Modern Garden Cities

Havenstad

How can Garden City principles be integrated within the Haven-Stad development project?

By

DEVAN AZIZ
ELISA KAMPS
KEVIN BOYLE
LOUIS SIOW

Contents

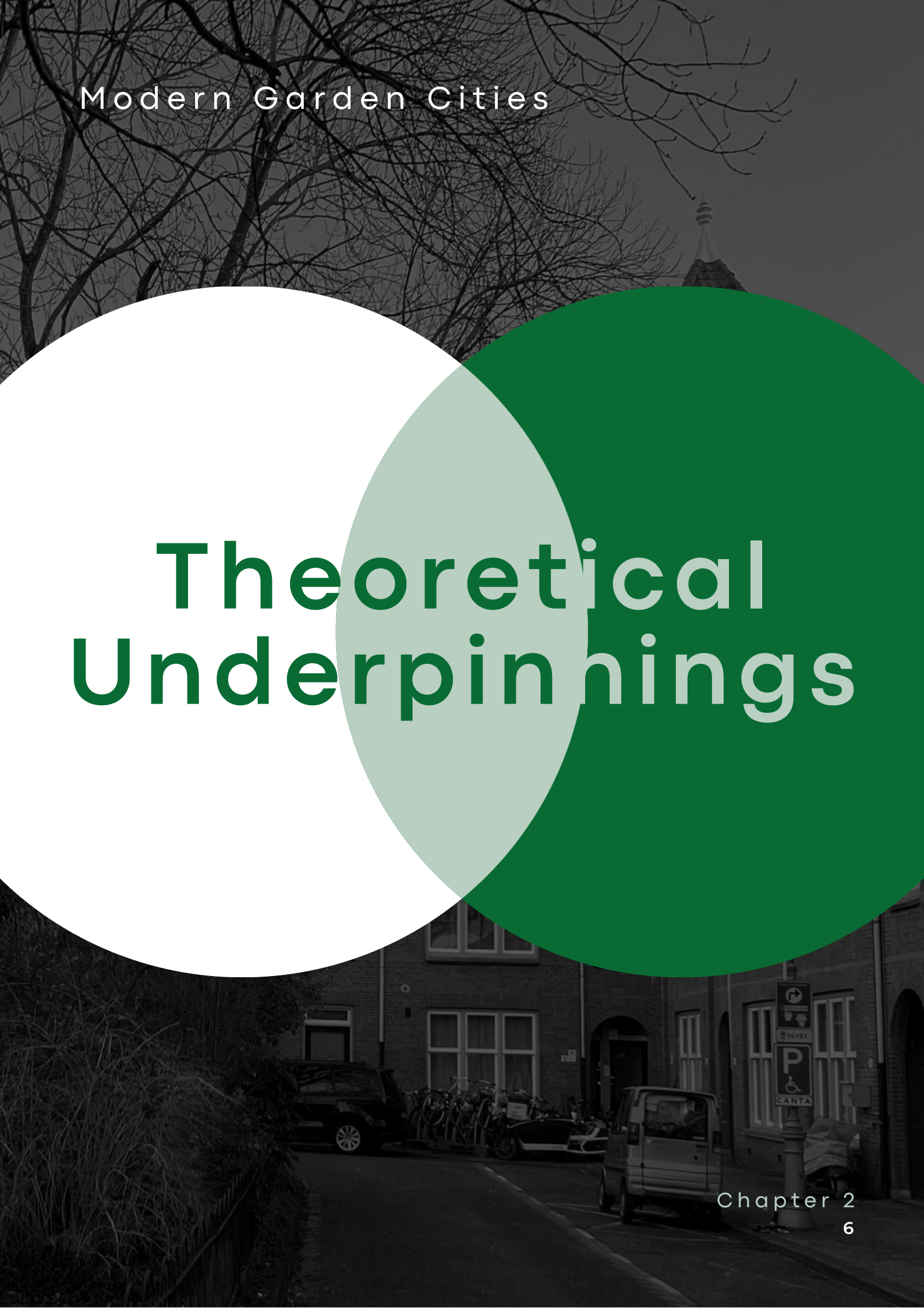
Contents

Introduction

1. INTRODUCTION

Garden Cities of To-morrow, by Ebenezer Howard (1902), has aroused much discussion and interest in urban design. Both praise and criticism have been levelled at fusing urban and rural characteristics to create a more efficient and sustainable urban development paradigm. As we progress through the 21st century, his concept is becoming increasingly relevant as it simultaneously deals with physical problems, such as climate change and increasing urbanisation, and socio-economic problems such as social cohesion and affordability. This is evident in areas in Amsterdam where the ongoing housing crisis is developing into a major dilemma for locals and wider community. As such, the purpose of this report is to answer the question of how Garden City principles can be integrated within the Haven-Stad development project. In the following literature review, the ideas behind garden cities, how they have been previously applied and their historical background will be explored before moving onto planning methods and limitations.

Theoretical Underpinnings



2. THEORETICAL UNDERPINNINGS

(Museum Het Schip, 2022)

The Garden City concept is designed to ensure that inhabitants experience a pleasant, healthy lifestyle through the harmonious combination of rural and urban living. These bustling cities have been designed with both practicality and sustainability in mind, featuring a harmonious combination of residential, commercial, industrial centres as well as lush green spaces (Livesey, 2011). For a city plan to be cohesive and unified, it is essential that green infrastructure (GI) takes centre stage (Swensen & Berg, 2020). By promoting health and well-being, decreasing detrimental emissions, supplying communities with essential resources, and improving the quality of life as well as aesthetics - GI truly makes a difference (Swart et al., 2021). The Garden City concept is further bolstered by social reinvestment, wherein the monetary gains from within the town are roughly shared and capitalised in order to promote local community welfare (Lewis, 2015).

(Museum Het Schip, 2022)

Howard's main objective was to create self-sustaining towns surrounded by farmland and break the centralisation of industrial centres while also rescuing the natural environment (Nabila, 2021); it acted as an alternative and more ecological way of living. His vision was considered an "amalgam of the best features of city and countryside" (Sharifi, 2016: 4) as it combined the conveniences of the city and the peace and beauty of the country. Howard illustrated this best through the Three Magnets Diagram where the first two magnets indicate the positives and negatives of the town and country, while the third combines the advantages of both.

2. THEORETICAL UNDERPINNINGS

In his view, Howard believed that garden cities would create some degree of cooperative socialism. He acknowledged that garden cities should have low urban density and inhabit around 32,000 residents, while a greenbelt of agriculture and greenery surrounded the city. This in turn would make garden cities self-sufficient and autonomous (Moerman, 2020). Transportation systems in the city would also be typified by circular road networks and rail lines. Alongside this, Howard also introduced the idea of separating industrial and residential areas so that residents would benefit from more cleaner air and less pollution, thus improving human health. Hence the goal was to create an environment that would be more sustainable and pleasurable when compared to conventional urban spaces.

(Museum Het Schip, 2022)

2.1 HISTORICAL BACKGROUND AND EARLY APPLICATION

Howard developed his concept of garden cities as a potential solution to the increasing urbanisation and inequality experienced in the late 19th century. As such, garden cities offer a way of redistributing people into smaller planned settlements rather than permitting unplanned population growth in large cities (Clark, 2003). One of the first garden cities built by Howard was Letchworth, located in Hertfordshire, United Kingdom, in 1903. This project was considered successful as it led to the creation of 28 more garden cities in the UK, while Letchworth evolved into a rich commuter town (Moerman, 2020). Howard was the managing director, but he was sidelined by the other directors of Letchworth who believed their duty was in servicing future shareholders instead of passing authority and resources to the community as a whole (Clark, 2003).

The residential, commercial, and industrial districts of these innovative garden towns were interspersed with numerous parks and gardens for open space. Letchworth's combination of private and public gardens was an urban greening pioneer (Livesey, 2011). Social, political, and economic factors as well as environmental concerns inspired the Garden City concept (Livesey, 2011). The objective of this initiative was to alleviate social unrest and provide employment for city residents displaced by industrialisation, urbanisation, and overpopulation. Due to lower pollution levels, rural life was healthier than city life (Clark, 2003).

(WestonWilliamson+Partners, n.d.)

2.2 MODERN GARDEN CITIES

Since the year 2020, 80 percent of EU residents live in urban areas (European Commission 2020; Aelbrecht et al., 2021). Therefore, sustainability is now more important than ever in every aspect of urban life. Recent years have witnessed the development of garden city projects in a number of countries, including Denmark, the Netherlands, Norway, and the United Kingdom (Aelbrecht et al., 2021; Swensen & Berg, 2020). Modern garden cities emphasise the concept of metabolism and the importance of density in sustainable development, utilising a socio-ecological approach to spatial planning (Coste & Vernett, 2017; Swensen & Berg, 2020). Modern Garden city principles aim to maximise the sustainability of urban systems. Urban form and infrastructure design determine resource flows and the capacity to develop circular metabolisms (Thomson & Newman, 2018). Densification is not limited to population or material growth, according to Swensen and Berg (2003); it can also refer to the intensity of usage. Oslo and Bergen have implemented this strategy with some success, although the advantages and disadvantages of implementing densification are the subjects of an ongoing debate (Swensen & Berg, 2020). Possible benefits include decreased transportation requirements, while potential drawbacks include diminished public spaces and endangered cultural heritage.

Traffic-free zones are common in Lillestrøm and other towns to reduce traffic and improve quality of life (Swensen & Berg, 2020). Government policies promoting equal rights have helped build these garden cities (Swensen & Berg, 2020). Public spaces can bring people together and foster community (Aelbrecht et al., 2021). To protect biodiversity, clean water, clean air, and food sources in the face of climate change, green areas must be protected and managed (Swart et al., 2021). Urban gardens ameliorate current and future city environmental problems.

2.2 MODERN GARDEN CITIES

Modern garden city projects have also influenced the Netherlands' approach to development. Mentioned in an article by O'Sullivan (2022), Amsterdam has recently confirmed plans to construct a neighbourhood in between the Gooiseweg and Nelson Mandela Park in Bijlmermeer. The move facilitates the creation of apartment blocks, social facilities and primary schools while also decreasing gas emissions and connecting the city with the surrounding parks. Importantly, the housing will be offered at an affordable price and be completed and available by 2026 and 2028 at the latest (Gemeente Amsterdam, n.d.-b).

(Gemeente Amsterdam, n.d.)

