unique cultural identity, one that complements the more community-focused values seen in Geuzenveld-Slotermeer.

Photo taken at Osdorpplein in Osdorp

Figure 3.1 Love attributes in Value Framework

3.1.2 What residents want to retain in their neighbourhood

When the conversation shifted to what participants wanted to retain in their neighbourhoods, it became clear that many of the attributes they love are also those they wish to preserve. Both groups echoed sentiments about the importance of greenery (23% in Geuzenveld-Slotermeer and 32% in Osdorp), interaction (7%/11%), and recognition (10%/7%) (see figure 3.2). Some participants expressed their views regarding the transformations of their neighbourhood, and how they don't recognize it anymore *"... What I find regrettable is that the characteristics are being removed. There are now all these ugly houses built, with the idea that they should be beautiful, but I don't find them beautiful because the entire characteristic is disappearing. It's all very sleek, but it can be sleek and still remain somewhat authentic to what Amsterdam is"*. A participant in Osdorp agrees, saying *"For me, there are all kinds of feelings and memories there, and I think you'd miss that if you build all new buildings there. For me, all the new buildings (Osdorpplein) lacks a bit of that identity"*. Yet, Osdorp introduced unique elements like peace (14%), facilities (11%), and the Meervaart Theater (11%), suggesting that while both neighbourhoods share core values, they also have distinct priorities. Greenery emerged as a multifaceted attribute, embodying both ecological and historical significance. The desire to retain these cherished elements underscores their vital role in community identity and well-being. The attributes that participants want to preserve are primarily classified as social values (42), with no mention of age-related values, leading to their exclusion from the retain value framework. Only one attribute fell under the scientific value category: innovations (3%).

Geuzenveld-Slotermeer

In Geuzenveld-Slotermeer, the tangible attribute of greenery (23%) was the most frequently mentioned desire for retention. This was closely followed by intangible values like recognition (10%), multiculturalism (7%), and interaction (7%). The emphasis on recognition and multiculturalism reveals a community that takes pride in its diversity and the connections among its residents, highlighting the importance of social cohesion in their vision for the future.

Osdorp

Osdorp participants, too, prioritized greenery (32%) but also expressed a desire to retain peace (14%) and interaction (11%). They mentioned tangible attributes like facilities (11%), the Meervaart Theater (11%), and Westmarket (11%), indicating a strong preference for accessible amenities that enhance daily life. This blend of social and economic values illustrates Osdorp's focus on creating a balanced and fulfilling living environment, where both community and convenience matter.

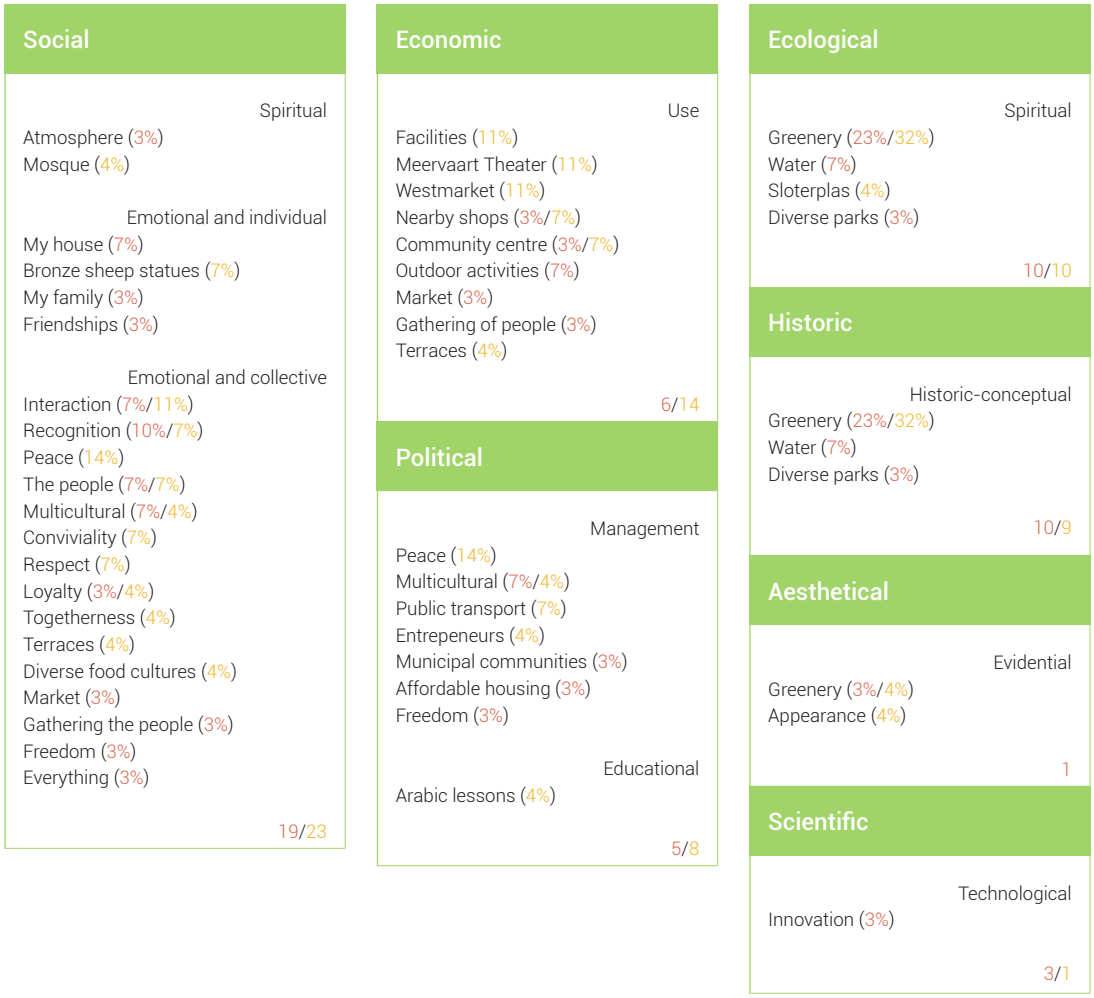


Figure 3.2 Retain attributes in Value Framework

Tangible & Intangible

The attributes discussed in response to the question of retention reveal a fascinating interplay between tangible and intangible values (see figure 3.3). Tangible attributes, such as facilities, stores, and public transport, were predominantly highlighted by Osdorp participants, reflecting their practical needs. In contrast, Geuzenveld-Slotermeer residents leaned more towards intangible attributes like interaction and multiculturalism, showcasing their emphasis on social connections and community spirit. This distinction not only highlights the different priorities of the two neighbourhoods but also suggests that a holistic approach to urban planning must consider both functional needs and the social fabric that binds communities together.

