Radboud University

Nijmegen School of Management

2026

Radboud University

PLANNING AND IMPLEMENTING ACTIVE LIVING

A CASE STUDY OF DISTRICT HOGE VUCHT IN BREDA (NL)

MASTER THESIS SPATIAL PLANNING

CITIES, WATER, & CLIMATE CHANGE

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DATE:
16/01/2026

WORD COUNT:
21508

COLOPHON

Title:	Planning and implementing Active Living
Subtitle:	A case study of district Hoge Vucht in Breda (NL)
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Report:	Master Thesis Research Report
Status:	Final Draft
Date of Completion:	16th of January 2026

ABSTRACT

This research analyses the discrepancies between the physical activity friendliness of Hoge Vucht, a district in northern Breda, and residents' experiences with these implementations. Using the Ecological Model of Four Domains of Active Living (De Jong & Shokoohi, 2017; Sallis et al., 2006) and the Framework of Physical Activity Policy Research (Schmid et al., 2006) it identifies pitfalls in environments stimulating active behaviour. The focus lies on residents' ability to be physically active in the domains of recreation, transport, occupation, and household, based on individual, social, environmental, and policy factors. A comparative approach, combining survey data, semi-structured interviews, and policy analysis, compares Breda with Utrecht, Groningen, and Almere.

The findings show that while municipalities support active living in policy, implementation often overlooks local preferences. In Hoge Vucht residents' express safety concerns, a lack of awareness of sporting opportunities, insufficiently maintained infrastructure, and insufficient informal sporting opportunities for adults. The case studies showed that strong citizen involvement and cross-sector policy integration more effectively promote active lifestyles.

Urban renewal strategies in Hoge Vucht should improve infrastructure and informal activity options while engaging residents through transparent communication and participation from design to implementation. These recommendations help align policy ambitions with local needs and preferences.

KEYWORDS

Urban Environments, Active Living, Activity-Friendly Built Environment, Urban Renewal, Physical Activity, Public Health, Participation in Policy Design, Spatial Planning, Health Disparities, Citizen Engagement

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1. INTRODUCTION

1.1 PROBLEM STATEMENT

Physical activity, as found by Adami et al. (2010), is crucial for human health. It helps prevent chronic diseases, such as heart disease, obesity, and diabetes. Additionally, the feelings of anxiety, depression, and high blood pressure can be decreased whilst strengthening muscles, joints, and bones by exercising daily (Bedimo-Rung et al., 2005; Brown et al., 2007; Bull et al., 2012). However, an increase in sedentary occupations and rising reliance on motorized transportation steadily decreases the amount of time humans spend on physical activities (Adami et al., 2010; Ainsworth, 2005; Aytur et al., 2016; Bedimo-Rung et al., 2005; Esain et al., 2021). Bauman et al. (2011) states that adults sit an average of 300 minutes daily based on the International Physical Activity Questionnaire study conducted across 20 countries. Respondents with higher educational degrees and individuals in the age group 18 to 39 years were three times more likely to engage in longer sitting sessions then people without post-high school education and individuals aged 40 to 65 years. Bauman et al. (2011) found that sedentary and physical activity behaviours vary across countries. They encourage stronger attention to physical activity levels. The positive influence of physical activity on human health, particularly the prevention of chronic diseases, is undisputed yet the increase in sedentary behaviour in prosperous societies raises the question why physical activities are in decline. This issue is gaining more attention as the health system is under increasing pressure to provide care for the growing body of citizens (Ministerie van Financiën, 2020).

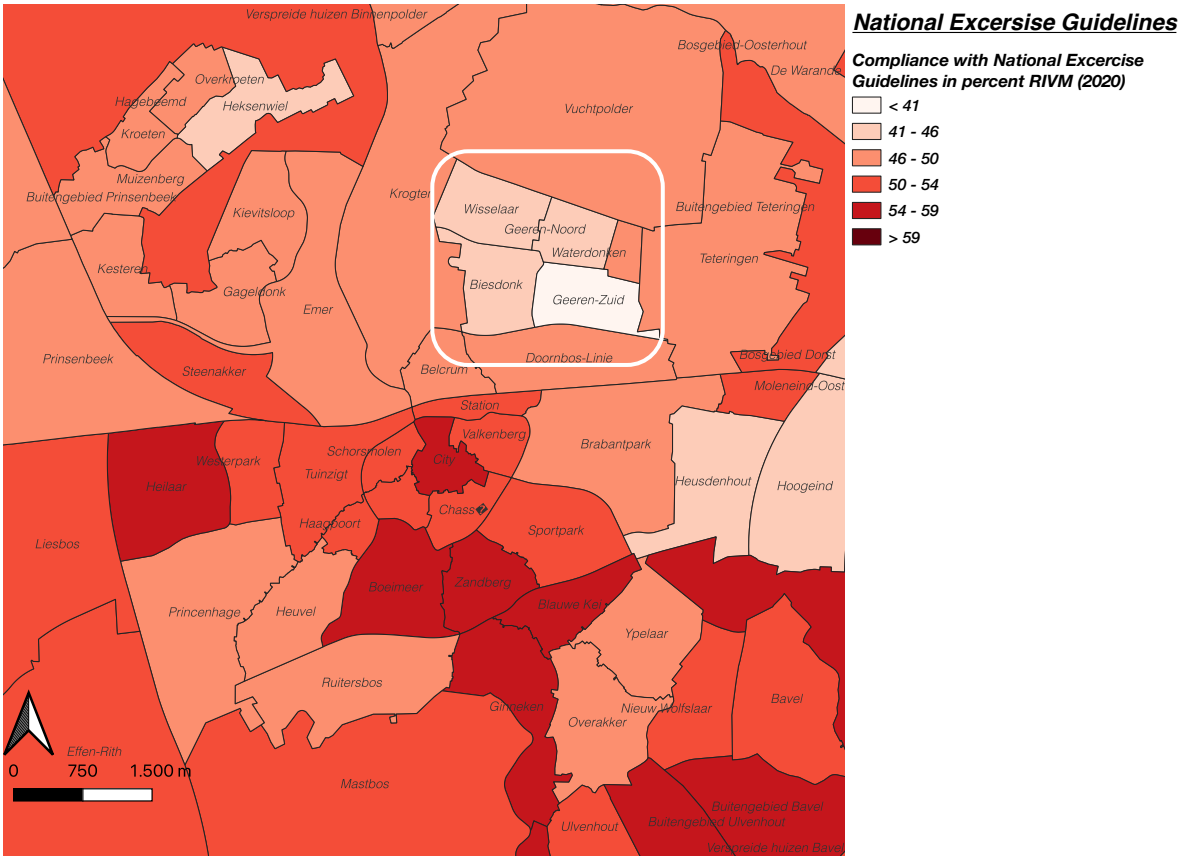


Figure 1 Actual physical activity map of residents in Breda (study area indicated in white) by the Rijksinstituut voor Volksgezondheid en Milieu (2020)

The physical layout of the built environment can greatly promote physical activity (Edwards et al., 2006; Lachowycz, 2013). Brown et al. (2007); Lachowycz (2013) and Smith et al. (2017) identify urban design as a key factor in promoting physical activity. The availability of safe and accessible public spaces, sidewalks, bike lanes, and recreational facilities, for instance enable people to be more physically active and maintain a healthy lifestyle (Handy et al., 2002; Sallis et al., 2009).

To persuade individuals to lead healthier lifestyles, policy makers have introduced the concept of active living (Johnson & Ballin, 1996). Active living seeks to implement 30 minutes of physical activity into daily routines, which includes walking or cycling to work or school, or to engage in recreational activities in the public space, such as going to football practice (Edwards et al., 2006). The active living concepts highlights the importance of the built environment on influencing physical activity behaviours and emphasizes the need for physical interventions to create safe and convenient spaces for citizens to engage in more active lifestyles (Edwards et al., 2006; Handy et al., 2002). This includes the design of communities, transportation systems, and policies that support physical activity and reduce sedentary behaviour (Sallis et al., 2016; Sallis et al., 2009). Research on this topic is growing steadily as city planners increasingly pay attention to health and promote active mobility in the form of walking and cycling within the urban sphere.

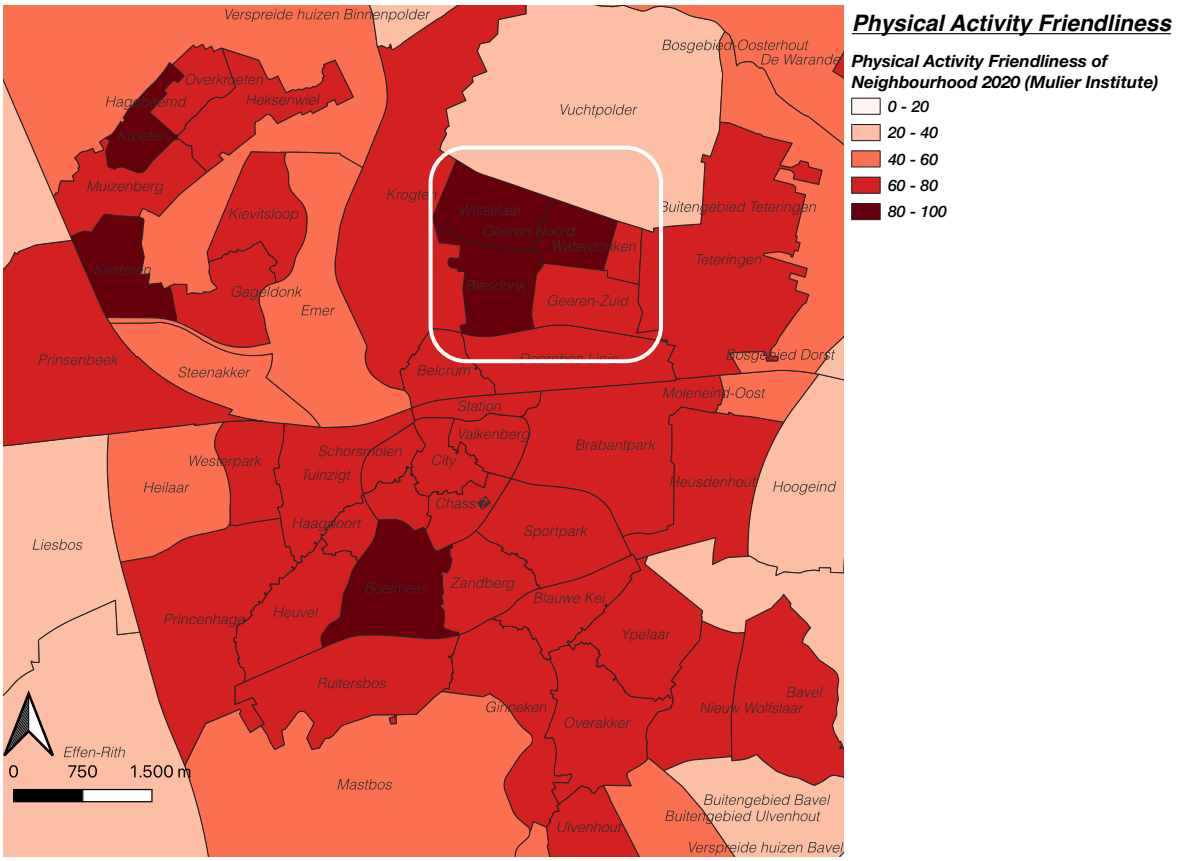


Figure 2 Map physically activity-friendly neighbourhoods Breda by Mulier-Instituut (2021) (in white indicated the study area Hoge Vucht)

Despite the implementation of designs aimed at promoting physical activity in neighbourhoods, there is a lack of participation in active behaviour among some residents. An illustration of this phenomenon can be observed in the Breda North district, the Netherlands, which encompasses several neighbourhoods including Belcrum, Biesdonk, Doornbos-Linie, Geeren-Noord, Geeren-Zuid, Krogten, Wisselaar and Waterdonken. My research analyses the discrepancies between Breda's municipal policies and physical activity levels of residents of four specific neighbourhoods, collectively known as Hoge Vucht: Wisselaar, Biesdonk, Geeren-Noord, and Geeren-Zuid (Wikipedia Contributors, 2022).

The Netherlands gathers vast amounts of statistical data about physical activity levels of residents and aspects of the built environment. Zooming in on Hoge Vucht, the four neighbourhoods mentioned score exceptionally low on the physical activity index according to the national exercise guidelines as defined by the Rijksinstituut voor Volksgezondheid en Milieu (2020). Figure 1 shows only between 40% and 43% of the residents being physically active, with less than 41% at the lowest rank and above 59% being the highest (Rijksinstituut voor Volksgezondheid en Milieu, 2020). This is significant compared as the neighbourhoods of Geeren-Noord, Geeren-Zuid, Biesdonk, and Wisselaar consistently rank lower than Breda's average.

Strikingly, as indicated by the Mulier-Instituut (2021) in Figure 2, these four neighbourhoods score exceptionally high for physical activity friendliness, ranging between 80-100 on a scale of 0 to 100. Here, a score of 0 represents a built environment characterised by limited attributes promoting physical activity, while a score of 100 shows an environment that is characterised by attributes highly promoting physical activity. Moreover, these neighbourhoods surpass the national average score of 50. The municipality of Breda is generally positioned towards the upper range of the spectrum.

Again, numerous studies and concepts suggest that the built environment has a positive influence on the physical activity levels of residents. However, Figure 1 and Figure 2 show that a physical activity friendly environment does not directly translate to more physical activities by residents. In analysing the area of Hoge Vucht and comparing Breda to other cities in the Netherlands, this study aims to provide valuable insights into improving future designs aimed at active living and increased public health.

1.2 RESEARCH AIM AND QUESTIONS

By exploring preferences and needs of residents in relation to physical activity in the public space, my research seeks to determine whether additional participatory trajectories can enhance physical activity levels. Involving residents in design, implementation, and maintenance ensures that policy recommendations and urban design interventions are responsive to the local community's needs and preferences.

Main Question

"What urban renewal strategies can be applied in Hoge Vucht to bridge the discrepancy between active lifestyle design of the neighbourhoods and the low usage by its residents, and should municipal policies support the implementation of these strategies in other urban areas?"

Sub-questions

- What are the current physical activity opportunities and barriers in Hoge Vucht?
- What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?
- How has urban renewal been implemented in other neighbourhoods/municipalities to promote physical activity, and what lessons can be learned from those examples?
- Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities and how can these discrepancies be prevented in the future?

This research question requires a thorough examination of the current environments in Geeren-Noord, Geeren-Zuid, Wisselaar, and the Biesdonk neighbourhoods and an analysis of potential urban design interventions encouraging physical activity and active living. A key focus is the resident's perspective on their living environment and physical activity, as well as the municipality of Breda' policies on active living.

1.3 ACADEMIC RELEVANCE

An analysis of the discrepancies between neighbourhood activity-friendliness and adherence to national exercise guidelines has academic relevance for several reasons. Most studies focus on either the physical environment, like the availability of parks in relation to physical activity (e.g., Giles-Cort & Donovan, 2002; Sallis et al., 2006), or they analyse the policy frameworks (e.g., Schmid et al., 2006). This thesis contributes to science by combining these often-separated domains and integrating the residents lived experience. By integrating the *Ecological Model of Four Domains of Active Living*, the *Framework for Physical Activity Policy Research*, and *Arnstein's Ladder of Citizen Participation,* this research offers an understanding on why policies may fail to yield the desired behavioural outcomes.

Furthermore, this study contributes to literature on public health and the built environment by examining how geographic contexts interacts with residents' preferences (Adami et al., 2010; Sallis et al., 2006). In doing so, it addresses an important knowledge-gap on social equity by identifying disparities across diverse ethnic and

socioeconomic groups in the usage of public space. The insights from residents' needs can inform urban planning to promote active lifestyles and address economic inequalities, sustainability, and liveability challenges (Alton et al., 2007; Cerin et al., 2007; Dawson et al., 2007; Maas et al., 2008).

Finally, my findings contribute to strengthening the methodological evidence base for Active Living research. By using a mixed method approach, consisting of GIS spatial analysis, neighbourhood surveys, and semi-structured interviews, it provides a stronger framework for future policy development which identifies strengths and gaps in current policy ambitions and interventions in a specific geographic context (Cerin et al., 2007; Mendoza et al., 2012; Ogilvie et al., 2007).

To conclude, my research is academically relevant for its potential to bridge the gap between policy ambitions and local reality, which allows for targeted policy creation, improved methodological approaches, and informed urban planning strategies, to result in associated health benefits.

1.4 THESIS OUTLINE

Chapter 2 offers the theoretical framework by discussing the relevance of the *Ecological Model of Four Domains of Active Living*, the *Framework for Physical Activity Policy Research*, and *Arnstein's Ladder of Citizen Participation* as tools of analysis. Chapter 3 presents the methodology, that is a mixed-method approach, that consists of data collection, surveys, and research software. Chapter 4 compares the policies on active living of the cities of Utrecht, Groningen, Almere, and Breda categorized by the four domains of active living (recreation, transport, occupation, and household). Chapter 5 compares Breda's policies to the survey results of residents in Hoge Vucht and identifies discrepancies between the aims and visions of the municipality to the perception and needs of residents. With Chapter 6 a conclusion is offered, which includes policy recommendations.

2. THEORETICAL FRAMEWORK

The concepts of active living, activity- or movement-friendly built environments, and public participation are paramount to this research because they each play an important role in creating sustainable and healthy communities. Active living promotes physical activity as part of daily life, whereas activity-friendly built environments facilitate active living by providing safe and convenient opportunities for physical activity. Public participation, on the other hand, enables stakeholders to be involved in decision-making processes that affect their built environment and the opportunities for physical activity it provides. A multitude of extensive theories and studies treat each concept individually but rarely connect them to evaluate whether the implemented interventions in the built environment to achieve active living amongst residents are having the desired effects.

2.1 CENTRAL RESEARCH TOPICS

2.1.1 ACTIVE LIVING

The main aim of active living is to establish physical wellbeing and healthier societies by increasing residents' physical activity levels, reducing sedentary behaviour, and creating social cohesion in local communities (Centers for Disease Control and Prevention, 2022). All studies maintain that active living entails the integration of physical activity into daily routines through walking and cycling, recreational movement, stair use, and regular exercising (Centers for Disease Control and Prevention, 2022; Edwards et al., 2006; Mendoza et al., 2012; Sallis et al., 2006). It requires a built environment with safe and accessible infrastructure such as cycle and pedestrian paths, parks, and community centres (Centers for Disease Control and Prevention, 2022; Edwards et al., 2006; Mendoza et al., 2012; Sallis et al., 2006). Although active living is not an established exercise program, Edwards et al. (2006) states that it positively contributes to the economic prosperity and social cohesion in urban environments. One of the key components is the supporting nature and promotion of social interaction through community events and programmes (Centers for Disease Control and Prevention, 2022). Another important aspect are collaborations between urban planners, professionals, policy creators, transportation engineers, community organisations, and other stakeholders to create spaces to participate in and translate policies into interventions that promote and support physical activity (Edwards et al., 2006; Mendoza et al., 2012; National Center for Safe Routes to School, 2023). To ensure that the active living lifestyle works, additional measures are required. They include the creation of physical activity guidelines for schools and workplaces, introducing incentive programmes for active commuting, prioritising educational initiatives, and developing programmes and policies (Centers for Disease Control and Prevention, 2022; Edwards et al., 2006; Mendoza et al., 2012; Sallis et al., 2006).

However, active living also has its limitations when citizens have difficulties adding physical activity to their daily routines. These include time constraints, low motivation, health concerns, physical limitations, and limited access to facilities and resources, financial constraints, a lack of skill or knowledge, social and cultural objections, and safety concerns (Edwards et al., 2006; Ewing et al., 2016; Gebel et al., 2007). Addressing these restraints through tailored interventions, supportive and adaptive environments, education, community engagement, and policy adaptations are important for promoting active lifestyles. Several research frameworks offer different perspectives on how to understand and overcome these obstacles. The *Social Ecological Model (SEM)*(Agency for Toxic Substances and Disease Registry, 2015; Sallis et al., 2008; Sallis et al., 2006) focuses on health and analyses elements which could influence health broadly. The concept considers the interaction between the individual, the community, and the physical, social, and political environment (Sallis et al., 2008). The model recognises that the individual's behaviour is influenced by environmental and social factors, and that these factors require change to promote and support active living as a lifestyle. Another model is the *Transtheoretical Model (TTM)*(Prochaska & Velicer, 1997) which analyses individual behaviour. It distinguishes various stages in which an active lifestyle is achieved, from no intention to change (precontemplation) to sustained behavioural change (maintenance)(Prochaska & Velicer, 1997). This framework has enabled researchers to identify the factors which facilitate or hinder physical activity and the active living lifestyle through the stages of behaviour change. The *Social Cognitive Theory (SCT)*(Bandura, 1986) analyses active living examining behaviour influenced by psychological factors, such as self-belief, pointing at once confidence in one´s ability to perform, and dealing

with the outcome, that is, either the positive or negative consequence of one's behaviour (Bandura, 1986). This model thus recognizes the individual factors that determine the interactions between the environment and the policies to influence active behaviour and associated lifestyles.

Whereas the first three theories focus mainly on individual behaviour and physical and mental health as factors in determining the success of achieving active lifestyles, the *Ecological Model of Physical Activity (EMPA)* (Bauman et al., 2011) proposes that physical activity not only depends on the individual but is also influenced by social and environmental factors (Bauman et al., 2011). This model underscores the combined importance of individual behaviour, the built environment and policies in promoting the physical activity. Finally, the *Ecological model of Four Domains of Active Living* by Sallis et al. (2006), later adapted by De Jong and Shokoohi (2017) (Figure 3), goes one step further by integrating individual, social/cultural, environmental/physical, and policy factors throughout four key contexts in which daily life takes place: recreation, transport, occupation, and household. Compared to the other studies, this model examines a broad scope of influences on physical activity by acknowledging the interactions between individuals and their environments. Its approach helps produce a thorough analysis and informed policy recommendation, making it suitable for addressing the complexity of urban renewal strategies aimed at promoting active lifestyles and improving public participation and social cohesion in Hoge Vucht.

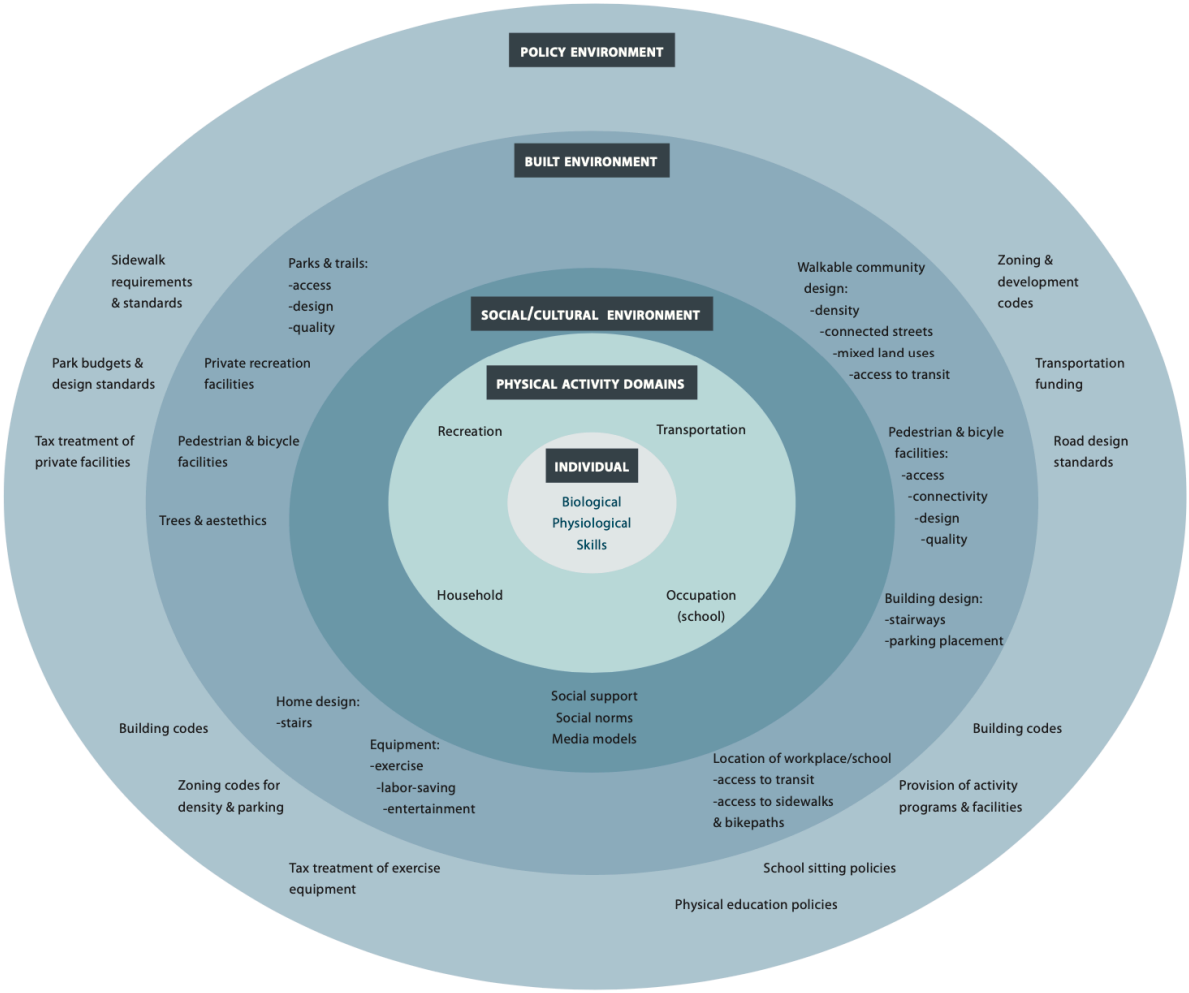


Figure 3 The (adapted) Ecological model of Four Domains of Active Living De Jong and Shokoohi (2017)

In more detail, the individual factors in the **recreational domain** encompass the engagement in recreational activities such as sports, exercise and outdoor activities based on personal health, motivation, preferences, and time. Social factors range from community involvement to family support and societal norms (cultural attitudes and habits) that influence participation in physical activities. Physical factors include accessibility to facilities

such as parks, sports centres, and open spaces, but also safety and proximity to said facilities. The policy factors entail local and national policies related to land use, zoning, and public space maintenance and directly affecting recreational opportunities.

Within the **transport domain** the individual factors are similar. Time constraints, personal preference, convenience and perception of safety affect individuals' choice for an active mode of transportation. Social factors in this domain are family influence and societal norms. Communities favouring cycling, for instance, encourage active mode transportation. Physical factors include the availability and design of infrastructure such as sidewalks, cycle lanes and neighbourhood safety, which impacts the feasibility for active transportation. Policy factors have a role in promoting infrastructure for active transportation and impact individuals' behaviour to use the infrastructure.

Individual factors within the **occupation domain** are the type of job an individual holds and their personal health which affects the physical activity level they engage in at work. Social factors are workplace culture and social support for physical activity, such as participation in sustainability programs. Physical factors encompass the workspace design including the availability of walking paths and proximity to fitness facilities and active transport options. The policy factors comprise of activity programs and incentives for active living such as offering flexible working hours.

The individual factors within the **household domain** include the health status and daily routines of individuals. Social factors are family dynamics, such as shared responsibilities and support for active living. Physical factors encompass the neighbourhood design, the availability of parks, sidewalks, cycle paths, and stores. Policy factors include urban planning policies that encourage walkable neighbourhoods, green spaces, density and parking restrictions.

This thesis employs the *Ecological model of Four Domains of Active Living* to identify shortcomings and develop an understanding of physical activity and its promotion in Hoge Vucht utilising all four domains, but not all factors. The social/cultural factors are mentioned but not analysed in depth. The complexity of the social and cultural environment requires an extensive time investment employing methodologies which I could not combine within the timeframe available for this research. Furthermore, culture and social norms are specific to each geographical location, and as shown in Appendix 4: Interview Transcript the municipality is aware of the conflicts mixed cultures in Hoge Vucht create and is actively tackling its effects. Also, with this research being limited to the Netherlands, potential differences and similarities of social norms and cultural traits are known variables within the municipalities aiming to implement active living.

2.1.2 MOVEMENT- OR ACTIVITY-FRIENDLY BUILT ENVIRONMENT

The built environment, also referred to as an activity- or movement-friendly built environment, consists of physical and social attributes that enable people to be physically active on a daily basis (Handy et al., 2002). This entails safe and connected sidewalks and crossings (Brown et al., 2007), cycle lanes and bike racks, well-maintained parks and recreational facilities, and accessible public transportation. This environment must also provide easy access to destinations such as schools, workplaces, and grocery stores (Edwards et al., 2006; Ewing et al., 2016; Gebel et al., 2007).

To make physical interventions effective, policy interventions and urban planning should prioritize the use of active modes, mixed land use, and additional green spaces (Brownson et al., 2001; Sallis et al., 2016) (Hillsdon et al., 2005; Kaczynski & Henderson, 2007; Lachowycz, 2013; Ogilvie et al., 2007; Saelens & Handy, 2008; Sallis et al., 2016). Zoning regulations can ensure that public amenities such as playgrounds and fitness facilities are included and in proximity to all citizens (Brownson et al., 2001). Additionally, transportation policies, by integrating active modes with public transportation (Handy et al., 2005), well-designed parking regulations, and infrastructure investments (Aytur et al., 2016), create an environment that encourages active lifestyles.

Studies in this field emphasize that social interventions support change by involving residents in redesigning their living environment, creating events for education and community building, and maintaining social support networks (Giles-Corti & Donovan, 2002). Education and awareness shared through health campaigns can promote physical activity in combination with the physical interventions. An activity-friendly built environment,

which is seen as a component of active living, can support and encourage physical activity and help reduce the growing number of sedentary lifestyles, obesity, and chronic diseases (Adami et al., 2010; Bedimo-Rung et al., 2005).

The concept of an activity- or movement-friendly environment has been analysed on multiple occasions using various methodologies such as the *5D's framework* (Giles-Corti & Donovan, 2002; Zhang et al., 2019), a framework for assessing the built environment's impact on physical activity. The 5D's of this framework are density, diversity, design, destination accessibility, and distance to transit. Density and diversity refer to the concentration and variety of land uses in a specific area, while design refers to the street and building design. Destination accessibility refers to the ease of accessing daily facilities such as schools, workplaces, and shops. Distance to transit refers to the proximity of public transportation (Zhang et al., 2019). This framework is a tool to evaluate the activity-friendly built environment and to identify areas that require improvement. Another concept to analyse the built environment is the *theory of land use and transport* (Handy et al., 2002) that analyses the relationship between said land use and transport. It focuses on how land use decisions can and do affect travel behaviour. It proposes a compact, mixed-use, and walkable urban environment that increases physical activity by reducing the need for a car and creates public amenities nearby. Easier access through active modes promotes walking and cycling. An additional research approach is the *time geography framework* (Sui, 2012) which examines the relationship between time and space. This framework proposes that an individuals' daily activities are shaped by their accessibility to different locations, such as facilities, workplaces, or recreational places, and the amount of time available to them (Sui, 2012). The time geography framework is useful for understanding which effect the built environment has on physical activity and on how individuals' shape their daily activity patterns.

Last, Sallis et al. (2006) created the *Ecological Model of Four Domains of Active Living* for understanding the relationship between the built environment and physical activity within a larger framework than aforementioned theories. This theory creates a multidimensional and integrated view of physical activity in the four domains of household, occupation, recreation and transport, each explored by individual, social/cultural, environmental/physical, and policy factors. The *Framework for Physical Activity Policy Research* by Schmid et al. (2006) complements the Ecological Model as it structures analysis on how policies affect physical activity. With four components, namely policy context, policy content, policy implementation, and policy impact, this framework evaluates all elements concerning policy development. The policy context refers to the broader context in which the policies on physical activity are developed and implemented, encompassing social, economic, and political factors. The policy content refers to the specific features and elements of the physical activity polices. This encompasses the goals, strategies, and implementation mechanisms, as well as the population and settings. This applies also to the policy implementation, where the processes and strategies used to implement the physical activity policies are analysed. Here, resources for implementation, the stakeholders, and the barriers and facilitators for implementation are discussed. Finally, the policy impact analyses the effects of the physical activity policies on the actual activity levels of citizens. This element focuses on behaviour changes, attitudes towards behaviour, and environmental factors which influence physical activity. The overlap with the *Ecological model of Four Domains of Active Living* by Sallis et al. (2006) are the importance of policy, individual, environmental/physical, and social/cultural factors in all four domains. The interconnectedness of all the components ensures a better implementation scheme likely to be more effective on physical activity levels of citizens.

To finalise, the *Framework for Physical Activity Policy Research* provides a holistic approach to analyse the impact of physical activity policies on the population (Schmid et al., 2006). By employing this framework, researchers can develop a comprehensive understanding of how to create and implement policies to promote physical activity and achieve the desired effects of improved overall health. My research also makes use of the *Framework for Physical Activity Policy Research* by Schmid et al. (2006) as an complementary part of the *Ecological model of Four Domains of Active Living* (Sallis et al., 2009) to analyse the policies and their effect more detailed.

2.1.3 PUBLIC PARTICIPATION

Public participation refers to involving the public in decision-making processes which affect their community, direct environment, and lives (Arnstein, 2019; Renn et al., 1995). It takes various forms ranging from public hearings, community meetings, focus groups, and surveys in which people can express their opinions and concerns. Modern approaches to participation go beyond traditional formats with new tools like online surveys, GIS based mapping tools, and social media platforms, which make it easier to involve a broader and more diverse population (Gallagher et al., 2010; McCormack, 2007). Public participation thus integrates diverse interests and perspectives in the decision-making process with the added benefit of increasing the transparency and accountability of decision-making bodies (Renn et al., 1995). In fields like urban planning, environmental management, and public health (Arnstein, 2019), it helps community empowerment and capacity building (Chambers, 1994; Serrat, 2017). In short, public participation enables urban planners and policy makers to identify local needs and preferences concerning walking, cycling, and additional transport modes. Research by Gallagher et al. (2010) and McCormack (2007) shows that involving residents in planning increases support and effectiveness for active living initiatives promoting physical activity.

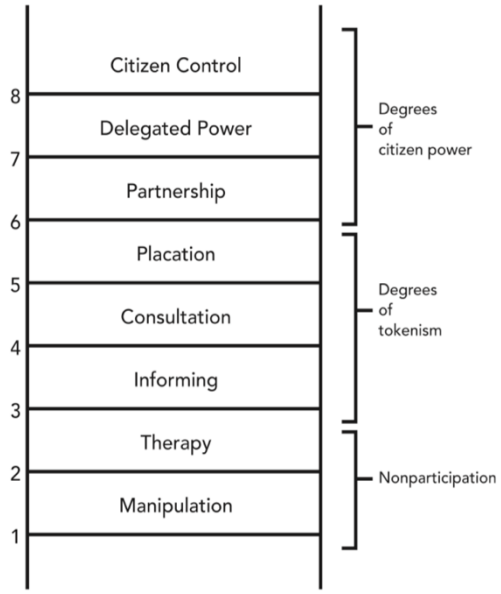


Figure 4 Eight Rungs on a ladder of Citizen Participation (Arnstein, 1969, 2019; Gemeente Breda, 2024b)

My research employs *'A Ladder of Citizen Participation'* (Figure 4) by Arnstein (1969), a theoretical framework that describes different levels of citizen participation in decision-making processes. The ladder consists of eight rungs, ranging from non-participation (manipulation) to citizen control.