2.3 MODERN GARDEN CITIES IN THE CONTEXT OF HAVEN-STAD

Utilising Garden Cities principles, this research is concerned with applying these principles to a new development known as Haven-Stad or the "Port-City." While just 650 hectares, the redevelopment of industrial areas will transform the northwest corner of Amsterdam. The development is projected to add as much as 70,000 units of housing, 58,000 jobs and 150,000 new inhabitants (Gemeente Amsterdam., n.d-a). With Amsterdam's population at only 882,000, the addition of 150,000 will increase the municipality's population by 15% (Centraal Bureau voor de Statistiek, 2022).

The Havenstad development has been envisioned as a densely populated residential and work area, with an 80:20 ratio of living to non-residential functions (Gemeente Amsterdam, 2017). In order to reach this land-use ambition, densification is inevitable. Opportunity exists to make Havenstad a model of sustainability due to its size, location, and access to renewable energy sources, such as from the Waste Energy Company (Gemeente Amsterdam, 2017). Additionally, businesses in the district have been researching resource cycles for a circular economy and sustainable construction. Gemeente Amsterdam (2017) emphasises that although investments for car access are important, they are restricted to urgent requirements and parking options will be more limited in the future. Unlike in Lillestrøm, there is no plan to create car-free and pedestrian-friendly zones, though public transportation options are being bolstered and space is being dedicated to pedestrians and cyclists.

2.4 LIMITATIONS AND CRITICISM

Critics have posited that the garden city concept is tricky to put into action and incompatible with today's metropolitan milieus. Due to heightened population densities and calls for increased space utilisation, it is hard to prevent high density in current urban design (Nabila, 2021). Additionally, garden cities are intended to accommodate the requirements of different classes of people, yet they have been known to not fulfil the demands of the most underprivileged (Gillette, 2011). This variance between what is proposed and what is actually implemented implies that constructing a garden city that abides by Howard's original design is a convoluted process. Furthermore, the term ‘garden city’ is often misused, usually by investors, to sway people into purchasing properties (Hardy, 2005).

Methodology

3. METHODOLOGY

Howard demonstrated the relationship between the city and country through his Three Magnets Diagram. It features three magnets, each labelled Town, Country and Town-Country. The first two showcase the advantages and disadvantages of town and country life. For instance, the Town magnet offers social opportunities, high wages and employment prospects, but these are greatly offset by the closing out of nature, distance from work and excessive hours. Alternatively, the Country magnet offers fresh air and low rents, but lacks public spirit and enjoyment. The third magnet depicts Howard's proposal of a garden city, whereby the advantages of town and country life are combined.

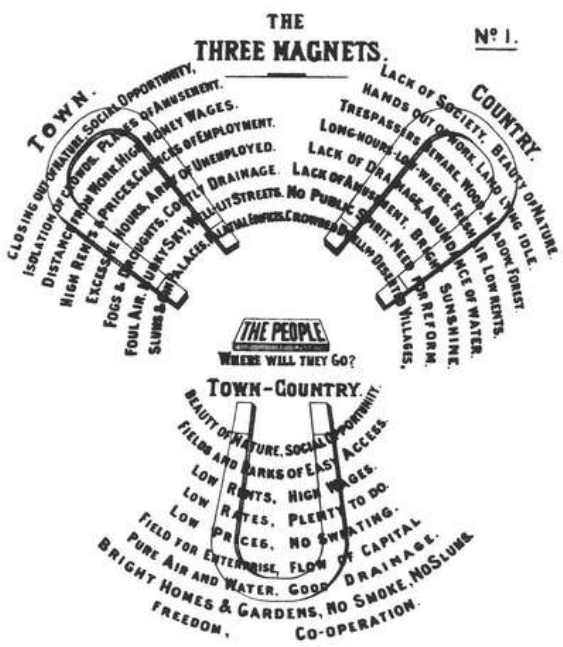
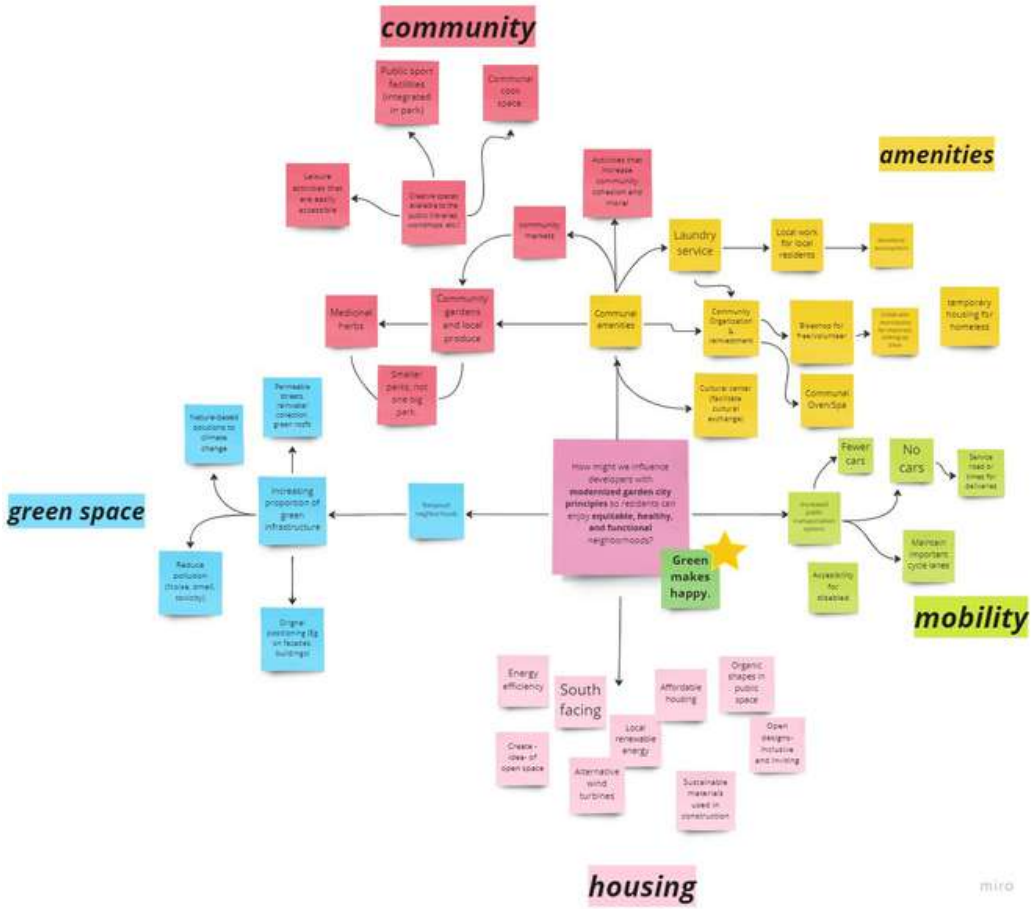


Fig. 1. Ebenezer Howard, *The Three Magnets. No. 1*, 1902, in *Garden Cities of To-morrow*.

Building upon the traditional Garden City concept, a detailed brainstorming exercise was conducted to help visualise how these principles can be transformed into modern-day concepts. The results are shown in the diagram below, where the central aim was to formulate solutions tackling today's issues such as the effects of climate change, physical and mental wellbeing, polarisation, and population growth. Initially, a wide range of ideas was generated, after which they were refined and categorised, to ultimately form five clusters. These included: community, amenities, mobility, housing and green space. Then, these more universal concepts were translated into more concrete approaches, considering the Haven-Stad development project. Community space, community reinvestment, workforce development, nature-based solutions and limiting private vehicles ultimately contribute towards creating an equitable, healthy and functional neighbourhood that residents can enjoy.

3. METHODOLOGY



With these new five subgroups in mind, the original three magnets were reevaluated, to propose a new diagram that illustrates the essential themes that must be present in order to create a successful modern garden city. The diagram exhibits three core spheres – sustainability, functionality and wellbeing – and when effectively considered and applied will produce the ideal conditions for a garden city integrating community space, community reinvestment, workforce development, nature-based solutions and limiting private vehicles. For this report, sustainability refers to the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987), while functionality relates to the way in which something operates and its usefulness towards the community and wider environment. Wellbeing, on the other hand, refers to the state of happiness and welfare including mental and physical health of the community and its surrounding ecosystems. As such, this report believes that this new diagram reflects the modern Garden City concept and will therefore form the foundations for the vision of the Haven-Stad redevelopment project.

3. METHODOLOGY

The methodology consists of four interviews with participants in the Zaanstraat region; their information is summarised in the table below. The participants all reside in the neighbourhood and will therefore have a clearer judgement surrounding the needs of the community and opinion regarding the future development projects. These interviews will serve as a guide to applying the modern garden city principles to the wider redevelopment of Haven-Stad.

At the conclusion of each interview, each participant will be asked to sketch a garden city of their own neighbourhood. The sketches will then be merged and used as a draft model to illustrate what Zaanstraat, as a garden city, would look like through the eyes of the local community. This would in turn help future city planners visualise what local residents desire and want within their local living space.

Resident	Occupation/Description
Resident A	Journalist and resident
Resident B	Cultural History and Zaanstraat resident
Resident C	Developer/Information Analyst and Zaanstraat resident
Resident D	Zaanstraat homeowner

Along with this, further primary research was conducted via an in-person site visit to the neighbourhood. This involved taking part in a guided tour run by the Amsterdam School Museum Het Schip. This helped gauge and understand the current living conditions of the neighbourhood and to see where, and how, improvements can be made to benefit the current and future population. Photos of the neighbourhood and surrounding area were also taken.

3. METHODOLOGY

To visualise these potential improvements, 3D modelling options were explored. By combining the residents' needs and what we believe to be beneficial to the neighbourhood, two models were produced to illustrate what Zaanstraat, as a garden city, would look like. The models created show resident buildings, one in a low-density space and the other in a high-density space. The use of modelling would also allow residents to voice their opinion and provide feedback. Furthermore, a stakeholder analysis was conducted to understand the power relations and hierarchies in the neighbourhood, the wider community, and Amsterdam.

Lastly, the first meeting in a series of community discussions on the Haven-Stad development, called Atelier Haven-Stad, organised by the municipality of Amsterdam, was attended on 30 January 2023. The primary objective was to learn about the latest developments of the project, listen to stakeholders' concerns and gain insight into how the municipality is currently engaging residents, business owners and stakeholders.

