Havenstad as the New Garden City

Fostering Community and Greenery for Cornelis Douwes

Olivia Nguyen
Kirsten Schaap
Monet Shibata
Liza Tavčar
Constance Travers

Table of Contents

1. Introduction

In the face of rapid urbanisation, housing shortages, urban sprawl and related socio-environmental challenges, the municipality of Amsterdam has proposed a development project for Havenstad, an area in the north-west of the city. Our project focusses on 2 of the 12 areas of Havenstad, namely Cornelis Douwes 0-1 and 2-3, located north of the river IJ. Our plans for the development of Cornelis Douwes – as per request of our client, Museum Het Schip – are based on the concept of the Garden City, coined by Ebenezer Howard in 1898, but since widely adapted to the contemporary challenges and context of the 21st century. Notably, our project revolves around the two interrelated principles of greenery and community. To meet the Municipality's demands for Havenstad's development plans, regarding housing and other facilities, the area will see the establishment of mid- and high-rise buildings. The challenge therefore lies in reconciling such demands with principles of the Garden City. As such, we followed the collaborative, creative and innovative process of Design Thinking, which suggests a human-centred approach by empathizing with, and thereby ensuring the needs of, not only the client but also the user. Thereby, and by adopting biophilic design in our development plans, we consolidate our intertwined guiding principles of community and greenery by centring the needs of the (future) more-than-human users of the Cornelis Douwes area. This enabled us to develop the following solutions: the adaptive reuse of unused industrial sites, youth engagement for the creation of safe and diverse play areas, green and blue recreational areas, native urban greenery, community (edible) gardens, multi-functional architecture for the implementation of green solutions, community website/online platforms, and pedestrian/bike paths and car free zones. We conclude that this variety of interrelated, (more-than-human) user-centred and -led initiatives and solutions are essential to effectively develop Cornelis Douwes in accordance with the Garden City principles of greenery and community.

2. Cornelis Douwes, Havenstad

Havenstad is a new urban development taking place in North–West Amsterdam initiated by the municipality of Amsterdam. The development project consists of 12 areas. For our project, we will focus on the Cornelis Douwes 0–1 and 2–3 areas on the north bank of the IJ river (Figure 2.1). We refer to these areas jointly as **Cornelis Douwes** throughout the report.

Figure 2.1: Map of Havenstad Development Area (Gemeente Amsterdam, 2017)

Currently, there are no residents in the Cornelis Douwes area and the majority of the built environment consists of warehouses, industry and harbour facilities. The municipality is planning on transforming the area to an attractive living area with 16.5 thousand houses, 11 schools and 12 care centres. To better connect the area with other parts of Amsterdam, the municipality is planning to add 2 metro stops and 1 new ferry line in the area (Gemeente Amsterdam, 2017). The area will mainly consist of high-rise buildings and have a high degree of density. This fits with the conclusion of Van Eesteren Museum (2021) to use high-rise for new urban development. In our further plan for the development of the Cornelis Douwes area, we will use a combination of high-rise and the Garden City ideals. We elaborate on this in the next chapter. Additionally, we want to preserve the harbour character of the area by making use of the water and distinctive area characteristics such as harbour cranes.

2.1 Identifying Stakeholders

The first step of developing an area with successful community engagement is identifying all stakeholders. In the development of Havenstad, particularly the area of Cornelis Douwes, we have identified 19 stakeholders with various levels of power and interest. The stakeholders are divided into four major groups: citizens, government, private actors, and partners. Figure 2.2 offers an overview of all identified stakeholders and short descriptions of their role in the development of Cornelis Douwes. The presented stakeholders are also placed on an interest/power grid (figure 2.3), summarising the power they hold to shape the project and the level of interest or concern over the project (Ackermann & Eden, 2011)

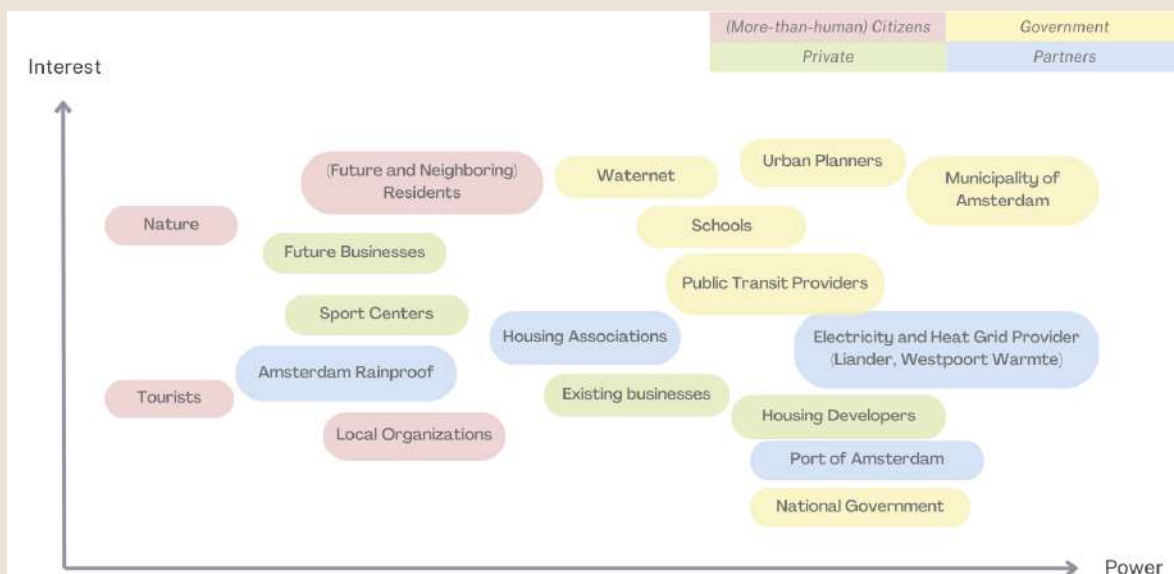Figure 2.2: Descriptions of relevant stakeholders for Cornelis Douwes

Figure 2.3: Stakeholders of Cornelis Douwes on a Interest/Power chart

The citizens group entails future residents, as well as residents of neighbouring streets as these will be significantly affected by the new development. While they do not hold much power in the development, it would in fact be highly beneficial to explicitly attribute them more power. By including citizens as an influential stakeholder through participation, a more meaningful connection between them and the space can be created (Ferreira et al., 2020). Moreover, the residents can come together through local organisations, which can also stand for the community's needs. The citizen group also entails potential tourists or visitors, who would financially contribute to the community. While they do not possess power over the project, they are a party interested inr how the neighbourhood will look and whether it will be interesting to visit. Lastly, nature as a more-than-human citizen is another stakeholder whose relationship with others needs to be considered (Starik, 1995). Not only does nature have a part in the wellbeing of the residents, it is important that new neighbourhood development develops towards sustainability. This last stakeholder does not possess much power to shape the project, but the project will affect it substantially, which raises its interest.

The governmental group includes the local and national government, which both serve as initiators, support, and policy guidance on their own scale. The municipality of Amsterdam is the most powerful and interested stakeholder as it is in their favour to manage this project. Another important influential public stakeholder is the public transport services, namely the GVB in charge of metro, bus, tram, and ferry transport (GVB, n.d.). In order to make Cornelis Douwes as sustainable as possible, a highly improved public transport system is crucial. A combination of the above-mentioned public transport modes should be explored and expanded to this area. Another essential provider of public goods is Waternet, who is not only providing drinking water, but also contributing to innovative and sustainable solutions for water management, such as for heating through waste water (Waternet, 2019). Moreover, the city planners involved in this project have the potential to propose designs that matter and can thus shape the overall structure and idea of the new neighbourhood. They score high on interest, but slightly lower on power due to them being constrained by the limits and ideas of the municipality. Similar is the position of schools, which are essential for a successful community. Schools not only provide education but are also a catalyst for community development and a social hub.

The third group is composed of relatively independent actors but with strong connection to the Municipality of Amsterdam. They are therefore called partners. The electricity provider Liander and heat provider Westpoort Warmte are essential actors in infrastructure provisioning and thus the second most powerful stakeholders (Liander, n.d.; Westpoort Warmte, n.d.). Similarly, Port of Amsterdam is another influential stakeholder, as it manages the IJ river and its port with the associated business (Port of Amsterdam, n.d.). Moreover, the housing associations play an important role in the later stages of neighbourhood development, as it is up to them how the living spaces and especially social housing will be distributed. Amsterdam Rainproof is an interesting stakeholder with less power, but a high degree of interest in the project. The organisation proposes interventions that aim to minimise damage from excessive rain, improving climate resilience of Amsterdam (Amsterdam Rainproof, n.d.).

The last group comprises private stakeholders, such as current and future businesses in the area, and housing developers. The businesses currently located on the Cornelis Douwes hold a considerable amount of power due to their existing land contracts and being a local employer with many workplaces. The municipality has already held complex negotiations with the businesses, as their contracts tend to be binding and long–term (van Zoelen, 2022). Certain businesses, such as the ship repairing company Damen located in Cornelis Douwes have little power due to the expiring contract in 2029 (Gemeente Amsterdam, 2017), but others like Bunge, which is located across the river, have decades before their contracts run out (van Zoelen, 2022). This can seriously curb the development of new houses.

On the other hand, future businesses do not hold much power to influence the development, but they are placed high on their interest as newly developed areas are an attractive place for businesses and many will be needed in the area to get to the 11 thousand jobs that are planned. It is in the municipality's interest to make the plans favourable and attractive to new businesses as they will attract workforce and can offer desirable services for the community. Sport facilities could in the first instance fall under the general category of private businesses, but they hold a special place in the development plans of Havenstad. Around 8 hectares of space is going to be dedicated to sport facilities, showing the importance of it (Gemeente Amsterdam, 2017). The housing developers are an important stakeholder with considerable interest in the project, as well as some power. The developers that will get the opportunity to build in this area will have the capacity to shape the living and working spaces, thus influencing the way the community is going to develop.

3. Theoretical Framework:

The Garden City, community and greenery, and Biophilic design

3.1 History of Garden Cities

Ebenezer Howard's seminal work, "Garden Cities of Tomorrow," first published in 1898 as "To-morrow: A Peaceful Path to Real Reform", represents an important moment in urban planning history. The concept of Garden Cities emerged as a reaction to the conditions and trends of the late 19th century, heavily influenced by early 19th-century planners and social reformers like Robert Owen, Charles Fourier, and Saint-Simon (Batchelor, 1969). A key driver for Howard's Garden City concept was the alarming growth of slums, overcrowding, and unsanitary conditions prevalent in large cities during the Industrial Revolution. This era marked a significant shift in population from rural to urban areas, leading to numerous social and environmental challenges. There were concerted efforts to establish new towns and enhance living conditions in response to these challenges, emphasis on the economic feasibility of housing (Batchelor, 1969).

Howard's vision was an innovative fusion of urban and rural benefits, aiming to create self-sufficient communities that harmoniously integrated residential, industrial, and agricultural elements. His garden cities were designed to curb urban sprawl and envisioned as compact entities, capped at a population of 32,000, and encircled by green belts of agricultural land. A crucial aspect of Howard's philosophy was the concept of cooperative land ownership (Howard, 1902) This approach advocated for democratic control over land development and usage by the community, positioning itself as a countermeasure to the disorderly and often exploitative urban expansion during the beginning of the twentieth century (Osborn, 1946).
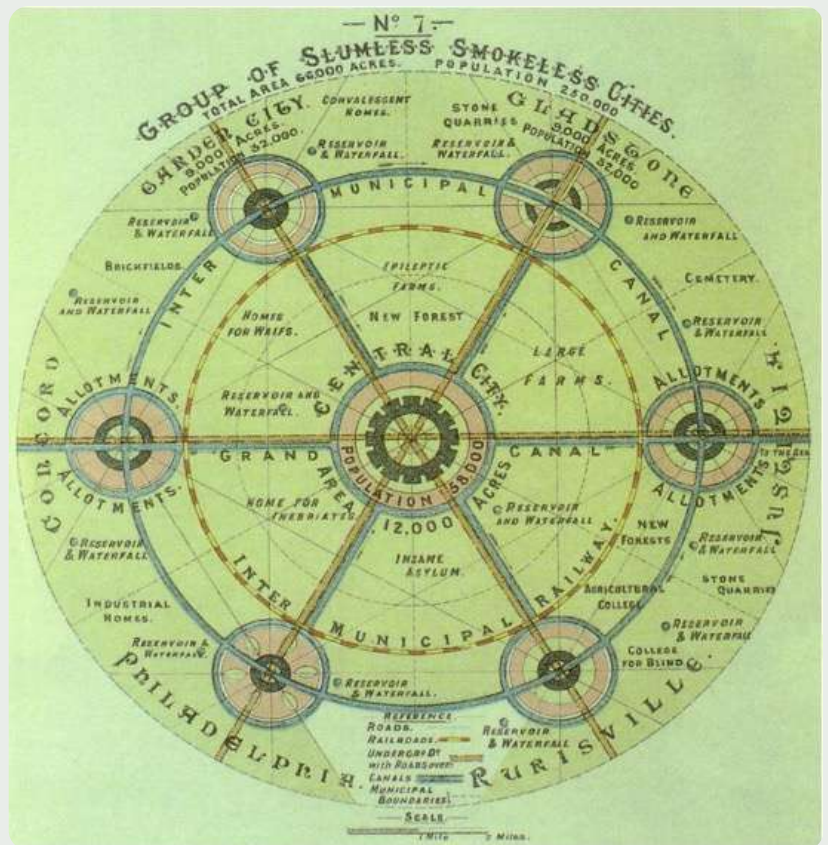

Figure 3.1: Howard's vision for The Garden City (Howard, 1902)

Furthermore, Howard's Garden City movement grappled with the challenges posed by industrial growth and economic factors. There was a persistent tension between the need to preserve rural spaces and the demands of expanding urban centres (Osborn, 1946). His proposal was not just an urban design but a social vision, seeking to create a balanced and sustainable way of life in response to the industrial age's challenges. He believed that "[h]uman society and the beauty of nature are meant to be enjoyed together." (Howard, 1902)

3.2 Garden Cities in the 21st Century

A lot has changed since Howard first developed his Garden City idea. However, the challenges we face in the 21st century are similar to the ones that Howard tried to address with his Garden City concept (Henderson et al., 2017; Falk, 2017, Vernet & Coste, 2017; Warren et al., 2010). Globally over 50% of the population lives in urban areas and faces congestion, air pollution, water nuisance and heat (Barton & Pretty, 2010). To combat this, scholars have created renewed visions of urban design and development based on the Garden City ideals laid out by Howard in 1902.