Arnstein's Ladder of Participation is used in research focused on citizen participation and decision-making processes for a multitude of reasons. The concept and structure enable researchers to identify and categorise forms of participation to analyse the power dynamics between citizens and decision-makers. By highlighting the distribution of decision-making power, the extent to which citizens have influence or control over decisions can be examined. This information is crucial when evaluating the impact of various participation levels and their potential impact on the outcomes. Furthermore, researchers can use the framework to explore current participation practices and identify where there are shortcomings in today's practices of policymaking and community development. An additional point here is that the framework is internationally known and thus offers common ground to compare different cases across cultures and contexts which helps to identify best practices and points for improvement of participation.

The theory of Arnstein's Ladder of Participation is equally valuable for my research as it provides a structured framework to analyse, assess, and compare citizen participation in the city of Breda regarding active living. It offers a clear concept with insights into power dynamics and opportunities to evaluate the current and future participatory system employed by the municipality. It also helps evaluate whether alterations are necessary in implementing the concept of active living and the associated lifestyle successfully.

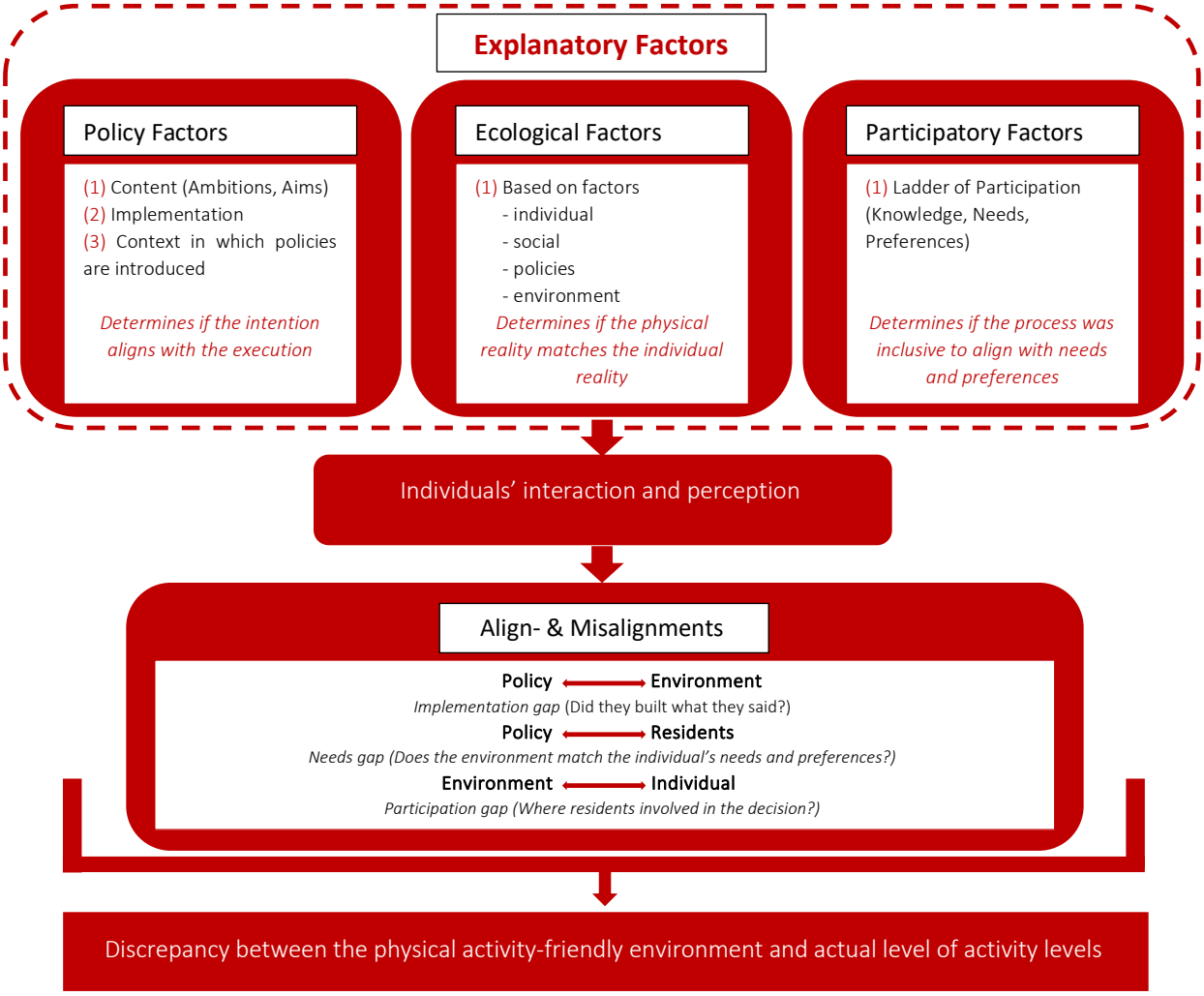
2.2 CONCEPTUAL MODEL

The *Ecological model of Four Domains of Active Living* (Sallis et al., 2006) emphasizes the importance of individual, social/cultural, policy, and environmental factors in promoting active lifestyles while the Framework for Physical Activity Policy Research (Schmid et al., 2006) provides guidance on policy development and evaluation to increase physical activity. By using both frameworks, researchers gain a holistic understanding of the ways in which policy and the built environment can be leveraged to increase physical activity. By adding

Arnstein's Ladder of Participation (Arnstein, 2019) as an element of policy analysis, my research gains insights into community engagement and adherence to residents' preferences and needs in projects.

By employing and integrating the frameworks, a multidisciplinary approach is followed, using theories and concepts from various fields including public health, urban planning, and policy. This allows for a more balanced understanding of the complex relationships between the built environment, policy, and physical activity.

2.2.1 CONCEPTUAL MODEL



2.2.2 OPERATIONALISATION

For this research I use the four key domains defined by Sallis et al. (2006) in the *Ecological model of Four Domains of Active Living*: recreation, transport, occupation, and household. I explain each domain by its individual, social/cultural, environmental/physical, and policy factors. The policy factors will be analysed through the *Framework for physical activity policy research* (FPAPR) by Schmid et al. (2006). The policy context is informed by the Ecological Model (Sallis et al., 2006), where the objective environment, measured by walkability, access to public transport, availability of parks and recreational facilities, and the perceived environment, measured by residents perceptions on safety and accessibility, are discussed. Arnstein's Ladder of Participation (Arnstein, 2019) is employed to analyse the alignment between residents needs and policies. To be more specific on the utilized indicators, the individual factors are analysed by measures such as self-efficacy, motivation, intention to be physically active, demographics and the physical ability (health status) to be active (Sallis et al., 2006). The interaction between the individual factors and the environment creates a perception, which is the filter through which the physical environment influences behaviour.

By combining these frameworks, this study aims to identify the discrepancies between the intended policy, the built environment, and the lived experiences by residents in Breda.

3. METHODOLOGY

My research questions aim to identify opportunities for policy improvements based on assessments of the built environments' physical activity-friendliness using descriptive survey data and policy document analysis. The residents' subjective experiences and perceptions on the one hand, and, on the other, policymakers' insights in participatory trajectories for active living are part of the qualitative methods. This is on par with the constructivists' paradigm which acknowledges that social and cultural factors influence behaviours and attitudes (Bryman, 2016; Creswell & Creswell, 2018).

I used a pragmatic mixed-methods approach that integrates deductive and inductive reasoning (Bryman, 2016; Creswell & Creswell, 2018). The deductive approach involves the application of existing theory, namely the Ecological Model of Four Domains of Active Living (De Jong & Shokoohi, 2017; Sallis et al., 2006), the Framework for Physical Activity Policy Research (Schmid et al., 2006), and Arnstein's Ladder of Participation (Arnstein, 1969) to structure data collection and analysis. The inductive approach is applied to the surveys and semi-structured interviews, which explore content-specific factors influencing physical activity outside the realm of the theories applied. Integrating these approaches allows for valuable insights into the complex disparities between neighbourhoods' physical activity-friendliness and residents behaviour.

3.1 RESEARCH METHODS

This research employs a pragmatic comparative approach in which qualitative and quantitative methods are combined.

3.1.1 DATA COLLECTION

The data collection encompassed a community survey, semi-structured interviews, document analysis, and spatial comparison using GIS. I conducted the community survey in all four neighbourhoods in Hoge Vucht to evaluate residents' perspectives on the individual factors that influence their active living including health, motivation, and perceptions of the built environment. The questions were partially based on a preliminary survey draft by Pharos (Pharos & Raaphorst, 2023). I added questions related to the Ecological Model of Four Domains of Active Living (De Jong & Shokoohi, 2017; Sallis et al., 2006), Framework for Physical Activity Policy Research (Schmid et al., 2006), and Arnstein's Ladder of Citizen Participation (Arnstein, 1969) to cover the participatory factors, individual considerations, and municipal policies and achieve a comprehensive result. The survey (Appendix 1: Survey Questions: Promoting Physical Activity in Hoge Vucht) consists of 27 questions in the close- and open-ended formats. It employs a simple random sampling technique. On social media (Facebook, Instagram, and the Nextdoor application, (Appendix 3: Publishing text Survey Residents Hoge Vucht) I posted a link to the survey. I distributed paper flyers in the neighbourhoods Wisselaar, Geeren-Noord, and Geeren-Zuid, and conducted face-to-face interviews at Hoge Vucht shopping centre in Biesdonk. I gathered a total of 57 responses of which 48 were deemed complete and suitable for analysis. However, seven of the respondents did not reside in the neighbourhood and were thus excluded for the creation of the graphs, allowing for a total of 41 usable resident inputs. I analysed the data using Qualtrics software which generated descriptive statistics and exported them to Microsoft Excel to generate visual charts.

Furthermore, I conducted a semi-structured interview with a municipal policy employee, responsible for (active) mobility in the municipality, to gain insights into the policies concerning the built environment for active living, the implementation process and the role of public participation in Breda's policies. Additionally, I reviewed and analysed documents concerning municipal policies, visions and ambition records, and reports on active living interventions and health impacts. An analysis of these documents in combination with the qualitative interview provided me with an in-depth knowledge of Breda's policy contexts and implementations. I evaluated the results through the Framework for Physical Activity Policy Research by (Schmid et al., 2006) within the domains of the

Ecological model of Four Domains of Active Living by Sallis et al. (2006), later adapted by De Jong and Shokoohi (2017) (Figure 3) to understand the policies content, context, and intended impact on Hoge Vucht.

Finally, I used GIS spatial analysis with QGIS software that provides a geographic comparison between physical activity-friendliness (Mulier-Instituut, 2021) and residents actual physical activity levels (Rijksinstituut voor Volksgezondheid en Milieu, 2020). This comparison geographically contextualises the discrepancies within Hoge Vucht and compares it to a national spectrum that supports the other findings.

All qualitative data underwent thematic analysis using Atlas.ti software, including the interview transcript and open-ended survey responses. This allowed for open coding which were later organised into theory grounded code groups. This allowed me to compare insights across documents within each thematic category and identify barriers, opportunities, and key elements which influence physical activity (Bryman, 2016; Creswell & Creswell, 2018).

3.1.2 COMPARISON/CASE STUDY

To contextualize the situation in Breda, and particular Hoge Vucht, a comparison is made to three other cities: Utrecht, Groningen, and Almere. Utrecht and Groningen are comparable to Breda because of their size and historic city centres. Almere offers a good comparison because of its urban planning that has focused from its start on green space and active living.

The data for this analysis is based on two datasets, the national physical activity guidelines by the Rijksinstituut voor Volksgezondheid en Milieu (2020) and the research on the activity-friendliness of neighbourhoods by the Mulier-Instituut (2021). The RIVM's physical activity guidelines recommend that adults engage in at least 150 minutes of moderately intense physical activity per week in combination with muscle- and bone-strengthening activities at least twice a week (Rijksinstituut voor Volksgezondheid en Milieu, 2020). These guidelines are measured through self-reported data collected via the Central Bureau for Statistics (CBS) and surveys (randomly sampled), which are then modelled by the RIVM utilising the 'SMAP' model to provide estimated data for all neighbourhoods in the Netherlands (Rijksinstituut voor Volksgezondheid en Milieu, 2020).

The Mulier Institute, a non-profit scientific sport-research institute focused on sports and physical activity, takes a different approach to analyse the physical activity-friendliness of a neighbourhoods (Mulier Instituut, 2002. They use various indicators to assess whether a neighbourhood has sufficient facilities and environmental characteristics that encourage people to be active. Indicators used by the Mulier Institute include (Mulier Instituut, 2002; Mulier-Instituut, 2021):

1. Sports facilities: The number and diversity of sports facilities in the neighbourhood, such as sports fields, fitness centres, tennis courts, and swimming pools.
2. Recreational Green and Blue spaces: The presence of parks, forests, lakes, and other green areas in the neighbourhood that invite people to move and recreate.
3. Sport- and playgrounds (proximity and accessibility of sporting facilities and playgrounds in the public space such as open basketball courts or outside gyms)
4. Accessibility: The accessibility to supermarkets and schools and sporting facilities, this includes the infrastructure for all modes of transportations as well as public transportation.

These datasets collectively provide an overview of the environmental potential for physical activity and the actual activity levels of residents to support policy creation and develop interventions.

Figure 5 compares the National Exercise Guidelines (Rijksinstituut voor Volksgezondheid en Milieu, 2020) with the physical activity friendliness of neighbourhoods, as identified by the Mulier-Instituut (2021). Urban environments generally show higher physical activity friendliness due to proximity to services, facilities, and sports associations, while rural areas often lack easy access to these facilities but have a vast availability of greenery. Urban environments in coastal, eastern, and northern regions show higher adherence to the guidelines as compared to rural, southern, and western regions (Figure 5), providing a link between physical

activity and the built environment (Dawson et al., 2007; Edwards et al., 2006; Gebel et al., 2007; Handy et al., 2002).

The methodological combination provides strong and multifaceted evidence to develop actionable policy recommendations to promote active living in Hoge Vucht.

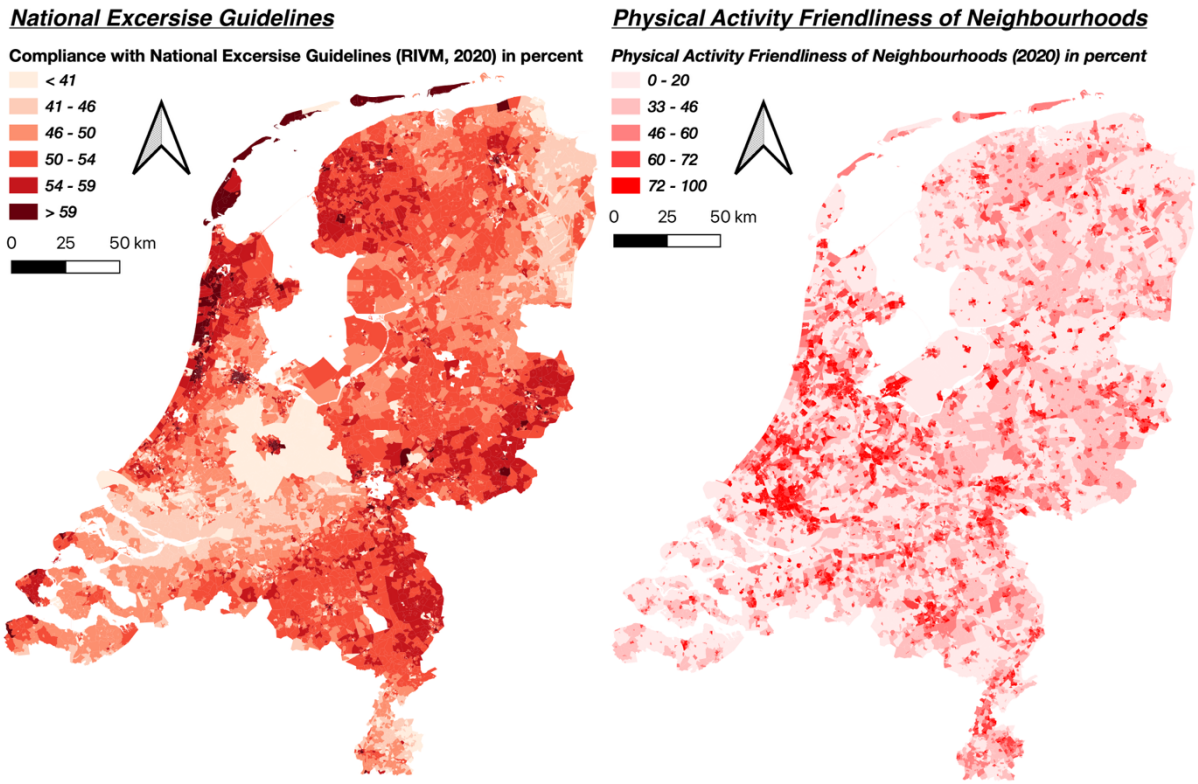


Figure 5 Comparison "National Exercise Guidelines" by the Rijksinstituut voor Volksgezondheid en Milieu (2020) and the "Physical Activity Friendliness of neighbourhoods" by the Mulier-Instituut (2021)

3.2 RELIABILITY OF RESEARCH

Reliability refers to the consistency and reproducibility of research findings (Bryman, 2016). In this research the reliability was assured through standardizing procedures. The survey was partially based on a preliminary Pharos questionnaire draft (Pharos & Raaphorst, 2023) which contains accessible language for all participants. The semi-structured interview used a uniform interview guide with fixed phrasing that minimises variance in the line of questioning if more than one interview is conducted. GIS analysis in QGIS outlines the steps from CSV data integration with OpenStreetMap neighbourhood polygons using unique identifiers that create thematic maps (Appendix 8: QGIS Steps for maps). Qualitative analysis in Atlas.ti started with open coding and was further detailed with coding informed by theoretical frameworks (Arnstein, 1969; Sallis et al., 2006; Schmid et al., 2006) which enhance the consistency and reliability of the analytical results.

3.3 VALIDITY OF RESEARCH

Validity concerns the accuracy and credibility of the research conclusions (Bryman, 2016). This research employs multiple strategies to ensure validity. I created the survey questions based on theoretical frameworks, literature reviews and information from former surveys (Pharos & Raaphorst, 2023)(Appendix 10: Theoretic underpinning Survey) ensuring content validity. The survey questions encompassed accessible and theory-based questions to collect broad insights. The semi-structured interviews included open-ended questions to expand knowledge based on participants' perspectives and in which the possibility of giving socially desirable answers was limited.

Thematic analysis in Atlas.ti with codes rooted in theoretical frameworks further reduced interpretative bias and applied structure. External validity was supported through various data sources like the documented GIS analysis (Appendix 8: QGIS Steps for maps), procedural transparency and random sampling for surveys. This allows for generalization and applicability of the findings to a broader context than Hoge Vucht alone.

4. COMPARATIVE CASE STUDIES: BREDA, UTRECHT, ALMERE, AND GRONINGEN

This chapter compares how the built environment, policy environment, and social/cultural environment in Breda, Utrecht, Almere, and Groningen influence the physical activity levels of residents in relation to the national physical activity guidelines.

The chapter will first compare the policies of the four cities in designing and implementing active lifestyles in the four domains distinguished in the *Ecological Model of Four Domains of Active Living*: recreation, transportation, household and occupation, employing the *Framework for physical activity policy research* (FPAPR) by Schmid et al. (2006) to structure the comparison of policy aims, implementation, and monitoring. This chapter provides a description of municipal approaches and the ways in which cities report progress, challenges, and limitations. By comparing the cities ambitions, implementation strategies, and monitoring approaches, the chapter identifies differences and similarities between cities which form the context under shoch active living is encouraged.

The cities of Utrecht, Almere, and Groningen are selected because they are most comparable to Breda in terms of population size and density. Like Breda, they are also located inland. The cities' location in non-coastal regions in the south, east, and north naturally encourage physical activity. The longer distances to amenities, workplaces, and schools require greater mobility. Likewise, the accessibility to lakes offers great opportunities for water-based recreation. Finally, limited public transport forces people, especially those without cars, to rely on active modes of transportation.

UTRECHT

Utrecht is a perfect case study for investigating how urban design and transportation infrastructure can promote physical activity in the Netherlands. With a population of 367.984 (AlleCijfers.nl, 2023d), Utrecht is the fourth-largest city in the Netherlands (Statista Research Department, 2023). Its historic city centre similar to Breda's dates back to city rights granted in 1122 (Het Utrechts Archief, 2023). Today, the city is the central transportation hub of the Netherlands, with 57 million annual passengers passing through its train stations annually (Provincie Utrecht, 2024). Due to its central location and extensive public transport infrastructure, active commutes by bicycle or public transportation are accessible and encouraged (Gemeente Utrecht, 2021c). The university of Utrecht is second in the national rankings and internationally recognised as a prestigious academic centre (Top Universities, 2023). The city is ranked 14th in the Healthy City Index (2022) due to healthy mobility through its extensive cycling network (Boon et al., 2022). However, the historic density of 3924 inhabitants per km^2, like Breda, presents challenges to balance its historic infrastructure with the modern demands for active living.

ALMERE

In contrast to Utrecht, Almere is the youngest city in the Netherlands, founded in 1975 (Gemeente Almere, 2024) after the creation of new land by closing off the 'Zuiderzee' (Visit Almere, 2024). With a population of 222,825 (AlleCijfers.nl, 2023a), Almere grew to become the eighth-largest city in the Netherlands (Centraal Bureau voor Statistiek, 2024; Gemeente Almere, 2024; Visit Almere, 2024), one spot above Breda (9th position)(Centraal Bureau voor Statistiek, 2024). Almere has a lower density than Utrecht with 1,725 people per km² (AlleCijfers.nl, 2023a). This difference in density can be attributed to Almere's modern, pre-planned design, which focused on separation of transportation modes and polycentric development (Franssen et al., 2023). Unlike Utrecht or Breda, Almere did not have to adapt to existing historical infrastructure but was instead able to apply modern planning principles in the early planning processes.

Almere is of interest because of its focus on sports facilities and outdoor recreational spaces, which makes it a frontrunner in providing an infrastructure that supports physical activity as claimed by Gemeente Almere (2020). Its lack of density and the city's plans for further expansion, including the addition of 60,000 new housing units by 2025, will influence its future ability to promote active living (Gemeente Almere, 2022). Almere's polycentric layout is based on the garden city principle (Franssen et al., 2023) that provides a different perspective on how

urban planning can impact physical activity levels compared to historic cities as Breda, Utrecht, and Groningen. The city is ranked 6th in the Healthy City Index 2022 mainly due to its modern, spacious design and high scores on healthy outdoor spaces and environmental quality (Boon et al., 2022).

GRONINGEN

Groningen, similar to Utrecht and Breda, has a long history as an important trade hub in the northern Netherlands (van den Broek, 2007). Today, Groningen is a mid-sized city with 234,950 inhabitants and a population density of 1,284 people per km² (AlleCijfers.nl, 2023c). A reason to investigate Groningen is that it has been the healthiest city in the Netherlands for multiple years due to its focus on public space, safety, and environmental quality (BNNVARA, 2020; Boon et al., 2022; RTL Nieuws, 2022).

Groningen also enjoys a reputation as the top cycling city in the country, with 60% of all commutes being conducted by bicycle (Focusgroningen, 2014; Groningen Fietsstad, 2024). Although it was ranked third in 2014 and 2021 in the competition for the best cycling city, Groningen continues to prioritise cycling infrastructure and policies (Focusgroningen, 2014; Heij, 2021). Despite Groningen's success in active mobility, its lack of density, rooted in small households (1,7 people compared to 2,1 people nationally) (Centraal Bureau voor Statistiek, 2023b) and a large number of one-person households (59%) (Centraal Bureau voor Statistiek, 2023b), as well as its large land surface of 19.796 acres (Centraal Bureau voor Statistiek, 2023b), challenges remain in ensuring that the city's aging population continues to benefit from the cycling infrastructure and provide recreational opportunities to all.

BREDA

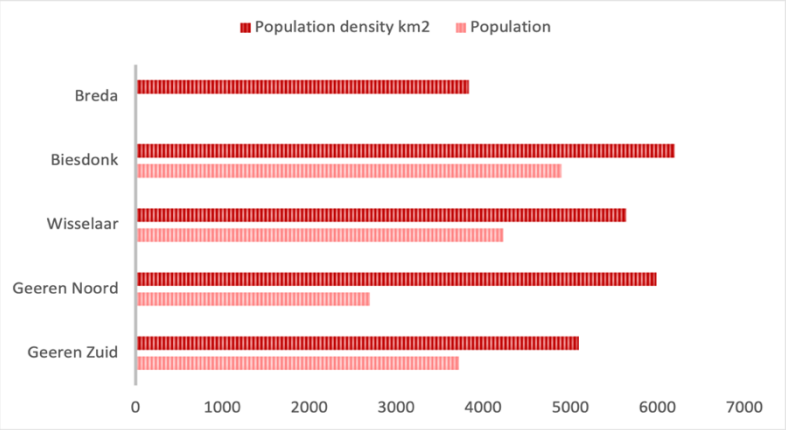


Figure 6 Population and population density per neighbourhood and Breda-wide (Gemeente Breda, 2023c)

Located in the southern Netherlands, Breda is the ninth largest city in the country with 186,624 residents and a population density of 3800 people per km² (Figure 6)(AlleCijfers.nl, 2023b; Gemeente Breda, 2023c). Breda's layout and transport network, like Utrecht's, is shaped by its medieval city structure. Its compact and green design make it walkable, though many areas remain car-oriented which limits the full potential of active mobility.

Breda's image is a "green, hospitable, and boundless city" (Gemeente Breda, 2021) which integrates active living principles into spatial and social policies. Breda scores high on national indicators for physical activity friendliness and adherence to exercise guidelines (59% of residents) (Figure 1, Figure 2). Described in the Gemeente Breda (2021) the city has ambitious interventions for active living which aim to provide green spaces within 200 metres of every home and improve infrastructure for walking and cycling. Collaborations between the municipality, Stichting Breda Actief (2024a) and JOGG-Breda (2023) are formed to promote participation and inclusion. Overall, the city ranks 10th in the Healthy City Index (Boon et al., 2022), performing above average in healthy community and built environment. However, challenges remain, with uneven implementation of interventions, limited citizens participation, mobility, and socio-spatial disparities between districts (Gemeente Breda, 2023c).

4.1 RECREATION

4.1.1 POLICY AIMS (FACTORS)

This section explains the choice of the four cities to use an integrated approach to promote active living. Utrecht and Breda, for instance, combine the use of green space with recreational activities. Utrecht's multifunctional use of parks and Groningen's neighbourhood-based programs show strengths in combining inclusive and active lifestyles. Almere and Breda, on the other hand, focus on inclusivity and adaptability. Breda distinguishes itself by relying on targeted funding strategies, innovative sports infrastructure and a focus on vulnerable neighbourhoods like Hoge Vucht. This section examines the need for tailored policies in the recreation domain to promote and sustain healthy, active and connected communities.

Utrecht's Policies

Figure 7 Skatepark Jaarbeursplein created in 2019 (Skateon Skateparks, 2019)

Utrecht's slogan "Healthy Urban Living" integrates recreational goals with a focus on sport stimulation, sport accommodations, talent development, and sport events (Gemeente Utrecht, 2017b). This is motivated by further city densification which results in pressure on green and recreational spaces. As the city expands, Utrecht aims to provide continuous support for residents to live actively in a compact environment (Gemeente Utrecht, 2021b, 2021c).

To achieve this, Utrecht collaborates with sports associations combined with public space refurbishments and events to promote physical activity and strengthen social cohesion (Gemeente Utrecht, 2021c). A fundamental plan is to add 700 acres of green spaces, 450 acres of which lie within the city limits, to support recreation, social interaction, and climate resilience (Gemeente Utrecht, 2021c). This aligns with compact city concept which prioritizes accessibility, active modes of transport, and multifunctional use of parks and urban spaces (Gemeente Utrecht, 2021c).

Utrecht also expands sports facilities connected to green spaces to increase the capacity for informal activities like calisthenics and skateboarding (Figure 7). By diversifying the sports offering in the public space the city aims to ensure sufficient opportunities and utilisation of the facilities (Gemeente Utrecht, 2017a, 2017b).

To ensure these amenities remain accessible within ten minutes despite ongoing urbanisation, the municipality uses the Utrecht Barcode. This quantitative planning instrument shows a fixed amount of space for sports and green facilities per 10,000 dwellings, which guarantees that recreational capacity grows in a linear fashion to the population density (Gemeente Utrecht, 2021c).

The intention of Utrecht's policies is to create activity-friendly and inclusive environment which supports physical activity. Despite urban densification, the accessibility to green and recreational spaces has to be guaranteed to create broad health and social benefits.

Almere's Policies

"Almere 2.0" focuses on inclusivity and adaptability in recreational planning. It prioritizes accessibility, active transportation, and engagement with sports associations. Based on the '*Meerjarenprogramma FVA 2021-2025*' (Gemeente Almere, 2022), Almere created nine separate administrative units in the fields of the living environment, economy, accessibility, services, green-blue structures, society, social space, sustainability, and business climate (Gemeente Almere, 2022). A predicted growth in population was the driving force behind these plans (Berg (Bergplaats) & van Lieshout (CO3), 2021; Gemeente Almere, 2022). With this growth in mind Almere aims to comply to the exercise guidelines by 2035 and enables residents to lead healthier lifestyles (Gemeente Almere, 2020, 2022).

Almere emphasizes connecting urban and peripheral green spaces to diversify activities such as hiking, running, and water-based sports and aligns these recreational ambitions with sustainability/climate goals (Gemeente Almere, 2020).

Figure 8 Mountainbike tracks around Almere (MTB&MORE, 2019)

Almere's recreation programs include a 55-kilometre mountain biking network, supported and maintained through online ticket prices and funding (Figure 8)(MTB&MORE, 2019; Outdoorpark SEC Almere, 2024). Furthermore, the Skills Garden is utilised by local sports providers and schools for physical activities. Almere

aims to engage all demography's through a multitude of recreational offerings (Gemeente Almere, 2020; Skills Garden, 2019; van Eck et al., 2018).

Groningen's Policies

Groningen incorporates recreational policies in its environmental vision (Gemeente Groningen, 2021a) and compliments this with programs focusing on healthy age and "Youth and Healthy Weight". The healthy aging vision (Gemeente Groningen, 2017) emphasizes the need for a multi-dimensional, more integral approach to induce healthy lifestyles. Initiatives like "Youth and Healthy Weight", a program emphasizing health equity through school and community-based activities, are accompanied with infrastructure investments and education to create long-term effects on health (Gemeente Groningen, 2018), mostly in neighbourhood based projects (Gemeente Groningen, 2017, 2018, 2021a). Sustaining long-term engagement and achieving lasting effects remain challenging, with participation among vulnerable groups often limited by socioeconomic inequalities, fragmented participation, and difficulties in maintaining behavioural change once project funding ends (Gemeente Groningen, 2017, 2018, 2021a).

In Groningen, policies focus on accessibility to parks and improving well-being and health. Furthermore, green spaces are a part of urban planning in which biodiversity, air-quality, and recreation are relevant factors (Gemeente Groningen, 2017).

In Groningen healthy lifestyles, independent of one's socioeconomic status, are promoted through initiatives like "Youth at Healthy Weight" in which school-based activities are combined with community engagement and collaborations with local organizations (Gemeente Groningen, 2018; JOGG, 2024). Furthermore, investments in public space should increase physical activity and is utilized by various local organisations for physical activity programs and health events (Groningen Fit Buitensport, 2024; WIJ-Groningen, 2024). Despite these efforts, reaching vulnerable groups and ensuring long-term behavioural impact remains a challenge as socio-economic disparities and limited continuity of projects fail to embed healthy routines (Gemeente Groningen, 2017, 2018, 2021a).

Breda's Policies

Breda, like Almere and Groningen, integrates urban planning, infrastructure investments and community engagement. With the slogan "Breda, a boundless, hospitable, and green community, [which] is forward-looking and prioritizes quality of life" (Gemeente Breda, 2021), the municipality aims to create a 'strong' and 'resilient' Breda (Gemeente Breda, 2021). Policies described in the "Vision on Sport and Movement 2017-2030" aim to create vibrant public spaces, promote health, and address inequities in accessibility to recreational facilities (Gemeente Breda, 2017, 2021). A key initiative is the 18€ million allocated to outdoor sport facilities and to support economically weaker families through the Youth Sports and Culture Fund (Gemeente Breda, 2017; Peeters, 2020). In neighbourhoods such as Hoge Vucht targeted interventions are focused on equality and inclusiveness. One of the central neighbourhood-based initiatives supporting this inclusiveness is the HealthyLIFE programme, which combines lifestyle coaching, nutrition guidance, and physical activity training to strengthen residents' self-efficacy and reduce health inequalities across Breda (Gemeente Breda & GGD West Brabant, 2021). Innovations in Breda include the different roles of the municipality in projects, switching from operator to facilitator and fostering collaborations and sustainable infrastructure development. Recent investments, such as the multifunction elite sport centre "De Kragt" (2023), underscore the city's efforts for long-term recreational sustainability (Gemeente Breda, 2017, 2023a; JOGG-Breda, 2023). Breda's policies express the aim to create a park within 200 metres from residents' front doors, combining recreational and environmental goals (Gemeente Breda, 2021; Gemeente Breda & GGD West Brabant, 2021). The inclusion of and expansion of green spaces in new developments should increase physical activity and social cohesion in the public space (Gemeente Breda, 2021; Gemeente Breda & GGD West Brabant, 2021). Through initiatives like green corridors, Breda aims to promote biodiversity and outdoor activities. Equality in recreational opportunities remains a goal. Building projects, therefore, revolve around accessibility and inclusiveness (Gemeente Breda, 2021; Gemeente Breda & GGD West Brabant, 2021).

Next to creating spaces for physical activity in the public space, Breda focuses on inclusiveness with the Youth Sports and Culture Fund, ensuring access to sports associations for children from low-income families (Gemeente Breda, 2023a; Overheid.nl, 2023). A similar fund for adults is on the horizon, broadening inclusivity (SMARTMOVE, 2023). Breda furthermore promotes sports through collaborations like the Urban Brabant Plan and ensures public spaces are child friendly and invite to play and explore (Gemeente Breda, 2017). Investments in the multifunctional sport facilities operated by private partners shows Breda's commitment to sustainable sport offerings (Gemeente Breda, 2017). The city further aims to inspire sport participation through sporting events, inducing a culture of active living (Gemeente Breda, 2017).

