

A STEP FORWARD:  
THE RECIPROCAL AFFECT OF PEDESTRIAN EXPERIENCES  
ON URBAN POLICIES



university of  
 groningen

**DOCUMENT:** Bachelor Thesis – Pre-Master SSP

**TITLE:** A step forward: the reciprocal affect of pedestrian experiences on urban policies

**VERSION:** Final

**LOCATION:** Groningen

**DATE:** May 2019

**AUTHOR:** Agathe Saez

**STUDENT NUMBER:** s3717879

**EMAIL ADDRESS:** a.saez.1@student.rug.nl

**UNIVERSITY:** University of Groningen

Faculty of Spatial Sciences

Landleven 1

9747 AD Groningen

**ILLUSTRATION FRONT PAGE:** Agathe Saez

**SUPERVISOR:** F. (Farzaneh) Bahrami

**SUPERVISOR'S EMAIL ADDRESS:** f.bahrami@rug.nl

## PREFACE

This thesis is made as a completion of the Pre-Master Socio-Spatial Planning programme provided by the University of Groningen. Within this research, I gained knowledge in planning for mobility and exploiting pedestrian experiences so as to provide efficient policies. My interest for the topic of pedestrian mobility and my curiosity for the inclusion of experiences have been incentives for me to produce this paper. And as the world population is increasingly living in urban areas, there is a great need for efficient yet inclusive urban policies. What are the advantages of taking into account experiences of the target audience when issuing urban policies? It is my enthusiasm for such questions that enabled this research.

I could not have achieved this study without a strong support group. First of all, my family and friends, who brought me their support and understanding. And secondly, many members of the Faculty of spatial sciences and members of Geodienst, each of whom has provided advice and guidance throughout the research process.

## I. TABLE OF CONTENTS:

Preface	III
II. Summary	1
III. Introduction	2
A. Background	2
B. Research problem	3
C. Structure of the research	3
IV. Theoretical framework	4
A. Conceptual model	6
V. Methodology	7
A. Locations	7
B. Considerations for collecting data	9
C. Data instrument explanation	9
D. Data collection explanation	10
E. Data analysis scheme	11
VI. Results	12
A. Policies goal: the nudging method	12
B. Policies & experiences: Impacts on pedestrian and inclusion of pedestrian experiences	13
C. Geographic features & needs, abilities and opportunities	14
D. Emerging factors: obstacles and incentives	15
E. Experiences: challenging for some interesting for others	17
F. Walking objective & changes needed	18
VII. Conclusions	20
A. Discussion	20
VIII. References	22
IX. Appendices	24
A. GIS map of the buildings and street layout of Helpman	24
B. GIS map of the land uses in Helpman	25
C. GIS map of the buildings and street layout of Binnenstad	26
D. GIS map of the land uses in Binnenstad	27
E. GIS map of the buildings and street layout of Vinkhuizen	28
F. GIS map of the land uses in Vinkhuizen	29
G. Interview guide for walkers	30
H. Interview guide for policy-makers	32
I. Informed consent	33

## II. SUMMARY

This paper presents the research made on the topic of pedestrian experiences and their implications for the urban policies of Groningen. This has been studied according to three different concepts: pedestrian experiences, geographic features and urban policies in order to discover how they interact.

This study takes place in the current society where alternative modes of transport are being favored by the young generation. Indeed European citizens seem more prone to walking than North-American inhabitants. It is seen as an activity that is motivated by different reasons and city walkers are often influenced by their environment to effectuate walking trips. As the Dutch population has seen a recent increase in pedestrian mobility, this research raised and aimed to address questions about walking experiences, urban policies and geographic features of importance for walkers.

In order to propose answers, the following qualitative research is based on in-depth interviews with walkers and policy-makers of Groningen. Three neighborhoods have been selected to allow for a better focus on different areas and the following results enabled to determine the gap between the pedestrian experiences and the policy-making process. Overall, the municipality of Groningen is already collecting walking experiences but the methods used and the public addressed could be improved and broaden to develop refined walking policies.

### III. INTRODUCTION

This chapter will focus on the existing data and information concerning the current mobility system, its trends and relevant aspects considered for the research presented here.

#### A. BACKGROUND

This research is based upon the need to shift towards sustainable modes of transportation. Since automobility seems to have a decreasing interest among the young generations, other transportations are developed around the globe (Urry, 2014). Walking is the oldest form of mobility and along with cycling, it is considered as key transportation mode to reduce the environmental costs of motorized engines (Galderisi & Ceudech, 2010). According to the work of Bassett, Europeans citizens are more inclined to walk than other western countries such as USA or Canada (Bassett et al., 2008). The partnership on urban mobility part of the urban agenda for the EU is investigating ways to develop guidelines on infrastructure for active mobility and promote sustainable and active mobility behavior which includes walking. This plan aims at collecting best-practices of drivers for behavioral change, therefore the importance of promoting walking amongst other active transport mode is highly considered at urban, regional, national and European scale (Urban Mobility Partnership, 2017).

As reported by the Netherlands Institute for Transport Policy Analysis, the number of walkers in the Netherlands is slowly increasing in the last decade and 20% of the trips were pedestrian in 2014 (Netherlands Institute for Transport Policy Analysis, 2015, 2018). Groningen has developed over years into different neighborhoods with different geographic characteristics. The environment in which Groningen inhabitants walk impacts their trips and is impacted by policies. The study of the urban form as described by Dempsey et al., (2010) and Jopson et al. (2013) showcases that diverse aspects of the built environment influence behavior and experiences when walking. Therefore, the research presented here aims at studying the development of pedestrian mobility in the city of Groningen in relation to urban policies. The study puts into perspective the walking experiences of inhabitants in different geographical settings of Groningen and the urban policies that impact the walking mobility in Groningen. Throughout this study all types of walking are included whether it is as a convenient mode of transport, for commuting, or for leisure.

## B. RESEARCH PROBLEM

The research will focus on a central question: **How can the urban policies of Groningen implement pedestrian experiences in order to encourage walking?** In order to answer this question, it is necessary to gain knowledge about the urban policies of Groningen concerning pedestrian mobility and what is at stake for the city in increasing this type of mobility. Thus, the following questions will be guiding this part of the research:

- *In which ways do the urban policies of the city of Groningen impact pedestrian mobility?*
- *What are the opportunities for Groningen to increase pedestrian mobility?"*.

Another aspect to take into consideration is the pedestrian experience. This will revolve around two main questions:

- *What are the reasons that motivate pedestrians to walk in Groningen?*
- *What are the obstacles to pedestrian mobility according to walkers?"*.

## C. STRUCTURE OF THE RESEARCH

This paper will be divided into multiple chapters and should be guided by the following structure: the next chapter is of major importance concerning the different academic anchors this research is based on, the clarification of the main concepts and relationships is made clear through a conceptual model. The methodology chapter discusses the choice of data collection through a detailing of the locations this research focuses on, the data collection instrument, the considerations concerning the method and the analysis scheme. Chapter IV presents the results and explains the different elements and the emerging concepts arising from the interviews. As to better understand the patterns and the relationships that the results point at, a chapter has been designed concerning the conclusions and discussion. Finally, the last part, chapter VII, contains the references used during the writing of the paper.

## IV. THEORETICAL FRAMEWORK

This section concerns the development of walking and its importance in the Netherlands, especially in the case of Groningen.

As previously mentioned, Dutch citizens are regular users of soft mobility like walking and cycling (Galderisi & Ceudech, 2010; Netherlands Institute for Transport Policy Analysis, 2018). The intention of this research is to understand the impacts of urban policies on pedestrians and the opportunities deriving from pedestrian experiences for the city of Groningen to develop its urban policies regarding walking. In order to achieve this, a study based on the NAO model is proposed. This model aims at understanding travel behaviors in regard to Needs, Abilities and Opportunities of travelers which form the basis for behavioral choices (Wee, Annema, & Banister, 2013).

The urban design qualities differ from the individual reactions to a place. These qualities (sense of comfort, sense of safety and level of interest) enable the walker to assess the conditions of a place according to their own attitudes and preferences. The perceptions of individuals in the same environment vary from one individual to another. The urban design qualities observed by Ewing & Handy (2009) such as: linkage, enclosure, complexity, etc., arise from the physical features of design (e.g. sidewalk width, tree canopy, building height, etc.) and can be assessed quite objectively by an outside observer while the reactions and perceptions of walkers cannot. The physical features of urban design, the qualities of urban design and the individual reactions influence the way individuals feel about walking. Different researches focus on different design features, design qualities but also on different reactions. And by measuring the intervening variables, researchers can better communicate the relationships between the environment of walkers and their walking behavior. This is especially useful when promoting walking as it is of major importance to target the opportunities and obstacles faced by pedestrians so as to allow a beneficial relationship where geographic features and pedestrian experience complement each other to promote walking (Ewing & Handy, 2009).

The study of travel behavior within a certain environment is called walkability and can be determined by quantitative as well as qualitative studies. The number of researches in this field increases as the interest and need for the development of sustainable mode of transport increases as well (Urban Mobility Partnership, 2017).

Walking is an activity that is motivated by different reasons and city walkers are often influenced by their environment to effectuate walking trips. Indeed, the layout, density, land use, transport infrastructure, and housing type are factors to be considered. They all fall under the umbrella of geographic characteristics and can be observed at a different scale (Dempsey et al., 2010; Jopson et al., 2013). As this research aims at studying the practice of walking in the city of Groningen, the neighborhood scale will be the most suitable as it will allow for different neighborhoods with their

own characteristics to be represented. A study of the entire city is too ambitious for this research project but this paper may be a starting point.

The geographic characteristics mentioned previously will be used as a framework while assessing the travel behaviors of citizens of Groningen in order to better understand what constitutes their walking trips. In the meantime, urban policies require to be analysed according to the neighborhoods studied in order to better understand their goals and impacts.

The city of Groningen is currently, and since 2016, undergoing changes under the name of Ruimte voor Jou projects in order to facilitate accessibility to its city centre. This vision includes a variety of goals in which walking, cycling and using public transports are to be developed. Thus, it is important to consider that adding walk-friendly paths into cities and connecting them with public transport, it will increase the use of public transports (Lavadinho, 2017). By doing so pedestrians can also take part in multi-modal transportation and therefore reduce the use of cars. This research does not focus on pedestrian mobility as part of multimodal transportation in Groningen but this aspect of pedestrian mobility is to be considered when regarding the urban policies in Groningen. The website of Ruimte voor Jou projects indicates that changes will be made all around the city from 2016 to 2021 in order to optimize the city centre.