Amongst the scholars using the Garden City concept for developing urban environments nowadays are Vernet and Coste (2017). They argue that urban neighbourhood development should take place in accordance to the Garden City ideals to create a neighbourhood that has all the advantages of the inner city, yet also provides the advantages of suburban living, this is visualised in figure 3.2 (Vernet & Coste, 2017).

Other noteworthy scholars are Rudlin and Falk. They first coined the term "sustainable urban neighbourhood", as a continuation of the above mentioned urban neighbourhood, (Falk, 2017), which can be defined by five specific characteristics:

- **Wide enough choice of housing and facilities to ensure long-term value and create a balanced community over time.**

- **Well-connected to jobs and services by foot, bike and public transport.**

- **Offering places of different character to stand the test of time and appeal to different markets.**

- **Designed to conserve resources**

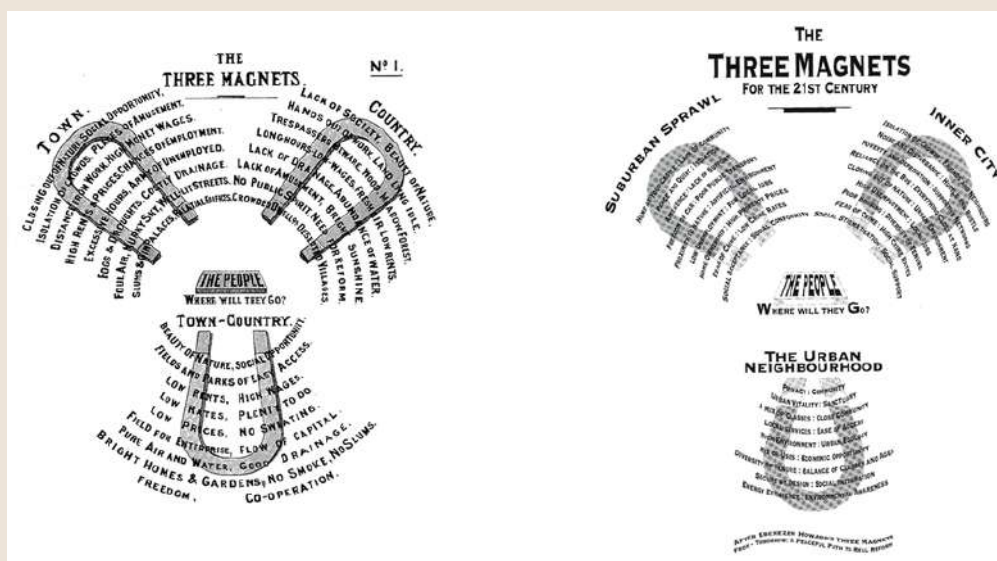- **With hands-on management and long-term stewardship." (Falk, 2017 p:97).**

Figure 3.2: the 3 magnets translated to the 21st century
(Vernet & Coste, 2017)

3.2 Garden Cities in the 21st Century

These characteristics are underscored by Henderson et al. (2017) and Zhao (2014). Henderson et al. (2017) provide an outline for approaching the design and development of a Garden City in the 21st century. These five characteristics, along with ensuring enough greenery and taking into account the local context, should be considered throughout the design and development phases (Henderson et al., 2017; Zhao, 2014). Henderson et al. (2017) argue that areas developed according to the Garden City principles will become desirable places to live.

The entire Havenstad development area is an addition to the city of Amsterdam, it is not about building a new city entirely like the first Garden City Letchworth. This, however, does not mean that urban extensions can't be developed according to the same Garden City principles. Van Eesteren Museum (2021) concludes that high-rise neighbourhoods are a good option for future urban development. When done well, they could help combat the issues facing Dutch cities such as: the housing crisis, increased loneliness, decreased biodiversity and the climate crisis (Van Eesteren Museum, 2021). We define 'done well' as a development that takes into account the Garden City ideals laid out above, with a specific focus on greenery and community. We further elaborate on this in the next paragraph.

Figure 3.3: LEVS Architects (2020)

3.3 Greenery X Community

Our vision of Havenstad's development based on the principles of the Garden City is centred around the concepts of community and greenery. Fostering true inclusivity and accessibility poses a core challenge (Henderson et al., 2019; Licher, 2023). Research conducted by Visser et al. (2023) has shown that civic engagement varies across certain demographics, namely as people with lower educational level frequently fear and/or experience stigmatisation and exclusion from – and concurrently dislike – bureaucratic and government-regulated socio-political initiatives. Instead, they argue, many participants prefer informality to overcome such barriers (ibid). Geyer (2023) similarly suggests several environmental, social, and economic benefits of informal, bottom-up and community-led, rather than top-down and state-regulated decision-making in creating more inclusive and accessible neighbourhoods, which are needs-based, efficient and sustainable. Such an approach ensures a meaningful connection and increases the exchange of knowledge (Ferreira et al., 2020). As such, informality and self-governance offer a possible solution to the challenges of inclusivity in (political) civic engagement.
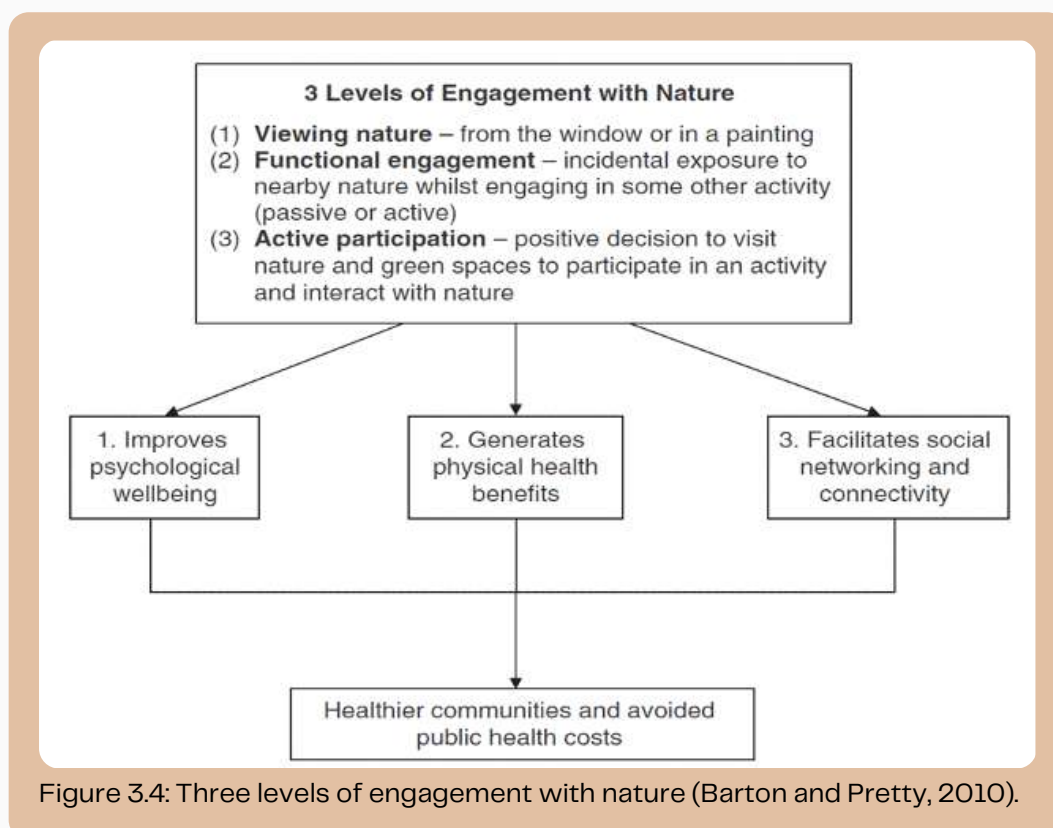

Figure 3.4: Three levels of engagement with nature (Barton and Pretty, 2010).

When it comes to the second guiding concept, greenery, its benefits are multifold, benefiting not only the environment (Wolch et al., 2014, Guo et al, 2010), but also the above-described community building. The perception of a green environment positively influences community attachment (Arnberger & Eder, 2012). Higher community attachment is found to relate to the perception of attractive, nearby and less crowded green spaces (ibid). Barton and Pretty (2010) argue that there are three levels of engagement with nature, the third of which, active participation, is perceived as most beneficial for both human health and a sense of community. See Figure 3.4 for Barton and Pretty's (2010) visualisation of this, which shows that participation in an activity in nature and interacting with nature contributes to community feeling by facilitating social networking and connection. This result is underscored by Arnberger and Eder (2012), who demonstrate that more interaction with green urban areas correlates to an increased sense of community. In order to maximise these benefits, suitable management needs to be put in place. It is especially paramount that local collaboration is supported in the initial phases of a project, as this can lead to increased feelings of ownership and stewardship of the space (Ferreira et al., 2020). In particular, management of green areas has shown to be significantly more successful long-term if multiple stakeholders collaborate and the local community is involved (Ferreira et al., 2020). Therefore, and in line with Henderson and colleagues' (2019) Garden City principles, our project aims for a strong and inclusive network of local individuals and organisations for facilitated independent, democratic community-led governance of the area.

3.4 Pitfalls of Designing a Garden City in the 21st Century

Challenges in Developing Garden Cities: The increasing popularity of green buildings among architects and urban planners is a response to the growing concerns over natural resource depletion, loss of green spaces, ecosystem damage, and diminishing habitable areas (Colding et al., 2020). Despite the rising trend, there are certain challenges that must be considered:

- Urban green spaces, encompassing elements like parks, forests, green roofs, streams, and community gardens, are vital for providing essential ecosystem services and enhancing the physical and psychological health of urban dwellers. However, Wolch, Byrne, and Newell (2014) highlight a significant issue of this green development: the distribution of green spaces in urban areas is often uneven. In areas lacking greenery, some residents take initiative to enhance their environment by adding plants and green spaces themselves. Ironically, community-driven greening efforts can inadvertently raise property values, leading to the displacement of those who fostered the area's improvement (Wolch, Byrne & Newell (2014). We should realise that the Cornelis Douwe development is going to be an attractive residential area that could not accommodate all the people that want to live there. This could increase urban inequality and environmental injustice.

Figure 3.5 The Barbican Estate (Cook, 2022)

- New urban developments often lack a thoughtful integration of the distinctive local aesthetic vernacular architecture, leading to a proliferation of standardised housing types and urban layouts that prioritise automobile usage constitute a placeless 'anywhereville' in the spatial design of the new urban structures. This lack of innovation has fuelled negative perceptions of green development in general, which in turn contributes to public resistance to many new developments." (Henderson et al., 2017).

