Public Space is Child's Play

An exploration of the mother- and child-friendly city

Graduation thesis

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Images are by the author unless stated otherwise.

REMARK

Some of the source material was originally acquired in French. All translations to English from literature and interviews have been made by the author as accurately as possible, the responsibility for any misinterpretation or confusion falls on the author.

"Darker times will come and go
Times you need to see her smile
And mothers' hearts are warm and mild
I would rather feel this world through the skin of a child"

- AURORA

ABSTRACT

Density in a city puts a lot of pressure on the public space. As a result, public spaces are designed according to standard design rules, leaving the wishes of certain groups overlooked. This project aims to pay attention to a group of people who, while not involved in the design of the city, greatly profits from using it comfortably every day. This graduation thesis will explore the concept of the mother- and child-friendly city and try to map their wishes and needs. To achieve this, different fields of knowledge will be brought together through literature and fieldwork in the neighbourhood of Outremeuse in Liège, Belgium. The gathered input will then guide a series of interventions through the scales, gathered in a pattern language, and an urban design plan for the neighbourhood. This design plan consists of a masterplan for three central locations, one of which will be designed on the small scale. The final design will transform an existing road overtaken by car parking spaces into a pleasant space that invites outdoor play.

Key words
Child-friendly city, Mother-friendly city, Inclusive public space, Research through design, Belgium.

◀ *Picture of a school class on their way to gym class, October 2021*

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01

Introduction

PERSONAL MOTIVATION

The topic for my thesis project does not come as a surprise to people who know me. Over the course of my higher education in the built environment field, I have always considered becoming an elementary teacher instead. Although the idea was tempting, I was enjoying my studies too much and found the studied themes interesting. I have, however, tried to combine these two interests in my projects during my studies as well as passion side projects. For most of these side projects I have volunteered with children over the past years.

One of these projects is that -over the past three years- I have volunteered for the 'Taalvisite' (language visit) programme from the municipal library in Delft. Through this programme I went to the home of a child once a week for a period of six months several times. This has given me the opportunity to step into another family's world for a little while. And, because most families were from different cultural or socio-economic backgrounds, I was always observing the home that I was assigned to for a few months. Soon, I realised that most of the time the mother stayed at home with the child(ren) and was rather isolated, apart from family living in the area. They often did not go out into the city or the public space to enjoy time outside even when not having access to a garden. However, this did not seem voluntary as oftentimes, after visiting the library a few times with me, they would continue to go by themselves. When I shared my observations with people around me, some of them were quick to recognise the patterns from their own childhood. This is where the idea to make the subject broader than the child-friendly city came from: to be child-friendly, the city also has to be mother-friendly.

I soon discovered that a mother-and child-friendly city is more complex than it may appear at first glance because it is a group composed of diverse individuals. The children have different ages and preferences, and so do their mothers. It therefore became important for me to determine a balance that everyone could enjoy. And my focus became: where would a mother with a child in a stroller, a walking toddler and an older child who wants to play football go to spend time outside in the neighbourhood? What does the neighbourhood need to facilitate for these mothers to be able to have an enjoyable moment with their children? These were the questions I wanted to centre my research around.

The topic of the mother- and child-friendly city is being discussed and researched globally. However, I wanted to base my research and design in a somewhat familiar context. I chose to focus on the neighbourhood of Outremeuse in Liège, Belgium. I grew up near this city and wanted to apply the theories and methods learned over the past five years on an area outside of the Dutch context. Furthermore, I wanted to learn to look at a place with a different pair of eyes to discover new things and push my horizons.

◄ *Picture of children walking along the Meuse, March 2022*

BOUCHERIE

VOLAILLE - BOEUF - AGNEAUX - LAPIN
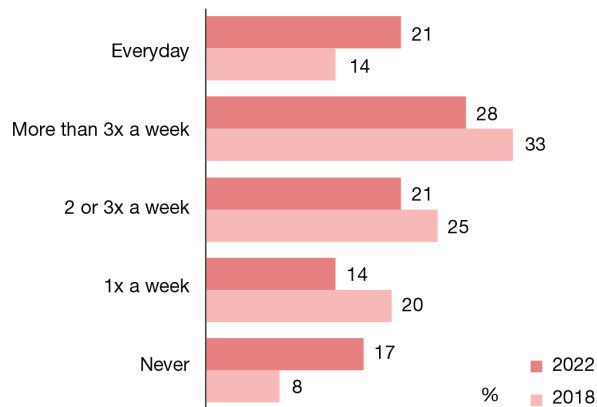
OUTREMEUSE
VIANDE DE QUALITÉ

TRAITE

67

INTRODUCTION

Living in the city provides advantages as well as challenges. One important challenge is that, because of the high density, most people do not have access to a private outside area. They are therefore entirely reliant on the public space; and what this public space provides and accommodates for. This places a high demand on the public space that it cannot always fulfil accordingly. For children growing up in a city this often means a few small playgrounds or caged football fields. However, the world of a child growing up in the city is so much bigger: it is the sidewalks that are often too narrow, the crossroads that have their mothers anxious when crossing, the birds that can be spotted in the trees in the park... Children also experience the city in its entirety. Unfortunately, this is often not reflected in the public space: that there are children present, living in this environment, apart from the fenced of little playgrounds. This does not encourage children to go outside. And when they do go outside, they are always closely watched by an adult, hindering crucial independent playing and socialising opportunities. Over the past decades there has been a significant shift in the outdoor play of children. One the one hand, they spend less time playing outdoors. On the other, the time they do spend outdoors is almost always supervised (Karsten, 2005; Karsten & Van Vliet, 2006). A recent study in the Netherlands has revealed that 40% of children play less than an hour a day outside, with 17% of the children indicating that they never even play outside (Kaal, 2022). This is concerning as outdoor play contributes to their well-being and happiness, and contributes to their physical, intellectual and emotional growth (Thomas & Harding, 2011). This issue has gotten more attention over the past few years resulting in the introduction of the term 'the child-friendly city'.

To understand the child-friendly city it is important to understand that children look differently at the world around them. Evidently, they experience it from a different height. But more importantly, they observe it with great curiosity in search of new discoveries and possibilities. We all had this child wonder once but have since started looking at the world around us in a more structured and logical way. It is difficult to think back to our experiences of the world from when we were young, and, if we do, we often realise that our memories are tainted and different from the actual place. And if their input is required during a project, it is difficult to communicate with children about their space reality as they cannot communicate it in full detail as they assume grown-ups have the same outlook as they do (Cele, 2008). Even if we were once children, we are not experts anymore because it is so hard to recall. However, this should not refrain from attempting to get a clearer picture by listening to them. Even more so as it is argued that by designing more inclusively for children, the design becomes more inclusive for everyone (Danenberg et al., 2018).

◀ *Picture of mother with child, Rue Puits-en-Stock, March 2022*

How often do you play outside without adult supervision?

Frequency	2022	2018
Everyday	21	14
More than 3x a week	28	33
2 or 3x a week	21	25
1x a week	14	20
Never	17	8

%

Figure 1: Frequency of playing independently outside for Dutch children, based on Kaal (2022).

Nonetheless, children will not use the public space optimally if their parents do not. Parental comfort is a big factor in the child-friendliness of a city. These themes go hand-in-hand, so this project aims to combine both of them. The child-friendly city and the mother-friendly city are conditional to each other. Parents in general play a role, but mothers will be the focus of this thesis as the public environment does appear to be designed even less for them. Mothers represent a large and diverse group of citizens, but they are often not the ones designing the public space which can result in them avoiding it. Hence why the concept of the mother-friendly city is introduced. It is at the base of a successful child-friendly city. And again, the aim is that by making the public space more inclusive for mothers from various backgrounds, the city becomes more inclusive for everyone.

"The city should cater to educating children to become city dwellers through playful stimulating urban environments, while it also comforts and challenges parents to enlarge and encourage their children's sense of independency and curiosity."
(Danenberg et al., 2018)

This graduation thesis suggests combining the concepts of the mother-friendly city and the child-friendly city. It aims to answer the question: How to increase the use of public space by mothers and children through urban design interventions in Outremeuse, Liège? A mixed-method approach, often used in the social studies field, will be used to collect quantitative and qualitative data. A pattern language will be created with the results of the research from literature and fieldwork. These will be applied to the studied area of Outremeuse, Liège. The final design will transform an existing road overtaken by car parking spaces into a pleasant space that invites outdoor play.

THE WORLD THROUGH DIFFERENT EYES

Before taking a more in depth look at the topic, it is important to understand that everyone experiences the built environment in a different way. Especially for this project, it is important to look at the urban experience from different perspectives. It is obvious that children are smaller, what does not necessarily directly come to mind is that this means that they have a very different eye-level than usually is designed with. Another relevant perspective is one of a mother moving around with a stroller which limits one's mobility range.

As a first exercise to investigate how the target groups of this project experience the city, a street has been observed from different viewpoints. The elements a mother with a stroller, a three-year-old child and a seven-year-old child would encounter in the Rue Surlet have been depicted in the following illustrations.

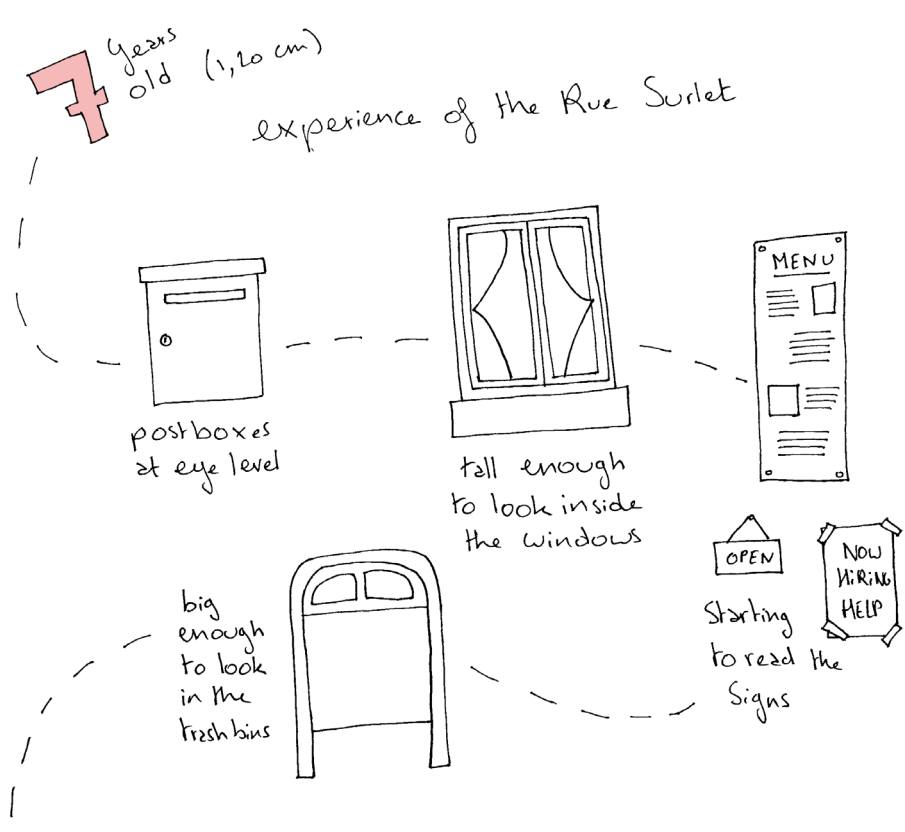*Figure 2: Potential elements encountered by a 3 year-old*

7 years old (1,20 cm)

experience of the Rue Surlet

postboxes at eye level

tall enough to look inside the windows

MENU

big enough to look in the trash bins

OPEN

NOW HIRING HELP

Starting to read the signs

Figure 3: Potential elements encountered by a 7 year-old

Mother with
a **STROLLER** experience of the Rue Surlet

trashbags
blocking the
path

Crooked
pavement

Parked Bicycle
blocking the way

Steps to most
shops & frontdoors

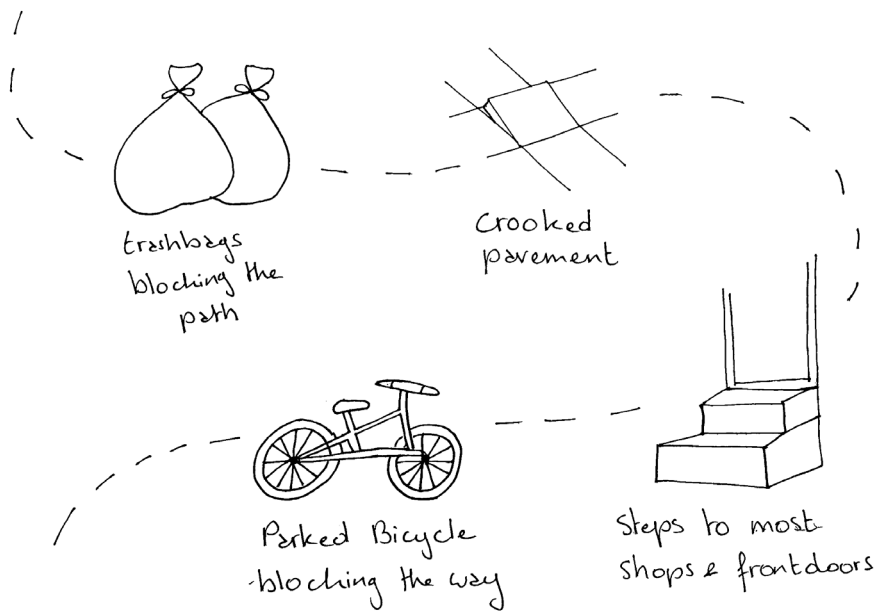*Figure 4: Potential elements encountered by a mother with
a stroller*

BUS

EGLIS

DIMA

EGLIS

DIMAN
SE
LUND

BUS

SCIENTIFIC RELEVANCE

New observations will lead to improved design recommendations. The mother-friendly city is not a subject that is frequently discussed; instead, the attention is usually exclusively on the child-friendly city. Which is an important topic, but one can not occur without the other: parental comfort is a main factor in the child-friendliness of a city. During an initial search on the topic of the mother-friendly city, not many resources for literature and design guidance were found. This project will try combining both themes in an aim to fill in the gap as a first step.

Furthermore, by analyzing global literature in combination with a specific place, it becomes possible to distinguish between generic and location-specific design measures. These will be formulated at the end of this report. A better overview of the available research will help guide towards better design recommendations.

SOCIETAL RELEVANCE

The urgency of livable cities will become more and more apparent as they further densify. This densification also extends to the uses of the public space. Therefore, creating more inclusive designs will become crucial to keep children playing outdoors in the street. In this case, inclusive does not only refer to different backgrounds, but also to different ages. The urban fabric has to allow for and accommodate different users and uses. Urban designers can help study and design these uses in the best way possible. They should take the opportunity to figure out what might encourage more outdoor play again. Although learning through trial and error is sometimes necessary, it is critical to continually strive to perform better and improve the existing situation.

This project would contribute by combining quantitative and qualitative data about the uses of the public space and its requirements for encouraging play. This implies that personal feelings and spatial perception are also taken into account through fieldwork. While only a small part of the residents will be involved in the project due to the ability to reach them, their interest, and the short time period, it will give them the opportunity to feel heard and seen, allowing their voices to be heard.
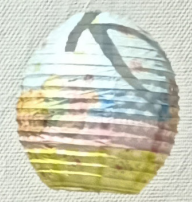
◀ *Picture of a family next to St Pholien, June 2022*

02
Project Approach

PROBLEM FIELD

Children should be able to play outside in their neighbourhood freely and safely. Unfortunately, this is now often not the case. This trend can also be observed in the neighbourhood of Outremeuse. Even though it can be deemed charming with its small streets and cobblestones, the outdoors is still thought to be too dangerous and too dirty for playing. Of course, there is always the big park one neighbourhood over, but walking there is only realistic during the weekends.

The search of the mother- and child-friendly city has physical and social components, both equally important (Karsten & Van Vliet, 2006). The physical components can be addressed through urban design, but the social components are harder to undertake. However, they should still be taken into account when designing to create a healthy and safe outside space.

"This means that city planners and architects can't take the white, able-bodied cis man as the default subject and imagine everyone else as a variation on the norm. Instead, the margins must become the centre." (Kern, 2020).

(Non)Inclusive public space

Public space usually follows standard design guidelines in an effort to be convenient for the average person. This is because of practicality but also in the hope of creating something that is pleasant for most people. However, this ends up excluding groups that do not fit the mould of the average citizen. These have been forgotten or ignored in search of practicality ensuing the modernist ideology. Designers have always tried to envision and design for a better world. This was also the aim of modernist designers; the aim to create an optimal society through applying rules and guidelines. While this has helped to improve the living conditions of many, this practical modernist way of thinking has trickled down in the world around us. With time, the shortcomings have also become apparent. The problem with designing everything according to rules is that someone created those rules. Often these designers have used themselves as the golden standard. Evidently this has led to some gaps when trying to accommodate a wider variety of people. The time has come to add more flexibility to these guidelines and design in a more inclusive way, especially in the urban public space.

◀ *Picture of mother and son, Rue Puits-en-Stock, March 2022*

In this spatial context of Outremeuse -and Belgium-, the public space is owned and maintained by the municipality. This implies that the public spaces are intended to be used by each and every one for their enjoyment. They are destined to be used by the city's residents and visitors alike. The UNESCO (2017) describes public space as:

"An area or place that is open and acces¬sible to all peoples, regardless of gender, race, ethnicity, age or socio-economic level. These are public gathering spaces such as plazas, squares and parks. Connecting spaces, such as sidewalks and streets, are also public spaces. "

Additionally, Galanakis (2013) argues that certain parks and malls can be public if citizens insist that they are, even if they are in fact privately owned. This means that public space is space that 'people decide that is public'. However, these privately owned spaces that people might perceive as public can implement their own rules. This could mean that the 'right to be there' is not always attributed equally to everyone. In this case, such places are not located in the neighbourhood making the definition of public space clearer.

It should also be mentioned that public space serves a vital purpose in terms of providing a platform for debate and protest. In the present political climate of democracy, public space should provide a safe area for citizens to discuss their wishes and needs. Public space can be a driver of social movements and activism as it guarantees access to everyone (Galanakis, 2013). These conversations take more and more times place online, but they nevertheless manifest themselves spatially in the public space – think of banners, stickers or posters that try to convey a message. The public space should be a place where one feels comfortable to be and express themselves.


Figure 5: Pictures taken by the author in Outremeuse in October 2021.

The importance of outdoor play

This project will argue that children should be intensive users of the public space but are not represented enough. Public space is – ideally – used and designed for everyone. Unfortunately, that is not the case in practice. For example, a third of the population in the neighbourhood of Outremeuse can be considered children or elderly (Ville de Liège, 2015). The public space however does not reflect this.

The environment in which children grow up has a significant impact. The opportunities this environment presents to play are critical for their growth and well-being (Cele, 2008). Thereby, their control over their environment is essential: children's psychological and physiological development necessitates independent access to their immediate surroundings (Cele, 2008). Playing and exploring freely are a big part of what makes childhood so magical. It is also frequently the source of the fondest childhood memories. For children living in the city, this freedom is often lost. Because the outside space is judged unsafe and dirty, they spend significant amounts of time inside or in well-supervised outdoor areas, losing their autonomy and the skills development that come with it. The urgency of accommodating children's' needs in the urban fabric is further driven by the fact that children now play more and more indoors. The transition towards more indoor play can be explained with a rise in indoors entertainment, more traffic on the streets and less children living on the same street. Furthermore, parents' attitudes toward bringing up children have shifted, resulting in a more supervised, planned, and organized childhood (Karsten & Van Vliet, 2006).
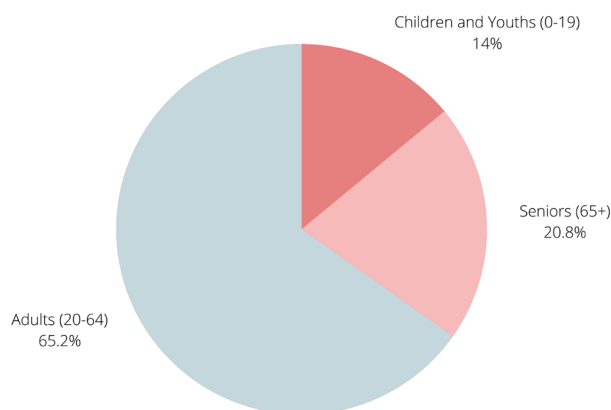
Figure 6: Population age in Outremeuse, based on data from Ville de Liege (2015).

Children spend less time outside and, when they do, have more interference and restrictions from their parents (Karsten, 2005; Karsten & Van Vliet, 2006). These restrictions tend to affect girls more than boys, leading them to play even less outside and often closer to home (Karsten, 2003). They can also vary with the physical and social conditions of the neighbourhood. This all illustrates a trend of children disappearing from the street view, despite how important it is for their development.

In today's cities, especially those that are rapidly densifying, public space is a crucial area to provide people with comfort and possibilities. Children's emotional, cognitive, physical, and social development are all dependent on public space. Nonetheless, children's space is frequently restricted to the playground, with the majority of the urban fabric and infrastructure being overlooked as a space also utilised by children. This limits the freedom of their daily routines and their opportunities to play. Play is an important social activity for children. Children almost never play alone. In the research of Helleman (2021), only 8% of the children were observed playing alone outside. Most children played with other children (82%). Some children also played with adults, often their parents, when they were younger. This does not help the downward trend of outdoor play as children are less likely to go out if there are no other children playing outside (Karsten & Van Vliet, 2006).

Stay-at-home mothers and motherly care

The suggestion to combine both the concept of the mother-friendly city and the child-friendly city came from personal experiences and observations. The eventual goal is to make a public space comfortable for all parents, and for all residents for that matter. To achieve this, the focus will first be on the ones having the least input: the mothers. Not many mothers are involved in the design and organisation of the public space, even though they can greatly benefit from it. This representation of mothers in urban planning and designing becomes even smaller when looking at a wider range of cultural and socio-economic backgrounds. The aim is that by attending to this group first, their wishes and needs can help lead the way for a more inclusive urban design for everyone.

Fathers can absolutely be consistent and competent caregivers as well. Nonetheless, currently most of the childcare falls on to the mother. Mothers are still impacted more by bringing up a child. For example, a child financially penalizes women more than men. In 2018, of all the salaried workers in Belgium, 43,5% of women work part time, compared to 11% of men. In the cited reasons, 25% of the woman mentioned "to look after the child(ren) or other dependent person", in contrast to 8% of the men (Lahaye, 2020). An inquiry of 2013 in Wallonia about time management indicates the overinvestment of women in housework. The time investment in childcare and educational chores has the same imbalance; on average 3h39 a week for women and 1h46 for men. When adding the hours that women spend watching the children and doing housework, the total amounts to 26h17 a week. This is equivalent to a ¾ time job which makes it hard to combine
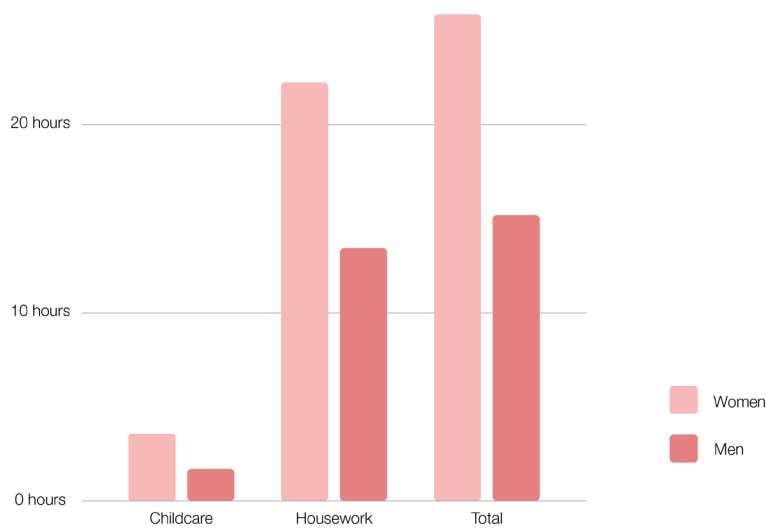
Figure 7: Hours spent on childcare, based on numbers of Lahaye (2020)

with a salaried fulltime job. As a result, mothers can often have a feeling of a "double day" due to the daily cumulation of house chores and a salaried job (Lahaye, 2020).

The number of places in nurseries and day-cares for ages 0 to 3 is still too scarce at present, even when adding private day-care structures. Geographically and financially accessible placement in day care is not guaranteed in the Wallonia-Brussels Federation even though this is a right guaranteed in the International Children's Rights Convention of the United Nations (Lahaye, 2020). This means that many women end up spending a

Cultural trends and clashes

The neighbourhood of Outremeuse is composed of residents with a large number of different backgrounds. And while this might not be the main focus of the project, it is important to acknowledge its importance and influence when trying to create an inclusive urban design.