The city expects to see a population growth reaching approximately 225 000 inhabitants in 2025 while the regional population is declining. Thus, the region will be more and more dependent on the city for the provision of work, study, care and entertainment facilities. With an increasing demand for accommodation and business start-ups, the city of Groningen is facing important changes and seek to adapt by developing diverse strategies (Ruimte voor jou, Binnenstad 050 Groningen, & Gemeente Groningen, n.d.-a). The various projects mentioned on the website seem to take into consideration public participation processes through public meetings with the municipality where residents can exchange ideas and contribute to projects (Ruimte voor jou, Binnenstad 050 Groningen, & Gemeente Groningen, n.d.-b). The municipality seems to be including pedestrian experiences in the future project through public participation. This research will then seek how important experiences are for urban policies and how they are implemented in projects.

By analysing goals and impacts of urban policies the Ruimte voor Jou projects have to be considered, especially for the neighborhoods that will be or already are directly impacted. It will be important to link the pedestrian experiences with the policies and projects recently implemented in order to determine what the impacts on the pedestrians are and what the main goals for the municipality are. This research seeks to identify the main drivers and obstacles to walking in Groningen through the study of the area, the experiences of users and the institutional influences.

## A. CONCEPTUAL MODEL



*FIGURE 1- CONCEPTUAL MODEL BASED ON NAO MODEL AND URBAN FORM MODEL*

The model presented above will be tested through the analysis of answers gathered throughout interviews with Groningen pedestrians and policy-makers. Following this, the answers will be confronted with the outcomes expected and strategies implemented by the urban policies of the city to precise what results from these policies but also what could be used to implement them.

## V. METHODOLOGY

In this chapter, the focus is on the different locations selected, the sampling of the data and the strategies of analysis. The maps presented here can be found in bigger size in Appendix A to F.

### A. LOCATIONS

The research focuses on 3 different neighborhoods in Groningen. These neighborhoods are selected according to their different layout, locations and history. In order to gather different walking experiences, it is important to consider a different set up. Thus, the following neighborhoods will be studied: Helpman, Binnenstad and Vinkhuizen.

The first neighborhood is part of the district South and was historically a village which later was added to Groningen at the beginning of the 20<sup>th</sup> century. Helpman has varied shops, schools and facilities and shelters mainly traditional residences for the middle-class and higher and has houses owned by housing corporations (At Home In Groningen, n.d.-b; Gemeente Groningen, n.d.; Wijkcomité Helpman, n.d.).



FIGURE 3 - PHOTOGRAPHY OF VAN ROYENLAAN IN HELPMAN (source:author)

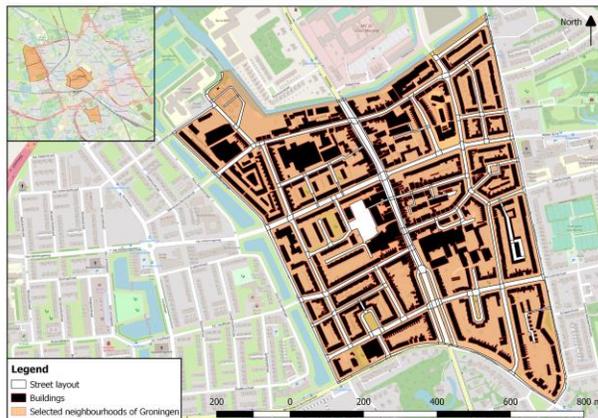


FIGURE 4 - GIS MAP OF THE BUILDINGS AND STREET LAYOUT OF HELPMAN



FIGURE 2 - GIS MAP OF THE LAND USES IN HELPMAN

Binnenstad is the main neighborhood in the city centre of Groningen. It is the old city centre and comprises living and services functions. There is a diversity of buildings in this area with mostly old buildings where shops, restaurants, facilities and accommodations are mingled (gemeente.groningen.nl, n.d.). According to At Home In Groningen, (n.d.) the average age of its residents is 32.



FIGURE 5 - PHOTOGRAPHY OF THE BRUGSTRAAT IN THE BINNENSTAD (source:author)

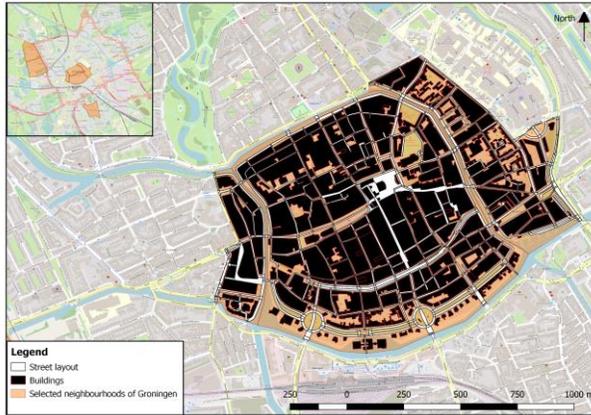


FIGURE 7 - GIS MAP OF BUILDINGS AND STREET LAYOUT IN BINNENSTAD

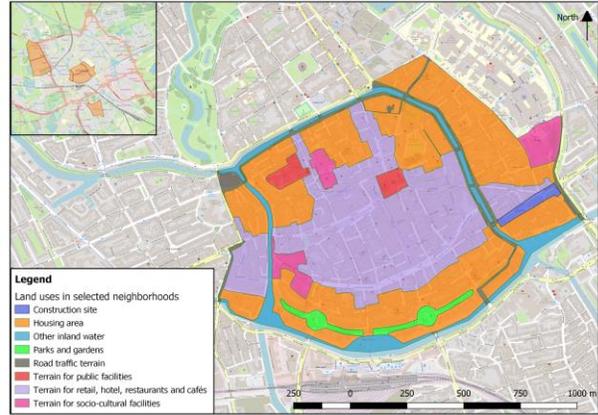


FIGURE 6 - GIS MAP OF THE LAND USES IN BINNENSTAD

Vinkhuizen is a large residential district, typical of the 1960s, located on the northwest side of the city which consists of rows of flats houses of different heights. There is a shopping centre and various locations for schools. What is characteristic of Vinkhuizen are the constructions in strips and the repetitive allotment patterns (At Home In Groningen, n.d.-c).



FIGURE 9 - PHOTOGRAPHY OF SIESTERLAAN IN VINKHUIZEN (source:author)

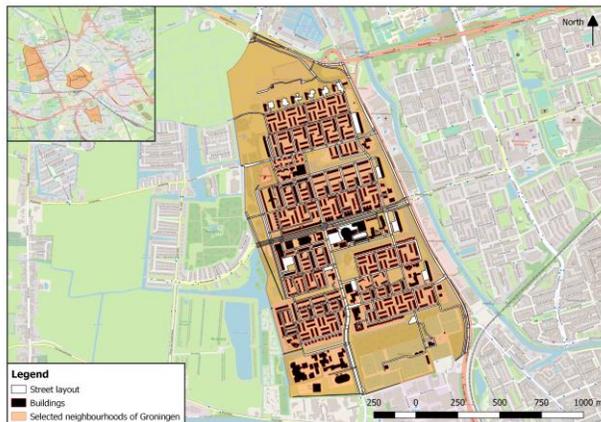


FIGURE 8 - GIS MAP OF THE BUILDINGS AND STREET LAYOUT IN VINHUIZEN



FIGURE 10 - GIS MAP OF THE LAND USES IN VINKHUIZEN

## B. CONSIDERATIONS FOR COLLECTING DATA

This research is based on a qualitative approach as the focus is on the impacts and opportunities on and from social behaviors, more specifically travel behaviors. The interest lies in the causes and results of such behaviors and how it interacts with urban policies. As the aim is to describe certain behaviors and to focus on specific locations within Groningen, this research design can be considered intensive according to Clifford, Cope, Gillespie, & French, (2016) and Punch (2014)

In order to present the most relevant investigation, primary data is used in the writing of the final paper. This data is collected during the research process throughout semi-structured in-depth interviews with walkers of Groningen and policy-makers. This method appears to be the most suitable as it allows participants to develop constructed answers without restricting their answers by forcing them into categories as surveys might do.

It is important during the interview phase that the anonymity of the participants and project method and context are explained beforehand. The principle of giving back to the community in order to establish a balanced power relationship between the respondents and the researcher is implemented by the analysis of the opportunities their experiences offer to urban policies. Consent and confidentiality are key aspects to explain before doing the interviews. The researcher must make clear her intentions concerning the results from the interview and their usage.

## C. DATA INSTRUMENT EXPLANATION

These instruments (see Appendix G & H) allow for semi-structured in-depth interviews as they are constituted of mainly open-ended questions. The sub-questions and main research question are guiding the interviewer but the main idea of the interview is to acquire answers in a conversational manner so as for the interviewees to develop matters that are important for them throughout open-ended questions (Clifford et al., 2016). By gathering information on travel behaviors and geographic characteristics that are of importance for the respondents pedestrian experience, it is then possible to compare different behaviors in different locations and analyse how this interplay with the urban policies in these locations. The probing questions are aimed at triggering an extended answer and appeared to be helpful so as to detail the different factors guiding the experiences.

Also, interviews are the most suitable way of gathering data when looking for extended answers. A questionnaire survey would have let the respondents answer by a pre-made choice leaving almost no room for their own interpretation of the questions and their own experiences (which might differ from the proposed answers in a survey). Open-ended questions allow for qualitative methodologies of analysis which aimed of this study (Clifford et al., 2016). As the interest lies in the travel behavior of people in certain areas, a quantitative and qualitative research could have been undertaken however it is important to consider the risk this could have represented as it might not have allowed

enough time to focus all of the main axes of research (travel behavior, geographic characteristics and urban policies). Therefore, this research focuses mainly on the nature of pedestrian trips rather than their number, distances, and any other numerical data that a quantitative analysis aims at. Nonetheless, a mixed of quantitative research could be further undertaken in the same areas to complete the conclusions achieved in this paper.