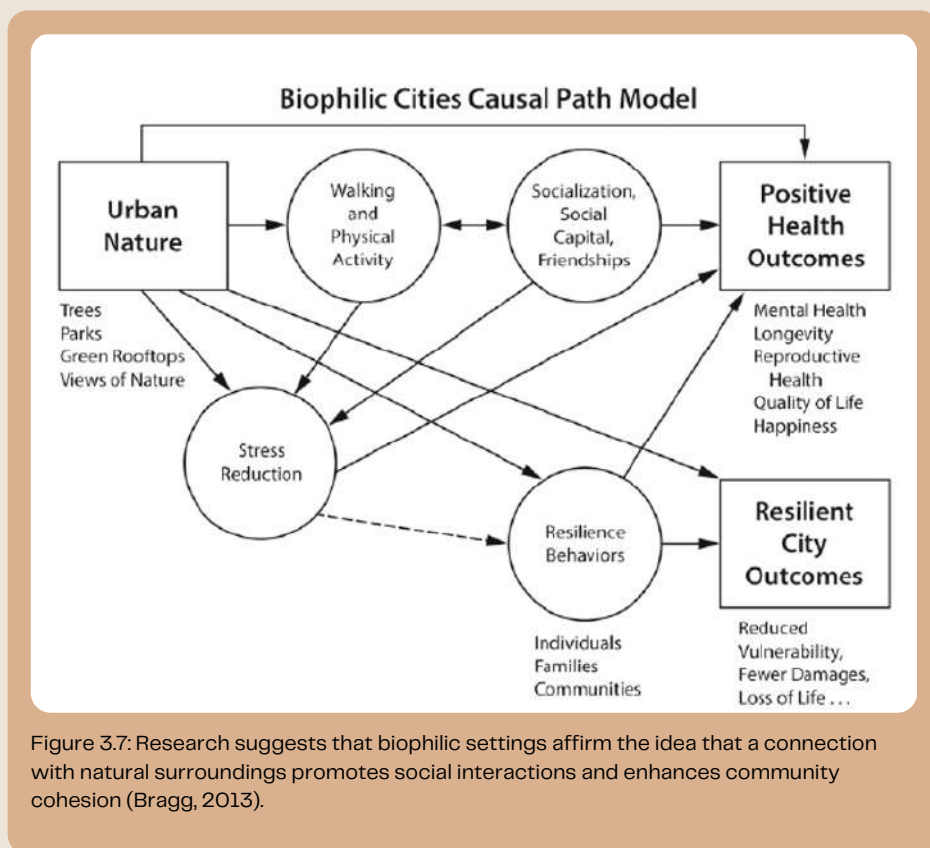# 3.4 Pitfalls of Designing a Garden City in the 21st Century

- Creating habitats for biodiversity within urban settings is a task of significant ecological importance for the city. It involves more than just the establishment of green spaces; it requires the creation of environments that support the feeding, resting, and reproduction of various organisms. These elements are crucial for a nature-inclusive design, an aspect that is often overlooked in urban planning (Vink et al., n.d.). However, this essential undertaking is not without its challenges. It is a resource-intensive process that demands a commitment to detailed and continuous management, which can present practical and resource-related limitations in urban environments.

- In some urban developments, there is a trend towards what might be termed 'greenwashing', particularly in initiatives like Green roof or green terraces. Simply installing a green roof is not effective for enhancing local greenery or biodiversity if these installations lack appropriate methods for nature inclusive design. Effective green roofs require not just installation but also appropriate soil depth for supporting native plants and strategic placement away from human activities to preserve natural cycles (Vink et al.). These measures ensure green roofs contribute meaningfully to urban biodiversity.

Figure 3.6 Biodiversity school and gymnasium, Boulogne Billancourt (Chartier Dalix, 2014)

3.5 Biophilic Design & the Garden City

Havenstad's urban development is intricately entwined with the principles of the Garden City movement, which underscore the importance of community, inclusivity, and accessibility (Henderson et al., 2019; Licher, 2023; Falk, 2017; Vernet & Coste, 2017). In this context, a significant challenge emerges of community empowerment and the integration of nature-centric approaches. To address this challenge, the vision for Havenstad incorporates the principles of biophilic design, a deliberate effort to seamlessly integrate nature into the urban environment, thereby nurturing a profound and harmonious connection between the residents and their surroundings.

Figure 3.7: Research suggests that biophilic settings affirm the idea that a connection with natural surroundings promotes social interactions and enhances community cohesion (Bragg, 2013).

The concept of "biophilia," initially introduced by Erich Fromm and further elaborated on by biologist Edward O. Wilson, sheds light on humanity's inherent attraction to living organisms, a trait believed to be deeply embedded within the human psyche (Wilson, 2017). This comprehensive approach encompasses various elements, including the integration of green spaces, utilisation of natural lighting, and the use of sustainable materials.

It finds empirical support in research conducted by Kellert (2018), which provides compelling evidence of the multifaceted benefits associated with biophilic design. Stephen Kellert's comprehensive framework for biophilic design can serve as a valuable tool for architects and urban planners seeking to create environments that harmoniously blend nature and the built environment. This delineates two primary dimensions of integration: the organic and the place-based. Each dimension is intricately interlinked with six core biophilic design elements: encompassing environmental features, natural configurations, patterns, illumination, spatial considerations, place-specific relationships, and the evolving interplay between humans and nature (Kellert, 2008).

However, the adoption of biophilic design transcends mere aesthetic considerations. It represents a purposeful response to the evolving relationship between humans and nature, aligning seamlessly with the imperative of sustainability, particularly in the context of the Anthropocene (Totaforti, 2020). The Cornelis Douwes project aspires to seamlessly meld mid- and high-rise urban living with the design principles of biophilic design. It aims to create a distinctive urban environment where residents can reconnect with nature amidst their contemporary dwelling architecture. By integrating biophilic design principles, the project seeks to offer a living experience that balances modern architectural language with the serenity of natural elements, effectively weaving these aspects into the everyday life of its residents. This initiative is particularly pertinent in our current era, marked by significant human impact on ecosystems, highlighting the critical importance of redefining our relationship with nature within urban planning frameworks.

The impact of Biophilic Design on urban areas can enhance urban resilience in a multifaceted way. The Biophilic City Causal Pathways (Figure 3.7) can indicate the existence of both direct and indirect routes of influence connecting urban nature to resilient city outcomes. By incorporating nature-based elements into cities, there is significant reduction to the consumption of the city's resources. This includes water conservation, improves climate adaptability to extreme weather conditions, heat mitigation and a reduction in energy usage. Furthermore, the inclusion of biophilic elements such as trees, green areas, parks, and wildlife can further enhance the physical and mental well-being of urban residents, ultimately bolstering the overall resilience of cities.
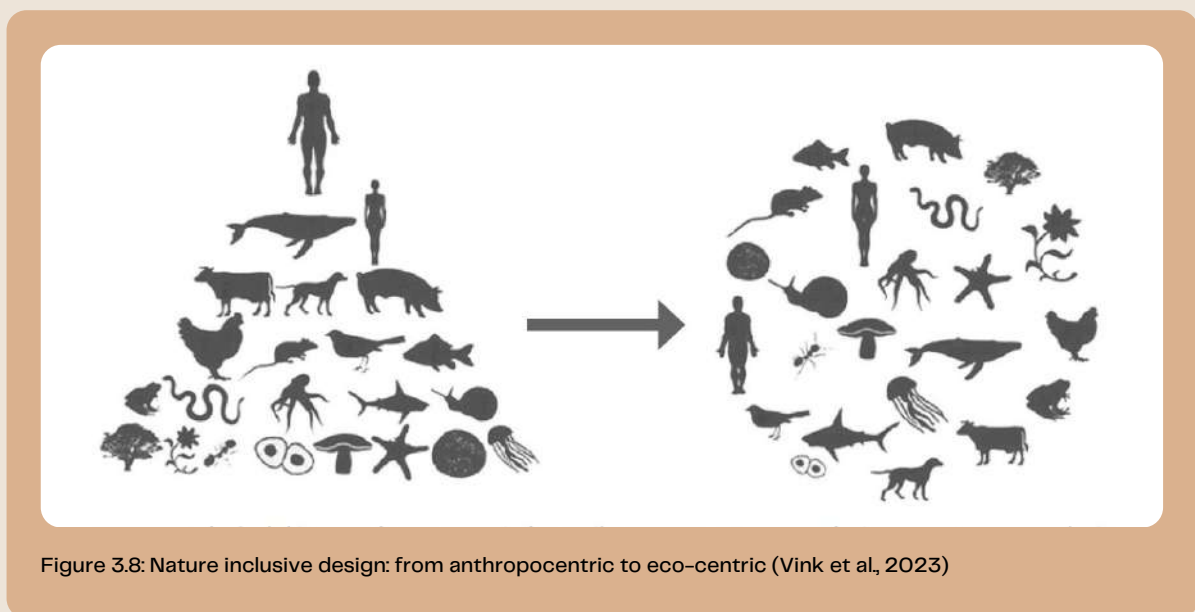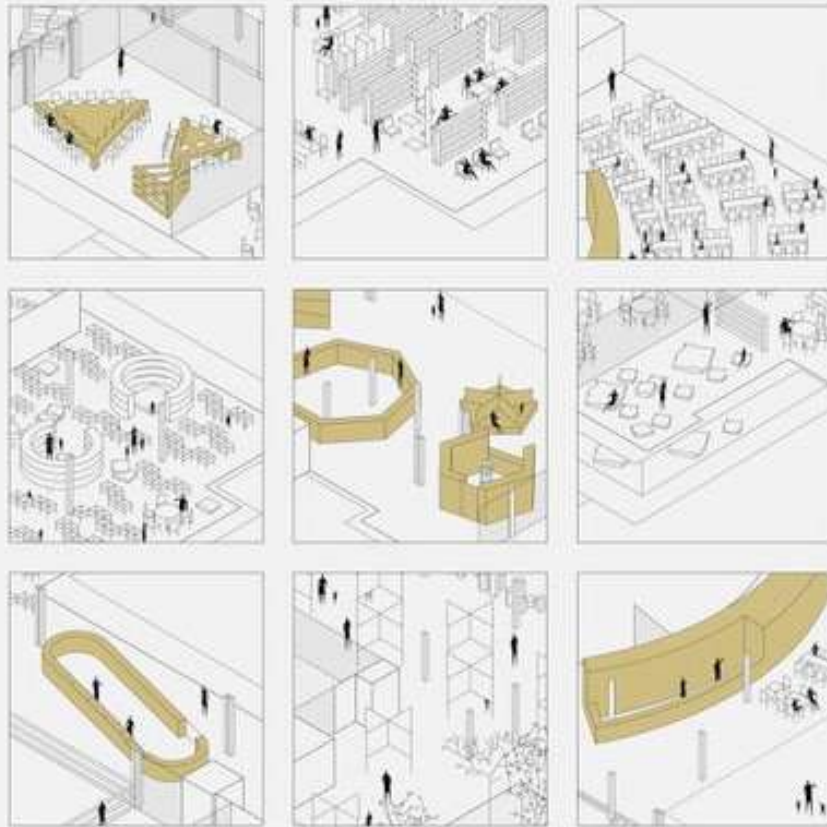

Figure 3.8: Nature inclusive design: from anthropocentric to eco-centric (Vink et al., 2023)

4. Methodology: Design Thinking

4.1 Design thinking

Design thinking is a methodological approach that has proven to be useful in tackling today's complex societal issues as it promotes creative and innovative thinking (Brinkman et al., 2023; Auerhammer et al., 2022). It is divided into 5 phases to provide structure, but should be used in a non-linear and iterative way (Dam, 2023). The first phase – empathise – constituted an important part of our research process and included identifying different stakeholders and their involvement (Auerhammer et al., 2022; Brinkmann et al., 2023). Aimed at gaining a true understanding of the users' needs within our project, this stage was crucial to overcome the researchers' preconceptions and assumptions, and obtain a more complete image of the studied 'problem' from affected stakeholders' perspectives (Dam, 2023).

The second phase in design thinking is defining the problem. This should be done from a user-centred perspective based on the insights gained during the previous empathise phase. Creating a concrete definition of the problem helps greatly in thinking of the solutions for the problem in the following ideate phase. The ideate phase can be used to come up with a myriad of solutions using techniques such as brainstorm and worst-possible idea (Dam, 2023). Another useful technique is divergent to convergent thinking, whereby many solutions are initially gathered to foster creative thinking, before being narrowed based on criteria of relevance the case (Auerhammer et al., 2022). After obtaining a selection of solutions (or one specific best solution), the prototype phase is entered, during which a prototype of the product aimed to provide the desired solution is produced (Dam, 2023). During the prototype phase, one should remain critical and revisit the earlier phases of the design thinking process, making it an iterative process as indicated in figure 4.2 (Dam, 2023; Auerhammer et al., 2022).