Results & Discussion

4.1 STAKEHOLDER ANALYSIS

Stakeholders should be considered so that a comprehensive understanding of power dynamics within policy making is established. It is often the case that certain stakeholders have different interests and therefore an assessment of who is involved is vital.

The degree of fair stakeholder engagement in planning practices is critical (Purcell, 2009) as power indifferences are rooted within social relationships and thus cannot be fully neutralised in reality, only in a theoretical sense. Hence, when assigning every party an 'equal' seat at the table when devising plans, power differences existing outside the meeting room continue to play a role, such as financial ability, or within the discussion, the eloquence with which arguments are presented by certain parties. Furthermore, by neutralising and thereby ignoring the existing differences, to a certain degree they are depoliticized and therefore not considered anymore.

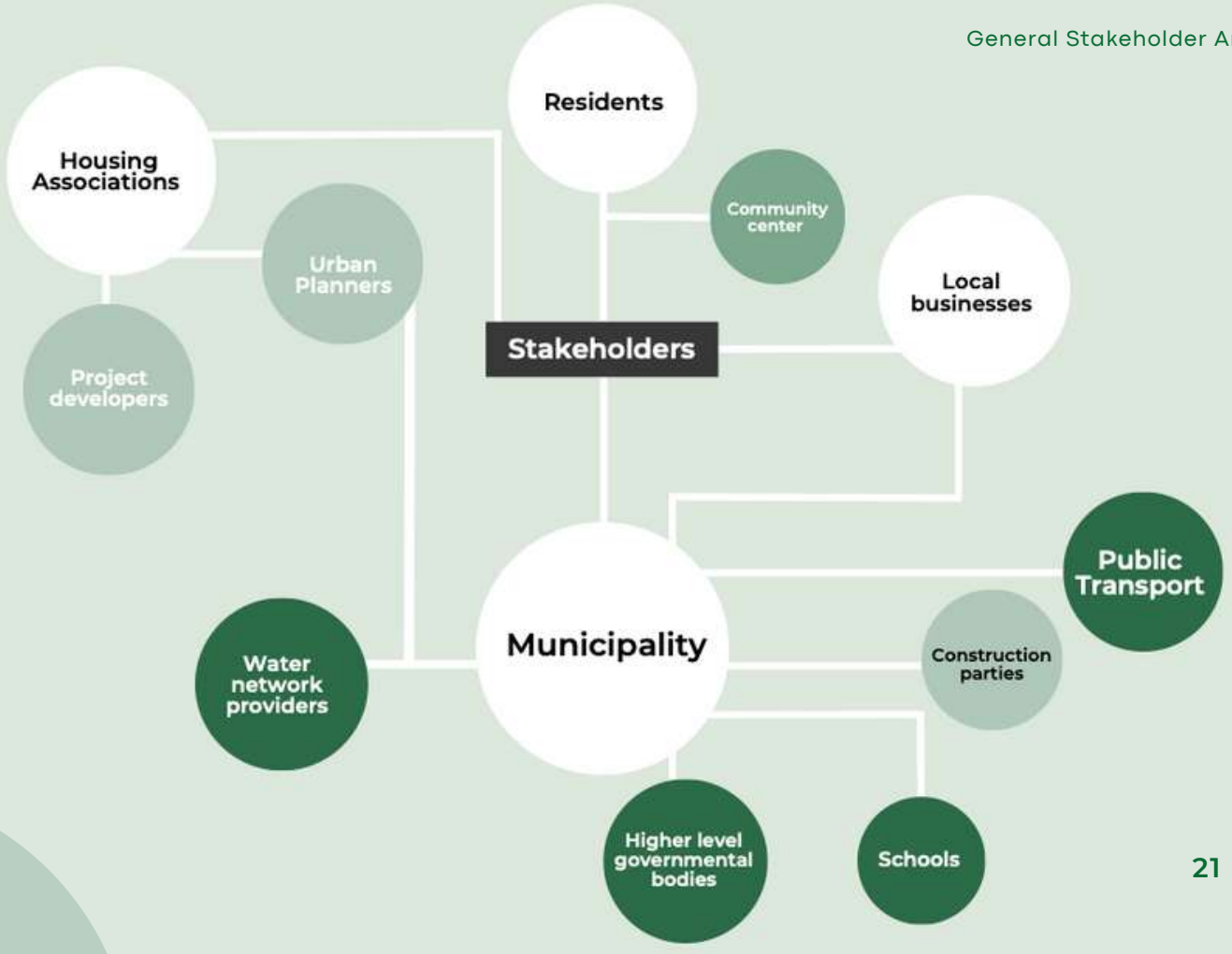
Although there will always be differences between stakeholders that are difficult to counterbalance optimally, strategies improving these issues are needed moving forwards. Innes (2004) argues that consensus building provides a strategy that can act upon power differences in planning development in a way that solves part of the power differences. A list of criteria is used to ensure a fairer process, such as giving participants the freedom to shape rules within discussions or transparency and accessibility in information sharing, as well as exploring all options for every stakeholder before pursuing a final decision. Besides, an intermediary can be used to engage different parties and create space for those that are silenced consciously or unconsciously by other bigger players. Accordingly, it is also essential to understand stakeholder engagement in the preceding steps of the process while establishing a comprehensive overview of all the stakeholders.

4.1 STAKEHOLDER ANALYSIS

Generally, stakeholders can be divided into roughly four categories across parameters of power and interest. The first diagram below shows the most important stakeholders on a conceptual level while the second gives an overview of those within the project area, connected with the Haven-Stad development project. The size of each stakeholder relates to their importance to the project, from governmental bodies to local businesses, organisations and individuals, each group of stakeholders brings forward their own perspective. This report believes that the most significant players that can have the most influence on the Haven-Stad development project are the Municipality, housing associations, local businesses and the local residents.

Firstly, regarding housing, the municipality and various housing associations are influential players with a high interest in the development of Haven-Stad. The overarching Amsterdam federation of housing associations, and Lieven de Key, Eigen Haard, and Rochdale are involved in investment and construction of future housing (Gemeente Amsterdam, n.d.-b). For them both, a high quantity of housing offer is desirable, as well as adequate quality. The latter ties in with complimentary facilities in the area.

General Stakeholder Analysis



4.1 STAKEHOLDER ANALYSIS

Next, considering infrastructure and public transport, its providers form an important group of stakeholders; within Haven-Stad NS, the largest Dutch passenger rail company, owns the area in the Marshalling Yard, currently holding stationary trains. Likewise, ProRail has an interest in the future of the rail network as it is responsible for the construction and maintenance (NS, n.d.). Regarding other means of public transport in the neighbourhood, GVB accounts for buses, metro lines, and ferries in Amsterdam, hence a relevant stakeholder to include in development plans. GVB has a high interest in the development of Haven-Stad as a whole, since a more attractive neighbourhood benefits public transport usage. Furthermore, bearing in mind the increasing pressure of water nuisance in the city due to climate change, parties like Waternet and Amsterdam Rainproof wish to improve robust water draining infrastructures (Amsterdam Rainproof, n.d.). Supported by the municipality, their influential capacity is considerable, especially considering the city's sustainability goals (Gemeente Amsterdam, n.d.-a).

Thus, the municipality has a high interest as the main funder of new infrastructure to be used optimally, though even they have a limited budget available for high investment infrastructures. Overall, the municipality, housing associations, as well as public transport providers have a relatively high interest and high degree of power.

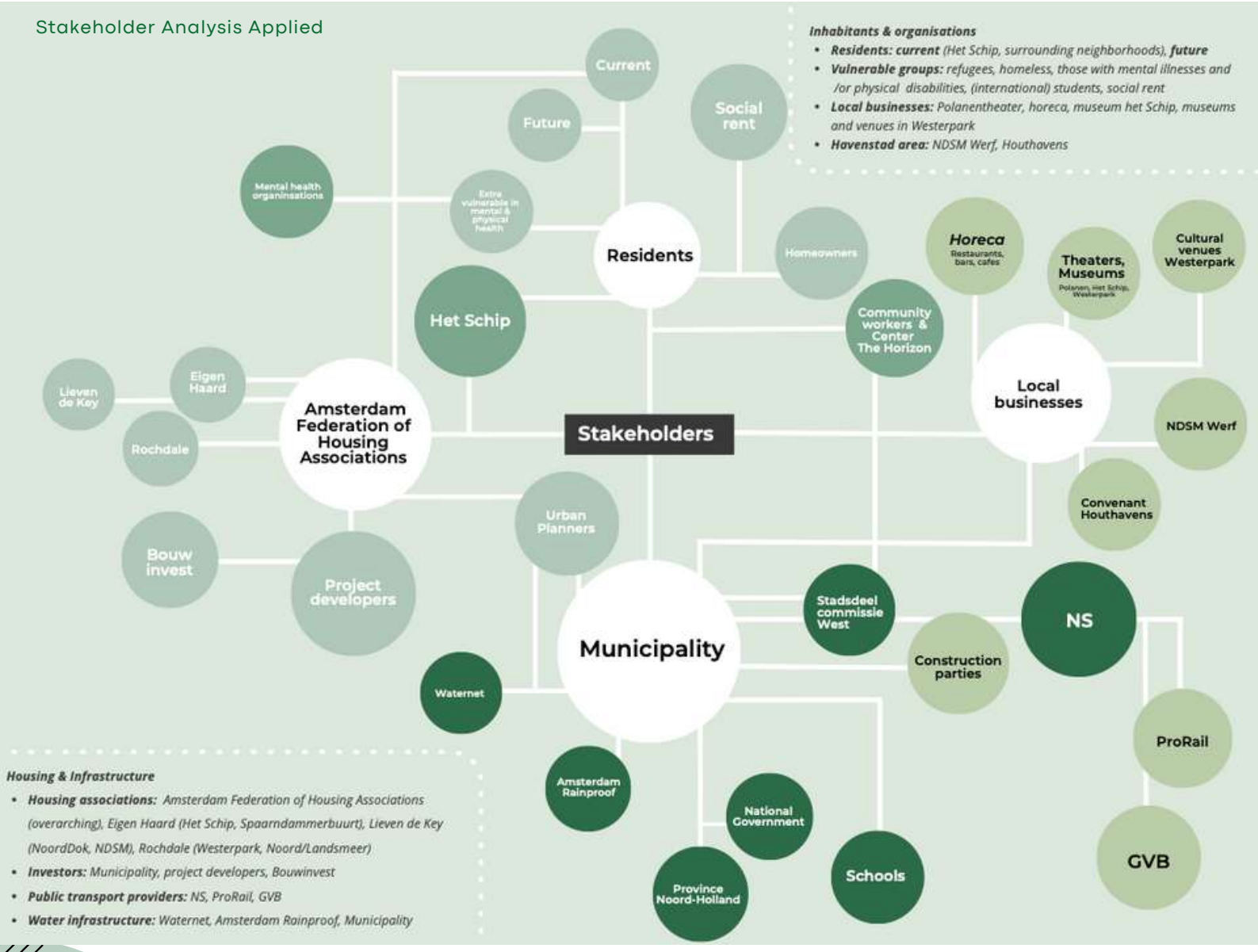
Furthermore, there are several groups of individuals that have a high interest, but lower degree of power regarding the development of the Marshalling yard and Haven-Stad as a whole. These concern current residents of Het Schip who reside next to the area of development. They will be directly impacted by the surrounding neighbourhood, in terms of view, noise, and available facilities. Equally, prospective residents are considered essential stakeholders, increasingly so going into the future. Besides, income differentiates people in social rent, and homeowners or those being able to rent on the private market. Correspondingly, this report considers these power relations and its potential risks of gentrification in future housing.