The satisfaction of interviewees is not asked through categorical questions but rather through a description of their obstacles and their motivations to walk. By inquiring about the incentives and obstacles to the walking mobility of the interviewees, it is easier to analyze how they are impacted and which aspect of the experiences influence urban policies in Groningen rather than inquiring about satisfaction over each geographical characteristics which has no intrinsic value, only a subjective one given by the interviewees.

#### D. DATA COLLECTION EXPLANATION

Participants have been recruited voluntarily first through neighborhood centers, when possible. A lack of responses from neighborhood centers leads to a location-based convenience sampling through the extended network of the researcher. The word-of-mouth from the respondents to their network allowed for diversity in the sample. By first selecting locations-based participants and then sampling their participation by voluntary participation this method is judged cluster sampling as it is first stratified into a category then selected out of convenience. Another type of sampling like stratified sample would be difficult as it is not possible to have access to all the inhabitants' personal details and can be viewed as invading. Convenience sampling is the most adequate in terms of ethical consideration as in-depth interviews usually require more time and face-to-face contact which might not be engaging for everyone or might put people into uncomfortable situations. People who might feel the need or whom have been interested or can relate to this topic might see these interviews as a way to make their experiences known while requesting people who are not comfortable or who do not relate to the topic of the research might be reluctant to answer to the questions.

Interviews took place on the preferred locations chosen by the respondents in order to make participants more comfortable in a familiar and sometimes public environment. The process of convenience sampling was difficult to put into practice as the researcher does not have too many connections in the city and especially in the required locations. However, the amount of interviews was settled to 3 interviews per neighborhoods and 2 interviews with policy-makers. The total of 11 interviews is almost achieved as 10 interviews have been accomplished with 1 interview missing from a resident of the Binnenstad due to lack of time and respondent.

Concerning the policy-makers interviews, they are based on convenience and purposive as well as the researcher is looking for policy-makers specialized in transport policies and more specifically on walking as mobility. They were contacted through emails and through the website of Ruimte voor

Jou. Through the first interview, the researcher has been directed to another policy-maker working in the same field which allowed to conduct another interview with an expert. The experts were asked a different set of questions (see Appendix H) so as to identify the goals and impacts the urban policies generate. The same principle of open-ended questions is applied.

#### E. DATA ANALYSIS SCHEME

The data (recordings from the interviews) will be stored on two different hard drivers and onto a Google Drive. The recordings will be transcribed then coded so as to allow for easier analysis. Coding allows for qualitative research to make sense of subjective data. This step allows for organization and identification of the data so as to pinpoint meanings through which the researcher can define patterns, connections and themes within the data. As the study is carried on to determine the impacts of multiple elements on pedestrian mobility, an analysis comprising axial, selective and open coding is used (Punch, 2014).

This method suits the interaction between policies and public responses which is what is aimed via this research. For this reason, the coding will take into account the meaning of what is being said and how the interviewees phrase it (Clifford et al., 2016; Punch, 2014).

## VI. RESULTS

The results section exposes the information, patterns and relationship identified after collection of data through interviews. The names following the quotes have been changed to respect interviewees' anonymity.

### A. POLICIES GOAL: THE NUDGING METHOD

The policy-makers interviewed both admitted that the city center, the Binnenstad, was the neighborhood where the attention of the municipality is focused on concerning walking policies. The neighborhoods of Helpman and Vinkhuizen face different problems and therefore require site interventions rather than policies. These interventions are usually part of maintenance and derive from complaints of inhabitants on the application and website Groningen Slimmelden. The city center is facing problems of pressure on the public space and a lack of space for pedestrian in some streets. Therefore, according to the policy-makers, the policies concerning walking in the city center cannot be reproduced in neighborhoods. As the neighborhoods, according to the interviewees, mainly benefit of maintenance interventions to improve travelers' comfort, the following results concern the city center only.

The municipality of Groningen is facing obstacles regarding pedestrian mobility. Deriving from the interviews with the policy-makers, the main obstacles are the ones that reduce accessibility to the different facilities and shops in the Binnenstad. Indeed, the bicycles parked in the streets, especially the ones out of the parking areas, the terraces located on the sidewalks as well as the mobile sidewalk billboards are altogether reducing the space dedicated to walkers. Furthermore, the interviewees pointed that the medieval street pattern was challenging as the streets are narrow in some places and the dense traffic is getting in the way of pedestrians. Thus, the policy-makers have for goals to improve the traffic fluidity and pedestrian comfort as well as promoting active modes of transports and increasing the inclusivity of all users.

The interviews with the policy-makers revealed that the municipality of Groningen is implementing, through spatial planning and design, some changes aiming at nudging different users to adopt certain travel behaviors. Indeed, the physical changes aim at facilitating walking. Through these physical modifications, the policy-makers hope to achieve their goals. The nudging of users in order to change their behaviors is sometimes developed through changes but also accounts for the existing elements that might affect users.

The municipality of Groningen uses dense traffic as a nudging method, hoping that cyclists use alternative roads but the policy-makers are also thinking of creating some barriers to cyclists so as to give more room to pedestrians. These barriers are usually physical, such as raising the topography and placing trees and seating in shared streets to lower users' speed, disrupting the pavement pattern of the street to inform of a shared use of the street, closing streets to bicycles leading to Vismarkt on the Saturdays to allow for more space for walkers, etc.

While these are barriers, some are opportunities to develop walking. Indeed, seating, stoops and trees are seen by policy-makers as assets to nudge people to walk but the creation of bicycle parking garages at the main entrances of the Binnenstad and the development of shared streets within the Ruimte Voor Jou framework are also considered nudging methods. By inviting people to park at the entrances, the municipality of Groningen aims at decreasing the number of bikes parked in the streets

which are obstacles to walkers, and also encouraging walking as a mobility, thus taking a step forward regarding its goals.

#### Box VI. A

*"For the Binnenstad you might say there is some policy. [...] and in neighborhoods like Vinkhuizen or Helpman you might say there are sometimes interventions for walkability." (Gustave, policy-maker for the municipality of Groningen)*

*"The inner city it's special, it's not possible to do in the same way I think. You have different kind of problems in these neighbourhoods [...]." (Jan, policy-maker for the municipality of Groningen)*

*"We are also in this so-called 'city deals' with the national government. [...] Healthy city or something and we want people to move more." (Gustave, policy-maker for the municipality of Groningen)*

*"The pedestrian is our number 1 goal, so not the bicycle and certainly not the car [...]." (Jan, policy-maker for the municipality of Groningen)*

*"It's a lot about psychology even, we do a lot with nudging, trying to seduce people to do something or not to do something. This is about the pedestrian but especially about cyclists." (Jan, policy-maker for the municipality of Groningen)*

### B. POLICIES & EXPERIENCES: IMPACTS ON PEDESTRIAN AND INCLUSION OF PEDESTRIAN EXPERIENCES

The policies and changes mentioned in the previous section are aimed at impacting the behavior of users. These exceptions concern principally the cyclists which are believed to respond to the physical change by adapting the travel speed, parking locations and travel route. The walkers are expected to benefit from the changes as their comfort when adding trees and seating in the streets while reducing the amount of bikes parked on the sidewalks. Currently, the issues of the bicycle parked is handled by the municipality through the employment of bicycle stewards while the future locations for bicycles parking spaces are still to be set. It is also important to mention that some shop owners have taken the initiative to install so-called 'red carpets' on the sidewalks in front of the entrance of their shops. This has had for impact to free some space on the sidewalks as bicycles do not usually park on these carpets. The changes made in the Binnenstad resonate with the research of Pooley (2013) who advises to make pedestrian route welcoming by removing street furniture that might be obstructing pavements and maintaining a certain quality of pavements.

As mentioned in the previous section, some form of street advertisement and terraces are also considered as obstacles for pedestrians but no solution has been expressed by the municipality yet concerning these topics. However, the obstacles the most mentioned in the interviews with walkers have also been mentioned by the municipality, therefore aligning their visions on the main problems faced by walkers. The main obstacle not yet considered by the policy-makers is the long distances that the interviewees would have to travel by walk to some of their destinations. This is due to the destinations themselves, these are usually facilities (library, hospital, parks, university buildings) and shops or events (festivals, flea market, cinema, furniture shop, etc.) which are quite specific. The specificity of these land uses and events explains the long distances to travel as most of these shops and facilities do not have the financial possibility to be developed in multiple neighborhoods. According to Pooley (2013), most of the recommendations for the land uses are already part of the Dutch planning such as accessible neighborhoods shopping centers.

Another obstacle that has been mentioned multiple times is the traffic density. Many interviewees referred to this as a major obstacle, especially in the city center. The traffic density was often linked with feelings of unsafety and stress which was usually linked to the proximity of walkers with other users. Here is a clear example of the impact of infrastructure on pedestrian experiences but it is important to note that, according to the interviewees, they will tend to avoid streets with a lot of traffic and rather use calmer streets. Thus the pedestrian experiences also impact the use of the street. Indeed, while policies aim at developing shared streets where different users travel on a same space without clear segregation, it appears that this would be a setting that most of the interviewees avoid. Pooley (2013) argues that in order to promote walking, restriction in traffic speed through traffic-calming designs must be put in place along with segregated path for walkers in order to enable pedestrians to travel safely. The first point being implemented by the municipality of Groningen, it is important to consider the feeling of safety of pedestrians especially when developing shared streets.

Concerning the inclusion of pedestrian experiences, it is important to acknowledge that the municipality is collecting experiences and suggestions from disabled people traveling in the Binnenstad. These experiences are collected by the policy-makers on site and the suggestions are further discussed to determine what needs to be implemented to facilitate accessibility and inclusivity of vulnerable users. Furthermore, the municipality makes some countings and surveys on site at different periods with the help of observers but also through camera recordings. The surveys mainly researches the destination and departure of the respondents. According to the interviews, during the Let's Gro festival of 2018 there have been observations made by Jan Gehl's office on the Grote Markt to evaluate the use of the street which enabled to compare the pedestrian traffic to one of London busy street. The interventions in the neighborhoods of Helpman and Vinkhuizen are mainly based on the application and website cited in the previous section. Through this the municipality is able to gather complaints and then intervene. This mainly involves maintenance of the infrastructure. Here again Pooley (2013) argues that it is necessary to base policies about walking not only on the experiences of existing committed walkers but also on the experiences of those who currently do not walk but have the possibility. The researcher points that it is important to talk to non-walkers, potential walkers, recreational and occasions walkers to discover what would motivate them to use this mode of transport.