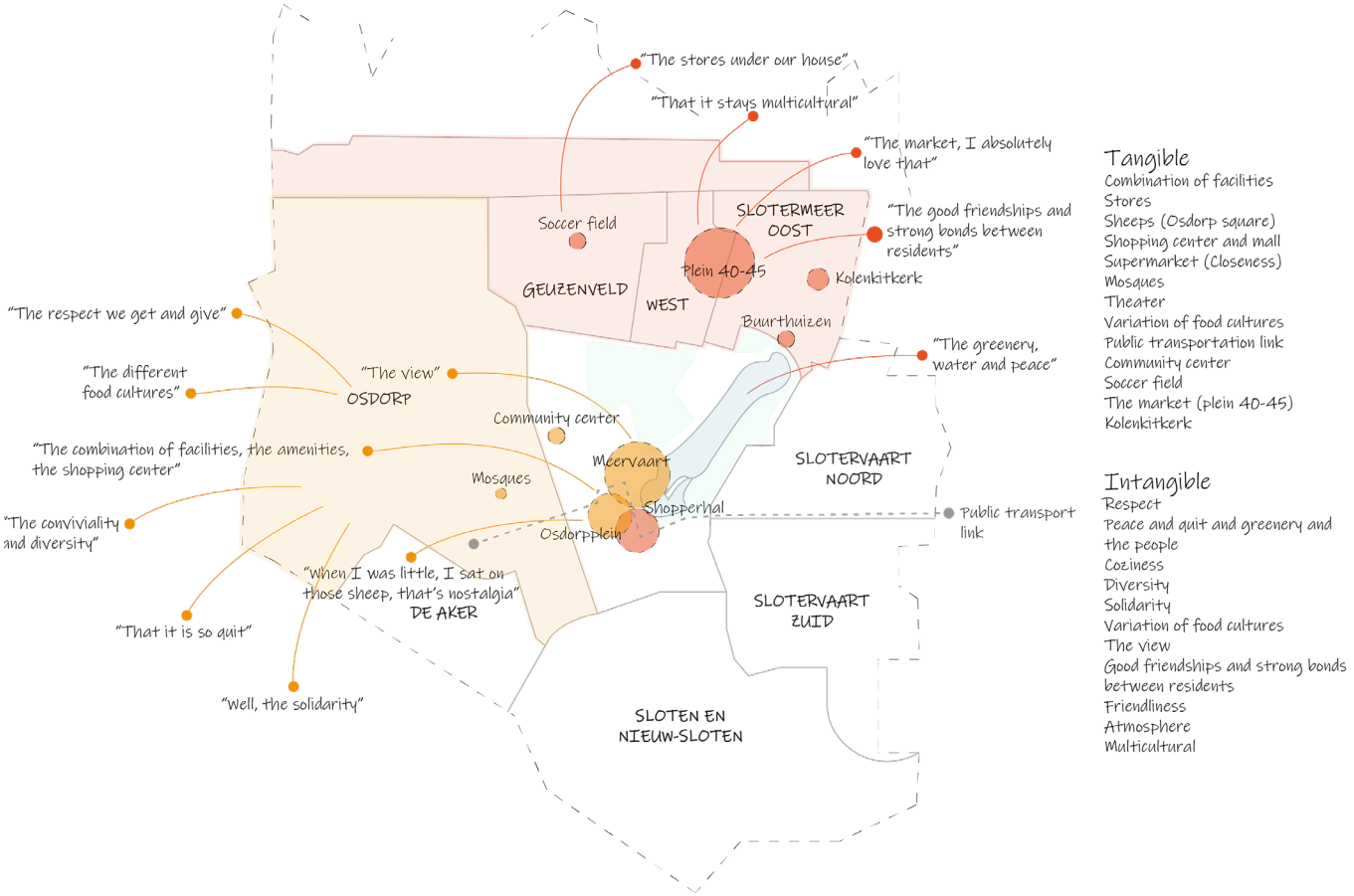


Figure 3.3 Tangible and intangible retain attributes map

3.1.3 Specific valued places

An intriguing addition to the Imagine method was the question, *"If you were to take us anywhere in your neighbourhood, where would you take us?"* (Q3). This prompt encouraged participants to share specific places of value, leading to a wealth of tangible attributes. The responses fell into five themes: green/water, shops, recreation, culture, and education (see figure 3.4). A participant in Osdorp really appreciates places for young people to keep them of the streets "Religious places have a positive influence on young people. For example, community centres that offer a mix of activities and religion". Sloterplas emerged as a significant shared value for both Geuzenveld-Slotermeer and Osdorp, symbolizing a communal space that fosters well-being and connection. Other notable mentions included Square 40-45 in Geuzenveld-Slotermeer and Osdorp Square in Osdorp, both serving as vital social hubs that bring residents together.

Picture taken at Square 40-45 at Slotermeer by author

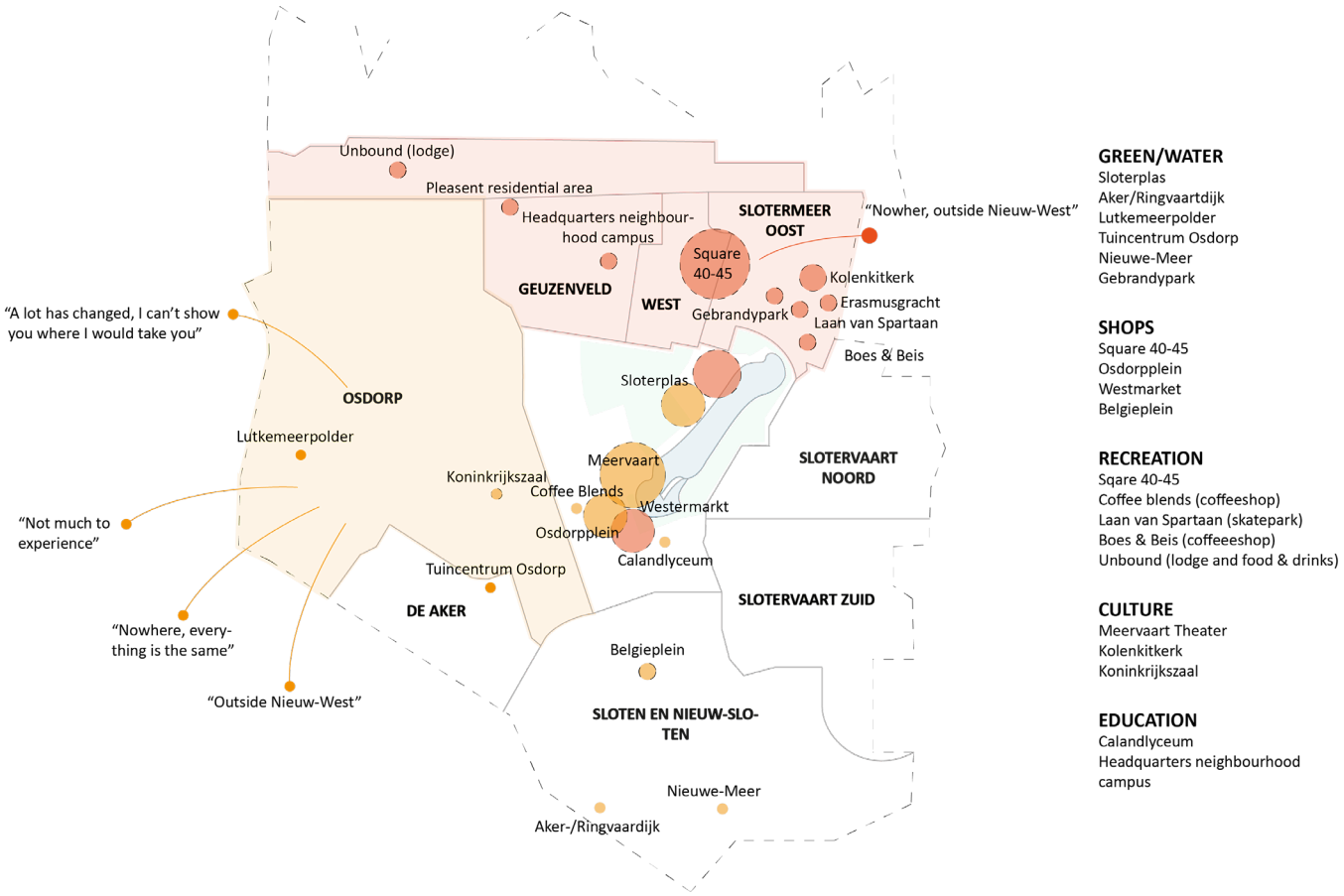


Figure 3.4 Where would you take us? Attributes in Amsterdam Nieuw-West

3.1.4 How residents imagine their neighbourhood

When participants were asked how they envision their neighbourhoods, several attributes resonated across both areas. Common themes included social safety (17% in Geuzenveld-Slotermeer and 18% in Osdorp), diverse shops (13%/11%), and renovation (13%/11%) (see Figure 3.4). Many participants hope that the neighbourhoods structures undergo renovations "What could be improved overall are the social housing units that are very outdated", one participant from Osdorp even compares the antiquated buildings to 'the ghetto', "I just hope that a large part of the neighbourhood gets a bit renovated. If you look around here (Osdorpplein), it's quite nice, but the further you go in that direction... it starts to resemble more and more a kind of ghetto". Participants frequently address the subject of safety. In reality, some residents are proud of the neighbourhood's safety, while others are apprehensive about it and experience a sense of unease, particularly in the evening. One participant from Osdorp answers "Safe... I sometimes cycle in the evening, and I still have to be cautious".

Notably, diverse facilities (20%) were mentioned exclusively by Geuzenveld-Slotermeer participants, indicating a desire for a broader range of community services and amenities that cater to various needs. A participant from Geuzenveld-Slotermeer expressed his satisfaction with the quantity of facilities, but expressed his desire for a more extensive selection, "There are only Turkish and Moroccan shops. I really like a Turkish or Moroccan shop... But there could also be a wine shop, and there could be more places that are a bit more diverse... So yes, more variety in shops and a more diverse cultural offering..". Many of these envisioned attributes straddle multiple value types. For instance, greenery serves as both an economic asset and an ecological necessity, while new buildings can be appreciated for their aesthetic appeal as well as their environmental benefits. The attributes participants envision for their neighbourhoods are primarily classified as political (32) and economic values (28). Interestingly, no attributes were classified under age-related values, prompting their removal from the Imagine Value Framework. Only one attribute fell under scientific value: urban agriculture (3%).

Figure 3.5 Imagine attributes in Value Framework

Geuzenveld-Slotermeer

In Geuzenveld-Slotermeer, participants highlighted tangible attributes like diverse facilities (20%) and diverse shops (13%), alongside intangible ones such as social safety (17%). The strong focus on diverse facilities indicates a community-oriented vision that values accessibility and inclusivity, reflecting a desire for a vibrant, interconnected neighbourhood. The attributes envisioned for Geuzenveld-Slotermeer are primarily classified under political and economic values, suggesting a forward-thinking approach to community development.

Osdorp

Conversely, Osdorp participants painted a picture of their ideal neighbourhood with a wide range of tangible attributes, including cleanliness (20%), diverse shops (11%), and youth facilities (14%). Intangible values like social safety (18%) and generational harmony (11%) also featured prominently. This focus on cleanliness and youth facilities reflects a proactive approach to enhancing the living environment, catering to the needs of younger residents while fostering a sense of community. The attributes envisioned for Osdorp are primarily classified under political values, with no attributes falling under age and scientific values. This narrative approach provides a more engaging and fluid reading experience while still conveying the essential findings and comparisons between the neighbourhoods.

Picture taken in Slotermeer by author

3.1.5 Comparing the values of Geuzenveld-Slotermeer and Osdorp

The comparison of Geuzenveld-Slotermeer and Osdorp, based on the conducted interviews, provides intriguing insights into the values and priorities of their residents. Both neighbourhoods share a deep appreciation for greenery, underscoring its importance as both an ecological and historical asset. This aligns with the area's heritage as part of the "air, light, and space" urban planning ethos envisioned by Cornelis van Eesteren, which prioritized open spaces and greenery. However, the emphasis on multiculturalism is notably stronger in Geuzenveld-Slotermeer (37%), reflecting its vibrant social fabric and the residents appreciation for diversity and community interaction. This contrasts with Osdorp (11%), where cultural venues like the Meervaart Theater and practical amenities such as facilities and markets are more prominently valued, highlighting a focus on cultural engagement and economic convenience.