Unfortunately, diverse backgrounds can lead to tension. In recent years, multiculturalism and immigration have been criticised for failing to achieve desired results or for not being desired in the first place (Qvis, 2020). The 'unknown' can cause fear and uneasiness in some people, especially after hearing about terrorism and violence in the news. In Europe, as well as the rest of the West, there is a growing tendency of extremism and an anti-immigration sentiment. People frequently cite their fear of instability and unsafety as a justification, claiming the flood of new residents are unfamiliar

with the local customs and conventions (Qvis, 2020). Following the European refugee crisis of 2015 and other various economic and societal factors, Europe is seeing an increase in xenophobia and populist political parties. Even though it has been demonstrated both theoretically and empirically that immigration can be a short-term economic burden and a long-term economic growth (Qvis, 2020). These sudden rises in immigration numbers can make the national citizens feel threatened, leading to a rise in nationalistic politics on a country level. This behaviour can trickle down to more hostile everyday experiences for people with a migration background through micro- and verbal aggressions, the normalisation of discriminatory and racist slurs. These trends are also recognisable in Belgium with the rise of political parties such as the N-VA and the Vlaams Belang and their rhetoric against foreigners. However, this can become even more complicated in Belgium as there are sometimes also strong feelings between the regions inside the country as well.
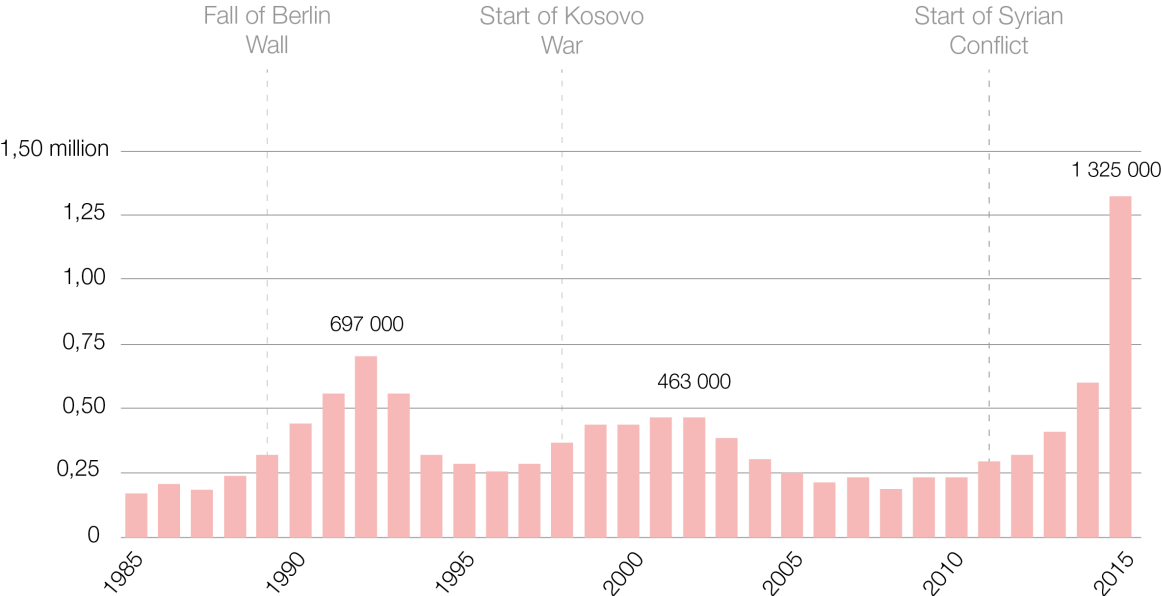

Figure 8: Number of Asylum seekers in Europe 1985-2015, based on Qvis (2020).

Liège has a long history of immigration, which has resulted in a multicultural city. This is visible through the people on the streets, the shops in the neighbourhoods and the foods that you can eat. The city had a glamorous past with its prince-bishopdom, but for the past two centuries it has been a workers' and industrial city. The nearby coal mines contributed to the construction of a thriving steel industry that is still active today, albeit on a reduced scale. This drew laborers from the surrounding areas, but workers from other countries were soon brought in too. This first wave of guest workers came from Italy to work in the coal mines. Many people in the region now have at least one Italian grandparent or an Italian last name.

Afterwards followed a wave of Turkish and later Moroccan workers. This means that certain ethnic groups have lived in the city for two or three generations and are now considered citizens. The colonial past of Belgium is also visible in the make-up of the foreign backgrounds. Congolese is a significantly present nationality. In addition, France's colonial past is visible. All of these cultures have helped to shape Liège's multicultural identity into what it is today. When looking at the most commonly represented foreign nationalities in Outremeuse, this history becomes noticeable. Nationalities from surrounding countries are visible in the statistics as well.

In 2015, there were 9.935 inhabitants in Outremeuse. Of these, 386 residents under the age of 19 had a foreign origin and 1.005 had the Belgian nationality. For adults between 20 and 64 years old, where mothers are a part of, it was 879 inhabitants of foreign origin and 2.017 of Belgian nationality (Ville de Liège, 2015). This would mean that the target groups of this project consist for a third to almost half of residents with a foreign background. Noting that the Belgian nationality is not exclusive anymore the actual number is probably higher as it is possible to obtain a Belgian nationality with a Belgian high school diploma. Many are second or third generation migrants, so their cultural heritage might not be reflected on paper.
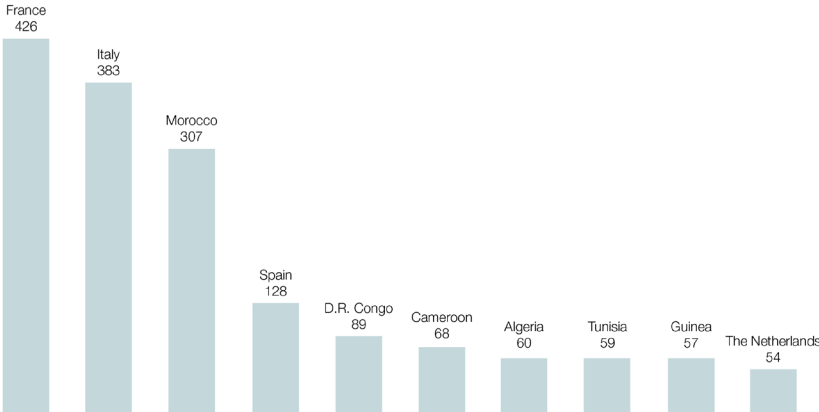

Figure 9: Most common foreign nationalities in Outremeuse by number of inhabitants in 2015 (total of 9.935 inhabitants), numbers from Ville de Liege (2015).

PROBLEM STATEMENT

There is a challenge to create a more inclusive public space everywhere. This project will focus on a mother-and-child-friendly city in the case study of the neighbourhood of Outremeuse in Liege, Belgium. **The challenge is to design a public space that encourages use by different ages and backgrounds; and create not only a potential meeting space, but also an interactive one.** The public space should be designed for the actual present public and not the desired one.

It then becomes critical to rethink interaction with the public space in a positive way that encourages use by mothers and children. Therefore, this project will focus on an intergenerational approach, focussing specifically on children and their mothers. They play a crucial role as motivators and innovators for societal change. Children are a vulnerable group that has no real societal voice but is greatly impacted. And the (stay-at-home) mothers are often too busy or isolated to participate in the debate.

AIM OF THE THESIS

Social objective

The aim of this graduation thesis is to study and design public space that attracts children and their mothers from the neighbourhood. There is a high pressure on the limited space in cities, often leaving the wishes of those who are not as visible or powerful to be pushed aside. This thesis will try to map and compile the wishes and needs of mothers and their children and attempt to translate them in graspable design principles.

Design objective

This project will attempt to bring different fields together but learn urban design lessons from them. On the one hand, a thorough review of literature of different fields will provide generic design principles. On the other, mapping and fieldwork will take an in depth look at Outremeuse to translate these into location specific design principles. The goal is to propose a detailed plan of small to medium scale design interventions that contribute to a mother- and child-friendly public space.

RESEARCH QUESTION

How to increase the use of public space by mothers and children through urban design interventions in Outremeuse, Liege?

SUB-QUESTIONS

What is a mother-friendly city?

What is a child-friendly city?

How and by who is the public space used now?

What are the wishes of the mothers and children living there?

Which spatial interventions can be made in Outremeuse?

METHODS

This project will use a mixed methods approach to study the subject. The subject of the mother- and child-friendly city benefits from quantitative and qualitative data and methods. Considering objective and subjective data will improve the understanding of the place. This means using the necessary methods to strive for a full and complete approach to the subject at hand. The combination of methods in this study aims to distinguish the generic from the location specific information on this broad topic. In urban design, problems are often muti-dimensional which is why it is beneficial to mix methods (Lesan & Gjerde, 2020). The methods identified for this project have been selected to help determine what the wishes and needs are for mothers with their children in the public space in the specific location of Outremeuse.

Literature review

To start, an extensive literature review has been done. More specifically, the themes of the mother-friendly city, the child-friendly city, and different types of play were explored. To determine the wishes and needs for each topic, a broad study has been done through scientific papers, social studies reports, personal essays, and urban design guides. Because the answers provided by this literature review are generic, more research is required. However, it is a good initial step to understand the topics and what to pay attention to. it allowed to combine knowledge of different fields.

Mapping

Maping will be used to gather location specific data. This will be placed in the historical context. By analysing the space through maps, it allows for comparison and the extraction of relevant conclusions. Additionally, by linking social and spatial qualities and challenges to specific locations, it becomes possible to easily identify areas that could benefit from a design intervention.

Observations

Observations will be the first ethnographic fieldwork conducted for this study. This was done in the first few weeks to determine a neighbourhood, but it was also done periodically throughout the year to study the place under various conditions. It was tried to be present during different conditions such as different days of the week, different times, and different weather. This was done to map the specifics of the neighbourhood. At the end of this project, the urban design will be strongly dependent on studies of people and their spatial interactions. In other words, the experience of the urban environment. This is even more important as diversity and culturally sensitive design play an important role in the success of the final design. It also allows the researcher to have a more nuanced understanding of the spatial relationships in the studied environment (Lesan & Gjerde, 2020).

Interviews and survey

Interviewing will be the second type of ethnographic research that will be conducted. The interviews aim to gain a nuanced perspective on the subject by speaking with differing perspectives and to gain a deeper understanding of the subject by speaking to involved parties. By talking to people, it becomes possible to determine the reasons behind the observed behaviour making it is valuable for this research. It does, however, provide obstacles such as identifying the appropriate people to speak with, as well as making the abstract concept more approachable to others outside of the urban design field. To gather a larger set of answers, a survey will be distributed among mothers of the neighbourhood.

	Literature review	Mapping	Personal observations	Interviews & survey
What is a mother-friendly city?	X			X
What is a child-friendly city?	X			
How and by who is the public space used now?		X	X	X
What are the wishes of the mothers and children living there?		X		X
Which spatial interventions can be made in Outremeuse?		X	X	

Figure 10: Methods applied to each sub-question

Pattern Language

The gained knowledge from the afore mentioned methods will be translated into a pattern language, following the structure of Christopher Alexander (1978). The literature review will provide generic design incentives. While the mapping and ethnographic fieldwork will make them more location specific. The complete pattern language can be found in an adjacent booklet. It is also important to note that in this project, as it is a design research, design will also play a role in the researching. This will happen all throughout the process trying to test the gathered knowledge spatially and through various research & design methods.
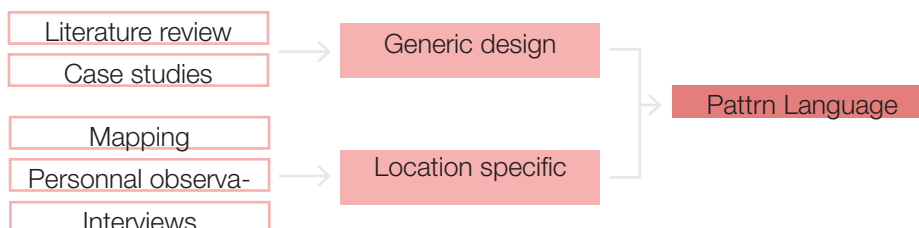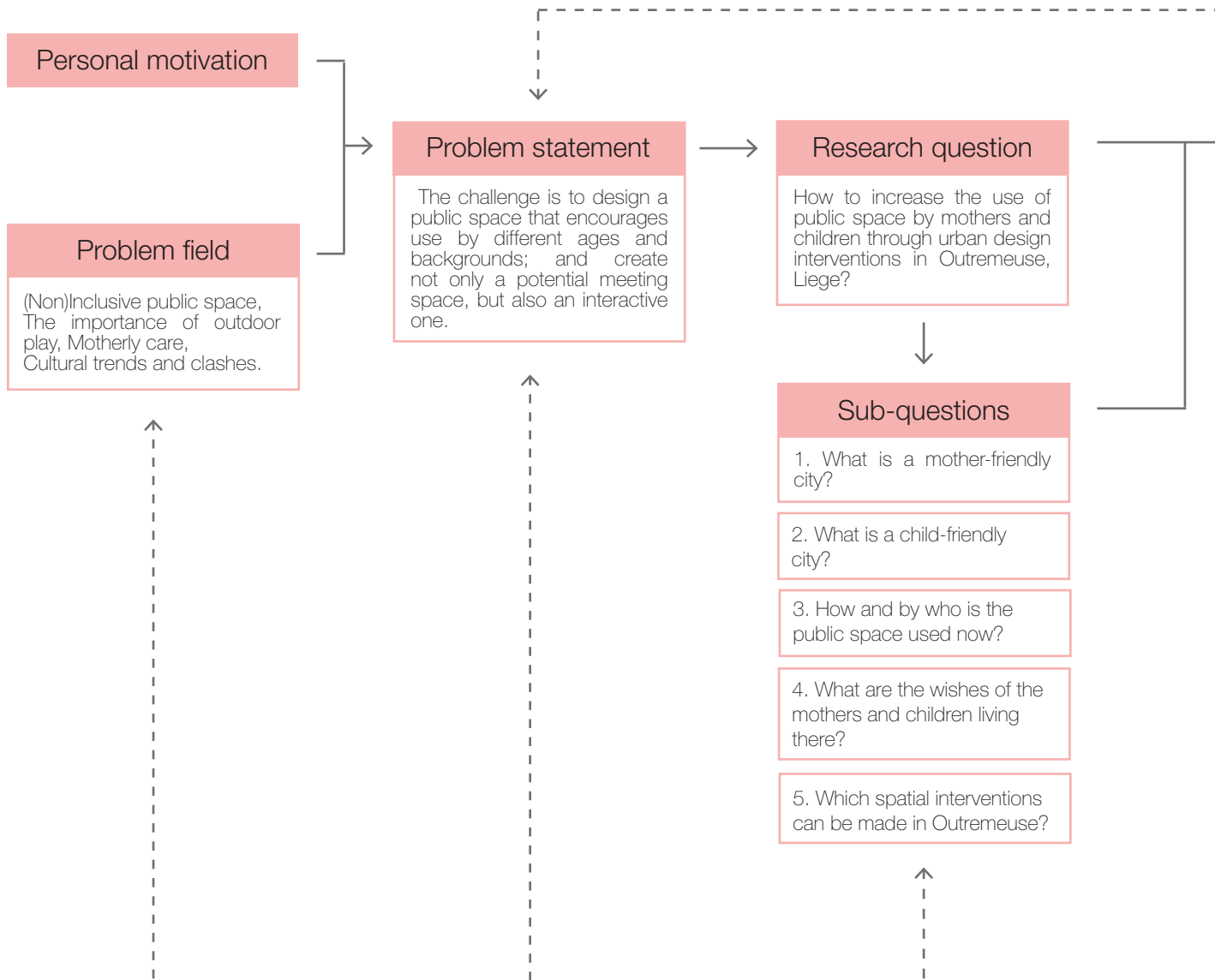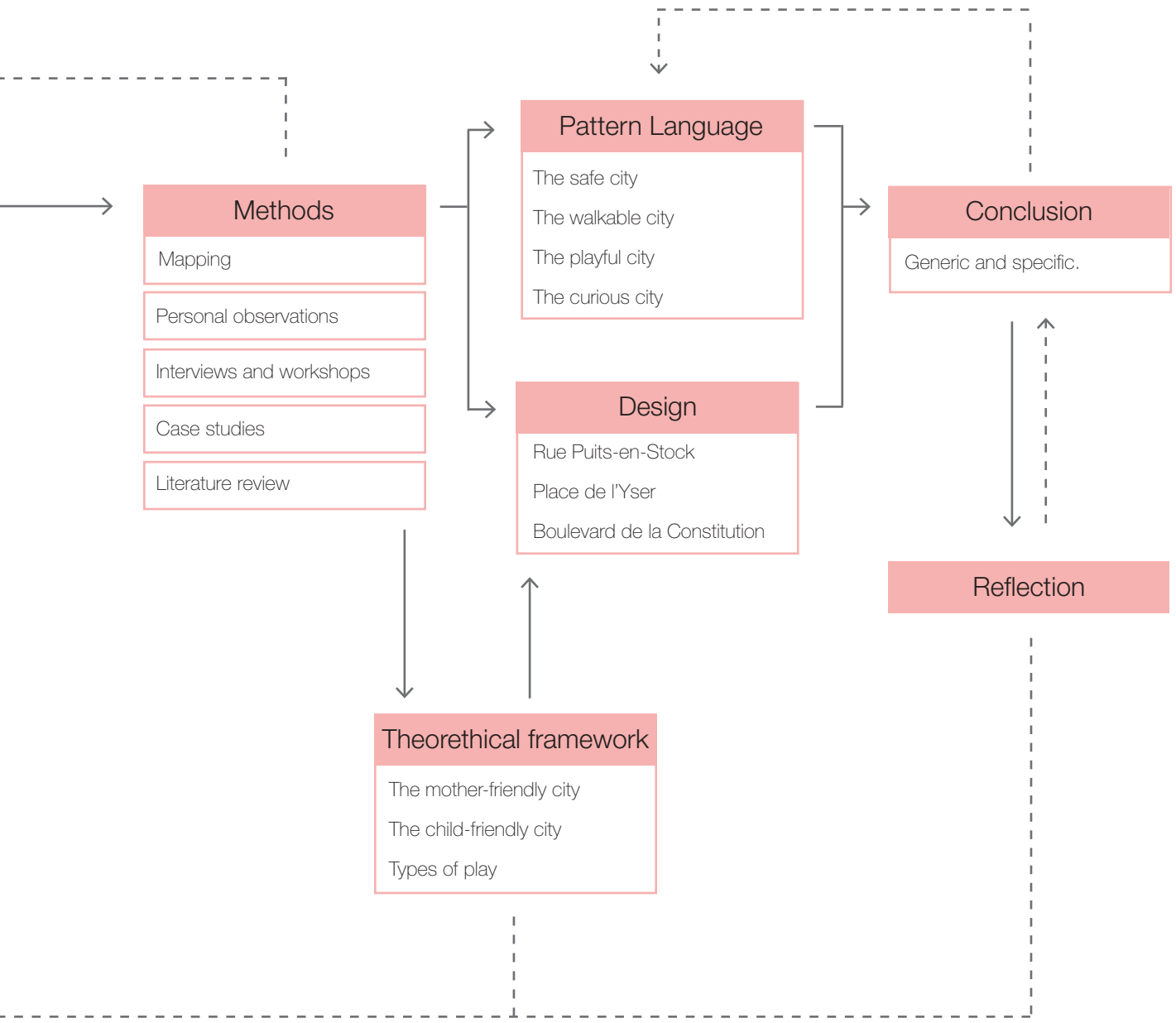

Figure 11: Towards a Pattern Language

RESEARCH FRAMEWORK

→ Informative

- - → Reflective

Personal motivation

Problem field

(Non)Inclusive public space,
The importance of outdoor
play, Motherly care,
Cultural trends and clashes.

Problem statement

The challenge is to design a
public space that encourages
use by different ages and
backgrounds; and create
not only a potential meeting
space, but also an interactive
one.

Research question

How to increase the use of
public space by mothers and
children through urban design
interventions in Outremeuse,
Liege?

Sub-questions

1. What is a mother-friendly
city?

2. What is a child-friendly
city?

3. How and by who is the
public space used now?

4. What are the wishes of the
mothers and children living
there?

5. Which spatial interventions
can be made in Outremeuse?

Methods

Mapping

Personal observations

Interviews and workshops

Case studies

Literature review

Pattern Language

The safe city

The walkable city

The playful city

The curious city

Design

Rue Puits-en-Stock

Place de l'Yser

Boulevard de la Constitution

Conclusion

Generic and specific.

Reflection

Theorethical framework

The mother-friendly city

The child-friendly city

Types of play

TIMEFRAME

A design process is not linear, so has not been depicted as such in this planning. No part of the project will ever be fully completed; it will be examined and modified on a regular basis. However, it is critical to prioritize the relevant part of the project at each stage of the design process, which is why this scheme was established as a guideline to help prioritize aspects of the research throughout the timeframe.

This graduation will take place over the course of an academic year. It started with a selection of intensives, two-week courses to deepen our understanding of a theory or method. This was followed by a first presentation to introduce the problem statement and a preliminary research question. After this, a specific site location was chosen, and the fieldwork was slowly started. At the same time, the literature research was started to get a grasp on the wide variety of topics and create a theoretical framework to operate within. The aim is to complete the majority of the theoretical part for P2 in order to focus on the design afterwards. After P3, the design ideas will be reflected on and explicitly connected to the prior research in order to present a coherent storyline. Towards P5, emphasis will be put on a more reflective approach to the project as well as making sure all the details align.
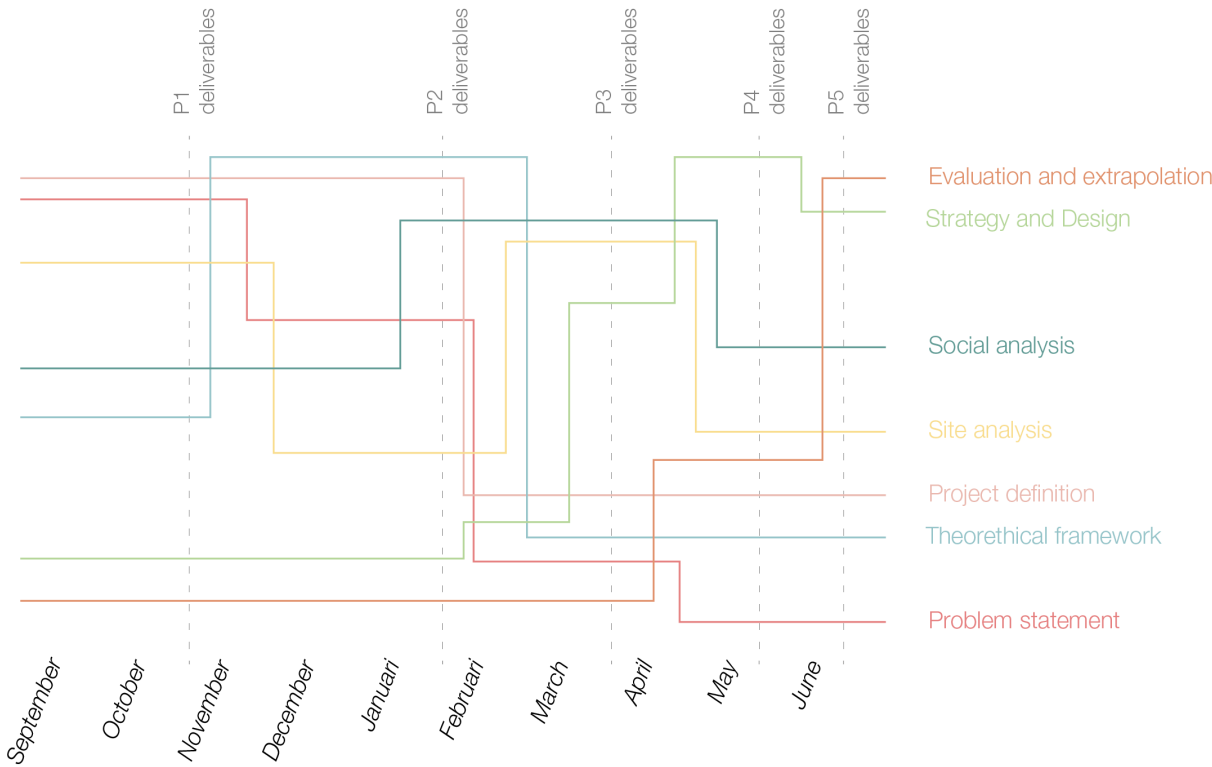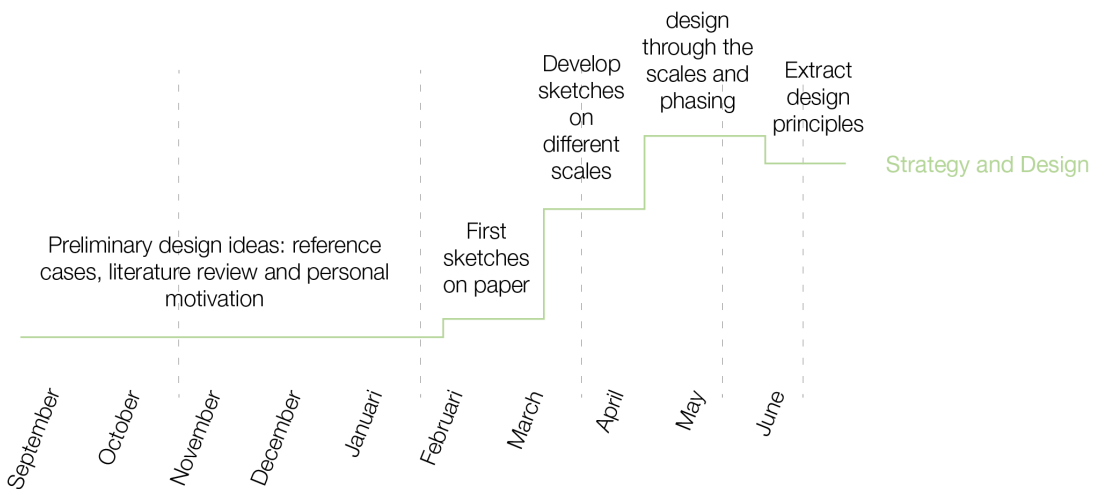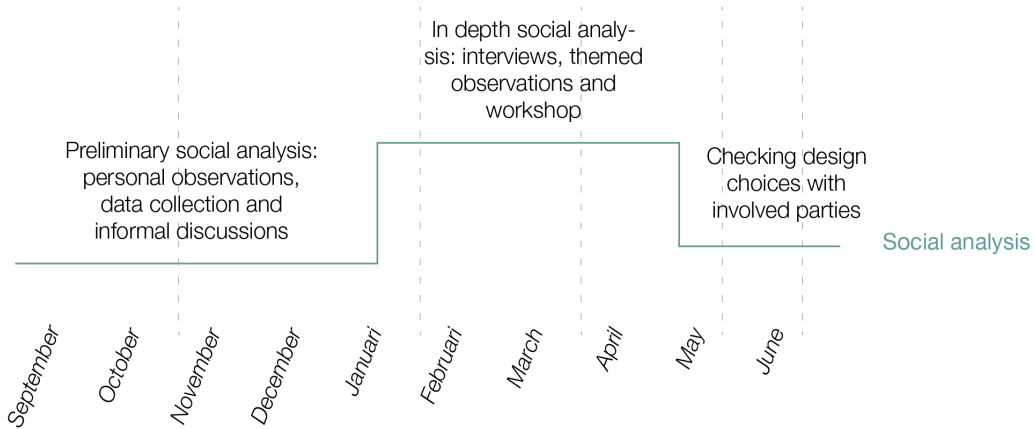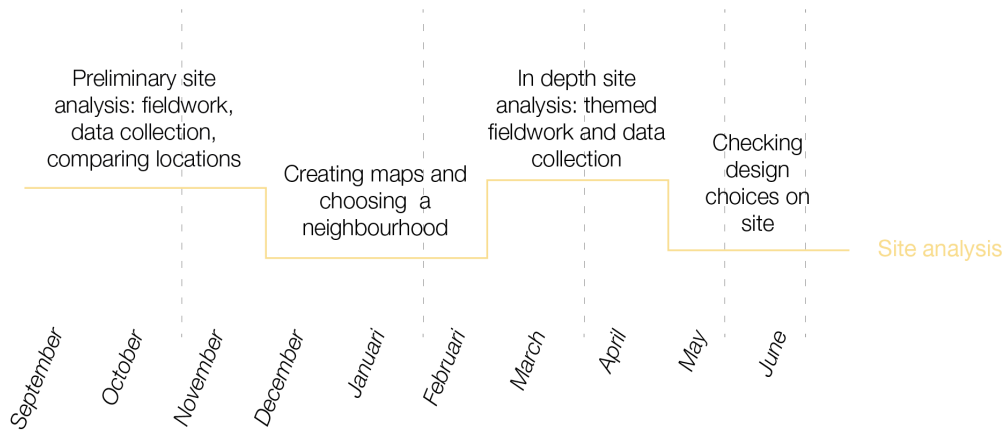

Figure 12: Timeframe of the thesis

Site analysis

Preliminary site analysis: fieldwork, data collection, comparing locations

Creating maps and choosing a neighbourhood

In depth site analysis: themed fieldwork and data collection

Checking design choices on site

Site analysis

September | October | November | December | Januari | Februari | March | April | May | June

Social analysis

In depth social analysis: interviews, themed observations and workshop

Preliminary social analysis: personal observations, data collection and informal discussions

Checking design choices with involved parties

Social analysis

September | October | November | December | Januari | Februari | March | April | May | June

Strategy and Design

design through the scales and phasing

Develop sketches on different scales

Extract design principles

Strategy and Design

Preliminary design ideas: reference cases, literature review and personal motivation

First sketches on paper

September | October | November | December | Januari | Februari | March | April | May | June

03

Understanding the topic

THE MOTHER-FRIENDLY CITY

Definition

The mother-friendly city as a concept does not have an explicit definition. It is important to note that this is a very diverse group that often has motherhood as the only binding factor. They come from different cultural and socio-economic backgrounds, have different ages and different goals in life. Additionally, it is important to not reduce them to 'just being a mother' as they are a person on their own also. Therefore, the mother-friendly city in this project will consider them as mothers when they are out and about with their children in the city. A suitable first definition is then, the mother-friendly city is one that makes mothers feel comfortable and enjoyable when in it with their children.