Moreover, particularly vulnerable subgroups exist which are often marginalised in decision-making amongst the big affluent players at the table (Innes, 2004). Fortunately, the municipality aims to incorporate space for marginalised groups in their development plans. Hence this report pays explicit attention to accounting for those with mental disorders, disabilities, homeless people, and refugees amongst others, to enhance an inclusive and equitable development of Haven-Stad for all. More concretely, community workers and local centres are to be involved in creating future visions.

4.1 STAKEHOLDER ANALYSIS

Lastly, local businesses and organisations are also relevant stakeholders, as their surroundings and potential clientele is influenced majorly by the development of Haven-Stad. Bigger parties are Convenant Houthavens and the NDSM werf close to the water. On the other side, venues in the Westerpark provide several facilities, as well as even more local horeca (restaurants, bars, cafes), and shops for (future) residents of the Schip and Marshalling Yard area. They have a high interest in improving the neighbourhood, while maintaining their own place and current customers, though their power in this decision-making is lower than primary funders.

Stakeholder Analysis Applied



4.2 FIVE APPROACHES

Informed by historical and modern day Garden City principles, the in-depth brainstorming and Zaanstraat resident interviews generated the five approaches that can be applied to the Haven-Stad redevelopment project: community space, community reinvestment, workforce development, nature-based solutions and limiting private vehicles. All of these interventions exhibit the three core spheres of the ideal garden city – sustainability, functionality and wellbeing. This results section expands upon each of those approaches with recommendations on how to apply each approach to Haven-Stad. The findings are presented on the next pages.

4.2 COMMUNITY SPACE

Maintaining a dynamic and invigorated community requires a nurturing atmosphere that sparks open communication, promotes imaginative thinking, and grants the freedom of self-expression. Four crucial components are vital to nurturing this sense of community: a sense of belonging, a designated place, the formation of personal identity, and embracing diversity (Aelbrecht et al., 2021). By investing in indoor and outdoor spaces for leisure and education, the Haven-Stad community has the chance to tap into this once-in-a-lifetime opportunity to cultivate these components. These communal spaces will serve as sanctuaries where residents can come together, socialise, participate in recreational activities, and broaden their horizons - culminating in deep, lasting relationships (Aelbrecht et al., 2021). Garden City smashes the suburban stereotype with its unwavering commitment to sustainability and elevating the quality of life for its citizens. From the lush greenery of its greenbelts to its vibrant communal gardens, and its progressive advancements in labour rights and healthcare, Garden City blazes a trail for eco-friendly excellence (Livesey, 2011). Garden City has the power to revolutionise healthy living by forging a bond between food producers and consumers, pushing for fresh, unprocessed foods. This reduction in unhealthy, diet-related illnesses will unleash a wave of sustainability for all, marking the dawn of a new era in this partnership (Gaast et al., 2020).

Libraries and cultural centres bring people together through innovative projects, knowledge sharing, and arts-based activities (Makowska, 2021). Although commonly, the focus is on the interaction between a white majority and minority ethnicities when discussing culture, research points to public spaces as having a larger role in promoting shared use amongst diverse cultural groups than representation. The quality and management of these areas are critical elements for achieving this goal (Aelbrecht et al., 2021). Haven-Stad's public plazas, markets, fairs, and concerts are excellent avenues for social cohesion. The town showcases its diverse culture and narratives in delightful murals, sculptures and lively performances. Furthermore, citizens can play an active role in the development of their shared communal spaces - this sense of ownership helps cultivate a strong community bond while fostering sustainable livability within city limits (Campbell-Arvai & Lindquist, 2021).

4.2 COMMUNITY SPACE

Garden cities of today thrive on communal spaces, embracing the multiple benefits they offer - from serving as green oases that mitigate flooding to bustling social hubs where neighbours come together and local wildlife finds a home (Sanyé-Mengual et al.,2018). These communal spaces also promote sustainable development, as they empower residents to grow their own fresh, nutrient-rich foods while reducing their carbon footprint (Sanyé-Mengual et al.,2018). But beyond the environmental benefits, social interaction is a key component of mental health and overall well-being, making it essential to create inclusive spaces that bring the community together while ensuring the safety of all users (Forrest & Kearns, 2001). To truly foster an inclusive and dynamic community, it's crucial to allow these spaces to evolve and adapt to the changing needs and desires of its members.

When stakeholders are tasked with managing public spaces, it can prove to be an intricate challenge. The costs for personnel, programming and maintenance may become costly - especially in a densely populated area that has little green space and provides minimal opportunities for social connection.

Developers must also abide by land-use regulations as well as construction standards when designing community places. On Zaanstraat one homeowner spoke of how the consultation from local inhabitants helped create a garden courtyard within their apartment complex and noted the immense value their input brought to new projects like this one. According to the homeowner, the residents designed the courtyard, the garden and the communal spaces. However, recently the homeowner discovered the outdoor space was locked with a gate. He said,

"... IF YOU START CLOSING THESE THINGS OFF, YOU'LL LOSE THE DYNAMICS IN THE NEIGHBOURHOODS, ESPECIALLY THE SOCIAL PART OF IT"

(RESIDENT D, PERSONAL COMMUNICATION, 19 JANUARY 2023).

Haven-Stad should be accessible to all residents, regardless of colour, ethnicity, income, or ability. To meet demands, communal spaces may need community participation in design, upkeep, and coordination.

4.3 COMMUNITY REINVESTMENT

Howard's Garden Cities concept united agricultural and industrial production in the same setting, resulting in self-sufficient towns with improved working conditions. More importantly, it provided local inhabitants more control over their spending power (March et al., 2003). During the stakeholder interviews, it was abundantly clear that housing is a top priority for the redevelopment project. Everyone mentioned how essential it is to provide affordable housing options for young families. A resident of Het Schip expressed particularly strong feelings on this matter and reinforced his opinion by referencing garden city principles and its connection to wellbeing and green space; he believed children need open spaces in order to develop both mentally and physically. Talking about his children, he said:

"THEY WANT TO BUY A HOUSE AND THEY DON'T WANT A HOUSE IN A FLAT. THEY WANT THEIR KIDS GROWING UP WITH A GARDEN"

(RESIDENT C, PERSONAL COMMUNICATION, 18 JANUARY 2023).

The legacy of 20th century garden city ideals drives our quest to cultivate greener and more sustainable urban environments. Championing compact downtowns and preserving natural resources and spaces (Swensen & Berg, 2020), the garden city model envisions collective land ownership (Clark, 2003). Uniting diverse communities through shared resources and efforts births a thriving, sustainable, and productive city (Nabila, 2021). This collective approach prioritises progress for the greater good, rather than individual financial gain (Colding et al., 2022). A communal laundry service exemplifies this collaborative mindset, optimising resource utilisation, slowing material flows, reducing inhabitants' workloads and living space. By establishing a community-managed cooperative, funded collectively by its members, individual stress levels decrease while productivity within the region soars, fostering a healthier and happier community.

4.3 COMMUNITY REINVESTMENT

All it takes is a concerted effort to reinvest in the community's infrastructure to unlock the economic and social benefits for Haven-Stad (Chatterjee & Turnovsky, 2012). Citizens can wage war against pernicious social ills like racism, social injustice, and displacement by banding together in activism and community organising, using effective awareness campaigns, and arguing for legislative change as their weapons (Sanyé-Mengual et al., 2018). These factors come together to spur economic growth, social cohesion, and group problem-solving, resulting in a positive feedback loop for advancement (Forrest & Kearns, 2001; Schrock, 2014). The community must be given a platform to voice their interests, worries, and aspirations. An idea for an interactive dashboard to inform the city of current events, such as bike thefts and littering, and enable citizens to exchange information freely was proposed by a resident in January 2023 (Resident D, personal communication, 19 January 2023). Sharing resources with the community lightens household workloads and empowers locals to contribute meaningfully, ultimately lowering material and energy consumption in cities (Sanyé-Mengual et al.,2018). The coordinated action of a community is the key to long-term prosperity and a promising future.

In the academic literature, the effect of community-led reinvestment on the overall well-being and growth of a community is well documented. Improvements in infrastructure, access to affordable housing, education, healthcare services, and resources, as well as a heightened sense of community identity, can enable individuals to realise their full potential, according to studies (Campbell-Arvai & Lindquist, 2021; Schrock, 2014). Reinvestment in the community provides individuals with a collective platform to participate in decision-making processes and voice their opinions and ideas, transcending mere economic benefits (Forrest & Kearns, 2001). In January 2023, a resident of Haven-Stad commented on the condition of new social housing developments in the region, noting the lack of quality and integrity in many of these structures and advising others to avoid substandard housing options (Resident B, personal communication, 27 January 2023). This resident cited Michel de Klerk's vision of creating "a palace for the working class" and discussed the current reality of social housing developments, emphasising the need for community-led reinvestment to promote sustainable and equitable growth for all.

4.3 COMMUNITY REINVESTMENT

"IT HAS TO BE CHEAP AND CHEAPER...BUT THAT'S HOW IT WORKS. AND IT'S A MONEY ISSUE BASICALLY...THE MUNICIPALITY OF AMSTERDAM SHOULD BE CRITICAL OF THE PLANS THAT ARE BEING MADE AND...LOOK AT THE QUALITY OF THE BLOCKS...[AND] HOUSES THAT ARE DESIGNED FOR LESSER INCOMES, BECAUSE THEN YOU CAN REALLY TELL IF A PLAN HAS AMBITION AND QUALITY. AND IT'S HARD. IT'S NOT SOMETHING THAT IS SOLVED OVERNIGHT"

(RESIDENT B, PERSONAL COMMUNICATION, 27 JANUARY 2023).