#### Box VI. B

*"This bicycle problem, parking problem, in the city centre we want to nudge, so to say, users of bicycle to park a little bit further away [...]." (Gustave, policy-maker for the municipality of Groningen)*

*"[...] if you make it somehow attractive this route then you can also park where we initially wanted you to and then you need a nice walking." (Gustave, policy-maker for the municipality of Groningen)*

*"[...] we try also to research what the destination is of people, so where are people heading to and where they're coming from especially pedestrians and cyclists so that's new." (Jan, policy-maker for the municipality of Groningen)*

### C. GEOGRAPHIC FEATURES & NEEDS, ABILITIES AND OPPORTUNITIES

Overall, land use and opportunities are closely linked as facilities, accommodations and amenities are seen as reasons and motivations to walk. Although this result seems to be relevant it is important to remember that empirical researches on the impact of land use on travel behavior often discover

different and sometimes contradicting results. Therefore the respondents all mention land-use as the main reason for their walking journey but some would walk to reach green spaces while others would be more inclined to do so for shopping opportunities. This denotes the different type of walking. Indeed, few respondents admit walking for leisure while most of them express feeling of relaxation when walking for convenience but would not consider this as leisure.

All interviewees mentioned that walking allowed for more attention to the surroundings, the walking environment, and they often mentioned details or landmarks that affected their travel. All of the interviewees mentioned that walking enabled them to pay attention to the building type, especially the architecture. This echoes with Gehl et al. (2006) concept of active facade in which pedestrians have close encounters with buildings and more specifically the ground floor. The ground floor is where building and city meet, where walkers can touch and be touched by them. It is therefore important to consider this as an opportunity walkers experience when walking.

The abilities and needs seem to be influenced by the layout, transport infrastructure, density, and building type which generates feelings confusion, (dis)comfort, safety according to the respondents. According to Chen (2013), Noorman & Schoot Uiterkamp (1998) and Beukers et al., (2013), needs and opportunities generate the motivations to walk while the abilities and opportunities are responsible for the feasibility. Thus, the motivations and discouragements are interconnected as respondents tend to be discouraged if abilities and needs are not in line with each other and with the opportunities.

#### Box VI. C

*"I'll take another one [route] if I know there is a supermarket on the way. And if I want to catch a train or a bus for example I'll pick a route that has an Albert Heijn or something and quickly stop there." (Chantal)*

*"So the architecture and the the type of trees I think it does interest me." (Nina)*

*"Also when you walk I think you pay attention more to the details on the street and maybe that would be a reason to walk more but..." (Pieter)*

*"[About walking for leisure] it's like a tourist in your own city!" (Tedd)*

*"So a few years ago we went to the Noorderzon festival and the bike situation there is really hard. It's difficult to find a place to park your bike<sup>1</sup> so we decided to walk<sup>2</sup> [...]" (Anna)*

*"I do walk in Helpman because I work there<sup>3</sup>. [...]After work, I work at the [job location] at the Helperplein so if I'm going to the Bruna<sup>1</sup> or the gym<sup>1</sup> or to anywhere else<sup>1</sup>, it's just easier to walk." (Tim)*

<sup>1</sup>: Opportunity (lack of availability for Anna and shops and services for Tim)

<sup>2</sup>: Ability (physical ability for Anna)

<sup>3</sup>: Need (Work for Tim)

#### D. EMERGING FACTORS: OBSTACLES AND INCENTIVES

Although most of the concepts used so far are extracted from empirical studies, respondents have mentioned factors that need to be considered. One of the respondents mentioned that environmental degradation, more precisely littering, has an impact on how he feels when he walks in his neighborhood. This seems to be an aspect of walking that is discouraging for the respondent but seems also like a need for comfort, pleasure and nature which could explain why this is of importance

for Patrick. Pieter mentions that littering is present but has a relatively small incidence on his experience.

Respondents from the different locations mentioned obstacles such as beggars, misuse of the sidewalk by cyclists, terraces, bikes parked, drunk people, look of others and drug dealers as occasional to common obstacles impacting more or less negatively the respondents. Terraces and bikes parked may be respectively considered part of land use and transport infrastructures as the first corresponds to commercial activities and the second to accessibility and the presence of this obstacle is mentioned on the sidewalk. Nonetheless, beggars, misuse of the sidewalk by cyclists, look of others, drunk people and drug dealers can be attributed to the social environment.

Tim said that the occasional and accidental encounters with acquaintances generate a positive feeling concerning his experience. As his activities are primarily located in the South of the municipality, the respondent regularly comes across familiar faces during his walks. This phenomenon is inspected in the research of Pooley (2013) who stresses that the sociability of walking can influence the motivations to walk and the travel identity of the respondents. Roy was also impacted by the socialities of walking as he regretted that there are very few people in the streets of Helpman. Subsequently, Roy, Tim & Anna altogether have expressed a certain discomfort to be watched or peeped through windows of residential neighborhoods they cross when walking. This could also be considered as socialities of walking and refers to the concept of 'eyes on the street' of Jacobs (1961) but instead of bringing a feeling of safety, it creates a feeling of discomfort for walkers.

The last emerging concept is the differentiation between safety and the feeling of safety which is briefly overlooked in the study of Pooley, (2013) and the work of Bornioli, Parkhurst, & Morgan, (2019) which is based on quantitative study of the affective experiences in regard to the built environment were not able to determine a relationship between the perceived safety and safety. The work of Kerr et al., (2015) is based on the different aspects of safety regarding walkers such as: safety from dogs, traffic, infrastructure conditions (e.g. degradation of urban furniture, tripping hazard) and personal safety from crime. Generally, personal safety is evaluated with questions concerning acts of violence in the neighborhood or how safe does one feel when walking during daytime and nighttime. Some respondents have formulated that the safety in some neighborhoods was low nevertheless their feeling of safety was not altered. The respondents mentioned that their awareness of safety issues does not make them more prone to danger. While other explained feeling unsafe at night disregarding the neighborhoods.

## Box VI. D

*"I'm also preoccupied with litter. [...] Sometimes it's annoying for me to see it, that this part of the town is very littered, very ...some kind of dirty." (Patrick)*

*"The worst thing about cycling is that you will be walking and you go around the corner and there will be cyclists on the pavement [...]. Come on, you know your cycling area, you shouldn't be cycling where it's not your spot!" (Roy)*

*"Over here they have really open windows sometimes it gets a bit awkward to make eye contact with someone so it's not as nice." (Anna)*

*"[...] and every time I do something here or even sometimes in Groningen, because it's not that big of a city, and I see someone I know and I enjoy that [...]. It gives a nice homey feeling to the place not only here but also in the Groningen." (Tim)*

*"My awareness will be based more on the reputation of the area than the building looks [...]. And actually my house being broken into thrice, [...] it's not super safe. I'm not really walking at night very often but I don't know, I still don't feel unsafe even if I'm walking at night despite all of this." (Anna)*

*"No I'm scared of the bikes obviously because you don't see a bicycle without the lights [...]." (Roy)*

*"Well for example at night you have a lot of drunk people. I've been offered cocaine like 4 times already. Maybe even more. [...] It's crowded you have a lot of drunk people screaming [...]." (Tim)*

### E. EXPERIENCES: CHALLENGING FOR SOME INTERESTING FOR OTHERS

The results show a variety of travel behavior and a big divide is visible concerning the transport mode. The elderly seem to enjoy walking and practice or wish to practice walking as their main transport mode as they associate it with a feeling of connection to the surroundings and an urge or goal to move. Most respondents under 36 years old admit to using the bike as a preferred and most used mode of transport. Walking seems for them to be a mobility for short-distance journeys (mostly less than 15 min trip) and is often associated to destinations (e.g. shops, gym, library, university buildings, restaurants, cafés, work) or as a part of multimodal transportation (bicycle & walk or bus & walk) but also to attain amenities, especially the trash cans locations. While the first group associate walking to a destination with leisure, the second group does it mostly for convenience or out of necessity (impossibility to reach by and/or park the bicycle, easier than taking the bike).

The vision of walking as leisure and being necessary in daily life seems to be easier to implement regularly in Groningen. This is not the case in the research of Pooley, (2013) who observed the difficulties British pedestrians had to implement walking journeys regularly. The difference between the two studies possibly lays in the lack of close-by shopping centers and facilities as well as pedestrian infrastructures. Pooley (2013) also mentions this as requirements for walking policies. Some respondents had opposite experiences regarding the urban form. According to Dempsey et al., (2010), the connectedness and permeability of urban layouts influence the nature of these routes which impacts on how lively and well-used a space is. Therefore as perceptions of a space differ, the use of the space change.

The location is obviously a main factor for the diversity in experiences. Respondents living in Helpman appear to be overall satisfied with the quality of the transport infrastructure for pedestrian. Meanwhile, the respondents in Vinkhuizen point to a degradation or lack of pedestrian infrastructures, especially sidewalks which is presented as an obstacle especially to the mobility of disabled people by most respondents. The respondents walking in Helpman consider the sidewalks

spacious which has often been compared to the lack of space due to the density of users in the Binnenstad. There again Dempsey et al., (2010) determine that transport infrastructure is associated with accessibility considering it is the main factor of ease with which buildings, spaces and places can be attained. This ease is dependent on pedestrians' abilities which varies from one walker to another.

#### Box VI. E

*"When you walk you realize that it's good for your health, that's a nice side effect but I think the main reason is I do it because it feels right for me, I feel good. [...] I'm a walker and even in [country of origin] I think I was unique."* (Roy)

*"You feel the environment literally because you are standing on the Earth [...]."* (Patrick)

*"I walk to the trash can."* (Tedd)

*"[...] I drive to Helpman but then I leave the car there and everything I do is walking so also doing shopping."* (Nina)

*"[...] straighter streets are always more pleasing I think."* (Chantal)

*"[...] and a not so attractive feature in Vinkhuizen are the straight lines. If you have a walking path that is meandering it's more interesting to walk because you can't see directly the end of the street."* (Patrick)

*"I live here in the [street name in Binnenstad] and is not so nice for walking because the sidewalk is very small and there are a lot bike parked on it. So you always have to look before you step onto the ground."* (Tedd)

#### F. WALKING OBJECTIVE & CHANGES NEEDED

Seven interviewees out of ten consider walking as a necessity and most of them have explained that they consider walking because it was good for their health and relaxing. It has also been said that the importance of walking lies in the necessity to know the surroundings through different modes of transport. These results seem to match with the ones of Pooley (2013) who found that most of the respondents to his research walk mainly for health, fitness and wellbeing (59.5%) but other important reasons were communicated like the financial benefit of walking as it saves money (16%) and the enjoyment/relaxation of outdoors (15%).