Wishes and needs

As it is such a varied group, the wishes and needs can vary a bit, but some main themes come forward:

Mobility
A big theme that comes forward in scientific papers and personal essays, is mobility. Mobility in cities is not designed with mothers in mind. Even though caregivers should be independent when moving, especially with young children (National Association of City Transport Officials, 2020). Public transport and sometimes traffic lanes are designed for rush hour commutes, however this is often not how mothers use transportation. In the European Union, 59% of women use public transport on an everyday basis, against 42% of men. In Belgium, these numbers are closer together, but still show the same reality (Colard, 2018). The movements of women/mothers are characterised by a paradox: their mobility prioritizes proximity, short commutes, but are composed of more rides and more complex routes (Colard, 2018). This often is also reflected in the prizes, adding the question of affordability. Next to public transport use, walkability is of big importance. Mothers with strollers and small children also fall under the concept of 'corps agrandi', literally meaning 'enlarged body'. So walking around with a stroller or young children can be considered as a reduction of mobility capacity (Colard, 2018). Moving around with children in the city can feel like as real challenge with stairs, revolving doors, elevated borders, etc. (Kern, 2020).

Proximity
Because mobility can be such a struggle, proximity is an important factor to make life easier for mothers. On the one hand, the proximity of services such as a supermarket, a post office, a dentist etc to the home can make these tasks feel less daunting. On the other hand, this also extends to locations to play for the children. The streets around the home can provide opportunities

◀ *Picture of mother and child, Place de l'Yser, January 2022*

for outdoor play, inspiration, and personal development for children and caregivers (National Association of City Transport Officials, 2020). Playing opportunities close to home mean that children could sometimes go outside unsupervised. Children are usually allowed to play unsupervised up to 250 m around their home in the Netherlands (Van Andel, 1985). However, this seems to decline more as parents seem to become more and more protective over their children in the past years / decades. Parents have sometimes developed an excessive amount of need for control and safety (Helleman, 2021).

Safety
As stated in the paragraph above, the parents' sense of safety greatly impacts the playing opportunity of the child. This has more to do with perceived safety, than actual crime rates. The Belgian safety monitor shows that women feel unsafe more often than men. Indeed, 10% of women in Belgium feels 'often' or 'always' unsafe in public space, against 5,6% of men (Colard, 2019). If mothers do not feel safe themselves in the public space, they will not let their children play around freely in it either. This would then greatly impact the independence of the child.
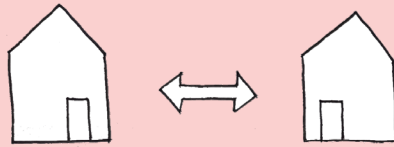
Everyday services and functions are
accessible by foot or easy public
transport
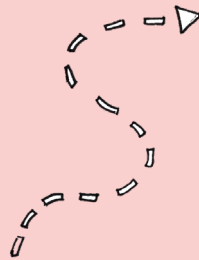
Sidewalks need to be accessible
and comfortable

The design enhances the feeling of
safety

THE CHILD-FRIENDLY CITY

Definition

There has been a growing international interest in child-friendly city design. This can come in the form of local initiatives or global institutions such as UNHabitat that advocate for a more child-focussed planning approach. Children living in cities are not excluded of broad city experiences, but they are often stripped of the possibility to have their own personal adventures and experiences. This in turn affects their environmental knowledge as well as spatial and analytical abilities (Cele, 2008).

The child-friendly city is one where children can play and learn through stimulating urban environments and become city dwellers of their own merit, while enlarging and encouraging their sense of independency and curiosity through comforting the parents

(Danenberg, 2018).

The city as a playground

While playing outside, children are looking for the location that they can have the most fun at while playing, in the realm of possibilities and wishes. These locations can roughly be divided into two categories (Helleman, 2021). First, the formal play locations such as playgrounds, schoolyards, or sports fields. These are oftentimes closed off or surrounded areas that are designed specifically for special activities and playing patterns for specific target groups. Then, there are also informal playing spaces such as the sidewalk, the bushes, grass fields and other left-over areas. These locations are often not designed for a specific activity or target group, but the children can appropriate them. Children will play in areas if they are designed for them or not. It is also important to note what 'play' is. Sometimes this can take the form of sitting, talking and socialising; or simply looking at other children playing. This is also an important aspect of play, especially for girls (Helleman, 2021).

Hence why it is important that next to formal play spaces, there is also room for informal play areas. Playgrounds should be included in a city design; they are also important social gathering spaces. However, most of the time spend outside by children is not in playgrounds (Cele, 2008). This is why it is important to also look at the rest of the city design with a consideration of children. Even though children mostly like to play near their home, they like being able to enjoy their exciting urban environment, not being confined to

◀ *Picture of children walking home from school, October 2021*

playgrounds. Thereby, children undertake more activities in areas the more an area is natural and diverse (Cele, 2008). It then becomes crucial to find a way to combine the diversity and the excitement of the city with the need for safety and comfort for children.

Next to sight, children experience the city intensely through smell, sound, taste, and touch. They explore the world around them by climbing, touching, pushing, swinging and all the other things the body can do. They are discovering how the world around them works, especially the younger ones. The manipulation of places through actions, even small very small actions such as tearing grass or collecting stones, can change a neutral place into a 'special' or 'secret' place (Cele, 2008). This in turn influences the child's experience and attachment to the place.

Wishes and needs

The city can be a challenging environment for children, but that doesn't mean it can not help support their development. Children benefit from and prefer locations with qualities such as the possibility to clearly navigate, the feeling of safety and a diverse environment (Cele, 2008). While the designed city can provide all this, one harder quality to integrate is nature. Meanwhile, the possibility to play outdoors or in natural environments is strongly tied with

Nature as well is big one. The possibility to play outdoors or in natural environments is strongly tied with their physical condition, making them have more strength, co-ordination, balance, flexibility and the ability to focus and concentrate (Cele, 2008). This is tied with the challenging nature of these natural environments, pushing children out of the environment of the often too safe playground. Additionally, playing in and caring for nature engages children socially, intellectually and emotionally (Cele, 2008). The need to integrate nature into cities is a whole design challenge in of itself.

While these are general specifications, the next part will take a closer look at the age specifications. This project will be considering children up to 12 years old. This is the age that they start secondary school in Belgium and often move about independently. As this project focusses on mothers and their children, they will not be considered anymore (even though implemented measures might benefit them as well).

Baby (0-1 y/o)

The first group that will be looked at are babies. This group is very dependent on the caregivers for everything, meaning they often spend most off their time in close proximity of the caregivers. From x months on it is possible to send them to day-care. However, this is only if there are available places and the family can afford it, which is often not the case (Colard, 2018).

Babies under 6 months old are carried or pushed by their parents while being mostly asleep. From 6 months old to 1 year old they start to crawl and slowly explore the world around them. They are still fully dependent on their caregivers for mobility (National Association of City Transport Officials, 2020). This limits the caregivers action radius close to home however because they sleep a lot, they can also be carried to go on errands further away. The problem that comes up then is the availability of suitable feeding and diaper changes while on the go.

Infant (2-5 y/o)

In Belgium, kindergarten starts from the age of 2,5 years old. Education is not obligatory from that age, but most do as it is essentially free governmentally organised day-care. Their action radius expands to include this new environment. However, depending on available space, educational preferences, and influences from siblings, this kindergarten may be close to home, the parents' workplace, or even a short distance away by public transportation.

During this time, their brain is still forming itself and cognitive development can be stimulated through colours, patterns and textures (National Association of City Transport Officials, 2020). In this stage, they are able to walk themselves or follow along on a small (walking)bike but are still traveling accompanied by their caregiver. At this age they might insist on walking alone, but in practice they get tired easily (National Association of City Transport Officials, 2020).

Small child (6-9 y/o)

They then move on to primary school where they begin at the age of 6 years old, and education becomes obligatory. This also expands their playing area as the schoolyard becomes a new familiar place. If the school is in the neighbourhood it is sometimes possible to play there even outside of school hours (Helleman, 2021). This enlarges their environment even more. The primary school is often located in the neighbourhood. However, in an urban area there is a bigger variety in schools and a school with a more personalised education programme might be chosen. They also start part taking in after school activities and might visit their class friends' houses, these activities often take place around the school.

At this age children are developing the ability to arrange objects in relation to each other and their sense of perspective, essentially their two-dimensional understanding of space (Talen & Coffindaffer, 1999). While they are able to walk on their own and maybe travel small distances without the supervision of a caregiver, they still have poor abilities to identify dangerous places to cross the road (Ampofo-Boateng & Thomson, 1991). Their decision to cross is purely based on the visible presence of cars, not upcoming ones. This means that they can put themselves in considerable danger by not recognizing dangerous crossing locations.

Bigger child (10-12 y/o)
This age group is still at the primary school but starts to express interest for more. As a consequence, playgrounds are used less by this age group and they start moving towards grass and sports fields (Helleman, 2021). They start to be able to think in quiet accurate scaled plans and estimate distances and proportions (Talen & Coffindaffer, 1999). They start to experience independent mobility from their parents, sometimes by travelling to school or friends' houses by themselves. For Belgian children, a walkable distance of 1.5km to 2km has been reported for this age (Chillón et al., 2015).

From the age of 11 they start to show good judgement in identifying dangerous crossing places (Ampofo-Boateng & Thomson, 1991). This joins the idea of Van Vliet and Knasko (1986) that travelling independently through city traffic is unsafe for children up till 11 years old.

Consider the whole neighbourhood
for the design

Playing in natural environments is
crucial for the development of the
child

Children experience a space with all
their senses
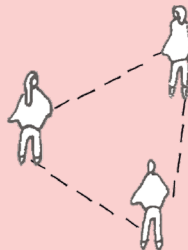
Outside play is a social activity

TYPES OF PLAY

While the aim of this thesis is not to create a playground, it is important to acknowledge and understand the different types of play in order to provide the right spaces for them. By outlining what types of play different urban layouts encourage, it will become possible to incorporate them along the way in the final design.

Through all this, the term of 'playing' has not been defined yet. This is because it is not that straight forward, it is a term encompassing a wide variety of activities. It has even been mentioned that the difficulty in defining 'playing' is that it is sometimes not possible to distinguish it clearly from other everyday activities of a child (Thomas & Harding, 2011). Gaskins et al. (2007) also argue that there are many cultural variations when it comes to play: it varies in content, types of social interaction and the relation play has to other everyday activities (Gaskins et al., 2007). However the most useful definition for this project seems to be, like used by (Woolley & Lowe, 2012), the one policy makers use: ''freely chosen, personally directed, and intrinsically motivated behaviour that actively engages the child'' (National Playing Fields Association, 2000).

It is of course impossible to discuss types of play without discussing their benefits and role in the development of the child. Overall, play is beneficial to both cognitive and socioemotional development. Play improves problem-solving skills, creative thinking, and academic accomplishment. (Althaus, 1999; Whitebread et al., 2017). Play also leads to interaction with others which greatly impacts the learning and forming of social skills. Through play, children learn to work together and get along with others. Competition, social experimentation, and family-oriented dramatic play are all fostered on the playground. Learning to deal with certain scenarios through play prepares for when they occur as adults (Althaus, 1999).

For this project, five types of play have been selected through literature. These five have been chosen in the aim to categorise different types of play that can be observed in the public space, without becoming too overwhelming. The types of play that will be presented here are play with objects, constructive play, dramatic play, games with rules and quiet play.

Play with objects
Play with objects, also called functional play, designates exactly what the term says: playing with one or more objects. For example, this could be rolling a ball or pushing a cart. The manipulation of the objects helps the child explore the world around them and build knowledge of how things function (Althaus, 1999). This is why this type of play is theorised to develop first during the sensorimotor stage and also the most common one until they are three years old (Christie & Johnsen, 1987). When a toddler reaches 18 to 24 months, they will slowly start to sort and classify the objects. Through

◀ *Picture of children playing, Parc de la Boverie, May 2022*

research, play with objects has been linked to motor development, language development, maths and spatial skills (Whitebread et al., 2017).

Little space is needed for this type of play, loose materials are however essential. In the design of the public space this could mean adding loose street furniture such as boxes or chairs, but also a system through which toys could be lend out. Additionally, and maybe mainly, loose materials can very well be natural materials such as sticks, leaves and flowers.

Constructive play
The logical next step is to start putting objects together. Constructive play encompasses all activities that use materials to make something. This could vary from stacking blocks, putting a puzzle together to making something out of clay. This type of play emerges around the age of 2 and rapidly becomes a preferred type of play as it amounts to about 50% of play activity between the ages of 4 and 6 This means that constructive play is the most common type of play observed during kindergarten free play periods (Christie & Johnsen, 1987). Adding loose materials in kindergarten materials has then also shown that constructive play increased, encouraging communication and negotiation skills (Maxwell et al., 2008). Structures build during constructive play can be used to apply other types of play afterwards.

Once again, loose materials are needed in order to facilitate this type of play. However, being outside it only seems logic to encourage use of natural materials such as branches or stones. This calls for an area where manipulating natural materials and building structures is permitted, which can be a challenge in a dense neighbourhood. On a smaller scale, this could also mean providing different materials such as water and sand to build structures.

Dramatic play
Dramatic play, also called pretend play, designates play activities that aim to emulate the re-enactment of an everyday or fantastical story. Children like to pretend to be adults, making 'playing house' one of the most recurring stories among all cultures during dramatic play (Althaus, 1999; Gaskins et al., 2007). In some cultural contexts, like China and Taiwan, pretend play with children is used to enact social roles in order to learn social rules and customs (Gaskins et al., 2007). Dramatic play emerges at the age of 2 years old, making up about 20% to 30% of all play by the age of 6 (Christie & Johnsen, 1987). The exact amount varies a lot from child to child, depending on the child's character and gender. This type of play often invites interaction with other children making them aware of boundaries and different viewpoints (Althaus, 1999). Dramatic play rooted in a more fantasy world might be an opportunity for a child to address their frustrations and desires, meaning that dramatic play can also provide emotional value (Gaskins et al., 2007).

Dramatic play can occur in all kinds of places, there are not many physical requirements as it is all about pretending. However, small semi-enclosed spaces seem to be preferred. A space that provides privacy and safety, while still providing the opportunity to look at the surrounding area such as a playhouse with windows, a few bushes together or self-made constructions.

Games with rules

Games with rules come in a lot of variation, from board games to physical games such as hide-and-seek or football. The latter is more relevant for types of play in the public space. However, by creating a qualitative outside space with seating opportunities or an adapted outside version (such as the giant chess pieces), it would also be possible to play board games outside if the weather is nice. From a young age they start becoming interested in learning games with rules or creating their own. Games with rules offer the possibility to children to have their choice in activity while still being able to follow some guidelines (Whitebread et al., 2017). It seems that, especially for boys, games with rules are important on the school playground while it is linked to their social competence with their peers and makes them feel more at home in their school environment, helping them adapt to formal schooling (Whitebread et al., 2017).

For most physical games with rules, like ball sports, a large empty area is a requirement. However, sometimes a space with more variety is more interesting, such as for hide and seek.

Quiet play

Playing can also take the form of sitting, talking, and socialising; or simply looking at other children playing. This is an important aspect of play, especially for girls (Helleman, 2021).

Provide safe spaces for children to sit, watch and socialise when designing a place for them. Next to the regular slides and swings for active play, incorporate a tree house that overlooks the play area, blocks that can also be used as seating or even swings for multiple people.
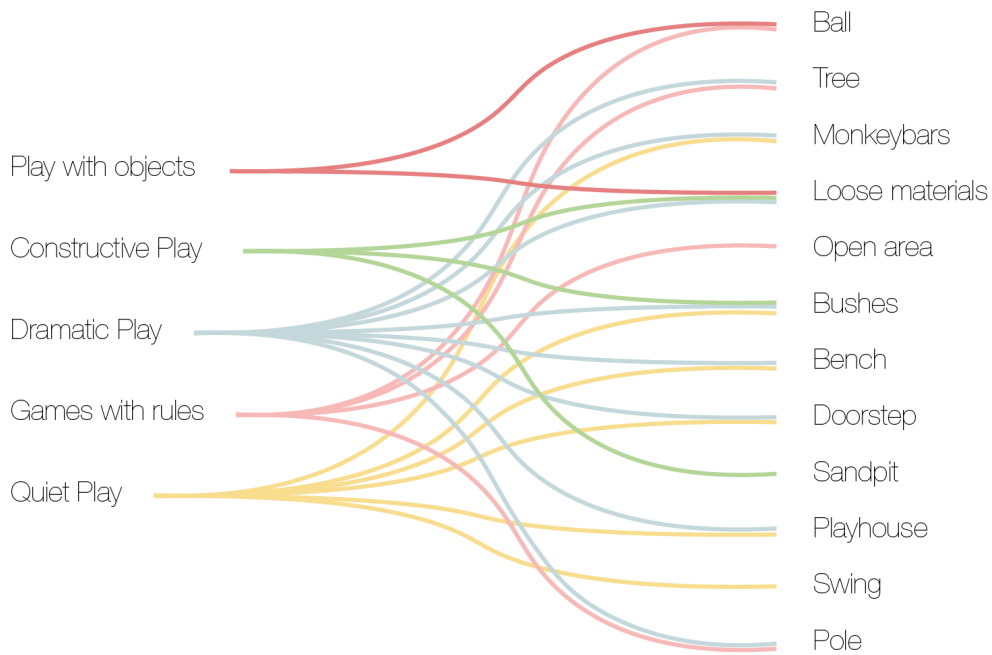
Figure 12: Examples of spatial elements linked to types of play

04

Understanding the neighbourhood

SITE SELECTION

City-wide context

The location chosen for this thesis is located in Liège, Belgium. On the one hand, it is a city with a rich history and a lot of traditions. On the other, it feels like a multicultural globalized city. This dynamic results in some surprising spatial manifestations, offering a lot of potential and challenges from an urbanism standpoint, and many others. Important is also that the city also plays a big role regionally. Many services, governmental and commercial, are located there, as well as universities, specialised education, and judiciary entities. People from the whole province visit the city on a regular basis because of this, even if they do not work there. This means that there are large flows of people going through the city for all different purposes.

Liège has a recognisable morphology through the Meuse flowing through it. The river divides the city in two halves, even creating an island in the middle. While physically divided by a river, the city functions as one entity as it has long been supplied with many bridges. The river is therefore not a socio-economic division.
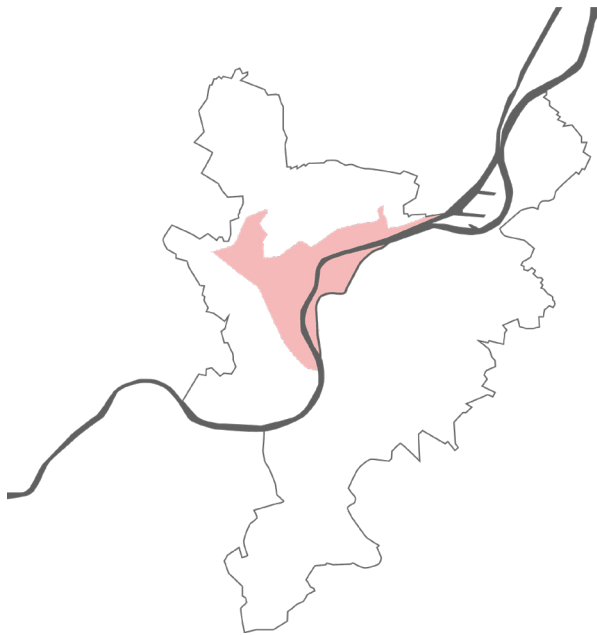
Figure 13: Area in which neighbourhoods have been analysed

◄ *Picture of the waterfront, March 2022*

General observations for each neighbourhood

Sainte-Marguerite

-this neighbourhood has many children, however the playgrounds are sad looking
- the playgrounds are rarely used even with good weather

Saint-Laurent + Centre

- many people passing through by foot and by bus
- busy with people walking back from school and work
- busy in shopping streets even with the shops closed

Saint-Léonard

- people of different ages and ethnicities use the big park and square, such as old men gathering to play petanque and children in the playground

Avroy

- school groups with young kids struggle to cross the streets
- the park is used for gym classes and sketching excercises

Guillemins

- big variety of people as it is the main point for transportation
- many international shops, even if other neighbourhoods have more foreign residents

Longdoz

- big recreational infrastructure, however it does not get used during weekdays
- picknick spot for students

Outremeuse
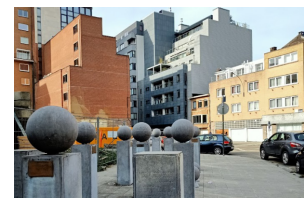
- not many people visble on the streets
- people that are walking around are mostly alone or in pairs
- not much greenery present

Figure 14: First impressions of the neighbourhoods, pictures taken by the author in October 2021.