4.1.2. POLICY IMPLEMENTATION

The cities also showcase various implementation strategies. Utrecht and Almere apply diversified implementations. Utrecht focuses on partnerships with healthcare institutions and local sports providers whereas Almere transforms the public space with innovative and playful structures. Groningen targets children by collaborating with schools to reach vulnerable citizens whereas Breda, more than the other cities, has funding strategies that offer a multitude of sport opportunities organized by private and public organisations.

UTRECHT

Utrecht applies a diversified approach to implementing its vision of active living by working in stages, relying on public private partnerships, and national events.

Utrecht applies a six-phased approach combining densification, mobility improvements, and the creation of sports and recreational facilities for designated neighbourhoods, starting in '*Papendorp*', '*Leidsche Rijn'*, '*Lage Weide'*, and the station district (Gemeente Utrecht, 2021c). Examples include new sports halls and artificial hockey fields (Gemeente Utrecht, 2021c). The city also stimulates community involvement through events like the woman football championship and the Utrecht marathon, strengthened by municipal support for sports associations and operational guidance (Gemeente Utrecht, 2021c). Platforms like 'Doe Mee in Utrecht' (Doe Mee in Utrecht, 2024) connect residents to activities and fitness groups whilst the municipality takes a facilitating role for public-private initiatives (Gemeente Utrecht, 2021c). Overall, the implementation focuses on expanding recreational capacity and improving accessibility, however monitoring reveals that there are capacity issues. 63% of cycling routes towards schools are deemed too narrow to safely accommodate the growing volume of users (Gemeente Utrecht, 2021b).

ALMERE

In Almere's vision, inclusive and activity friendly public spaces are incorporated in the city's expansion plans. The Skills Garden (Figure 9) exemplifies this with a multifunctional recreational space incorporating pump tracks, calisthenics equipment and play areas based on the Athletic Skills Model (Berg (Bergplaats) & van Lieshout (CO3), 2021; Gemeente Almere, 2020). Disability advocates ensured a barrier-free design. Almere allocated 500.000 euros to expand the Skills Garden model to more neighbourhoods (Gemeente Almere, 2020, 2022), with two more already completed (Raad van Almere, 2024). '*Rondje Weerwater*' (Figure 10) is another example that showcases multifunctional public space with integrated fitness stations, walking routes, and social spaces in visually interesting and accessible areas. Local sport partners and neighbourhood coaches utilize these spaces and integrate them into citizens' daily life. Implementation here focused on the creation of accessible, varied, and attractive recreational spaces to support daily movement.

Figure 9 Skills Garden Almere Haven since 2019 (Skills Garden, 2019)

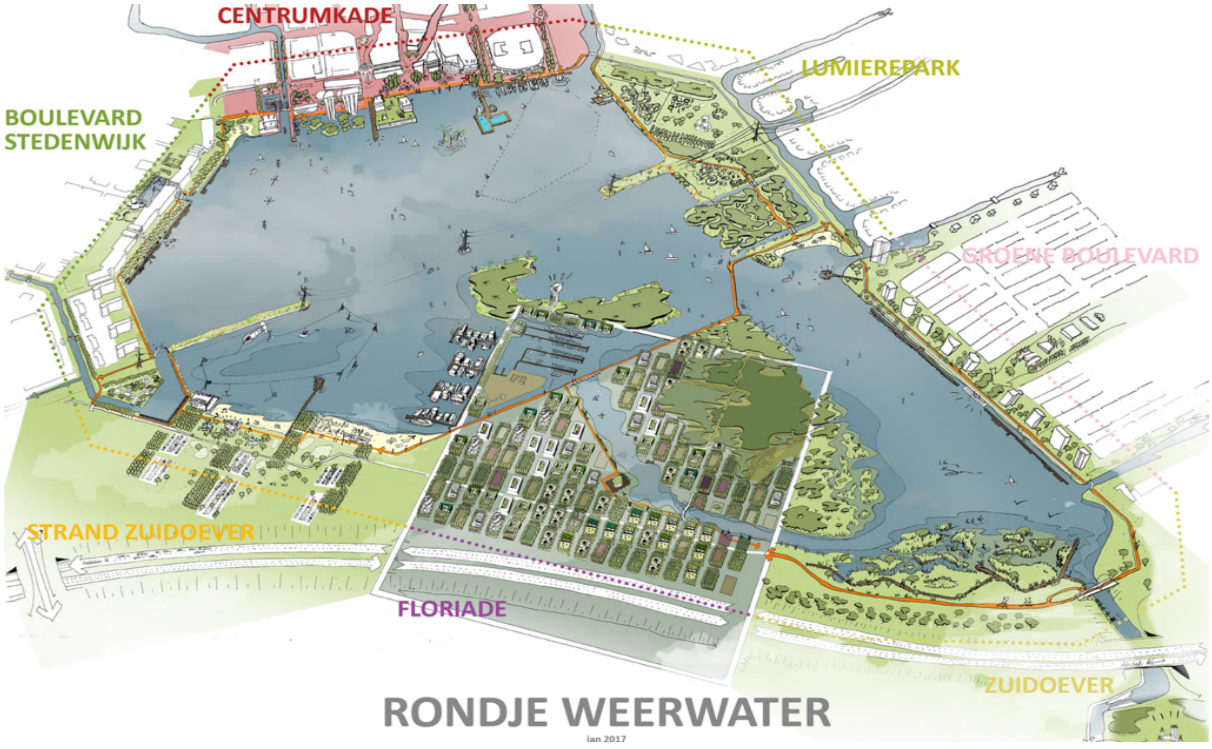


Figure 10 Physical Activity track "Rondje Weerwater" Almere (Gemeente Almere, 2023; Karres en Brands Landschapsarchitecten)

GRONINGEN

Groningen implements recreational policies through neighbourhood-based collaborations to eliminate health deficits (Gemeente Groningen, 2017, 2018). For example, schools, local organisations, and families address childhood obesity through the "Youth at Healthy Weight" (JOGG) program, particularly in low-income and migrant communities (Gemeente Groningen, 2017, 2018). Groningen also combines small public space improvements with local partnerships and community activities to support behavioural change (Gemeente

Groningen, 2017, 2018). Long-term engagement of residents and inclusivity are challenging, though Groningen starts projects with more bottom-up neighbourhood transformations to improve neighbourhood cohesion, have continuous local input, and thus encourage healthier lifestyles. These interventions combined appear to have a positive effect on participation, with physical activity levels rising from 2018 (73%) to 2022 (88%) (Onderzoek Informatie Statistiek Groningen, 2018, 2022).

BREDA

Breda implements its policies through combining urban design, infrastructure investments and community collaboration. The 'Vision on sport and movement 2017-2030' (Gemeente Breda, 2017) and its associated implementation plan 2023-2026 (Gemeente Breda, 2023e) outline 5 pillars: Promotion of sports and physical activity, Sports Facilities, Sport and Exercise in Public Spaces, Elite Sports and Talent Development, and Sports Events. In vulnerable neighbourhoods, like Hoge Vucht, the focus is on creating accessible recreational spaces, like family-friendly playgrounds and multifunctional sports facilities (Gemeente Breda, 2017, 2023e). The city collaborates with sports associations, education institutions, and healthcare providers to maintain and enhance physical activity. The municipality offers funding for low-income families (Peeters, 2020), assists in finding coaches, and offers trainings for operational tasks in organisations (Gemeente Breda, 2017). These steps aim to create a sustainable sporting environment with innovations and collaboration without direct interference of the municipality (Gemeente Breda, 2017).

4.1.3 COMPARISON OF RECREATIONAL POLICIES

All four cities use different strategies based on their historic and demographic context to achieve similar goals: healthier and more active citizens. For the recreational policies, the approaches can be categorized into three themes: the influence of the urban form on the proximity of recreation, the balance between infrastructure and programming, and the strategies to target certain groups.

Urban Form

The physical layout of the cities lays the foundation for their primary recreational strategy. The historically compact cites of Utrecht and Groningen use a strategy of densification and proximity. Their policies focus on the '10-minute' or '15-minute' city concepts, which ensures that recreational green space and daily services are available within a short walk or trip by bicycle (Gemeente Groningen, 2021a; Gemeente Utrecht, 2021c). This also allows for a high density of users to have access to said services (Gemeente Groningen, 2021a; Gemeente Utrecht, 2021c). In these cities, however, the challenge is the capacity. The pressure on the use of public spaces requires multifunctional designs where a park can be used as a transport route, a meeting place, and a sports facility all at the same time.

Almere, on the other hand, departs from an abundancy of space and connections. As a polycentric "New Town", its challenges are not a lack of space, but rather the connectivity between separated neighbourhoods. Its recreational policy uses the existing green-blue infrastructure to create long-distance recreational routes for running and mountain biking that connect the city's most important spaces (Gemeente Almere, 2020). In-between these two models is the one Breda applies. The city employs the 'City in a Park vision' in an attempt to implement the green qualities of a garden city into the historic urban layout, with the specific goal to have a park within 200 metres of every home to bridge the gap between the compact centre and the greener peripheral neighbourhoods (Gemeente Breda, 2021).

Infrastructure and Programming

The cites also differ in how they balance investments in physical infrastructure and in software social programming. Almere has a strong focus on innovative infrastructure. The "Skills Garden" and "Rondje Weerwater" are examples of the use of landscape architecture and physical design to persuade residents to be physically active (Skills Garden, 2019). The policies assume that more attractive and high-quality public spaces are an important feature in convincing people to be physically active.

Groningen and Breda rely more on social programming and integrated social approaches, especially in socially vulnerable neighbourhoods. Policies such as the “Wij-teams” in Groningen and the “Verbeter Breda” program in Breda focus on social cohesion and organised activities rather than physical infrastructure (Gemeente Breda, 2023a; Gemeente Groningen, 2018). In these cities the physical infrastructure is viewed as a facilitator for social programs instead of a solution on its own.

Utrecht balances both, but substantially differentiates through standardization in its ‘Barcoding system’, which quantifies how much recreational space is required per resident. This ensures that the infrastructure grows in a linear fashion with the population density (Gemeente Utrecht, 2021c).

Figure 11 Physical activity square next to Neighbourhood Hortus (Gemeente Almere, 2023)

Target Groups

The cities also have varying approaches to target specific groups. Groningen and Utrecht, driven by their demographics, maintain policies which are heavily influenced by the needs of young adults and students. This results in high usage of public spaces and a strong focus on active transport and recreation. However, both cities acknowledge a policy gap to successfully include the elderly and less mobile groups in their strategic monitoring (Van Lieshout (Staat van Utrecht and gemeente Utrecht) & Van den Dool (Mulier Instituut), 2020). Groningen responded with the ‘Healthy Aging Vision’ which focuses on all demography’s and includes enhancing elders’ access to public spaces to keep them independent and active (Gemeente Groningen, 2017).

Breda and Almere both have more diverse family compositions and significant socio-economic disparities in specific districts (like Hoge Vucht in Breda). Their policies focus more on reducing health inequalities between districts. Breda’s approach is characterized by financial interventions, like the “Jeugdfonds Sport & Cultuur”, to remove the economic barriers to recreation (Gemeente Breda, 2023a).

Common amongst all cities, however, is the difficulty in effectively monitoring the long-term behavioural impact of these interventions. While participation in organised sports is well-tracked, the unorganized use of public recreational spaces remains an unknown in the policy frameworks.

4.2 TRANSPORT & OCCUPATION

All cities invest in cycling and pedestrian infrastructure to enhance the connections between destinations. Whilst all focus on inclusivity and accessibility, the car-oriented populations in Breda and Almere diminish the desired increase in cycling and walking.

Concerning occupation, the cities' aim is twofold: to address conditions at the workplace to stimulate physical exercise and to improve the commute to work.

4.2.1 POLICY AIMS (FACTORS) & IMPLEMENTATION

UTRECHT

Utrecht's policy integrates mobility and green infrastructure to promote sustainable transportation. Six goals, the Green City, Connected City, Compact City, Inclusive and Affordable City, Future-Proof City, and Slow City, form the foundation of the '*tien-minutenstad*' concept, ensuring that all essential facilities for living, working, recreation, and health are accessible within ten minutes. This includes expanding cycling and pedestrian networks and introducing light rail networks to connect important locations and offer more mobility choices (Gemeente Utrecht, 2021b, 2021c). The city relies on public-private partnerships and citizen-led initiatives to achieve these transportation goals, though decision making power remains with the municipality. Implementation is phased per neighbourhood to develop transport infrastructure (Gemeente Utrecht, 2021b).

Active commuting approaches vary. Utrecht integrates active commuting into its phased mobility strategy which prioritizes green connections and urban greening. In later phases, it seeks the expansion of the mobility network that supports clustered work-opportunities and shorter commutes (Gemeente Utrecht, 2021b, 2021c).

Utrecht uses investments to improve routings to parks and adding sports facilities like pump tracks and calisthenics equipment along active transport routes. The costs for these interventions are part of the cycling/urban space renewal projects (Bosch et al., 2023).

ALMERE

The 'Almere 2.0' vision identifies 6 development pillars, including excellent accessibility and high-quality landscapes (Berg (Bergplaats) & van Lieshout (CO3), 2021). These pillars further include diverse and sufficient housing, a strong business climate, and a resilient and inclusive society, alongside the overarching goal of building a climate-resilient, energy-neutral, and circular city**.** Almere connects urban and peripheral green spaces through a network of cycle and pedestrian paths to achieve healthier lifestyles and align with climate goals (Berg (Bergplaats) & van Lieshout (CO3), 2021; Gemeente Almere, 2020). This comprises collaborations with sports associations and residents to sustain infrastructure and safety (Gemeente Almere, 2022). Within this process, the municipality remains the decisive power, limiting residents' power in implementation.

Active commutes are promoted through infrastructure improvements. These, apart from network expansion between neighbourhoods and residential areas, focus on shifting the modal split to bike and public transport for short- and medium-commutes, decreasing car dependency (Berg (Bergplaats) & van Lieshout (CO3), 2021). The municipality collaborates with local employers to support workplace vitality and encourage cycling and walking to work (Berg (Bergplaats) & van Lieshout (CO3), 2021; Gemeente Almere, 2020). These initiatives, however, take place on a voluntary basis.

Almere continuously invests in infrastructure with a focus on the expansion of cycling and walking routes, neighbourhood sport facilities, and improved lighting and safety (Gemeente Almere, 2020, 2022).

GRONINGEN

Groningen's 'Levendige Ruimte' vision prioritizes health through physical activity, with the 'Healthy aging vision' as top priority. Groningen expands the space for cyclists and pedestrians whilst it also reduces car traffic by narrowing streets and imposing speed limits (Gemeente Groningen, 2021a). In addition, it continuously invests in a safe cycling infrastructure, in accessibility to public transport nodes, educational institutions, and

workplaces, and sustainability measures like electric buses and cycling couriers (Gemeente Groningen, 2017, 2021a). In focusing on active transportation, the city promotes social cohesion, active citizenship, and sustainable urban development like accessible green spaces (Gemeente Groningen, 2017, 2021a). Further emphasis in Groningen is on collaboration with residents, businesses, and institutions being involved in projects like Sunny Selwerd, where cycling and pedestrian infrastructure is improved through participation trajectories (WIJ Selwerd & Wijkbedrijf Selwerd, 2019).

Active commuting is promoted through integrated mobility and health policies which aim to create links between the cycling network and major employment and education clusters. The municipality collaborates with large employers to facilitate cycling and walking to work and to stimulate workplace vitality programs to minimize sedentary behaviour (Gemeente Groningen, 2018, 2021a).

Investments in safe and comfortable cycling and pedestrian infrastructure, sport facilities, and multifunctional parks are part of Groningen's healthy city and sustainability programs. These investments aim to improve the interconnectedness of residential neighbourhoods with green zones and workplaces with safe, sustainable, and inclusive infrastructure (Gemeente Groningen, 2017, 2018, 2021a, 2021b).

BREDA

Breda aims to move towards a city where walking and cycling are the most logical, comfortable, and safe choices for daily mobility (Gemeente Breda, 2021). It's mobility objectives link active mobility directly to health and spatial quality which translates to reducing car-dependency, improve walking and cycling infrastructure, embedding active mobility in health policies like the '*Bredaas Lokaal Preventieakkoord 2021-2022*' (Gemeente Breda & GGD West Brabant, 2021), and encouraging behavioural change (Gemeente Breda, 2021). To achieve its ambitions, the city applies the 10-minute city concept, like Utrecht, in which all daily needs are to be reached via foot or bike within 10 minutes. A network of separated cycle paths and safe crossings for pedestrians is created to connect especially northern neighbourhoods to the city centre and workplaces (Gemeente Breda, 2021, 2023e). Also, projects to aid children to cycle more are created regardless of cultural backgrounds. However, the car remains a large mobility factor (Employee Mobility Department, Appendix 4: Interview Transcript; Gemeente Breda, 2023f).

In Breda, policies such as the '*Bredaas Lokaal Preventieakkoord 2021-2022*' (Gemeente Breda & GGD West Brabant, 2021) promote workplace health but lack measures to encourage active commuting. The issues addressed are work-life balance, increased work pressure, sedentary jobs, and unhealthy eating habits (Gemeente Breda & GGD West Brabant, 2021). Implementation is through vitality campaigns and movement breaks, partnered with incentives like the 'fietsplan' (a tax reduction when buying a bicycle) and improved bike parking. The municipality also connects employers to local sport and wellness opportunities and invites them to collaborate (Gemeente Breda & GGD West Brabant, 2021).

Breda mainly focuses on improving cycling and pedestrian infrastructure and creating more bike parking at important hubs like train stations and schools (Gemeente Breda, 2022b). Additionally, the public space is upgraded with more lighting, greenery, and traffic-calming measures to ensure a safer and more pleasant environment for commutes (Gemeente Breda, 2021).

4.2.2 COMPARISON OF POLICIES ON TRANSPORT & OCCUPATION

All four cities employ different strategies based on their different starting positions and challenges to achieve a modal shift from cars to active transport. The comparison on these policies can be categorized in three themes: the influence on urban density on commutes, the balance between cyclists and pedestrians, and the impact of socio-cultural factors on mobility choices.

Urban Density and Commutes

The success of policies to encourage active commutes seem to be heavily dependent on the city's spatial form. Utrecht and Groningen have a historic benefit due to their compact urban structure where high density means that jobs and education are located in close proximity to residents. This advantage in urban layout is visible in

their outcomes. Groningen reports that 60% of commutes are made by bike (Centraal Bureau voor Statistiek, 2023a; Focusgroningen, 2014), and Utrecht has a high active mobility adoption among its highly educated workforce (Gemeente Utrecht, 2020). In these cities, the policy challenge lies in capacity. This includes managing the congestion of cyclists and ensuring that routes are wide and safe enough. Utrecht explicitly notes that many school routes are currently too narrow to handle the current and anticipated volumes safely (Gemeente Utrecht, 2021b).

Opposing to this, Almere and Breda face a challenge of distance and connectivity. Almere's polycentric layout and its function as a commuter town for Amsterdam mean that while local infrastructure is of high-quality, the distance towards the place of employment often requires travel by car or train (Berg (Bergplaats) & van Lieshout (CO3), 2021). Breda struggles with physical barriers that cut off direct connections from neighbourhoods towards workplaces. Residents in Breda North (Hoge Vucht) specifically mentioned the Northern Ring Road as a major barrier that hinders fast active mobility to the city centre (Gemeente Breda, 2023e). As a result, more than half of all trips in Breda are still made by car despite major investments in cycling infrastructure and social programs (Gemeente Breda, 2021).

Cycling vs Pedestrians

A trend visible among all cities is the prioritisation of cycling infrastructure. This occurs often at the expense of the pedestrian experience. The so-called cycling capital Groningen faces a significant challenge with pedestrian safety. Cyclists are generally highly satisfied, but the satisfaction with streetlighting is remarkably low (9%). The further focus on fast cycle routes has also led to a lack of safe pedestrian infrastructure which affects safety in dark hours (Focusgroningen, 2014; Gemeente Groningen, 2021a). Utrecht has similar struggles and acknowledges that the focus on cycling infrastructure neglects pedestrian networks and creates conflict zones in areas with high cycling volumes (Gemeente Utrecht, 2021b). Breda shows a similar challenge. The ambition for a walkable 'City in a park' is hindered by physical attributes of the city. Policy documents mention that heavy traffic arteries and socially unsafe underpasses and tunnels are significant barriers to walking more so than to cycling (Gemeente Breda, 2021). Almere actively links perceived safety to behaviour. Research indicates that perceived safety increases physical activity by 27% (Rees-Punia et al., 2018). This is why Almere prioritizes separated paths which leads to higher safety satisfaction among families as opposed to the mixed-traffic situations often found in the historic cities (Gemeente Almere, 2022).

Socio-Cultural influences on Mobility

Finally, the cities also differ on how they account for mobility. Utrecht and Groningen rely heavily on a deeply rooted cycling culture, as many autochthonous people are introduced to using active modes at a young age (Gemeente Groningen, 2021b; Gemeente Utrecht, 2021b; Onderzoek Informatie Statistiek Groningen, 2022). Almere and Breda, in contrast, have more diverse demographics and lower student rations, which leads to higher differences in cultural preferences. Breda's mobility department notes that some immigrant groups prefer walking over cycling due to their cultural habits and safety concerns. This fact is overlooked by the cycling focused policies (Employee Mobility Department, Appendix 4: Interview Transcript). Furthermore, socio-economic status plays an important role. Utrecht acknowledges that active commuting is less common among lower-income residents due to time constraints and inflexible work locations, whilst higher-educated residents integrate activity more easily in daily routines (Gemeente Utrecht, 2020).

Monitoring and Evaluation

When it comes to evaluating the policies, all four cities face a data gap. None of the cities have long-term data which link infrastructure changes directly to improved health lifestyles. Utrecht relies heavily on short-term pilot and "living labs" (Gemeente Utrecht, 2021b; Provincie Utrecht, 2022), while Groningen measures satisfaction via the 'Wijkkompas' (Gemeente Groningen, 2017, 2021a). Almere tracks participation via the KISS system (Gemeente Almere, 2020, 2022), whilst Breda admits that knowledge sharing between departments is scarce, which makes measuring the effectiveness of their mobility interventions difficult (Gemeente Breda, 2023e).

4.3 HOUSEHOLD

The household domain, as defined by Sallis et al. (2006), focuses on daily physical activities in and around the home. Examples are childcare, short local trips, and household chores. These activities are influenced by individual motivation and health, family and social support, and the physical and policy environment. In this thesis the household domain is used to assess how housing, spatial planning, and neighbourhood design in the cities enable or encourage residents to be daily active. The following section therefore examines how urban development and community design translate to opportunities to independence, social interactions, and physical activity near home.

4.3.1 POLICY AIMS

UTRECHT

Utrecht's phased development builds 40,000 housing units up to 2030. The housing projects are integrated with green space expansions. The aim is to create 200 acres of urban greenery to increase liveable and connected neighbourhoods (Gemeente Utrecht, 2021c). Through densification, mixed-use urban cores are created following the compact city concept, enhancing accessibility to services and facilities (Gemeente Utrecht, 2021c). To counter gentrification and ensure the city remains accessible for all income levels, the housing strategy states that the distribution for new developments should be 35% social housing and 25% middle-segment housing (Gemeente Utrecht, 2021c). This is fuelled by the drive to enable residents to live independently for as long as possible, making barrier free public space and buildings a priority for future developments (Gemeente Utrecht, 2021c). To achieve this, Utrecht often resorts to delegated power as form of citizens participation, especially in volunteer-led projects.

ALMERE

Almere aims to expand the housing stock with 25,000 units by 2025. The focus is on sports and movements close to home, green environments, and safe cycling and pedestrian infrastructure accompanied by accessible outdoor spaces for all to uplift social cohesion and health (Gemeente Almere, 2020, 2022). This focus on local, accessible facilities is a direct result of Almere's demographic composition with 36% of households being families with children and 13% being single-parent households (Lindert et al., 2009).

GRONINGEN

Groningen integrates active living into their urban planning strategies. An active and green neighbourhood structure ensures proximity and accessibility to shops, sports facilities, and parks and promotes mental well-being and incidental activity. Community bonds and safety are to be enhanced with renewal projects in the public space with participation of residents, partnered with incentive and education programs to reduce health gaps between demography's (Gemeente Groningen, 2017, 2021a, 2021b).

BREDA

Breda's focus is on further densification of the city. It has planned to build 25,000 housing units, of which 10,000 will be located in the city centre (Gemeente Breda, 2021). The dimension *Strong Breda* focuses on unification, strong connections, and connecting greenery, encompassing afore mentioned elements in the domain recreation and transportation (Gemeente Breda, 2021).. In the second dimension, *Resilient Breda*, the city desires to create an attractive location with a vital community and a sustainable environment which encompasses physical activity-friendly designs, additional recreational facilities, and community collaborations with educational institutions and sports providers to encourage physical activity (Gemeente Breda, 2021).

One strategy employed is the '*Bredaas Lokaal Preventieakkoord 2021-2022*' (Gemeente Breda & GGD West Brabant, 2021). The central themes include 'enabling to make healthy choices' and 'making healthy choices more attractive' to address healthy aging, workplace health, and obesity. It uses family-based approaches and early interventions. Additionally, the '*JOGG-aanpak*' plans structural changes in children's environments to promote healthy living, physical activity and reduced obesity (JOGG, 2024; JOGG-Breda, 2023). With the aid of

professionals, businesses and residents collaborate and initiate new ideas surrounding six topics: A healthy lifestyle, promising youth, a safe home, self-reliance and co-reliance, livelihood security, and coming home in Breda (JOGG-Breda, 2023).

Furthermore, the '*Bredaas Leefstijlakkoord (2023-2026)*' (Gemeente Breda, 2023a) is another guidance document focused on changing the living environment, induce behaviour change, and create opportunities for more physical activities amongst residents, and serves as a foundation for future initiatives.

4.3.2 POLICY IMPLEMENTATION

UTRECHT

Utrecht uses six phases to develop targeted neighbourhoods before expanding to city-wide implementation (Gemeente Utrecht, 2021c). Phase one focuses on Papendorp, the station area, Leidsche Rijn, and Lage Weide, Integrating green spaces, urban mobility and sports facilities. The next phases add 27,000 housing units around public transport nodes, mobility hubs, and public transport expansions, including a light rail system. Further infrastructure investments prioritize sustainable, connected urban development with green corridors and active transportation routes. The final phases complete a circular mobility network linking all nodes to Utrecht Central Station (Gemeente Utrecht, 2021c). However, monitoring of the current situation reveals a controversy. While 83% of residents are satisfied with public transportation and 74% with the proximity to shops, 48% remains dissatisfied with accessibility to healthcare facilities which means a better accessibility to these services is required (Figure 12)(Gemeente Utrecht, 2021a).

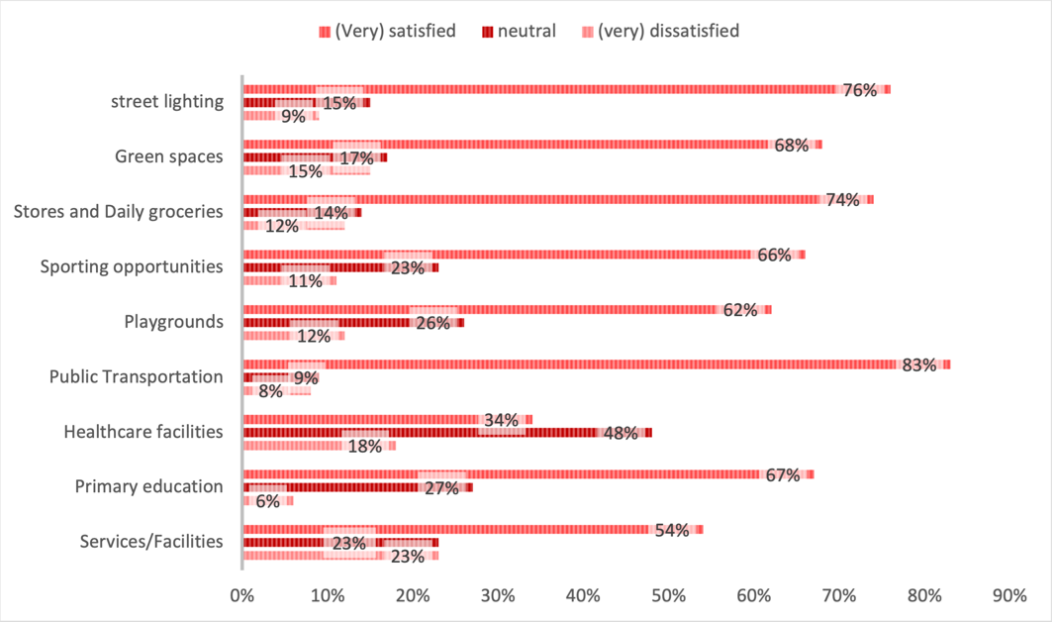


Figure 12 Opinion on Environment in Utrecht (Gemeente Utrecht, 2021a)

ALMERE

Almere restructures residential neighbourhoods with green corridors, playgrounds and child-friendly streets, and shared courtyards through the '*Fonds Verstedelijking Almere (FVA)*' and '*Visie Openbare Ruimte*' to encourage walking and outdoor activities from home (Gemeente Almere, 2018, 2022). This is supported by co-creation initiatives like '*Samen op Avontuur*' and various Living Labs in which citizens, housing cooperations, and health partners collaborate to test urban forms promoting health. Examples are a €500,000 investment in the Skills Garden expansion to other neighbourhoods and neighbourhood coaches organizing activities (Gemeente Almere, 2020, 2022; Outdoorpark SEC Almere, 2024; Raad van Almere, 2024). While outdoor opportunities are generally rated well, over 30% of residents rate the access to swimming locations as poor, which highlight a specific area for infrastructure improvement (van Eck et al., 2018).

GRONINGEN

Groningen employs a neighbourhood-based approach which encompasses health, spatial planning, and social programs. An example is the '*Welzijn op recept*' program which connects patients with psychosocial complaints to well-being coaches instead of prescribing medication (Welzijn op Recept Landelijk kennisnetwerk, 2024). Stakeholders involved are the municipality, healthcare providers and local organisations (Gemeente Groningen, 2018; MJD Groningen, 2024).

Another example is the *Blue Zone Selwerd* initiative where a vulnerable neighbourhood is transformed by the creation of green spaces, improved housing, and social cohesion (Figure 13). Residents, area teams, WIJ-teams, and housing associations redesigning streets collaboratively to reduce car-use and create walkable public space (Gemeente Groningen, 2018; WIJ Selwerd & Wijkbedrijf Selwerd, 2019). Evaluations of the Selwerd redesign project indicate that these physical changes did inflict behavioural change, with resdeints walking more and interacting more frequently in the newly designed shared spaces (Basismonitor Groningen, 2022). Measures to achieve this include redirecting financial streams from healthcare insurers.

In the *Populieren- and Beukenlaan* redesign streets were (temporarily) closed to increase traffic safety and create child-friendly areas for play. Residents expressed mixed feelings (Figure 14), like concerns about diverted traffic, but gave positive feedback on the improved overall safety (Sunny Selwerd, 2019). Additionally, construction of a new heat network enabled a street redesign with expanded sidewalks and shade which connects to a square for pedestrians to ease accessibility to a nearby shopping centre (Avitec, 2024; Sunny Selwerd, 2024).

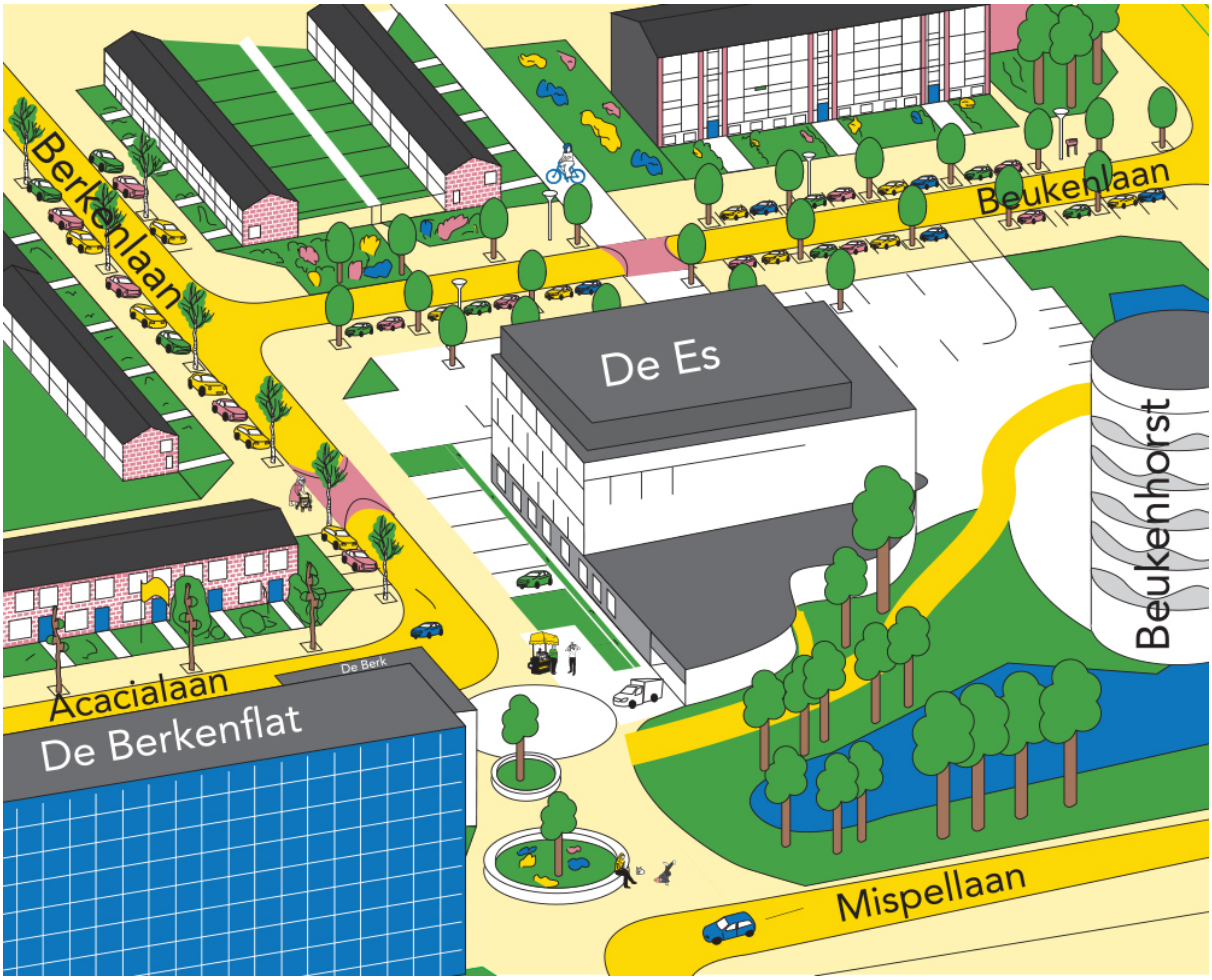


Figure 13 Redesign Berken- and Beukenlaan Groningen Selwerd (Sunny Selwerd, 2024)

Pilot projects like '*Bewegen voor kinderen: slim, fit en gezond (2013)*' promote daily movement routines to children and connect sports clubs, parents, and schools. Groningen generally informs residents on local activities, sporting opportunities and healthy lifestyle choices.