Although walking seems to be a necessity for most of the interviewees, most of them prefer using the bicycle as, according to the interviews, it allows to go further away faster, it is financially interesting and it is made easy in Groningen thanks to the infrastructure. When asked if they would consider walking more often or longer only 3 respondents declared that they would. The interviewees announced that they did not feel the need to walk more in the current conditions as they walk enough already for their liking. Many responses were provided concerning the changes needed, in their opinion, to facilitate walking. The most frequent ones concern shorter distances to their destinations (mainly facilities and shops), bicycle parking (whom was suggested by respondents to be built underground), wider and/or empty sidewalks and an increasing necessity to walk. Two interviewees would appreciate better connection within or to their neighborhoods (Vinkhuizen and Binnenstad) while another one suggested the construction of a glass roof in the main shopping streets of the Binnenstad to protect walkers from the weather.

Now when comparing the potential changes expressed by the inhabitants of Binnenstad, Vinkhuizen and Helpman to the changes made or thought by the municipality of Groningen, there are several similarities. First of all, the municipality and the inhabitants are hindered by the amount of bicycles

parked in the streets. The policy-makers are discussing ways and locations to implement bicycles parking. Then, concerning the distances to facilities and shops the policy-makers noted that a policy issued during 1970's concerning the locations of certain shops and facilities (e.g. University Medical Center Groningen and university library) which were requested to stay in the center to maintain the historical heart alive and safe. Therefore the municipality does not intend in allowing these shops and facilities to settle in other neighborhoods unless these shops and facilities require an important upscaling due to an increasing affluence (e.g. Matini hospital). Thirdly, the developments of shared streets (as part of the Ruimte Voor Jou projects) and extension of sidewalk when possible was mentioned by the municipality as a way of tackling the lack of space for pedestrian, thus fitting to the suggestions of interviewed walkers. Finally and as mentioned earlier, the municipality of Groningen is determined in nudging cyclists to switch to walking mobility. This is done through the future development of parking areas on the different sides of the Binnenstad compelling cyclists to walk to their destination, and similar results are expected when traffic is dense or streets are temporarily closed to cyclists. Through this method, the promotion of walking is made by pressing users to adapt to a different mobility or changing their route, a way to tackle the lack of necessity to walk. Nothing was mentioned concerning the connections to other neighborhoods or weather conditions as they were not considered (sorely) interfering with walkers.

#### Box VI. F

*"[About the necessity to walk] No, no. Not at all because here I have the bike so..." (Tim)*

*"Yes people are meant to walk. That's the purpose, the biological purpose of people it's walking. Everything is designed in the human body to walk so walking is the most natural thing to do." (Patrick)*

*"[About desire to walk more often/longer] I would but the purpose would be different." (Nina)*

*"I really think from Vismarkt to Grote Markt should be bicycle-free." (Nina)*

*"Well I don't think it's possible but if there were more things close to my house or something but I don't think that's possible I mean there's no space."(Pieter)*

## VII. CONCLUSIONS

In this chapter, the results are linked to the main research question and the sub questions so as to provide answers. The discussion part raises questions about the different approaches that could be taken and the interests for further studies.

The municipality of Groningen conducts observation and brief surveys along with walking interviews of disabled walkers. This is a step forward towards the incorporation of experiences and interviewed policy-makers themselves objected that different and/or more investigation should be accomplished by the municipality.

The urban policies would benefit of such studies of experiences to tackle the most frequent obstacles walkers and non-walkers face. Indeed, as Pooley (2013) mentioned, it is important to consider more than the experiences of current walkers but also of former or potential walkers. Through the study of experiences, the concepts of needs, abilities and opportunities have shown to be linked together and enabled feasibility and motivational factors. These last two are inducing choice of travel behavior and this is considerably important when designing urban policies on mobility.

Some emerging concepts have appeared and can be considered as stirring the experiences towards a positive influence or a negative one. Amongst the emerging concepts, some are intrinsic such as the sociability of walking or the perceived safety and some are measurable like real safety, terraces, bikes parked and environmental degradation. The different urban features indicated by the respondents give rise to different impacts and therefore different experiences from the respondents. As some aspects, whether tangible or not, are obstacles to walkers, others are opportunities. Thus, what can be seen as an incentive to walk for one might be unfavorable for another. Many factors might explain this and here are some possibilities: gender, age, household situation, location, period of the day, presence of urban furniture, cultural and religious background, and personal trauma.

The municipality of Groningen should extend and deepen their surveys and interviews outside the boundaries of the city center and reach out to different group than walkers. As previously said, it would benefit the urban policies and enable to refine the changes to be made but it would also benefit the inhabitants to know that they are directly concerned by such modifications. Not only the policies would affect their walking experiences but their experiences would affect the policies. Groningen is already stepping forward in this reciprocal affect on policies and experiences regarding the disabled walkers yet another step is to be made to include more experiences.

### A. DISCUSSION

The primary purpose of this research was to analyze the different ways pedestrian experiences could be implemented in urban policies of Groningen to promote walking. The interviews allowed for a better understanding of pedestrian experiences in different neighborhoods of Groningen in which some important aspects of walking arise and require more attention from the academic field and the municipality of Groningen. The studies of Jopson et al. (2013), Pooley (2013), Dempsey et al. (2010) and Gehl et al. (2006) state that the urban walkers are greatly affected by the environment in which they evolve, especially the built environment. This paper leads to similar conclusions but pedestrians also admitted to be impacted by the social aspects of walking and the feelings it brings. Similar results have also been mentioned in the work of Pooley (2013) on the promotion of walking and cycling. Although, studies on this topic are expanding, it is important that the policy-makers consider the

importance of these researches and the valuable input this could bring in the process of making efficient mobility policies for the city of Groningen.

Multiple reasons affect the walking experiences and many interviewees compared their current mobility situation to the situations in their countries of origin. The cultural and historical background of each individual impact their current mobility choices and behaviors. This could be considered for further research as this concluding research could not look at all the possible aspects. Indeed, the researcher faced time and resources limitations which restricted the possibility of applying a mixed methods approach. For instance, the study of 3 different neighborhoods and the amount of interviews carried out allows for better reliability of the results and conclusions.

The researcher advises for the use of mixed methods approach for further studies in this domain will enable a stronger pertinence to the study. Also, a study of all neighborhoods of Groningen is advised as well as a diversity in interviewees as previously mentioned.