Gentrification was brought up multiple times during the interviews and this quote encapsulates the concerns well:

"I THINK GENTRIFICATION IS A REAL ISSUE HERE. SO THIS USED TO BE A REAL WORKING CLASS AREA AND I THINK IT'S IMPORTANT THAT THE AREA IS STILL OPEN TO PEOPLE WHO DO NOT HAVE A HUGE INCOME"

(RESIDENT B, PERSONAL COMMUNICATION, 27 JANUARY 2023).

Many residents spoke of a difficult balance. On one hand, they recognize the need for more housing. And at the same time, that housing and new residents, potentially with more disposable income, could change the dynamics of the neighbourhood including contributing to gentrification. A resident spoke of the concern, the unique history of Zaanstraat, and a potential sense of loss if the neighbourhood changes,

"I'M AFRAID THAT THE NEIGHBOURHOOD IS GOING TO CHANGE IN A WAY. ONLY EXPATS CAN LIVE HERE OR PEOPLE WITH A LOT OF MONEY"

(RESIDENT B, PERSONAL COMMUNICATION, 27 JANUARY 2023).

4.3 COMMUNITY REINVESTMENT

During the community meeting on 30 January 2023, ideas were shared to increase social housing to, at minimum, forty per cent (community meeting resident, personal communication, 30 January 2023). This research recognizes the concerns of the community and realises there isn't one single solution. Ideas shared, in addition to increasing the ratio of social housing, included building higher quality social housing buildings and addressing the issue at the national level. This research recommends exploring all of these ideas to try to find a solution that is not only beleaguering Amsterdam and the Netherlands but also many major cities and nations across the globe.

Further, as urban populations increase, "climate gentrification" should be a concern of municipal leaders and stakeholders as the Haven-Stad development unfolds. As Anguelovski et al.,highlights, development billed as "green climate resilience" can exacerbate climate injustices and of marginalised groups including people of colour, lower income residents and migrant communities (2019). And as a community stakeholder said, the municipality should be seeking residents who are not sitting at the table, who are not present or are not the loudest voice in the room. If we seek out all voices, we can plan a community, a new neighbourhood and the Haven-Stad development for everyone.

As Haven-Stad endeavours to foster inclusive community development, it is imperative to critically examine the potential limitations and challenges associated with such initiatives. Community-driven investments and programs must be implemented through transparency and inclusiveness to ensure that all stakeholders know the potential restrictions and implications. Moreover, resistance from specific community members to government-led initiatives must be anticipated and actively addressed through effective communication strategies, as such dissent may hinder the progress of community-wide efforts. Additionally, it is crucial to consider the potential differential impacts of community investments, as some may benefit certain individuals while negatively affecting others. An equitable and sustainable approach to community development demands a comprehensive examination of these limitations and the development of inclusive strategies to mitigate their effects.

4.4 WORKFORCE DEVELOPMENT

Unleashing economic growth starts with essential components: investing in education and training, attracting businesses, and fostering innovation (Schrock 2014). At the heart of it all lies workforce development, which is vital for providing communities with a talented labour force to sustain their growing economy (Song, 2016; Schrock 2014). And what's more, connecting low-income communities to higher-paying jobs requires focused investment in skills training and education (Song, 2016; Schrock, 2014). From apprenticeships to job retraining programs and everything in between, workforce development initiatives play a crucial role in transforming an economy into a greener, more sustainable future (Song, 2016).To supercharge these efforts, local governments can step up by offering subsidies or tax incentives for jobs that pay a living wage, while community groups can come together to spearhead impactful campaigns (Song, 2016). The result? A thriving, eco-friendly economy that provides ample opportunities for all. Stakeholder interviews uncovered a crucial aspect of growth: community. Residents spoke of their love for green spaces and how urban gardening initiatives on vacant lots created a sense of community that still flourishes today. And they emphasised the importance of neighbourhood development in keeping people connected and fostering a sense of belonging. Gardening not only encourages workforce development, but also allows individuals to understand how communities and ecological systems interact (Livesey, 2011). Local food systems are an essential part of any sustainable community strategy; their advocates mainly focus on the environmental benefits they bring including increased public health, lowered foreign trade dependence and improved resilience (Gaast et al., 2020).

Empower your city and its citizens with the tools they need to thrive. Investing in the workforce can help alleviate financial hardship, promote economic fairness, and enhance quality of life for all (Song, 2016). To make this vision a reality, cities must have the infrastructure necessary to provide access to the services and opportunities citizens need. Whether it's transportation, education, or job centres, cities must be equipped to help their citizens succeed (Schrock, 2014). With the right investments, your city can harness the power of its workforce and reap the benefits for generations to come. By providing access to supermarkets offering fresh produce, job training programs, and employment opportunities, your city can cultivate a thriving, self-sufficient workforce (Nabila, 2021). Without the resources to invest in workforce development, however, cities may struggle to provide the support their citizens need to succeed.

4.4 WORKFORCE DEVELOPMENT

Projects to enhance the workforce may fail if the numerous individuals involved are unable to communicate and coordinate properly. It may be challenging to concentrate on low-income persons or those with specific talents in order to address the particular needs of each region. Measuring workforce development programs' effectiveness may be difficult for community organisations to determine if their efforts are making a difference. Lastly, stakeholders may find it difficult to anticipate the city's labour needs in the future and alter workforce development initiatives appropriately.

Invest in the residents of your city in order to unleash its full potential. By cultivating the workforce, we can not only foster a sense of well-being among the populace, but also promote sustainable business practices and optimise public spaces (Ilieva et al., 2022; Song, 2016). Taking on the challenge of workforce development is essential for securing a prosperous, dynamic, and adaptable future for your city. In a world where communities are fiercely competing for precious labour resources, it's essential to think outside the box. How can garden city principles unleash the potential of your community members, inspiring them to develop their skills and deepen their sense of belonging? The answer lies in the power of workforce development (Schrock, 2014).

4.5 NATURE-BASED SOLUTIONS

From the onset of the interviews, green space became a central theme. Resident C discussed this idea by relating to the time where a sports facility burned down, and local residents took it upon themselves to transform the vacant space into an urban garden. Urban gardens, along with parks, green rooftops and other nature-based solutions, are examples of green infrastructure that can be applied in garden city plans to increase biodiversity and reduce carbon emissions (Swart et al., 2021). Green infrastructure can also have a beneficial role in climate-proofing the neighbourhood as it cools the environment and mitigates heat stress in cities caused by climate change (Zölch et al., 2016).

"THE BUILDING WENT DOWN AND WHEN THEY CLEARED THE AREA, IT BECAME GRASS AND THEN AUTOMATICALLY PEOPLE STARTED GROWING VEGETABLES THERE"

(RESIDENT C, PERSONAL COMMUNICATION, 18 JANUARY 2023)

Alternatively, increased access to urban green spaces can further improve emotional and physical wellbeing. For instance, Resident A spoke about the happiness that green space brings to themself and stated that they would rather have a series of smaller parks rather than one large green area.

Other ways to improve wellbeing include the creation of communal gardens which promotes collaboration as it encourages residents to work together and help maintain the growing areas (de Vries and Wendel-Vos, 2018). Furthermore, investments in green infrastructure can also boost housing prices, attract visitors and enhance the quality of life (Swensen and Berg, 2020).

"I PREFER SMALLER PARKS, BUT THEY ARE EVERYWHERE, THAN ONE BIG PARK AND LOTS OF AREAS WITHOUT GREEN"

(RESIDENT A, PERSONAL COMMUNICATION, 16 JANUARY 2023)

Residents also mentioned ideas about how to incorporate green space into the Haven-Stad development. Resident D saw the value of connecting the neighbourhood with the adjacent Westerpark by creating a green boulevard over the marshalling yard. Other residents also saw potential in the nearby IJ river, suggesting that residents could swim and utilise the water for recreation. However, Resident B was very critical of this idea as they recognised that all classes and abilities can access green space, but not everyone can access water. The resident also discussed the need for green space if additional housing is created.

4.5 NATURE-BASED SOLUTIONS

"I THINK PEOPLE NEED MORE GREEN AREAS TO RECREATE BECAUSE YOU CAN'T REALLY USE THE WATER. YOU CAN GO LOOK AT IT, BUT NOT EVERYONE HAS A BOAT"

(RESIDENT B, PERSONAL COMMUNICATION, 27 JANUARY 2023)

"WHEN YOU DEVELOP HOUSING AND THERE ARE MORE PEOPLE GOING TO LIVE HERE, WE NEED THAT GREEN. WE NEED THAT BUFFER. THAT BUFFER WHERE PEOPLE CAN RECREATE"

(RESIDENT B, PERSONAL COMMUNICATION, 27 JANUARY 2023)

As such, two exemplar models of resident homes have been created to depict what potential green infrastructure could look like under two different scenarios. The first illustrates a utopian vision of a block of resident homes in a low-density space. Prominent aspects of this model include curved buildings, lighter coloured surfaces, expansive glass features and multi-level green spaces.

The model parallels Resident A's comments about how the Haven-Stad development should prioritise low-rise buildings and incorporate vibrant colours that create character and feeling. Similarly, during Resident C's interview, they referred to how the neighbourhood lacks green space and mentioned the need for more private green spaces, especially for children. The model attempts to accommodate their comments as various green areas around and on the building are included. Green rooftops can become urban gardens and communal areas, while road-level green spaces help climate-proof the neighbourhood and enhance the cities attractiveness.