The necessity for these kinds of targeted neighbourhood interventions is reiterated by monitoring data which shows an imbalance in satisfaction with facilities. Figure 15 highlights this by showing that 92% of residents are satisfied with access to supermarkets, but a mere 54% is satisfied with facilities for youth (Gemeente Groningen, 2014).

Figure 14 Experiment Populieren- and Beukenlaan Groningen Selwerd (Sunny Selwerd, 2019)

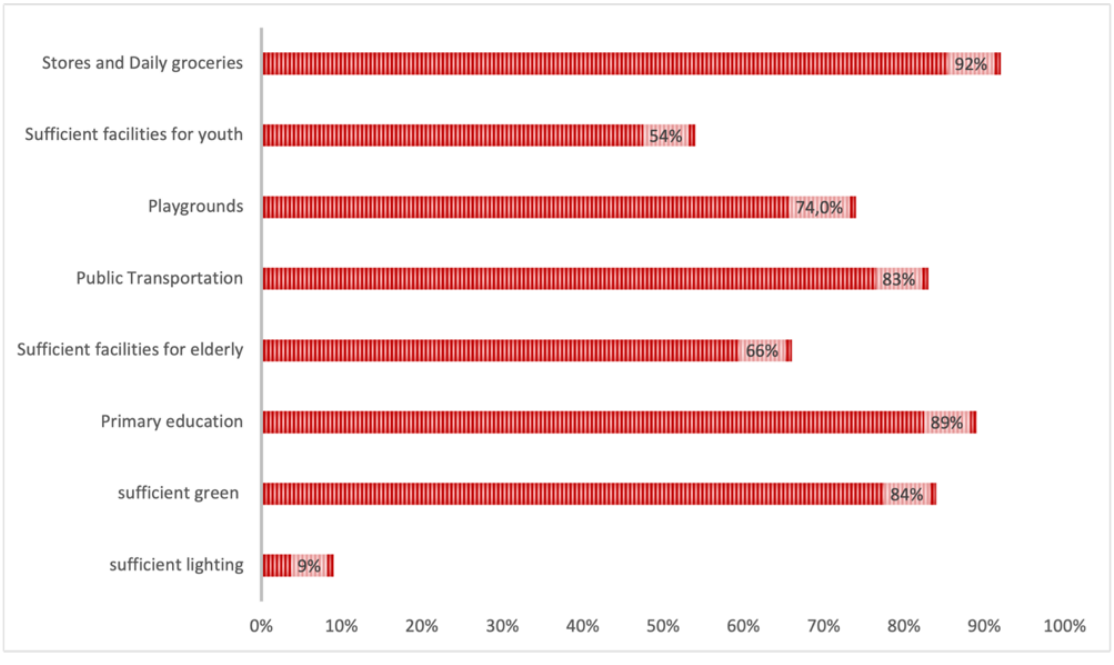


Figure 15 Neighbourhood Monitor Groningen, Satisfaction with perceived availability of services and facilities (Gemeente Groningen, 2014)

Figure 16 Outdoor skatepark(Mint Stadsontwerp, 2021) and outdoor calisthenicspark Haagse Beemden (Hayes, 2021; SMARTMOVE, 2023)

Figure 17 SmartMove-interactive pillar (Geertruidenberg Nieuws, 2022; SMARTMOVE, 2023) and moveable sportcontainer (Gemeente Breda, 2024b; Peeters, 2020)

BREDA

Breda implements physical activity by focussing on redesigning public spaces, developing infrastructure, collaborating with stakeholders, organizing events, and employing technology. The municipality collaborates with educational institutions, sports organisations, health providers such as the GGD, and communal groups to achieve these goals. Strategies in the 'Vision on Sport and Movement 2017-2030' (Gemeente Breda, 2017) and its 2023-2026 implementation plan (Gemeente Breda, 2023d) focus on five different aspects (so called pillars) to improve on, including exercise stimulation, sports accommodations, movement in public space, top sport and talent development, and sporting events.

Figure 18 The 'Nieuwe Mark' (Musters, 2021)

Apart from the five pillars the municipality aims to improve

the living environment of residents. These include increasing green spaces and reducing tile-covered areas by 10% over the next 20 years (Gemeente Breda, 2021). Projects like the '*Nieuwe Mark*' and the '*Singel Park'* are part of this goal by creating green recreational spaces and addressing resiliency issues like cooling and biodiversity (Marcelis, 2023; Nijs, 2016). The municipality furthermore collaborates with the JOGG Breda initiative to promote a physical activity-friendly environment in housing projects, increase public water access, and encourage healthy behaviour (JOGG-Breda, 2023).

The '*Bredaas Lokaal Preventieakkoord 2021-2022*' (Gemeente Breda & GGD West Brabant, 2021) and '*Bredaas Leefstijlakkoord (2023-2026)*' (Gemeente Breda, 2023a) focus on increasing physical activity, promoting healthy lifestyles, and encouraging community engagement to reduce the discrepancies and to increase the adoptions of healthy lifestyles. Local stakeholders like '*Breda Actief*' and the Aartsen foundation collaborate to organise activities to address issues like smoking, obesity, and healthy nutrition (JOGG-Breda, 2023). The urgency for these kind of prevention policies is highest in districts like Hoge Vucht, where 49% to 56% of households have a low income which is significantly higher than the city-wide average of 39% (Gemeente Breda, 2023b, 2023c).

Policies are implemented slowly, with planned family-friendly recreational spaces either under construction or not fully operational. A lack of adequate infrastructure for families to be physical active is the consequence, limiting the effects of current policies (Gemeente Breda, 2023b). Nonetheless, Breda shows commitment to create a healthier, more active community. The extensive collaborations with diverse stakeholders and a focus on infrastructure aims to create an active and open environment for all residents. Monitoring identifies a specific lack of public space for the youth, with only 34% of residents satisfied with facilities for youth, which current policies aim to address (Gemeente Breda, 2024a).

Figure 19 The 'Nieuwe Mark' first part finished (Marcelis, 2023)

4.3.3 COMPARISON OF HOUSEHOLD POLICIES

The household domain focuses on the daily environment in which residents live, interact, and move. A comparison of the four cities uncovers varying approaches to support and encourage active living around the home, based on their density and demography. We can compare the policies in three categories here: density and proximity, socio-economic considerations, and monitoring.

Density and Proximity

The most significant difference lies in how the cities organise daily life in a spatial context. Utrecht and Groningen focus on densifying the city, based on the "10-minute" and "15-minute" city concept. By enforcing compact building and mixed zoning they ensure that daily services like supermarkets and schools are within walking distance. The monitoring in Groningen confirms its success, with 92% of residents satisfied with access to supermarkets (Gemeente Groningen, 2014). However, this density has its downsides as residents at Utrecht's peripheral neighbourhoods report lower access to healthcare and services compared to the centre. This creates an inequality in the potential of daily active living (Gemeente Utrecht, 2021a). In comparison, Breda and Almere are more sprawled which results in challenges to make connections. Almere generally scores high on green space proximity, but especially older neighbourhoods lack behind when it comes to public space designed for active living (Gemeente Almere, 2022). Breda aims to densify their cityscape (with 10,000 new homes in the city-centre) but faces gaps in providing sufficient infrastructure and spaces to offer more active modes in some neighbourhoods. For example, in Hoge Vucht the issue is not just the distance but also the quality of the route to work. Traffic nuisance and a lack of maintenance (rated 3.9/10) discourage residents to walk to local facilities (Gemeente Breda, 2024a).

Socio-economic considerations

The cities choose different approaches on which groups to target with their policies in the household domain. Almere and Utrecht focus on children and youth. Almere, where 36% of households are families with children, prioritizes unorganised play spaces which require no memberships to reduce the barriers for low-income and single-parent households (Gemeente Almere, 2020). Groningen and Breda have a stronger focus on vulnerable groups and the elderly. Groningen links housing directly to health via the "Blue Zone" concept in Selwerd in which the elderly are accommodated to reduce loneliness and encourage walking. Breda focuses more on the social equality in the household environment. It recognizes that 49-56% of residents in prioritised districts have a low-income, which forms the foundation for Breda's policies to focus less on new infrastructure developments and more on social work which lifts the financial burden and enables residents to participate in activities (e.g. subsidies for sports) (Gemeente Breda, 2023a). Both cities acknowledge challenges. They realise that programs are successful during implementation, but that old habits return once the specific interventions stop (Vreeman & Teesink, 2014).

Monitoring

The cities also differ in how they measure the health of their household environments. Utrecht uses a data-driven approach like the MPR (*Meerjarenprogramma Ruimte*) dashboards for living, work, and income, and planning cycles to allow annual policy adjustments (Gemeente Utrecht, 2021c, 2023a, 2023b). Groningen uses a mix of objective data and subjective indicators displayed by municipal dashboards consisting of data from biannual surveys and short-term monitoring of programs (Gemeente Groningen, 2017, 2021b; Onderzoek Informatie Statistiek Groningen, 2022; Vreeman & Teesink, 2014). This allows them to evaluate long-term goals with ongoing evaluations to determine progress with a focus on socially weaker neighbourhoods (Basismonitor Groningen, 2022). Almere and Breda rely more on perceived quality and social feedback. Almere uses people's opinions, perceptions, and experiences (Skills Garden, 2019), which includes tracking usage patterns. This, however, lacks evidence on long-term effects in behaviour(Gemeente Almere, 2022). Breda uses the GGD monitoring and health dashboard, the city-survey data, and the input of neighbourhood panels and coaches to evaluate the effectiveness of policies (Gemeente Breda, 2021, 2023a, 2023d; Gemeente Breda & GGD West Brabant, 2021). Internal sources state that the evaluations lack monitoring of long-term progress. In some cases, no monitoring occurs after implementation (Employee Mobility Department, Appendix 4: Interview Transcript).

4.4 CONCLUSION

This chapter compared how Breda, Utrecht, Almere, and Groningen translate their active living ambitions into policies across the four domains recreation, transport, occupation, and household. Although the goal was similar, the cities showed differences in urban form, governance, monitoring practices, and social context which influence the effectiveness of their policies.

Utrecht and Groningen benefit most from their compact urban form and cycling culture, which support daily activity across the domains. Utrecht's urban planning strategy and detailed monitoring system allows it to continuously adapt policies. Groningen combines neighbourhood-based interventions within a clear health improving framework. Both cities face similar challenges, with unequal outcomes between neighbourhoods and population groups, and limitations in scaling pilot projects to city-wide interventions.

Almere and Breda do have a more fragmented spatial and social context. Almere has high-quality recreational infrastructure and green spaces, but long commuting distances and car dependency limit daily movement, especially in transport related activities. Breda also combines ambitious spatial and preventive health policies with neighbourhood interventions but experiences uneven outcomes due to socio-economic disparities, safety concerns, maintenance issues, and limited long-term monitoring of behavioural change.

The analysis across all cities showed that investments in infrastructure alone are not sufficient to promote active living. It reveals that most cities miss hard data which connect spatial interventions to behavioural change. This policy gap is relevant for the following research presented in chapter 5, where we aim to understand how these policy ambitions manifest themselves in complex and vulnerable neighbourhoods. In the context of Breda's Hoge Vucht, the municipals policy intentions are here measured with resident's actual lived experiences. A key takeaway from this comparison for Breda is that to reach socio-economically vulnerable, migrant, and elderly groups, active living should be structurally integrated in spatial planning, combined with a detailed monitoring system and improved inclusive participation.

5. RESIDENT VS MUNICIPALITY IN HOGE VUCHT

This chapter analyses survey responses to identify where municipal policies and interventions align or fall short of residents' needs. The survey, on which my research rests, was conducted between 12th - 31st of May 2023 (n=41), and combined online responses and face-to-face intercepts at the Hoge Vucht shopping centre on the 26th of May from 10am - 1.30pm. The questions focused on everyday experiences with recreation, transport, and neighbourhood liveability.

Respondents differed in age between 23 and 76 years old (median 37, mean 41) and were slightly more educated than the district average, with 34% having a higher education compared to 21% citywide. The employment status is diverse. 53% full-time, 16% part-time, 8% full-time students, 5% unemployed, 5% incapacitated, 3% retired, 5% housewife/husband, and 5% mixed/other. Perceptions by men (47%) and women (45%) split evenly. Migratory and income data were not recorded in this survey and are discussed using municipal data. The data on cultural norms is limited but does not diminish the value of the dataset on local perspectives.

The following analysis employs the *Ecological model of Four Domains of Active Living* by Sallis et al. (2006) to compare residents experiences to the policy environment in Breda. To prevent repetition and increase the analytical focus the four-domain structure is merged. The recreation and household domains are combined because both describe daily active living within the home and the neighbourhood environment. Transport and occupation are combined, too, because both show daily mobility patterns linked to work and school. Within each section the residents' perceptions are discussed. This is followed by an interpretation through the model's individual, social, and environmental factors and finalised by a comparison to relevant policies made by the municipality.

5.1 ACTIVE LIVING IN AND AROUND HOME (Recreation + Household)

5.1.1 RESIDENTS' EXPERIENCES AND SOCIOECONOMIC CONTEXT

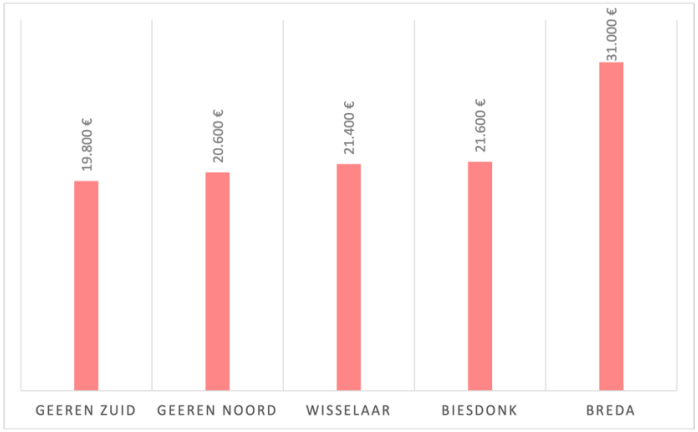


Figure 20 Annual Income per individual (Gemeente Breda, 2023b, 2023d)

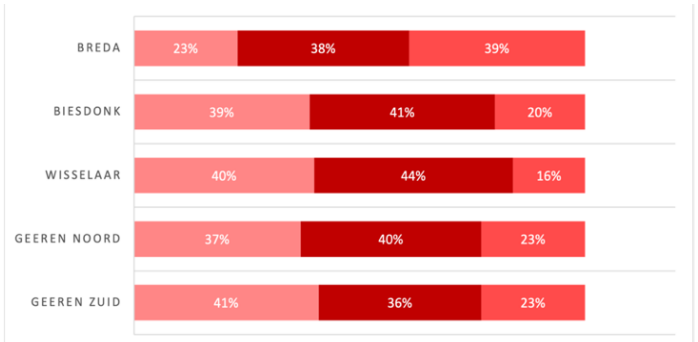


Figure 21 Educational Levels of residents (Gemeente Breda, 2023b, 2023d)

Socio-economic and educational differences impact physical activity in Hoge Vucht significantly. Median annual incomes, specifically in Geeren-Zuid with 19,800€ (Figure 20), are significantly lower than Breda's city-wide average of 31,000€ (Gemeente Breda, 2023b, 2023c). Approximately 49-56% of Hoge Vucht's residents have a low income (Figure 22), about 10% more than Breda's average (39%)(Gemeente Breda, 2023b, 2023c). These economic disparities often limit opportunities to be physically active due to financial and time constraints (Van Lieshout (Staat van Utrecht and gemeente Utrecht) & Van den Dool (Mulier Instituut), 2020).

The socio-economic differences remain visible in education levels too. Between 37% and 41% of residents are lower educated and merely 16% to 23% are higher educated compared to 23% lower educated and 39% higher educated individuals in Breda overall (Figure 22) (Gemeente Breda, 2023b, 2023c). The survey results mirror this imbalance, with 34% showing vocational education and

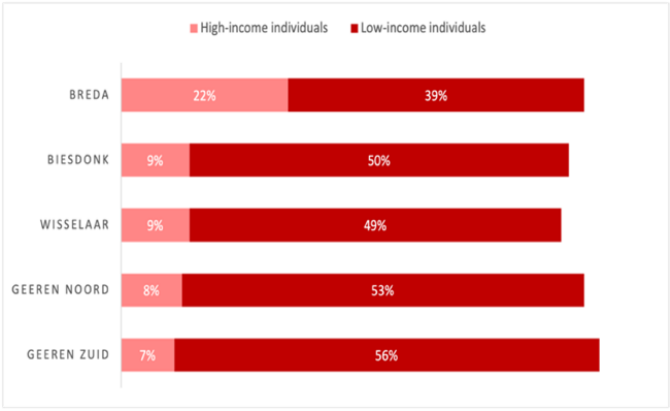


Figure 22 High- and Low-Income Individuals per neighbourhood (Gemeente Breda, 2023b, 2023d; SMARTMOVE, 2023)

24% obtaining a university degree (Figure 23). Higher education is connected to stronger health awareness and active lifestyles whilst lower education is more likely to reinforce inactive lifestyles (Van Lieshout (Staat van Utrecht and gemeente Utrecht) & Van den Dool (Mulier Instituut), 2020).

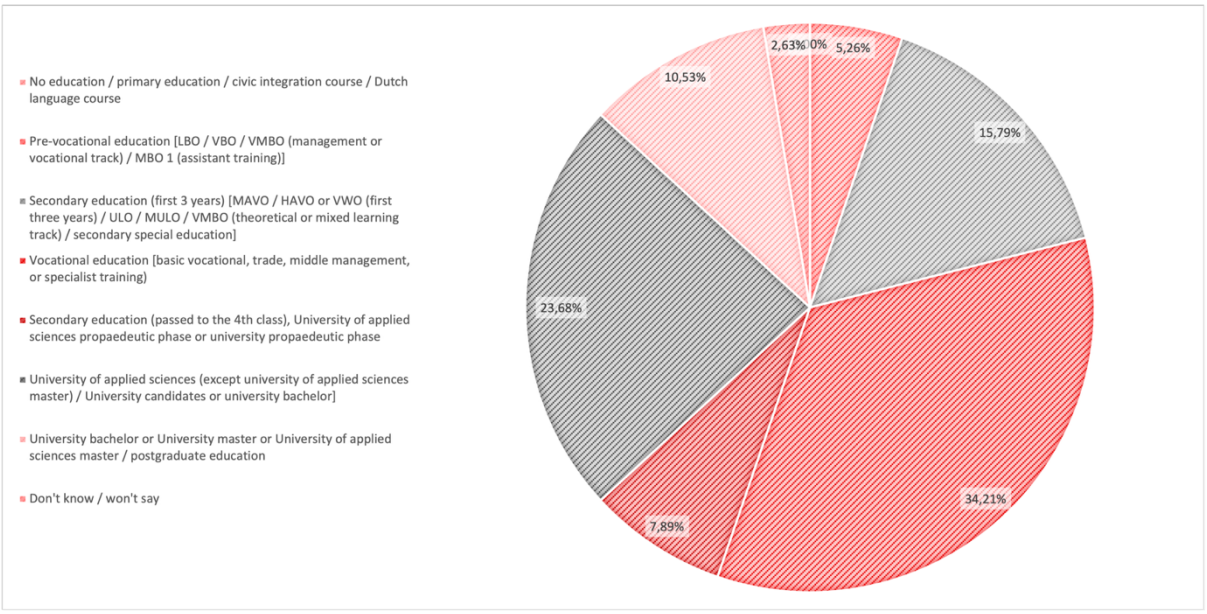


Figure 23 Survey Response: "What is your highest completed education?"

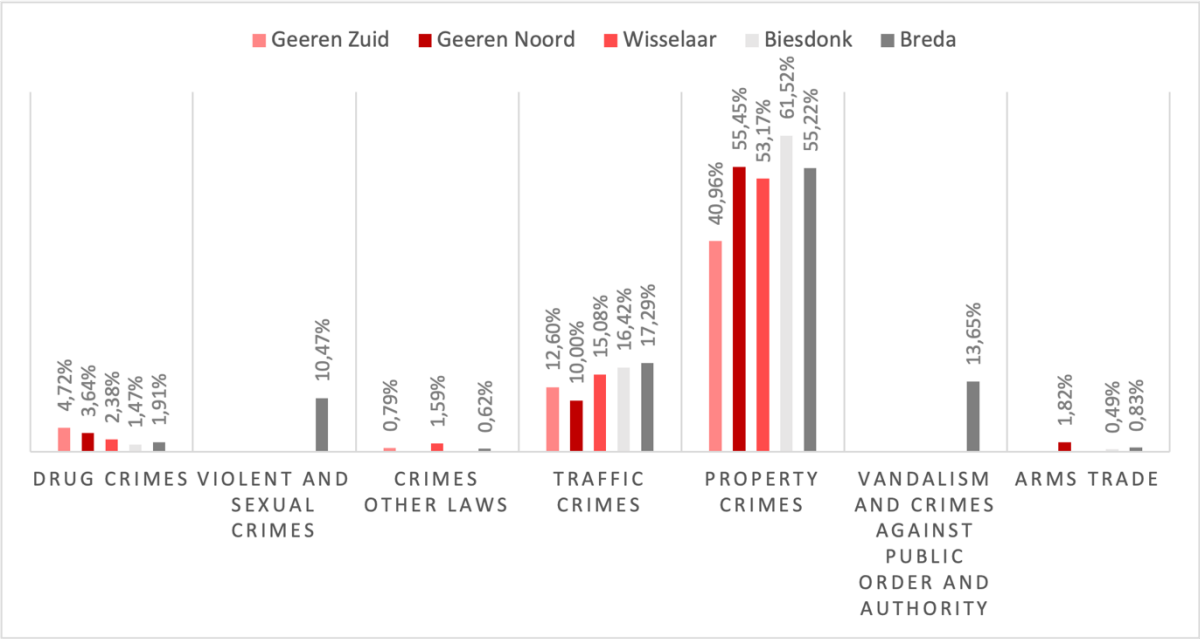


Figure 24 Types of crimes (Gemeente Breda, 2023b, 2023d)

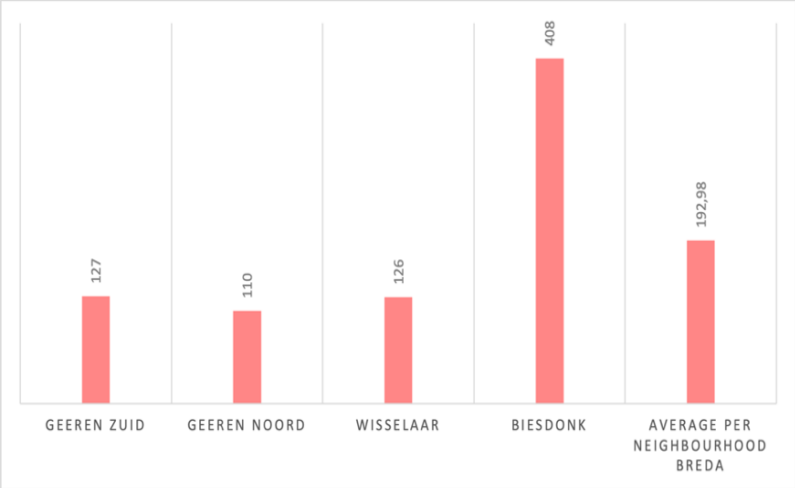


Figure 25 Crimes per Year (absolute numbers) (Gemeente Breda, 2023b, 2023d)

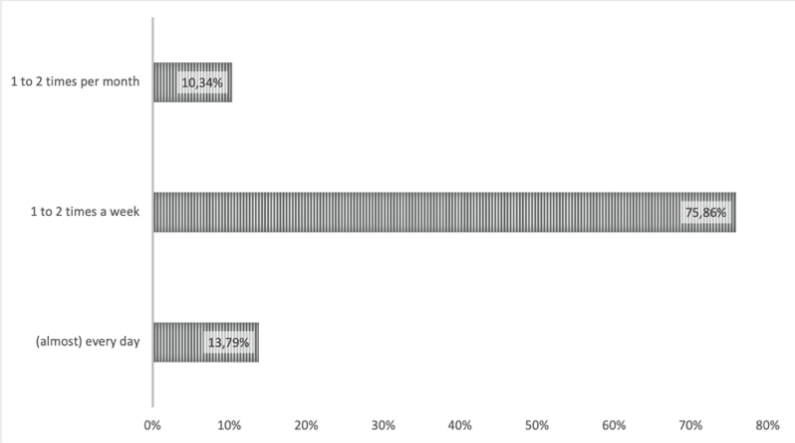


Figure 26 Response to survey question 6: 'How often did you do Sports last month?'

Safety and social stability differ greatly within the district. In Biesdonk, higher crime rates (408 reported crimes) take place in a shopping centre and supermarkets with self-service checkouts, which increase the property-related offenses (RTL Nieuws, 2023) (Figure 24). Geeren-Noord, Geeren-Zuid, and Wisselaar report fewer crimes (125 annually) than the city's average (193 per neighbourhood) (Figure 25) (Gemeente Breda, 2023b, 2023c). However, underreporting may occur due to language barriers or distrust in authorities.

The socio-economic and education profile of district Hoge Vucht (lower income, lower education, and perceived safety issues) are a structural barrier in daily movements. Understanding these local differences is essential to create targeted interventions. Apart from relieving economic limitations a focus should also be on improving the residents sense of safety and opportunity for active living (Gemeente Breda & GGD West Brabant, 2021).

5.1.2 INDIVIDUAL & MOTIVATIONAL FACTORS

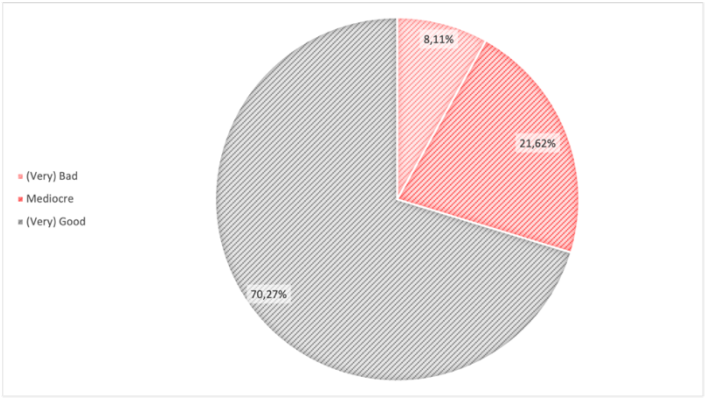


Figure 27 Survey Repsonse: 'How is your health in general?'

Among survey respondents' physical activity is moderate. In April 2023, 68% were physically active, of which 76% was active weekly and 14% daily (Figure 26), which is comparable to Breda's average of 70% (Gemeente Breda, 2017). While 70% rated their health as good, 32% state health issues sometimes prevented physical activity and 8% stated it as a constant limiting factor (Figure 27, Figure 28, Figure 29).

Perceived safety remains a factor. While 88% feel safe engaging in sports locally during the day (Figure 34), 42% feels unsafe at night which limits popular sports like running and cycling (Figure 35) (Employee Mobility Department, Appendix 4: Interview Transcript; Gemeente Breda, 2023b, 2023f). Respondents' dissatisfaction of 37% with playground visits (Figure 35) and requests for improved outdoor facilities like basketball courts, football goals, and fitness equipment indicate that residents want accessible and visible spaces that encourage spontaneous activity.

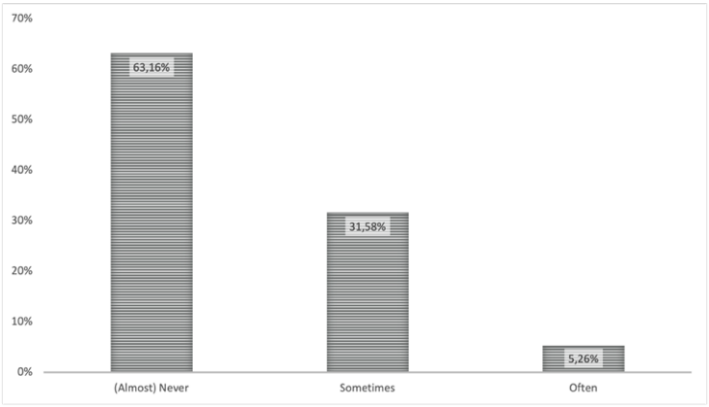


Figure 28 Survey Response: 'In the past month you have not been able to do something because of your health?'

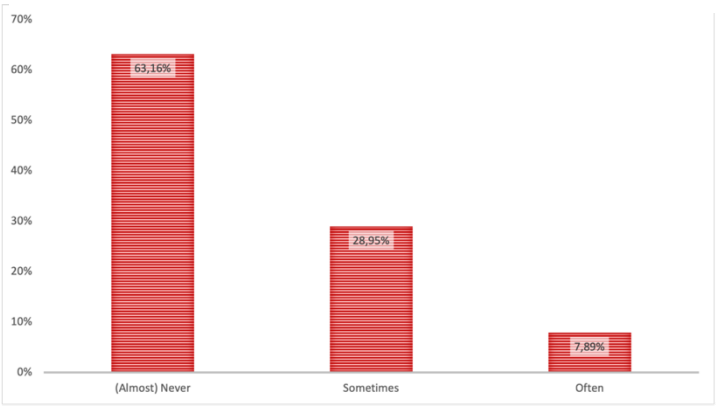


Figure 29 Survey Response: 'Was your health reason to walk less in the last month?'

Within the Ecological Model these results highlight the interaction between environmental and individual factors. Although respondents' express health awareness and a willingness to be active, safety concerns, limited maintenance, inadequate facilities and individual health reduced the motivation to become physically active.

5.1.3 SOCIAL & CULTURAL DYNAMICS

Community engagement and family-oriented interventions are prioritised in Breda's policies (Gemeente Breda & GGD West Brabant, 2021). However, in Hoge Vucht these ambitions remain only partially realised. Only 37% of residents visit local playgrounds frequently (Figure 35). Dog excrements on the lawns, poor maintenance, and vandalism are most frequently mentioned by respondents to not use public facilities. These issues reduce safety and motivation for outdoor activities.

Hoge Vucht's cultural diversity (37%-43% vs 25% city-wide (Gemeente Breda, 2023b)) impacts participation too. Cultural norms influence how public space is used and shared. Current policies focus on children rather than addressing the needs of migrant families and adults (Employee Mobility Department, Appendix 4: Interview Transcript).

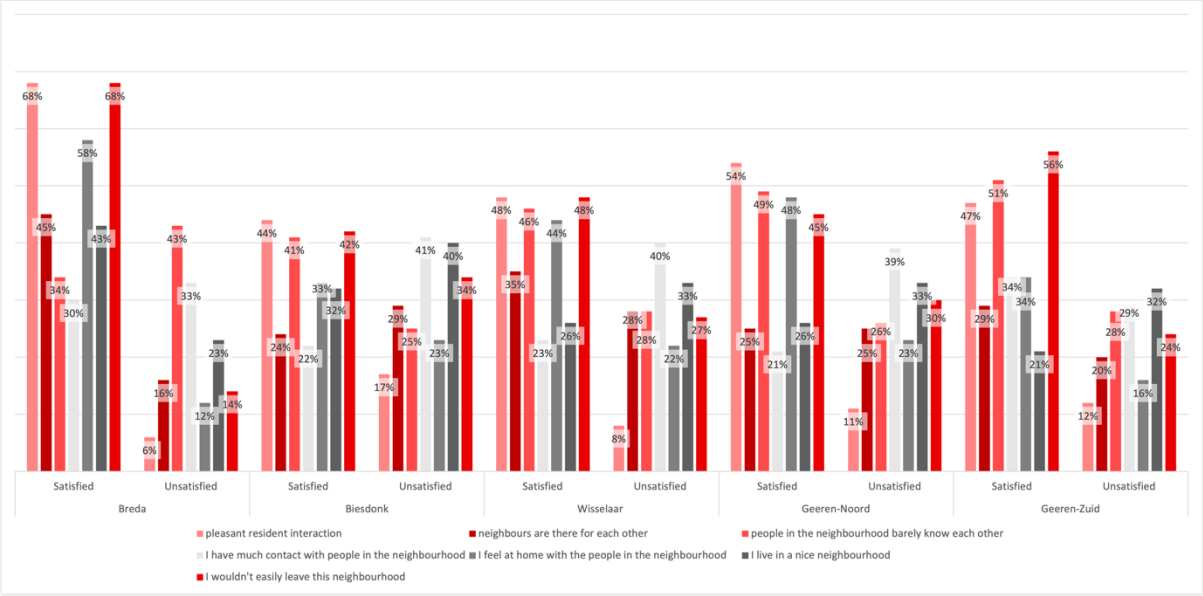


Figure 30 Social cohesion in Hoge Vucht

Satisfaction with social cohesion in Hoge Vucht is uneven, and generally lower than city-wide (Figure 30). Residents in Wisselaar (48%) and Biesdonk (44%) (Figure 30) have a strong neighbourhood connection, but in Geeren-Zuid (32%) and Geeren-Noord (39%) this cohesion scores significantly lower. Safety perceptions further hinder collective outdoor activities, with 42% feeling unsafe at night (Figure 34, Figure 35).

These findings, looked at through the Ecological Model, illustrate how social and cultural factors influence the relationship between the environment and behaviour. Even if the infrastructure is available, a lack of trust, cultural differences, and perceived safety prevent residents from establishing social connections that support an active lifestyle.

5.1.4 ENVIRONMENTAL EXPERIENCES & ACCESSIBILITY

Accessibility Activities

Residents of Hoge Vucht generally rate the neighbourhood as accessible but perceive a clear difference between quality and accessibility. While 80% find pedestrian paths accessible, only 54% state their quality is sufficient (Figure 34). This hints at a gap between the policy ambitions for walkability and the experience by residents, Insufficient maintenance and infrastructure quality here discourage walking.