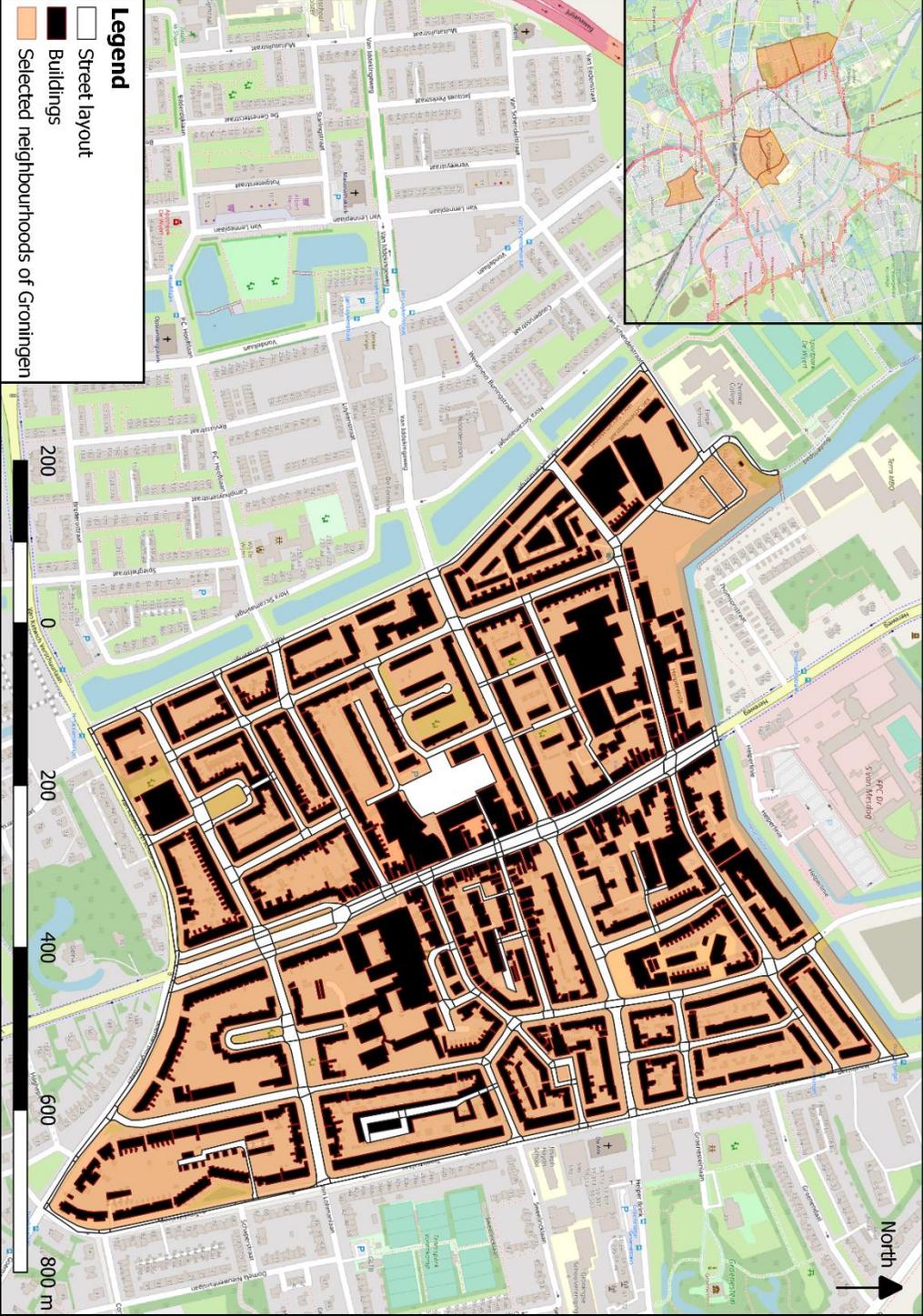
## VIII. REFERENCES

- At Home In Groningen. (n.d.-a). Binnenstad / City centre. Retrieved May 21, 2019, from <https://www.athomeingroningen.com/neighbourhood/city-centre/>
- At Home In Groningen. (n.d.-b). Helpman-Sterreboosbuurt. Retrieved May 21, 2019, from <https://www.athomeingroningen.com/neighbourhood/herewegwijk-helpman-de-wijert/>
- At Home In Groningen. (n.d.-c). Vinkhuizen -. Retrieved May 21, 2019, from <https://www.athomeingroningen.com/neighbourhood/849/>
- Bassett, D. R., Pucher, J., Buehler, R., Thompson, D. L., & Crouter, S. E. (2008). Walking, cycling, and obesity rates in Europe, North America, and Australia. *Journal of Physical Activity & Health*, 5(6), 795–814. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19164816>
- Beukers, E., Bertolini, L., Te Brömmelstroet, M., Mouter, N., van Cranenburgh, S., van Wee, B., & Van Wee, B., Annema, J.A., Banister, D. (2013). The Transport System and Transport Policy. *Transportation Research Part A: Policy and Practice*. <https://doi.org/10.1016/j.tra.2011.09.004>
- Bornioli, A., Parkhurst, G., & Morgan, P. L. (2019). Affective experiences of built environments and the promotion of urban walking. *Transportation Research Part A: Policy and Practice*, (xxxx), 1–16. <https://doi.org/10.1016/j.tra.2018.12.006>
- Chen, Y. (2013). Neighborhood design and the energy efficiency of urban lifestyle in China: treating residence and mobility and lifestyle bundle. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699. <https://doi.org/10.1017/CB09781107415324.004>
- Clifford, N. J., Cope, M., Gillespie, T. W., & French, S. (2016). *Key methods in geography* ((Third edi). London: SAGE. Retrieved from <http://www.study.sagepub.com/keymethods3e>
- Dempsey, N., Brown, C., Raman, S., Porta, S., Jenks, M., Jones, C., & Bramley, G. (2010). Elements of Urban Form (Vol. 2, pp. 21–51). [https://doi.org/10.1007/978-1-4020-8647-2\\_2](https://doi.org/10.1007/978-1-4020-8647-2_2)
- Ewing, R., & Handy, S. (2009) Measuring the Unmeasurable: Urban Design Qualities Related to Walkability, *Journal of Urban Design*, 14:1, 65-84, DOI: 10.1080/13574800802451155
- Galderisi, A., & Ceudech, A. (2010). Soft Mobility and Pedestrian Networks in Urban Areas, 21–28.
- gemeente.groningen.nl. (n.d.). Wijken, dorpen en wijkwethouders | Gemeente Groningen. Retrieved March 17, 2019, from <https://gemeente.groningen.nl/wijken-en-wijkwethouders#kaart-met-gebieden>
- Gehl J, L. Kaefer, & S. Reigstad. (2006). Close Encounters with Buildings. *Urban Design International*, 29–47.
- Gemeente Groningen. (n.d.). Wijken, dorpen, wijkwethouders en gebiedsteams | Gemeente Groningen. Retrieved May 21, 2019, from <https://gemeente.groningen.nl/wijken-dorpen-wijkwethouders-en-gebiedsteams#kaart-met-gebieden>
- Jacobs, J. (1961). *The death and life of great American cities*.
- Jopson, A., Strano, E., Pooley, C., Mullen, C., Scheldeman, G., Jones, T., ... Tight, M. (2013). How the built environment influences walking and cycling. *Promoting Walking and Cycling*, 67–84. <https://doi.org/10.2307/j.ctt1t6p71q.11>
- Kerr, Z., Evenson, K. R., Moore, K., Block, R., Roux, A. V. D., & Author, P. M. (2015). Changes in Walking Associated with Perceived Neighborhood Safety and Police-Recorded Crime: The Multi-Ethnic Study of Atherosclerosis HHS Public Access Author manuscript. *Prev Med*, 73, 88–93. <https://doi.org/10.1016/j.ypmed.2015.01.017>
- Lavadinho, S. (2017). Public transport infrastructure and walking: Gearing towards the multimodal city. *Transport and Sustainability*, 9, 167–186. <https://doi.org/10.1108/S2044-994120170000009011>
- Netherlands Institute for Transport Policy Analysis. (2015). *Cycling and walking : the grease in our mobility chain*.
- Netherlands Institute for Transport Policy Analysis. (2018). Key Transport Figures 2018.

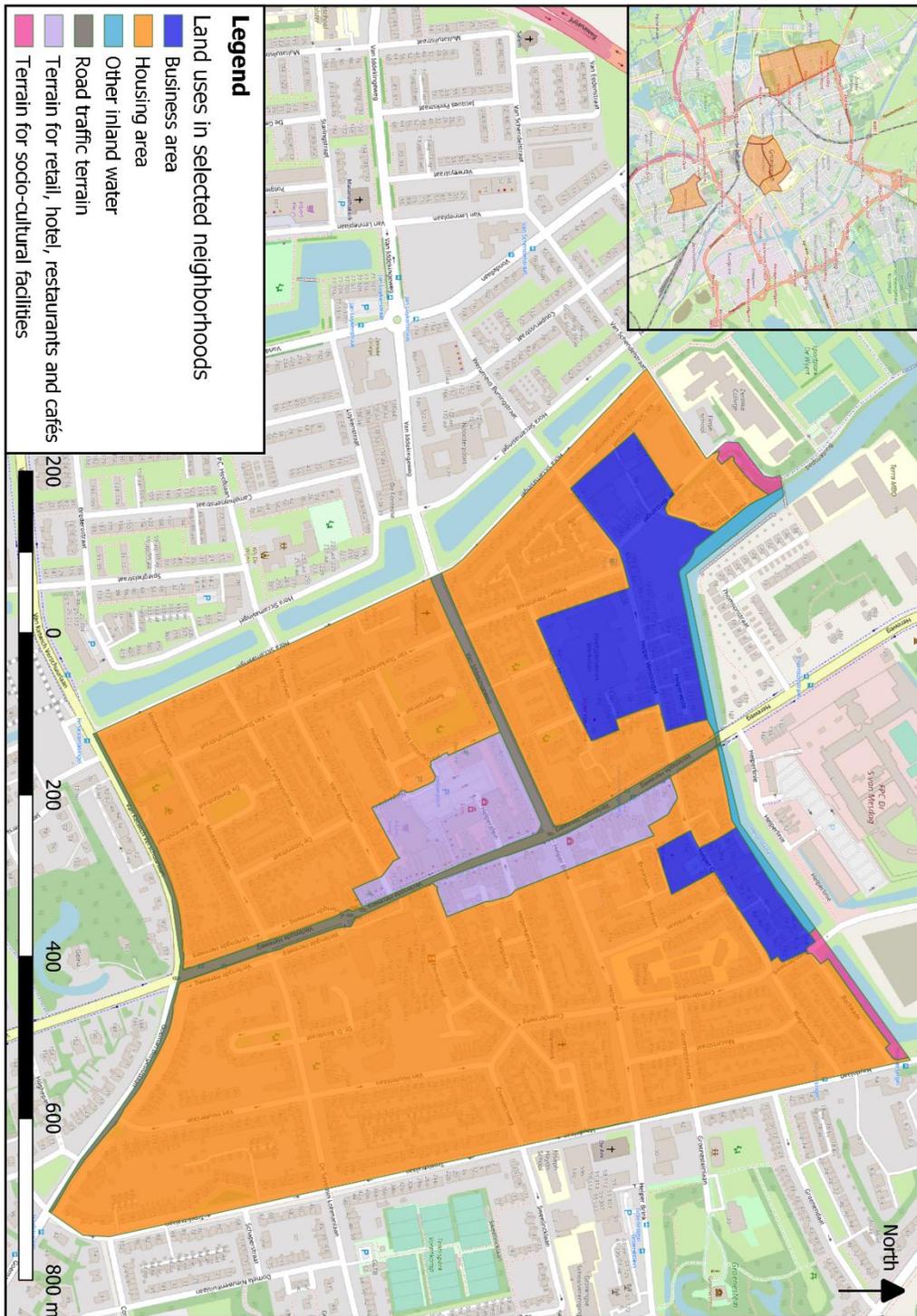
- Noorman, K. J., & Schoot Uiterkamp, T. (1998). *Green households? : domestic consumers, environment, and sustainability*. London SE - xv, 267 pages : illustrations ; 25 cm: Earthscan.
- Pooley, C. G. (2013). *Promoting Walking and Cycling : New Perspectives on Sustainable Travel*. Bristol: Policy Press. Retrieved from <http://search.ebscohost.com.proxy-ub.rug.nl/login.aspx?direct=true&db=nlebk&AN=633277&site=ehost-live&scope=site>
- Punch, K. F. (2014). *Introduction to social research* (3rd ed.). London SE - xvi, 386 pagina's : illustraties ; 24 cm: SAGE.
- Ruimte voor jou, Binnenstad 050 Groningen, & Gemeente Groningen. (n.d.-a). Home - English. Retrieved March 2, 2019, from <https://ruimtevoorjou.groningen.nl/en/>
- Ruimte voor jou, Binnenstad 050 Groningen, & Gemeente Groningen. (n.d.-b). Praat mee. Retrieved March 2, 2019, from <https://ruimtevoorjou.groningen.nl/praat-mee/>
- Urban Mobility Partnership. (2017). *Action plan in brief*. Retrieved from [https://ec-europa-eu.proxy-ub.rug.nl/futurium/en/system/files/ged/2019\\_pum\\_action-plan-brief.pdf](https://ec-europa-eu.proxy-ub.rug.nl/futurium/en/system/files/ged/2019_pum_action-plan-brief.pdf)
- Urry, J. (2014). The ' System ' of Automobility, (October 2004). <https://doi.org/10.1177/0263276404046059>
- Wee, B. van, Annema, J. A., & Banister, D. (2013). *The transport system and transport policy: an introduction*. Edward Elgar. <https://doi.org/10.1002/jgrd.50202>
- Wijkcomité Helpman. (n.d.). Helpman: een gevarieerde wijk. Retrieved May 21, 2019, from <https://www.wijkhelpman.nl/index.php/de-wijk/gevarieerde-wijk>