"THE CHOICE OF MATERIAL, FOR EXAMPLE WARM BRICKS OR COLD GLASS, I FIND VERY IMPORTANT. HAPPY COLOURS VERSUS DEPRESSING COLOURS"

(RESIDENT A, PERSONAL COMMUNICATION, 16 JANUARY 2023)

"I THINK FOR KIDS, IT'S BETTER TO GROW UP WITH A ONE LEVEL HOUSE OR TWO LEVELS AND A GARDEN"

(RESIDENT C, PERSONAL COMMUNICATION, 18 JANUARY 2023)

4.5 NATURE-BASED SOLUTIONS

The second model, on the other hand, depicts a block of resident homes in a high-density space. Due to the lack of available space, the scale of development rises, rather than spreads. In this instance, vertical greening is employed. This method enhances biodiversity as it allows vegetation (Dunnet et al., 2008), birds and insects to colonise the system (Madre et al., 2015). The vegetation also contributes to a number of other environmental and social benefits (Pérez-Urrestarazu et al., 2015). From the interview data, it was gathered that achieving Garden City principles in a dense city like Amsterdam will be difficult, yet many residents recognised that housing is needed and will most likely come in the form of high-rise buildings, especially if the goal of creating 70,000 new homes is to be achieved. Resident B referred to this and highlighted how high-rise development affects the breathability of the neighbourhood while Resident C considered what these high-rise buildings may look like and mentioned the idea of "soft corners". The model tries to integrate this idea by incorporating vertical greening and rounded edges which creates a more calming atmosphere and allows more sunlight to enter the neighbourhood.

"YOU NEED SOME SPACE AND SOME ROOM TO BREATHE. SO AMSTERDAM IS NOW BUILDING A LOT OF NEW BUILDINGS. NEIGHBOURHOODS AND THEY ARE ALL VERY HIGH RISE, IT'S ALL VERY DENSE"

(RESIDENT B, PERSONAL COMMUNICATION, 27 JANUARY 2023).

4.5 NATURE-BASED SOLUTIONS

Green infrastructure can be applied to all three core spheres that make up a garden city. Firstly it fosters sustainability as it improves biodiversity within ecosystems and helps reduce human induced pollution to ensure a healthier future. It also helps offset climate-induced impacts such as flooding and heat stress. Wellbeing is also covered by green infrastructure as the increase in green space improves the mental and physical condition of residents and the overall quality of greenery in the area. Thus green infrastructure is highly functional as it satisfies various purposes and needs

Nature-based approaches for garden cities also have its pitfalls. For example, in densely populated cities, limited land and space may make the process costly and restrict certain nature-based solutions to be implemented. Under other circumstances, communities may not be able to afford the upkeep, while physical obstacles such as climate and soil type are also significant. It is also important to consider the governance of nature-based solutions as it requires an active cooperation between stakeholders whose priorities and values may not align. This can often result in trade-offs and conflict (Seddon et al., 2020).

(Zach Stevanot)

4.6 LIMITING PRIVATE VEHICLES

Private vehicles contribute to air pollution and reduce air quality in cities, hence the transition towards car-free cities is necessary in order to achieve sustainable mobility (Doheim et al., 2020). In the 2017 Port-City Concept Development Strategy Report, the Municipality of Amsterdam acknowledges that a car-free city is unachievable as many residents and workers depend on car travel, but they have incorporated alternative transport methods within the development plan that improves mobility and accessibility, without the need of increasing road traffic. These include investments in cycling infrastructure and pedestrian footpaths, more ferries connecting the Northern and Southern part of Haven-Stad and increasing the frequency of public transport. Investments in the road network also exist, but they are limited to the most significant parts, while available parking options will also be reduced (Gemeente Amsterdam, 2017).

"REDUCING THE AMOUNT OF VISIBLE TRAFFIC WOULD BE GREAT SINCE AIR QUALITY WILL GO DOWN IF YOU HAVE LOTS OF CARS"

(RESIDENT D, PERSONAL COMMUNICATION, 19 JANUARY 2023)

The removal of cars means that parking places and road space can be replaced with urban greenery which in turn can lead to health benefits and increased community morale. Removing vehicles can also enhance pedestrian safety and reduce noise levels (Manakina and Nikolaeva, 2020) within the neighbourhood. This was mirrored in the interview with Resident D, who expressed their feeling about reducing the number of cars in the area. When discussing their development desires, Resident D suggested creating a tunnel for cars and to replace the existing road infrastructure with extra greenery. As such, road traffic will be hidden from view and a more natural landscape is created.

A potential substitute to private vehicles proposed by the Municipality involves the extension of the existing Metro service that runs through Amsterdam. Three options are suggested that aim to better connect the population with Centraal Station, Amsterdam Noord and Zuid; these are presented in the diagram below. For the residents of Haven-Stad, the development will only be beneficial as it improves their mobility and reach.

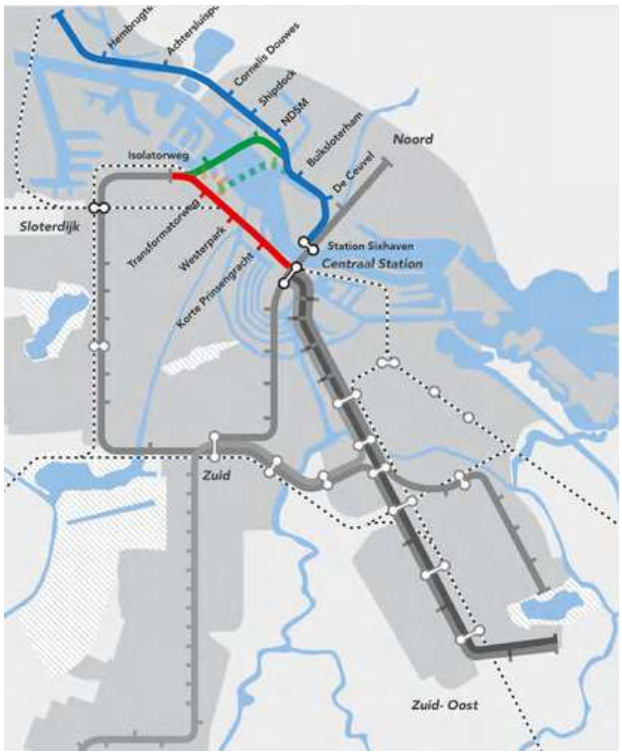
4.6 LIMITING PRIVATE VEHICLES

However, the proposed Metro improvements are only attainable if the number of homes and jobs in Amsterdam Noord increase, therefore the development is unlikely to be successful in the short term (Gemeente Amsterdam, 2017).

Another, more modernised, alternative to private vehicles is the IJbaan Cable Car. Located within the Haven-Stad development area, the cable car will connect the growing residential areas of Amsterdam-West and Amsterdam-Noord, while there are already plans to develop further and connect these areas with Sloterdijk Station and Westerpark. The cable car will become a fast and green public transport system whilst its stations will become an urban plaza for social gatherings.

(UNstudio)

The limiting of private vehicles applies to the three core spheres of garden cities. For example, removing vehicles off the road lowers the use of fossil fuels, thus reducing carbon emissions and limiting the effects of climate change. It also enhances wellbeing as it frees up space for more community-based activities which improves social cohesion. The approach is also functional as it better climate proofs the neighbourhood, reduces density and leads to higher levels of active mobility.



(Gemeente Amsterdam, n.d.)

4.6 LIMITING PRIVATE VEHICLES

(UNstudio)

A minor concern related to reducing the number of private vehicles is the issue regarding equity as it may decrease the ability of people reaching city centres, especially for those who do not live close by and rely on their cars to access goods and services. Local residents, in particular, may oppose the idea of reducing the number of vehicles as it might restrict their movement and ability to transport larger and heavier objects. Businesses and firms may also be affected, notably those who rely on the movement of goods and services (e.g., supermarkets, take-aways). Yet, for this approach to be effective, the proposed areas need to be carefully considered so that existing socioeconomic inequalities are not worsened. As such, relevant stakeholders must be consulted. Therefore, limiting private vehicles has various advantages and disadvantages related to accessibility, opposition, enforcement and the economy.

Applying Modern Garden City Principles

5. APPLYING MODERN GARDEN CITY PRINCIPLES

These five interventions exhibit the three core spheres of this research's ideal garden city: sustainability, functionality and wellbeing. Communal space is central to the wellbeing and sustainability of a community. The Haven-Stad development would benefit from indoor and outdoor community spaces to foster social cohesion and belonging in the community.

Second, community reinvestment plays an important role in the functionality of a neighbourhood. Housing needs to be affordable to generate a diverse mix of classes, incomes and populations and improvements in infrastructure, education and healthcare can improve the quality of life of all residents by strengthening a sense of identity (Chatterjee & Turnovsky, 2012).

Third, workforce development is vital to positive growth of a community. As climate change continues to become an issue in urban areas, green jobs can connect low-income communities with living wages. A central finding is the Zaanstraat neighbours created an informal community surrounded around a vacant lot turned community garden. Gardening can work in tandem with workforce development and allow residents to learn how ecological systems function in addition to growing and fostering social cohesion.

Fourth, nature-based solutions are an important approach to modern garden cities. These solutions can be in the form of small and grass-roots activities like a community garden or something larger such as green roofs on new housing developments or climate-proofing the neighbourhood. All three spheres are covered in nature-based solutions and this research argues that a modern garden city must provide nature-based solutions to foster sustainability, help reduce human-induced pollution and improve biodiversity within ecosystems.

Finally, the fifth approach recommended is limiting private vehicles. Limiting private vehicles can increase the quality of life of residents (Doheim et al., 2020). Strategies explored include the creation of an underground tunnel, greater frequency of public transport, the IJbaan Cable Car and the extension of the Metro line.