Figure 4.1: Design thinking phases

The final phase is the test phase, which revolves around testing the prototype that was created during the previous phase. It is important to have many people involved in this process, especially the prospective users of the end product (Dam, 2023). During the testing phase, it is possible to move back and forth between prototyping and testing and even ideating as the results may require a step back or rethinking of the solution (Dam, 2023).
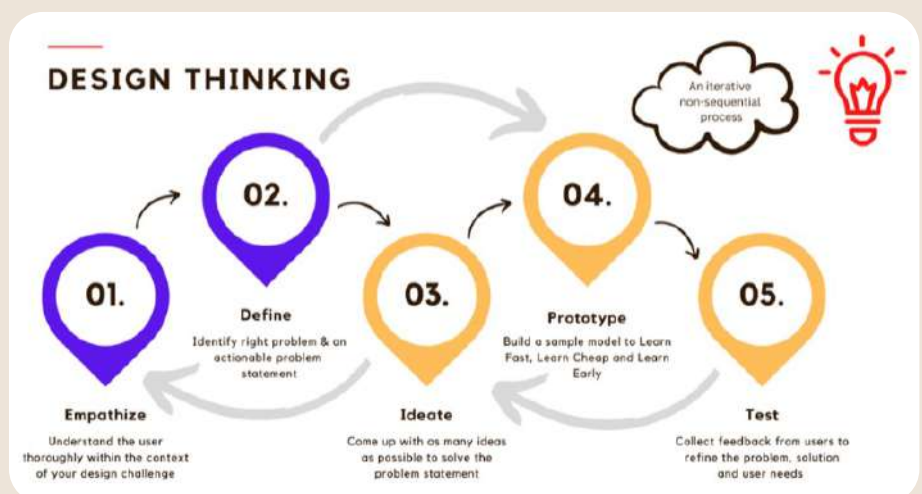

Figure 4.2: Design thinking as an iterative process

4.2 Empathise: User and Client needs

Based on the stakeholder analysis, we decided to focus on future residents as our core users, thereby moving them towards a place of increased power in the development of Cornelis Douwes. To gather data on the needs of our users during this empathise phase, we shared two questionnaires (Appendix 1&2). One questionnaire was shared with residents in the NDSM area and thematised community feeling. The other one was shared with residents in the Distelweg area, and thematised neighbourhood satisfaction. The NDSM area borders Cornelis Douwes, is newly developed and still under development. The Distelweg area does not border Cornelis Douwes but is a newly developed area that is still under development in Amsterdam North. We feel that the residents of the NDSM and Distelweg areas are a good representation of the future users of the Cornelis Douwes area. The questionnaire on the NDSM area received 16 responses, and the Distelweg area one received 12.

Based on the answers, we created a user map (Figure 4.3) showing the needs of our users. The wide majority of respondents (87%) think that community feeling is important in their neighbourhood, and most answers point out that people want to get to know others that live in their neighbourhood. From the neighbourhood satisfaction questionnaire, it became clear that people want to have good biking connection options to other parts of the city and have amenities such as grocery stores, public greenery and other stores close by. Through our efforts to collaborate and thereby empathise with end users, this stage enabled us to complete and revise our preliminary research– and assumptions–based user empathy map.

In addition to our user needs empathy map, we created an empathy map of the needs of our client, Museum Het Schip (Figure 4.3). We based it on the information that was provided to us during our initial client meeting and presentation, during which we also asked questions to gain an understanding of what the client wanted from us and what their wishes are for the Havenstad development. Our client made it clear that the central concept around which we should base our ideas is the Garden City. These two empathy maps form the basis of the decisions we made further in the process.

Figure 4.3: user and client needs visualised

4.3 Define: Problem Statement & Research Question

Rapid urbanisation is leading cities worldwide, including Amsterdam, to take on developments that result in a lack of both greenery and a sense of community (Henderson et al., 2017; Stangl et al., 2022). Communities lacking these components can be characterised by insufficient housing, exclusive communities, lack of mobility and public transit options, separation from nature, single use zoning, and more (see Figure 4.4). To avoid these consequences, the developers of Havenstad along with planning policy makers can consider the principles of the Garden City to foster sustainable development in both social and environmental aspects, creating a community that people desire to live in (Vernet & Coste, 2017; Henderson et al., 2017; Falk, 2017). The municipality of Amsterdam plans for the area of Cornelis Douwes to have over 16 thousand homes with 11 schools, 12 care centres, and 11,000 jobs (Gemeente Amsterdam, 2017) – leading to challenges in addressing land usage for living, working, recreation, as well as existing challenges of climate change impacts and declining biodiversity.

To address the challenges that developing Cornelis Douwes might face, this report will be guided by the following research question:

What approaches and initiatives can be implemented to ensure that the development of Cornelis Douwes, Havenstad promotes inclusivity, cultivates a sustainable sense of community, and nurtures collaborative green spaces while meeting its housing demands?

Problem Definition:

Research Question:

insufficient housing
single use
exclusive communities
expensive communities
unsafe
unsustainable
impersonal
unaesthetic
seaparate from nature
individualistic
lacking mobility
vulnerable to climate change

Lack of Community Feeling

Lack of Greenery

What approaches and initiatives can be implemented to ensure that the development of Cornelis Douwes, Havenstad promotes inclusivity, cultivates a sustainable sense of community, and nurtures collaborative green spaces while meeting Its housing demands?
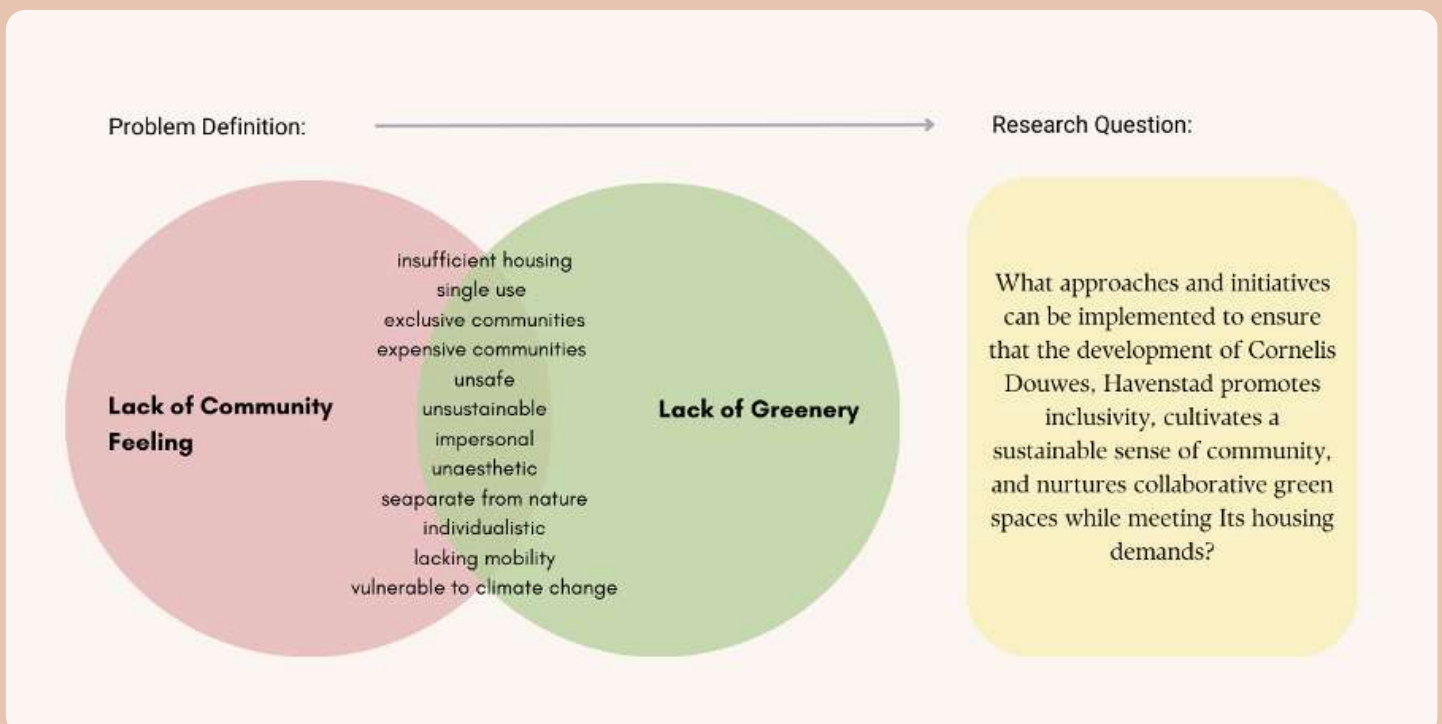
Figure 4.4: Identifying problems in cities and defining the research question.

4.4 Ideate: Brainstorming Solutions

To come up with potential solutions and proposals that align with the Garden City principles for Cornelis Douwes, we followed the ideate phase of the Design Thinking framework.

In this stage, we used group brainstorming and convergent to divergent thinking and came up with multiple interventions ranging from infrastructure to micro mobility. To converge, we went by the following criteria: feasibility and whether the municipality of Amsterdam already had it in their plans for the Havenstad development, as seen on Figure 4.5. For example, as we know that the municipality plans to extend tram lines for access to Cornelis Douwes, interventions for public transportations were omitted.

This phase helped to discover creative yet feasible interventions for Cornelis Douwes, highlighted in Section 5 and categorised into **1) Infrastructure and Built Environment, 2) Green and Blue Solutions, 3) Mobility, and 4) Community.** Despite the categorisation, we acknowledge how each intervention covered in Section 5 overlaps interacts with one another.

Figure 4.5: (Top) Brainstorming possible interventions. (Bottom) Solidifying and selecting interventions to focus and research on.

4.5 Prototype & Test

Prototype

During this phase we created an overview of the solutions from the ideate phase and looked for places where these already exist. As Brinkman et al. (2023) point out, Design Thinking can be adapted to fit the context in which you use it. For our process this meant that the prototyping phase mainly consisted of finding best practices by turning to literature and existing examples of our proposed solutions elsewhere. This was also advised to us by our teacher and the client. The chosen examples were both found online and from personal experiences of group members. During this phase we went back and forth through an ideation phase to select the best options to include in this report. The result of this phase can be seen in Figure 4.6 as a visualisation of how our solutions could potentially fit into Cornelis Douwes.

Test

Since we did not create a tangible product during this research the testing phase is outside of our scope. However, the examples explored during the prototype phase include tried and tested solutions in other places. This is not a guarantee that these solutions will work for Cornelis Douwes as well, so it is important to consider the specific context and user needs when applying these to Cornelis Douwes.

Figure 4.6: Visualisation of the proposed solutions in Cornelis Douwes

5. Proposals for Cornelis Douwes

Visioning **Cornelis Douwes**

5.1 Infrastructure and Built Environment Solutions

5.1a Youth Engagement for Creating Safe and Diverse Play Areas

variety/diversity   youth development   social/ foster community   multi-purpose   accessible and safe   participatory

Children are an important population of Havenstad to pay attention to, as 11 schools will be built in Cornelis Douwes alone (Gemeente Amsterdam, 2017). The plans for the neighbourhood must consider how children will be part of the community while providing spaces that are diverse, safe, and accessible to this population. There is existing research, such as Owens' (2020) and Loebach et al.'s (2021), showcasing their findings in how higher levels of mobility and access to public spaces is beneficial to youth and childhood in cognitive, social, physical, and psychological development. However, perception of neighbourhoods and its conditions can have a great impact on the opportunities for outdoor play, with concerns of safety and social environment being a priority for parents (Loebach et al., 2021). Aspects of strong social cohesion can help facilitate children's time outdoors (Loebach et al., 2021), reflecting the principles of the Garden City while catering to user and client needs.

Figure 5.1: Youth-led park design projects in Canada (TheCityAtEyeLevel)

Figure 5.2: Children-designed playground in Christchurch, New Zealand (CommonPlay)

In order for the children and youth community to receive all the benefits of outdoor play and public spaces, we propose that Cornelis Douwes facilitates and carries out child-centric/led participatory design of playgrounds, as seen by projects of Figure 5.1, 5.2, and 5.3. Youth-led community-built projects benefit the individual, physical space, and social community, due to their engaging, creative, and collaborative nature (Owens, 2020). Partnering with existing organisations, such as Stichting SPIN (an organisation that collaborates on building playgrounds and organising youth activities), as well as local professional artists and designers can help facilitate long-lasting projects while strengthening local networks and resources. Existing literature and resources such as The Routledge Handbook of Designing Public Spaces for Young People: Processes, Practices and Policies for Youth Inclusion (Owens, 2020) provide a more in-depth look into frameworks of youth-led design and insights of existing successful projects.

Figure 5.3: Concept drawing from children for a playground coming to life (Washington Post)

5.1b Adaptive Reuse of Unused Industrial Sites

multi-purpose

recreational space

social/ foster community

attractive for both locals and tourists

heritage / preservation

The area of Cornelis Douwes currently is occupied by warehouses and factories of industrial and port companies. The municipality of Amsterdam plans to have these port companies relocated, as stated in its "Transformation Agreement" (Gemeente Amsterdam, 2017), leading to empty buildings and warehouses that will be demolished or unused. To combat this, we propose the adaptive reuse and retrofitting of industrial buildings to create additional recreational, cultural, and co-working spaces.