The tangible and intangible attributes cherished in each neighbourhood further illustrate their distinct identities. In Geuzenveld-Slotermeer, intangible values such as social cohesion and multicultural acceptance are predominant, suggesting a community-oriented environment that values inclusivity and social bonds. Conversely, Osdorp residents place significant value on tangible attributes like cleanliness and cultural facilities, indicating a desire for a well-maintained and culturally rich living space.

When envisioning the future, both neighbourhoods express a desire for social safety and diverse amenities, yet Geuzenveld-Slotermeer emphasizes the need for diverse facilities, pointing to a vision of broader community services. Osdorp, on the other hand, focuses on cleanliness and youth facilities, reflecting a proactive approach to enhancing the quality of life and catering to younger generations. These nuanced differences highlight the unique challenges and aspirations within each area, underscoring the importance of tailored urban planning strategies that respect and nurture the distinct values and potential of both Geuzenveld-Slotermeer and Osdorp.

3.2 Enhance liveability with Architecture

This chapter presents the results of the literature review, which is based on the liveability framework developed by Leby and Hashim (2010). The framework's four dimensions—social environment, physical environment, safety, and functionality—serve as the foundation for examining the relationship between architecture and liveability. Each section of this chapter corresponds to one of these dimensions, exploring specific aspects that contribute to neighbourhood satisfaction and liveability

3.2.1 Functional Environment

At the neighbourhood level, managing population density is essential to prevent overcrowding and ensure a sufficient supply of resources. This delicate balance plays a critical role in enhancing liveability, which is influenced by the number, size, and spatial distribution of amenities. Recent studies have begun to explore various metrics, such as transit line density, the availability of green spaces, and pavement widths to facilitate pedestrian traffic flow. For example, in Amsterdam, the city has implemented extensive cycling infrastructure that not only reduces car dependency but also enhances accessibility and promotes healthier lifestyles, making it a model for urban liveability (Pucher & Buehler, 2008). At the building scale, this emphasis on functionality translates into a pressing need for flexible layouts and adaptive spaces. Many post-war buildings feature rigid floor plans that struggle to accommodate the diverse and evolving needs of modern residents. Schneider and Till (2007) argue that flexible housing can adapt to changing user needs, incorporate new technologies, and respond to demographic shifts over time. The implementation of movable partitions or modular furniture systems allows residents to reconfigure their living spaces as necessary, aligning with the multifunctionality principle highlighted by Proshansky et al. (1970).

Accessibility and Services

Access to services and amenities is crucial for enhancing liveability at both the neighbourhood and building levels. At the urban scale, proximity and connectivity are vital, as emphasized by Florida (2008). The Urban Liveability Index (ULI), introduced by Higgs et al. (2019), evaluates street connectedness and proximity to essential urban facilities, indicating that well-connected neighbourhoods tend to foster higher levels of community engagement. At the building scale, the accessibility assessment conducted by Ongehinderd at Leiden University highlights the importance of ensuring that educational buildings are accessible to all individuals, including those with disabilities. The assessment covers various aspects, such as wheelchair accessibility, the presence of handrails, and audio induction loop systems for those with hearing impairments, ensuring that everyone can navigate the buildings comfortably and independently (Leiden University, 2021). Within buildings, the concept of accessibility extends to retrofitting efforts. Many post-war structures lack adequate accessibility features, and improvements such as elevators, ramps, and wider doorways can significantly enhance liveability for all residents, particularly the elderly and those with mobility challenges (Preiser & Ostroff, 2001).

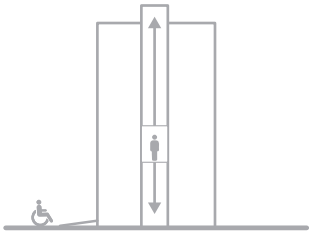


Diagram 3.1 Improving accessibility (by author)

Mixed-use planning

Mixed-use planning emerges as a crucial mechanism for enhancing urban liveability at both scales. At the neighbourhood level, it improves the accessibility, quality, and affordability of amenities and services. Studies by Higgs et al. (2019), Zhu et al. (2020), and Istrate et al. (2021) quantify the positive impact of mixed-use urban areas on liveability, vibrancy, and community sense. Jacobs (1961) famously argued that urban districts should serve more than one primary function, promoting user diversity and creating connected communities. In Amsterdam, the integration of residential, commercial, and recreational spaces within neighbourhoods has been shown to enhance community interaction and economic vitality (Gehl, 2010). This principle can also be applied at the building level by integrating diverse functions within structures. For example, converting ground floors into community spaces, small shops, or co-working areas can enhance the building's functionality and create a more vibrant environment.

Diagram 3.2 Mixed-use planning on neighbourhood scale (by author)

Diagram 3.3 Mixed-use planning on building scale (by author)

Health and Place value

The health domain is a crucial aspect of liveability and is emphasized within the concept of place value at both urban and building scales. At the neighbourhood level, designing spaces for living, working, and recreation prioritizes health considerations, encompassing safety, clean air and water, and green spaces. In Utrecht, the transformation of public spaces into green, pedestrian-friendly areas has significantly improved air quality and provided residents with more opportunities for outdoor activities (van den Berg et al., 2010). Parks, in particular, contribute significantly to environmental, economic, and social well-being (Vogt et al., 2020). Within buildings, this emphasis translates into creating comfortable and healthy living environments. Various studies underscore the importance of factors such as thermal comfort, appropriate materials, and indoor air quality in promoting residents' health and well-being.

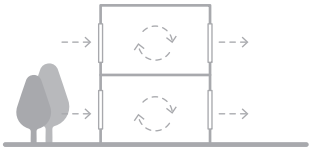


Diagram 3.4 Clean air (by author)

Human scale and daily experiences

Human scale and daily experiences are important considerations in both urban and architectural design. At the pedestrian level, contributors like Jacobs and Gehl stress the intrinsic connection between city spaces and human functioning and social processes. Diversity, high density, and the presence of shops and public spaces positively impact community sense. This human-centred approach extends to building design, where the concept of "building transformation," as discussed by Remøy and van der Voordt (2014), allows for the division of existing dwellings to accommodate changing household sizes and increase overall housing capacity. A study by Abels (2018) suggests that densification strategies in post-war neighbourhoods can include a mix of housing types and sizes to accommodate diverse household compositions and promote social inclusivity.

Diagram 3.5 Mixed housing types (by author)

Flexibility in design

Lastly, the concept of flexibility extends from urban planning to building design. At the neighbourhood level, this involves creating adaptable public spaces and infrastructure that can evolve with changing community needs. Within buildings, flexible design can facilitate density management through the division of existing dwellings, as discussed by Remøy and van der Voordt (2014). These approaches not only enhance the functional quality of individual living spaces but also contribute to the overall sustainability of both the building and the neighbourhood by extending their lifespan and accommodating changing demographic needs without extensive reconstruction.

3.2.2 Physical Environment

The physical environment at the neighbourhood level is shaped by concepts such as multifunctionality of spaces, territorial awareness, and self-esteem, which are central to understanding environmental quality (Proshansky et al., 1970). Gehl (1971) emphasizes urban design's role in providing social experiences and ensuring a varied environment. At the building scale, this translates to energy efficiency improvements. Enhancing the building envelope through better insulation, energy-efficient windows, and modern HVAC systems can significantly improve thermal comfort and reduce energy costs (Power, 2008). For instance, the retrofitting of the Bijlmermeer flats in Amsterdam incorporated energy-efficient technologies, resulting in reduced energy consumption and improved living conditions for residents (van der Heijden, 2017).

Quality of urban spaces

The quality and condition of urban spaces significantly impact liveability. In neighbourhoods, maintaining streets and public spaces is crucial, as emphasized by Istrate et al. (2021) and Zhan et al. (2018). Tang & Yiu (2010) extend this to housing, noting that building maintenance, unit management, crowdedness, and living space per person affect overall liveability. At the building level, improving natural light and ventilation through strategic window placement or skylights can enhance indoor environmental quality (Boubekri, 2008), contributing to the comfortable environments crucial for liveability as highlighted by Gehl (2010).

Aesthetics and Appeal

Aesthetics and appeal are vital in both urban and building contexts. Harvey (2014) and Mehaffy (2021) emphasize aesthetics' impact on health, happiness, and quality of life. In urban areas, visually appealing spaces enhance public life and pedestrian movement. Street aesthetics are evaluated by factors like width, length, and tree canopy coverage (Harvey, 2014). For buildings, enhancing visual appeal through façade renovations, colour schemes, and artistic elements can positively impact residents' well-being.

Green roofs are great. Blue-Green roofs are even better. WIRED (Simon, M., 2024).

Nature and Urban setting

Nature's presence in urban settings is crucial for liveability. Amsterdam's innovative blue-green roofs, as part of the RESILIO project, integrate vegetation and water collection systems to create sustainable and resilient urban spaces. These roofs, covering over 100,000 square feet, not only support plant life but also capture rainwater for residential use, enhancing biodiversity and reducing flood risk (Condé Nast, 2024). At the neighbourhood scale, Allam & Jones (2018) advocate for transforming cities from grey to green, emphasizing the connection between land use patterns, social sustainability, and liveability. In buildings, incorporating nature through green roofs, vertical gardens, or courtyard renovations can improve residents' well-being and the building's environmental performance (Vogt et al., 2020).