Demographics for each neighbourhood
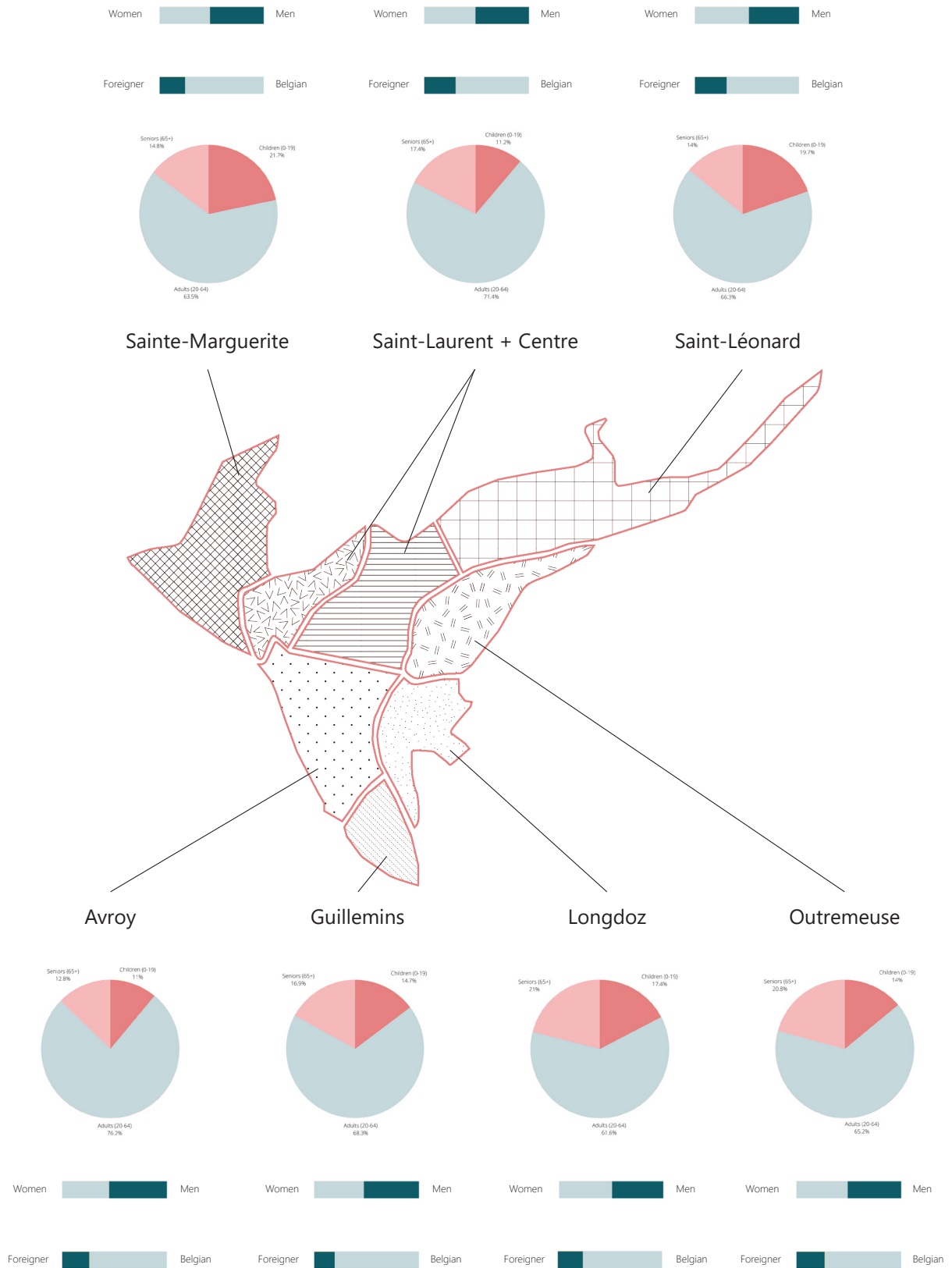
Figure 15: Demographics of each neighbourhood, numbers based on Ville de Liege (2015).
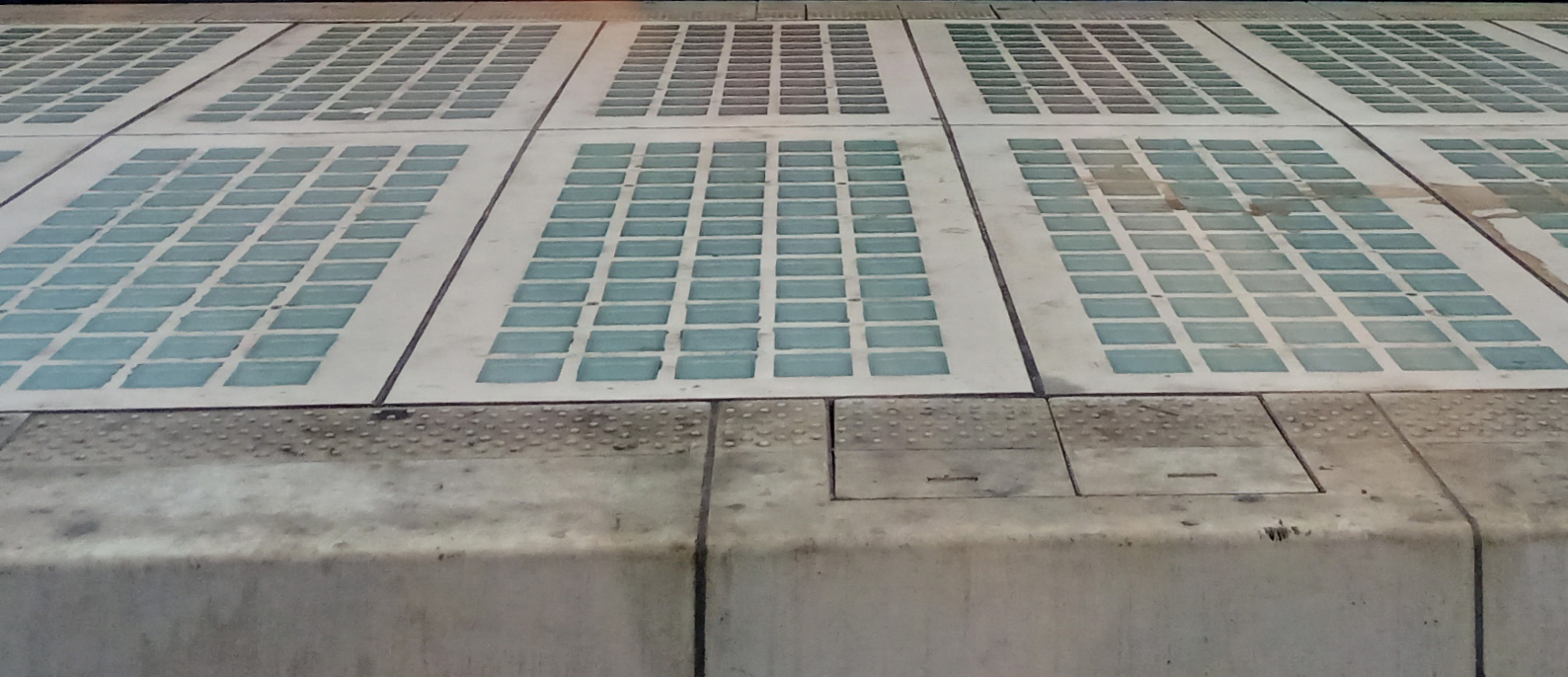
Three neighbourhoods to investigate further emerged from the data from the population demographics and fieldwork: Saint-Laurent, Avroy, and Outremeuse. These all have interesting demographics, but they were also considered as potential locations with their own set of challenges. Because of the more spread-out layout, which resulted in a lot of gardens, Sainte-Marguerite was dismissed, despite the fact that there were a lot of children. Furthermore, Saint-Léonard seemed interesting, but after further observation there seemed to already be some progress going on there, not making it a crucial location for intervention anymore. The Place des Déportés located there will be used as a case study of a similar environment.

The three chosen neighbourhoods are directly located around the city-centre, making them high in density. They each have their own characteristics that will be highlighted in the following pages.

*Figure 16: Location of the three neighbourhoods around
the city centre*

◄ *All site visits were done by train and walking to the neighbourhood, March 2022*

Avroy

Avroy is a sub-neighbourhood from the city centre. It is characterised by higher buildings, 4 to 12 stories high, that have commercial space on the ground floor and apartments above it. It is also an area that counts quite a few offices, sometimes also from governmental services. These more modern high buildings are alternated with old buildings such as town houses, but also a monastery. This creates a neighbourhood with very diverse functions (see map bellow) and small zoning (see map on the right). The neighbourhood also possess the city park, the Parc d'Avroy. It mostly consists of grass with a few trees. This is because it gets used for events such as concerts in the summer or the fair every October, lasting the whole month.

Residential function (house, flat, ...)
Commercial function (HoReCa, store,...)
Educational function (school, daycare, university,...)
Health service (hospital, doctor, dentist,...)
Cultural function (church, mosque, theatre,...)
Governmental function (public services, municipal building,...)
Office space

0   250m

Figure 17: Ground floor function map of Avroy

Figure 18: Zoning of Avroy

Figure 19: Facades of Avroy

Figure 20: Pictures of Avroy, taken by the author in October 2021

Saint-Laurent

Saint-Laurent is a mainly residential neighbourhood located next to the city centre. It consists mainly of brick houses, 3 to 4 stories high, with sometimes apartments located in them. The neighbourhood is a bit blocked off because it is limited on the west side by a highway, on the north side a main traffic axis and railway tracks at the south-east. This also means that the outer area of the neighbourhood area is well accessible. This means that there are provincial and regional functions located there such as specialised schools. It has a small local shopping street going through it, Rue Saint Séverin. However, many shop spaces are vacant or transformed into - temporary - housing. The neighbourhood is also characterised by the military headquarters located in the ancient field hospital, making a large part of the area not accessible. Some houses have gardens, but there is also a park located in the middle though it only has two gated entrances.

Residential function (house, flat, ...)
Commercial function (HoReCa, store,...)
Educational function (school, daycare, university,..)
Health service (hospital, doctor, dentist,...)
Cultural function (church, mosque, theatre,...)
Governmental function (public services, municipal building,...)
Office space

0   250m

Figure 21: Ground floor function map of Saint-Laurent
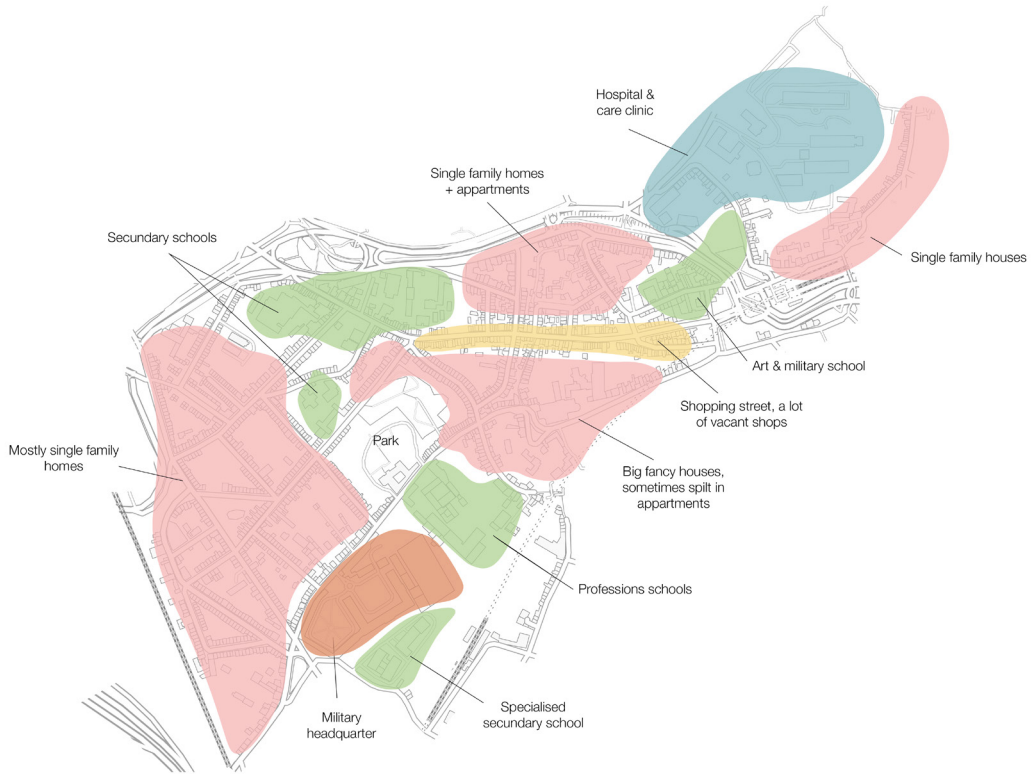
Figure 22: Zoning of Saint-Laurent
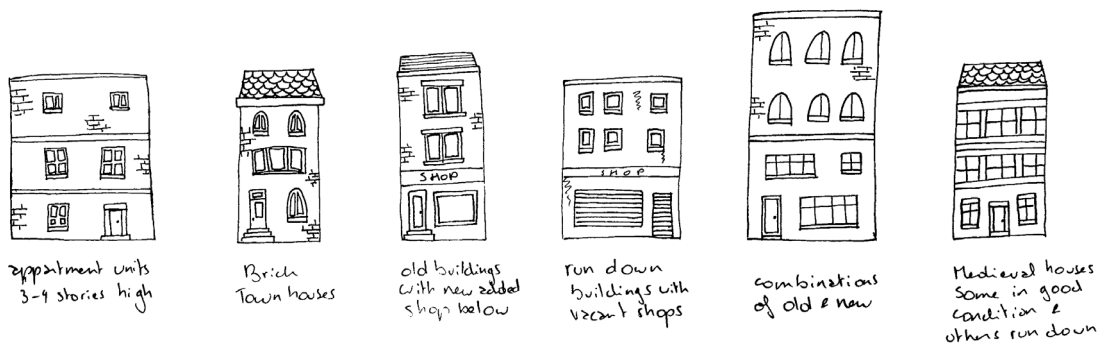
Figure 23: Facades of Saint-Laurent

*Figure 24: Pictures of Saint-Laurent, taken by the author
in October 2021*

Outremeuse

Outremeuse is a neighbourhood on an island in the middle of the Meuse. Despite its location as an island, it is crossed by numerous bridges and major traffic arteries, as well as a pedestrian bridge to the city centre. The neighbourhood is laid out in a radial ground plan. The plan seems stately, but the houses in the blocks are generally three to five story brick houses. Along the water's edge, however, there are also higher residential structures. Additionally, students play an important role in this neighbourhood, which includes a part of the university campus, the university hospital, and a few 'haute école' buildings. Most public space has been lost to car parking places, making the neighbourhood feel rather cramped and congested. The open spaces visible on the map are the Place de l'Yser for events and the big empty plot in the east, the espace Bavière; that is being developed with housing.

Figure 25: Ground floor functions map of Outremeuse

Figure 26: Zoning of Outremeuse
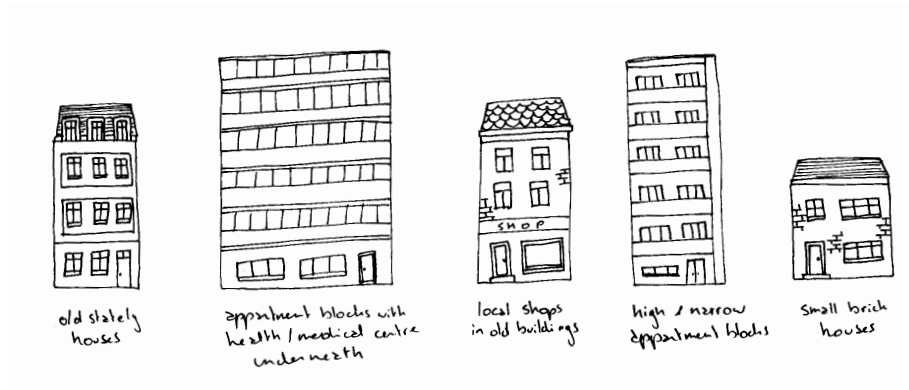
Figure 27: Facades of Outremeuse

Figure 28: Pictures of Outremeuse, taken by the author in October 2021 and January 2022

Choice of location

Following the analysis of these three separate neighbourhoods, Avroy, Saint-Laurent, and Outremeuse, the decision was made to focus on Outremeuse for this project. This is due to a number of factors. The first being that Outremeuse is the most intriguing from a spatial and morphological standpoint. Finding solutions that operate on a small scale and within a high-density area presents a real challenge. Residents of this neighbourhood are reliant on public space, despite the lack of quality at the present moment. In addition, it was feasible to establish contact with a local organization, making research and gathering personal experiences more manageable.

The other neighbourhoods are very morphologically different, making it interesting to compare the design interventions with those contexts at the end. This will help to evaluate the outcome and be able to form conclusions of what could work in different spatial contexts.
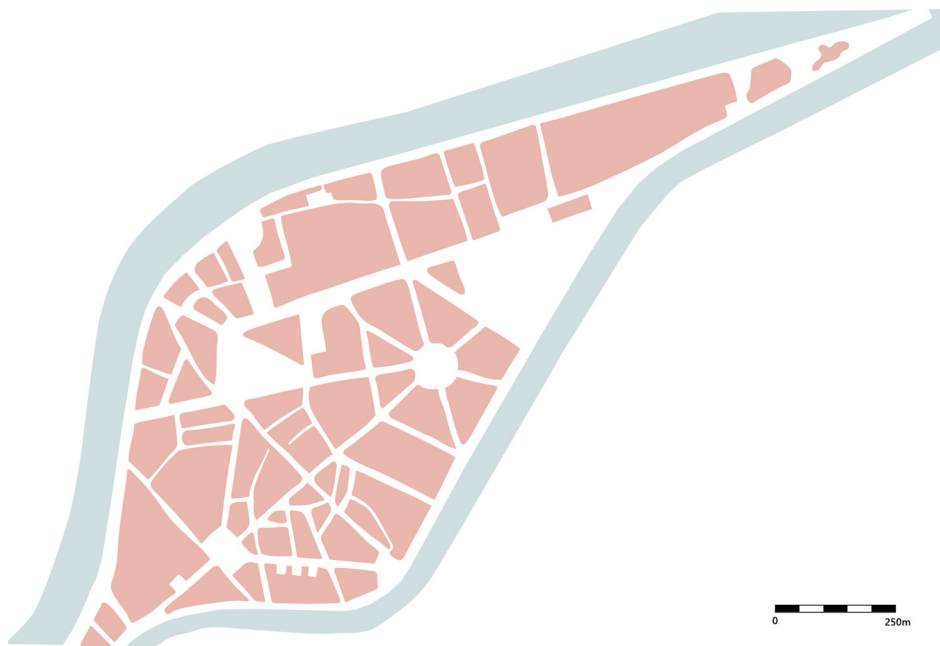
Figure 29: Morphological map of Outremeuse

◀ *Picture of a highway through Outremeuse, October 2021*

INTRODUCTION TO OUTREMEUSE

The neighbourhood of Outremeuse has a characterising street lay-out and the island that Outremeuse is located on is not even a kilometre wide making it easy to navigate. As some locations will be mentioned repeatedly from here on out, an annotated map of the most important locations and landmarks has been provided below.
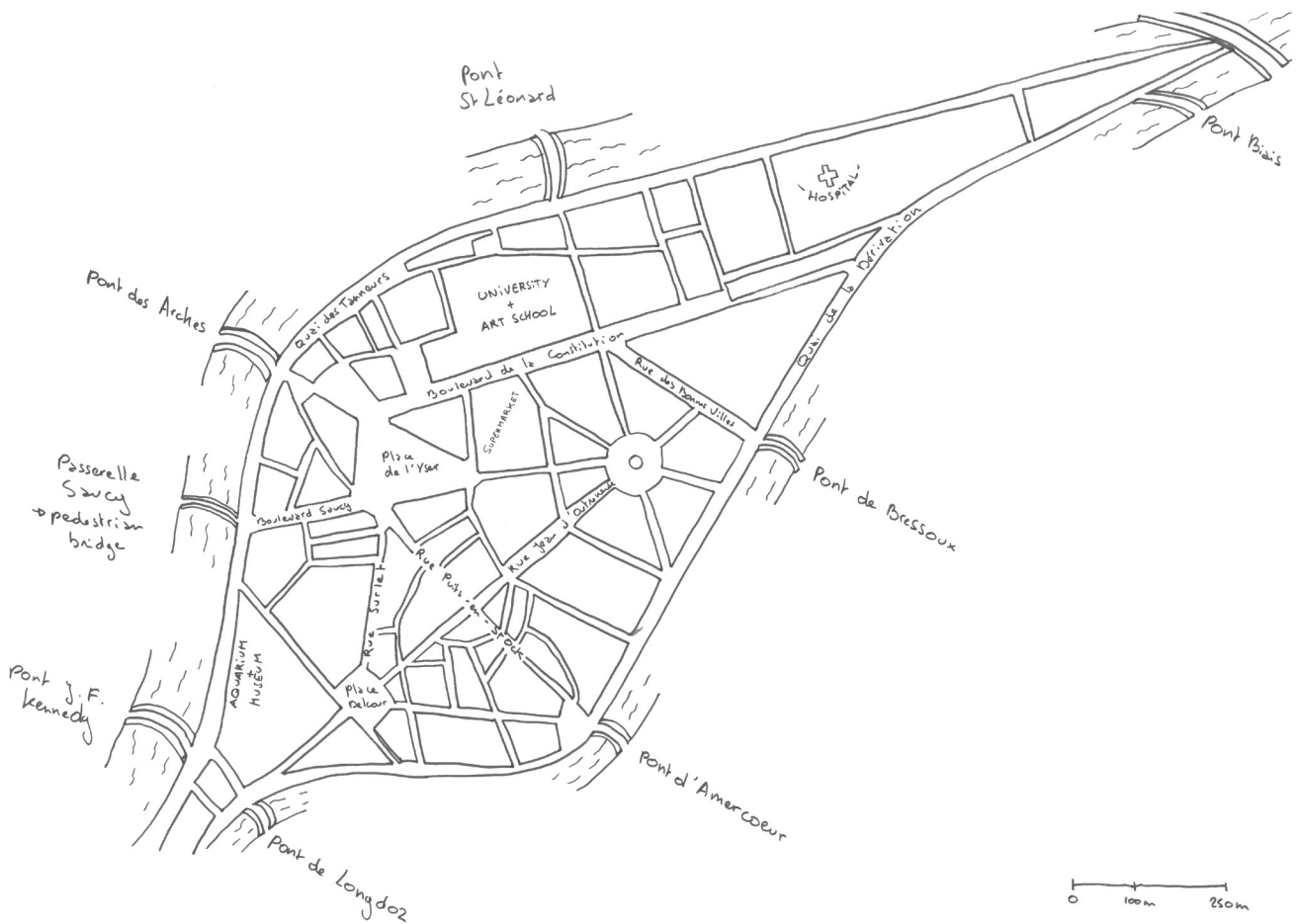
Figure 30: Illustrated map of Outremeuse with frequently mentioned places

Outremeuse has a long history. Its first inhabitants were artisans, leather workers in the parish of Saint Pholien and drapers in the parish of Saint Nicolas. At the beginning of the 17th century, the Bavière hospital was built and small shops appeared on the axis of what is now Rue Puits-en-Stock, an axis that has existed since the thirteenth century as a path towards the city gate. In the nineteenth century there is a shift in the residents as different faculties of the university are moving to the neighbourhood. First, the Anatomy Institute in 1886 that settles in the Rue des Pitteurs. Then follows the Physiology Institute in 1886 to the Place Delcour. And, finally, the Institute of Zoology in 1894 to the Quai van Beneden. Nowadays, this historical duology of residents can be seen in the mix of building sizes and styles throughout the neighbourhood (Bertrand et al., 2012).
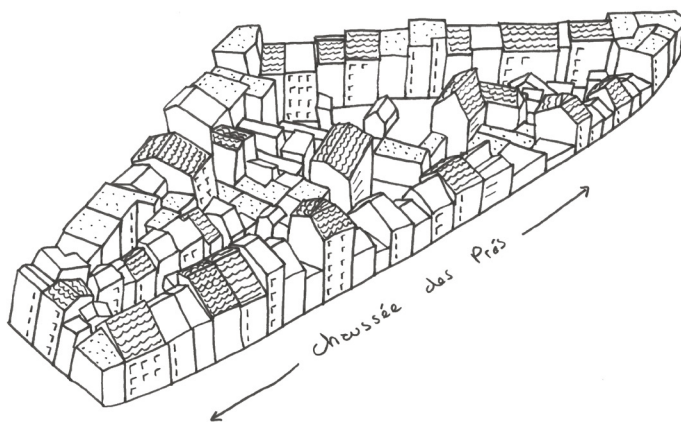
Figure 31: Illustration of a building block in Outremeuse

It was stated that a neighbourhood with a high density was chosen because the inhabitants would be fully reliant on public outside space. Outremeuse fits this criterium especially well as the building blocks are almost completely filled up with extensions, storage and workplace buildings. This means that most residents do not have a garden or private outside space. It also makes it impossible to solve matters, such as parking, inside the building blocks. To achieve something of significance, the whole public space has to be transformed.

SPATIAL ANALYSIS

A spatial analysis based on the mapping of spatial elements was carried out to gain an initial grasp of the neighbourhood. Because mobility is so crucial in the subject and at the location, the focus has been on mobility for now. This analysis might be explored in more detail later. It will also be necessary to extract certain key findings from the maps in order to translate them into design actions.

Car traffic

The main mode of transportation used in the neighbourhood, and in the whole city of Liège, is the car. Because space is scarce in this dense area, parking spaces also are. This results in cars taking the upper hand in the public space design, prioritizing parking space. However, it is still not enough, and many are parked on the sidewalk or on dangerous locations.

Figure 32: Map of car accessible roads and parkings in Outremeuse

Bus routes and stops

Because the car is so heavily used, for people who do not own one, the next best option is taking the bus. The bus is the main public transport used to commute in the city itself, but also out of it. There are many bus lines and stops all over in Outremeuse because quite a few main roads go through it. Additionally, the municipality has been constructing tram lines. This project however is becoming quite controversial as it is taking too long and is starting to cost too much money. The tram lines will also stay at the centre side of the river, meaning that residents of Outremeuse (and many other citizens) get frustrated with the construction that is blocking main roads for long periods of time.
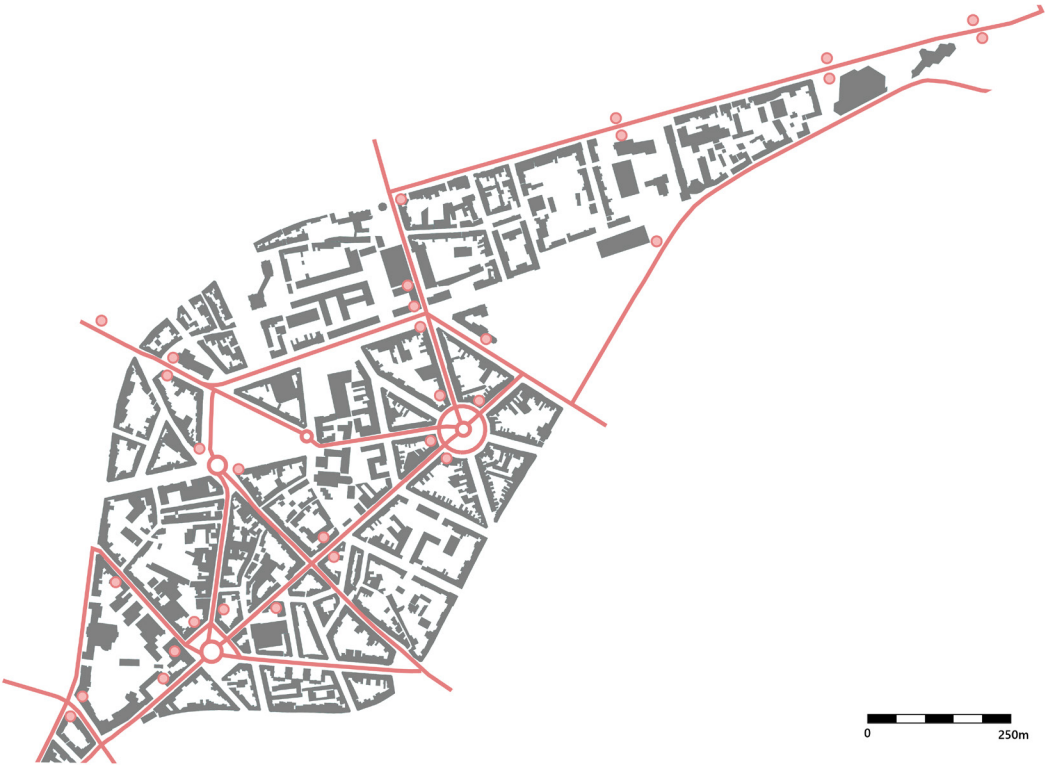
Figure 33: Map of bus routes and stops in Outremeuse