IX. APPENDICES

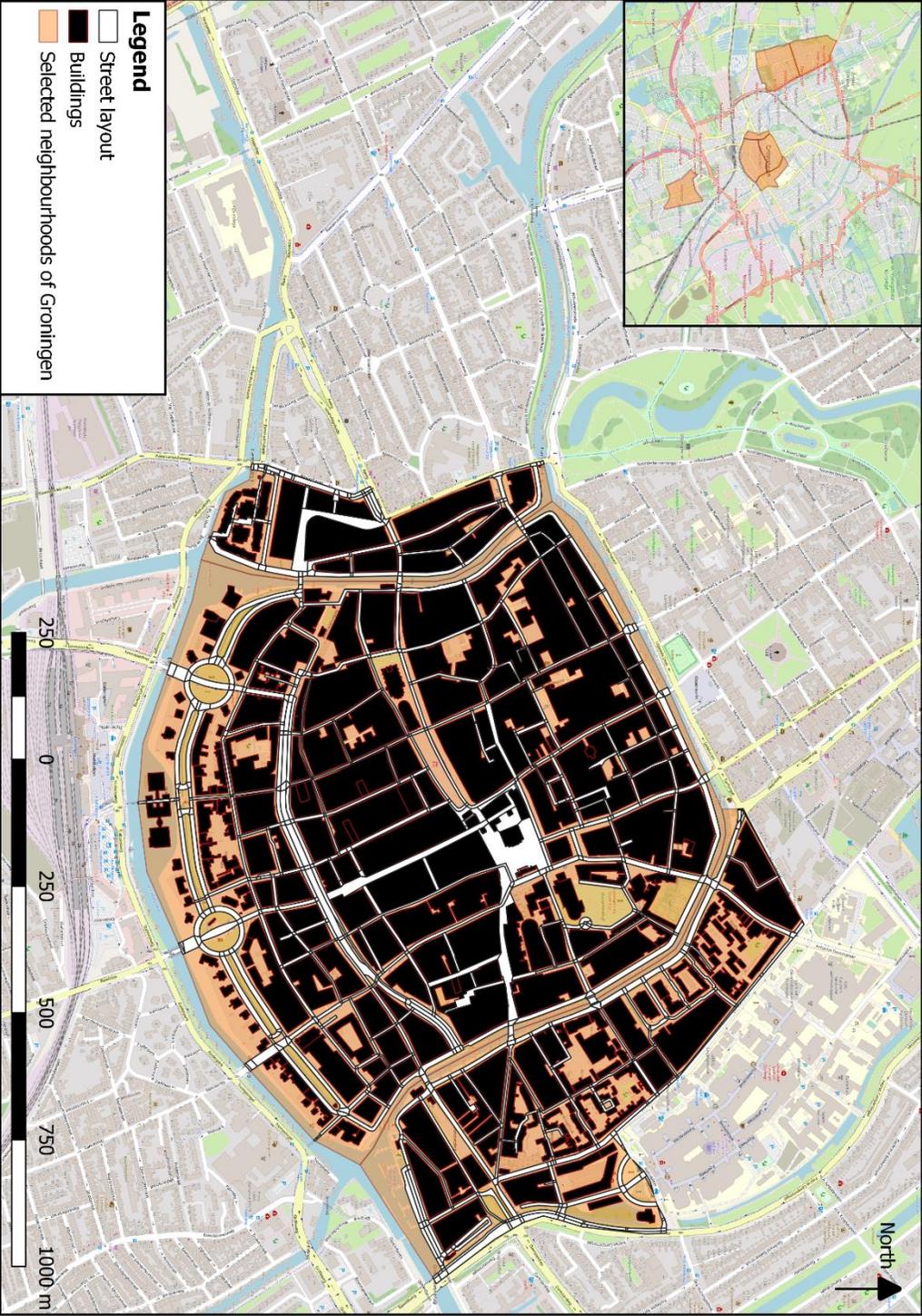
A. GIS MAP OF THE BUILDINGS AND STREET LAYOUT OF HELPMAN



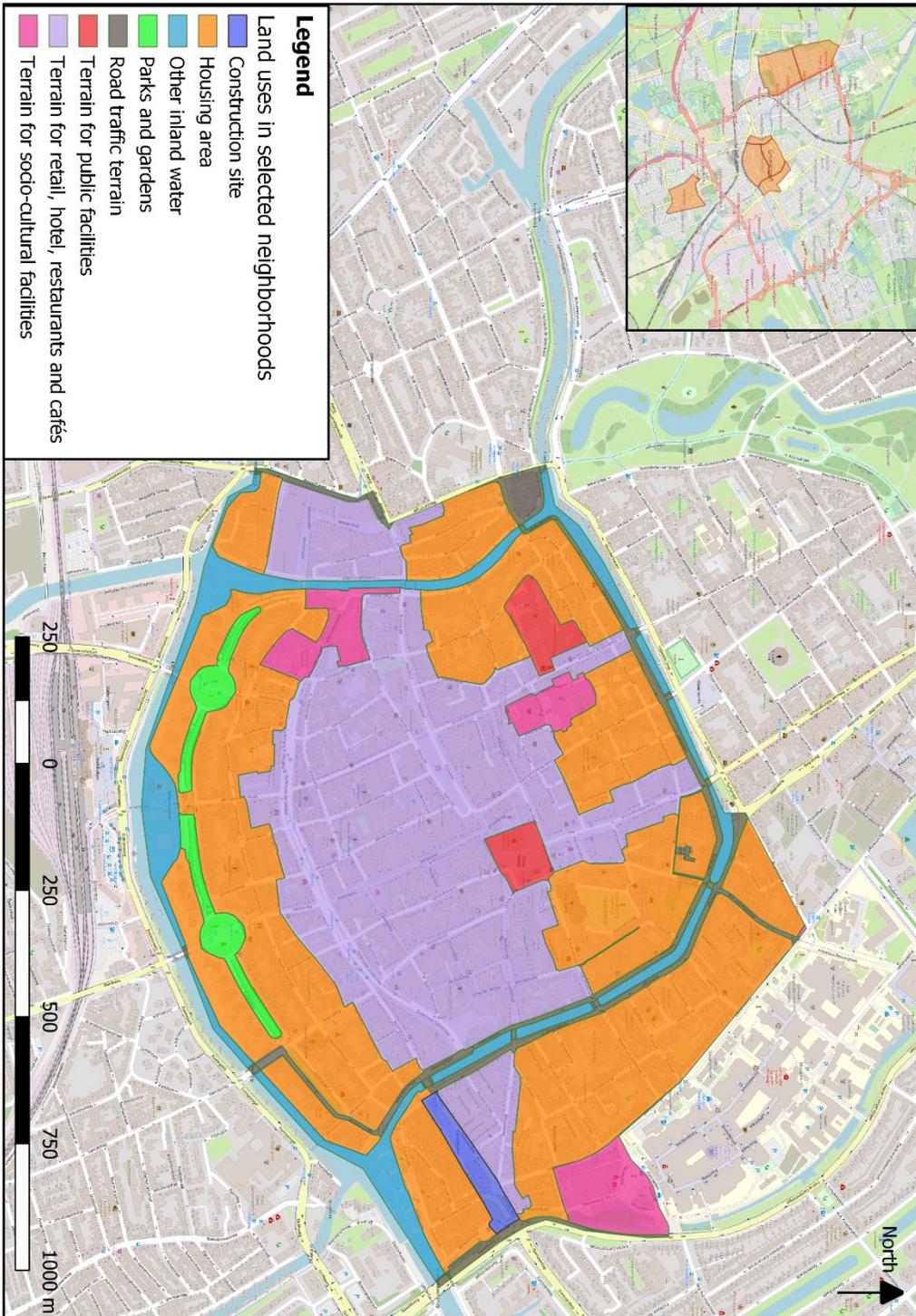
## B. GIS MAP OF THE LAND USES IN HELPMAN