Outdoor spaces

Parks and outdoor spaces are essential for urban liveability. At the neighbourhood level, they foster community ownership and positively impact mental, social, and physical health. The design of green environments influences health outcomes and overall quality of life (Vogt et al., 2020). For buildings, creating or renovating communal outdoor spaces can provide similar benefits on a smaller scale.

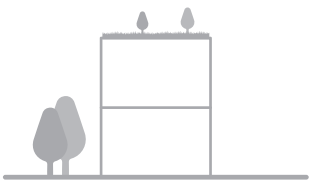


Diagram 3.6 Incorporating nature (by author)

Sustainability

Sustainability is key in both urban planning and building design. The eco-city approach emphasizes passive solar orientation, central block areas, reduced water consumption, and high-density, low-rise apartments. For buildings, improving energy efficiency through better insulation and modern systems aligns with these principles and enhances liveability (Fleury-Bahi et al., 2017).

The sustainable renovation of the DeFlat Kleiburg in Amsterdam, which involved a community-driven approach to refurbishing a large apartment complex, highlights the potential for sustainable building practices to improve liveability (Kleiburg, 2023).

DeFlat Kleiburg (KondorWessels Vastgoed, 2024)

3.2.3 Social cohesion

The narrative of social cohesion in urban planning highlights its profound impact on spatial equity and the overall liveability of cities, as emphasized by Marans and Stimson (2011). This concept aligns with Lefebvre's (1996) idea of "the right to the city," emphasizing not only access to existing structures but also for the right to influence and transform them (Harvey, 2003; Soja, 2010).

At the neighbourhood level, the interplay of social and physical elements within the living environment is crucial in shaping individual experiences. Research into liveability explores both these dimensions, recognizing factors like social safety and child-friendliness as integral components (Van Dorst, 2005). Spatial quality is seen not only as an intrinsic feature but also as a facilitator for a sustainable and liveable environment, supporting social interactions and enhancing community ties.

Public spaces for social interaction

Public spaces, particularly sidewalks, are vital areas for social interaction and community formation. Design principles emphasize prioritizing pedestrian spaces and creating inviting public areas to encourage spontaneous encounters and social engagement (Gehl, 2010). Neighbourhood parks also play a pivotal role, contributing to recreation and the social health of urban neighbourhoods (Jacobs, 1961).

The layout of urban neighbourhoods, especially the size of blocks and street patterns, significantly influences social and economic vitality. Jacobs (1961) argued for short blocks and frequent streets, noting that long blocks can lead to social isolation and economic stagnation. Short blocks foster interconnected neighbourhoods, creating vibrant communities. An example of this in Amsterdam is the Buiksloterham district, which has been transformed from an industrial area into a vibrant, mixed-use neighbourhood. The development emphasizes small-scale, dense, and mixed-use blocks that encourage social interaction and community engagement. The Cityplot blocks have an ideal plot size of 100 x 100 meters, the concept used in Buiksloterham promotes a flexible urban planning model with compact blocks, allowing for diverse building types and interconnected public spaces, thus fostering a lively and interactive community environment. (Studioninedots, 2014)

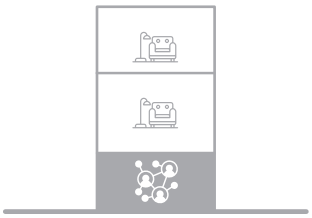
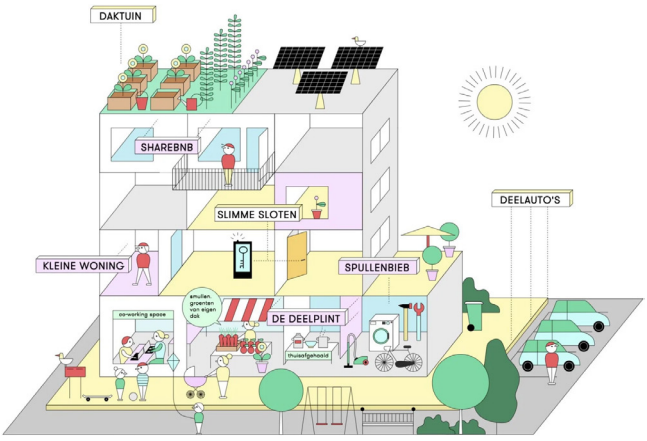


Diagram 3.7 Shared and communal spaces (by author)

Cityplot Buiksloterham (Studioninedots, 2024)

Shared spaces

On the building scale, creating or enhancing shared spaces such as rooftop terraces, community rooms, or entrance lobbies can provide opportunities for social interaction among residents (Gehl, 2010). These spaces can serve multiple functions, supporting Prohansky et al.'s (1970) concept of multifunctionality. Improving existing balconies or adding new ones can create semi-private spaces that encourage interaction between neighbours and with the street level, fostering a sense of community (Kearney, 2006). An example in Amsterdam is the WOON& housing complex, designed by Arons & Gelauff, which emphasizes collective and shared spaces as its central concept. WOON& consists of seven buildings including housing and communal facilities such as coworking spaces, shared guest rooms, and flexible mini-shops. This design encourages residents to interact and fosters a sense of community, highlighting the importance of shared spaces in urban living (Pop-Up City, 2021).



Housing Complex for the Sharing Economy (Pop-Up City, 2023)

Integrational design

Integrational design, which creates spaces catering to different age groups, can promote interaction across generations, addressing the need for generational harmony highlighted in urban studies. This approach can be applied at both the neighbourhood and building levels.

The societal domain of place value acknowledges the influence of design on crime, safety, civic pride, and social inclusion. Design interventions can positively impact the social fabric of a neighbourhood, contributing to its overall well-being (Carmona, 2019). By considering these aspects in urban planning and building design, cities can enhance social cohesion and create more liveable environments for their residents.

3.2.4 Safety

The concept of safety in urban environments is multifaceted and encompasses more than just the presence of security measures. At the neighbourhood level, Jane Jacobs (1961) emphasized that urban sidewalks serve as more than just transportation pathways; they are crucial for ensuring safety. She argued that safety is profoundly influenced by the physical characteristics and design of urban areas. Jacobs identified three key qualities for a street to be safe: a clear demarcation between public and private spaces, the presence of "natural proprietors" with eyes on the street, and continuous usage of the sidewalk. This continuous usage involves having a substantial number of active stores and public places along sidewalks to encourage spontaneous surveillance and a sense of community ownership.

Natural Surveillance

This concept of "eyes on the street" is echoed in recommendations for building design. At the building scale, redesigning ground floor spaces and common areas to increase visibility can contribute to a safer environment (Jacobs, 1961). This can be achieved through transparent facades and active ground floor uses, creating natural surveillance opportunities.

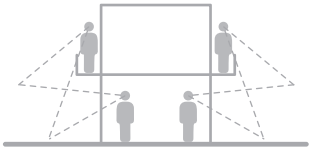


Diagram 3.8 Eyes on the street (by author)

The relation between spatial quality and social safety is underscored in discussions about improving the social environment to enhance safety. Scholars advocate for spatial enhancements, avoiding dark, polluted, and poorly organized areas that evoke feelings of insecurity. Key environmental features, including social control, visibility, clarity, and attractiveness, play pivotal roles in shaping perceptions of safety in urban landscapes.

At the building level, this translates into implementing secure entry systems and clear delineation between public and private spaces, which can improve residents' sense of safety (Newman, 1972). This aligns with Jacobs' (1961) emphasis on clear demarcation between public and private spaces at the neighbourhood level.

Lighting design plays a crucial role in safety at both scales. At the neighbourhood level, well-lit streets and public spaces contribute to safety and surveillance. At the building scale, improving lighting in common areas, entrances, and surrounding spaces can enhance safety perceptions and deter criminal activity (Painter, 1996). This contributes to the creation of comfortable environments crucial for liveability (Gehl, 2010).

Urban spaces and community formation

Urban spaces are recognized as essential realms for social interaction and community formation. The diversity of uses in these spaces, encompassing living, working, and recreational activities, contributes to a continuous buzz of activity throughout the day, creating inviting and well-used public places. This concept extends to parks, where a mix of activities and a diverse range of people contribute to safety and surveillance.

04.

Conclusion

The concluding chapter summarizes the main findings of the research and illustrates the architectural design principles that contribute to liveability, which are then translated into patterns.

Klarenstraat | woningen in oppervlakte van 40 tot 190 m2 (Vanschagen Architecten, 2024)

4.1 Summary of results

4.1.1 Values and Needs of residents in Amsterdam Nieuw-West

Based on the Imagine method interviews with residents of the neighbourhoods Geuzenveld-Slotermeer and Osdorp, in Amsterdam Nieuw-West, several key values and needs have been identified. Residents in both neighbourhoods express a strong appreciation for greenery, reflecting the importance of natural spaces in enhancing the liveability of urban environments. Multiculturalism is another significant value, especially in Geuzenveld-Slotermeer, where it underscores the area's social dynamics and appreciation for cultural diversity.