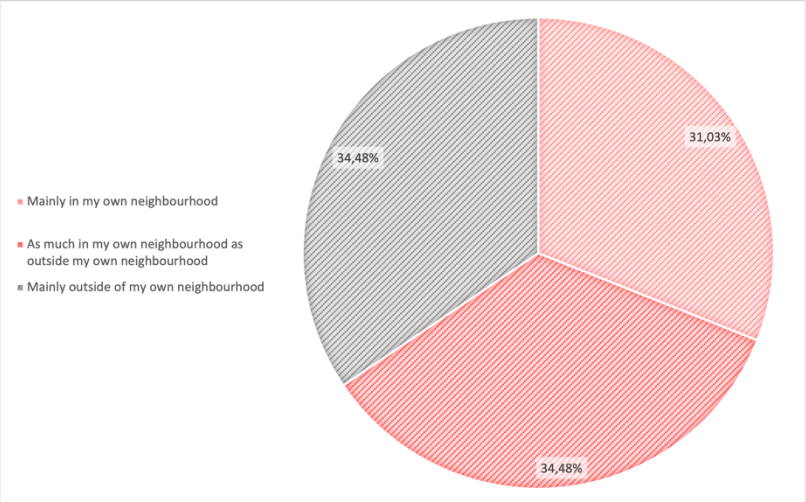


Figure 31 Survey Response: "Where do you sport?"

When discussing sports associations about half of the respondents rate the number of available places as average (Appendix 1). Especially in Geeren-Zuid and Geeren-Noord satisfaction with sports opportunities is lower (34%-39%) compared to Biesdonk and Wisselaar (50%-51%) (Gemeente Breda, 2022a). Additionally, 34,5% of residents frequently travel outside their neighbourhood for recreation (Figure 31) which suggests that local facilities are inadequate and lack variation.

Residents evenly distribute physical activity within (31%) and outside (34%) their neighbourhoods (Figure 31), which reveals willingness to be active but also a shortage of local opportunities. Accessibility to daily services is rates high (90%), on par with municipal findings (Gemeente Breda, 2022a). Despite positive infrastructure ratings (80%) (Figure 34, Figure 35) residents indicate the willingness to cycle/walk more if infrastructure improves. The dissatisfaction with park (30%, Figure 35) and neighbourhood cleanliness (27%, Figure 36) can further reduce the motivation for outdoor activities.

The '*Leefbarometer (scale 1-100)*' rates the liveability in Breda as "Good", while Hoge Vucht scores "Weak" based on the five indicators housing, residents, facilities, safety, and physical environment. On all, except facilities, the district scores low which highlights the need for safety, social, infrastructure, and maintenance improvements. This clearly demonstrates the discrepancies between Breda's efforts to provide greenery and facilities and the residents perception of liveability.

Infrastructure Quality

Residents report a discrepancy between the availability and usability of public space. Although 80% are satisfied with playgrounds, only 31% use them frequently. Reasons include inadequate equipment for certain age-groups, poor maintenance, and vandalism, particularly in Geeren-Noord and -Zuid (Figure 35, Figure 36). Furthermore, Figure 34 shows that 94% consider the cycling infrastructure as safe and that pedestrian infrastructure lags (89%), whilst 81% request more separated bike lanes. Pedestrian paths maintenance is also problematic, with only 54% rating it as sufficient (Figure 35).

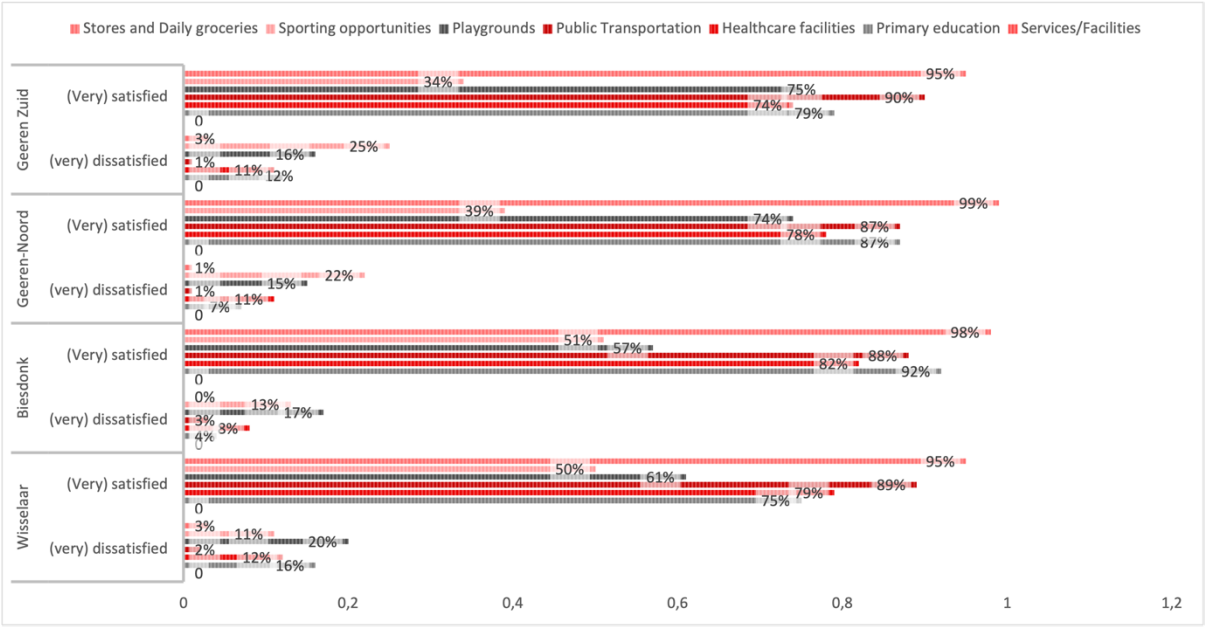


Figure 32 Accessibility and availability of facilities and services in Hoge Vucht (Gemeente Breda, 2022a)

93% of residents is satisfied with the proximity of greenery (Figure 35, Figure 37) and 80% with local playground availability (Figure 34). However, 37% of residents with children never visit these playgrounds and merely 31% visit frequently (Figure 34). In Geeren-Zuid, vandalism and lower greenspace availability discourage the use of facilities (Mulier-Instituut, 2021), suggesting a dissatisfaction with the facilities and maintenance (Figure 36). Although the municipality provides sufficient green spaces utilisation remains low due to poor maintenance and lack of attractiveness and programming. Other studies by Edwards et al. (2006), Ewing et al. (2016), and Gebel et al. (2007) suggest that the design of public space alone does not ensure physical activity and that perceived safety and the attractiveness of space is equally as important.

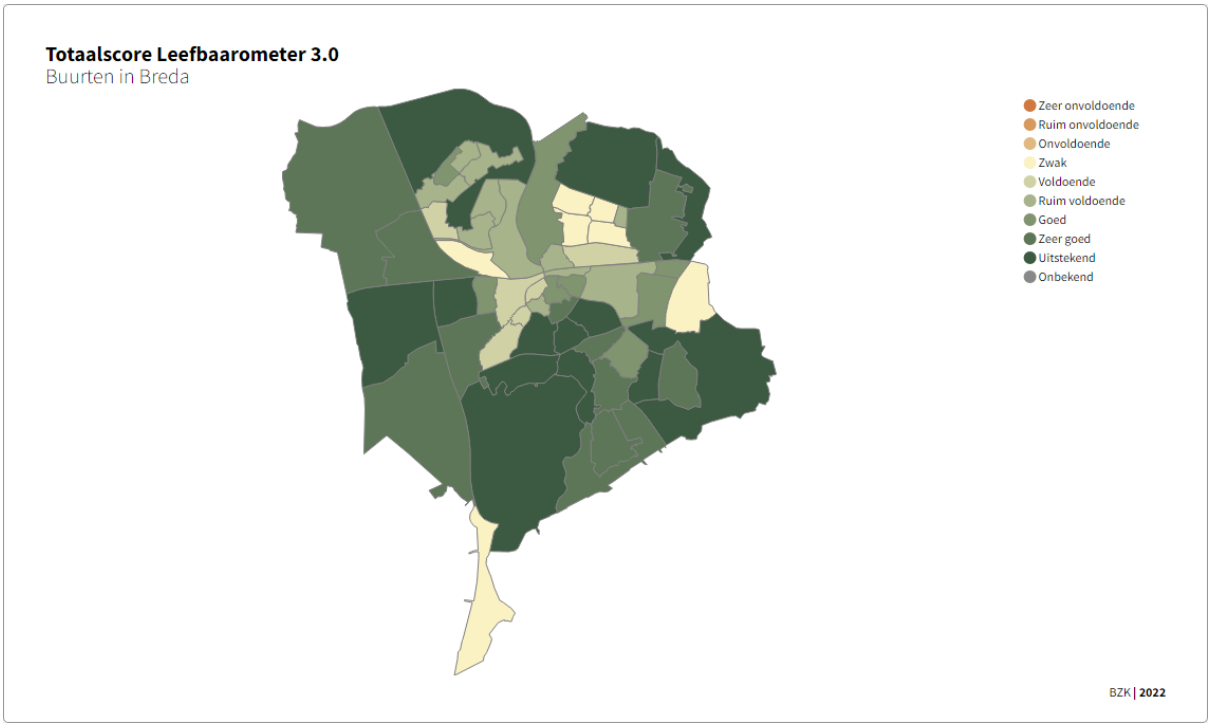


Figure 33 Leefbarometer 3.0 (Data from 2022) (Gemeente Breda, 2022a)

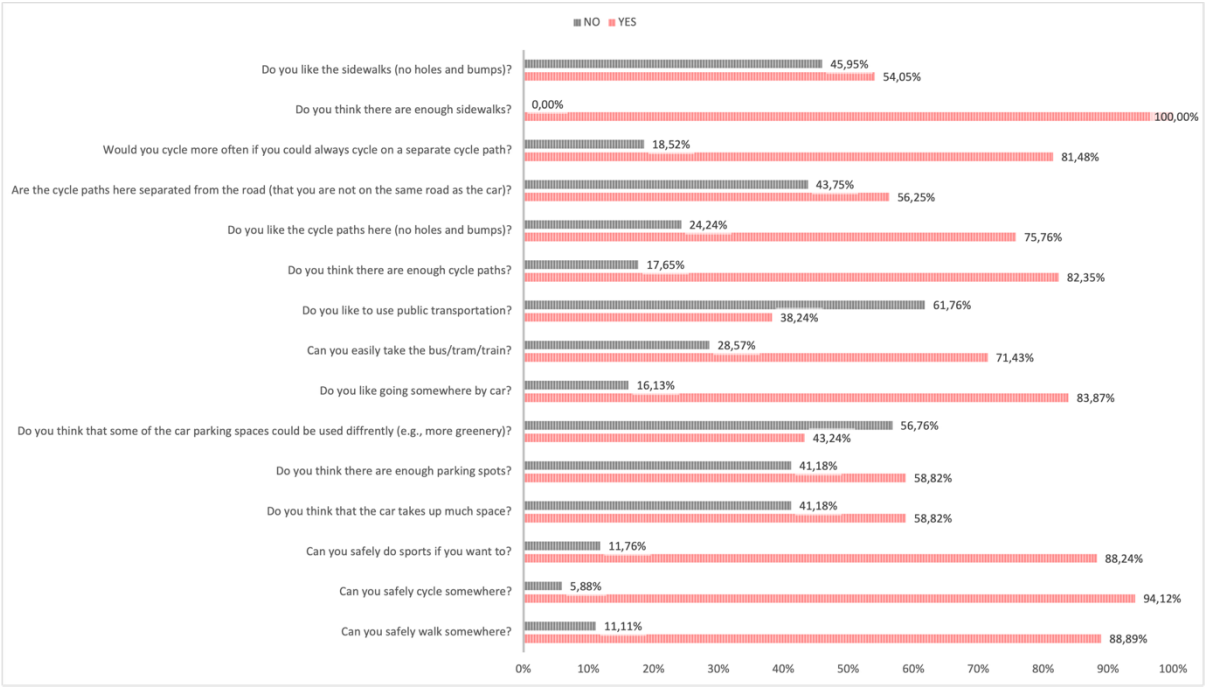


Figure 34 Opinion on Physical Activity in the Neighbourhood and associated Infrastructure

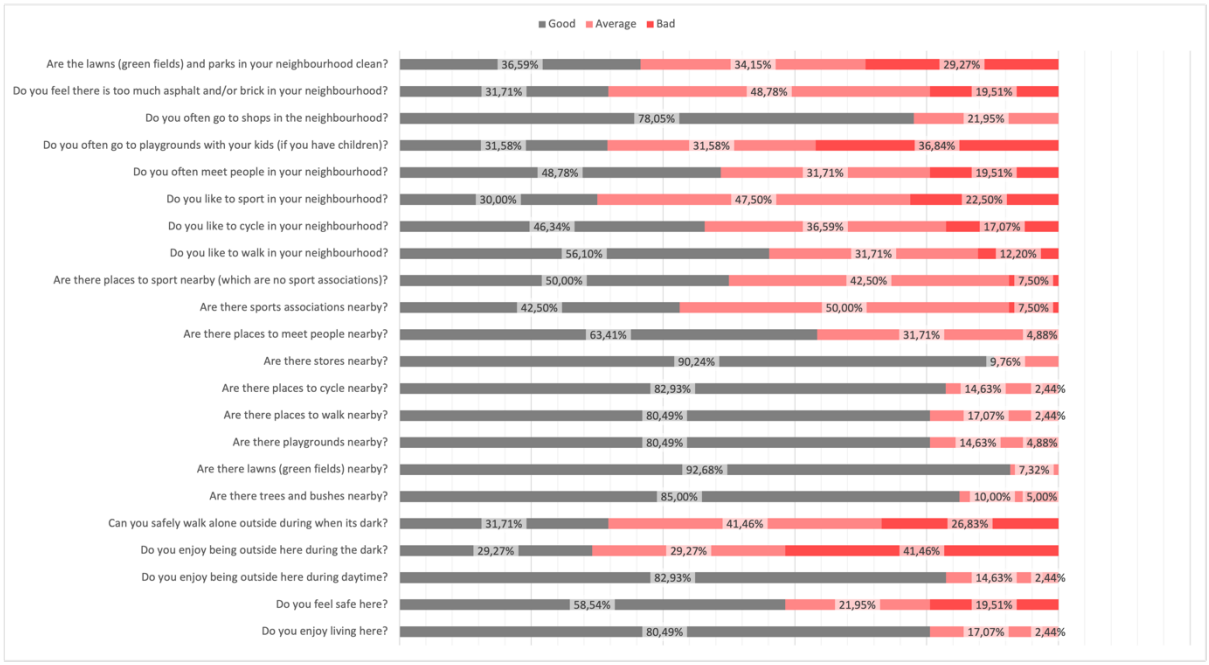


Figure 35 Neighbourhood perception Hoge Vucht

Comfort and Aesthetics

60% of residents indicate that cars dominate the public space which negatively impacts the aesthetics and comfort (Figure 35). In Biesdonk, insufficient parking spaces cause nuisance and unsafe situations. 32% of residents describe the excessive asphalt and brick surfaces as reducing the appeal of public space. These perceptions show discrepancies between Breda's ambitions for a green and activity friendly environment and the lived experience by residents. Improved green structures, better maintenance, and reduced car dominance could increase comfort and encourage recreational engagement.

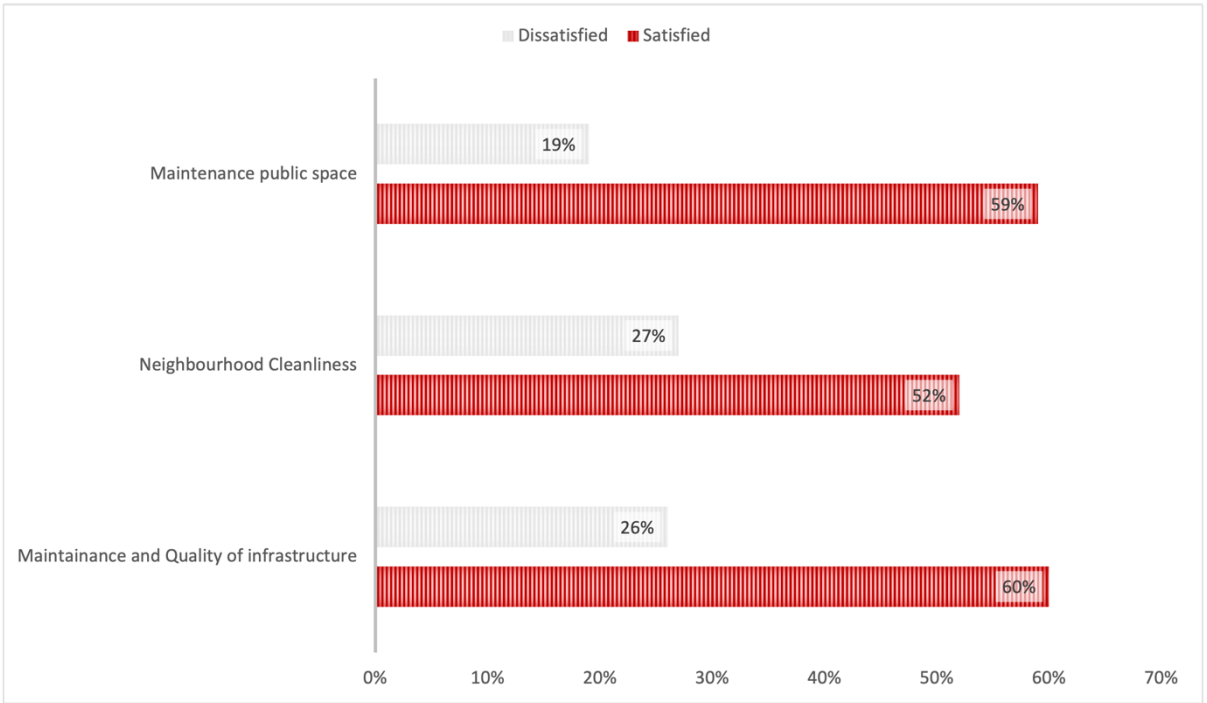


Figure 36 Perception on Public Space in Breda (Gemeente Breda, 2023b)

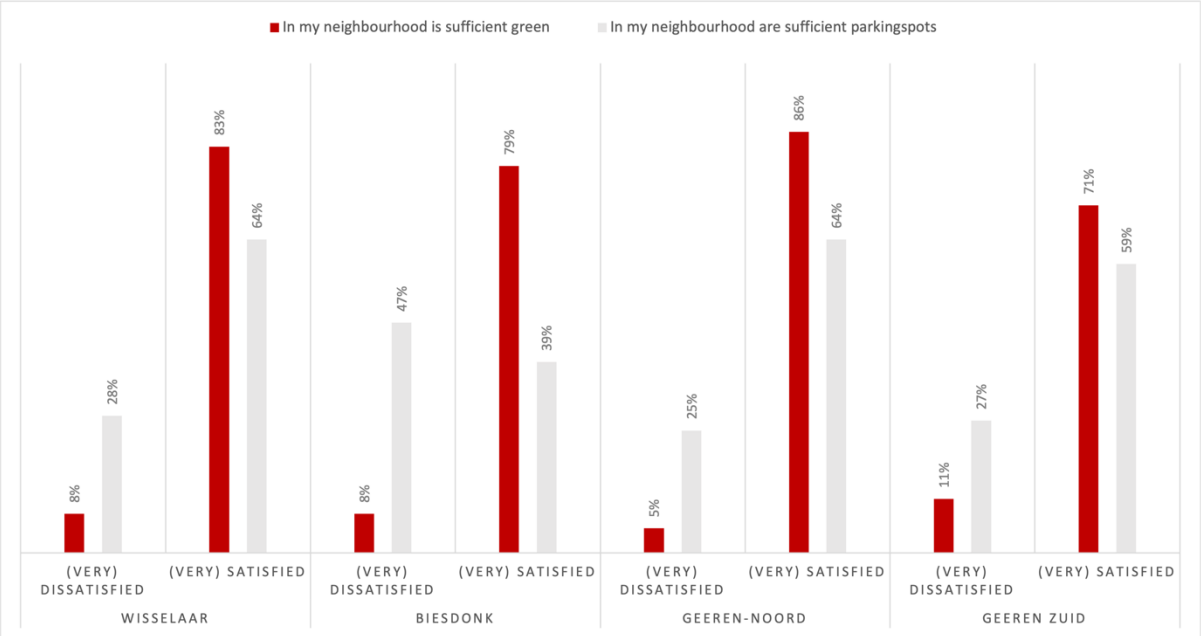


Figure 37 Perception on Greenery in Study Area (Gemeente Breda, 2023c)

Looking through the lens of the *Ecological model of Four Domains of Active Living* (Sallis et al., 2006) Breda is successful in the provision of accessible infrastructure but fails to translate these environmental opportunities into daily activity. The built environment does offer the potential for daily movement, but weak maintenance, safety concerns and perceived discomfort by aesthetics reduce residents' motivation to use available spaces. This again shows that environmental factors must interact with social and individual factors. Without the continued social and motivational support enhanced accessibility alone does not yield long-term behavioural change.

5.1.5 POLICY CONTEXT

Breda's current ambitions to promote physical activity focuses on improving infrastructure and creating opportunities in proximity to home. The *Vision on Sport and Movement 2017-2030* and its implementation plan focus on making sport accessible for all by combining spatial planning, social programs, and health promotion (Gemeente Breda, 2017, 2023d). Policies like the *'Bredaas Leefstijlakkoord (2023-2026)'* (Gemeente Breda, 2023a) and the *'Bredaas Lokaal Preventieakkoord 2021-2022'* (Gemeente Breda & GGD West Brabant, 2021) focus on tackling poverty, obesity, and low education through family-based approaches, collaborations with schools, and targeted interventions in vulnerable neighbourhoods like Hoge Vucht (Gemeente Breda & GGD West Brabant, 2021). Additionally, Breda's JOGG-approach focuses on children and youth and aims to promote healthy eating, water consumption and physical activity through schools and local partners (JOGG, 2024; JOGG-Breda, 2023).

Individual

Despite these ambitions the survey's results show that current policies did not translate into significant improvements in residents everyday live. At the level of individual factors, the residents recognise the availability of sports opportunities but are hindered by health limitations (32% occasionally and 8% constantly), concerns for safety, and poor maintenance of local facilities. Residents remain dissatisfied with playgrounds and outdoor facilities (37%) and have safety concerns at night (42%) (Figure 35). Apart from practical barriers, personal motivation to be active is also limited, as work and family responsibilities are often prioritised and leave little time for recreation. These findings show that while Breda's policies are successful when it comes to providing infrastructure, they do not address the social and motivational factors which shape residents' willingness to be physically active. Within the Ecological Model this again shows that sole improvements to the environment are insufficient without social and motivational support programs to help translate the available opportunities into daily physical activity.

Social

When it comes to social factors, Breda's initiatives promote collaboration and family participation but lack cultural nuances for some neighbourhoods. With 37-43% of Hoge Vucht's population having a migratory background, barriers to be physically active are often related to culture and language rather than to infrastructure. Current programs target only children and schools and overlook adults and migrant families who would benefit the most from more social integration and trust-building activities (Stichting Breda Actief, 2024b; Employee Mobility Department, Appendix 4: Interview Transcript). This negatively impacts the connection between the built environment and residents' actual behaviour. The Ecological Model emphasizes that social cohesion and trust are of importance and the support for translating the environmental opportunities into active lifestyles.

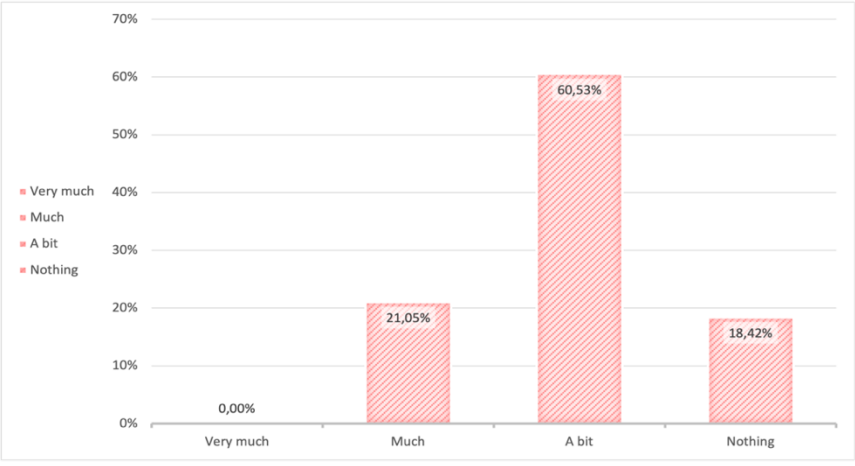


Figure 38 Survey Response: 'How much do you think your opinion is worth in a project by the municipality?'

Environment

Concerning the environmental factors, Breda was successful with the expansion of green spaces and invested in accessible sports infrastructure. The ambition to provide a park within 200 metres of each home underscores that strong policy intent. However, only half of the respondents rate these spaces positively (Figure 35) because of vandalism, litter,

and poor maintenance. This shows that while sufficient spaces are available, but that the quality and attractiveness limit behavioural change.

Policy

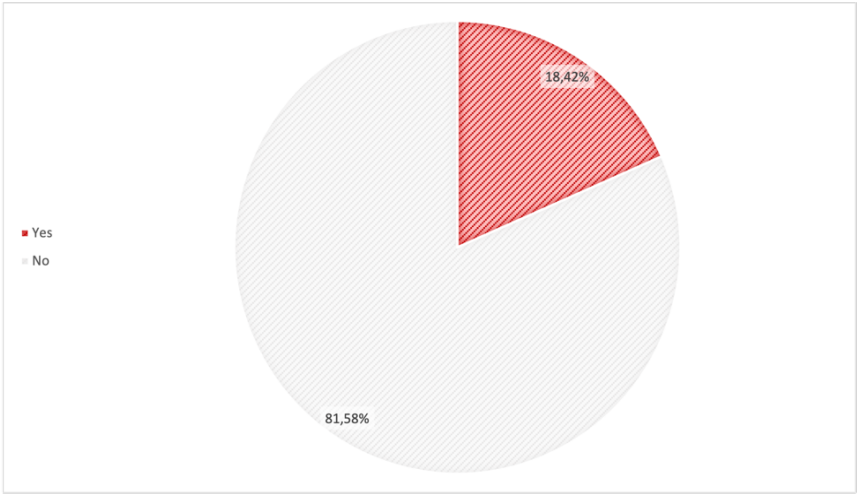


Figure 39 Survey Repsonse:'Your municipality has an active health policy. Do you notice anything about that?'

The policy factor, in my thesis analysed in the four domains through individual, social/cultural, and environmental/physical factors, reveal a gap between planning and implementation. Breda in a quest to realise its ambitions relies mostly on infrastructure investments and collaborations with local partners but lacks consistent monitoring. As stated by one municipal employee:" as a municipality we are not very good at evaluating our interventions" (Employee Mobility Department, Appendix 4: Interview Transcript). This weak feedback loop makes it difficult to adapt policies to real-world challenges and induce behavioural change in the whole population.

Only 18,5% of residents are aware of municipal efforts to promote physical activity (Figure 39) and merely 21% feel their input has been considered in decision-making (Figure 38). This is in line with Arnstein's concept of participation in the degree of tokenism where residents are informed but are rarely included to co-create. The result is that policies are there on paper but are invisible in daily life. Breda did start a new participation guideline which makes it easier for local initiatives to gain traction and support, but in 2023 it was not fully implemented yet.

To conclude, the approach by Breda generally aligns with environmental and policy factors of the Ecological Model that promote infrastructure and policy efforts but aligns less with individual and social factors to sustain long-term behaviour change. With more community participation and monitoring that focuses on behaviour change, culturally nuanced interventions, and further improvements to public space partnered with programs for all demography's, the city can improve people activity levels.

While these findings rest on the recreational and household domain similar discrepancies between policy ambitions and the experiences of residents are evident in the transport and occupation domain which will be discussed next.

5.2 ACTIVE MOBILITY AND COMMUTES (Transport + Occupation)

5.2.1 MOBILITY PATTERNS AND PERCEPTIONS OF RESIDENTS

Residents in Hoge Vucht show a dependency on cars for their daily mobility. Although Breda promote sustainable transportation, 84% of residents state they use the car for commutes (Figure 34) while merely 31% are actually depending on their car (Figure 40). While convenience also plays a role, the survey shows a lack of perceived safety and potential infrastructure shortcomings for walking and cycling. Although 94% of residents consider the cycling infrastructure as safe, only 56% is satisfied with the current cycling lanes and 81% would like more separated cycling paths (Figure 34). Pedestrian infrastructure is perceived as less positive. 32% of residents feel unsafe walking at night, which equally affects transport as it did in recreation. Maintenance is only perceived as sufficient by 54% (Figure 35).

Perceived safety also takes its toll on commutes and leisure travel, especially at night. In Biesdonk, the higher theft rates linked to the shopping centre with supermarkets create a sense of insecurity (Figure 25)(RTL Nieuws, 2023), especially since it is a daily destination for residents. While Geeren-Noord and -Zuid report less incidents, residents still feel unsafe at night.

Health also explains limited mobility (Gemeente Breda, 2017; Van Lieshout (Staat van Utrecht and gemeente Utrecht) & Van den Dool (Mulier Instituut), 2020). 32% state that health is an occasional constraint to activity and 8% states it is a constant barrier (Figure 28, Figure 29), which is equally applicable to commutes/mobility as it is to recreation. This, combined with time constraints, especially amongst full time workers and parents, create a preference for the convenience of the car. All these aspects result in a behaviour where the environmental aspects to use active modes is available, but individual perceptions, of safety, health, and time constraints prevent residents from using them.

5.2.2 INDIVIDUAL & MOTIVATIONAL FACTORS

The limited use of active transportation in Hoge Vucht is very much influenced by individual motivation and habitual behaviour. While infrastructure for walking and cycling is accessible and available, residents choose against using it due to perceived safety, time constraints, and lived routines. My interviewee said that: “people often know what is good for them, but to actually take the step and change one’s behaviour is a lot harder” (Employee Mobility Department, Appendix 4: Interview Transcript). This supports the notion that residents are aware of opportunities but that this alone does not change their behaviour.

For many residents, practicality and convenience outweigh health and sustainability goals. Full-time employment, family care, and irregular schedules make the car the most convenient and plannable option. The fact that most organised sports take place to fit office-hours does not support physical activity, nor do these residents feel confident they can safely reach their destination at night. This especially impacts residents with irregular working hours. In Hoge Vucht, health is a constraint as evident from the survey responses, where 32% state that health is an occasional constraint to activity and 8% states it is a constant barrier (Figure 28, Figure 29). This again shows that even with active mobility opportunities offered by the physical environment, the individual motivation and perceived ability still are limiting factors.

The data gained from interviews supports this and show that Breda’s current approach relies on infrastructure investments and incentives to promote active modes of transportation. These efforts overlook the behavioural side of mobility. Whilst residents often know walking or cycling is healthier, habits, convenience, and the perception that driving is safer or faster keeps them from changing their behaviour. Without continuous support, personal guidance, and community-based behavioural programs these habits remain. This shows a misalignment between the individual and environmental factors in the Ecological Model. Although the environmental factors support active behaviour, individual factors like motivation and perceived capability to use active modes remain low.

5.2.3 SOCIAL FACTORS & DYNAMICS

Social and cultural factors influence mobility patterns of people in Hoge Vucht. Residents with a migratory background perceive, for example, cycling as unsafe or impractical, especially for children (Employee Mobility Department, Appendix 4: Interview Transcript).These perceptions are strengthened by cultural differences in mobility norms, which are currently insufficiently addressed by municipal programs. Existing initiatives largely focus on children in school-based programs and rarely include adults or migrant families (Stichting Breda Actief, 2024b). This results in an unbalanced acceptance of active transportation in which a lack of trust in institutions and differences in culture pose barriers to behavioural change (Employee Mobility Department, Appendix 4: Interview Transcript).

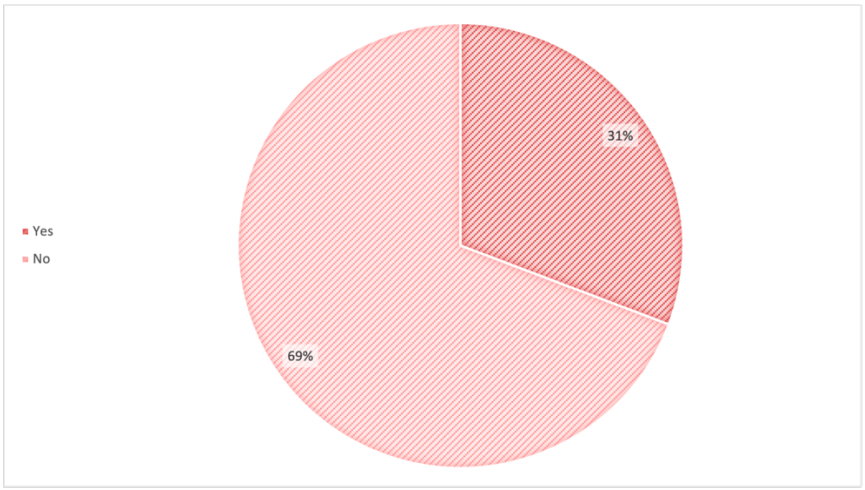


Figure 40 Survey Response: "Do you depend on your car?"