Figure 5.4: Repurposed building as popular local and tourist spot. Before (left) and after (right) of De Hallen, Amsterdam (Iamsterdam)

Repurposing unused facilities and buildings can help reduce building costs and land use, reserving more space for housing and green spaces in the neighbourhood. The redevelopment of old facilities is not a new concept, as famously known adaptive reuse projects around the world exist. Some famous projects include the Chelsea Market (NY, USA), Yokohama Red Brick Warehouse (Yokohama, Japan), De Hallen (Amsterdam, Netherlands) (Figure 5.4), Tate Museum (London, UK) and more. These repurposed buildings can be reserved for a wide range of (mixed-use) facilities and the buildings itself serves as a heritage site. Adaptive reuse can help create local landmarks and cultural hubs within the community, fostering community sense while bringing in outside visitors. In addition, industrial machines such as cranes can be kept to preserve the port characteristics, as seen at NDSM and in Antwerp (Figure 5.5).

Figure 5.5: (Left) Repurposed warehouse on a waterfront, with industrial machines left for preservation in Antwerp, Belgium (Antwerpenmorgen). (Right) Repurposed crane as a hotel in NDSM, Amsterdam (NDSM)

5.2 Green and Blue Solutions

5.2a Green and Blue Recreational Areas

Following Garden City principles such as a variety of public social and recreational opportunities, we plan to develop several green and blue recreational spaces, thereby combining the two guiding principles of our project – greenery and community (Henderson et al., 2017; Barton & Pretty, 2010; Arnberger & Eder, 2012). Such amenities should be community needs-based, and therefore reflect the results we obtained from our users during the empathise phase. Seeking a strong sense of community through sufficient, diverse and attractive (green) outdoor social spaces is important for our users (Appendix 1). Furthermore, this process considers various purposes, interests and needs of different social groups (Ferreira et al., 2020; Visser et al., 2023). For instance, accessibility and attractiveness for different age and mobility groups is important, and will be realised, for example, through playgrounds, sufficient seating opportunities that are both practical and attractive, and spacious and separate pedestrian and bike paths accessible for varying recreational activities.

Additionally, the development of 'floating gardens' based on Eberle et al.'s (2020) model will expand (climate-resilient) public blue and green recreational spaces while maximising the use of limited space in Cornelis Douwes and building its distinct, attractive character (Figure 5.6; Henderson et al., 2017). The 'floating gardens' can be placed next to the already existing Keerkring park that the municipality is planning to extend, thereby increasing its attractiveness (Gemeente Amsterdam, 2017). By responding to different social groups' needs, we seek to grant an inclusive and accessible space for the community.
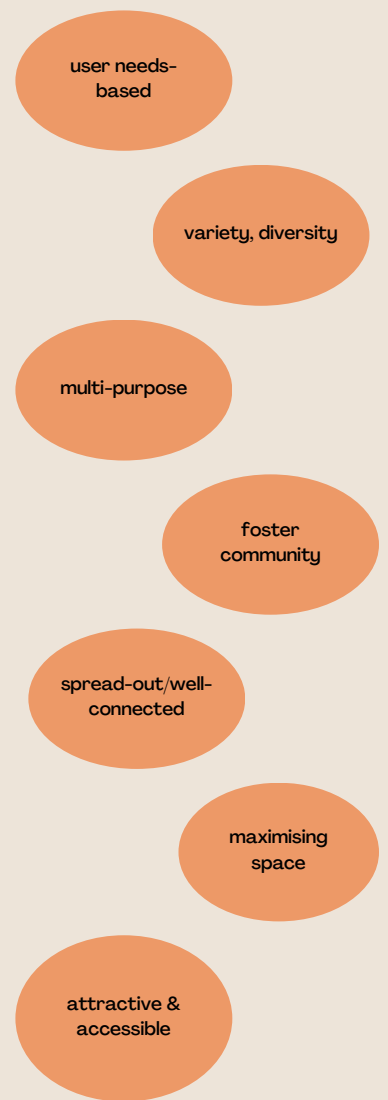
user needs-based

variety, diversity

multi-purpose

foster community

spread-out/well-connected

maximising space

attractive & accessible

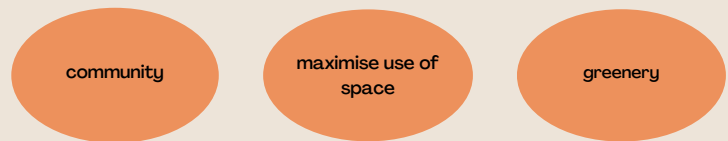Figure 5.6: 'Floating Gardens' in Vejle, Denmark (Eberle et al., 2020)

5.2b Multi-functional architecture implementing green solutions: roofs

In order to maximise the use of limited space and the benefits of physical features of the new neighbourhoods, a multitude of functions for the built elements is desirable. This way one element, such as a building, can address a variety of future users' needs. In particular, we are going to focus on rooftops and how they can be designed to support both community feeling and urban greenery.

community

maximise use of space

greenery

The rooftops of Cornelis Douwes should be used for the following purposes:

a) **Nature and biodiversity support**
b) **Urban agriculture**
c) **Sport and playground area**
d) **Rainwater collection and solar panels**

Roofs hold great potential for bringing more nature into the urban space. Planning green roofs with a diverse array of native species can support the urban ecology and create green corridors for plants and animals throughout the rest of the urban developments (Calheiros & Pereira, 2023, Cristiano et al., 2021). Literature as well supports the role green roofs have in reducing urban heat island effects by cooling the surrounding air, which is an important goal to consider when planning for future cities (Cristiano et al., 2021).

In addition to vegetation, installing rainwater collection systems and solar panels can as well increase the climate resilience of the neighbourhood (Calheiros and Pereira, 2023). Not only can harvested rainwater be used for irrigation and certain domestic purposes, installing green roofs and water collection systems has the potential to significantly lower the pluvial flood risk by collecting rain that would otherwise runoff to the streets (Cristiano et al., 2021). There are two ways of retaining rainfall through roof systems, one being the natural retention in soil of green roofs, and second one being designated collecting tanks.

Another way of bringing nature into cities is through urban agriculture. Besides the possible applications of it which will be described in section Urban (community) garden and edible gardens, gardens can as well be placed on top of the buildings (Cristiano et al., 2021). A notable example of this can be the community-led youth project from the United States. Students of Duke University showed initiative and built themselves a garden on the roof of their university (Gertz, 2019). One of the students described how important this project is to him, due to the lack of space to garden at his home. This highlights the common urban issues of the disconnect from nature and the strong wish for more space for green areas such as parks and gardens recorded in the questionnaire.

Figure 5.7 Roof garden on Duke University (Gertz, 2019)

Moreover, roofs can as well be used as space to bring the residents together through recreational and cultural activities. As the plans for Cornelis Douwesterrein envision around 8 hectares of sports areas (Gemeente Amsterdam, 2017), distributing some of that space on the rooftops can help with allocating enough space for the goal. For example, the student residence Student Experience has dedicated their space on the roof to a basket– and football field (Student Experience, 2023). The space has even been used for rooftop movie nights, thereby bringing together the residents (Student Experience, 2021). While the events on this particular student residence building are exclusively open to its residents, we would advocate for the rooftops of Cornelis Douwes to be open to the public.

Figure 5.8: Rooftop on Student Experience Amsterdam (Student Experience, 2023)

Figure 5.9; Rooftop terrace of the University of Physical Education in Budapest (TSCP, 2022)

Rooftops that will be larger can follow the idea of a university in Budapest, where multiple of the above-mentioned elements – sports facilities, greenery, solar panels and rainwater harvesting, have been planned together (TSCP, 2022).

While there is a valid concern over the limited weight that can be placed on top of buildings (Cristiano et al., 2021), this can be avoided if buildings are designed with roof usage in mind. The development of new Cornelis Douwes thus offers a great opportunity to maximise the potential of all space, including roofs.

The intricate nature of urban ecosystems has increasingly become a central focus for botanists and urban planners. This is highlighted by the formal recognition of 'urban districts' as unique floristic zones in the Netherlands. Urban flora, characterised by its distinct features and diverse species, justifies this categorisation. These urban districts are marked by their stony, disturbed soils and the altered environmental conditions they present, including a warmer climate typical of urban areas. These zones are home to a variety of species that have uniquely adapted to urban settings (Vink et al., n.d.).

In discussions surrounding ecosystem conservation, the collaboration between botanists and urban designers is essential, particularly in the integration of native plants. Native plants are widely acknowledged for their role in strengthening ecosystems by providing vital resources to local insects, birds, and other organisms (Lundholm, 2015). However, it is also vital to recognize that not all non-native plants are inherently harmful. The differentiation between merely exotic and invasive exotic plants is crucial in this context (Vink et al., n.d.). In the Cornelis Douwe project, we aim to integrate the nature inclusive design approach, selectively incorporating specific greenery to strengthen the area's inherent biodiversity.

Figure 5.10: Vitra Campus, Piet Oudolf (2020)

The diversity of urban flora in the Netherlands can be categorised into several primary groups, each contributing uniquely to the ecological biodiversity of urban environments. These include:

- **Trees:** Contribute to environmental health and support urban biodiversity :
  - Elm, Lime tree, Maple, Ash, Plane tree, Oak, Poplar, Alder, Willow and Birch

- **Shrubs:** Serve as food sources, as well as shelter and breeding spaces
  - Barberry, Shrub ivy, Blackcurrant, Dog rose, Redcurrant, Sweetbriar, Raspberry, Elderberry, Wild privet, Firethorn and Laurel

- **Ivys:** Provide Shelter for birds
  - Self-adhering ivys, Climbers and Twining ivys

- **Wall plants:** Adapt to urban structures
  - Wall lionbek and Spleenwort

- **Herbs and Grasses:** Provide nectar, seeds and fruit for biodiversity
  - Yarrow, Chives, Bellflower, Wild Oregano, Scabious, Verbena, Soft Stonecrop, Meadow Sage, Wild Thyme, Speedwell, Evening Primrose and Catnip

- **Ferns and Mosses:** Thrive in shaded, moist areas
  - Ostrich fern, Wall fern, Bladder fern and Black-stemmed fern

- **Sedum:** For extensive green roofs
  - Spanish Stonecrop

5.2d Urban Edible Community Gardens

To deepen the application of our project's intertwined core principles – greenery and community – we plan to establish urban community gardens. According to Howard (1902) and Livesey (2019), community access not only to greenery, but also to locally produced food was historically an important part of the Garden City. Urban gardening and agriculture similarly continue to be highly relevant in contemporary urban communities and Garden Cities (Henderson et al., 2017). While green recreational spaces can bear significant benefits for physical and mental wellbeing, community gardens in particular can serve as interactive social hubs and public places to meet community members (Barton & Pretty, 2010; Wolch et al., 2014; Arnberger & Eder, 2012). Furthermore, such communal spaces fostering shared responsibilities and the community-led practice of food provision and distribution can be empowering, enhance civic engagement and community feeling, and strengthen social cohesion (Bródy and de Wilde, 2020). Finally, urban community gardens contribute to building a place's distinct aesthetic and character – which is a crucial element of the Garden City, and central to forging attachment between place and community (Barton & Pretty, 2010; Henderson et al., 2017). However, extensive literature also warns of risks such as social exclusion, gentrification and the neoliberal individualisation of responsibility within green or agricultural urban spaces (Wolch et al., 2014; Bródy & de Wilde, 2020; Oscilowicz et al., 2023). Therefore, and in line with Garden City principles, we envision community ownership and governance of non-commodified gardens, which may – in line with user demands – also serve as a practical example of informal civic engagement (Henderson et al., 2017; Visser et al., 2017; Bródy & de Wilde, 2020; Geyer, 2023).

Figure 5.11: 103rd Street Community Garden, NY (n.a., n.d.)

Figures 5.12 and 5.13: The Bodine Street Community Garden, Philadelphia (n.a., n.d.)

5.3 Mobility

5.3a Pedestrian and bike paths, car free zones

safe & priority

less (noise) pollution

UHI reduction

Walkable and bikeable neighbourhoods are needs that came up both in the questionnaire with prospective future residents as well as in the meeting with the client – Museum Het Schip. The municipality already plans on significantly expanding the public transport system towards the Cornelis Douwes with metro, bus and ferry connections (Gemeente Amsterdam, 2017). While ensuring that residents have sufficient options for alternative transport to personal cars is a necessary first step, we propose large car-free zones in the neighbourhood. Establishing car-free zones would nudge the residents to reconsider private car ownership. In combination with the plans of strengthened public transport, the percentage of car ownership could be significantly lowered (Buehler et al., 2017). Falk (2017) also deemed access to services by foot or bike one of the main 5 characteristics of modern Garden cities, and reiterated the importance of public transportation. The roads should thus be dedicated for walking and cycling, characterised by a spacious and open street layout.

Figure 5.14: Section of the future car-free zones

Figure 5.15: Street layout of a cO-housing project in United Kingdom (Town, n.d.)