Emotional connections to specific locations, such as Sloterplas in Geuzenveld-Slotermeer and the Meervaart Theater in Osdorp, reveal the deep-rooted ties residents have with their neighbourhoods. These connections are often linked to personal histories and experiences, as illustrated by long-term residents who have witnessed the transformation of their neighbourhoods over the decades. The analysis predominantly identifies social and economic values as cherished by participants, with social values being mentioned frequently. Aesthetic and scientific values are less prominent, indicating that residents prioritize community, cultural diversity, and economic opportunities.

The needs identified from the Imagine answers suggest a focus on maintaining structures and enhancing green spaces, supporting multicultural interactions, and preserving cultural landmarks that foster community identity and social cohesion. Additionally, there is a need for urban planning and building designs that reflect these values, ensuring that the neighbourhoods remain vibrant and inclusive.

Residents also envision a future where social safety, diverse amenities, and renovations play crucial roles. In Geuzenveld-Slotermeer, there's a call for more diverse facilities to enhance community services, while Osdorp focuses on cleanliness and youth facilities to improve the living environment. These aspirations reveal a proactive approach to enhancing liveability, catering to both current needs and future growth.

In terms of tangible and intangible attributes, the residents value both physical elements, such as parks and amount and proximity to facilities, and intangible aspects, like the multicultural fabric and social cohesion of their communities. These tangible and intangible attributes together contribute to a nuanced understanding of resident values of Amsterdam Nieuw-West.

4.1.2 Enhance Liveability With Architecture

Based on the liveability framework developed by Leby and Hashim, the study examines how architecture influences social and physical environments, safety, and functionality. At the neighbourhood level, managing population density and ensuring access to resources are crucial for preventing overcrowding and enhancing liveability.

At the urban scale, diversity and high density positively impact community sense. This human-centred approach extends to building design, where the concept of "building transformation" allows for the division of existing dwellings to accommodate changing household sizes and increase overall housing capacity. Densification strategies in post-war neighbourhoods can include a mix of housing types and sizes to accommodate diverse household compositions and promote social inclusivity.

At the building scale, functionality is emphasized through flexible layouts and adaptive spaces. Many post-war buildings in Amsterdam feature rigid floor plans that struggle to meet modern needs. By incorporating movable partitions and modular furniture, these spaces can adapt to changing user needs, aligning with the multifunctionality principle.

Accessibility is another critical factor, as retrofitting initiatives such as elevators and ramps enhancing liveability for all residents, particularly those with mobility challenges. These architectural adaptations ensure that both urban and building environments are inclusive and responsive to diverse needs.

Mixed-use planning is recognized as a key strategy for enhancing urban liveability. By integrating residential, commercial, and recreational spaces, neighbourhoods can improve accessibility, vibrancy, and economic vitality. This principle extends to building design, where diverse functions within structures create vibrant environments. For instance, converting ground floors into community spaces or small shops enhances functionality and fosters community interaction. This approach aligns with the human-scale design philosophy, emphasizing the connection between city spaces and human social processes.

Health considerations are integral to liveability, with urban and building designs prioritizing clean air, green spaces, and thermal comfort. Within buildings, factors like indoor air quality and appropriate materials promote residents' health and well-being. The human-centred approach extends to building transformation, accommodating diverse household compositions and promoting social inclusivity. These insights highlight the potential of architecture to significantly enhance neighbourhood satisfaction and liveability, creating environments that support both individual and community well-being.

4.2 Relation between research studies

The exploration of residents' values and needs in Amsterdam Nieuw-West exposes a variety of priorities that significantly impact perceptions of liveability. The profound connection to both the physical and social environment is reflected in the valued attributes, such as peace, multiculturalism, and greenery. These values, which were identified through participatory interviews, emphasize the importance of preserving community identity and fostering inclusivity. In this context, architecture is an essential tool for enhancing liveability by aligning with these community values. The architectural principles of flexibility, accessibility, and mixed-use planning directly support the residents aspirations by creating spaces that are not only functional but also align with the cultural and social fabric of the neighbourhoods.

The values and needs identified in Geuzenveld-Slotermeer and Osdorp are intrinsically connected to the function of architecture in improving liveability. For instance, the emphasis on greenery and social cohesion in Geuzenveld-Slotermeer, can be supported through architectural designs that prioritize green spaces and communal areas. Similarly, Osdorp's focus on cultural venues and practical amenities can be addressed by integrating cultural and recreational spaces within architectural plans. By aligning architectural interventions with the specific values and needs of each district, environments can be created, that not only meet practical needs but also enhance the overall quality of life, fostering a sense of belonging and community pride.

The relationship between these values and architectural contributions to liveability also extends to heritage preservation. The design of the post-war neighbourhoods of Amsterdam Nieuw-West has a strong foundation in the "air, light, and space" ethos by van Eesteren, and they are steeped in historical significance. This heritage is reflected in the residents' desire to retain elements of their neighbourhoods that embody historical and cultural significance. Architectural interventions that respect and incorporate these heritage elements can enhance liveability by maintaining the unique identity and character of the neighbourhoods. For example, preserving iconic structures or integrating historical design elements into new developments can create a harmonious blend of old and new, enriching the community's cultural landscape.

In conclusion, the dynamic interplay between the relationship between residents' values and needs, architectural contributions to liveability, and heritage preservation requires a nuanced approach. By understanding and respecting the unique values of each district, architects and urban planners can design spaces that enhance liveability while preserving the cultural and historical identity of the neighbourhoods. This comprehensive approach not only addresses the practical needs of residents but also fosters a vibrant, inclusive, and sustainable urban environment that reflects the rich heritage of Amsterdam Nieuw-West.

4.3 Architectural design strategies that enhance liveability

This thesis examined which architectural design principles can be applied to post-war housing in problem neighbourhoods where neighbourhood satisfaction scores low. For this purpose, the post-war neighbourhoods of Geuzenveld-Slotermeer and Osdorp in Amsterdam Nieuw-West were used as a case study because of the low neighbourhood satisfaction scores, which are strongly related to liveability aspects. Therefore, the purpose of this research is to answer the following question:

What architectural design strategies can be applied to post-war housing to improve neighborhood satisfaction by enhancing liveability, while considering the values and attributes perceived by residents?

In addressing the main research question of which architectural design strategies can be applied to post-war housing to improve neighbourhood satisfaction by enhancing liveability, while considering the values and attributes perceived by residents, it is essential to consider the specific characteristics and challenges of these neighbourhood's. The post-war areas of Geuzenveld-Slotermeer and Osdorp in Amsterdam Nieuw-West serve as pertinent case studies due to their low neighbourhood satisfaction scores and the unique liveability aspects they present. The strategies outlined below are specifically designed to be implemented on post-war buildings, focusing on enhancing liveability while preserving the historical and cultural context of these neighbourhood's.

One fundamental strategy is the introduction of diverse housing types within existing post-war buildings. By reconfiguring these structures to offer a mix of apartments, townhouses, and single-family homes, architects can accommodate various family sizes, income levels, and lifestyle preferences. This diversity promotes the inclusivity attribute and also aligns with the social diversity and adaptability values cherished by residents. The integration of diverse housing types can be achieved through building transformations that allow for flexible layouts and adaptive spaces, accommodating changing household compositions over time.

Improving accessibility is another important strategy that can be applied to existing post-war buildings. Many of these structures lack adequate accessibility features, and retrofitting efforts such as adding elevators, ramps, and wider doorways are essential for making these buildings more inclusive. This also encompasses the enhancement of the building's entrance's visibility and inevitability. These enhancements ensure that all residents, including the elderly and those with mobility challenges, can navigate their living environments

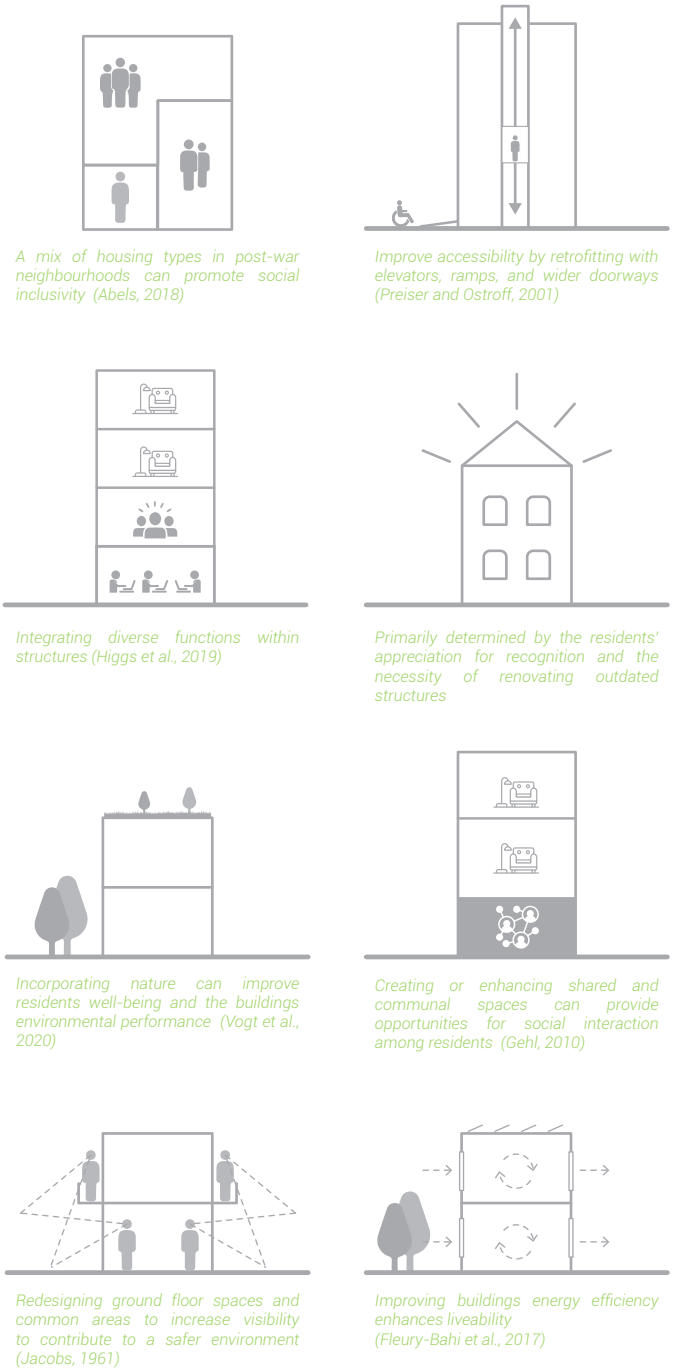


Diagram 4.1 Diagrams illustrating the design strategies to improve liveability (by author)

comfortably and independently. This strategy is intrinsically linked to the attribute of inclusiveness. While mobility was not specifically rated by residents, the closely related concept of accessibility emerged as a frequently mentioned and highly valued attribute. This focus on inclusivity not only improves the physical aspects of the building and neighbourhood but also fosters a sense of community and belonging among its inhabitants, which is valued by the residents.