Pedestrian zones

Although the city is mainly car focussed, there are some pedestrian routes. These are mainly located along the riverside and people use these more to recreate than to walk to their daily destinations. Furthermore, some roads are pedestrian because they are small and narrow. The pedestrian bridge to the city centre is a more recent addition, but it is heavily used at it is the quickest connection by foot. There are no real cycling lanes, the road is used for this. However, the 'ravel' as they call this routes network along the river also accommodates for recreational cycling.
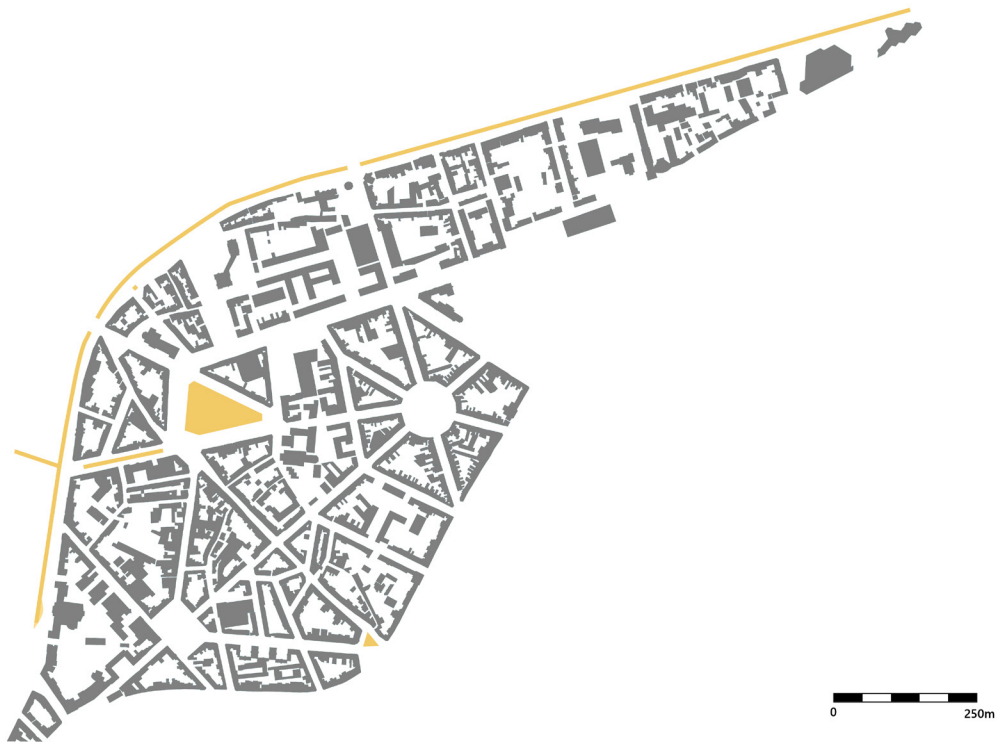
Figure 34: Map of pedestrian areas in Outremeuse

Public green spaces

By looking at the map it becomes immediately visible that there is no public green space in the neighbourhood. It has the same issue as many old inner cities: old trees but no green on the ground. As a result, the neighbourhood feels greener than it actually is.
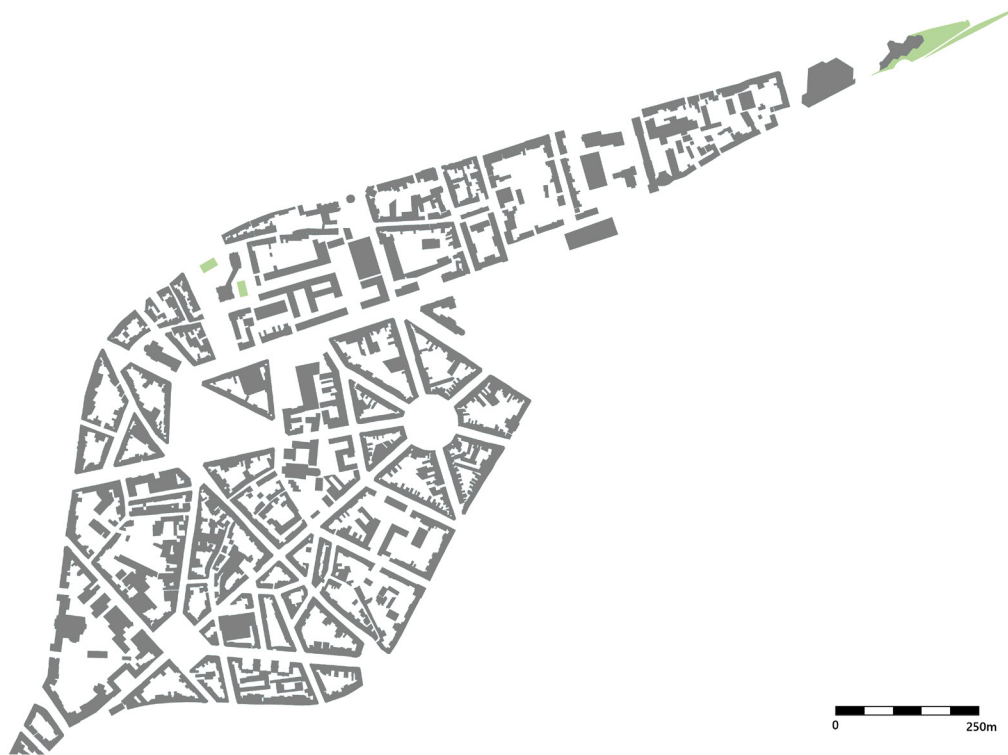
Figure 35: Map of (lack of) public green space in Outremeuse

FIELDWORK

To begin to understand Outremeuse, the site was visited at different days and at different times, interviews have been conducted, and spatial interpretations have been made. These all helped to gain an understanding of the neighbourhood. Being on site provided the opportunity to observe the behaviour of residents and visitors during different weather conditions and seasons, but also to document them through photographs. The main observations and notes are presented on the following pages.

Date	Day of the week	Time	Weather
19/01/2021	Sunday	14:00 - 15:30	Sunny
18/10/2021	Monday	14:30 - 16:30	Sunny / slight overcast
02/01/2022	Sunday	14:00 - 15:30	Overcast
04/02/2022	Friday	11:00 - 12:30	Overcast
07/03/2022	Monday	08:00 - 09:00 15:30 - 16:30	Sunny
25/03/2022	Friday	10:30 - 13:30	Sunny
24/04/2022	Sunday	13:00 - 14:30	Sunny
06/06/2022	Monday	11:30 -14:00	Sunny / light rain

Figure 36: List of site visits

◀ *Picture of the waterfront, January 2022*

I saw a lot of parked cars everywhere, every time I went.

People also create improvised parking spots

I witnessed two different accidents with cyclists: once with a car and once with a pedestrian.
=> Separate streams of traffic

I saw many people along the water when the weather was nice.

people jog, walk & cycle
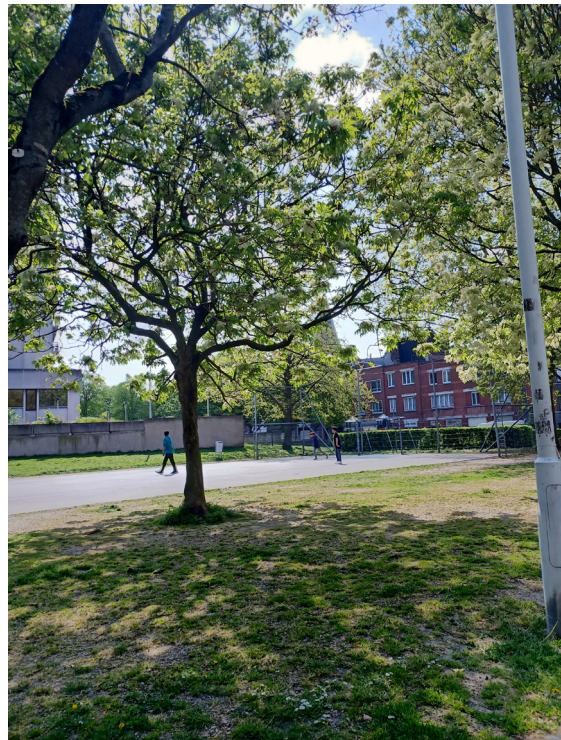
The playground here gets used

People having a pick nick

Parents going
home with their
children

All children came
walking to school
(sometimes after first
taking the bus)

This means no
stuch traffic
at school times
(what I had expected)

← winter
spring →
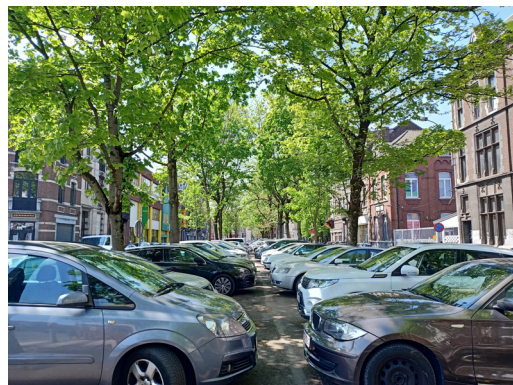
There is no open
green space,
but the trees
make a big difference.

Many empty stores

Sometimes converted to residential function with curtains or newspaper

Sometimes closed with a gate

⇒ not a nice feeling to walk past

Even when renovated, it is still a closed facade.
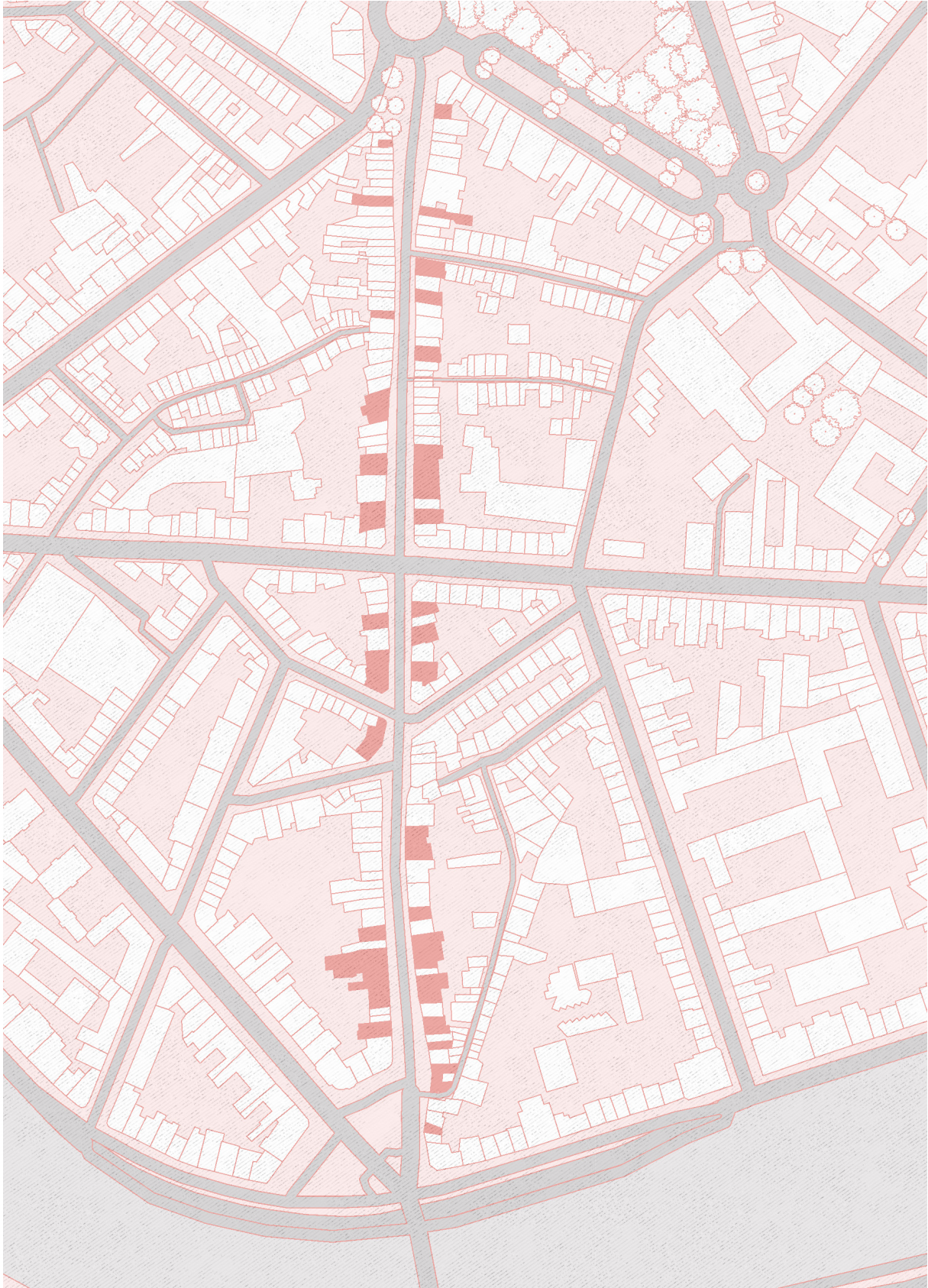
Figure 37: Empty stores in Rue Puits-en-Stock,
marked here in darker pink

The interviews aimed to gain a better understanding of the themes through discussion and dialogue. On the one hand, not being a mother myself, and not a child anymore, it is valuable for me to receive input from the group that I want to design for. On the other, as it is a complex topic right on the edge between social and spatial practices, speaking to other people might help me frame the project better.

Le Babibar

The most important contact I had in the field is an organisation that works with parents and children 0-3 years old in the heart of the neighbourhood, Le Babibar. They offer an open door to new parents, but also affordable programs for baby supplies and courses. Additionally, they have worked on their own "baby-friendly" city project. Caroline and Valérie have been very kind in all their responses and are enthusiastic about the topic. First contact was through phone calls and e-mails, due to the lockdowns but a few visit s while on site followed.

An overview of the collected information through written questions with Caroline (the whole answers can be found in French in the appendix):

1.   What types of families find the way to your services? Which families are harder to reach?

-       People come from the whole province, sometimes even further, there are not many similar projects. We were only open for 5 months before the pandemic started and we have only been open again since September, we are only slowly starting to reach people from the neighbourhood itself.
-       People hear about us through "bouche-à-oreille", through the recommendation of friends, their therapist, their midwife or our Facebook page. First time visitors usually start coming by enrolling for a workshop as they seem to find it easier to enter with a purpose than just walking in the door. Mothers come more often alone than fathers.
-       We reach a social and cultural mix of people but have difficulty to reach the most vulnerable ones. By talking to other organisations in the neighbourhood, also ones that usually have close contact with more vulnerable groups, we found that since the pandemic they have become even more isolated, it becomes even harder to reach them.

2.   What places do parents, and especially mothers, like to visit in the neighbourhood? Why?

-       I sometimes see some families by the place de l'Yser and the little playground there, but the neighbourhood has a bad reputation because of thefts and drugs. Some streets do have their charms and offer possibility for children to play outside, but it does not happen often.
-       The place des Déportés in Saint-Léonard, a neighbourhood across

the river, seems to be more successful in attracting a variety of families and children of different ages.

-        Hopefully the project with the public garden in rue Porte-aux-Oies can add some public green space, but not many people have found their way there yet.

3.   What places are avoided by mothers with their children when walking in the neighbourhood?

-        The city feels hostile towards parents (personal experience now that I became a parent): very few places are suitable, the sidewalks are a nightmare with a stroller.
-        I don't think there is a specific place that is avoided by the residents, more a time: the evening / night. It does not feel safe. There are gangs of youths, drunk and drugged people on the streets. If I have to be at the other side of the neighbourhood in the evening, I take the car because I don't feel safe

4.   What do you think mothers miss in the neighbourhood (while working on your project) (services, meetings spaces, greenery, ...)?

-        Greenery that is without question
-        It is not specifically the neighbourhood, but the whole city does not have enough kid friendly spaces such as changing tables (that are not only in women's toilets) and places to breastfeed without bothering anyone.
-        Parents would also like more diverse opening hours for Le Babibar such as other mornings or weekends. The opening hours are very limited right now: three mornings a week.
-        Free parking spaces. Some come by car and get discouraged because it is impossible to find a parking spot. Parking is expensive and a fine even more, this leads to parents that always keeping an eye on the time when they are enjoying themselves. Even driving to the neighbourhood can already be a whole battle now with the constructions for the tram.
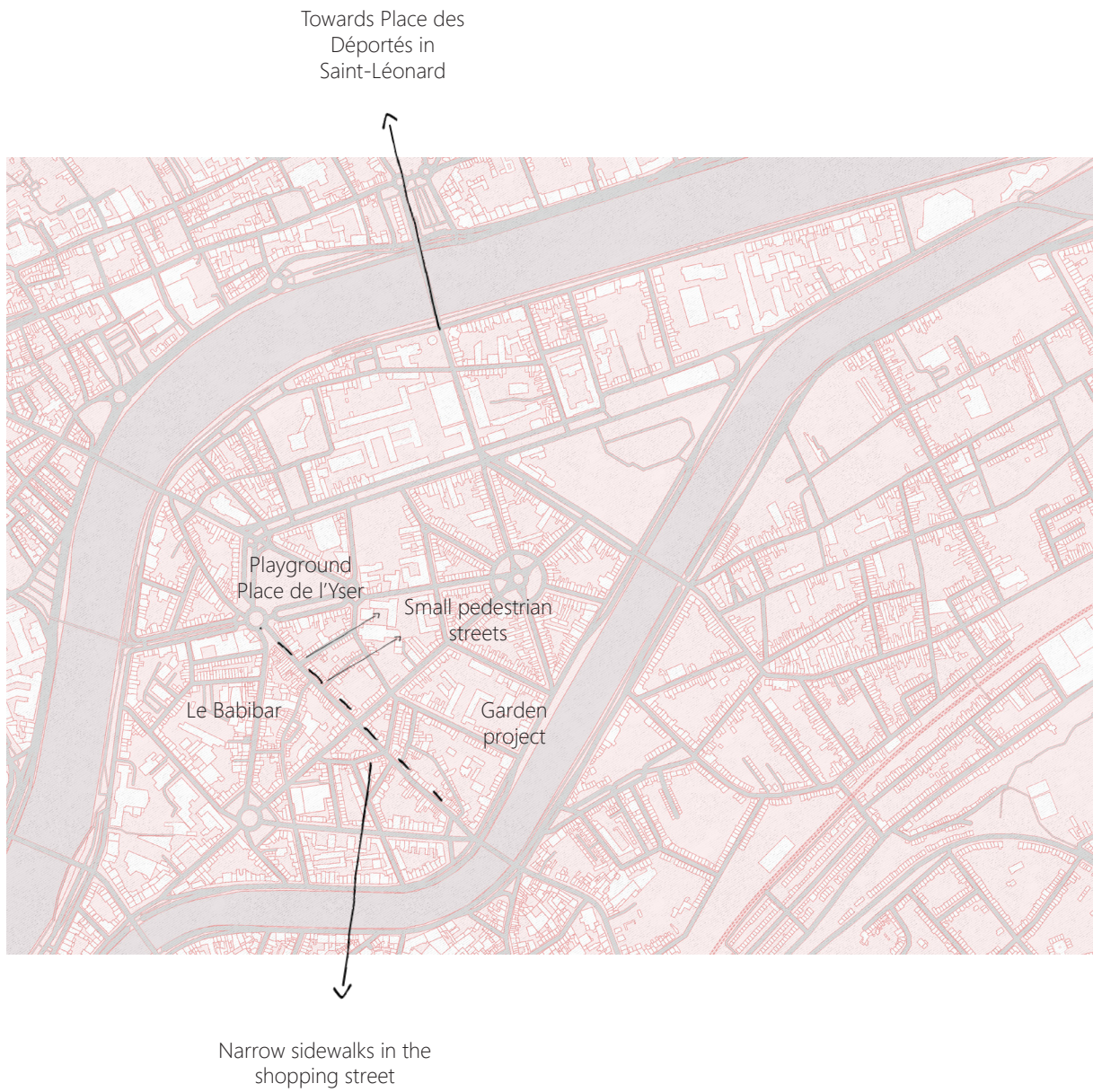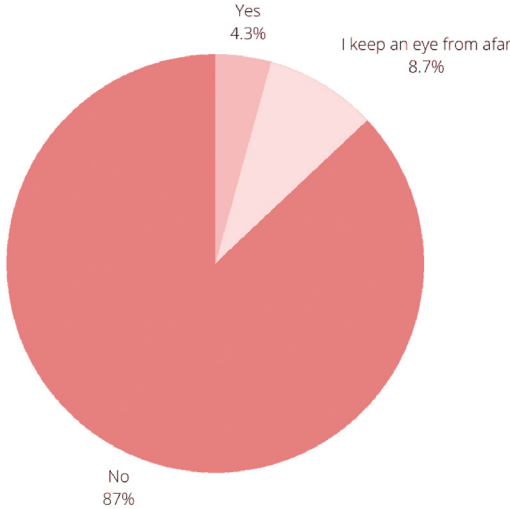
Towards Place des
Déportés in
Saint-Léonard

Playground
Place de l'Yser

Small pedestrian
streets

Le Babibar

Garden
project

Narrow sidewalks in the
shopping street

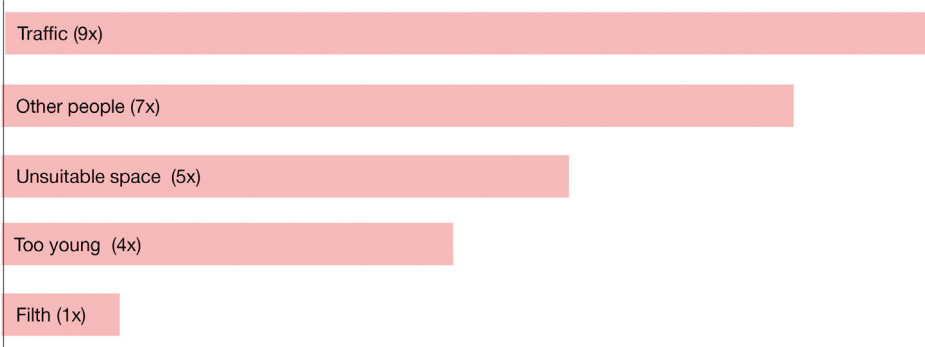*Figure 38: Map of the locations discussed in the interview*

Survey

These same questions, and some additional ones, were distributed as a survey with the help of the Babibar to parents of the neighbourhood and surroundings. It gathered 23 responses over a period of two weeks and the main themes quickly became apparent. The main conclusions are presented here and the full answers to the survey (in French) can be found in the appendix.

Do you let your child(ren) play outside by themselves?

Yes
4.3%

I keep an eye from afar
8.7%

No
87%

If you answered no, why?

Traffic (9x)

Other people (7x)

Unsuitable space (5x)

Too young (4x)

Filth (1x)

What places in the neighbourhood do you avoid when out and about with your child(ren)?

No places in particular (5x)

Bad sidewalks (4x)

Place de l'Yser (4x)

The evening (3x)

Quai de la Dérivation (2x)

Café / Restuarant (2x)

Boulevard de la Constitution (2x)

Rue Puits en Stock (2x)

Gravel paths (1x)

Point Delcourt (1x)

All places (1x)
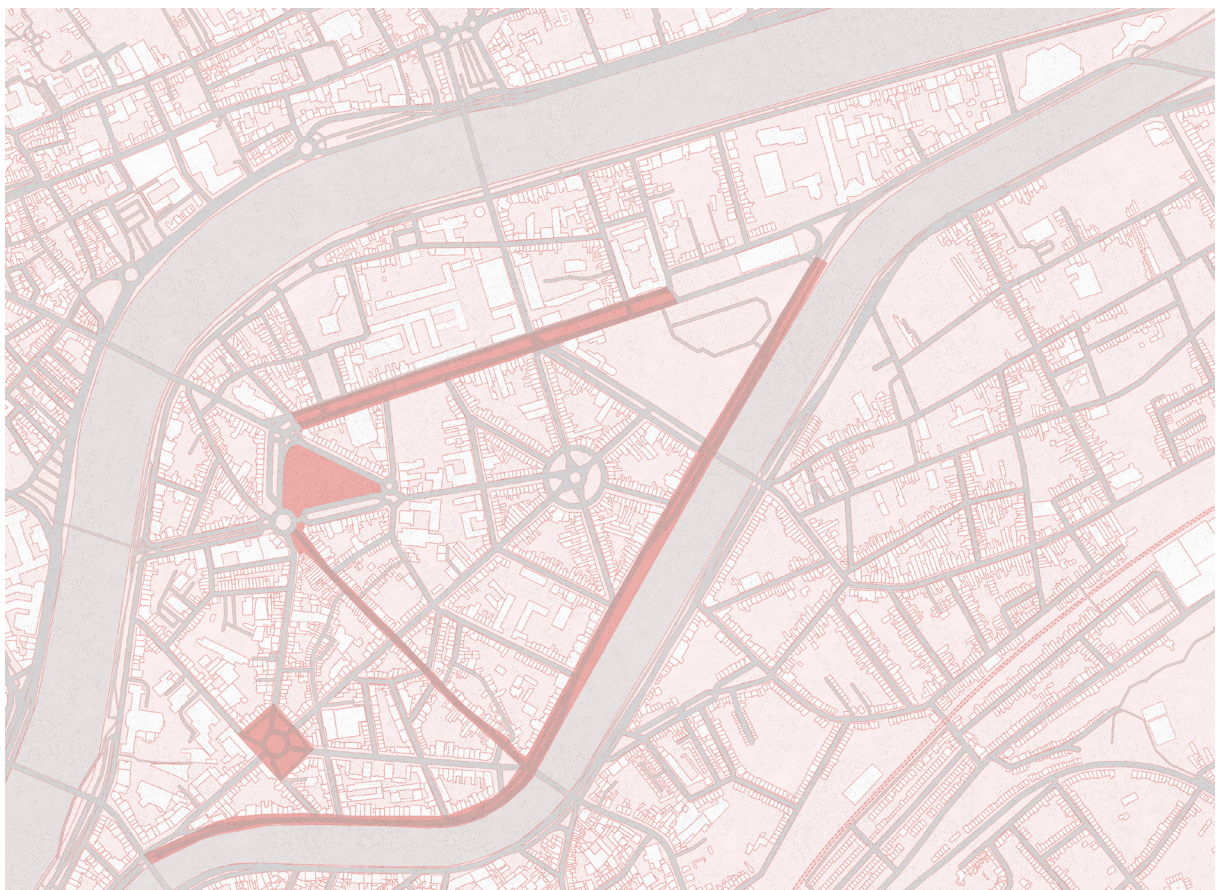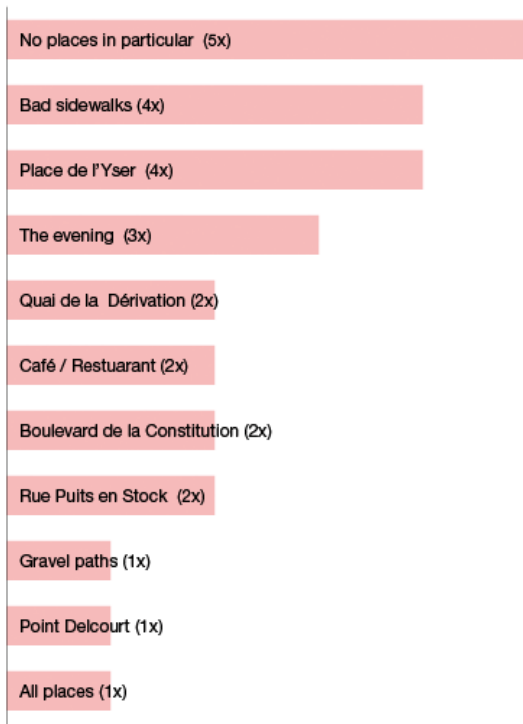
*What places in the neighbourhood do you like to visit when out and about
with your child(ren)?*