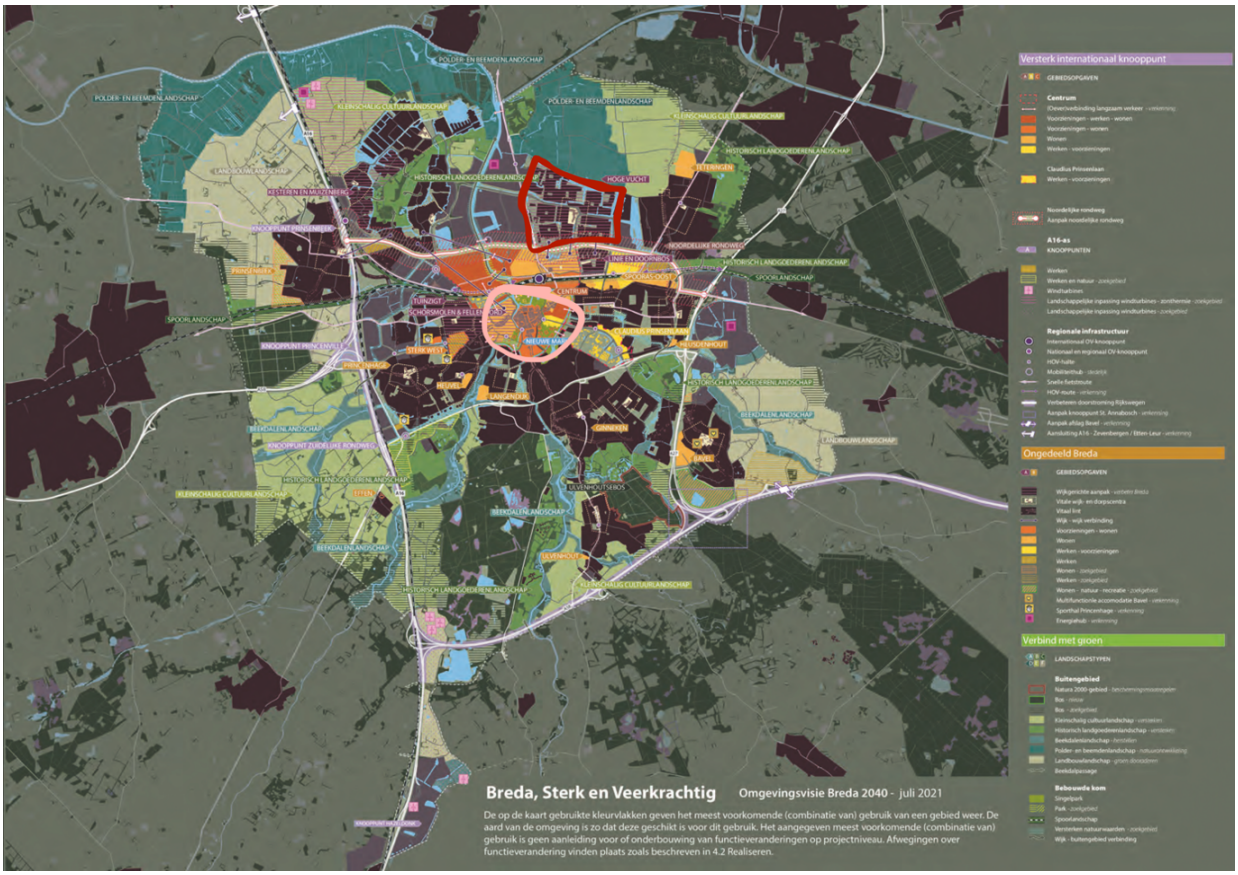


Figure 41 Omgevingsvisie map of Breda 2040 (Gemeente Breda, 2021) (study area in red)

Workplace and school environment play an important role in mobility choices. Through the *'Bredaas Lokaal Preventieakkoord 2021-2022'* the city collaborates with employers and health organisations to promote daily activity during and around work hours (Gemeente Breda & GGD West Brabant, 2021). However, for residents with irregular shifts, long working hours, and a lack of workplace accessibility, travelling by car is more convenient and thus the choice for active mobility remains difficult (Employee Mobility Department, Appendix 4: Interview Transcript). These barriers to active mobility are strongest amongst the lower-income groups which further expands the gap in transport behaviour between different socio-economic groups. While active commuting is officially promoted among employers and at schools, the programs lack continuity and adaptation to local needs. Only 18,5% of residents recognize efforts by the municipality (Figure 39) to stimulate physical activity which indicates insufficient communication and community involvement. Returning to the Ecological Model, these findings suggest that the social factors, which include cultural attitudes, workplace norms, and social support, are not sufficiently addressed. Without a stronger link between policies, culture, and the community, the infrastructure cannot effectively stimulate the use of active modes.

5.2.4 PHYSICAL/ENVIRONMENTAL & ACCESSIBILITY

Under recreation I mentioned that residents generally perceive transport infrastructure as accessible but insufficiently maintained or safe enough to encourage using active modes of transport. 75% perceive existing cycle paths as sufficient, but 81% indicate the need for more separate bike lanes (Figure 34). Comments from survey respondents support this, with participants asking for "better lighting, slower cars, and easier crossing for pedestrians and cyclists" and "broader, cleaner sidewalks". This shows that although the infrastructure exists, its perceived quality and comfort is below residents' expectations.

72% consider public transport but merely 32% enjoy its use (Figure 34), which might be due to comfort, reliability, and frequency which discourage its use. Comments by residents mention the need for a "faster connection to the city" which suggests that poor connectivity also explains the cars' dominance. Compared to public transport, 84% enjoy using their car although only 31% are dependent on it (Figure 40).

Maintenance and safety are, again, frequently mentioned issues. Around 46% finds sidewalks poorly maintained and 32% feel unsafe walking at night (Figure 35). Some respondents connected this directly to "a lack of enforcement and supervision" and "dirty, narrow sidewalks". These comments underline the findings of municipal reports which suggest that vandalism and low maintenance reduce the quality of public space (Gemeente Breda, 2023d).

Breda in its 'Omgevingsvisie 2040' aims to prioritise active transportation and reduce car dependence (Gemeente Breda, 2021). However, residents experience poor maintenance and slow implementation which are not the sought after benefits. This concern is recognised by a municipal employee who notes that interventions often take longer to realise than anticipated (Employee Mobility Department, Appendix 4: Interview Transcript). Respondents ask for "better lit parks", "outdoor gyms", and "cleaner, more accessible paths in the park", which shows that the quality and appearance of the environment are the main barrier to use active modes rather than infrastructure availability.

Viewed through the Ecological Model, Breda has created the potential for active transport through investments in the environment. However, the experience of the environment, like safety, comfort, cleanliness, and maintenance, discourage residents from daily walking or cycling. The responses from the survey suggest that improving infrastructure alone is insufficient as it must be combined with continuous involvement by the municipality after implementation. They need to monitor, maintain, and actively be involved in programming to ensure that spaces remain attractive, safe, and encourage daily social interactions. Without this ongoing presence, the new infrastructure fails to translate into long-term behavioural change.

5.2.5 POLICY CONTEXT

Through the *'Omgevingsvisie 2040'* and the *'Lokaal Preventieakkoord'* Breda aims to reduce car dependency and promote active, healthy commuting (Gemeente Breda & GGD West Brabant, 2021). The municipality promotes cycling, walking, and public transport by infrastructure investments and health initiatives at work. These

ambitions add on to city-wide goals for sustainability and improved liveability which combine spatial and health elements for active living.

Individual

At the individual level the policies to promote active commuting have not led to a change in behaviour. Although residents are aware of health benefits related to cycling and walking, constraints like health, time and irregular workhours, convenience, and safety reduce the motivation to choose active modes (Figure 29, Figure 34, Figure 35). The city's current approach focuses mainly on infrastructure and short-term initiatives focused on a small group of residents rather than sustaining large-scale programs to retain personal motivation and behavioural change. The Ecological Model here shows that individual motivation remains weak link here and that awareness alone without targeted interventions to maintain healthy behaviours will not lead to more activity.

Social

The municipality collaborates with local partners and employers to promote daily activity around schools and work. However, these programs fail to address social norms and cultural diversity within neighbourhoods like Hoge Vucht. Residents with a migratory background perceive cycling often as unsafe or impractical, especially for children (Employee Mobility Department, Appendix 4: Interview Transcript). Existing workplace initiatives are also voluntary and often not adapted to irregular working hours, which especially limits participation amongst socio-economic weaker groups. As a result, the social structures which should encourage active mobility remains weak.

Environmental

Despite significant progress by the city to improve cycling and pedestrian networks and investments in better connections to the city centre (Gemeente Breda, 2021), residents remain to perceive the quality, safety, and maintenance as insufficient (Figure 34, Figure 35). The mismatch between the availability of infrastructure and its perceived quality shows that the built environment alone offers potential but lacks the comfort and attractiveness to encourage everyday active travel. Furthermore, the municipal employee also recognised that many interventions take longer to realise then anticipated which means residents experience physical changes only after delays, weaking their impact (Employee Mobility Department, Appendix 4: Interview Transcript).

Policy

Policy-wise the city shows strong ambitions with limited behavioural impact. Its strategy related to transport aligns with the environmental dimension of the Ecological Model, but as found before, does not address social and motivational factors sufficiently which sustain long-term effects. The delays in implementation, fragmented responsibilities between departments, and a limited monitoring and evaluation system make it difficult to learn from policies and adapt them (Employee Mobility Department, Appendix 4: Interview Transcript). As mentioned in the recreation/household domain, only 18,5% of residents see municipal efforts to promote active living (Figure 39) which reduces trust and awareness of opportunities.

To conclude, Breda's policies perform well to produce an environment which supports active mobility but insufficiently addresses individual motivation, social participation, and slow implementation. By improving the integration of behavioural programs, maintenance, and introducing continuous monitoring, Breda's ambitions could yet be translated to lasting mobility impacts. The section that follows further explores which factors, through the Ecological Model of Four Domains of Active Living, best account for the success and failure of Breda's strategies to achieve active living.

5.3 DISCREPANCIES BETWEEN POLICY AND PRACTICE

Across all four domains (household, recreation, transport, and occupation), residents of Hoge Vucht acknowledge that Breda has mostly created an accessible and well-connected environment. The dissatisfaction mostly lies within the quality, maintenance and safety. The infrastructure for leisure and active mobility is mostly in place and otherwise noted by the municipality for improvement, like the connection to the city, yet a lack of maintenance, programming, and lighting reduce their use. This leads to the behaviour of residents not reflecting the city's ambitions. People are willing to be active but also have a need to travel outside their neighbourhood to do so.

Policies encompassing the environmental factors of the Ecological Model are strong. The city invests much in infrastructure and spatial quality, but is plagued by implementation delays, fragmented responsibilities, and limited evaluation which leads to a lack of information on the effectiveness of interventions and prohibits adaptations of policies to achieve behavioural change. The focus on facilities and infrastructure without sustained social programs assumes that accessibility alone leads to increased activity, which the results of the survey do not support.

This directly leads to the individual and social factors being neglected. The motivation to be active is low due to time constraints, health, and convenience. This is accompanied by social and cultural factors, especially amongst low-income and migrant residents, which limit participation and the trust in institutions. Programs which can address these barriers are short-lived, target children, and not sufficiently adapted to local diversity. As such, the potential those environmental investments create are not backed by social and motivational support.

The Ecological Model of Four Domains of Active Living helps explain this imbalance. Strong environmental inputs without equally as strong inputs on a social and individual level do only occasionally yield behavioural change. The interaction of these factors together is what brings success. Without continuous monitoring to adapt policies, maintenance, and programming sensitive to cultural diversity, the infrastructure remains underused and the policy impact unbalanced.

Through recent efforts, like the '*Participatieleiddraad Breda'* (Gemeente Breda, 2021; Employee Mobility Department, Appendix 4: Interview Transcript), the municipality acknowledges that intensified collaboration with residents could bridge the existing gap between policies and actual behaviour change. The new guideline aims to make participation more transparent and consistent by showing when and how citizens can contribute to projects. Even through its starting phase, it shows that the municipality moves from informing residents toward co-creation. According to the municipal employee this is a step to rebuild trust and change the mindset of both, citizens and the municipality, to create long-term cooperation (Employee Mobility Department, Appendix 4: Interview Transcript). A sidenote, however, is that co-creation, according to the employee, is most effective when citizens take the initiative (Employee Mobility Department, Appendix 4: Interview Transcript). This shift is important, as increased participation can improve social trust and improve the impact of policies, which can help translate municipal ambitions to residents' daily lives.

6.0 CONCLUSION

The goal of my research was to identify the discrepancies between the physical activity-friendliness of the built environment in Hoge Vucht and the actual adherence to the national exercise guidelines by residents. I applied the Ecological Model of Four Domains of Active Living (De Jong & Shokoohi, 2017; Sallis et al., 2006) and the Framework for Physical Activity Policy Research (Schmid et al., 2006) to compare and examine the policies of different cities and the way individual, social, and physical factors played a role in optimizing the four domains (recreation, transport, occupation and household) for active living. My conclusion is that the city's ambitions to promote an active lifestyle are strong, but the actual implementation is inconsistent and insufficiently visible within the neighbourhood.

How has urban renewal been implemented in other neighbourhoods/municipalities to promote physical activity, and what lessons can be learned from those examples?

Utrecht, Almere, and Groningen show that successful active-living strategies require an integrated approach that link spatial, social, and behaviour support measures. Utrecht incorporates active mobility into wider environmental and climate policies while Groningen ensures inclusive access to sport facilities and Almere integrates active living principles into urban design. These municipalities developed ambitious strategies fitting their needs and implemented them by translating policies to resident-oriented measures and in some instances through forms of community participation. Even if they also experience obstacles, they are mostly successful. Breda could benefit from similar forms of community involvement and by linking spatial investments to social programs to activate spaces. Currently, the city struggles with policy implementation and their impact. Breda employs strong programs, like '*Breda Actief*' and the HeatlhyLIFE-program. Yet, the lack of data collection and monitoring, especially compared to Utrecht and Groningen, prevents the evaluation of behavioural change and subsequent adjustments to policies. This means that policies are often adjusted based on perceptions instead of evidence that would encourage strategic adaptations based on measurable results.

What are the current physical activity opportunities and barriers in Hoge Vucht?

Hoge Vucht has highly accessible amenities, but my survey reveals that residents experience obstacles. They mention the inadequate maintenance of infrastructure like cycle paths and sidewalks, and a lack of perceived safety, especially at night. Individual barriers such as time constraints and low motivation also hinder physical activity. Some residents are unaware of available public facilities or are insecure on how to access them. These findings show that infrastructure alone does not automatically inflict behavioural change if the social and individual factors described by the Ecological Model are not addressed.

What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?

Breda has strong policy goals for inclusivity and health promotion, however, practical implementation falls short of residents' expectations. The participation by stakeholders rarely surpasses the degrees of tokenism. Policy implementation generally prioritises youth-related initiatives such as JOGG-Breda, which leaves less targeted opportunities for adults. Residents prefer informal and low-threshold options for physical activity, which shows a gap between policy intentions and residents experience. In short, Breda has a strong environmental design and policy commitment, but social and individual factors lack attention. The use of new infrastructure is often determined by residents' motivations, perception of safety, and time constraints. This is in line with earlier findings that age, education, and social norms impact physical activity behaviour.

Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities and how can these discrepancies be prevented in the future?

The main discrepancy between residents' needs and Breda's policies are a lack of communication, insufficiently targeted interventions, a perceived lack of maintenance and safety, and fragmented implementation. Whilst policies focus on vulnerable groups and spatial inequality, many adults feel left out or are unaware of municipal

initiatives, which reduces their effectiveness. Public space is not sufficiently planned, programmed, or maintained to enable or encourage self-organised sport. This can partly be explained through the Ladder of Citizen Participation. In Breda, participation often remains at the degree of tokenism (consultation and placation) rather than partnerships/collaborations. Residents are often invited to express their opinions on pre-defined projects but are rarely invited to influence key points. This explains the mismatch between municipal ambitions and the lived experience by residents. This is especially true for the residents' desire for more informal, self-organised forms of activity instead of organised sports.

Academic Relevance

Research on the relationship between the built environment and physical activity exists, but often fragmented. As mentioned in chapter 1, most studies focus on either physical attributes of the environment (Giles-Cort & Donovan, 2002; Sallis et al., 2006), or the analysis of policy frameworks (Schmid et al., 2006). However, studies that apply the full Ecological Model of Four Domains to specific geographic contexts whilst comparing residents' experiences with policy ambitions remain limited. This study on the other hand, contributes to the field of active living by offering a geographically bound analysis and an integrated framework by integrating the *Ecological Model of Four Domains of Active Living*, the *Framework for Physical Activity Policy Research*, and *Arnstein's Ladder of Citizen Participation*. My framework does not just explain if policies work, but also why implementation gaps persist, especially in vulnerable neighbourhoods.

My findings confirm earlier academic results that environmental improvements alone do not lead to behavioural change (Giles-Corti & Donovan, 2002). Individual, social, and cultural factors are also of influence. By highlighting how residents in Hoge Vucht experience and perceive their neighbourhood, my thesis adds valuable details to more general academic debates on social equity and the built environment (Alton et al., 2007; Cerin et al., 2007). It shows that in culturally diverse and low-income contexts, the standard active living interventions may fail if they neglect the specific cultural and safety perceptions of residents (Adami et al., 2010).

Finally, my thesis strengthens the methodological evidence base for Active Living Research. The use of GIS spatial analysis, surveys, interviews, and policy documents show that a mixed-method approach was effective to uncover the discrepancies between policies and physical activity. It creates a larger basis of evidence required to design targeted interventions in urban planning in participation with residents (Mendoza et al., 2012; Ogilvie et al., 2007).

6.1 RECOMMENDATIONS FOR POLICIES

My analysis shows that effective urban renewal in Hoge Vucht should begin by aligning municipal strategies with residents lived experiences. While policy frameworks show a general direction, their translation to practical interventions often has limited effect on residents at the neighbourhood level.

To bridge this gap, first, urban renewal should prioritise strategies designed to resolve specific barriers and preferences identified by the local community. These include improving the quality and safety of cycling and pedestrian infrastructure, improving accessibility and awareness of (informal) sporting opportunities, and improving the visibility of initiatives focused on physical activity for adults.

Second, the city should focus on the quality of the existing environment. Improving lighting, maintenance, cleanliness, greenery in parks, playgrounds, and paths should ensure that residents perceive the public space as safe and attractive.

Third, policies should not only be youth-oriented but also target adults, elderly, and migrant families. Options are offering informal and low-barrier activity opportunities like outdoor gyms, community walks, and organised evening sessions.

Fourth, my results invite to reflect on how contemporary lifestyles influence the opportunity for daily movement. Many initiatives presented by municipalities focus on 9-to-5 jobs. However, todays flexible and diverse work environment requires more personalised and spontaneous opportunities. The uprising of individual and self-organised sports suggest that people want more freedom to choose when to sport, like jogging, outdoor

fitness, and cycling. As a society we may need to adapt our urban renewal strategies to adapt to more flexible use and access of spaces, for example, by utilising digital platforms to organise sports and accommodate for non-traditional schedules.

Fifth, the effectiveness of policy interventions and engagement can be increased by collaborations through participatory planning and diverse/multilingual communication to reach all residents. This should be achieved by utilising the new 'Participatieleiddraad' and co-create neighbourhood improvements with residents which gives them a real influence on small upgrades.

Sixth, for future policies to be more effective the various departments have to collaborate to align mobility, health, social and urban planning policies and create shared monitoring tools and interventions. It is paramount that Breda improves its communication and uses monitoring systems through multilingual communication and tracking behavioural outcomes next to satisfaction to ensure that initiatives are visible and more effective in changing behaviour. The comparative case studies showed that embedding active living principles into education, healthcare, and mobility is important.

In sum, Breda and other municipalities should take a local and people-focused approach which aligns policy ambitions with the various realities of life in the neighbourhoods. This helps to create an environment that supports active and healthy lifestyles.

6.2 RECOMMENDATIONS FOR FUTURE RESEARCH

In the future, studies are needed which trace behaviour change before and after an intervention. This will provide clear insights in how infrastructure improvements affect daily movement over time. The implementation of new interventions by the municipality in Breda provides the opportunity to start research that follows a group of residents over 5 to 10 years, which would offer insights into whether physical changes lead to improved safety, and behavioural change. Furthermore, the cultural and social diversity in Hoge Vucht presents the need for a deeper analysis of the barriers to activity and participation as well as the perceptions on the public space and exercise among migrants. Another aspect which is worth analysing is the effect community involvement has on physical activity and if this leads to more use of the public space. Finally, replicating this study and comparing it to other, wealthier neighbourhoods can show if the misalignment between policy and reality is a structural issue in urban planning or a specific symptom of socio-economic inequality.

To conclude, future surveys should include the four domains of the Ecological Model more explicitly to allow for stronger comparisons and to strengthen the model's explanatory value.

6.3 REFLECTION & LIMITATIONS

Within this research the aim was to provide insights into active living discrepancies with some limitations worth mentioning. The survey sample was small (n=41) and targeted slightly more educated residents than the neighbourhood's average and could show more awareness on health and an underrepresentation of barriers experienced by lower-educated individuals. The survey was only offered in Dutch and English and excluded residents who speak other languages like Arabic or Turkish. This potentially means that the perceptions of more engaged and vocal residents were heard to a larger extent than the often-targeted group in municipal health policies. Time constraints also limited the depth of analysis of the social and cultural factors in Hoge Vucht.

The Ecological Model was effective in organizing the different factors that influence physical activity, but less so in showing which specific factor drives behavioural change. While the model conceptually explains the relation between individual, cultural, environmental, and policy influences, its explanatory power depends on the quality of available data. Without consistent monitoring of behavioural outcomes, it can only be used as an analysis tool to provide insights rather than to predict behaviour over time. Without detailed monitoring of physical activity behaviour, for instance, it remains unclear which environmental condition, like lighting, cleanliness, or infrastructure quality, has the largest impact on behaviour.

Even with these limitations, this thesis shows that creating an environment that is physical activity friendly, like Hoge Vucht, does not automatically translate to more physical activity. Active living depends on how

infrastructure, personal motivation, social interactions, and “real” resident involvement work together. As cities continue to strive for healthier living environments, the challenge will be designing urban spaces which are not only built for movement, but also fits people’s daily routines, needs, and lived experiences.

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APPENDICES

Appendix 1: Survey Questions: Promoting Physical Activity in Hoge Vucht

ENGLISH VERSION

"Welcome to this neighbourhood survey!

Physical activity is essential for good health and well-being, and this survey aims to understand how much the public space encourages residents to be physically active. By participating in this survey, you can share your opinions and experiences about the neighbourhood's physical environment, facilities, and amenities that promote physical activity. Your responses will help to identify areas where improvements can be made and provide better opportunities for residents to lead active and healthy lifestyles.

Thank you for your participation!"

- Q1. In which neighbourhood do you reside?
    - Wisselaar
    - Biesdonk
    - Geeren-Noord
    - Geeren-Zuid
    - Other…
- Q2. Postal code
    - Numeric

Physical activity

- Q3. When you think about a normal week, Monday till Sunday, how often are you… (0-7 days)
    - A.: Cycling or walking to school, work, or shop
        - How long are you going then? (Only if more than 0)
        - Do you mainly do these things in the neighbourhood?
            - 1 Mainly in my own neighbourhood
            - 2 As much in my own neighbourhood as outside my own neighbourhood
            - 3 Mainly outside of my own neighbourhood
    - B.: Physically active in your free time (hiking, cycling, gardening)
        - How long are you going then? (Only if more than 0)
        - Do you mainly do these things in the neighbourhood?
            - 1 Mainly in my own neighbourhood
            - 2 As much in my own neighbourhood as outside my own neighbourhood
            - 3 Mainly outside of my own neighbourhood
    - C.: Doing heavy household work or do tasks in the house
        - How long are you going then?
- Q4. Did you do any sport last month (April)?
    - Yes
    - No
- Q5. Which sport(s) do you do? If more than three, choose the three most important.
    - Open answer
- Q6. How often did you sport last month (April)?
    - (almost) every day
    - 1 to 2 times a week
    - 1 to 2 times per month
- Q7. Where do you sport?
    - Mainly in my own neighbourhood
    - As much in my own neighbourhood as outside my own neighbourhood

- Mainly outside of my own neighbourhood

The neighbourhood

Next are question about your neighbourhood.

- Q8. How long have you lived in this neighbourhood?
  - Less than a year
  - 1 to 2 years
  - 3 to 5 years
  - More than 5 years

Now we ask for your opinion on the neighbourhood you live in. You can use the smileys to state whether you are happy with each element.

- Q9. In my neighbourhood…:
  - Do you enjoy living here?
  - Do you feel safe here?
  - Do you enjoy being outside here during daytime?
  - Do you enjoy being outside here during the dark?
  - Can you safely walk alone outside during when its dark?
  - Are there trees and bushes nearby?
  - Are there lawns (green fields) nearby?
  - Are there playgrounds nearby?
  - Are there places to walk nearby?
  - Are there places to cycle nearby?
  - Are there stores nearby?
  - Is there a snack bar nearby?
  - Are there places to meet people nearby?
  - Are there sports associations nearby?
  - Are there places to sport nearby (which are no sport associations)?
  - Do you like to walk in your neighbourhood?
  - Do you like to cycle in your neighbourhood?
  - Do you like to sport in your neighbourhood?
  - Do you often meet people in your neighbourhood?
  - Do you often go to playgrounds with your kids (if you have children)?
  - Do you often go to shops in the neighbourhood?
  - Do you often go to the snack bar in the neighbourhood?
  - Do you often order take-out food?
  - Do you feel there is too much asphalt and/or brick in your neighbourhood?
  - Are the lawns (green fields) and parks in your neighbourhood clean?

Following are some questions about the green fields and parks in your neighbourhood.

- Q10. What are you doing in the lawns and parks in your neighbourhood?
  - Open answer
- Q11. What is still missing in the lawns and parks in your neighbourhood?
  - Open answer

The following questions are about transportation.

- Q12. In your neighbourhood…
  - Can you safely walk somewhere?
  - Can you safely cycle somewhere?
  - Can you safely do sports if you want to?
  - Do you think that the car takes up much space?

    - Do you think there are enough parking spots?
    - Do you think that some of the car parking spaces could be used differently (e.g., more greenery)?
    - Do you like going somewhere by car?
    - Can you easily take the bus/tram/train?
    - Do you like to use public transport?
    - Do you think there are enough cycle paths?
    - Do you like the cycle paths here? (No holes and bumps.)
    - Are the cycle paths here separated from the road (that you are not on the same road as the car)?
    - Would you cycle more often if you could always cycle on a separate cycle path?
    - Do you like to go somewhere by bike for fun?
    - Do you enjoy cycling to work or school?
    - Do you like to go somewhere on foot?
    - Do you think there are enough sidewalks?
    - Do you like the sidewalks? (No holes and bumps.)
- Q13. Do you have a car?
    - Yes
    - No
    - No, but I can borrow one
- Q14. If you could not park in front of the door, how far would you be willing to walk to your car?
    - In the street
    - Around the corner
    - A square away
- Q15. Do you depend on your car for school or work?
    - Yes
    - No
- Q16. What specific upgrades or additions to your neighbourhood would make it easier for you to be (more) physically active?
    - Open answer

Following are questions about participation.

- Q17. Have you ever participated, or been invited to participate, in a project (by the municipality) in your neighbourhood?
    - Yes
    - No
- Q18. How much do you think is your opinion worth in a project by the municipality?
    - Very much
    - Much
    - A bit
    - Nothing
- Q19. Would you like to be involved more in projects in your neighbourhood? For example, for placing new sport facilities or remaking the public space.
    - Yes
    - No

Following are some general questions.

- Q20. What is your year of birth?
    - Open answer
- Q21. Are you a man, woman, different, or you don't want to say?
    - Man
    - Woman

    - Different/Don't want to say
- Q22. How is your health in general?
    - (Very) bad
    - Mediocre
    - (Very) good
- Q23. In the past month, have you been unable to do something because of your health?
    - (Almost) Never
    - Sometimes
    - Often
- Q24. Was your health a reason to walk or cycle less in the past month?
    - (Almost) Never
    - Sometimes
    - Often
- Q25. Your municipality has an active health policy, for example by adding sporting facilities nearby in the public space. Do you notice anything about this?
    - Yes
    - No
- Q26. What do you do during an average week?
    - Full-time paid work (including self-employed)
    - Part-time paid work (including self-employed)
    - Full-time student
    - Unemployed
    - Incapacitated or unable to work
    - Retired
    - Housewife/-husband
    - Other, namely…
- Q27. What is your highest level of completed education? This is a course of which you have a diploma.

Are you a student? The enter the training you are currently following.

    - No education / primary education / civic integration course / Dutch language course
    - pre-vocational education [LBO / VBO / VMBO (management or vocational track) / MBO 1 (assistant training)]
    - Secondary education (first 3 years) [MAVO / HAVO or VWO (first three years) / ULO / MULO / VMBO (theoretical or mixed learning track) / secondary special education]
    - Vocational education [basic vocational, trade, middle management, or specialist training)
    - Secondary education (passed to the 4th class), University of applied sciences propaedeutic phase or university propaedeutic phase
    - University of applied sciences (except university of applied sciences master) / University candidates or university bachelor]
    - University bachelor or University master or University of applied sciences master / postgraduate education
    - Don't know / won't say

DUTCH VERSION

- V1. In welke buurt woont u?
    - Wisselaar
    - Biesdonk
    - Geeren-Noord
    - Geeren-Zuid
    - Anders, namelijk

- V2. Postcode
    - Nummer
- V3. Denk aan een gewone week, maandag t/m zondag, hoe vaak in de week gaat u… (0-7 dagen)
    - A.: Fietsen of lopen naar school, werk of winkel
        - Hoe lang gaat u dan? (Kwartiertje, half uur, 3 kwartier, uur, etc)
        - Doet u deze dingen vooral in de buurt?
            - 1 Vooral in mijn eigen buurt
            - 2 Evenveel in mijn eigen buurt als buiten mijn eigen buurt
            - 3 Vooral buiten mijn eigen buurt.
    - B.: Bewegen in de vrijetijd (wandelen, fietsen, tuinieren)
        - Hoe lang gaat u dan? (Kwartiertje, half uur, 3 kwartier, uur, etc)
        - Doet u deze dingen vooral in de buurt?
            - 1 Vooral in mijn eigen buurt
            - 2 Evenveel in mijn eigen buurt als buiten mijn eigen buurt
            - 3 Vooral buiten mijn eigen buurt.
    - C.: Zwaar huishoudelijk werk doen of klussen
        - Hoe lang gaat u dan? (Kwartiertje, half uur, 3 kwartier, uur, etc)
- V4. Nu gaan we het hebben over sporten. Heeft u de afgelopen maand (april) aan sport gedaan?
    - Nee
    - Ja
- V5. Welke sport(en) doet u? Als u meer dan drie sporten doet, kies dan de drie belangrijkste.
    - Open…
- V6. Hoe vaak sportte u afgelopen maand?
    - (bijna) iedere dag
    - 1 tot 2 keer per week
    - 1 tot 2 keer per maand
- V7. Waar sport u?
    - Vooral in mijn eigen buurt
    - Evenveel in mijn eigen buurt als buiten mijn eigen buurt
    - Vooral buiten mijn eigen buurt.

De buurt

We willen het nu met u gaan hebben over uw buurt.

- V8. Hoelang woont u in deze buurt?
    - Minder dan 1 jaar
    - 1 tot 2 jaar
    - 2 tot 5 jaar
    - Meer dan 5 jaar

- V9. In mijn buurt . . . :
    - Woont u hier graag?
    - Voelt u zich hier veilig?

  - Bent u hier overdags graag buiten?
  - Bent u hier in het donker graag buiten?
  - Kunt u hier in het donker veilig alleen over straat?
  - Zijn er bomen en struiken dichtbij?
  - Zijn er grasveldjes dichtbij?
  - Zijn er speeltuinen dichtbij?
  - Zijn er dichtbij plekken om te wandelen?
  - Zijn er dichtbij plekken om te fietsen?
  - Zijn er winkels dichtbij?
  - Is de snackbar dichtbij?
  - Zijn er dichtbij plekken om mensen te ontmoeten?
  - Zijn er sportverenigingen dichtbij?
  - Zijn er dichtbij plekken om te sporten? (wat geen vereniging is?)
  - Wandelt u graag in de buurt?
  - Fietst u graag in de buurt?
  - Sport u graag in de buurt?
  - Ontmoet u vaak mensen in de buurt?
  - Gaat u vaak naar de speeltuin met uw kinderen? (als u kinderen heeft?)
  - Gaat u vaak naar de winkel in de buurt?
  - Gaat u vaak naar de snackbar in de buurt?
  - Laat u vaak eten bezorgen?
  - Vindt u dat er teveel stenen en/of asfalt zijn in de buurt?
  - Zijn de grasveldjes en parkjes in de buurt schoon en netjes?

We willen het nu met u hebben over grasveldjes en parkjes waar u kunt zitten en sporten.

- V10. Wat doet u in de grasveldjes en parkjes in uw buurt?
  - . . . . open antwoord
- V11. Wat mist er nog in de grasveldjes en parkjes in uw buurt?
  - . . . . open antwoord

De volgende vragen gaan over vervoer.

- V12. In uw buurt . . .
  - Kunt u veilig ergens naartoe wandelen?
  - Kunt u veilig op de fiets ergens naartoe?
  - Kunt u veilig sporten als u dat zou willen?
  - Vind u dat de auto hier veel plek inneemt?
  - Vindt u dat er voldoende autoparkeerplaatsen zijn?
  - Vind u dat een deel van de autoparkeerplaatsen anders gebruikt kunnen worden (bijv. meer groen)?
  - Gaat u graag met de auto ergens naar toe?
  - Kunt u makkelijk met de bus/tram/trein?
  - Gaat u graag met het openbaar vervoer?
  - Vindt u dat er genoeg fietspaden zijn?
  - Vindt u de fietspaden hier fijn? (geen gaten en hobbels).
  - Zijn de fietspaden hier gescheiden van de rijbaan (dat je niet op de zelfde weg als de auto zit)?
  - Zou u vaker de fiets pakken als u altijd op een gescheiden fietspad kan fietsen?
  - Gaat u voor de lol graag op de fiets ergens naartoe?
  - Gaat u graag op de fiets naar werk of school?
  - Gaat u graag wandelend ergens heen?
  - Vindt u dat er genoeg stoepen zijn?
  - Vindt u de stoepen hier fijn? (geen gaten en hobbels).
- V13. Heeft u een auto?

    - Ja
    - Nee (ga door naar V16)
    - Nee, maar ik kan deze lenen
- V14. Als u niet voor de deur zou kunnen parkeren, hoe ver bent u bereid te lopen naar uw auto?
    - Wel in de straat
    - Om de hoek
    - Een pleintje verderop
- V15. Bent u afhankelijk van uw auto voor uw school of werk?
    - Nee
    - Ja
- V16. Welke specifieke upgrades of toevoegingen aan uw buurt zouden het voor u gemakkelijker maken om fysiek (meer) actief te zijn?

Hieronder volgen vragen over participatie.

- V17. Bent u wel eens naar uw mening gevraagd een project (door de gemeente) in uw buurt?
- V18. Hoeveel denkt u dat uw mening waard is bij een project van de gemeente?
- V19. Wil je meer betrokken zijn bij projecten in jouw buurt? Bijvoorbeeld voor het plaatsen van nieuwe sportaccommodaties of het herinrichten van de openbare ruimte.

Algemeen

Tot slot willen we u nog enkele algemene vragen stellen

- V20. In welk jaar bent u geboren?
    - . . . . open antwoord
- V21. Bent u een man, een vrouw, anders of wilt u dat niet zeggen?
    - Man
    - Vrouw
    - Anders / wil niet zeggen
- V22. Hoe is over het algemeen uw gezondheid?
    - (Zeer) slecht
    - Matig
    - (Zeer) goed
- V23. Heeft u in de afgelopen maand iets niet kunnen doen vanwege uw gezondheid?
    - (Bijna) nooit
    - Soms
    - Vaak
- V24. Was uw gezondheid in de afgelopen maand een reden om minder te lopen of te fietsen?
    - (Bijna) nooit
    - Soms
    - Vaak
- V25. Uw gemeente voert een actief gezondheidsbeleid, bijvoorbeeld door het plaatsen van nieuwe sportfaciliteiten…. Merkt u hier wat van?
    - Ja
    - Nee
- V26. Wat doet u tijdens een gemiddelde week?
    - Full-time betaald werk (inclusief zelfstandige/ zzp)
    - Part-time betaald werk (inclusief zelfstandige/ zzp)
    - Voltijds student(e)
    - Werkloos
    - Arbeidsongeschikt of niet in staat om te werken
    - Gepensioneerd
    - Huisvrouw / -man

    - Anders, namelijk . . . open
- V27. Wat is uw hoogst voltooide opleiding? Dit is een opleiding waar u een diploma van heeft. Bent u student? Vul dan de opleiding in die je momenteel volgt.
    - Geen onderwijs/ basisonderwijs/ cursus inburgering/ cursus Nederlandse taal
    - LBO/ VBO/ VMBO (kader- of beroepsgerichte leerweg)/ MBO 1 (assistentenopleiding)
    - MAVO/ HAVO of VWO (eerste drie jaar)/ ULO/ MULO/ VMBO (theoretische of gemengde leerweg)/ voortgezet speciaal onderwijs
    - MBO 2, 3, 4 (basisberoeps-, vak-, middenkader- of specialistenopleiding) of MBO oude structuur (vóór 1998)
    - HAVO of VWO (overgegaan naar de 4e klas)/ HBS/ MMS/ HBO-propedeuse of WO-propedeuse
    - HBO (behalve HBO-master) / WO-kandidaats- of WO-bachelor
    - WO-doctoraal of WO-master of HBO-master / postdoctoraal onderwijs
    - Weet niet / wil niet zeggen

Appendix 2: Interviewguide Municipal Employee

The purpose of this interview is to gather information about urban renewal strategies that can be implemented in Hoge Vucht to promote active behaviour and healthy lifestyles among its residents. Our research question is "What urban renewal strategies can be implemented in Hoge Vucht to promote active behaviour and healthy lifestyles among its residents, and how do municipal policies have to adapt to support the implementation of those strategies (in other urban areas)?". The interview will be conducted with individuals in a semi-structured way to extract as much information on the matter as seems relevant.