Mixed-use program is a key strategy for revitalizing post-war neighbourhood's. By integrating residential, commercial, and recreational spaces within existing structures, neighbourhoods can foster vibrant environments where residents can live, work, and play. This approach enhances the attributes accessibility, and economic vitality, creating dynamic urban experiences that support community interaction and meet diverse needs. Converting ground floors of existing buildings into community spaces, small shops, or co-working areas can enhance the building's functionality and create a more vibrant environment.

Heritage-sensitive renovations are crucial for preserving the historical and cultural identity of post-war neighbourhood's. Architectural interventions that respect and incorporate historical design elements can maintain the unique character of neighbourhood's, fostering a sense of pride and belonging among residents. This strategy aligns with the residents' desire to retain cherished attributes that embody their cultural identity, recognition and appearance, ensuring that renovations enhance liveability while preserving cultural heritage.

Integrating green spaces into the urban fabric of these neighbourhood's is fundamental for enhancing liveability. Greenery, a cherished attribute in both Geuzenveld-Slotermeer and Osdorp, serves as an ecological asset and a source of community well-being. Prioritizing the development of parks, gardens, and green corridors within existing urban layouts can promote health, relaxation, and social interaction, aligning with residents' values and aspirations. At the building scale, this can be achieved through the incorporation of rooftop gardens, green walls, and courtyard gardens.

Creating communal spaces within existing buildings is essential for fostering social cohesion. Designing community rooms, entrance lobby's, and shared gardens within these structures encourages social interaction and strengthens community bonds. These spaces serve as vital social hubs that bring residents together, reflecting the community-focused valued attributes like conviviality, interaction, togetherness and social cohesion seen in Geuzenveld-Slotermeer and the cultural identity of Osdorp.

Enhancing safety through architectural design is also essential. By creating environments that encourage natural surveillance, such as well-lit public spaces, clear sightlines, and active street fronts, architects can reduce residents' concerns about security. These strategies contribute to the attribute social safety and a more cohesive and secure neighbourhood environment, addressing the apprehensions expressed by residents.

Finally, improving energy efficiency and sustainability in existing post-war buildings is crucial for enhancing liveability. Incorporating thermal comfort, natural lighting, and strategic window placement can reduce energy consumption and improve indoor environmental quality. Sustainable materials and technologies can be integrated into renovations to create healthier and more efficient living spaces, aligning with the ecological values cherished by residents.

Liveability design strategies visualized into 'DS cards'

In visualizing the identified architectural strategies into practical applications, this thesis introduces 'DS cards' (design strategy cards) specifically designed to improve liveability in post-war housing. The 'DS cards' offers significant communication potential, as it provides a structured yet flexible framework that can guide architects, urban planners, and community stakeholders in implementing these strategies effectively. By organizing these cards based on the four dimensions of the liveability framework by Leby and Hashim—social environment, physical environment, safety, and functionality—they offer a comprehensive approach to addressing the multifaceted challenges of post-war neighbourhood's.

The 'DS cards' are further organized by theme, attributes, and applicability across different scales, including neighbourhood, street, and building levels. This organization allows for targeted interventions that can address specific liveability issues while respecting the unique characteristics of each area. For instance, at the neighbourhood scale, patterns related to mixed-use planning and green space integration can enhance community interaction and ecological sustainability. At the street level, patterns focusing on accessibility and safety through natural surveillance can improve connectivity and security.

At the building scale, patterns addressing diverse housing types and energy efficiency can create more inclusive and sustainable living environments. The strategies are not only solid in theory but also practically implementable, developing an integrated improvement in neighbourhood satisfaction, as a result of this multi-scalar approach.

In conclusion, these architectural design strategies, visualized through 'DS cards' offer a comprehensive approach to improving neighbourhood satisfaction by enhancing liveability in post-war housing areas. By aligning architectural interventions with the values and needs of residents, urban planners can create vibrant, inclusive, and sustainable environments that reflect the rich heritage and diverse aspirations of Amsterdam Nieuw-West. The 'DS cards' developed through this research serves as a valuable tool for translating these strategies into practical solutions.

A liveability pattern language that can be applied to post-war housing as the result of architectural design strategies that are intended to enhance liveability

05.

Discussion

This chapter summarizes the discussion of the research findings.

Complex 50 en 117 (Vanschagen Architecten, 2024)

5. Discussion

The study provides a comprehensive qualitative analysis of the value that residents of Geuzenveld-Slotermeer and Osdorp place on their neighbourhood's. However, it is important to recognize the limitations of the data. Although the Ballarat Imagine approach is effective in capturing residents' perceptions, it may inadvertently emphasize certain values over others, potentially biasing the data. For example, the study could have been enhanced by investigating the perspectives of neighbourhood residents regarding aesthetics of the architecture, which would have offered valuable insights for the design phase of the graduation project. Additionally, the research provides a snapshot of current perceptions, leaving the dynamic nature of values over time unexplored.

A notable finding is the lack of explicit references to heritage as a valued attribute, contrasting with the heritage-oriented Ballarat Imagine method. This raises questions about whether heritage appreciation is less present or if it is implicitly embedded within other valued attributes, suggesting an opportunity for even more in-depth research into how heritage is understood and valued in post-war neighbourhood's like Amsterdam Nieuw-West.

Although the research suggests that there are several potential architectural strategies to enhance liveability, these strategies, grounded in literature, require further testing and evaluation to assess their practical implementation and effectiveness. The reliability of the results is supported by the consistency of responses across different questions and neighbourhood's, yet the qualitative nature of the data means these results should be interpreted as indicative rather than definitive. The relationship between architectural interventions and social outcomes, such as improved community cohesion or safety, is suggested but not conclusively demonstrated in the study.

5.1 Further recommendations

The research aimed to identify architectural design strategies applicable to post-war housing to improve neighbourhood satisfaction by enhancing liveability. However, the resulting strategies are more generally focused rather than specifically tailored to post-war housing. Therefore, a crucial next step is to refine these strategies to make them more applicable to heritage post-war buildings. In retrospect, the interview questions could have delved deeper into participants' views on the aesthetic and architectural aspects of their neighbourhood's. This additional approach would have allowed for a stronger connection between the identified values and needs of the residents and the specific characteristics of post-war buildings.

The next phase of research should involve a comprehensive analysis of the design case study, with an emphasis on both heritage values and existing liveability issues. This analysis will be essential in determining which design strategies should be prioritized and how they can be adapted to enhance liveability while preserving the historical significance of post-war buildings.

5.2 Relevance

The application of the Ballarat Imagine method in the context of post-war neighbourhood's in Amsterdam Nieuw-West demonstrates the versatility and adaptability of this participatory research approach. This method, which was initially devised in Australia, has proven effective in capturing residents perceptions and values in different cultural and urban contexts. This adaptation opens up possibilities for researchers to apply the Ballarat Imagine method in various urban settings worldwide, potentially resulting in a more nuanced and culturally sensitive understanding of urban liveability across different contexts.

Furthermore, the integration of Ana Pereira Roders' value framework with the Ballarat Imagine method provides a new approach for categorizing and analysing residents perceptions. This methodological combination provides a valuable tool for researchers studying urban values and liveability, potentially leading to more comprehensive and nuanced analyses in future studies. The research results have direct implications for urban planning and policy-making, particularly in addressing the low neighbourhood satisfaction scores in Osdorp, as reported by the municipality. By identifying specific features that residents value, such as green space, social safety, and multiculturalism, policymakers and urban planners can develop targeted interventions to improve liveability in these areas. This resident-centred approach to urban renewal can lead to more effective and better-received improvements in post-war neighbourhood's. As an architecture student, the goal was to use the research results to guide interventions for the design phase of the graduate project. Architects and urban planners can also use this information for their approach to renovating and redesigning post-war housing in Amsterdam Nieuw-West. The emphasis on functional aspects, green spaces, and social interaction spaces highlighted in the research provides a clear direction for future design interventions. By aligning architectural solutions with residents values and needs, designers can create more liveable and satisfying urban environments.

06.