Various playgrounds (14x)

Place de l'Yser (7x)

Babibar (5x)

Pedestrian friendly streets (5x)

Along the water (4x)

Parcs (3x)

Shops (3x)

Events (2x)

Museum (2x)

None (2x)

Libary (1x)
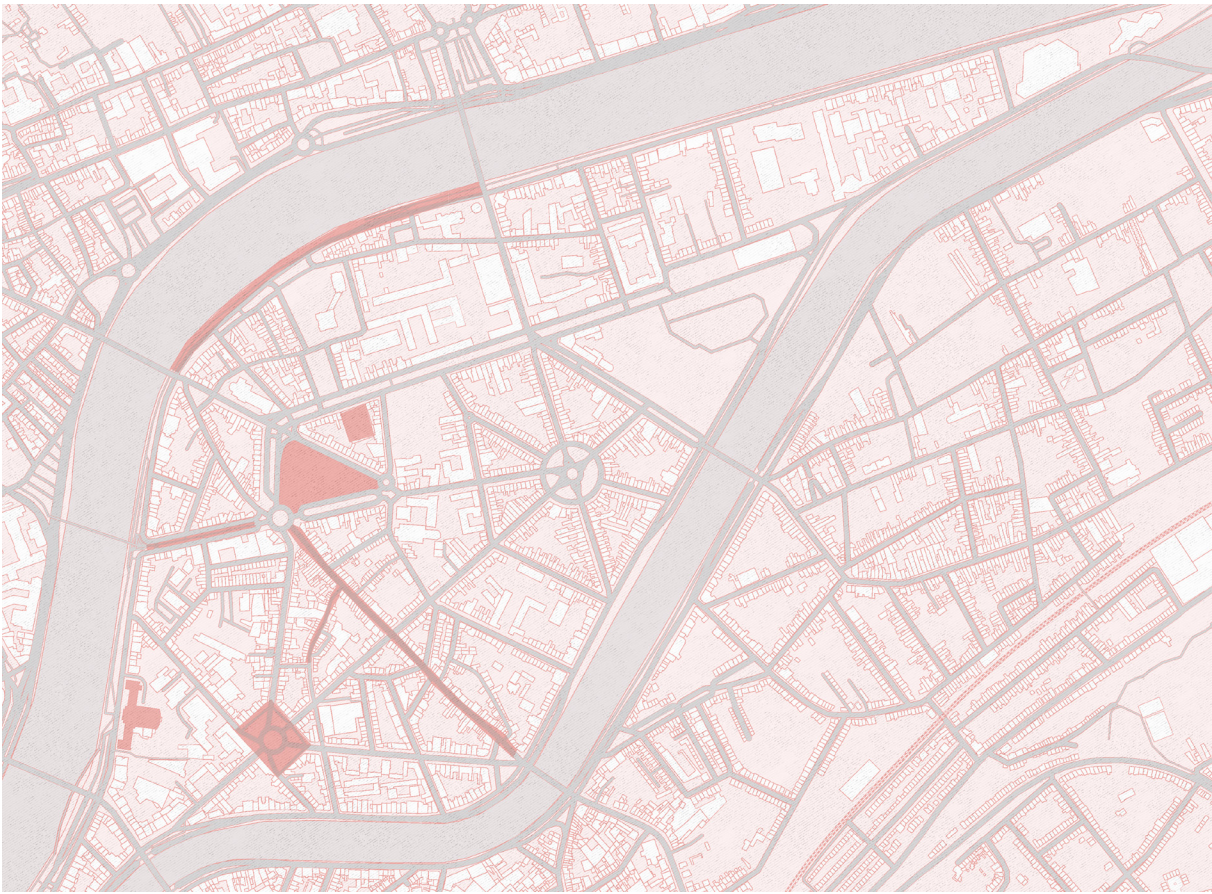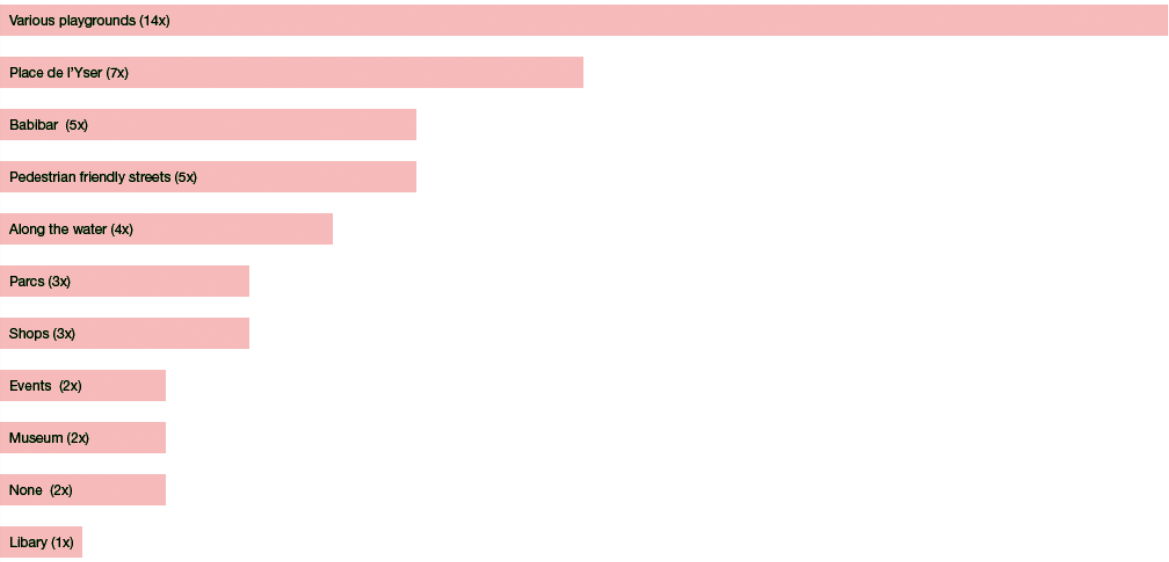
What is missing in the neighbourhood according to you?

A parc	Greenery in general and larger sidewalks in Rue Puits en Stock	Good sidewalks, green parc other than la Boverie, cleaner streets
Baby zone oustide with space on the ground	Green space, playground towards Pont d'Amercoeur and better sidewalks for Rue Puits en Stock	Greenery
Green spaces	Playgrounds suitable for small children (1-3 y/o)	Parcs and playgrounds
Greenery	Parcs, greenery, places where children are welcome	Greenery, safety (social and traffic) and meeting spaces (library?)
Green space!!! And a place to cycle with the children	Meeting spaces and green space	Big green space, outside space for small children, pedestrian streets
Mostly greenery	Green spaces, playgrounds with picnic facilities, more pedestrian streets	Greenery, playground and meeting spaces
Parcs, grass, flowers, greenery!	Greenery for sure, better maintenance of Place de l'Yser, meeting spaces	

Summary

Greenery (18x)

Parc (6x)

Meeting space (4x)

Better sidewalks (3x)

Playground for toddlers (3x)

Pedestrian streets (2x)

Maintenance (2x)

Cycling lane (1x)

"I would l
meeting

"I regularly use
the PLAYGROUND there"

"There is a
bad crowd"

"The playground
along the water
is nice"

⸗ Place de l'Yser ⸗

"It is not
pleasant there"

– walking along the –
water is very nice

much used
peo PEDESTRIAN
bridge ←
to the centre

"I often go
to museums
with my children"

– this part along the water h

"I would like
more pedestrian streets"

"I don't avoid
but I don't go
EVENING

"We need playgrounds
for all ages"

"...he more
spaces"

"We need more
= GREENERY = "

Boulevard de la Constitution
"I avoid it after 9 PM"
"There is too much traffic"

"I would really
like to have a
(PARK)
in the neighbourhood"

"Where are the flowers?!"

"Many obstacles on the sidewalk"

"I like going to
the stores with
my children"

Rue Puits-en-Stock
= DANGEROUS TRAFFIC

...es heavy traffic

"The sidewalks
are too narrow"

"You cannot
hold hands on
the sidewalk"

...specific places,
...outside in the
_____
"

"I don't let my
child play outside
by themself themself"

(87%)   "because of strangers"
"the traffic is too dangerous"

Design

THE RIGHT CONDITIONS

The first concern should be for the liveability of the neighbourhood. Before being able to transform the public space, it is necessary to first free it up. Especially in this neighbourhood a lot of the space in the streets is used by in-street parking. It is important to first phase the cars from visitors, and maybe residents in the end, to a better parking arrangement. As well as a reorganisation of traffic. To accomplish this, a close collaboration with policy making is needed for the long term.

As visible in the diagram below, there is a main route (N-route) going right through the neighbourhood. More specifically, through the local shopping street Rue Puits-en-Stock. Historically this road has been there since the 13th century as a road to the city gate. This explains why a main traffic artery is the same as a commercial street. However, this road is also very narrow. Consequently, this pressure from traffic makes the sidewalks narrow and not comfortable or safe.

— Main road
— Connecting road in the neighbourhood
— Street with destinations
— Residential street

Figure 39: Current traffic situation

◀ *Picture of Place de l'Yser, March 2022*

It is time to seperate these two functions of the street. It will be proposed that the main route (N-route) will be deviated to the bridges of Longdoz and J.F Kennedy. This way, the busy road only crosses the island for 130 meters. This is in practice already what partially happens as the route through the neighbourhood is quite a hassle. However by also changing it in the naming, the speed limit can also be adapted to a more suitable one. This will lead to less traffic and less speeding traffic, a first step in the right direction.

— Main road
— Connecting road in the neighbourhood
— Street with destinations
— Residential street

Figure 40: Possible new traffic situation

As mentioned before, it is first important to free up the public space before being able to transform it. A study of pedestrian areas reference cases has been done to generate some parking and traffic model; these can be found in the appendix. Based on these, it was decided that visiting cars should be intercepted at the sources: the bridges.

— Main road
— Connecting road in the neighbourhood
— Other streets

Figure 41: Create parking opportunities near the bridges

Current situation

Closed stores with
roller shutter or bars

converted to living
space with closed
curtains or newspaper

empty stores that
you can look into

Alternatives

If converted to living
space, add layers
& textures ⇒ façade
stays interesting even
with closed curtains
(materials, greenery,
door, etc.).

If street profile is
changed, add a small
private area for a
few plants or a bench
⇒ create distance

⇒ PREFERABLE

commercial spaces to
making spaces (not
residential)
Tenant of store space
and house above is the same

Figure 42: Towards policies for empty store facades

Another important factor for the liveability of the neighbourhood is how vibrant its centre is. And while some parts of the neighbourhood are, the local shopping street is becoming more and more empty. This problem is not exclusive to this street, but a global trend with the arrival of shopping malls and, now, online shopping. The street however could already be greatly more attractive through a new street design and layout. This transformation, combined with policies regulating the empty store spaces, could mean a lot for the image of the street.

99

PATTERN LANGUAGE

The best thing one could do to make a city more mother- and child-friendly is to make their daily-life more comfortable and enjoyable. Therefore, the public space has to be altered in such a way that it encourages this. That is where this pattern language comes into play. The research, through literature and fieldwork, of the corresponding thesis has been translated into a pattern language. This pattern language follows the structure conceived by Christopher Alexander (1978). The design incentives derived from the research have each been made into a separate pattern. These incentives can be applied throughout the scales and during different projects. They have each been moulded into a pattern with a title, a clear directive, the theoretical back-up, and the practical implications.

Each of these patterns also refers to related patterns. This is because, following the pattern language structure from Alexander (1978), all of the patterns in a pattern language are interconnected. These connections result in a pattern field. These pattern fields show the connections between the different patterns through the themes and the scales.

Furthermore, these patterns for the mother- and child-friendly city have been divided into four categories. These categories build onto each other but are not conditional to each other. The first set of patterns aims to contribute to a safe city. This should be the first priority as a neighbourhood that is -and feels- safe will be at the base of the comfort for the target groups. Secondly, a set for the walkable city follows. These patterns plea for every-day functions and programmes to be at a walkable distance within the neighbourhood. This would make everyday errands easier and encourage the use of local services. Then it is time to focus on the playful city. These patterns intend to increase and diversify the playing opportunities of children in the city. And finally, the patterns for the curious city are presented. These patterns try to add some fun details and challenge the status quo of the urban fabric in order to create a more interesting environment.

There is no need to implement each pattern everywhere, however they can help guide projects in the area towards more mother- and child-friendly public space designs. Every implemented pattern is a step in the right direction.

18. Eye candy

13.Pocket playgrounds

01. Safety first

24. Light it up

11. Level out
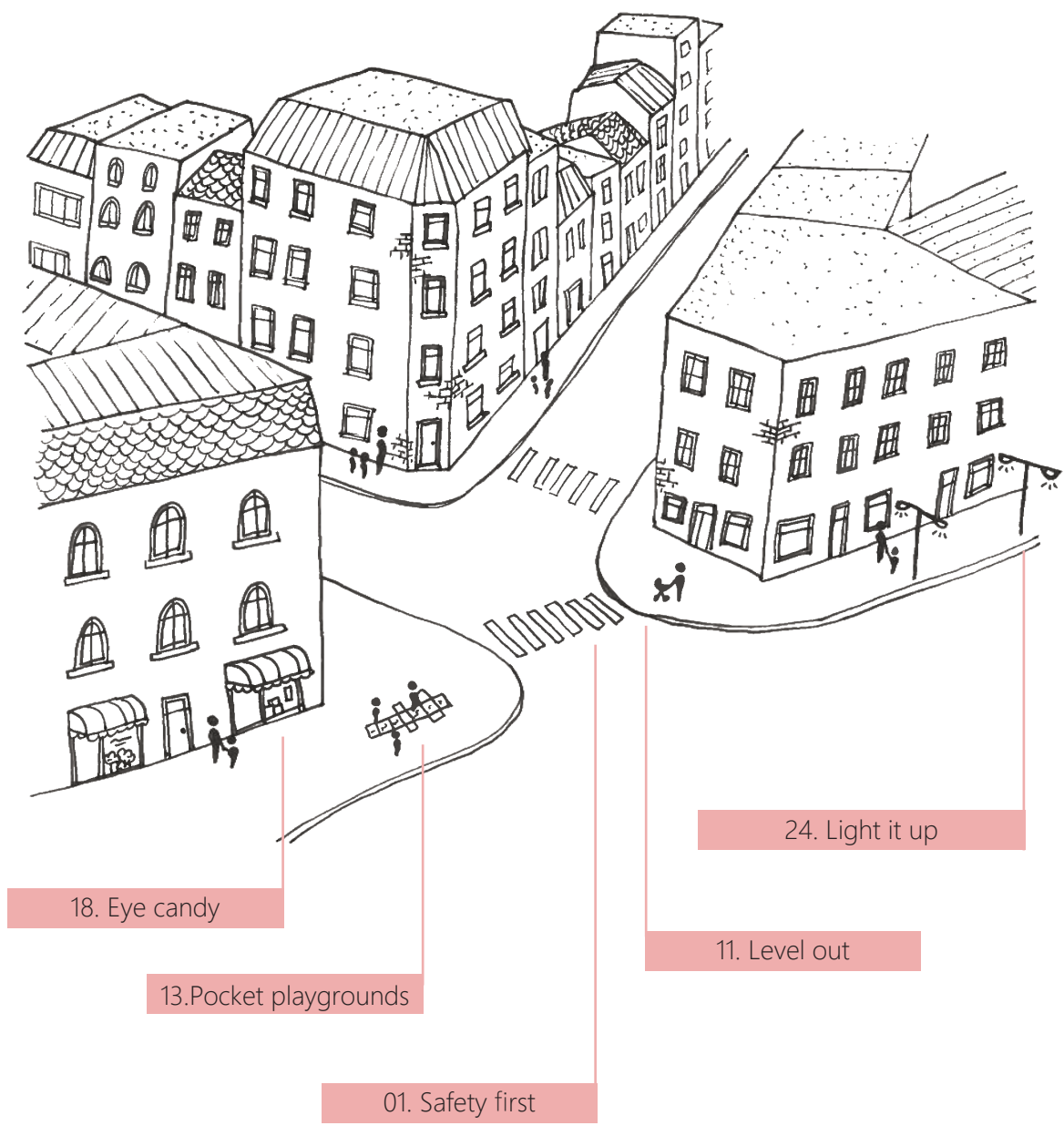
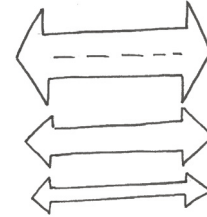*Figure 43: An example of the patterns in practice*

The safe city
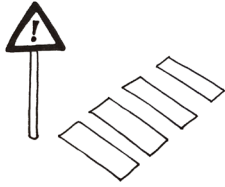
01. Safety first

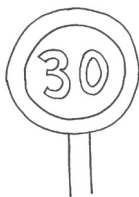Children are able to cross the street safely in their neighbourhood.

02. Light it up

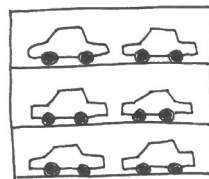Sufficient street lightning ensures a feeling of safety in the evening and at night.

03. Separate streams

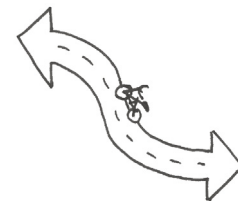Separate different traffic streams in a legible way to minimise accidents.

04. Limit speed

Set appropriate speed limits in residential and commercial streets.

05. Bye bye parking

Avoid parking spaces in the street.

06. Peddle away

There should be a cycling network safe enough for children to use.
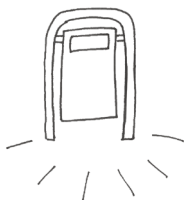
07. Spotless

The public space is clean and well maintained.

08. Know your neighbour

Building trust with other residents creates a feeling of safety and cohesion.
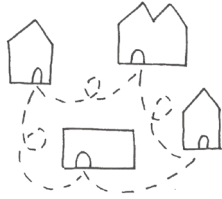
09. A short walk away

Everyday functions and programme are at a walkable distance.

10. Straight forward

Clear street lay-outs and landmarks help children to orientate themselves.

11. All aboard

The neighbourhood is well connected to the rest of the city through a public transport network.

12. Nature play

Every child has access to a place where they can learn about nature and interact with it.

13. Level out

Sidewalks have a slope at crosswalks to facilitate crossing with a stroller or kids on small bikes/ scooters.
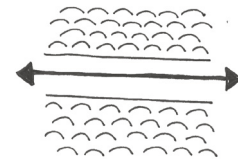
14. Smooth sailing

A path with smoother materials should be created in spaces where the ground surface is too textured.

15. A quick change

Diaper changing stations are accessible to all caregivers.

16. Reclaim the street

Residential streets become a safe playing environment for children.

17. Multifunctionality is key

Spaces and furniture are multifunctional to stimulate alternative and creative uses.

18. Involve the parents

Caregivers are encouraged to be involved in their children's play.

19. Pocket playgrounds

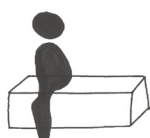Small leftover areas are converted into inviting playing spaces.

20. Level up

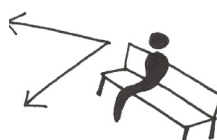Provide adapted outside playing opportunities for all ages.

21. At an impasse

Small residential alleys are a safe way for children to explore and feel adventurous in their own neighbourhood.

22. Quiet zone

Provide a safe place for quiet play (sitting, talking, socialising and watching).

23. The observer

Provide a comfortable place for the mother to oversee the child(ren) play.
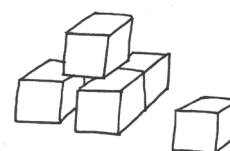
24. Pick it up

Areas designed for playing should include some moveable objects.

25. A pop of colour

The city should be
a fun and colourful
environment.

26. Be ambiguous

Some objects in the
public space are
ambiguous to stimulate
curiosity and creativity.

27. Come and see

Activities and short-
term installations keep
the neighbourhood
interesting for children
and their parents.

28. My own boss

Children can explore and
navigate the area where
they live by themselves.

29. Eye candy

The plints are dynamic
and diverse to
encourage curiosity.

30. Add texture

Using different textures
and materials in the
public space creates
more versatility.

Centre
Outremeuse
St Léonard
La Batte →

Centre Vaccination
En Féronstrée →

MASTERPLAN

Figure 44: Overview of the design locations in the neighbourhood

Next to a series of interventions through the scales and across the neighbourhood, three main locations will be designed more in depth. These locations were selected based on the fact that they were mentioned both in places that people avoided, and places people liked to visit. This means these places are important to the neighbourhood, but also present some challenges and opportunities. Additionally, by choosing three different types of public spaces, it will be possible to explore different types of solutions.

The three chosen locations were:
1. The local shopping street: Rue Puits-en-Stock
2. The main square: Place de l'Yser
3. A broader main street: Boulevard de la Constitution

◄ *Picture of boy with bike waiting to cross, June 2022*

*Figure 45: Transformation of the local shopping street,
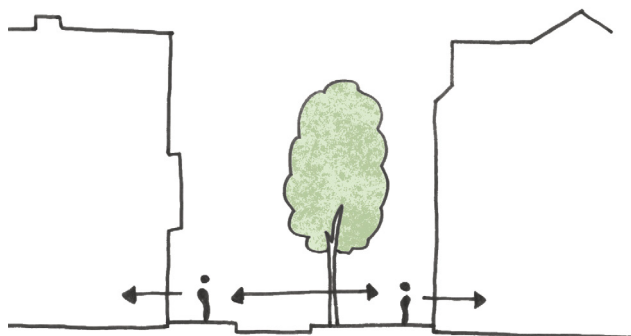Rue Puits-en-Stock*

RUE PUITS-EN-STOCK

Rue Puits-en-Stock is the local shopping street. In the chapter 'understanding the neighbourhood' it became clear that this street has its appeals and its problems. It has smaller local stores but has been dealing with empty store spaces and the current street lay-out is not pedestrian friendly.

Thus, in this plan a new design for the street lay-out has been made. The row of parking spots has been taken out to repurpose the newfound space into much needed broader sidewalks. The choice was made to make one broader sidewalk for a more recreational route that offers the possibility to add some street furniture and greenery. The street will still be accessible for one-way traffic but can be transitioned into a pedestrian street with only busses and deliveries for the shops driving through.

These recommendations for a new street lay-out follow the patterns from "the safe city" and "the walkable city" from the complementary Pattern Language.

Figure 46: Create clear distinction between the sidewalk and the road by use of materials and height differences

Figure 47: The trees incorporated in the street profile have their leaves high-up as not to hinder the view
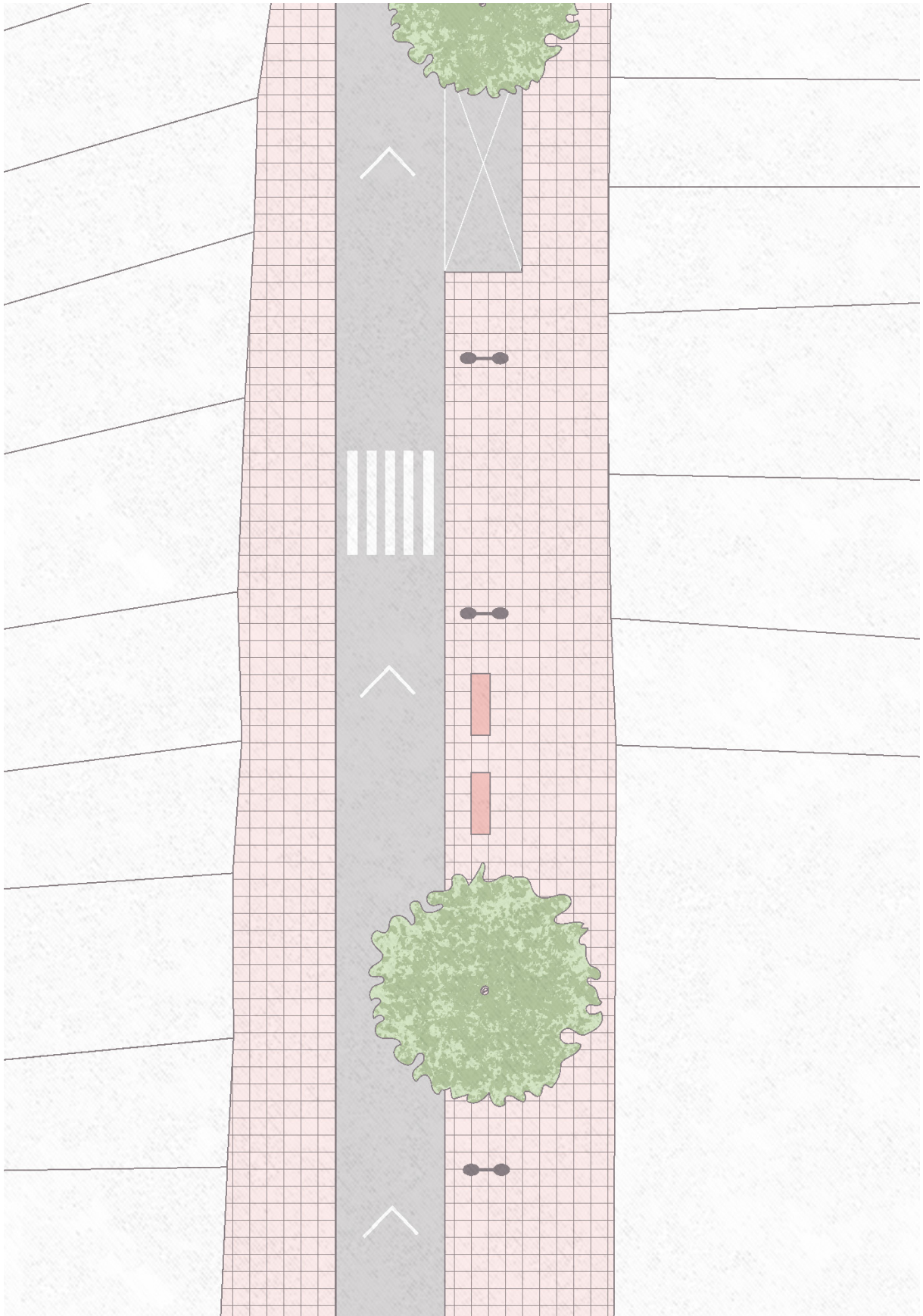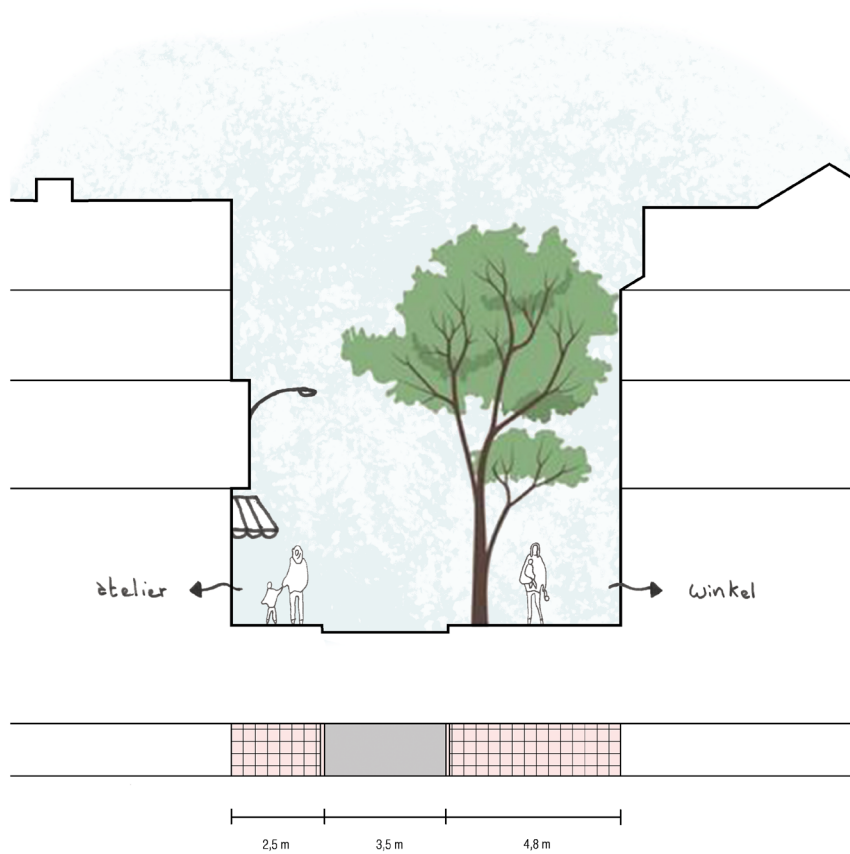
Figure 48: New lay-out of Rue Puits-en-Stock

2m

Figure 49: Section of the new lay-out of Rue Puits-en-Stock

atelier

winkel

2,5 m   3,5 m   4,8 m

At the end of the street, a triangular square is located: Place Théodore Gobert. In an attempt to attract people further down the street, it has to become a more pleasant space to reside in. Therefore, trees have been added to shield it from the surrounding traffic. It might also be helpful to add an additional function on the square. This could be the traditional cafe with terrasse at each street corner, but an ice cream bar could be a child-friendlier alternative.