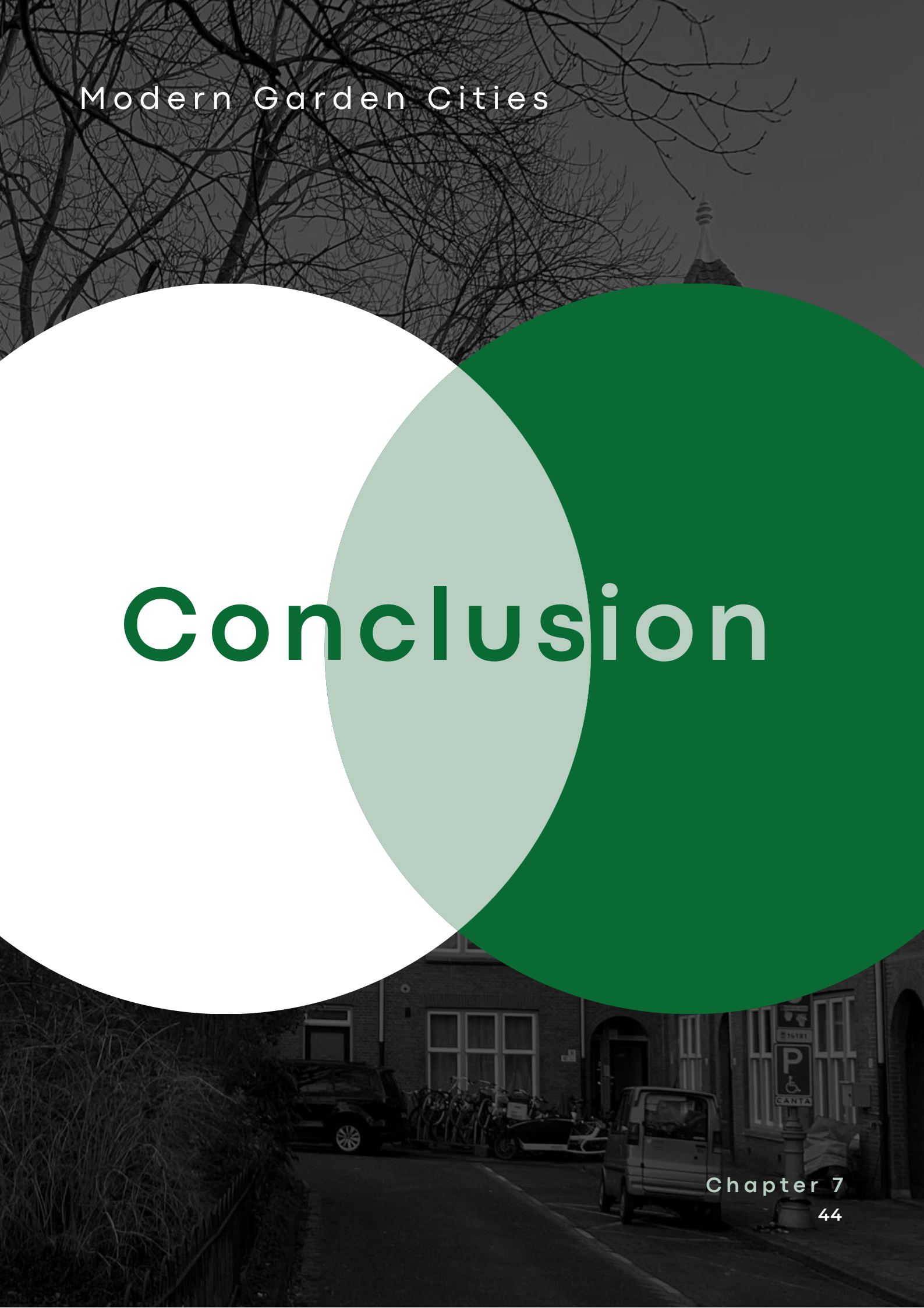
These modern garden cities principles can be applied to the New Haven-Stad development in order to create a more equitable, healthy and functional space for residents to enjoy. All of these solutions will ensure a healthier future for all.

Limitations

6. LIMITATIONS

Within the short time frame of this project, there are certain aspects of the planned methodology that form limitations to this research. Firstly, the sample of interviewees is relatively skewed; where it includes several current residents in Het Schip, it excludes those in surrounding areas, or future residents of Haven-Stad or the Marshalling Yard. Hence, these findings provide only a part of the resident's views on the development of the Haven-Stad area and on garden city concepts. To establish a more comprehensive overview, all possible stakeholders' insights, including future residents, ought to be incorporated in a stakeholder analysis. Secondly, at times a language barrier and/or a discrepancy in jargon, alongside a limited time availability, may have influenced the profoundness of input provided by residents. In a broader timeframe, follow-up sessions could have compensated for this pitfall, as to clarify previously discussed ideas and allow for pondering views.

Furthermore, we would have liked to expand creative approaches in gathering input from a variety of private stakeholders, as to enhance their agency and authenticity of contributions. We attempted to integrate part of these ideas in the executed interviews, by asking interviewees to create some drawings to serve as visual insights on their ideal garden city in their area. Unfortunately, mainly due to the limited time, none of them were able or willing to engage in this activity. Nevertheless, in a longer time span, we would have liked to organise a focus group or design workshop, similar to the Atelier Haven-Stad community meeting with current as well as future residents, centering on co-creation. This way, they would have been able to share and discuss insights with each other, and followingly envision their ideal development of the Haven-Stad area, taking into account garden city principles during the workshops.



Conclusion

7. CONCLUSION

As of today, many urban planners still find Ebenezer Howard's vision of a "garden city" as appealing. In culture today, it's crucial to update age-old ideas in order to give people more livable, long-term dwellings. As city populations and housing demand rises, it becomes more difficult to avoid the problems inherent in this concept, despite its potential. These concerns have led to public criticism of the idea.

Even with differences between theory and practise existing, the modern Garden City concept is being applied across many cities as the shift towards ecological and functional living continues to gain momentum and at the centre of this is Amsterdam. This report has sought to answer the question of how Garden City principles can be integrated within the Haven-Stad development. By examining relevant literature, brainstorming principles, analysing stakeholders and interviewing current residents, it has demonstrated that the garden city idea provides valuable insights for sustainable and livable urban development. However, the need for more research concerning its real use and ability to resolve modern urban issues is still necessary.

Garden city principles can be implemented by creating green spaces (e.g., vertical greening, green roofs and garden) for residents to enjoy. Economic viability can be bolstered by collectivised enterprises and services that cater to and reinvest in the local community providing employment opportunities. Social cohesion can be advanced by existing and newly created housing associations that stimulate workforce development events and activities that unite people to collaborate and establish a feeling of community. People-oriented mobility options such as bike lanes and public transportation minimise automobile reliance, reducing air pollutants and land-use requirements.

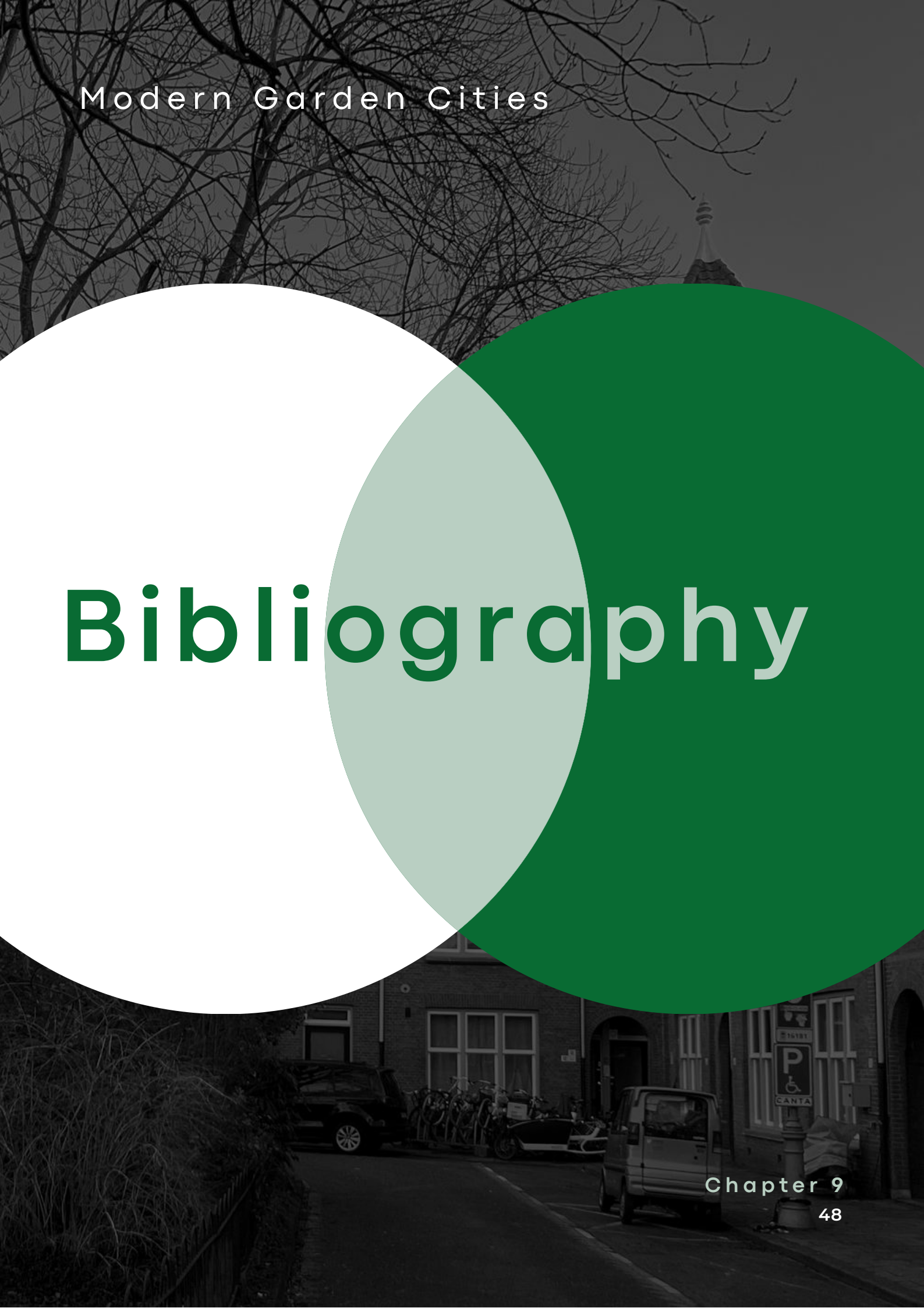
These five ideal conditions – community space, community reinvestment, workforce development, nature-based solutions and limiting private vehicles – applied through this research's three core spheres will work to make Haven-Stad a sustainable, functional and healthy living environment for all.

Reflection group work

8. REFLECTION GROUP WORK

In this project all members collaborated well together and from the start took on tasks proactively and made sure everyone was on the same page in terms of focus for the project, as well as planning ahead and task division. Weekly meetings to discuss the report ensured that there was also good communication and a nice atmosphere, with enough space to ask each other for help and receive feedback. While different group members worked on various parts of the report, the initial elements were initiated as follows; the literature review was led by Devan and Louis, the stakeholder analysis by Elisa, and the interviews and communication with private stakeholders were organised by Kevin. Moreover, we visited the site as a group, engaging in walking tours and community meetings in the area. Where Devan and Kevin reached out to additional stakeholders and other parties, Louis expanded theoretical gaps of the report, and Elisa worked on the design for the final product. Everyone carried their weight and contributed based on each group member's strengths. Hence, we would like to have the same grade for all group members.