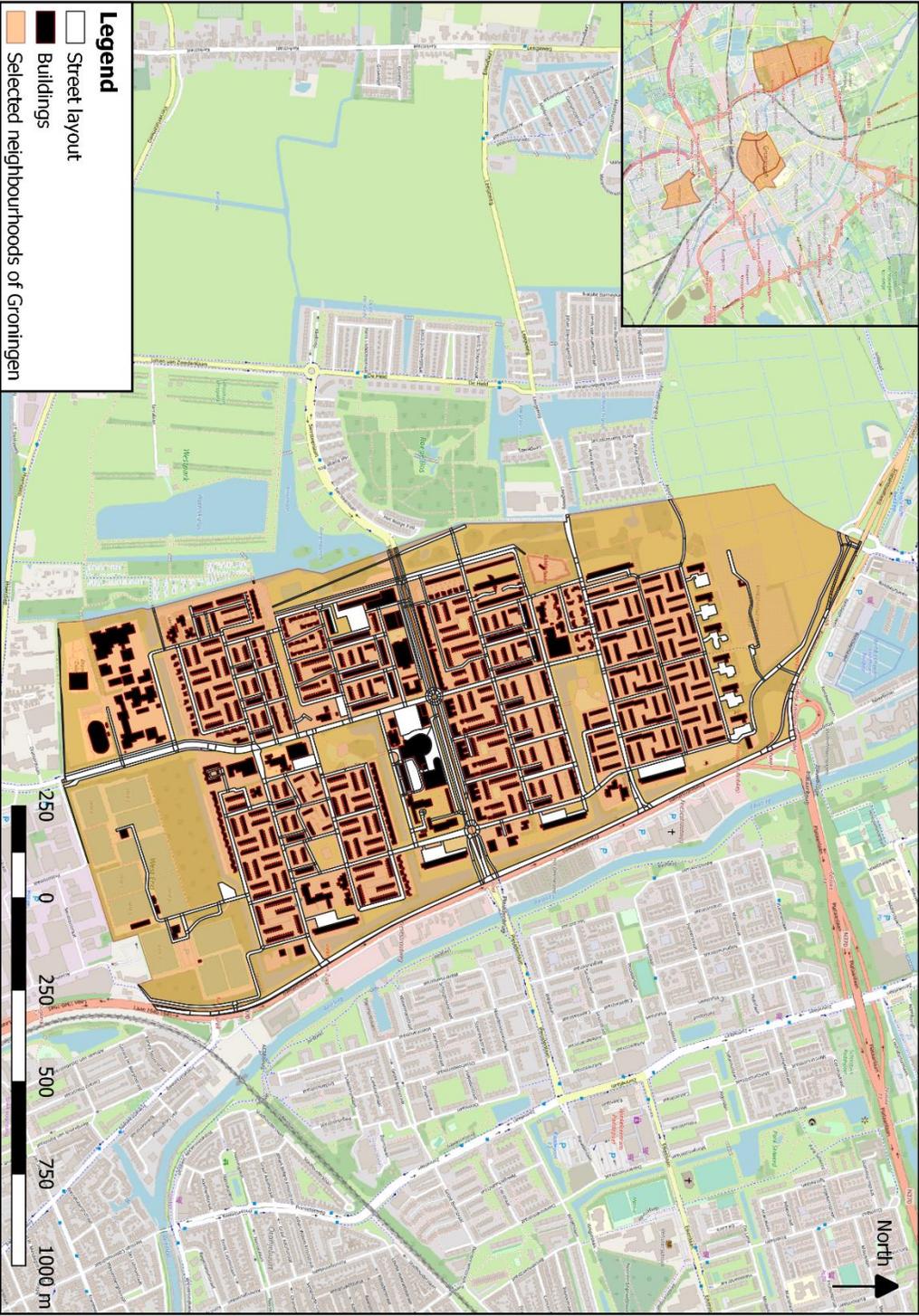
C. GIS MAP OF THE BUILDINGS AND STREET LAYOUT OF BINNENSTAD



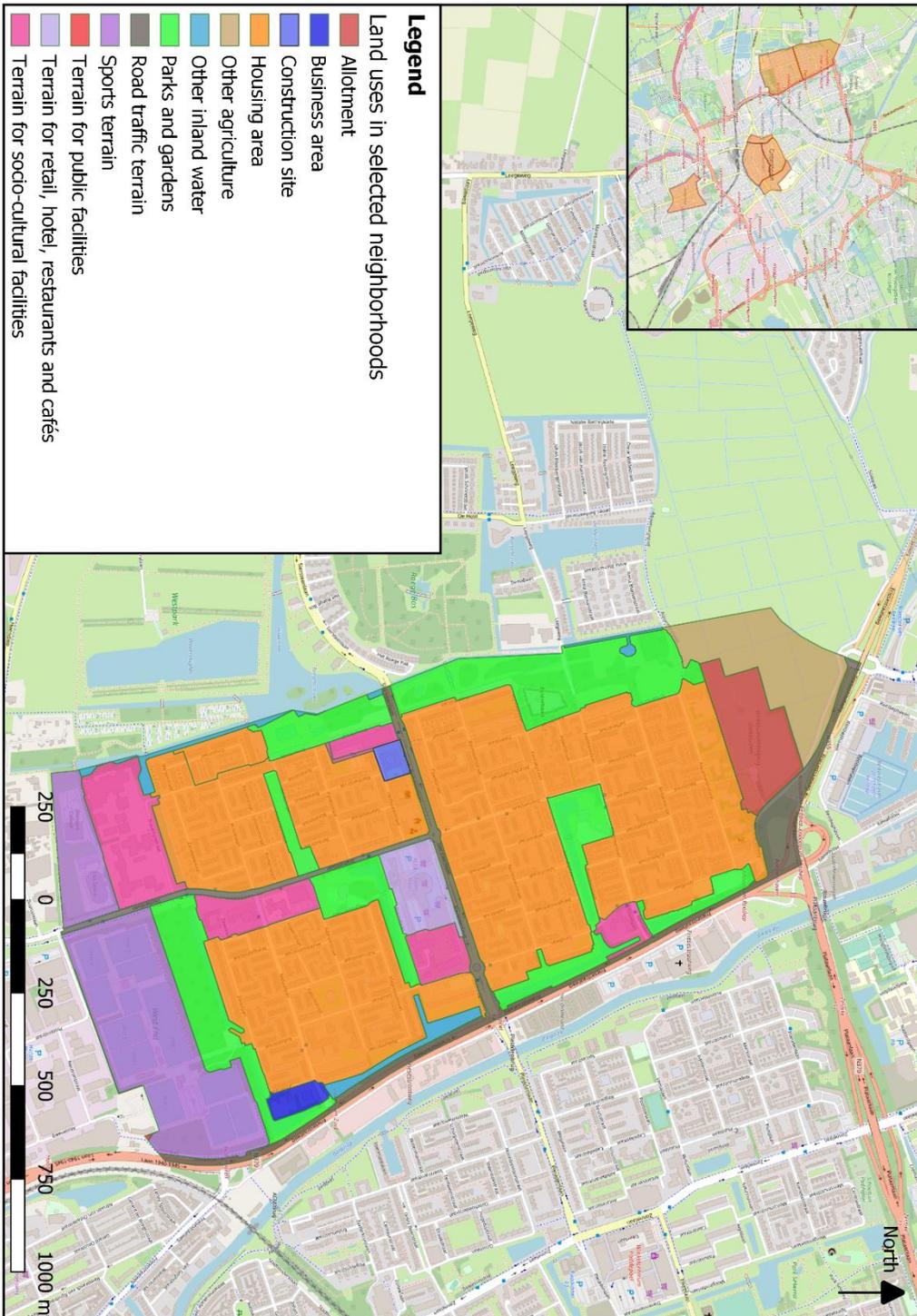
## D. GIS MAP OF THE LAND USES IN BINNENSTAD



E. GIS MAP OF THE BUILDINGS AND STREET LAYOUT OF VINKHUIZEN



## F. GIS MAP OF THE LAND USES IN VINKHUIZEN



## G. INTERVIEW GUIDE FOR WALKERS

*In bold are the primary questions and under them are the secondary questions to help direct the dialogue if the answers given lack detailing, explanations or context.*

- Introduction questions:

1. Which gender do you consider yourself to be?

2. In which age category do you fit?

(0-17 / 18-25 / 26-35 / 36-45 / 46-55 / 56-65 / 66+)

3. What is your household situation?

(1: single-person / 2: couple / 3: couple + child(ren) / 4: single-parent family + child(ren) / 5: other)

- Key questions:

**4. What type of transport do you use the most?**

4.1. Why is that so?

4.2. Do you have a preference? On what is that based?

**5. Do you effectuate walking trips?**

5.1. Can you tell me more about frequency, locations and reasons for that (*commuting, leisure and health, daily-life tasks (bringing children to school, grocery shopping)*)?

5.2. Do you usually walk alone or are you accompanied by someone/people?

5.3. Do you walk in your neighbourhood or outside of it? If so what do you feel when you do it?

5.4. What do you pay attention to when you walk?

5.5. Are there specific aspects of the place where you walk that motivates you to walk?

**6. Do you visit facilities by walking? If so which ones?**

6.1. Do you walk there because it is easy or because it is enjoyable or both?

6.2. Are there other facilities you would want to walk to but cannot? If so for what reasons?

**7. Are there usual walking routes that you often take?**

7.1. Why do you pick those routes?

7.2. How do you feel about them?

7.3. What do you consider when picking certain routes?

7.4. Do you consider the built environment and the layout in picking certain routes?

**8. How do neighbourhood features play a role in your walking trips?** (*density, layout, land use, building type, infrastructure*)

8.1. Are there any obstacles for you to walk in your neighbourhood?

8.2. Do you consider the neighbourhood features relevant to your experience?

8.3. How do you feel about those features? Would you change anything?

**9. Do you consider walking as a necessity for you?** (*for: health and pleasure / economic reasons / fastest – shortest - easiest mode of transport*)

9.1. Would you walk more often if there were less obstacles?

**10. Do you have difficulty to effectuate walking trips in Groningen?**

10.1. Are there places in Groningen where you feel it is easy to walk? If so, why?

**11. What are the obstacles you face when you walk in Groningen?** (*weather, security/safety, lack of space for pedestrians/space for pedestrian not convenient, long distances before reaching goal destination, physical condition, impossibility to carry products or difficulty to walk with children*)

11.1. Do these obstacles stop you from taking a certain route or do you find a way around them? Do you change the mode of transport or the route you take?

**12. Do you consider Groningen as a city where it is easy to walk?**

12.1. Why is that so?

**13. Would you consider walking more?**

**14. What changes need to happen for you to walk more often or longer?**

## H. INTERVIEW GUIDE FOR POLICY-MAKERS

- Introduction questions:

1. What does your job consist of?
2. For how long have you been working on urban policies for the city of Groningen?
3. How are you involved with urban policies concerning walking?
4. Are you currently involved in project(s) related to pedestrians? If so what is it /are they?

- Key questions:

5. What is needed when conceiving policies about pedestrian transportation?
6. What are the main policies about pedestrians in Vinkhuizen / Binnenstad / Helpman?
7. How are policies related to walking aimed at affecting people's experiences and infrastructures?
8. Promoting walking is a goal for the projects of Ruimte voor Jou, how is that included in the projects? Which ways are used to develop walk?
9. Are policies specific to certain neighbourhood or could they be reproduced in some ways in other neighbourhoods?
10. Are policies based on the travel behaviour and travel pattern of inhabitants? If so, how?
11. Are/would pedestrian experiences (be) an incentive to develop policies in other neighbourhood? Is that motivating the municipality to develop walking more?
12. How do you combined the goals for the city of Groningen to the needs of pedestrians?

## I. INFORMED CONSENT

### Informed consent

**Concerns:** research project for a Bachelor thesis on urban policies to increase walking in Groningen.

Hereby I declare to have been informed clearly about the nature, method and aim of the research project.

I understand that:

- I can stop my cooperation to this research at any moment and withdraw without any justification needed
- data will be processed anonymously, without being traceable to the person
- the voice-recording will be destroyed after assessment of the research project

I declare that I:

- join this research project completely voluntarily
- allow the results of this interview to be used in a report or scientific publication
- grant permission to record this interview by way of a voice-record on a mobile phone

Signature: .....

Name: .....

Date: .....

**Researcher** I gave verbal explanation about the nature, method and aim of the research project. I declare myself as being prepared to answer up-and-coming questions properly.

Signature: .....

Name: .....

Date: .....