Reflection

This chapter reflects on the graduation process, examining the relationships between the graduation project, the master track, the program, the research approach, the obtained results, the research into design, and the design process.

Sloterplas: ziel van Nieuw-West. Al Het Nieuws Uit Amsterdam Nieuw-West (Hartvelt, 2022)

6. Reflection

The relationship between the graduation project topic, the master track (AR), and master programme (MSc AUBS)

The graduation project " Improving Neighbourhood Satisfaction in Post-War Neighbourhoods – Architectural Design Strategies for Liveability" has a fundamental relation to the master's program "Architecture: Adapting 20th Century Heritage: Resourceful Housing." The project's emphasis on improving the liveability of post-war neighbourhoods while maintaining their inherent heritage values corresponds with the primary goals of the master track.

The master track examines the multifaceted challenges of preserving historical value, adhering to modern standards, and reaching a circular economy efficiently. This graduation project examines ways for revitalizing post-war housing to enhance neighbourhood satisfaction and overall liveability in response to these issues. This method is especially relevant considering the widespread challenges encountered by post-war neighbourhoods in European cities, which, despite their original progressive design, have frequently become linked to social and economic difficulties (Argiolu et al., 2008). The emphasis on neighbourhood satisfaction as a key factor in addressing the issues of "problem neighbourhoods" is based on comprehensive research. The study evaluates multiple dimensions of liveability, such as the built environment, social cohesion, amenities, and safety, utilizing data from the biennial survey conducted by Amsterdam's 'Onderzoek & Statistieken' department (Dienst Onderzoek en Statistiek, 2007). This comprehensive approach to liveability, incorporating physical, social, and economic dimensions, corresponds with established academic frameworks (Camagni et al., 1997).

The current approach to tackle liveability uses includes architectural changes to improve the physical environment. By creating more high-quality housing in a mixed neighbourhood, liveability and safety in neighbourhoods should improve. This approach includes the restructuring of low-quality housing, which included replacement new construction, intensive and large-scale renovation and preservation and transformation of property into housing (Minesterie van Binnenlandse Zaken en Koninkrijksrelaties, 2022). While current approaches to improving liveability often involve large-scale renovation or demolition-reconstruction ('sloop-nieuwbouw') methods, this project seeks to address the potential loss of cultural and architectural heritage, particularly in areas like Nieuw-West (B. Kok, 2021).

The project targets the lowest-scoring neighbourhoods in satisfaction in Amsterdam Nieuw-West, to formulate design strategies that improve liveability while preserving the heritage of post-war architecture. The emphasis on the resourceful preservation of 20th-century history, illustrated by the case study of a typical post-war porch structure in Osdorp, reflects a dedication to sustainable and circular economic principles. This approach not only corresponds with the master track's focus on resourceful housing but also contributes to the wider domains of Architecture, Urbanism, and Building Sciences by exploring innovative strategies for heritage revitalization and liveability improvement.

The influence of research on the design/recommendations and the influence of the design/recommendations on the research

The research conducted for this graduation project substantially impacted the design strategy and recommendations. The iterative interaction between research and design was essential in formulating a comprehensive and context-sensitive approach to enhancing liveability in post-war neighbourhoods.

The research started with a study of the historical background of the Western Garden Cities, using existing knowledge and studies.

This foundation was further enhanced through a qualitative research methodology, incorporating interviews with inhabitants from two low scoring neighbourhoods in Amsterdam Nieuw-West. The interviews, conducted in conjunction with peers, utilized the "Ballarat Imagine" methodology, which promotes a positive reimagining of the neighbourhood by inhabitants. The interviews, although centred on neighbourhood-level impressions, yielded significant insights into inhabitants' views and needs.

The interview data was systematically analysed using Ana Pereira Roders' qualitative Value Framework, allowing for a structured understanding of residents' priorities. This analysis revealed patterns in how residents value different aspects of their neighbourhood. In retrospect, while the interviews provided valuable direction, a more focused set of questions specifically addressing architectural elements could have yielded even more precise insights for the design process.

Complementing the qualitative research, a literature review was conducted, exploring four dimensions of liveability: functional environment, physical environment, social cohesion, and safety. This review, drawing from seminal works like Jane Jacobs' "The Death and Life of Great American Cities" and contemporary studies on urban liveability, provided an overview for understanding how architectural interventions can influence these dimensions at various scales.

The integration of the interview findings and the literature evaluation constituted the foundation for addressing the main research question. This integration led to the creation of liveability 'design strategy cards', structured through a pattern language methodology influenced by Ganesh Babu's master's

thesis. These cards, organized by theme, value attributes, and scale of applicability, functioned as a pragmatic instrument connecting research findings with design interventions. In the design phase, these strategy cards were essential in resolving specific issues found in the design case study. The card-matching method for design difficulties indicated that certain strategies were more generally relevant to social heritage, whereas others targeted more specifically to architectural interventions. For instance, strategies related to 'housing differentiation', 'mixed-use programming', and 'natural surveillance' were found to be more building specific, while others like 'heritage sensitivity' 'energy efficiency & sustainability' and 'greenery integration' were more general.

Assesment of the value of the way of working, the approach, used methods and methodology

The methodology employed in this research project demonstrates an intentional and iterative process that connects theoretical comprehension with actual implementation. The development of liveability design strategy cards, derived from comprehensive research, functioned as an valuable tool for converting research findings into practical design interventions. The decision to utilize the design assignment as a testing ground for these ideas on a specific building typology, which had arisen during the feedback process, was a beneficial approach. This approach allowed a more focused application of the research results, permitting an in-depth examination of how general principles could be modified to address building typology-specific issues. The method of associating each detected problem with a relevant strategy card and thereafter examining diverse design alternatives demonstrated a systematic and comprehensive approach to problem-solving.

The methodology's strength is attributed to its flexibility and adaptability. The research showed that there is no generic solution in architectural interventions by evaluating many options for every problem. This approach resulted in the selection of the best possible option for the particular case study and produced a variety of possible solutions applicable to other porch buildings in diverse contexts. This aspect of the methodology enhances the wider application and significance of the research findings. Understanding that any applied strategy possesses advantages and disadvantages is an essential component of the methodology's significance. For instance, the consideration of how implementing natural surveillance by opening up the plinth might necessitate relocating existing storage spaces illustrates a holistic approach to design thinking. Similarly, the acknowledgment that introducing mixed-use spaces might require trade-offs in the amount of dwellings demonstrates a nuanced understanding of the complexities involved in the buildings' redevelopment. However, it is important to realize that this approach also entails limitations. The methodology allows the testing of options on a single typology, although it may not adequately consider the distinctive contextual elements of any individual building or neighbourhood. The transferability of solutions across different contexts, although useful for broad applicability, may require careful consideration and adaption in practice.

This methodological approach is valuable for combining theoretical research with actual design applications. The methodical evaluation of techniques, along with the assessment of their wider consequences, establishes a strong foundation for tackling liveability challenges in post-war housing. This method enhances the particular case study while providing useful insights and a reproducible framework for similar urban redevelopment and heritage adaptation initiatives. The acknowledgement of emerging difficulties from each intervention highlights the dynamic and iterative characteristics of the design process, underscoring the necessity for flexible and adaptive solutions in urban planning and architecture.

Assesment of the academic and societal value, scope and implication of the graduation project, including ethical aspect

The academic and societal value of this graduation project can be assessed through various perspectives, taking into account its contributions to existing knowledge, practical applications, and ethical implications. This research project identifies a gap in the current literature by concentrating on enhancing liveability through architecture in heritage contexts, a domain that remains insufficiently examined despite extensive studies on liveability and the impact of the physical environment. The creation of design strategy cards that intentionally connect general liveability aspects to particular architectural interventions signifies an innovative method, offering a systematic framework for converting abstract concepts of liveability into tangible design strategies. This methodology provides a as a tool for researchers and practitioners in urban planning and architecture.

The project's societal significance is clear in its capacity to tackle modern urban issues. The project prioritizes enhancing liveability in post-war neighbourhoods, aligning with overarching societal goals related to revitalization and sustainable development. Implementing evaluates for housing differentiation and promoting social interaction enhances inclusivity and social cohesion, while also providing possible solutions for the Dutch housing crisis by demonstrating how post-war structures can be modified and improved instead of demolished.

The research focuses on Amsterdam Nieuw-West, offering a specific contextual analysis, however the developed design strategies possess wider relevance. The multi-scale approach, which includes building, street, and neighbourhood levels,

increases the project's adaptability, enabling adaptation of strategies for diverse urban contexts and potentially impacting revitalization practices beyond the immediate study location. The research demonstrates how post-war structures can be revitalized by intentional changes, so enriching the discourse on sustainable urban development and the conservation of 20th-century architectural history.

Ethical considerations were carefully incorporated throughout the interview process of the research. The approach to participant privacy, including the omission of personal questions and obtaining consent for recording, reflects a commitment to ethical research practices. This attention to ethics not only ensures the integrity of the research but also sets a standard for responsible data collection in urban studies.

While the project offers valuable insights, it is important to acknowledge its limitations. The site-specific focus, while adding a new perspective to existing science, may limit the direct transferability of some findings to other contexts. Further studies may build upon this study by evaluating the relevance of the design strategies in other urban environments and cultural situations. This graduation thesis offers substantial academic and societal value through its new methodology for enhancing liveability in heritage areas.