15m

Figure 50: Transformation of Place Théodore Gobert,
combined with added programme

Figure 51: Impression of the local shopping street,
Rue Puits-en-Stock

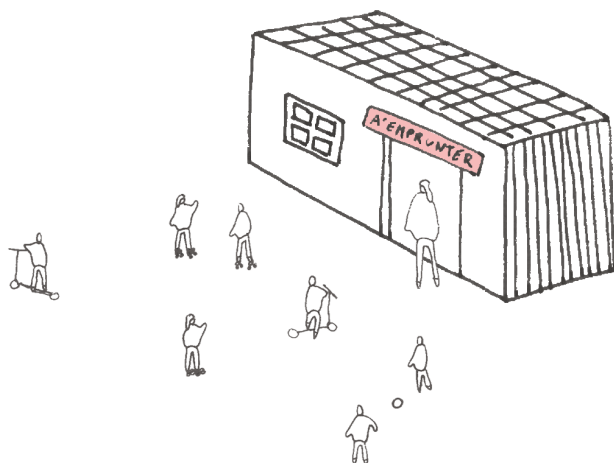*Figure 52: Transformation of Place de l'Yser*

20m

PLACE DE L'YSER

Place de l'Yser is a square in the middle of the neighbourhood. As a reference to the theatre that used to be located there, a part of the square was raised as an outside podium. However, it does not seem to be used and sits empty. The current design was realised not even ten years ago with federal funds; thus, a temporary transformation has been imagined for this location.

A new asphalt coating for the 'stage' is recommended so that it can be used to skate, rollerblade and learn to skate. This way, the big empty space in the middle of the neighbourhood can be used to its full potential. The space is already delimited by a ramp, making it a space that is safe and easy to keep an eye on. To encourage this use even further, a service that lends bicycles and toys could offer the possibility for many children to experiment and play with different things. This could be organised in combination with already other running game exchanges in the neighbourhood.

In the long term, when the whole square will be redesigned it can offer the possibility to add much needed greenery into the neighbourhood with a park. An underground parking could be incorporated underneath.

This part of the design draws inspiration from "the playful city" and "the curious city" patterns from the complementary Pattern Language.

Figure 53: Impression of the temporaray transformation of Place de l'Yser

Figure 54: Impression of the temporaray transformation of Place de l'Yser

Figure 55: New lay-out of Boulevard de la Constitution

50m

BOULEVARD DE LA CONSTITUTION

A more in-depth functional design will be proposed for Boulevard de la Constitution, a large street crossing the neighbourhood. Most of the space in this street is currently parking space. By phasing out the parking spaces, a lot of new public space will become available.

This newly available space will be turned into a meeting space for mothers and children, encouraging different types of play. The stroke in the middle will be a recreational area while one of the roadsides will be transformed in a sidewalk and two-way bicycle-lane. As it is a long street, it has been broken up into three different zones where the middle one, in front of the Arts Academy and University, will have a slight variation. The empty square of Place Jehan le Bel offers the opportunity to create a small park, responding to the high demand of one. While suggested in the overview of the street, this park will not be designed further.

This part of the design tries to combine all different parts of the complementary Pattern Language together in order to propose a way of creating a most optimal way for a mother- and child-friendly design in the existing urban fabric.
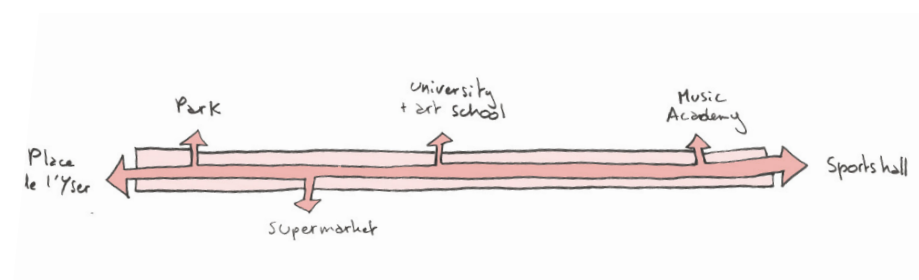

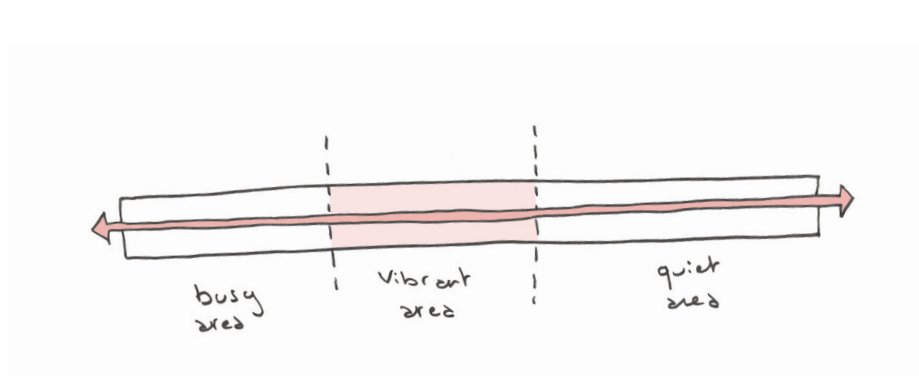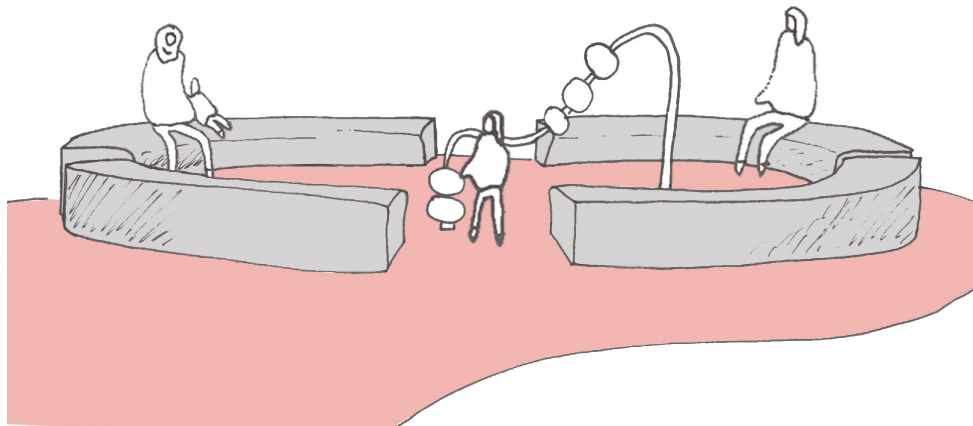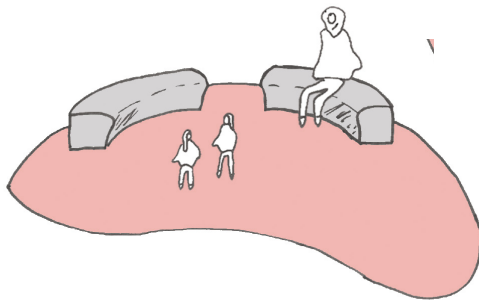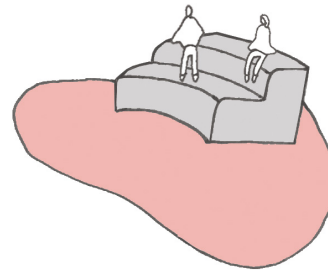*Figure 56: Destinations located on the Boulevard de la Constitution*

Figure 57: Zones created on the Boulevard de la Constitution

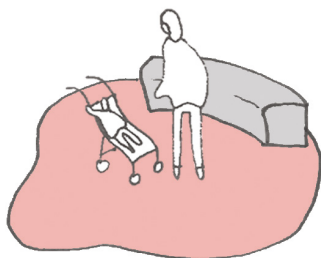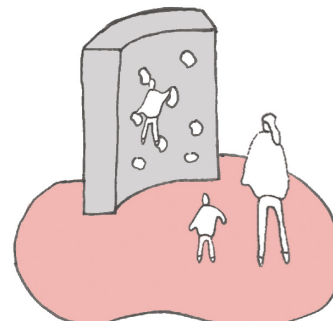Some have intsallations with moveable parts to encourage play with objects for toddlers.

Variations on the amount of benches to accomodate different groups.

Combination of heights to encourage dramatic and quiet play.

More isolated single benches that could facilitate diaper changes, breastfeeding or simply a quiet environment.

Play elements following the same form offer a variety in activities.

Next to more greenery, meeting places and age-appropriate play locations were wished for in the survey. This wish became the starting point for the design of Boulevard de la Constitution: a place where mothers can meet and have a chat while being able to keep an eye on the children.

The concept of 'meeting spots' was imagined. Arched benches in a circle that function as seating as well as a barrier for smaller children. These places would be marked with a colourful underlayer to make them more intriguing and recognisable. By making the arched bench a recurring element throughout the space in different variations, the place becomes easily readable while still being dynamic and diverse. This supports the orientation need as well as the curiosity of children.

The outer circle of the benches has a diameter of 5 meters, encouraging interaction between different parties taking a seat but without having to invade each other's personal space. This offers a comfortable distance to interact with strangers.
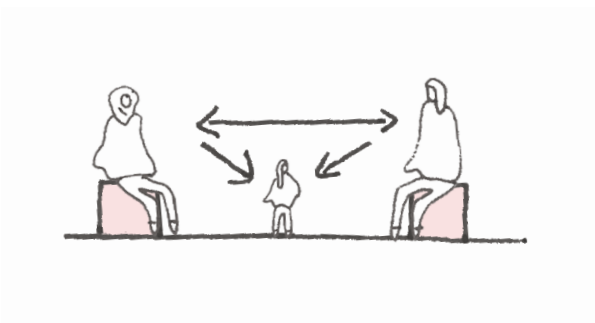
Figure 58: Social interactions are possible while still keeping an eye on the child(ren)

5m
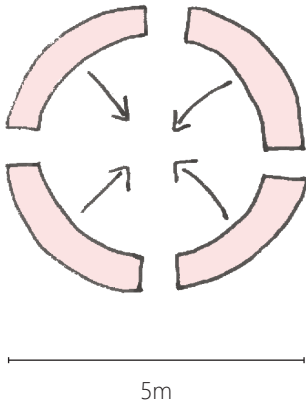
Figure 59: The dimensions encourage interaction but at a comfortable distance
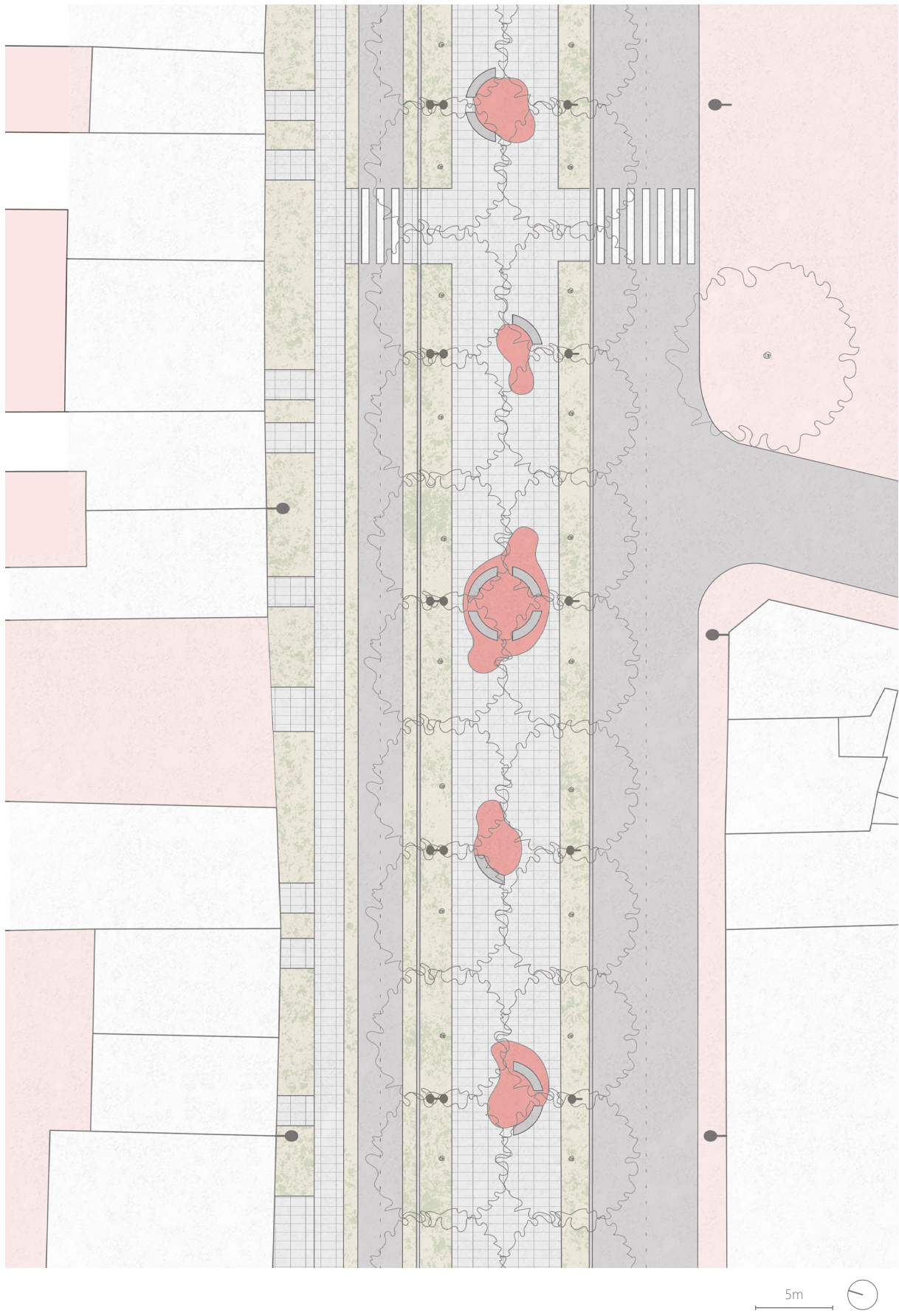
Figure 60: New street lay-out of Boulevard de la Constitution
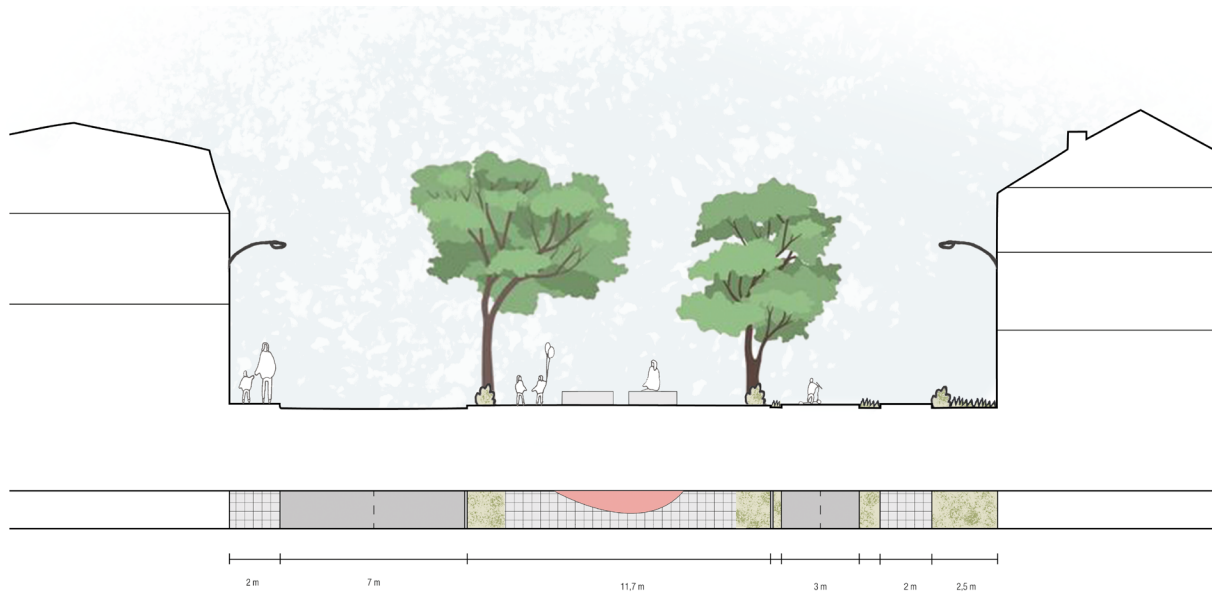
Figure 61: Section of Boulevard de la Constitution

2 m   7 m   11,7 m   3 m   2 m   2,5 m
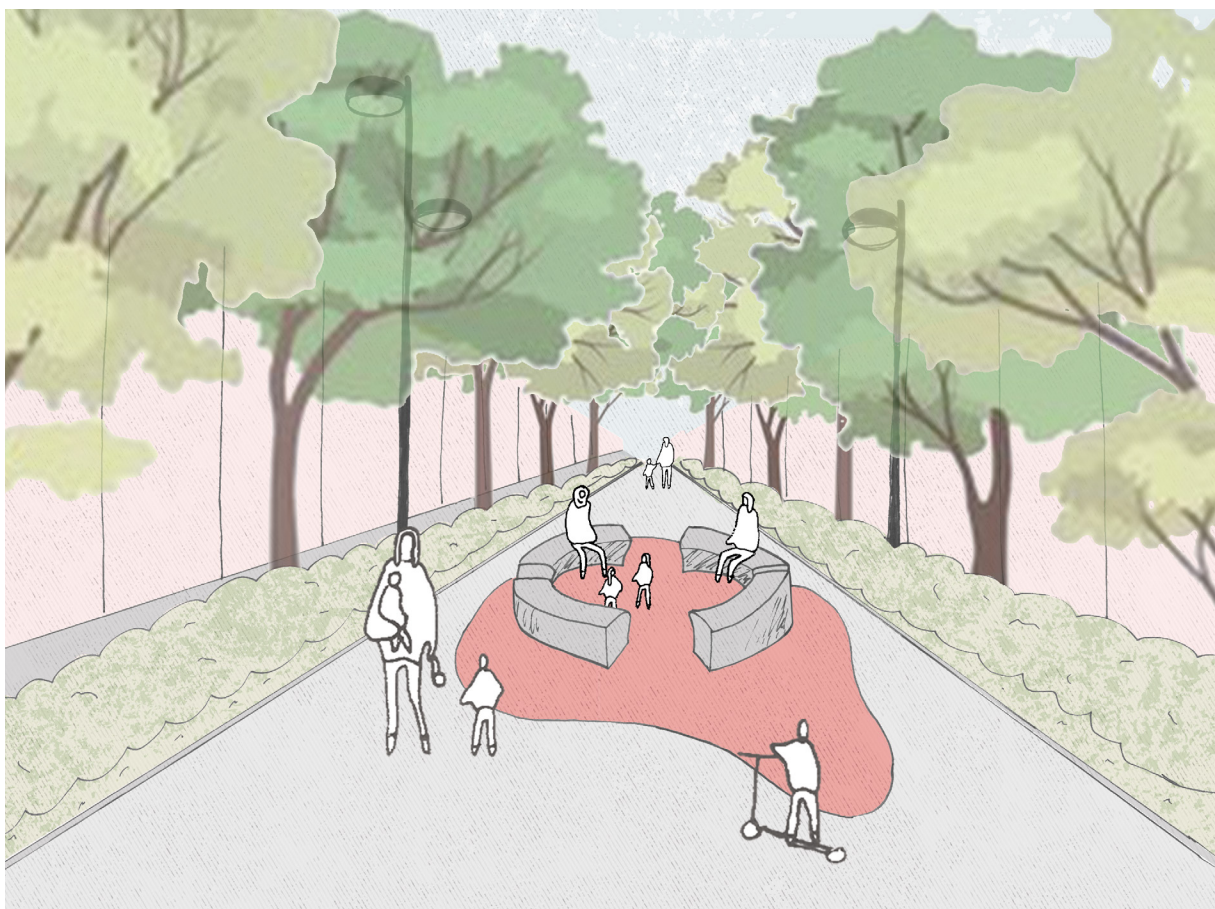
Figure 62: Impression of Boulevard de la Constitution

Play element in
the middle

Stone benches with
round edges

Meeting 'spot' with
pigmented cement

Light coloured
pavement

Tradtional bluestone
border
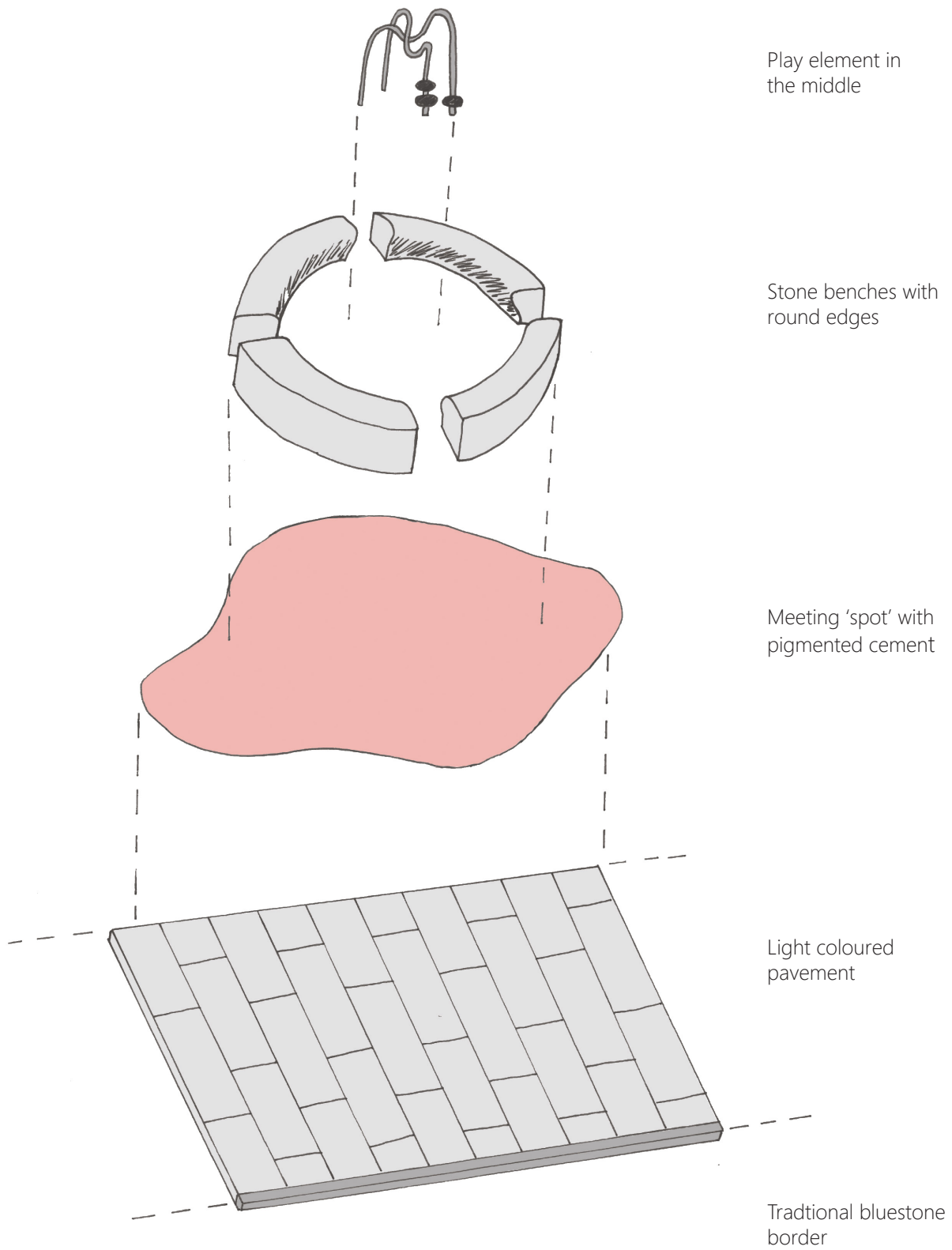
Figure 63: Use of materials in the design