Introduction:

Start with Icebreaker

- How nice is this location we are in? Have you ever been here before?
- How is school/your job currently?

Make participants feel comfortable.

1. Have a Thank you present for participation

Introduction

“Thank you for participating in this interview for my master's thesis on the physical activity friendliness of the built environment and strategies for improvement. We will discuss the policies of the municipality of Breda, with a specific focus on the case study area of Hoge Vucht.

Before we continue, I would like to inform you that whatever you say will stay between us and will be generalised, if desired, in the results. This means that you will always stay anonymous if you choose so. I would like to ask you if it is okay for you if we record the interview for my own record to go back over it and relisten to the answers you gave at a later stage.

The interview will last approximately 30 to 45 minutes, but we have time enough to extend or shorten the interview if there is more detail to a specific question. The results of this interview will be transcribed and used for the further stretch of this project.

Finally, please feel free to share your opinion and perspectives as you see fit. After writing the report I will send a copy of the result towards you.

One question now already for you. Are you okay with me using your name within my final report?

Before we continue, are there any questions you have for me?”

Main Part:

Introduction of participant

- Can you state your name please?
- What is your current position within the municipality?

Ambitions and policies by municipality regarding active living

- What are the current ambitions and policies of the municipality of Breda in spatial planning with regards to urban renewal and active living?
- How is the policy creation process organised within the municipality of Breda?
    - Is there a toolbox/basic framework in place for policy creation?
    - Are external partners involved in the policy creation (or are only municipal employees creating the policies)?
- Which elements are prioritised when making policy choices for active living?
- Which norms and values are the foundation for policy creation in spatial planning, with a focus on active living?

- In your opinion, how effective are policies concerning active living, physical activity, and the living environment (especially in Hoge Vucht)? Which factors influence the effectiveness?
    - What kind of ideas/strategies does the municipality have to increase the effectiveness of policies regarding the living environment and physical activity?
        - Examples are: social interventions, rebranding of squares and parks, concrete built environment renewal plans, creating awareness, organise events (walking routes etc.)
- What could be done to improve the effectiveness of these policies in promoting active living in Hoge Vucht?

In the "Omgevingsvisie 2040" there is a lot of focus on safety.

- What interventions is the city planning and which policies are planned to ensure safety (so that active behaviour is encouraged more, and public space is used)?

Participation

Breda uses a participation ladder with 4 different levels: Inform, consult, advice, and co-production.

- Which form of participation is most frequently used in projects regarding physical activity friendliness and the living environment (in real-life)?
- How strongly are opinions of residents taken into account?
- What can the "participatie leiddraad" as described in the 'Omgevingsvisie 2040' improve compared to the old participation model?

Opportunities and Barriers in Hoge Vucht

- In your opinion, what are the main barriers and opportunities for a healthy living environment in 'Hoge Vucht'?
- Are there or have there been any initiatives or programs in Hoge Vucht to promote physical activity? If yes, how effective where they?

Conclusion

"This concludes our interview. If I understood it correctly, your main points were (…), but would it be possible to contact you again in case we have further questions? I want to thank you very much, as the information you provided has given great insights in the topic of active living in Breda. Do you have any further questions or remarks for me?

Thank you again for the interview, and I wish you a good rest of your day."

Introductie

"Bedankt dat u deelneemt aan dit interview voor mijn masterthesis over de beweegvriendelijkheid en gezonde leefomgeving en strategieën om deze te verbeteren. We zullen het gaan hebben over beleidsmaatregelen van de gemeente Breda, met speciale aandacht voor de casus Hoge Vucht.

Voordat we verdergaan, wil ik u laten weten dat alles wat u zegt tussen ons blijft en indien gewenst algemeen zal worden geformuleerd in de resultaten. Verder wil ik u vragen of het voor u goed is als ik het interview opneem voor mijn eigen verslag, zodat ik de antwoorden die u hebt gegeven later kan beluisteren?

Het interview duurt ongeveer 30 tot 45 minuten, maar we hebben genoeg tijd om het interview te verlengen of in te korten als er meer details zijn over een specifieke vraag. De resultaten van dit interview worden getranscribeerd en gebruikt voor de verdere voortgang van dit project.

Tot slot, voel u vrij om uw mening en perspectieven te delen zoals u dat wilt. Na het schrijven van het verslag stuur ik u een kopie van het resultaat toe. Bij deze de eerste vraag. Vindt u het goed als ik uw naam gebruik in mijn eindrapport?

Voordat we verder gaan, zijn er nog vragen die u aan mij heeft?"

Hoofddeel

Introductie van de deelnemer

- Wat is uw naam noemen?
- Wat is uw huidige functie binnen de gemeente?

Ambities en beleid van de gemeente met betrekking tot actief leven

- Wat zijn de huidige ambities en beleidsmaatregelen van de gemeente Breda op het gebied van ruimtelijke ontwikkeling met betrekking tot stadsvernieuwing en een beweegvriendelijke en gezonde leefomgeving?
- Hoe is het beleidsvormingsproces georganiseerd binnen de gemeente Breda?
    - Is er een gereedschapskist/basisframework voor beleidsvorming?
    - Zijn externe partners betrokken bij de beleidsvorming (of worden de beleidsmaatregelen alleen door gemeentemedewerkers gecreëerd)? …Bijvoorbeeld adviesbureaus
- Welke elementen/factoren hebben prioriteit bij het maken van beleidskeuzes als het gaat om actief leven, en een beweegvriendelijke en gezonde leefomgeving?
- Welke normen en waarden vormen de basis voor beleidsvorming in ruimtelijke ontwikkeling, met de focus op actief leven en een beweegvriendelijke en gezonde leefomgeving?
- Naar uw mening, hoe effectief zijn beleidsmaatregelen met betrekking tot actief leven, fysiek actief zijn, en een beweegvriendelijke en gezonde leefomgeving (vooral in Hoge Vucht)? Welke factoren beïnvloeden de effectiviteit?
    - Welke ideeën/strategieën heeft de gemeente om de effectiviteit van beleidsmaatregelen met betrekking tot de leefomgeving en fysieke activiteit te vergroten?
        - Voorbeelden hiervan zijn: sociale interventies, herontwikkeling van pleinen en parken, concrete plannen voor vernieuwing van de gebouwde omgeving, bewustwording creëren, evenementen organiseren (wandelpaden, enz.).
- Wat kan er worden gedaan om de effectiviteit van deze beleidsmaatregelen ter bevordering van actief leven in Hoge Vucht te verbeteren?

In de "Omgevingsvisie 2040" wordt er veel nadruk gelegd op veiligheid.

- Welke interventies plant de stad en welke beleidsmaatregelen zijn gepland om de veiligheid te waarborgen (zodat actief gedrag (bewegen) meer wordt aangemoedigd en openbare ruimte wordt gebruikt)?

Participatie Breda maakt gebruik van een participatieladder met 4 verschillende niveaus: informeren, raadplegen, adviseren en co-productie.

- Welke vorm van participatie wordt het meest gebruikt in projecten met betrekking tot een beweegvriendelijke leefomgeving?
- Hoeveel telt de mening van bewoners mee?
- Wat kan de "participatie leidraad" zoals die wordt beschreven in de 'Omgevingsvisie 2040' verbeteren ten opzichte van het oude participatiemodel?

Kansen en obstakels in Hoge Vucht

- Naar uw mening, wat zijn de belangrijkste obstakels en kansen voor een gezonde en beweegvriendelijke leefomgeving in 'Hoge Vucht'?
- Zijn er initiatieven of programma's geweest in Hoge Vucht om bewegen te bevorderen? Zo ja, hoe effectief waren ze?

Conclusie

"Dit concludeert ons interview. Als ik het goed begrepen heb, waren uw belangrijkste punten (...), maar zou het mogelijk zijn om contact met u op te nemen als we nog verdere vragen hebben? Ik wil u heel erg bedanken, want de informatie die u heeft verstrekt, heeft waardevolle inzichten gegeven in het onderwerp van actief leven in Breda. Heeft u nog verdere vragen of opmerkingen voor mij? Nogmaals bedankt voor het interview en ik wens u een fijne dag verder."

Appendix 3: Publishing text Survey Residents Hoge Vucht

ENGLISH VERSION INSTAGRAM

"Dear resident of Breda,

we are looking for people living in the neighbourhoods of Wisselaar, Biesdonk, Geeren-Noord, and Geeren-Zuid in Breda to participate in a research project on physical activity and the living environment. Would you be interested in contributing to this study?

Please fill out this short questionnaire! It will only take 10 minutes of your time. Your participation will help us gain insight into how we can improve our environment to promote physical activity.

You can complete the questionnaire via the link below. Thank you in advance for your participation!

Link to the questionnaire: https://fmru.az1.qualtrics.com/jfe/form/SV_a3RjDfuGqHI4WeW

Kind regards, The research team"

DUTCH VERSION INSTAGRAM

"Beste bewoner van Breda,

Wij zijn op zoek naar mensen die wonen in de wijken Wisselaar, Biesdonk, Geeren-Noord en Geeren-Zuid in Breda om deel te nemen aan een onderzoeksproject over bewegen en de leefomgeving.

Zou u willen bijdragen aan dit onderzoek? Vul dan alstublieft deze korte vragenlijst in! Het duurt slechts 10 minuten van uw tijd. Uw deelname helpt ons inzicht te krijgen in hoe we onze omgeving kunnen verbeteren om fysieke activiteit te bevorderen. U kunt de vragenlijst invullen via de onderstaande link. Alvast bedankt voor uw deelname!

Link naar de vragenlijst: https://fmru.az1.qualtrics.com/jfe/form/SV_a3RjDfuGqHI4WeW

Met vriendelijke groet, Het onderzoeksteam"

TEXT MESSAGES FOR WHATSAPP

English below

"Beste bewoner van Breda,

Wij zijn op zoek naar mensen die wonen in de wijken Wisselaar, Biesdonk, Geeren-Noord en Geeren-Zuid in Breda om deel te nemen aan een onderzoeksproject over bewegen en de leefomgeving.

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Met vriendelijke groet, Het onderzoeksteam"

"Dear resident of Breda,

we are looking for people living in the neighbourhoods of Wisselaar, Biesdonk, Geeren-Noord, and Geeren-Zuid in Breda to participate in a research project on physical activity and the living environment. Would you be interested in contributing to this study?

Please fill out this short questionnaire! It will only take 10 minutes of your time. Your participation will help us gain insight into how we can improve our environment to promote physical activity.

You can complete the questionnaire via the link below. Thank you in advance for your participation!

Kind regards, The research team

Link naar de vragenlijst/*Link to the questionnaire:*

https://fmru.az1.qualtrics.com/jfe/form/SV_a3RjDfuGqHI4WeW"

FACEBOOK POST

"📣 Oproep voor deelname aan mijn afstudeeronderzoek over bewegen en de gezonde leefomgeving in Hoge Vucht!

Beste bewoners van Breda,

Als inwoner van Breda, woonachtig in de wijk Zandberg, doe ik graag mijn afstudeeronderzoek over de stad waarin ik leef. Daarom ben ik op zoek naar mensen die wonen in de wijken Wisselaar, Biesdonk, Geeren-Noord en Geeren-Zuid in Breda om deel te nemen aan een korte enquête over bewegen en de gezonde leefomgeving.

Zou u willen bijdragen aan mijn afstudeeronderzoek? Het invullen van deze korte vragenlijst kost slechts 10 minuten van uw tijd. Uw deelname helpt mij om inzicht te krijgen in hoe we onze omgeving kunnen verbeteren om fysieke activiteit te bevorderen. De deelname is volledig anoniem.

🔗 Klik op onderstaande link om de vragenlijst in te vullen:

https://fmru.az1.qualtrics.com/jfe/form/SV_a3RjDfuGqHI4WeW

Alvast hartelijk dank voor uw deelname!

Met vriendelijke groet, Luuk van den Broek"

Appendix 4: Interview Transcript

Interviewer: Luuk van den Broek

Interviewee: Policy Advisor Mobility at Municipality of Breda

Duration: 29 minutes and 16 seconds

Luuk van den Broek

Ja goed in ieder geval hartelijk, bedankt dat je de tijd neemt. Ik wil het interview graag voeren voor mijn master thesis over beweeg vriendelijkheid en een gezonde leefomgeving en de casus die Ik heb genomen is Hoge Vucht. En ja, Ik wil het eigenlijk een beetje gaan hebben over het beleid wat de gemeente Breda heeft in die richting.

Ehm, dus ja, voor we verder gaan, wil ik even zeggen dat de antwoorden algemeen worden geformuleerd, dus je blijft geheel anoniem.

Ik moet het nog een keer vragen, vind je het goed als ik alles opneem?

Municipal Employee

Tuurlijk! Vind ik goed, ja.

Luuk van den Broek

Ik zal het later transcriberen om te beluisteren en dan anoniem, zoals ik al zei, in mijn verslag opnemen. Het interview duurt ongeveer 30 tot 45 minuten. Mocht je minder tijd hebben of mocht een vraag net iets langer duren om te beantwoorden dan ik ben bereid om uit te lopen of in te korten. En tenslotte staat het je vrij om al je perspectieven en, ja, meningen te delen.

Nou, heb jij nog vragen aan mij even beginnen?

Municipal Employee

Nee hoor. Nee hoor.

Luuk van den Broek

Goed zo. Nou, zou ik dan mogen vragen, wat is je naam en wat is jouw functie binnen de gemeente?

Municipal Employee

Nou, Martijn Geervliet, adviseur mobiliteit. En dat houdt eigenlijk in dat wij adviseren op alle soorten mobiliteits opgaves binnen de stad. Dat kan zijn lopen, fietsen, openbaar vervoer, deelscooters, allerlei, ja alles wat rijdt en parkeert, zeg maar daar, daar kunnen wij beleid over maken of we laten het maken. Daarnaast heb ik twee speerpunten eigenlijk erin zitten. Dat is fietsen en dat is, ehm, veiligheid. Dus Ik heb, ehm, het actieplan fiets maak ik. Ik maak een jaarprogramma fiets investeringsprogramma's. Dat doen we van fiets ehm ja dat doen wij voor elk elk beleidsveld natuurlijk, maar ik zit dan vooral binnen fiets en natuurlijk verkeersveiligheid. En daar gaat het natuurlijk ook steeds vaker om, want ja die fietser die staat steeds hoger op de ladder van verkeersveiligheid. Dus daar is nog steeds meer aandacht voor. Ja, en daar daar houd ik mij me bezig. En dat is vooral aan de westkant van Breda. Ehm, dus ik heb het advieswerk. En dan fiets en verkeersveiligheid, dat is meestal weer voor heel de stad dus.

Luuk van den Broek

Ja.

Municipal Employee

Ja en en zit hier al bijna 25 jaar, dus Ik ben ook door de ik heb ook door de stad heen gezworven qua district werk, zeg maar, dus ik ken eigenlijk ken ik elk stukje van de stad al zon beetje wat daar speelt dus ja zo.

Luuk van den Broek

Oké, dankjewel. Nou, dan even over de ambities In het beleid van de gemeente met betrekking tot actief leven en een gezonde leefomgeving. Ehm dus, wat zijn de huidige ambities en de beleidsmaatregelen van de gemeente Breda op het gebied van de ruimtelijke ontwikkeling met betrekking tot stadsvernieuwing en ook de beweegvriendelijke en gezonde leefomgeving?

Municipal Employee

Het is natuurlijk zo dat we,… , we hebben een structuurvisie gemaakt, een soort eh, ik weet niet of je die doorgelezen hebt?

Luuk van den Broek

Ja, ja die heb ik gelezen.

Municipal Employee

Ja. Daar staat ook in hoofdlijnen eigenlijk ook in dat we een gezonde stad willen zijn en dat we een stad willen zijn waar mensen vrij kunnen bewegen. Een zoveel mogelijk makkelijk toegankelijke stad is ook heel, heel belangrijk. Dus daar zijn wel wat grote, eh ehm, ja, beleidsdoelen, zeg maar, geformuleert. Ik weet het meest natuurlijk van van het mobiliteits gebeuren, hè. Dus niet zozeer van hoe dat je, zeg maar, vanuit welzijn daarop aansluit. Maar vanuit mobiliteit willen wij eigenlijk meer het stomp principe hanteren hè. Dus dat je eigenlijk de voetganger vooraan zet, eh, fietsen, openbaar vervoer, auto. Beetje dat, dat je die beweegbaarheid zeg maar in die wijken of in die dorpen eigenlijk zo hoog mogelijk maakt voor die laagste de verkeersdeelnemer, ja.

Luuk van den Broek

Ja. Oké dan even heel erg naar de basics. Hoe is het beleidsvormingsproces georganiseerd binnen de gemeente Breda? Daarmee bedoel ik dus gereedschapskist of basic frame of dat jullie hanteren.

Municipal Employee

Het hoofd hoofdrapport, zeg maar op beleid, is, is de structuurvisie. Daar leg je natuurlijk vast wat voor stad we willen zijn en welke richting dat we heen willen. Daar staat bijvoorbeeld ook dat we, ehm, waar we gaan ontwikkelen hè? Dus binnenstedelijk juist om die wijken ook zo compact mogelijk te houden, ehm, mm te ontwikkelen. Dat we die voorzieningen ook allemaal in de stad ook en in die wijken ook hebben. Ook vanuit de mobiliteit, hè, dat we niet, ehm, dat dat we denken dat als we de stad binnenstedelijk gaan ontwikkelen, dat we dan ook beter grip op hebben op de mobiliteit dat we ook de mobiliteit een beetje in de stand kunnen houden, zoals die nu is. Zoals automobiliteit. Dat is een beetje het streven, he. Dus we willen automobiliteit als mobiliteit houden zoals die nu is, en eigenlijk alles wat erbij komt, dus dat is het streven wat we nu, ja, wat dus heel moeilijk zal worden, maar alle ontwikkelingen die erbij komen zouden we eigenlijk moeten opvangen met fietsen en noem maar op.

Luuk van den Broek

Ja. Oké. Worden daarbij ook externe partners betrokken? Adviesbureaus of, eh …

Municipal Employee

Jazeker, bij elk vlak heb je af en toe wel wat bureaus of of kennis nodig wat we zelf niet, eh, ook niet hebben. We zijn dan wel een grote gemeente met een grote afdeling met veel kennis. Maar, ook qua communicatie of, ehm, qua opbouwen van die beleidsstukken, daar heb je die, dan doe je het toch nooit helemaal alleen. Dus daar zitten altijd wel andere partners ook bij.

Luuk van den Broek

Oké. Toevallig een grote partner die die zeg maar bekend is?

Ja, dat is, dat is ook voor landelijke dingen, hè? COE of ja, grote bedrijven, eh. ZLTO voor landbouw, ehm, MKB.

Luuk van den Broek

Alles.

Municipal Employee

Ja, zeg maar alles wat met de stad te maken heeft. Je hebt ook verschillende partijen met ondernemers, ook die die iets vinden, bewonersorganisaties. Ja, eigenlijk alles als je kijkt ook in die structuurvisie. Daar zit volgens mij zo'n lijst achter wie dat dan bij betrokken is geweest..

Luuk van den Broek

Ja.

Municipal Employee

Dat zijn er gigantisch veel natuurlijk. Dus het is juist, eh, juist dat is hoe je een stad maakt, hè? Dat is eigenlijk ook de bedoeling van de nieuwe omgevings, ehm, van de nieuwe, ehm, zeg maar de vervanger van bestemmingsplannen, eh, hoe noem je dat ook weer? Ehm, de nieuwe omgevingswet. Dus dat je het eigenlijk zo breed mogelijk opzet. Dus niet alleen maar vanuit het stadskantoor, maar eigenlijk juist van buiten naar binnen haalt en dan vertaald zo'n beetje.

Luuk van den Broek

Ja.

Municipal Employee

Dat, dat proberen we als gemeente te doen.

Luuk van den Broek

Ja ja. Ehm, welke elementen of factoren hebben de prioriteit bij het maken van beleidskeuzes als het gaat om actief leven en een beweegvriendelijke leefomgeving? En dan hadden we net al dat de voetganger en de fietser bovenaan staan, maar verder…?

Municipal Employee

Inderdaad, ja. Dus we zorgen dat ze in het beleid bovenaan staan, maar in de uitvoering kan dat af en toe…, hè. Dat is altijd het moeilijke natuurlijk dat je iets vastlegt en dan hoe je dat vertalen. Ehm, maar zo zo hoort het eigenlijk wel te zijn. En hoe dat dan zichtbaar wordt, dat is meer in de in de complete inrichting van bijvoorbeeld van nieuwe ontwikkeling, of zo, hè. Dat je ook de,…, ja een klein ding, maar misschien dat je de trottoirs inplaats van 1,50 gewoon 2,5 meter breed maakt, maar ja. Dat je dat je ook vooral kijkt, niet alleen maar binnen die ontwikkeling, maar ook vanuit de ontwikkeling van hoe kom je daar nou naar het winkelcentrum of hoe kom je naar die bushalte? Dus veel breder dan alleen maar, ehm… Beleid is mooi dat het opgeschreven wordt maar daarna die vertaling, dat is eigenlijk nog veel belangrijker. Dan moet Iedereen die hierbij betrokken is moet dat wel weten en snappen dat dat die slang er nog in zit.

Luuk van den Broek

Mag ik hieruit voort… Mag ik eruit halen dat het vooral op fysieke infrastructuur gericht is, of…?

Municipal Employee

Nee nee, ook binnen de gemeente… Kijk, ik zit vooral op dat fysieke, fysieke investering, maar er zijn natuurlijk ook wel andere beleidsvelden bezig met hoe krijg je die mensen juist zeg maar naar buiten toe, hè? Hoe krijg je die Mensen die toch misschien moeilijk bewegen of minder bewegen, hoe krijg je die uit huis? Hoe krijg je daar contact mee? Hoe krijg je daar? Ja hoe, hoe bereik je die Mensen ook? Dat is niet alleen, ja, dat is niet alleen maar een mobiliteitsvraagstuk, dat is gewoon veel breder ook.

Luuk van den Broek

Ja. Nou, de volgende vraag heb je net beantwoord. Ehm, na jouw eigen mening, hoe effectief zijn de bemaat, ehm, de beleidsmaatregelen met betrekking tot actief leven fysiek actief zijn en een beweegvriendelijke en een gezonde leefomgeving, en dan vooral in Hoge Vucht.

Municipal Employee

Nou ja, er is afgelopen jaren wel zeker op geïnvesteerd om die Ik denk dat een actieve of een beweegvriendelijke leefomgeving vooral te maken heeft met met groen. Hé, dat mensen zich prettig voelen en er zijn volgens mij genoeg onderzoeken die aangeven dat groene wijken ook uitnodigen om meer te bewegen. Er zijn ook, eh, hoe je dat precies noemt dat weet ik niet, maar er zijn ook een soort van looproutes gemaakt door de door de wijk heen met allemaal speel aangelegenheden, zeg maar waar je dan met de kinderen langs kan lopen en ze misschien even op een rots kunnen klimmen of weet ik veel wat. En het groen in Hoge Vucht is natuurlijk gewoon, als je daar rond rijd, bepaalde delen zijn echt wel groen ook. Hij is wel goed opgebouwd. Die wegen zijn steeds heel erg breed, misschien wel te breed met heel veel asfalt. Maar de de de in de leefbaarheid en eh, het nodigt op een of andere manier wel uit om te gaan bewegen. En vanuit, dan ga ik misschien iets te snel, maar dan als we kijken naar de fiets bewegingen In de stad, dan blijft de Hoge Vucht eigenlijk wel achter ten opzichte van andere delen in de stad. En dat kan je dan verwijten aan de inrichting van de stad, maar je gaat ook kijken, zeg maar, wat voor soort mensen dat daar wonen. En er zijn natuurlijk veel allochtonen die ook de fiets niet echt sexy vinden. We hebben de aantallen of de percentages, kinderen, die te voet en met de fiets met de auto naar school komen. Dus, het heet eh, het programma heet groene voetstappen, en daarin registreren we eigenlijk in een of twee weken per jaar, en dat moeten de scholen zelf doen, maar die kinderen komen binnen en dan wordt er op een bord aangeklikt hoe dat ze gekomen zijn. Dus dat was eh. Wij zitten heerlijk te denken over de fiets altijd hè? Kinderen moeten met de fiets naar school komen. En toen dat betekent dat de school in de Hoge Vucht bleven echt heel erg achter. Dus ja, daar moet, daar moet iets aan gedaan worden. Maar als je dan verder kijkt, dan zijn die kinderen, die komen heel veel met de voet. Dus, als ze dan de overstap maken van basisschool naar middelbare school, dan zijn er heel veel kinderen die nog nooit gefietst hebben. En die ouders natuurlijk ook niet. Dus het is veel meer, het is, het is veel breder, zeg maar dan alleen maar dat kijken naar die wijk. Wie woont er nou in die wijk en wat voor bewegingspatroon hebben die mensen, hè? Dus vooral die, eh, ja, vooral die allochtonen, die zijn vanuit hun zelf ook gewend, van de voorgaande generaties, om langer te lopen. En veel te lopen vinden zij niet erg, terwijl dat wij dan eerder de fiets pakken. Dus ook die denkwijzen, dat vind ik af en toe wel, ehm, hoe moet ik nu proberen, ehm, Nederland is fietsland, dus moet je de fiets ook proberen naar voren te brengen. Maar je moet ook vooral naar die mensen zelf kijken, van wat willen ze wel.

Luuk van den Broek

Als je het zou moeten samenvatten welke factoren beïnvloeden de effectiviteit van het beleid dan het meeste? Als je er dan een ranking van zou maken voor jezelf?

Municipal Employee

Ik ik, Ik denk dat we vooral veel meer naar de mensen zelf moeten kijken, dus de factor mens zeg maar en de de de potentie waar die mensen zit die moeten we, moeten we echt goed goed bekijken. Dus inderdaad voor Hoge Vucht denk ik eigenlijk dat je misschien op langere termijn dat daar wel meer fiets potentie is, maar ik denk dat het nu vooral op het lopen moet zo prettig mogelijk zijn daar eigenlijk, hè. Om die mensen te denken eh… Als je de mensen daar vraagt wat zij willen, hart nodig hebben, dan is dat meer gericht op lopen dan fietsen. Ja, wij vinden wij denken dan misschien ga lekker fietsen, maar daar zitten die mensen helemaal niet op te wachten.

Luuk van den Broek

Nee, ik snap hem. Ja dan ook al gerelateerd niets wat je net ook al beetje beetje beetje zei welke ideeën of strategieën heeft de gemeente om dan de effectiviteit te vergroten als het gaat om beleidsmaatregelen?

Municipal Employee

Nou ja, kijk, we zetten bijvoorbeeld extra fietsnietjes hè. Zeg maar om fietsen te stimuleren, hè. En kijk, wat we nu ook vooral doen, is die veiligheid proberen te vergroten hè. Dus je hebt de Groenendijk die daar aan het winkelcentrum ligt waar heel veel oversteken zitten waar te hard wordt gereden. We willen wel kijken. We hebben nu ook een beeld van hoe dat kinderen bijvoorbeeld lopen door de wijk, hé. Daar hebben we data van gekregen, dus we hebben de postcode van de school voor leerlingen, dus daar kan je kaarten van maken van hoe dat ze lopen. Nou, die leggen we over data één van hoe je hard dat de auto's dus rijden en dan krijg je bepaalde risicovolle locaties naar boven. Dat doen we voor lopen en dat doen we voor fietsen. Dus juist die kwetsbare locaties die willen we in beeld brengen. Daar willen we maatregelen voor, ja, voor instellen, ja, dus we zijn ja op die manier ook aan het kijken hoe we het lopen en fietsen veiliger en aantrekkelijker kunnen maken. En wat ik al zei, die eerdere looproutes die al gemaakt zijn, ja, probeer je heel die wijken een beetje meer, of ja meer, actief te laten zijn.

Luuk van den Broek

Dus ik begrijp het goed dat er zowel fysiek naar fysieke maatregelen wordt gekeken als, zoals ook naar maatregelen om bewoners mee te krijgen in het nieuwe beleid.

Municipal Employee

Maar ik denk dat je het, ehm, het is vooral dat we dat we moeten kijken, ook wat echt wat die bewoners willen en vinden, denk ik.

Luuk van den Broek

Ja, kom ik zo nog even te spreken. Je zei net iets over veiligheid. Inderdaad, de omgevingsvisie van 2040 wordt veel nadruk gelegd op veiligheid, dus. Zijn er concrete interventies die de stad gepland heeft en welke beleidsmaatregelen zijn wel gepland om deze veiligheid te waarborgen om de activiteit van het fysieke beweging te stimuleren?

Municipal Employee

Ja er zitten sowieso wat, maar dat is meer veiligheid zoals verlichting, hè. Maar dat is niet alleen in Hoge Vucht maar over heel de stad zegmaar. Maar dat je bijvoorbeeld kijkt met sensoren als mensen aan als je mensen lopen dat dan bijvoorbeeld de verlichting omhoog gaat. Veiligheid is ook een soort van beleving, hè, dus die ehm. We zijn daarom aan het kijken of boas, of hé, in iedereen geval de handhavers wat breder handhavingsgebied krijgen dan wat ze nu hebben.

Luuk van den Broek

Ja.

Municipal Employee

Blauw op straat, daar is ook een soort van… Mensen ervaren, ehm, er moet niet teveel politie komen natuurlijk, maar af en toe een keer politie door de staat, dat is ook een gevoel van veiligheid. Dus er zijn veel meer dingen, denk ik dan alleen maar die fysieke veiligheid inderdaad. En ook ook in de beleving, ja is, is gewoon veiligheid een belangrijke, ja, een aandachtspunt eigenlijk in ieder geval. Daar moet je ook iets mee. Dus niet alleen maar die fysieke fysieke veiligheid inderdaad, maar ook bij de mensen tussen de oren moet het veilig zijn. Maar het is ook bijvoorbeeld aanpakken van hangjongeren of weet ik veel wat.

Luuk van den Broek

Oké. Ehm, nou wil ik het even hebben over participatie. We hadden het al veel over de mens. Breda gebruikt een participatieladder van vier verschillende niveaus had ik gezien. Welke vorm van participatie wordt het meest gebruikt binnen projecten als het gaat om bewegen en een gezonde en actieve leefomgeving?

Municipal Employee

Ik denk dat dat heel erg verschilt van de van de van de soort en van de grootte van de ingreep. Eigenlijk wordt alles wel gebruikt. Want je hebt volgens mij, eh, actief meedenken. Eh…

Luuk van den Broek

Je hebt hier informeren, raadplegen, adviseren en coproductie.

Municipal Employee

Ja, die coproductie, dat is vooral rondom scholen, zie je daar heel vaak. Dat scholen met een met een probleem komen bij ons hé of wijkcentra, ja of groepen die dan met een probleem naar ons komen en wij zeggen dan, ja, wij zien er ook wel iets in, maar dan moet het wel samen doen. En natuurlijk zijn er ook projecten binnen de gemeente waar wij mee naar buiten gaan en dan co-productie vragen. Maar je merkt gewoon dat het het sterkste is als mensen zelf met dingen komen dan dat wij ze erbij moeten slepen, zeg maar dus daar, eh, dat is de uiterste zaak. En alleen informeren dat was af en toe een keer een Breda bericht of iets In de bus gooien van zeggen van zo gaan we het doen. En dat zo gaan we doen kan ook bijvoorbeeld zijn over, ja, weet ik veel, dat we de straat een keer gaan reinigen of dus er zit heel erg veel, ja, dat is eigenlijk wat per per project wordt eigenlijk gekeken welke welke trap, zeg maar, we gaan inzetten dan.

Luuk van den Broek

Oké. Nou de volgende vraag van hoeveel telt dan de de mening van een bewoner mee?

Municipal Employee

Dat is ook ook afhankelijk waarvan ehm. De ene keer, eh, kijk, als je echt over iemand zijn zijn directe woonomgeving hè, dus hij kijkt uit zijn raam en hij kijkt erop, ja, dan is, dan weegt dat zwaar. Dat kan zelfs gaan over plek van een haag of de plek van een lantaarnpaal, dat we hem een klein beetje schuiven. Dus daar is altijd wel de afweging tussen het individu en en het geheel. Als, eh, we een straat een richtingsverkeer willen hebben of de straat aan willen pakken en dan 90% voor is. Dan vinden we dat toch iets belangrijker dan die ene man die het er niet mee eens is. Ja, en dan is altijd nog een middel om bezwaar te maken of weet ik veel wat. Maar als gemeente zijn we er juist om om, zeg maar die, Ja, om toch te bewaken dat iedereen gedragen wordt en dat niet de mensen die het hardst schreeuwen dat hij dat zij het eh, bepalende woord hebben.

Luuk van den Broek

Oké. Dan heb ik ook gelezen in omgevingsvisie dat de participatie leidraad wordt geïntroduceerd. Wat denk jij kan het verbeteren die participatie leidraad ten opzichte van het oude participatie systeem?

Municipal Employee

Ja, die participatie leidraad is eigenlijk juist omdat er heel veel klachten kwamen over over die de mate van participatie en hoe dat we het doen zegmaar. Aan de andere kant merk je ook van het is gewoon zo afhankelijk van de mens zeg maar die en bij het stadskantoor zo'n werk trekt en de mensen die in zo'n wijk zelf zitten. Dus het is heel, ja, ik snap de aandacht ervoor, maar af en toe denk ik ook van ja, het is ook wel als je In de praktijk meemaakt dan ja, het kan soms ook gewoon niet anders. Natuurlijk botst het een keer. Ja, dat hoort er dan bij. Dat kan wel zeggen we hebben ja, er is wel goed overleg geweest, ja ja, maar ja, uiteindelijk is het resultaat, is er dan niet naar. Dus daar wordt gezegd van ja, dan is de communicatie niet goed. Naja de communicatie was goed alleen als de ene ja willen en anders nee wil ja, dan is het ook niet, hè, dat krijg je niet opgelost met participatie. Dan moet je wel begrip hebben voor elkaar, maar, ik denk dat dat wel vaak door elkaar loopt. Zowel er is niet goed communiceert. Nou ja, als je dan laat zien een keer hoe dat je daar gezeten hebt, maar als je dan,

ja, van mening blijft verschillen, dan dan is dat het, maar niet dat participatie verkeerd is. En dat loop theel vaak door elkaar heen.