Assesment of the transferability of the project results

The transferability of this graduation project's results is a significant aspect of its overall value, offering potential applications beyond the specific case study. The liveability design strategies developed through this research demonstrate considerable versatility, applicable not only to post-war neighbourhoods and buildings but potentially to structures from other construction periods as well.

The project's approach of testing design strategies on a specific building typology, namely the porch building, provides a valuable template for how these strategies can be adapted and implemented in various contexts and building types. By weighing different options and elaborating on one in the design, the project illustrates a methodical process that can be replicated in other scenarios.

The primary intent of improving liveability and adding value to heritage in post-war neighbourhoods with low neighbour satisfaction is a concept that can be broadly applied. The liveability design strategies resulting from this research can serve as a toolkit, from which strategies can be selected based on building-related issues, effectively creating a project-specific programme of requirements. This adaptability enhances the transferability of the research outcomes to a wide range of projects.

It's important to note that while the strategies themselves are transferable, their specific application will vary depending on factors such as building typology, population composition, and urban context. This variability underscores the need for careful consideration and adaptation when applying these strategies in different settings.

The potential for further research is evident, particularly in testing these strategies across different typologies and urban contexts. This expansion could significantly enhance the robustness and applicability of the strategies, potentially leading to a more comprehensive framework for improving liveability in diverse urban environments. A crucial aspect of the project's transferability is the emphasis on conducting heritage value assessments before applying the design strategies in new contexts. This approach ensures that the unique historical and cultural aspects of each site are respected and incorporated into the design process, maintaining a balance between improvement and preservation.

Finally, the project serves as a valuable reference for approaching and preserving existing architecture of similar typologies based on identified heritage values. This aspect of the research provides insights into how to navigate the complex balance between modernization and preservation in urban renewal projects.

The integration of interview and literature review results

The results of the interviews and literature review converge to form a comprehensive framework for addressing the main research question: "What architectural design strategies can be applied to post-war housing to improve neighbourhood satisfaction by enhancing liveability, while considering the values and attributes perceived by residents?". This integration is effectively visualized through the creation of design strategy cards, which serve as a synthesis of the various elements uncovered in the research process.

The organization of these cards is structured around the four liveability dimensions derived from Leby and Hashim's liveability framework. This approach provides a solid theoretical foundation for the strategies. However, the strength of this method lies in its recognition of the interconnectedness of these dimensions. For instance, the 'Mobility card', while primarily addressing the functional environment, also has implications for the physical environment, demonstrating the multifaceted nature of liveability interventions.

Crucially, these strategies are not developed in isolation from the residents' perspectives. They are intrinsically linked to the valued attributes identified through the Value Framework by Roders, which emerged from the resident interviews. This connection ensures that the proposed strategies are not only theoretically sound but also resonate with the actual needs and values of the community. For example, the 'heritage-

sensitive' card, which focuses on architectural interventions that respect historical design elements, directly corresponds to attributes such as cultural identity, recognition and appearance – values explicitly mentioned by neighbourhood residents.

This approach of linking theoretical liveability dimensions with community-valued attributes creates a robust and context-sensitive set of design strategies. While the strategies themselves are formulated in a general manner, allowing for broader applicability, the attributes tied to each strategy are specific to the case study location of Nieuw-West.

The design strategy cards thus serve as a bridge between academic research and practical application, between theoretical frameworks and residents' values. They offer a tangible tool for architects and urban planners to implement liveability improvements that are both theoretically grounded and responsive to community needs. This integration of diverse research elements – from literature-based liveability dimensions to community-derived value attributes – into a cohesive set of design strategies represents a significant contribution to the field of urban renewal and heritage adaptation.

Assessment of the resourceful theme in the design

The resourceful theme in the design is evident through a thoughtful approach that balances the need for modernization with the preservation of the building's original character and the efficient use of resources.

The design philosophy prioritized minimal interventions in the existing building structure. This approach not only preserves the building's heritage value but also minimizes resource consumption and waste generation associated with extensive renovations. The moderate changes implemented to enhance liveability demonstrate a careful balance between improvement and preservation, maintaining the building's typological value, which is characteristic of the post-war construction period. By presenting this typology in a contemporary appearance while preserving its essential features, the design ensures that typological characteristics remain central to the distinctive architecture. Functional and aesthetic elements are thoughtfully integrated to meet current standards, resulting in a harmonious blend of heritage preservation and modern functionality that respects the building's historical significance.

The application of the 'energy efficient & sustainability' card to address the lack of insulation is a prime example of resourceful design. By weighing different options for façade insulation and selecting an external insulation system, the design improves the building's energy performance without compromising its internal spaces. This intervention enhances comfort, a crucial aspect of liveability, while also reducing long-term energy consumption.

The use of wood for new additions such as the accessibility core, galleries, dormers, and window frames reflects a commitment to sustainable materials. Wood, being a renewable resource with a lower carbon footprint compared to many alternatives, aligns well with the resourceful theme. Moreover, its selection to harmonize with the green courtyard demonstrates a holistic approach to design that considers both sustainability and aesthetics.

The repurposing of existing stairwells into internal stairs for maisonette housing types is a prime example of resourceful thinking. By finding a new function for these spaces rather than demolishing them, the design saves materials and preserves part of the building's original structure. This approach demonstrates creative problem-solving in the face of constraints such as the pitched roof and north-facing orientation.

The development of various dwelling types, each with its own advantages and constraints, offers flexibility in application. This versatility allows for efficient use of space and adaptability to different resident needs, which is a key aspect of resourceful design in housing. The interdependence of some dwelling types (e.g., the starters maisonette and single-type apartment) shows a systemic approach to space utilization.

The design integrates liveability improvements with sustainable practices. For instance, the new accessibility core enhances the building's usability while being constructed from sustainable materials. This integration demonstrates that resourceful design can simultaneously address functional needs and environmental concerns.

07.

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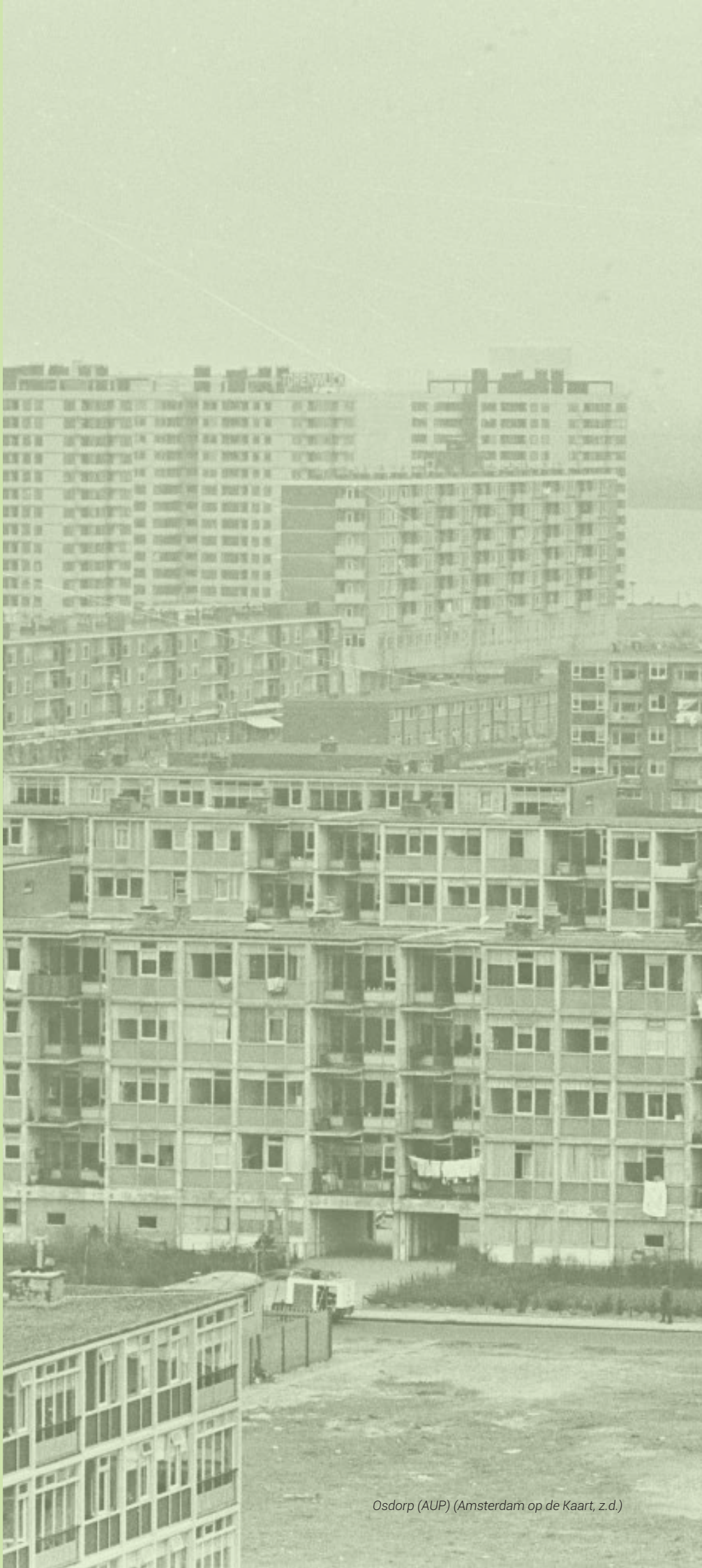
08.

Appendix

This chapter is a collection of te related appendices of the report.



Osdorp (AUP) (Amsterdam op de Kaart, z.d.)