We propose a specific look of these car-free zones demonstrated in Figure 5.14. The path is characterised by the broad pedestrian space as well as space for cyclists. The road consists of permeable pavement patches to stimulate rainwater absorption and avoid blocked rain drains. In addition, the spacious streets should be filled with green and other elements (such as benches), which can stimulate social interactions. A co-housing project from the UK can serve as an example of a wide street layout with multiple possibilities of uses (Town, n.d.). Figure 5.15 shows a street of this co-housing project, which has additionally been developed to be car-free.

Dispite our preferences for a car-free neighbourhood, respondents of the questionnaire handed out in the neighbouring area of NDSM explicitly wished for increased availability of parking spaces. Keeping this in mind, there need to be parking facilities available. In order to keep the main streets of Cornelis Douwes mainly car-free, those should be placed on the outskirts of the neighbourhood. We want to draw inspiration from a parking garage built in Copenhagen, where the building was planned with a green facade, as well as with an open rooftop social space with a sports field and a playground (Walker, 2014). A normally single-use garage building can in this way serve multiple purposes.
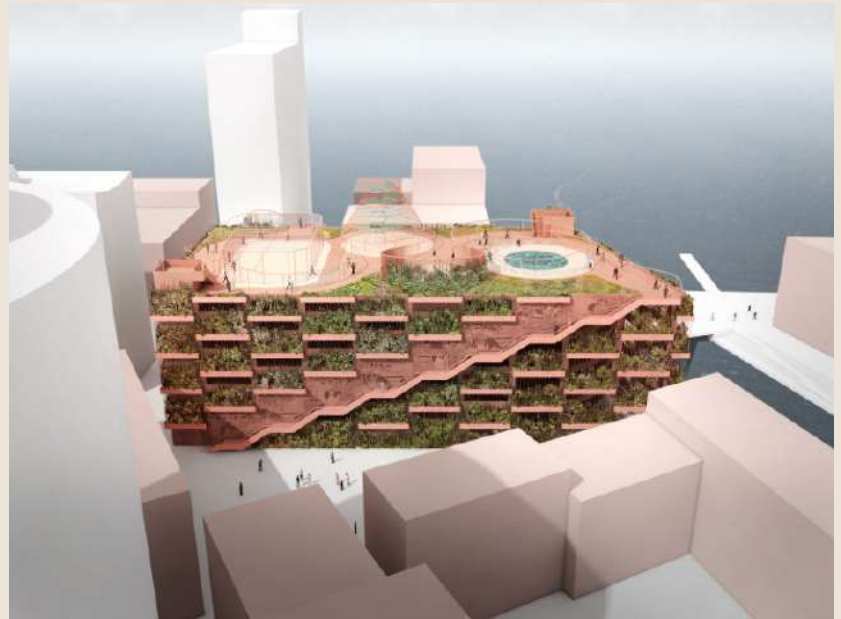

Figure 5.16: Multifuntional car garage in Copenhagen (Walker, 2014)

Figure 5.17: Bike kitchen at the University of Amsterdam (University of Amsterdam. 2023)

In combination with a garage on the sides of the neighbourhood, a mobility hub should be developed in Cornelis Douwes. Such a hub would include options for sharing bikes and cars, as well as a bike repair workshop. Based on the example of a Bike Kitchen inside the University of Amsterdam (University of Amsterdam, 2023). A self-help bike workshop would be a fitting addition to the neighbourhood. Bike Kitchens have been described as places where citizens are empowered to work with their hands and learn from one another. Such workshops additionally advocate for circular economy principles, where repairing the existing bikes and building new ones with spare parts is encouraged and open for all, no matter their wealth (Bradley, 2018). A welcoming place like that would not only bring the community together, it also symbolises the sustainable future envisioned for the entire Havenstad development.
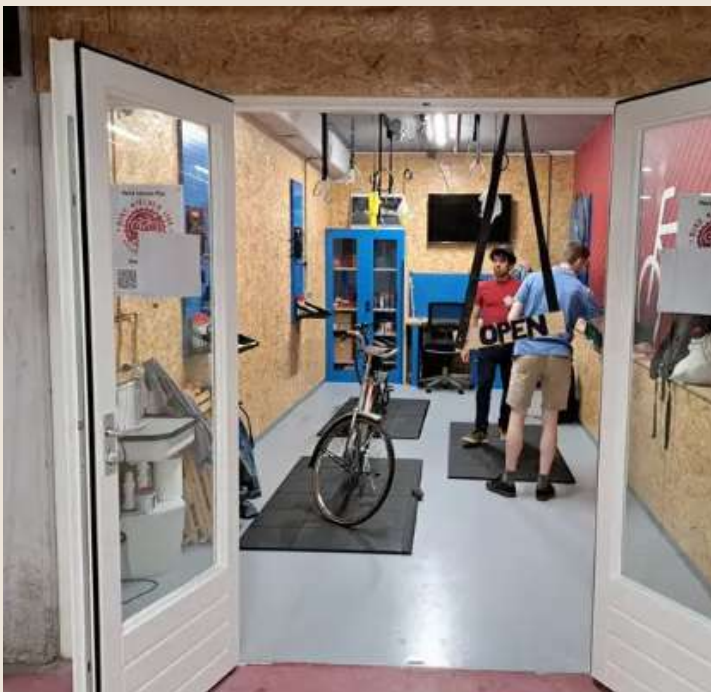
5.4 Community

5.4b Community Online and Offline Platforms

The usermap indicates that residents desire being up to date on developments in their neighbourhood. Multiple respondents mentioned this need and some specifically mentioned online spaces to meet or keep up to date on developments. The NDSM area has a website where all the development plans are mentioned and news is posted about the area (levenopNDSM, n.d.). For Cornelis Douwes we propose a similar website but one that includes a community page where activities are posted that others can participate in. Since the area will be mainly high rise we think it is important to foster community feeling between residents that live in the same building. Each building or building block should have its own active, small scale, community centre on the ground floor of a building and a residents association that can represent the residents in participatory development processes and organise activities for residents from that building or buildingblock.
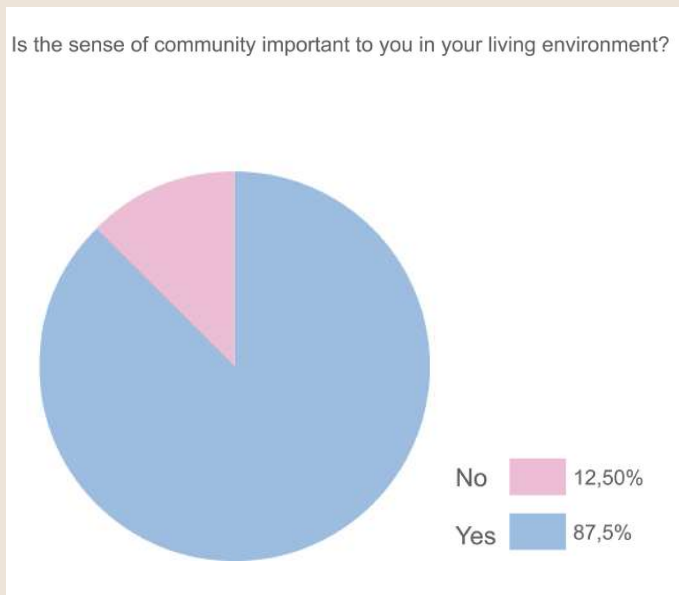

Figure 5.18: Leven op NDSM (2024)

Figure 5.19: Questionnaire NDSM (2024)

Figure 5.20: Pavilia Farm by Snohetta, Hong Kong

5.4c Co-housing

The concept of senior co-housing, emerging from Denmark in the 1970s and prevalent in Northern Europe, particularly the Netherlands, addresses the challenges of social isolation and deteriorating health in older age. This model focuses on small, self-established communities by seniors, fostering mutual support and a lifestyle of engagement, health, and independence (Tummers, 2019). The integration of architecture with the needs of elderly as central is crucial in this context. Designing living environments that cater to both the physical accessibility and the social-emotional well-being of the elderly is essential. We think it is important to implement the concept of Co-housing in this area. This implies that we would like to encourage the development of new typologies of dwelling that are suitable for senior cohabiting with people from different age groups. With such an approach we ensure that the ageing population can maintain independence and comfort, while actively participating in their communities. Thoughtfully considering the specific needs of seniors in design greatly enhances their life quality, promoting inclusivity and respect within society (Workman, 1977).

Figure 5.21: Marmalade Lane (2019)

6. Discussion

Reflection on Process:

The design thinking approach guided us through the whole process of this project, which took place in a four week period. This approach felt very fitting to the task, as it emphasised the role of the user, or in our case the (potential) residents of Cornelis Douwes. This meant that we did not lose sight of what is truly important in neighbourhood design – its liveability. Handing out the questionnaire gave us valuable insights to which we could relate all of the proposed solutions. Moreover, the ideate phase was particularly interesting and led to many valuable ideas. After conducting a brainstorming session, we selected the most applicable ideas to develop for our project and supported it with theory. Throughout the process of our report, the diverse academic background of the team encompassing urban planning, human geography and architecture came together in a creative way to guide our approach and direction for the report. Our inputs from social sciences, humanities, and technical studies balanced the selection of ideas very well and provided us with ideas beyond those already stated by the municipality of Amsterdam.

Future Direction:

The creation of this report inspired us for the potential future of Cornelis Douwes and the creation of a neighbourhood that follows the Garden City principles. We hope that this report encourages stakeholders involved in the development of Cornelis Douwes, the greater Havenstad area, and beyond to get inspiration from our ideas and proposals. Additionally there are words of caution to take into consideration. As mentioned in Section 2 of the report, there are some pitfalls when it comes to designing an urban neighbourhood according to the Garden City principles such as green gentrification, using greenery that does not fit the environmental context and not taking the distinctive character of the location into consideration. We encourage further developments to take into consideration the Garden City principles early on in the development process and not be led astray by external pressures such as time or financial pressure.

Figure 6.1: Overview of the Keerkringpark area with implemented floating gardens, multi purpose rooftops, and added greenery

Limitations:

As we had four weeks to prepare this report, our main limitation was the limited time to work on this project. This is visible particularly in the prototype and testing stages, as we could not devote enough time to properly evaluate whether our implementations are truly fit for Cornelis Douwes, such as calculating the feasibility or costs of constructing these projects. It was also not possible to develop a comprehensive urban plan for our implementations due to the scope and time limitations, which will let our proposal solutions remain conceptual for this report. During our ideate phase, the group came up with many possible proposals which we reduced significantly, as we wanted to focus on highlighting a limited number of proposals while following university guidelines of the word limit.

Figure 6.2: View of the west side of the keerkringpark with floating garden (bottom right), green recreational space, bike lane, a wide pedestrian path, native trees, a cafe on the ground floor of the building in the background, and a small playground.

Reflection: Group and Individual Contributions

As a group we worked efficiently throughout the project and agreed on not distributing the final grade. We had effective meetings twice weekly outside of the class hours where we brainstormed ideas, discussed tasks ahead of us and how we would distribute them. We set individual deadlines for the next meeting, during those meetings we discussed what we had worked on and what the next steps should be. We worked in a shared Google Docs document that allowed us to leave comments and make suggestions throughout the entire process. Literature that was read individually was added as relevant references throughout the document to ensure consistency.

Constance

Involved in empathise, define and ideate phases, finding examples and relevant literature, introduction, contributing to Community x greenery, contributing to Design Thinking, Green solutions: edible/community gardens, contributing to green-blue recreational areas, reviewing text throughout the process

Monet

Involved in empathise, define and ideate phases, finding relevant examples and literature, research on infrastructure and built environment solutions: playgrounds, re-using existing buildings, guided the design of the presentation and report, contribution to discussion, reviewing text throughout the process

Liza

Involved in empathise, define and ideate phases, finding examples and relevant literature, stakeholder analysis, contributing to Community x greenery, multifunctional architecture - roofs, walking and cycling paths/ car-free zones, contribute to discussion, reviewing text throughout the process

Kirsten

Involved in empathise, define and ideate phases, Garden cities in the 21st century, contributing to community x greenery, finding examples and relevant literature, contributing to green-blue recreational areas, community: on- and offline platforms, creating and conducting questionnaire, creating user and client maps, Design thinking introduction and prototype & test section, contribute to discussion, reviewing text throughout the process

Olivia

Involved in ideating, Garden City history, biophilic design, pitfalls of Garden City design, research on infrastructure and built environment solutions, creation of architectural renders and maps, finding examples and relevant literature, contributing to discussion, reviewing text and design throughout the process.

7. References

Ackermann, F., & Eden, C. (2011). Strategic management of stakeholders: Theory and practice. Long range planning, 44(3), 179-196.
Amsterdam Rainproof. (n.d.). About Rainproof. Retrieved January 25, 2024, from https://www.rainproof.nl/english.