Luuk van den Broek

Ja, dat snap ik. Nou ik wil het nog even hebben over kansen en obstakels in Hoge Vucht. Naar je eigen mening, wat zijn de belangrijkste obstakels en belangrijkste kansen voor een gezonde en beweegvriendelijke leefomgeving in Hoge Vucht?

Municipal Employee

Nou, ja, eh, één hele grote kans is, denk ik de ondertunneling van de noordelijke rondweg hè. Dus die die staat ook in de omgevingsvisie hè, dat we eigenlijk daar die die zeg maar die barrière die er is tussen Hoge Vucht en het centrum, dat we die in een tunnel willen hebben. Ja, als, dat is natuurlijk al een grote barrière. En dat ja, dat ding kom je altijd tegen, dus als je Hoge Vucht uitkomt, ja, dan kun je altijd langs de rondweg zo'n beetje. Dus daar ligt, ehm, daar liggen echt heel veel kansen. Stel dat je, ja, natuurlijk zal het kruispunt nog wel erboven moeten, maar daar kan je wel een hele mooie groene omgeving ook van maken. Ja en ik denk dat we ook hele kleine kansen nog gewoon liggen op op hoekjes op straten waar je het bij het gewoon vriendelijker kan maken. Ja, gewoon fijner fijner om te bewegen. Dus ja, er zijn kansen genoeg en de valkuilen daar, ja, ja dat de mensen misschien niet willen of zo, hè. Bewegen is gewoon is gewoon zo een ding wat vanuit de mensen zelf ook moet komen. Natuurlijk, als gemeente zijn wij verantwoordelijk voor de openbare ruimte, die moet zo goed mogelijk zijn. En, die mensen moeten zelf ook willen.

Luuk van den Broek

Ja. Nou dan de volgende of, ja, de laatste vraag eigenlijk al. Zijn die initiatieven programma's geweest in Hoge Vucht om bewegen te bevorderen, misschien vanuit de gemeente? En hoe effectief waren die?

Municipal Employee

Ja, die zijn natuurlijk wel geweest. Ehm, ik kan ze zo een, twee, drie, niet noemen hoor. Maar ja, degene die ik ken zijn meer vanuit de verkeers kant gekomen. Dat is vooral bij scholen dan zoals dat groene voetstap gebeuren bijvoorbeeld waar we mensen dan vragen of waar kinderen eigenlijk zeggen tegen de ouders van, ik moet vandaag te voet of met de fiets naar school. Ehm, die, dat groene lint, of ik weet niet precies wat de naam was, maar dat is ook wel meer om te laten zien, zeg maar, dat bepaalde routes zijn in de wijk die je dan makkelijk kan lopen. En ik moet zeggen, als de gemeente het dan zijn wij niet echt goed In het evalueren van maatregelen. Dus we weten niet precies of ze dan ook effecten echt effect heeft gehad. Dus ja, daar durf ik niet zo heel veel over te zeggen. Ja, extra fietsnietjes zetten al die dingetjes, zeg maar, dat zijn ook allemaal kleine ingrepen. Ja, dat durf ik voor de rest niet zo te zeggen van wat er nog meer speelt. Ik zou het ook moeten gaan googelen zegmaar wat daar ehm, wat er allemaal uitgeprobeerd is.

Luuk van den Broek

Ehm, misschien nog een vraag over de veiligheid, Ik heb ook een enquête uitgezet en daaruit kwam naar voren dat veel mensen zich, ja, onveilig, voelen vooral om 's avonds over straat te lopen. Denk jij dat dus meer blauw op straat en de verlichting met sensoren daar de, ja, heel effectief zullen zijn? Of denk je dat er meer moet gebeuren?

Municipal Employee

Ik denk dat heel moeilijk is om het onveiligheidsgevoel wat er bij mensen is, om om dat weg te nehmen. Er hoeft dan maar iets te gebeuren en mensen praten elkaar ook heel snel na ook hè, en, en zeker als er een historie zit, dat hebben we in het verkeer hebben we het ook wel eens gehad, want hoeft maar 1 keer 1 dode geweest te zijn op een punt, dan is dat punt ook altijd gevaarlijk bij mensen In de beleving, want, eh, die mensen waren tien met het ongeluk en als ze 40 zijn weten ze dat ongeluk nog. En dat is natuurlijk met met straatgeweld op, eh, nou als er zich iets voordoet in een wijk, eh, blijft het heel lang op zo een punt kleven of aan zo een wijk of een straat of zo. Dus dat is, dan zou er bijna weer een generatie over moeten gaan, zeg maar, om dat allemaal weg

te krijgen. Dus daar, eh, ik denk wel dat je dat je moet laten zien dat er, dat je daar dingen aan doet, hè. Dus dat, ja, die hangplekken van die jongeren dat daar inderdaad op ingrepen wordt hé. Dus dat daar als er straatraces zijn dat er gewoon snel gelijk actie is. Hoge Vucht is natuurlijk ook een gebied wat vooral rondom oud en nieuw altijd altijd extra wordt bekeken, hè. Dus bijvoorbeeld de deelscooters, hè, die we hebben. Ehm, die zijn, die hebben we een tijdje in Hoge Vucht gehad. Ja die zijn daar gewoon weggehaald omdat daar teveel gesloopt werd. De aanbieders hebben gezegd, ja, daar gaan we niets meer investeren, dus dat staat dan ook weer in de krant. Dus het is ook wel weer, hoe krijg je dat negatieve van zo een wijk, hoe krijg je dat omgedraaid? Dus dat mensen het ook meer lezen dat het veilig is om over straat lopen en al die dingen. Dus dat zit heel, eh, dat is, ja, dat is echt complex en heeft echt heel veel tijd nodig volgens mij om daar verbetering in te krijgen.

Luuk van den Broek

En daar is nog geen concreet plan voor hoe ze dat willen doen?

Municipal Employee

Niet dat Ik weet niet dat Ik weet nee.

Luuk van den Broek

Nou goed, dat ehm, waren al mijn vragen. Het interview dat was relatief snel.

Municipal Employee

Snel doorheen gegaan.

Luuk van den Broek

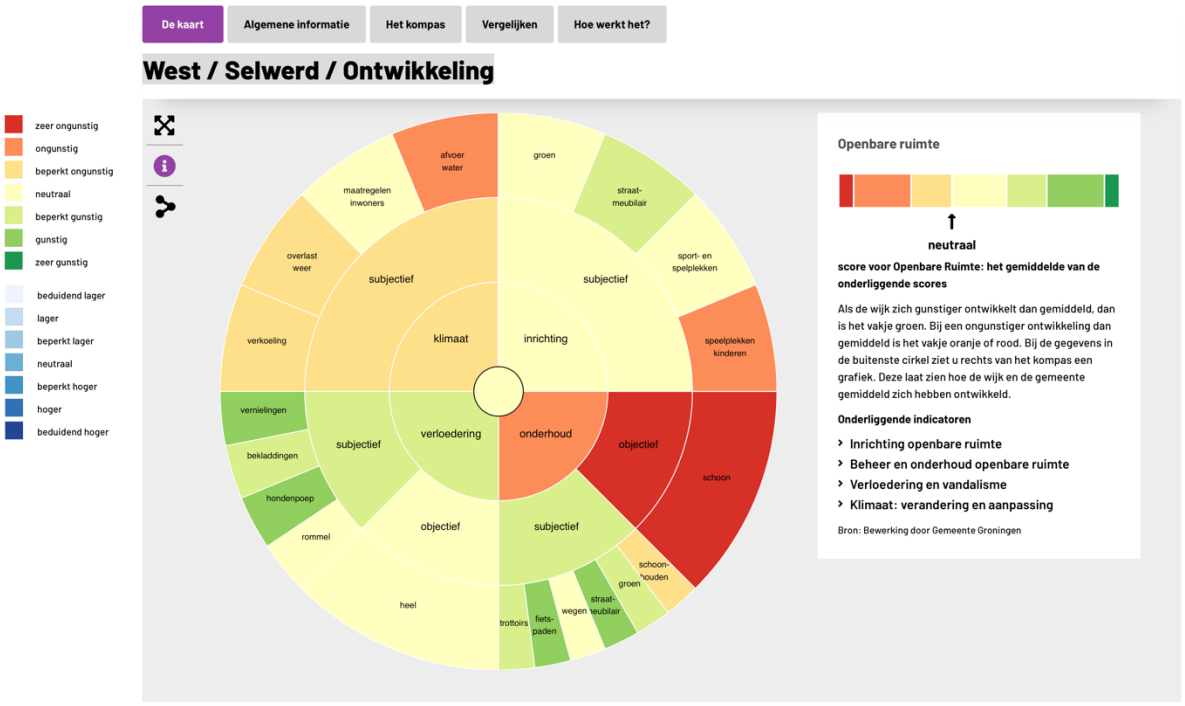
Ja nou, wat Ik wilde zeggen is hartelijk bedankt dat je deze informatie met mij hebt willen delen. Ik stuur het je later ook graag een als ik het helemaal af heb. Hartelijk bedankt en heb jij nog een vraag voor mij of opmerkingen?

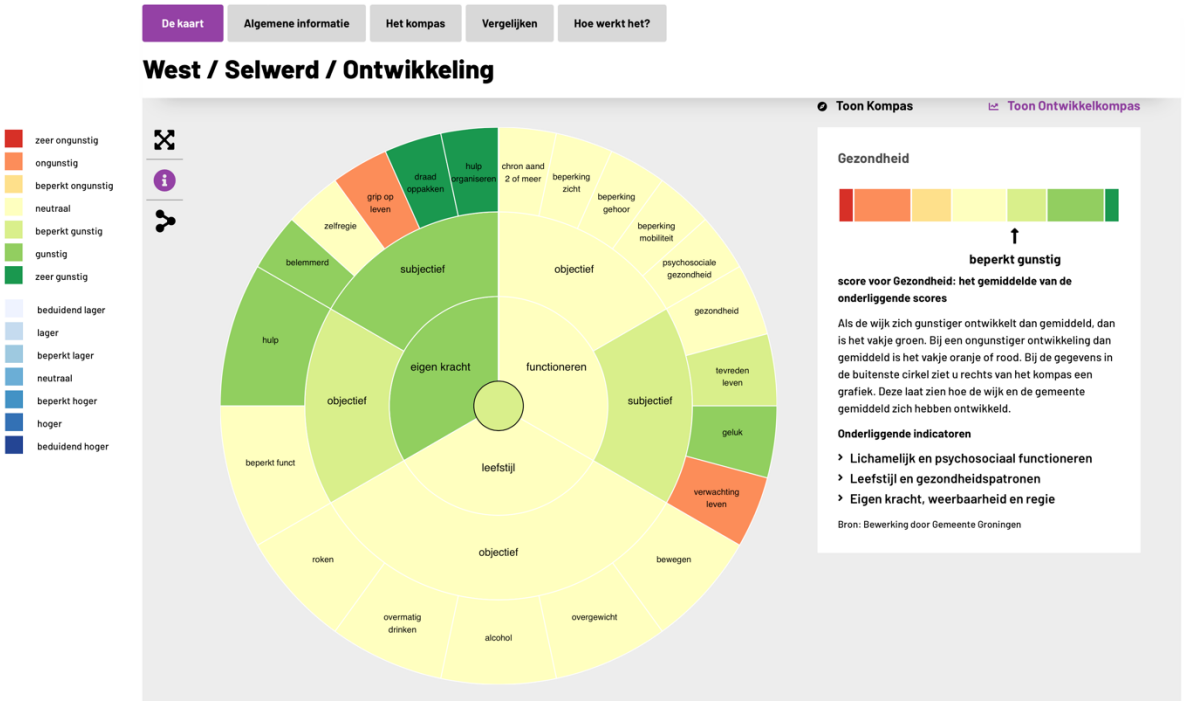
Municipal Employee

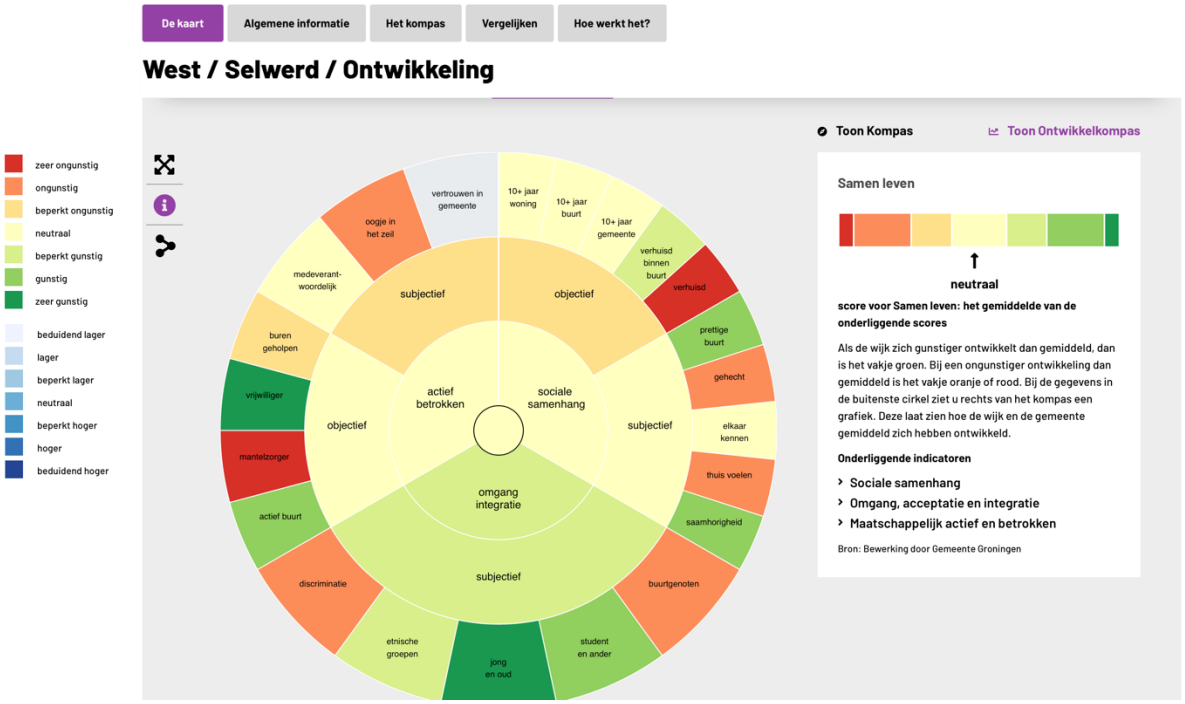
Nee, nee, ik zei ja dit eigenlijk even. Maar als ik denk van, oh, dit moet erin of er komt iets langs dan laat ik het even weten.

Appendix 5: Flyer Respondents Hoge Vucht

Appendix 6: Basismonitor Groningen






De kaart
Algemene informatie
Het kompas
Vergelijken
Hoe werkt het?
West / Selwerd / Ontwikkeling
zeer ongunstig
ongunstig
beperkt ongunstig
neutraal
beperkt gunstig
gunstig
zeer gunstig
beduidend lager
lager
beperkt lager
neutraal
beperkt hoger
hoger
beduidend hoger
Toon Kompas
Toon Ontwikkelkompas
Samen leven
neutraal
score voor Samen leven: het gemiddelde van de onderliggende scores
Als de wijk zich gunstiger ontwikkelt dan gemiddeld, dan is het vakje groen. Bij een ongunstiger ontwikkeling dan gemiddeld is het vakje oranje of rood. Bij de gegevens in de buitenste cirkel ziet u rechts van het kompas een grafiek. Deze laat zien hoe de wijk en de gemeente gemiddeld zich hebben ontwikkeld.
Onderliggende indicatoren
Sociale samenhang
Omgang, acceptatie en integratie
Maatschappelijk actief en betrokken
Bron: Bewerking door Gemeente Groningen
subjectief
objectief
actief betrokken
sociale samenhang
omgang integratie
vertrouwen in gemeente
10+ jaar woning
10+ jaar buurt
10+ jaar gemeente
verhuisd binnen buurt
verhuisd
prettige buurt
gehecht
elkaar kennen
thuis voelen
saamhorigheid
buurtgenoten
student en ander
jong en oud
etnische groepen
discriminatie
actief buurt
mantelzorger
vrijwilliger
buren geholpen
medeverant-woordelijk
oogje in het zeil

Appendix 7: General Similarities and Differences Case Study Cities

Similarities

Almere	Groningen	Utrecht
Focus on accessibility, prioritizing making physical activity accessible to all groups of citizens, this in combination with infrastructure investments like parks, walking and cycling paths and encouraging active living	Groningen also invest heavily in infrastructure and promotes a healthy lifestyle, inclusiveness and health are the main pillars here	Utrecht also focuses on inclusiveness and infrastructure for active transportation (walking and cycling), a reduction of barriers and a vast network for active transportation should encourage a more active lifestyle
Almere focuses on involving residents to capture their preferences and require them to be more engaged within the liveability of their neighbourhoods. Communities play an important role and is achieved through coaches to offer various sports in the neighbourhood.	Groningen also engages their citizens to provide input for the development of public spaces and offer new activities to achieve a healthier lifestyle. Community building also plays a large role to achieve a collective goal of healthier citizens. This is done via WIJ-teams amongst others.	Utrecht involves the community and stakeholders to add to the policy creation to induce healthier lifestyles and identify barriers. Community building also here is of the essence. The municipality recognises that partnerships and the community are important to create a goal and achieve it.
Sports and recreation are important in Almere with extensive effort being made to create places for outdoor and indoor sports in combination with a wide variety of sporting offers. The neighbourhood coaches are a part of including all citizens. Also, events are organised.	Groningen promotes sports and recreational facilities as part of their healthier lifestyle program in which it is encouraged that people are more physically active. The sports offers are diversified extensively and programs to attract children to sports are in place. Also, events are organised.	The city supports sporting programs financially and implements policies encouraging more sporting amongst the citizens. Also, there are investments in adequate facilities to promote indoor sports and outdoor sports to promote healthier and active living. This includes sporting events.
Green spaces are of the essence and to facilitate in the wishes and preference of citizens to sport alone in their own environment as well as allowing for more active transportation and healthier lifestyles. Proximity to green spaces to sit outside and meet is of importance as well as public spaces such as the skills garden to work out.	The public space is of importance together with the creation of green spaces for sports or to remain and enjoy nature. A focus here is also on climate adaptation with additional shade for buildings and for people to walk.	Utrecht focuses on creating green spaces in proximity to all their citizens to promote physical activity and well-being. Their aim is to expand existing green networks and create public gardens to allow for new opportunities for recreational purposes.
Inclusiveness is a theme in all the mentioned points with the aim of everyone being able to participate. The coaches are one way of achieving this as is the sports offers for people with disabilities.	Inclusiveness is importance with the WIJ teams focusing on assisting people in need and leaving no one behind in the transformation of the city.	Also, Utrecht invests in programs to make all facilities accessible for people from any background, age, or abilities.

Differences

Almere	Groningen	Utrecht
Policy visions differ across the cities with Almere focusing on housing, expansion, business climate and resilience. These policies are more future oriented in the sense of growing the city.	Groningen in their policies emphasizes the concept of healthy living and sustainable urban development, focusing on creating liveable spaces and promoting social cohesion. In short creating a healthy living environment.	Utrecht's focus is on mobility, creating green spaces to enhance liveability, and emphasizing inclusivity. Translated to projects there are similarities to Almere and Groningen, however, the overall approach and goals differ.
The implementation strategy employed by Almere is on a larger scale with general interventions impacting the whole city. The integral approach leads to new outdoor facilities in each neighbourhood and indoor sporting facilities serving the city. There is a strong emphasis on design and inclusivity.	Groningen has a more neighbourhood-based approach to implementation and an integral procedural approach to this whilst including various stakeholders. This is visible also in the wording in their policy documents that large impacts are expected over a long period of time. Whilst investing in infrastructure and programs to reach their goals as the other cities, the scale is aimed at neighbourhood levels. Here local collaborations and initiatives by residents are empowered.	Policies in Utrecht are implemented through phased programs as visible in their Innovation program healthy living environment. The implementation is more phased out with a digital framework to monitor the impact closely on lifestyles and physical activity levels. Citizen engagement in this process is of importance, as is it with al cities.
Specific projects and initiatives differ across cities with tailored projects to each neighbourhood. Creating green spaces and recreational spaces is available in all strategies, however, Almere specifically aims to create connected green structures and active transportation which is faster than car transportation. This combined with other projects such as the mountain bike track are unique to the city in Flevoland.	Groningen also tailors' projects to the neighbourhoods. Blue Zone Sewerd is an example where residents themselves can easily start initiatives. This is not a field lab, like Utrecht has, but a transformation in collaboration with residents and other stakeholders. Groningen focuses on renewal with the health and well-being of residents being at its core focus.	Utrecht also has tailored projects, although mostly focuses on more physical activity amongst residents and more active transport options. An example here are the field labs where infrastructural changes are implemented and evaluated. Infrastructure and community engagement are the focus.

Appendix 8: QGIS Steps for maps

1. Data collection

- Download information on physical activity friendliness of neighbourhoods and based on neighbourhoods (https://www.atlasleefomgeving.nl/kaarten) from the Netherlands
- Downloading information on adherence to physical activity guidelines by the RIVM based on neighbourhoods (https://www.rivm.nl/media/smap/richtlijnbewegen.html?gemeente=Breda) from the Netherlands

2. Preparation of Spatial Data

- Using Open Office software to cleanup datasets and ensure accurate and complete neighbourhood codes and save as .csv limited format
- Open the open Data Map (OSM Standard, Open Street Map) as base map and importing the neighbourhood boundary polygons through the QuickOSM plugin in QGIS

3. Data Import

- Importing information on physical activity friendliness of neighbourhoods and adherence to physical activity guidelines by the RIVM in CSV format
- Ensuring the datasets are complete and accurate and that the unique identifier (neighbourhood codes) is available and correctly formatted
- Create copies of the imported data to always have a clean documented of the imported data

4. Attribute Join

- An “Attribute join” is performed merging the Imported information on physical activity friendliness of neighbourhoods and adherence to physical activity guidelines by the RIVM based on neighbourhood codes with the OSM neighbourhood polygons
- Verifying the join was successful by checking the Attribute table

5. Data Projection on Coordinate System

- Set all spatial layers to the same coordinate system EPSG:3857, Spherical Mercator, which is the basis for OpenStreetMap

6. Spatial Analysis and Visualisation

- Creating thematic (choropleth) maps by classifying information from imported data under “properties” with 6 steps allowed for a visualisation on the map as present now. The classification of the data was done based on the information by the RIVM and Mulier institute which means that their classification bounds were used
- A printable visualisation was created with north arrows, legends, and scale bars

7. Export

- Export maps in high-resolution and paste them into the research

Appendix 9: Theoretic underpinning Interview

question	theoretical framework	element of framework	research question it adresses	Explanation
Can you state your name please?				
What is your current position within the municipality?				
What are the current ambitions and policies of the municipality of Breda in spatial planning, particularly with regards to urban renewal and active living?	Active Living Research Framework	Policy Context and Content	What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This research question aligns with the Active Living Research Framework as it aims to investigate the current ambitions and policies of the municipality of Breda regarding active living within the context of spatial planning and urban renewal. The framework focuses on creating environments that promote physical activity and examining the policies and strategies implemented to support active living. This question directly asks about these policies and ambitions and aims to find sepcified answers to the goals set in the "omgevingsvisie"
How is the policy creation process organised within the municipality of Breda?	Framework for Physical activity policy research, Arnstein's Ladder of Participation	Policy context and policy content, Public Participation	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities policies and how can these discrepancies be prevented in the future? What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This research question encompasses elements from both the policy creation process and Arnstein's Ladder of Participation. It seeks to understand the organization of the policy creation process within the municipality of Breda, including the existence of a toolbox/basic framework, involvement of external partners, and public participation. Arnstein's Ladder of Participation helps examine the level of citizen involvement in policy creation, addressing the consultative, advisory, and co-production levels of participation. There are prompts in the interviewguide asking for specific aspects to evaluate the involvment of opinions by different stakeholders and analyse the alignment of policies to wishes of relvenat parties which in this research is focused on residents in the neighbourhood.
○ Is there a toolbox/basic framework in place for policy creation?	Framework for Physical activity policy research	Policy context and policy content		This is not directly related to a question but more about the policy context and the content and how the content is decided. The answers thus connect to how valued the opinions of residents are and what the main basis of policies is. It allows for discussions on whether the basis is sufficient.
○ Are external partners involved in the policy creation (or are only municipal employees creating the policies)?	Framework for Physical activity policy research	Focus on aspects of the social, cultural, policy and economic parts of the framework		This is not directly related to a question but more about the policy context and the content and how the content is decided. The answers thus connect to how valued the opinions of residents are and what the main basis of policies is. It allows for discussions on whether the basis is sufficient.
○ Is public participation involved?	Arnstein's Ladder of Participation	Level of participation	What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This is about the level of participation and directly connects to the opinions of residents and how they are evaluated during policy creation.
Which elements are prioritised when making policy choices for active living?	Active Living Research Framework	Policy aspects with a focus on content and prioritization within policies	What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This research question corresponds to the Active Living Research Framework, which focuses on identifying key elements that influence policy choices for promoting active living. By exploring the prioritization of specific elements within policy decisions, such as the built environment, accessibility, or community engagement, this question contributes to understanding the factors that shape active living policies.
Which norms and values are the foundation for policy creation in spatial planning, with a focus on active living?	Active Living Research Framework, Framework for Physical activity policy research	Policy Content and Sociocultural Factors	What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This research question is rooted in the Active Living Research Framework, which emphasizes the importance of social norms and values in shaping policies that promote active living. By examining the underlying norms and values that guide policy creation in spatial planning, particularly concerning active living, this question addresses the sociocultural aspects that influence policy development.
What are the main challenges that the municipality faces when implementing active living policies (in Breda and Hoge Vucht specifically)?	Active Living Research Framework, Framework for Physical activity policy research	Focus on policy and social aspects, especially elements of implementation which are also part of the framework for physical activity policy research	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities' policies, and how can these discrepancies be prevented in the future?	This research question integrates elements from the Active Living Research Framework and focuses on implementation challenges faced by the municipality in promoting active living policies. It specifically examines the challenges encountered in Breda and Hoge Vucht, including ensuring policy compliance, evaluating the effectiveness of policies, and addressing the barriers to active living. Additionally, the question hints at the potential use of promotional campaigns and educational sessions for behaviour change and the stimulation of active mobility.
○ How does the municipality ensure that the policies are followed and have the desired effect?	Framework for Physical activity policy research	Policy implementation and policy impact	What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This prompt focuses on the implementation of the policies and how it is ensured that the desired outcomes are achieved. It can also show where a different approach would be required to have the desired outcomes.
○ (How is active mobility going to be stimulated, as mentioned in the 'Omgevingsvisie 2040'?)	Framework for Physical activity policy research	Policy implementation and policy impact	What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This is an aspect of the omgevingsvisie and it is a prompt question which depending on time can be asked to identify if there are any specific ways to adress the mobility of residents. However, the main focus of the intevriew is on policy creation surrounding physical activity and if the opinion of residents is taken rather than specifiying the methods to do so. Reason is that the splans are available in the omgevingsvisie as well as the shortcomings which have to be adapted and bettered. Another reason is that the last question also adresses this question partially.
What could be done to improve the effectiveness of these policies in promoting active living in Hoge Vucht?	Active Living Research Framework, Framework for Physical activity policy research	Policy Implementation and Impact	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities' policies, and how can these discrepancies be prevented in the future? What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	This research question draws on the Active Living Research Framework and explores ways to enhance the effectiveness of active living policies specifically in Hoge Vucht. It aims to identify potential strategies, interventions, or improvements that can be implemented to optimize the impact of policies and initiatives in promoting active living within the neighborhood.
One element to promote active behaviour is the feeling of safety. How is safety in the public space going to be ensured in the future (so that active behaviour is encouraged more, and public space is used)?	Active Living Research Framework	Physical environmental factors and social factors	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities' policies, and how can these discrepancies be prevented in the future?	This research question addresses the relationship between safety in the public space and active behavior, aligning with the Active Living Research Framework. It seeks to understand how the municipality of Breda plans to ensure safety in the public space to encourage active behavior and enhance the utilization of public spaces for physical activity
Which form of participation is most frequently used in projects regarding the public space (in real-life)?	Arnstein's Ladder of Participation	Level of Participation in Public Space Projects	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities policies and how can these discrepancies be prevented in the future? What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	The question aims at establishing the real life situation of participation within the municipality to evaluate how much the opinion of residents is used and how effective thus policy can address wishes and shortcomings by the residents.
How strongly are opinions of residents taken into account?	Arnstein's Ladder of Participation	Level of Participation and Resident Input	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities policies and how can these discrepancies be prevented in the future? What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	The question aims at establishing the real life situation of participation within the municipality to evaluate how much the opinion of residents is used and how effective thus policy can address wishes and shortcomings by the residents.
What can the "participatie leiddraad" as described in the 'Omgevingsvisie 2040' improve compared to the old participation model?	Arnstein's Ladder of Participation	Comparison of Participation Models	Which elements related to the wishes and shortcomings by the locals are not addressed by the municipalities policies and how can these discrepancies be prevented in the future? What are the current ambitions and policies by the municipality of Breda in spatial planning (regarding urban renewal and active living) and how do they address the by locals identified shortcomings and wishes?	As a followup question to the two questions before the change of participatory trajectory is aimed at proofing whether the opinion of residents will in the future be less, more or equally treated as in the old system. This help to conclude and discuss whether the policy framework in place is equipped to address all shortcomings and wishes identified by residents.
In your opinion, what are the main barriers and opportunities for physical activity in 'Hoge Vucht'?	Active Living Research Framework	Physical Environment - Barriers and Opportunities for Physical Activity	What are the current physical activity opportunities and barriers in Hoge Vucht?	This question is to compare the view of the munipality withe the view of residents and identify discrepancies if there are any.
Are there/Have there been any initiatives or programs in Hoge Vucht to promote physical activity? If yes, how effective where they?	Framework for Physical activity policy research	Policy Implementation and policy Impact - Initiatives and Programs for Promoting Physical Activity		This question does not apply directly to one of the question but helps in adressing the main question and draw conclusions which is on how to promote physical activity. If promotional campaigns have not been used yet or seem to have been unsuccesfull a different approach might be required or promotions should be part of the future strategies.

Appendix 10: Theoretic underpinning Survey

question	theoretical framework	element of framework	research question it adresses
When you think about a normal week, Monday till Sunday, how often are you... (0-7 days)	Active Living Research Framework	Physical Activity Frequency and Modes of Transportation	This question aims to assess the frequency of physical activity, specifically related to cycling or walking for transportation purposes.
Did you do any sport last month (April)?	Active Living Research Fr	Sport Participation	This question explores the engagement in organized sports activities within the past month, indicating participation levels.
Which sport(s) do you do? If more than three, choose the three most important.	Active Living Research Framework	Sport Participation and Preferences	This question seeks to identify the specific sports individuals engage in and their preferred choices.
How often did you sport last month (April)?	Active Living Research Framework	Sport Participation Frequency	This question measures the frequency of sports participation in the past month, providing insights into regularity.
Where do you sport?	Active Living Research Framework	Sport Participation Locations	This question investigates the locations where individuals typically engage in sports activities, providing information about the settings and environments used.
How long have you lived in this neighborhood?	Active Living Research Framework	Neighborhood Residence Duration	This question aims to understand the duration of residents' stay in the neighborhood, which can influence their familiarity and perceptions of the environment.
In my neighborhood... (series of opinion questions)	Active Living Research Framework	Neighborhood Environment and Perceptions	This series of questions assesses residents' opinions and perceptions about various aspects of their neighborhood, including safety, recreational opportunities, and access to amenities.
What are you doing in the lawns and parks in your neighborhood?	Active Living Research Framework	Park and Greenspace Usage	This question explores the specific activities individuals engage in when using lawns and parks in their neighborhood, providing insights into how these spaces are utilized.
In your neighborhood... (series of questions related to transportation)	Active Living Research Framework	Transportation and Active Mobility	This series of questions examines residents' perceptions and experiences related to transportation in their neighborhood, including walking, cycling, and availability of infrastructure.
What specific upgrades or additions to your neighborhood would make it easier for you to be (more) physically active?	Active Living Research Framework	Neighborhood Design and Active Living	This question explores residents' perspectives on the improvements or additions needed in their neighborhood to facilitate and encourage physical activity.
Have you ever participated, or been invited to participate, in a project (by the municipality) in your neighborhood?	Arnstein's Ladder of Participation	Level of Participation in Neighborhood Projects	This question assesses the level of residents' involvement in projects initiated by the municipality, providing insights into their engagement and participation.
How much do you think is your opinion worth in a project by the municipality?	Arnstein's Ladder of Participation	Perception of Participation Value	This question aims to understand how residents perceive the value and impact of their opinions in municipality-led projects, indicating their sense of influence and empowerment.
Would you like to be involved more in projects in your neighborhood?	Arnstein's Ladder of Participation	Desire for Increased Participation	This question aims to gauge residents' interest and willingness to participate further in projects within their neighborhood, indicating their desire for increased engagement and involvement.
Your municipality has an active health policy, for example by adding sporting facilities nearby in the public space. Do you notice anything about this?	Active Living Research Framework, Framework for Physical Activity Policy Research	Awareness of Health Policies and Facilities, Assessment of Health Policy Implementation	This question assesses residents' awareness and observations regarding the implementation of the municipality's active health policy, specifically related to the addition of sporting facilities in public spaces.
What do you do during an average week?	Active Living Research Framework	Occupation and Daily Activities	This question seeks to understand residents' typical activities and routines during an average week, providing insights into their lifestyle and potential opportunities for physical activity.
What is your highest level of completed education?	Active Living Research Framework	Education Level and Its Influence, individual factors, Education and Socioeconomic Status	This question captures residents' educational attainment, which is an important socioeconomic factor that can influence health behaviors, including physical activity levels.

The community survey was partially developed using a draft of a neighbourhood survey created by Pharos, provided by the thesis supervisor. This draft served as a basis to use accessible language to facilitate clear understanding. Additional questions rooted in theory were added aligned with the research frameworks used (Sallis et al., 2006; Schmid et al., 2006; Arnstein, 1969) ensuring broad data collection relevant to the study objectives.