Bibliography



Amsterdam Rainproof. (n.d.). Amsterdam Rainproof. Retrieved January 29, 2023, from https://www.rainproof.nl/regenbestendigegebiedsontwikkeling

Anguelovski, I., Connolly, J. J., Pearsall, H., Shokry, G., Checker, M., Maantay, J., Gould, K., Lewis, T., Maroko, A., & Roberts, J. T. (2019). Why green "climate gentrification" threatens poor and vulnerable populations. Proceedings of the National Academy of Sciences, 116(52), 26139–26143. https://doi.org/10.1073/pnas.1920490117

Brundtland, G.H., 1987. Report of the World Commission on environment and development:" our common future.". UN.

Campbell-Arvai, V., & Lindquist, M. (2021, April). From the ground up: Using structured community engagement to identify objectives for urban green infrastructure planning. Urban Forestry & Urban Greening, 59, 127013. https://doi.org/10.1016/j.ufug.2021.127013

Centraal Bureau voor de Statistiek. (2022, February 25). Inwoners per gemeente. Centraal Bureau voor de Statistiek. Retrieved January 25, 2023, from https://www.cbs.nl/nl-nl/visualisaties/dashboard-bevolking/regionaal/inwoners

Chatterjee, S., & Turnovsky, S. J. (2012). Infrastructure and inequality. European Economic Review, 56(8), 1730–1745. doi:10.1016/j.euroecorev.2012.08.003

Clark, B. (2003). Ebenezer Howard And The Marriage Of Town And Country. Organization & Environment, 16(1), 87–97. doi:10.1177/1086026602250258

Colding, J., Barthel, S., Ljung, R., Eriksson, F., & Sjöberg, S. (2021, December 13). Urban Commons and Collective Action to Address Climate Change. Social Inclusion, 10(1). https://doi.org/10.17645/si.v10i1.4862

de Morais Salles, G.A., Noordermeer, M., de Oliveira Soares, B.P., and Warren, S., 2022. Haven-Stad: A vision for a contemporary World Garden City. [online]. Available at: https://www.worldgardencities.com/articles

de Vries, S. and Wendel-Vos, G.C., 2018. Het gebruik van natuur voor gezondheid in de praktijk: Gebruik, beleving en gezondheid voorafgaand aan de herinrichting van een wijkpark in Breda.

Doheim, R.M., Farag, A.A. and Badawi, S., 2020. Success measures for transforming into car-free cities: Recommendations for implementation. Humanizing cities through car-free city development and transformation, pp.231-267.

Dunnett, N., Nagase, A. and Hallam, A., 2008. The dynamics of planted and colonising species on a green roof over six growing seasons 2001–2006: influence of substrate depth. Urban Ecosystems, 11, pp.373-384.

Forrest, R., & Kearns, A. (2001, November). Social Cohesion, Social Capital and the Neighbourhood. Urban Studies, 38(12), 2125–2143. https://doi.org/10.1080/00420980120087081

Gaast Van Der, K., van Leeuwen, E., & Wertheim-Heck, S. (2020). City-Region Food Systems and Second Tier Cities: From Garden Cities to Garden Regions. Sustainability, 12(6), 2532. doi:10.3390/su12062532

Gemeente Amsterdam. n.d- c. Policy: Sustainability and energy. English Site. Retrieved January 29, 2023, from https://www.amsterdam.nl/en/policy/sustainability/

Gemeente Amsterdam., 2017. Port-City Concept Development Strategy. [online]. Available at: https://www.amsterdam.nl/projecten/haven-stad/plannen-publicaties-haven-stad/

Gemeente Amsterdam., n.d.-a. Haven-Stad: Veranderen Van Gebied. Amsterdam.nl. Retrieved January 21, 2023, from https://www.amsterdam.nl/projecten/haven-stad/

Gemeente Amsterdam., n.d.-b. Nelson Mandelabuurt: nieuwe woonwijk naast het park. [online]. Available at: https://www.amsterdam.nl/projecten/nelson-mandelabuurt/

Gillette, H., 2011. Civitas by Design. In Civitas by Design. University of Pennsylvania Press.

Hardy, D., 2005. Garden cities: practical concept, elusive reality. Journal of planning history, 4(4), pp.383-391.

Het Schip. Wendingen - Amsterdamse School Platform. (n.d.). Retrieved January 20, 2023, from https://items.amsterdamse-school.nl/details/objects/36

Ilieva, R. T., Cohen, N., Israel, M., Specht, K., Fox-Kämper, R., Fargue-Lelièvre, A., Poniży, L., Schoen, V., Caputo, S., Kirby, C. K., Goldstein, B., Newell, J. P., & Blythe, C. (2022, April 23). The Socio-Cultural Benefits of Urban Agriculture: A Review of the Literature. Land, 11(5), 622. https://doi.org/10.3390/land11050622

Innes, J.E., 2004. Consensus Building: Clarifications for the Critics. Planning Theory 3, 5–20. https://doi.org/10.1177/1473095204042315

Lewis, J., 2015. Preserving and maintaining the concept of Letchworth Garden City. Planning perspectives, 30(1), pp.153-163.

Livesey, G. (2011). Assemblage theory, gardens and the legacy of the early Garden City movement. Architectural Research Quarterly, 15(03), 271–278. doi:10.1017/s1359135511000819

Madre, F., Clergeau, P., Machon, N. and Vergnes, A., 2015. Building biodiversity: Vegetated façades as habitats for spider and beetle assemblages. Global Ecology and Conservation, 3, pp.222-233.

Makowska, B. (2021, April 30). Practical Functioning of a Sustainable Urban Complex with a Park—The Case Study of Stavros Niarchos Foundation Cultural Center in Athens. Sustainability, 13(9), 5071. https://doi.org/10.3390/su13095071

Manakina, A., & Nikolaeva, V. (2020). Formation of sustainable development of bicycle and pedestrian zones in a modern city. IOP Conference Series: Materials Science and Engineering, 890(1). https://doi.org/10.1088/1757-899x/890/1/012179

Moerman, R., 2020. From the garden city movement onwards: utopianism in British garden cities.

Museum Het Schip., 2022. EcoResponsive Environments, article 1: Introduction Reimagining the 21st century Garden City. [online]. Available at: https://www.worldgardencities.com/images/EcoResponsive%20Environments%20-%20Article%201%20Introduction.pdf

Museum Het Schip., 2022. EcoResponsive Environments, article 2: Meshing Natural and Human Networks. [online]. Available at: https://www.worldgardencities.com/images/Uploaded_organizations/parties/6/2_defMeshingNaturalAndHumanNetworks.pdf

Nabila, N., 2021. The concept of garden city and its relevancy in modern city planning. Southeast University Journal of Architecture, 1(1), pp.1-7.

Nieuwenhuijsen, M.J. and Khreis, H., 2016. Car free cities: Pathway to healthy urban living. Environment international, 94, pp.251-262.

NS. (n.d.). Verantwoordelijkheden | Nederlandse Spoorwegen. https://www.ns.nl/over-ns/despoorsector/verantwoordelijkheden.html

O'Sullivan, F., 2022. Amsterdam Plans the Netherlands' First Modern-Day Wooden Neighbourhood. Bloomberg. [online]. Available at: https://www.bloomberg.com/news/articles/2022-02-28/amsterdam-plans-first-neighborhood-of-wooden-buildings#:~:text=The%20new%20quarter%2C%20dubbed%20the,its%20primary%20material%20by%202025.

Pérez-Urrestarazu, L., Fernández-Cañero, R., Franco-Salas, A. and Egea, G., 2015. Vertical greening systems and sustainable cities. Journal of Urban Technology, 22(4), pp.65-85.

Purcell, M., 2009. Resisting Neoliberalization: Communicative Planning or Counter-Hegemonic Movements? Planning Theory 8, 140–165. https://doi.org/10.1177/1473095209102232

Sanyé-Mengual, E., Orsini, F., & Gianquinto, G. (2018, June 26). Revisiting the Sustainability Concept of Urban Food Production from a Stakeholders' Perspective. Sustainability, 10(7), 2175. https://doi.org/10.3390/su10072175

Schrock, G. (2014, June 13). Connecting People and Place Prosperity. Journal of Planning Literature, 29(3), 257–271. https://doi.org/10.1177/0885412214538834

Seddon, N., Chausson, A., Berry, P., Girardin, C.A., Smith, A. and Turner, B., 2020. Understanding the value and limits of nature-based solutions to climate change and other global challenges. Philosophical Transactions of the Royal Society B, 375(1794), p.20190120.

Sharifi, A., 2016. From Garden City to Eco-urbanism: The quest for sustainable neighbourhood development. Sustainable Cities and Society, 20, pp.1-16.

Simões Aelbrecht, P., Stevens, Q., & Kumar, S. (2021). European public space projects with social cohesion in mind: symbolic, programmatic and minimalist approaches. European Planning Studies, 1–31. doi:10.1080/09654313.2021.1959902

Social housing in Europe: Housing Europe. CECODHAS - Housing Europe. (2010, March 27). Retrieved January 27, 2023, from https://www.housingeurope.eu/resource-117/social-housing-in-europe

Song, L. (2016). Enabling transformative agency: community-based green economic and workforce development in LA and Cleveland. Planning Theory & Practice, 17(2), 227–243. doi:10.1080/14649357.2016.1158307

Swart, R. J., Timmermans, W., Jonkhof, J., & Goosen, H. (2021). From Urban Façade to Green Foundation: Re-Imagining the Garden City to Manage Climate Risks. Urban Planning, 6(4), [4360]. https://doi.org/10.17645/up.v6i4.4360

Swensen, G., & Berg, S. K. (2020). The "garden city" in the green infrastructure of the future: learning from the past. Landscape Research, 45(7), 802–818. doi:10.1080/01426397.2020.1798365

Thomson, G., & Newman, P. (2018). Urban fabrics and urban metabolism – from sustainable to regenerative cities. Resources, Conservation and Recycling, 132, 218–229. doi:10.1016/j.resconrec.2017.01.010

Vernet, N., & Coste, A. (2017, December 29). 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

WestonWilliamson+Partners., n.d. Letchworth Garden City. [online]. Available at: https://www.westonwilliamson.com/projects/letchworth-garden-city#&gid=1&pid=3

Zölch, T., Maderspacher, J., Wamsler, C. and Pauleit, S., 2016. Using green infrastructure for urban climate-proofing: An evaluation of heat mitigation measures at the micro-scale. Urban Forestry & Urban Greening, 20, pp.305-316.