Arnberger, A. & Eder, R. (2012). The influence of green space on community attachment of urban and suburban residents. Urban Forestry & Urban Greening, 11, 41-49. https://doi.org/10.1016/j.ufug.2011.11.003

Auerhammer, J. Leifer, L., Meinel, C. & Roth, B. (2022). A Humanistic and Creative Philosophy of Design. In Meinel, C. and Leifer, L. (eds.) Design Thinking Research: Achieving Real Innovation. Springer, Cham.

Barton, J. & Pretty, J. (2010). Urban ecology and human health and wellbeing. In K.J. Gaston (Ed.), Urban Ecology (pp. 202-229). Cambridge University Press

Bragg, R. Wood, C. & Barton, J. (2013). Ecominds Effects on Mental Wellbeing: A Report for Mind; Mind: London, UK.

Batchelor, P. (1969). The Origin of the Garden City Concept of Urban Form. Journal of the Society of Architectural Historians, 28(3), 184–200. https://doi.org/10.2307/988557

Bradley, K. (2018). Bike Kitchens–Spaces for convivial tools. Journal of Cleaner Production, 197, 1676-1683.

Brinkman, G., van Buuren, A., Voorberg, W. & van der Bijl-Brouwer, M. (2023). Making way for design thinking in the public sector: a taxonomy of strategies. Policy Design and Practice, 6(3): 241-265.

Bródy, L. S., & de Wilde, M. (2020). Cultivating food or cultivating citizens? On the governance and potential of community gardens in Amsterdam. Local Environment, 25(3), 243–257. https://doi.org/10.1080/13549839.2020.1730776

Buehler, R., Pucher, J., Gerike, R. & Götschi, T. (2017). Reducing car dependence in the heart of Europe: lessons from Germany, Austria, and Switzerland. Transport Reviews, 37:1, 4-28, DOI: 10.1080/01441647.2016.1177799.

Calheiros, C. S., & Pereira, S. I. (2023). Resilience of green roofs to climate change. In Adapting the Built Environment for Climate Change: 273-296. Woodhead Publishing.

Cristiano, E., Deidda, R., & Viola, F. (2021). The role of green roofs in urban Water-Energy-Food-Ecosystem nexus: A review. Science of the Total Environment, 756, 143876. https://www.sciencedirect.com/science/article/pii/S0048969720374076.

Colding, J., Gren, Å., & Barthel, S. (2020). The incremental demise of urban green spaces. Land, 9(5), 162. https://doi.org/10.3390/land9050162

Cook, H. (2022, May 23). The Barbican: green space in the heart of London. GreenBlue Urban. https://greenblue.com/ce/the-barbican-green-space-in-the-heart-of-london/

Curtis, A. (2019, May 2). Marmalade Lane - Cambridge's first cohousing project - is a triumph. Cambridge Independent. https://www.cambridgeindependent.co.uk/news/marmalade-lane-cambridges-first-cohousing-project-is-a-triumph-9068915/

Dam, R. F. (2023). The 5 Stages in the Design Thinking Process. Interaction Design Foundation - IxDF. Received from: https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process.

De Schrijvers: a city garden for the 21st century. (n.d.). LEVS Architects. https://www.levs.nl/en/news/de-schrijvers-een-tuinstad-voor-de-21e-eeuw

Eberle, G., Mróz, M., Mohtashami, A. & Kobylakiewicz, B. (2020). The Floating Gardens. Entropic: Architecture, Urbanism, Landscape. Retrieved from: https://entropic.es/thefloatinggardens

Falk, N. (2017). Garden cities for the twenty-first century. URBAN DESIGN International, 22, 91-110. https://doi.org/10.1057/s41289-016-0032-6

Ferreira, V., Barreira, A. P., Loures, L., Antunes, D., & Panagopoulos, T. (2020). Stakeholders' engagement on nature-based solutions: A systematic literature review. Sustainability, 12(2), 640.

Gemeente Amsterdam (May 30, 2017). Ontwikkelstrategie Haven-Stad: Transformatie van 12 deelgebieden CONCEPT 30 Mei. Retreived from: https://openresearch.amsterdam/image/2020/7/1/ontwikkelstrategie_haven_stad_30_mei_2017.pdf

Gemeente Amsterdam (2021) Haven-Stad: Transformatie van 12 deelgebieden Integraal Raamwerk. Received from: https://assets.amsterdam.nl/publish/pages/968469/integraal_raamwerk_haven-stad.pdf. Gemeente Amsterdam. (n.d.). Sloterdijk I: van bedrijventerrein naar stedelijke werk- en woonwijk. Retrieved January 30, 2024, from https://www.amsterdam.nl/projecten/sloterdijk-i/.

Gertz, B. (September 20, 2019). Rooftop Garden Gets a Makeover. Duke – Nicholas School of the Environment. https://nicholas.duke.edu/news/rooftop-garden-gets-makeover.

Geyer, H.S. (2023). Can informality help create smart, sustainable cities? The vibrancy of self-organised informal settlements in Cape Town. GeoJournal, 88(3), 2471–2489.

Guo, Hf., Ge, J., Yue, M., Zhou, X. & Jin, W. (2010) . Landscape design method for a green community based on green building design theory. Journal of Zhejiang University-SCIENCE A (Applied Physics & Engineering), 11, 691–700. https://doi.org/10.1631/jzus.A1000241

GVB. (n.d.). GVB, the public transport company of Amsterdam. Retrieved January 25, 2024, from https://www.gvb.nl/en/visit-amsterdam/gvb-public-transport-company-amsterdam.

Henderson, K., Lock, K., & Ellis, H. (2017). The art of building a garden city: Designing new communities for the 21st century. RIBA Publishing: Newcastle upon Tyne, UK.

Howard E. (1902). Garden cities of tomorrow. Swan Sonnenschein.

Kellert, S.R., Heerwagen, J.H. & Mador, M.L. (2008). (Eds.) Biophilic Design. The Theory, Science and Practice of Bringing Buildings to Life; John Wiley & Sons: New York, NY, USA.

LevenopNDSM (n.d.). Retrieved from: https://levenopndsm.nl/

Liander. (n.d.). Over Liander. Retrieved January 31, 2024, from https://www.liander.nl/over-ons.

Licher, H. (2023). Opinie: 'Wordt Haven-Stad de inclusieve buurt die de gemeente voor ogen staat?'. Het Parool. https://www.parool.nl/columns-opinie/opinie-wordt-haven-stad-de-inclusieve-buurt-die-de-gemeente-voor-ogen-staat~b167a58f/

Loebach, J., Sanches, M., Jaffe, J., & Elton-Marshall, T. (2021). Paving the Way for Outdoor Play: Examining Socio-Environmental Barriers to Community-Based Outdoor Play. International Journal of Environmental Research and Public Health, 18(7), 3617. https://doi.org/10.3390/ijerph18073617

Lundholm, J. (2015). Green roof plant species diversity improves ecosystem multifunctionality. Journal of Applied Ecology, 52(3), 726–734. https://doi.org/10.1111/1365-2664.12425

Nikologianni, A. & Larkham, P.J. (2022). The Urban Future: Relating Garden City Ideas to the Climate Emergency. Land 11 (2): 147. https://doi.org/10.3390/land11020147

n.a. (n.d.). 103rd Street Community Garden. New York, NY. SCAPE Landscape Architecture DPC. 103rd Street Community Garden – SCAPE (scapestudio.com)

n.a. (n.d.). The Bodine Street Community Garden. The Bodine Street Community Garden (bodinestreetgarden.org)

Oscilowicz, E., Anguelovski, I., García-Lamarca, M., Cole, H. V. S., Shokry, G., Perez-del-Pulgar, C., Argüelles, L., & Connolly, J. J. T. (2023). Grassroots mobilization for a just, green urban future: Building community infrastructure against green gentrification and displacement. Journal of Urban Affairs, ahead-of-print(ahead-of-print), 1–34. https://doi.org/10.1080/07352166.2023.2180381

Osborn, F. J. (1946). THE GARDEN CITY MOVEMENT: REAFFIRMATION OF THE VALIDITY OF EBENEZER HOWARD'S IDEA. Landscape Architecture, 36(2), 43–54. http://www.jstor.org/stable/44661658

Owens, J. L., Little, S., Cox, A., Eubanks, P. (Ed.). (2020). The Routledge Handbook of Designing Public Spaces for Young People: Processes, Practices and Policies for Youth Inclusion. Routledge. https://doi.org/10.4324/9780429505614

Pastor, A., Canniffe, E., & Jiménez, C. J. R. (2023). Learning from Letchworth and Welwyn Garden City: Garden cities' policies for the development of existing settlements in the contemporary world. Land Use Policy, 132, 106759. https://doi.org/10.1016/j.landusepol.2023.106759

Port of Amsterdam. (n.d.). What we do. Retrieved January 25, 2024, from https://www.portofamsterdam.com/en/about-port-amsterdam/what-we-do#:~:text=Construction%2C%20maintenance%20and%20upgrading%20of,including%20through%20regulations%20and%20enforcement.

Purcell, M., (2009). Resisting Neoliberalization: Communicative Planning or Counter-Hegemonic Movements? Planning Theory 8, 140–165. https://doi.org/10.1177/147309520910223.

Starik, M. (1995). Should trees have managerial standing? Toward stakeholder status for non-human nature. Journal of business ethics, 14, 207-217.

Student Experience. (September 2, 2021). Rooftop Movie Night – will you be there next time? https://studentexperience.com/news/89/rooftop-movie-night-will-you-be-there-next-time.

Student Experience. (January 3, 2023). Start your year right with FC Urban. https://studentexperience.com/news/313/start-your-year-right-with-fc-urban?categoryId=58.

Totaforti, S. (2020). Emerging Biophilic Urbanism: The Value of the Human–Nature Relationship in the Urban Space. Sustainability, 12, 5487. https://doi.org/10.3390/su12135487.

Town. (n.d.). Marmalade Lane: Cambridge's first cohousing community. Retrieved January 29, 2024, from https://www.wearetown.co.uk/projects/marmalade-lane/.

TSCP. (January 18, 2022). The cool & the green: first images of architect TSPC's sport terrace of the Hungarian University of Physical Education published. https://www.tspc.hu/the-coolthe-green-first-images-of-architect-tspcs-sport-terrace-of-the-hungarian-university-of-physical-education-published/

Tummers, L., & MacGregor, S. (2019). Beyond wishful thinking: a FPE perspective on commoning care and the promise of co-housing. International Journal of the Commons, 13(1), 62-83.

University of Amsterdam. (October 18, 2023). Bike Kitchen maakt van REC-kelder ontmoetingsplek die de fiets weer waarde geeft.

Van Eesteren Museum (2021). Wonen op hoogte: Een pleidooi voor het kwalitatief inzetten van hoogbouw. Retrieved from: https://vaneesterenmuseum.nl/commissieophoogte/

Van Zoelen, B. (2022, November 2). Door een schuifpuzzel in de haven komen woningen in Haven-Stad dichterbij. Het Parool. https://www.parool.nl/amsterdam/door-een-schuifpuzzel-in-de-haven-komen-woningen-in-haven-stad-dichterbij~b9ee1a7c/.

Vernet, N., & Coste, A. (2017). Garden Cities of the 21st Century: A Sustainable Path to Suburban reform. Urban Planning, 2(4), 181–196. https://doi.org/10.17645/up.v2i4.1104

Vink, J., Vollaard, P. & de Zwarte, N. (2023) Stadsnatuur Bouwen: Naar een Natuurinclusieve Architectuur. Nai010 Uitgevers/Publishers, Rotterdam.

Vitra | Oudolf Garten. (n.d.). https://www.vitra.com/en-cz/campus/oudolf-garten

Visser, V., de Koster, W., & van der Waal, J. (2023). Understanding less-educated citizens'(non-) participation in citizens' initiatives: Feelings of entitlement and a taste for politics. Current Sociology, 71(5), 924-942.

Walker, C. (August 10, 2014). JAJA Designs "Park 'N' Play" Parking Garage in Copenhagen. Arch Daily. https://www.archdaily.com/535720/jaja-designs-park-n-play-parking-garage-in-copenhagen.

Warren, P.S., Harlan, S.L., Boone, C., Lerman, S.B., Shochat, E. & Kinzig, A.P. (2010). Urban ecology and human social organisation. In K.J. Gaston (Ed.), Urban Ecology (pp. 172-201). Cambridge University Press.

Waternet. (2019). Research & Innovation. 2019 Progress report. https://www.waternet.nl/contentassets/7cfd1fec31f041a3a82f8fbbf02d1b20/oi--progress-report-2019.pdf.

Westpoort Warmte. (n.d.). Over Westpoort Warmte. Retrieved January 31, 2024, from https://westpoortwarmte.nl/over-westpoort-warmte/#:~:text=WPW%20heeft%20meerdere%20warmtebronnen.,geen%20hoogwaardigere%20toepassing%20voor%20bestaat..

Wilson, Edward O. (2017). Biophilia and the Conservation Ethic. In Routledge eBooks, 250–58. https://doi.org/10.4324/9780203792650-18.

Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough.' Landscape and Urban Planning, 125, 234–244. https://doi.org/10.1016/j.landurbplan.2014.01.017

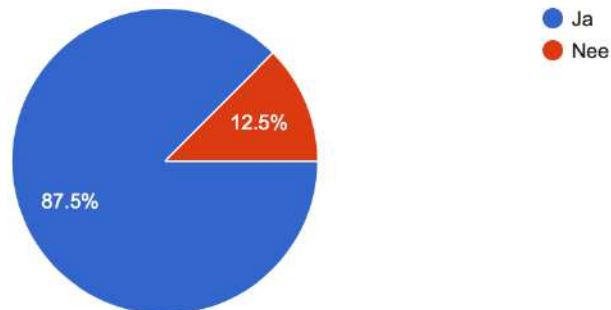Workman, R., Bednar, M., & Abbey, B. (1977). Planning for the elderly without architecture is like architecture for the elderly without planning. Journal of Architectural Education, 31(1), 40-43.

Zhao, H. Y. (2015). Inspirations to the Construction of Chinese Cities from City of Waterloo - Garden City of the 21st Century. Applied Mechanics and Materials, 744–746, 2200-. https://doi.org/10.4028/www.scientific.net/AMM.744-746.2200

Is een gemeenschapsgevoel belangrijk voor jou in jouw woonomgeving?

16 responses

Legend:
- Ja
- Nee

87.5% Ja, 12.5% Nee

Wat betekend gemeenschapsgevoel voor jou?

16 responses

Bij nood je buren voor hulp kunnen vragen, elkaar normaal kunnen groeten.

Geïnteresseerd en aandacht hebben voor elkaar

*Betekent
Saamhorigheid en niet anoniem/individualistisch

Zorg dragen voor de omgeving en alert zijn op dingen die de sfeer, veiligheid en algemeen welzijnsgevoel negatief kunnen beïnvloeden

Het betekenT voor mij dat ik mensen leer kennen die om me heen wonen.

behulpzaamheid, vriendelijkheid, veiligheid

Je thuisvoelen in de buurt, het gevoel van een woonwijk, op de hoogte zijn van ontwikkelingen van de buurt, bekende gezichten op straat

Naar elkaar kijken op straat, elkaar gedag zeggen in de lift, een praatje maken, op elkaars planten/huisdierennpassen tijdens vakantie

Dat je de mensen in je gebouw/buurt kent. En elkaar af en toe helpt met klusjes (op de kat passen, planten water geven, boodschap doen wanneer iemand ziek is, pakje aannemen).

Niet zo veel

Hulp bieden en ontvangen en gezelligheid en gezamenlijke verantwoordelijkheid voor onze gebouwen en omgeving

Gedag zeggen naar elkaar, aanbieden van hulp wanneer iemand dat misschien nodig heeft,
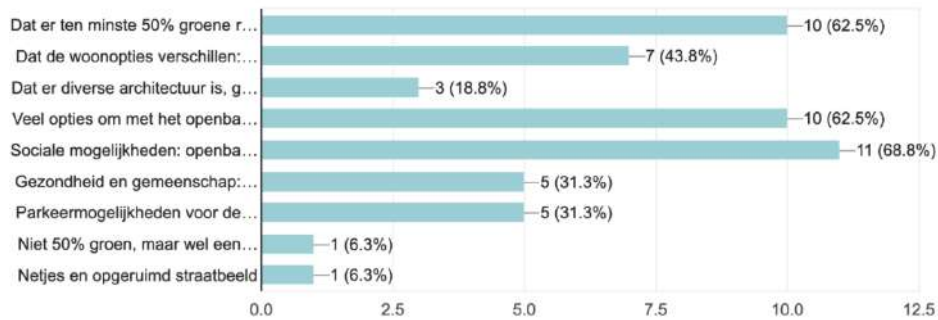
Gevoel van veiligheid

Je buren kennen en hen gedag zeggen op straat. Dat je het elkaar gunt om een keer een feestje te geven of dat je iemand kan vragen om op je kat te passen voor een paar dagen.

Kunnen rekenen op buren, bekend zijn met de buren, gevoel van samen ipv iedereen individueel

Het betekent veel

Welke van de volgende zaken vind jij het meest belangrijk om in jouw woonwijk te hebben? Kies er niet meer dan 3

16 responses

Categorie	Aantal
Dat er ten minste 50% groene r...	10 (62.5%)
Dat de woonopties verschillen:...	7 (43.8%)
Dat er diverse architectuur is, g...	3 (18.8%)
Veel opties om met het openba...	10 (62.5%)
Sociale mogelijkheden: openba...	11 (68.8%)
Gezondheid en gemeenschap:...	5 (31.3%)
Parkeermogelijkheden voor de...	5 (31.3%)
Niet 50% groen, maar wel een...	1 (6.3%)
Netjes en opgeruimd straatbeeld	1 (6.3%)

(Staafdiagram met x-as van 0.0 tot 12.5)

Wat denk jij dat belangrijk is voor het scheppen van een sterk gemeenschapsgevoel in jouw woonomgeving?

15 responses

Het creëren van speeltuinen. Picknick/zwemplekken. Meer winkels in de omgeving/ bakkerij, slager (wel met normale prijzen (dus geen Brood😅) een Turkse/Marokkaanse winkel?

Gevoel van verantwoordelijkheid leegomgeving

Contact. Sociale activiteiten. Gemeenschappelijk doel uitdragen.

Buurtinloop/gesprekken/enquête

open mindset

Veilige en verwelkomende buitenomgeving

Tijd!

Een plek (offline of online) om elkaar te ontmoeten. Het helpt vooral als dat een positieve plek is, dus niet alleen de FB-groep waar je klachten deelt maar ook borrels, een caféruimte waar je een praatje maakt, etc.

Genoeg plekken om samen te komem of parken voor in de zomer

Goede communicatie via alle channels

Online groepen bijvoorbeeld op FB, organiseren van kleinschalige evenementen. Van vuil ruimen in de straten tot een bbq in de zomer

Elkaar gedag zeggen, zorgvuldig met elkaars spullen omgaan, goed opletten in de buurt

Dat er niet al te snelle doorstroom is van bewoners, dan moet je steeds nieuwe buren leren kennen.

Meer buurtvoorzieningen en een soort mini centrum maken met wat winkels en een koffietentje. De albert heijn staat twee straten verder dan de enige andere winkel (HEMA), wat niet bijdraagt aan het gevoel van samenhorigheid. Ook zouden meer pleintjes, speelsplaatsen, faciliteiten waar mensen makkelijk samen kunnen komen zonder dat ze direct op iemand af hoeven te stappen.

Samenhorigheid, diversiteit, betrokkenheid

Mis je nog een andere optie bij de vorige vraag? (google laat maar 1 "anders" categorie toe)

5 responses
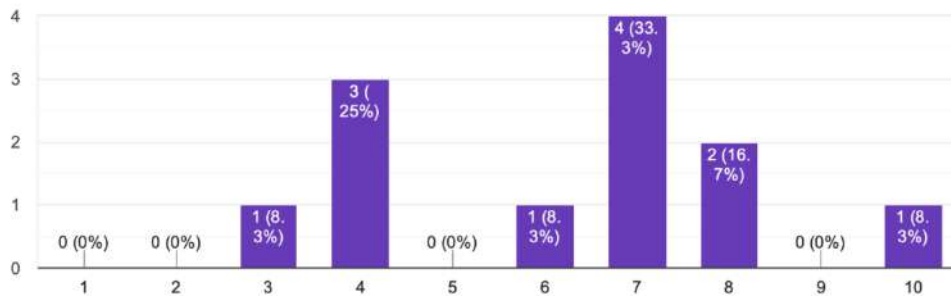
Nee

Winkels!! Een drogisterij, kaaswinkel, slager.

Parkeren

Winkelcentrum (klein), betere en goedkopere voorzieningen voor levensbehoeftes zoals boodschappen, drogisterijen, etc.

Are you satisfied with the area in general?
12 responses

Rating	Responses
1	0 (0%)
2	0 (0%)
3	1 (8.3%)
4	3 (25%)
5	0 (0%)
6	1 (8.3%)
7	4 (33.3%)
8	2 (16.7%)
9	0 (0%)
10	1 (8.3%)

Are you satisfied with the facilities available in the area?
12 responses

Rating	Responses
1	0 (0%)
2	1 (8.3%)
3	2 (16.7%)
4	1 (8.3%)
5	3 (25%)
6	1 (8.3%)
7	4 (33.3%)
8	0 (0%)
9	0 (0%)
10	0 (0%)

What facilities would you like to see more in the area:
12 responses

Facility	Responses
public green spaces (parks, sq...	12 (100%)
playgrounds; facilities for famili...	1 (8.3%)
grocery stores	11 (91.7%)
other shops (e.g. pharmacies,...	7 (58.3%)
cafes & restaurants	4 (33.3%)
more public transport options	9 (75%)
improved biking infrastructure (...	5 (41.7%)
other	0 (0%)

what do you appreciate about the area and/or what are you in particular satisfied with?

12 responses

It is very quiet and close to the city center

Spaciousness (wide view of the IJ) and still a Central location, close to the centre.

The architecture is nice, but so far it's all very skeletal. There needs to be some facelifting since over half the residents of the area have moved in now.

It's clean and safe.

Good bike lanes

It is not crowded yet close to the city centre.

The lack of tourists.

it is quite and safe; it is also more spacious compred to other parts of amsterdam

Public transport: there is a ferry stop, and a couple buses that can take you to central station & buiksloterweg.
Lighting is good, and I feel safe walking after sunset.
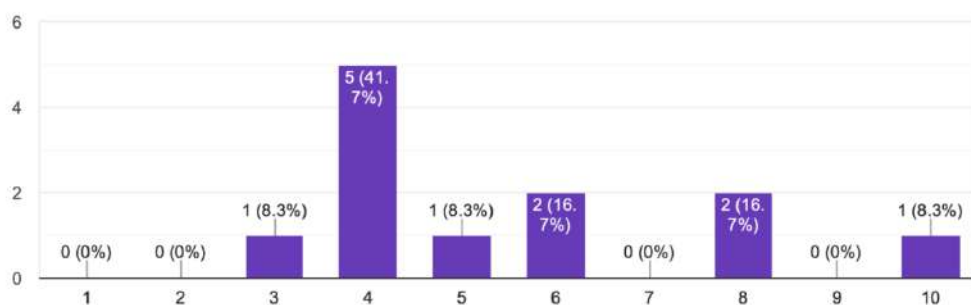There are 2 gyms and a yoga center all under 10 min walk.

By bike it is well connected to other parts of the city. It is calm. Housing is nice.

close to the centre, well-connected by a ferry, safe

That its accesible by ferry

Are you satisfied with public transport connections to other parts of Amsterdam?

12 responses

What do you **miss** in the area and/or what are you in particular **not** satisfied with?

12 responses

I believe more grocery stores are needed in my neighborhood

Direct connection central station (distelweg pont) and missing green

The roads are anarchic and there is no timeline in sight. If they're planning on fixing the roads when the entire area is finished then that means thousands of residents will be living with undeveloped road infrastructure. This also detract from the overall aesthetics which is paradoxical to such a new and expensive area.

Also, there are no grocery stores nearby, they're all about 10mins away, not even a small kiosk or something so you don't have to travel far when the weather is bad.

Better public transport will soon be needed as well, as it's unreasonable to have to walk 20 minutes minimum to reach your nearest ferry point or metro stop.

It still feels like a building site without any public green spaces. I would also to have a (small) grocery store around the corner.

Green spaces, shops,

Not many public transport options if biking is not the option in some situations.

Supermarkets are far, and there aren't enough public spaces to hang out (restaurants/cafes/museums)

all public infrastructure and the 'city life' seem to be happening in other parts on noord. Also there are no grocery stores or bakeries nearby. Even though it doesn't take much time to go to centraal (with bike) the building seems isolated

There are no trees in the area. There is a plan to build a park very close, but it's been a year since we moved here, and no trees planted on the sides of the streets for example. So Walking is not very pleasant.
There is very little sunlight because all buildings in the area are quite tall. So if there is an occasional sunny day in the winter, we have to go outside and walk for 5-10 min till we get to the sunny side.
Bike lanes could use some improvement, currently they share the road with cars.

Missing public transportation. Supermarket could be more close by

the roads nearby are in bad condition, also a ferry Dienstelweg - Westerpark does not run as often as I wish

Grocery store green spaces

Havenstad as the New Garden City

Fostering Community and Greenery for Cornelis Douwes

Olivia Nguyen
Kirsten Schaap
Monet Shibata
Liza Tavčar
Constance Travers

Presented To
Museum Het Schip

February 2024

UNIVERSITEIT
VAN AMSTERDAM