The rest of the street furniture, such as lightning and trashcans, are aligned with the trees in the green border. This way they can be placed strategically, in a recognisable pattern and they do not distract from the design in the middle lane.
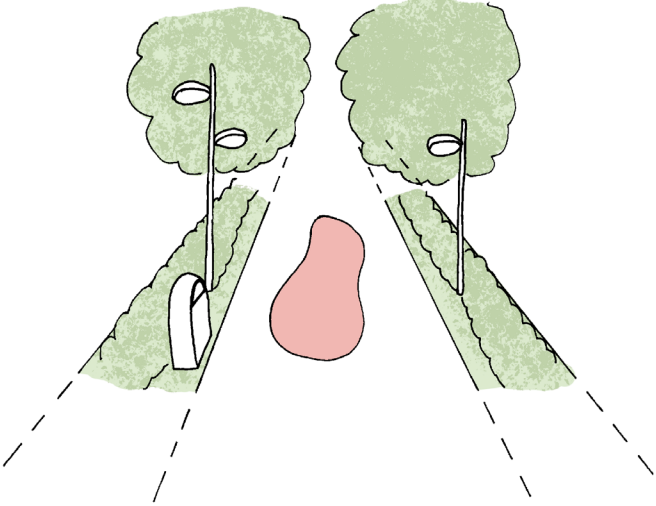
Figure 64: Street furniture in green borders

The space in between the trees is filled up with a green stroke, including a hedge. This creates a soft looking border that still acts as a barrier between the recreational area and the road or bicycle-lane. The openings are accompanied by clearly marked pedestrian crossings. This allows children to run around more freely.
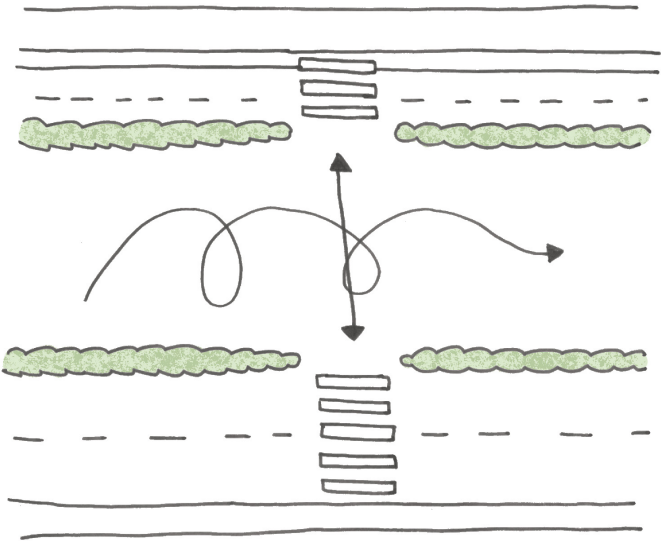
Figure 65: Hedges enclose the playing area
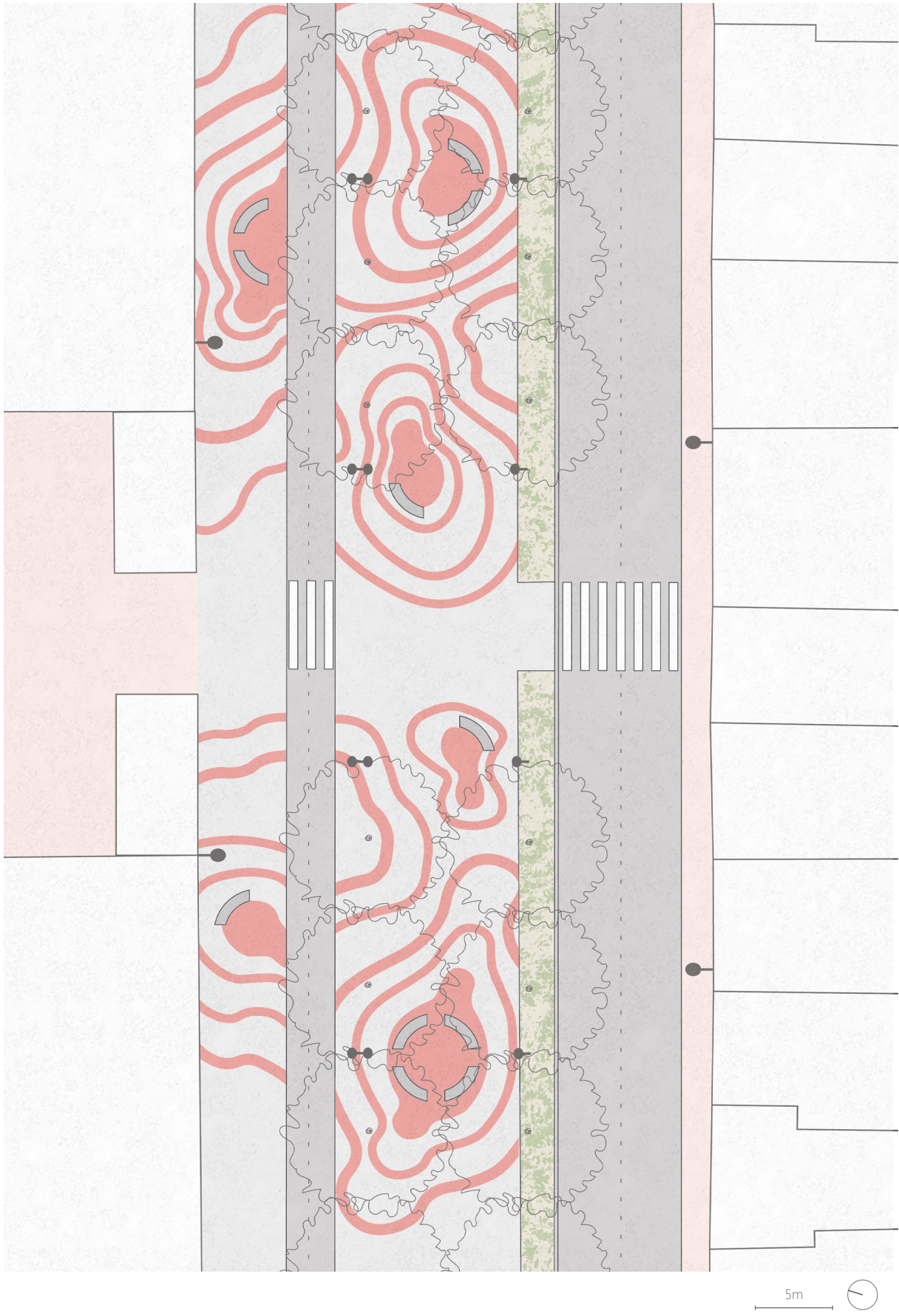
Figure 66: New street lay-out in front of the Arts Academy and University

Figure 67: Impression in front of the Arts Academy and University

In front of the Arts Academy and University, the design takes on a more playful look. The 'meeting spots' are accentuated by coloured ripples around them. The middle lane also opens up on one side and extends to the facade of the University building, inviting the students to make use of the public space during their breaks.
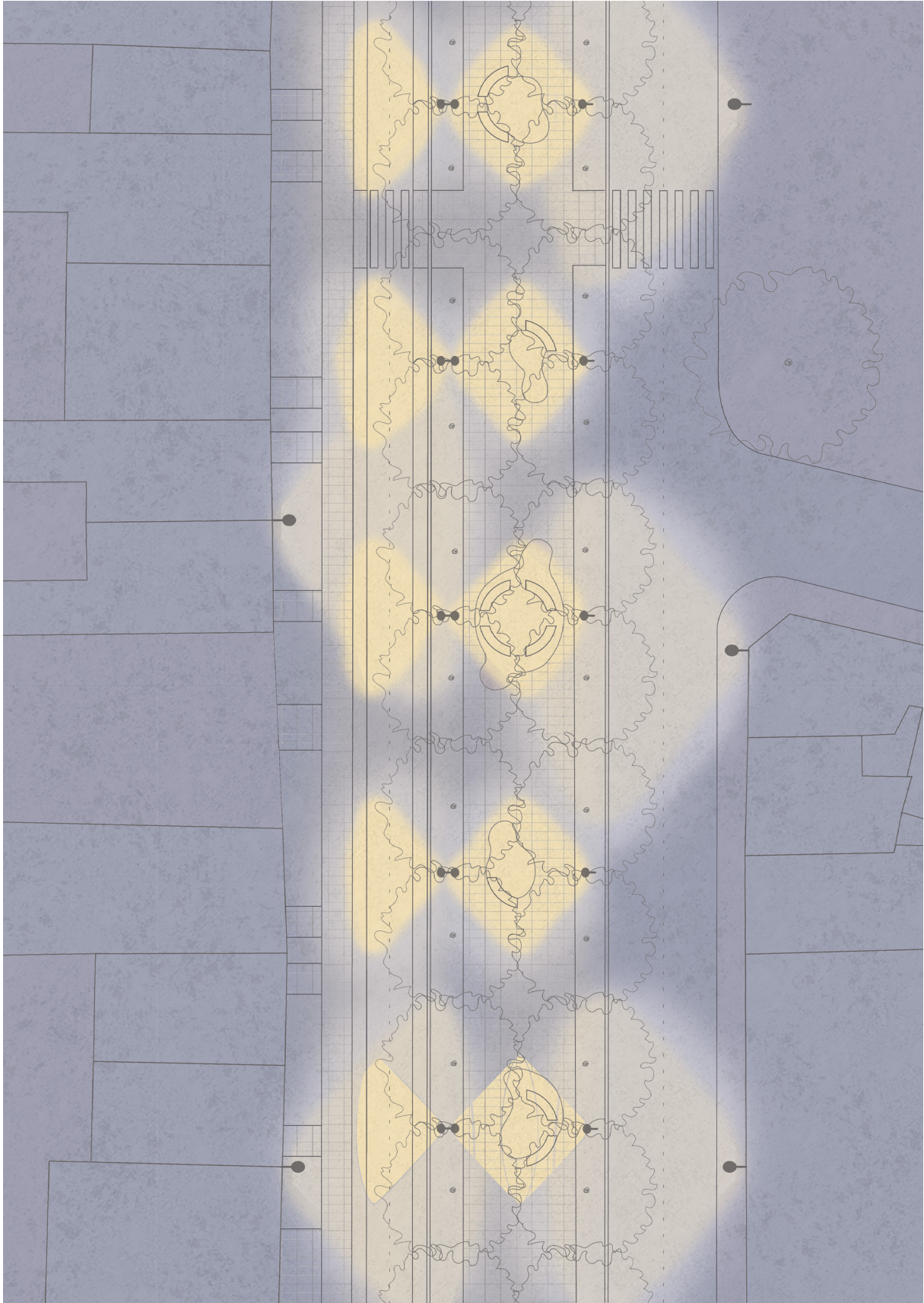
Figure 68: Placement of streetlights

5m

The feeling of safety is a recurring theme for this project which is why it is important to mention the evening and night-time. Currently, some bigger streetlights are attached to the facades and shine from high up on the road. These will be kept as they provide a big and high source of light. However, it misses the small scale for pedestrians. Therefore, the middle lane will be lined with streetlights on both sides. One side has lightning on both sides so that the bicycle lane can also receive more light. The light is concentrated around the meeting spots and has a warmer tone than the lightning of the road.

Sufficient lighting is not enough to guarantee safety, it has to be combined with policies and social interventions. Nonetheless, it can be a good first step.

Figure 69: Placement of streetlights

PHASING

The phasing of this project is important to ensure it is feasible in the long term. The phasing will consist out of different steps rather than being tied to a timeline. This project could be started at any time and taking the steps in the right order and correctly is more important than realising it quickly. These steps are based on a combination of opportunity and urgency, meaning that some small and big interventions will intertwine. The final objective is only achievable in the long term, but every step towards it is already a step in the right direction.

1. The first step is to redirect the N-route towards a road that crosses less of the neighbourhood. This will take out the worst of the traffic pressure of Rue Puits-en-Stock. By combining it with a transformation of the Place Theodore Gobert at the end, it can give the street a much needed liveability upgrade. Additionally, it can be a good strategy to work on road safety with making a better light plan for the neighbourhood and provide safe crossing points.

2. To free up the public space, it then becomes important to start phasing out the visitors parking spaces by relocating and concentrating them near the bridges that enter the neighbourhood. The easier transformations can be realised such as the added greenery at Place Jehan le Bel and the recoating of the Place de l'Yser. Furthermore, the new street lay-out can be implemented in Rue Puits-en-Stock as it now has less traffic.

3. With the visitors parking having been relocated, it becomes possible to start transforming the middle lane of Boulevard de la Constitution. It can first simply be used as a promenade while waiting for the next phase. The focus should also be on limiting car use and parking of residents by improving the cycling network and stimulating public transports to make the neighbourhood feel less congested and open up more space.

4. When all of these steps have been successful, it is possible to realise the final design of Boulevard de la Constitution. Locations that have already been transformed earlier, such as Rue Puits-en-Stock, can take a step further by becoming pedestrian streets with only destination traffic bus lines going through.
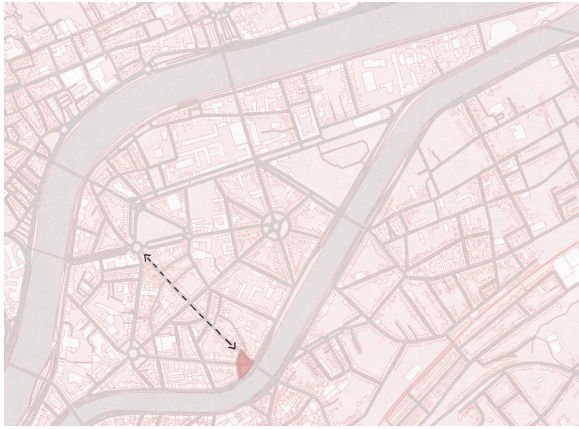
①•Redirect N-route
   → frees up Rue Puits-en-Stock
   → Safer + less traffic
• Install more and better lightning + crossings
• Transform Place Théodore Gobert
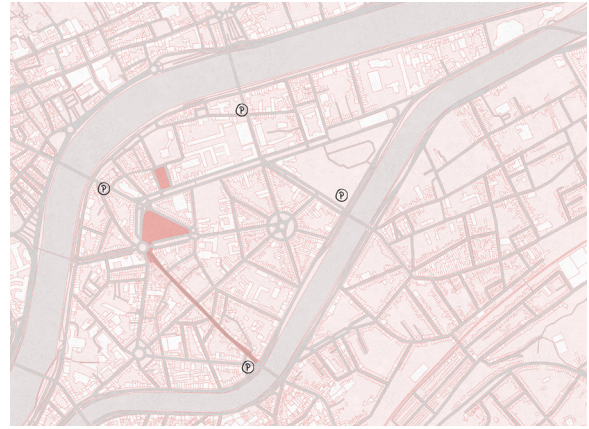
②• Create parking garages near bridges
   → priority for Pont St Léonard, Pont des Arches
      & Pont d'Amercoeur
• Recost Place de l'Yser + launch activities
• Transformation Rue Puits-en-Stock
• Transform Place Jehan le Bel in a park
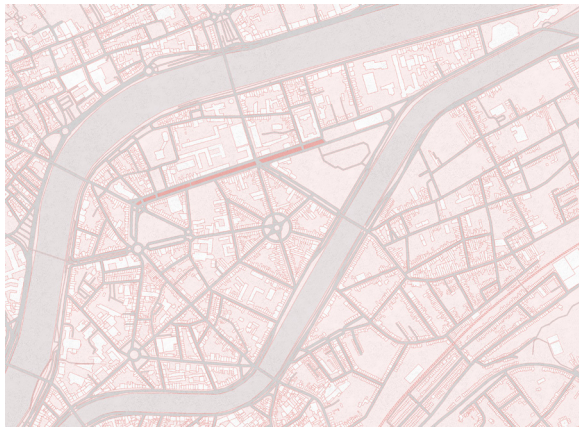
③ • Create Promenade Boulevard de la Constitution

   • Implement one-way streets and limit
      residents parking   → improve cycling network
                          → improve public transport
                          → opens up more street space
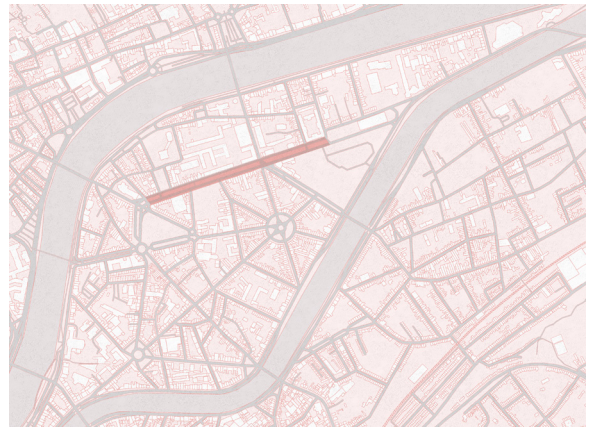
④ • Full transformation of Boulevard de la Constitution
   • Make Rue Puits-en-Stock mostly pedestrian.

The fundamental principle is that "a city good for children, is a city good for all".

Danenberg (2018)

06
Conclusion and reflection

DISCUSSION

The research for this project has been carried out through the application of a mixed methods approach. The methods applied were a literature review, mapping, personal observations, interviews and a survey, and reference cases.

The literature review was used to gather a first and theoretical understanding of the topics treated in this thesis, namely the concepts of the mother-friendly city and the child-friendly city. The literature used were scientific studies and some personal essays. While studying literature on the topic did help to gather a fuller and better-founded understanding, the literature and studies consulted were world-wide. The available studies were rarely done in Belgium so some of the information had to be interpreted or put in context to assess if it would be relevant.

The fieldwork conducted through observations, interviews, and a survey helped to provide more location specific context. The risk in having a location a bit further away is that it can only be visited on occasion. For this project, the location was visited eight times and - although these visits were spaced out over different days of the week, seasons, and times of the day - they only provide some snapshots into the daily life in Outremeuse. To try and get a deeper understanding the survey distributed with the help of the Babibar was very helpful, the responses were more thought out and self-aware than anticipated. These answers helped to guide the project in the right direction. However, it is also non-negligible that the respondents of the survey only represent a small part of the inhabitants and target group. The most isolated ones, the ones that you maybe want to encourage most to make use of the public space, will not be reached in this way. This also came up in the conversations with people from the Babibar, that the families that might need their services the most are the hardest to reach, greatly more so since the pandemic. The implications that the fieldwork brings however does not diminish its great contribution to the project. Visiting the location provided a broad palette of visual references and a more personal connection to the location. Furthermore, trying to find examples of the patterns in the neighbourhood itself meant that each visit became a guided observation exercise. Talking to people in person and walking around multiple times really helped to discover and appreciate all the qualities that were already present. Even though it asks for some time and organisation, multiple site visits were essential to come up with a well-rounded design.

By combing both of these research avenues, one from behind the desk and one on site, it became possible to obtain both a theoretical understanding and a practical context. This provided a rich background of knowledge to be able to make informed and sensible decisions during the design process.

◀ *Picture of children playing footbal, June 2022*

CONCLUSION

This graduation project set out to analyse and formulate recommendations for the mother- and child-friendly city. The analysis was conducted in the form of a mixed-methods approach, with a combination of a literature study and diverse fieldwork. The recommendations have been applied in a design in the neighbourhood of Outremeuse in Liège, Belgium.

ANSWERING THE RESEARCH QUESTION

The research question for this project was "How to increase the use of public space by mothers and children through urban design interventions in Outremeuse, Liege?". To answer this main research question, first the sub-questions will be answered in a summarised way.

What is a mother-friendly city?
Evidently, a mother-friendly city should be comfortable and enjoyable for mothers when they are out and about with their children. To achieve this, special attention has to go to mobility, proximity, and safety. These themes are all intertwined in the daily routines of the mothers of the neighbourhood. It is a great help when services and stores are at a walking distance. In turn, this walk becomes less stressful when the journey is safe thanks to things such as adapted street crossings and lightning. When the destination is further away, the journey should be possible with public transport in a comfortable way.

What is a child-friendly city?
A child-friendly city is one where children can play and learn, accompanied or on their own, in a stimulating urban environment. To determine what can become a stimulating environment, a closer look was taken at the needs of different ages and different types of play. For this project, children up till the age of twelve were taken into consideration. The identified elements stimulating play have than been translated into possible spatial interventions. Next to elements beneficial for play, the themes of independence, mobility, recognisability, and the importance of natural elements have been studied in literature in order to understand their influence on the daily life of children living in the city.

How and by who is the public space used now?
To answer this sub-question, the observations from the fieldwork will be taken into account. At present, any remaining little space in the streets has become car parking, be it an official parking spot or not. Thus, currently, parking takes up much of the public space even if there is not often much traffic. The public space that is used for recreation is mainly located near the water. The walking path, benches and play areas are in full use on sunny days. Additionally, people can be observed in the main streets and square of Rue Puits-en-Stock, Boulevard de la Constitution and Place de l'Yser. The

rest of the neighbourhood consists of residential streets, and these are very quiet.

The people observed during these walks were quite diverse: families, youths, older people, ... And, as introduced in the problem field, the people present were of many different nationalities and ethnicities. It can however be noted that most of the time people were moving about in groups, or at least in pairs, and a lot less alone.

What are the wishes of the mothers and children living there?
One part of the fieldwork consisted of interviews and a survey. What came forward first and foremost was the wish for more greenery in the neighbourhood. This meant incorporating vegetation in the street designs, but also looking at the possibility of creating a small park. Other wishes that came forward regularly were meeting spaces, age-appropriate playgrounds, and better sidewalks. The location mentioned in this survey guided the decision of the design locations.

Which spatial interventions can be made in Outremeuse?
The neighbourhood of Outremeuse does not have much available space because of its dense urban fabric, limits as an island and its numerous parking spaces. Thus, it was established that the first step would be to create more space by gradually taking out most of the in-street car parking spaces. This would free up the public space for design interventions. On the one hand, the neighbourhood can undergo a series of small transformations such as put forward in the Pattern Language accompanying this project. On the other hand, three central locations have been highlighted in a masterplan and detailed to different scales to showcase design possibilities on location.

With all this considered, it is possible to say that a transformation of the public space in Outremeuse is needed in order to increase its use by mothers and children. This transformation should aim to optimise their comfort and enjoyment in the public space. As put forward in the research, **much can already be achieved through small interventions,** a series of which have been compiled in the Pattern Language booklet accompanying this thesis. However, **it can be nice to send a message and create a specially accommodating place**. This is why a masterplan for the three central locations – Rue Puits-en-Stock, Boulevard de la Constitution and Place de l'Yser – was put forward. A phasing has been put forward as well in order to demonstrate the feasibility of the project.

Finally, it is important to remind that a city good for child is a city good for all. By ensuring that a city is safe, comfortable, and enjoyable, the experience will increase for many people. A few examples can be the added seating spaces in the streets being helpful for elderly people or the accommodations for strollers also benefiting people with mobility issues. But of course, in the end, it is about finding a balance that finds a benefit for everyone.

GENERIC CONCLUSION AND RECOMMENDATIONS

The mother- and child friendly city is a theme of global importance. Hence why it is interesting to extract some generic conclusions and recommendations that could be applicable elsewhere. The chapter most relevant for this is Part 3: Understanding the topic. As this part of the research was centred around world-wide literature and studies. However, some conclusions can also come from the observations and design exercise as they highlighted the local practices and systems.

First should be put forward that the two topics treated in this thesis, the mother-friendly city and the child-friendly city, should be studied more in a connected way. While this graduation project focussed more on the experiences as a mother, parental comfort should be taken more into consideration when discussing the topic of the child-friendly city. During my research few resources on this topic were available and even less design recommendations were clearly formulated. With the growing attention for child-friendly cities, it should be time to connect both topics better as they are intertwined in practice, conditional even. A parent-friendly city is a prerequisite for a child-friendly one. The comfort and security of the parent plays the biggest role in the opportunities of the child.

It also became evident that on a global scale children spend less and less time outside, disappearing step by step from the street scene. On the one hand, the availability of toys inside the home has grown over the decades with online games and entertainment as big contributors. On the other, parents tend to shelter their children more and let them play less outside on their own. Their fear of dangers that they could encounter has grown; this was reflected in the literature as well as the survey on site. However, all the benefits of playing outside, as detailed in the problem field, have not changed. With more people living in cities in the future, this also means ore children, this problem will not diminish. It is thus imperative that some form of action through a combination of policy, design, and – maybe hardest of all – habit change, is undertaken to ensure that future generations of children can still freely enjoy and explore their cities.

Lastly, it is important to consider the full aspect of children's lives in the city. Playing is an important part of childhood and should be provided for and even stimulated in urban environments. Nonetheless, their experience is much broader than just playing. For example, they should be able to move around safely. But also, childcare and schools nearby as well as other regular services and functions should be in reachable proximity. Play areas do not always have to be designed, children will interpret their surroundings in their way. However, providing them with a clean and safe space for their explorations is required.
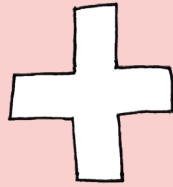
1.   Connect the themes of mother-friendly and child-friendly more in research and design.

2.   It is important to act now to ensure playing children do not disappear from the street scene.

3.   The city experience of children is not limited to playgrounds.

LOCATION SPECIFIC CONCLUSION AND RECOMMENDATIONS

While the topic is global, it was further explored through the means of fieldwork and design in the neighbourhood of Outremeuse. This led to some more location specific conclusions and recommendations, already partly addressed when answering the research question.

The neighbourhood was chosen because of its density and thus its inhabitant's reliance on public space. However, this density was present in the building blocks as well as in the parking spaces, making open space scarce. This is why, to achieve an impactful and lasting intervention, it is important to also change policies and create some new guidelines. This combination of policy and design, in this case with a focus on traffic and parking, can ensure that the project can be implemented over the long time period that is needed to complete it.

Thereby, Outremeuse is a neighbourhood that also already contained a lot of qualities. It is important to recognise these existing qualities and work with them / incorporate them in the masterplan. By acknowledging the local habits, materials, and morphologies, the residents will feel more welcomed and at home in the final design. This does not mean that the final result can not deviate from tradition, but it should be recognisable by the local residents.

Finally, the result of this project is twofold: small interventions all over the neighbourhood and a masterplan for three central locations. These small interventions, although designated as small here, can act on different scales, from a city scale to the materials used. These interventions aim to improve the daily comfort and enjoyment of mothers and children in the neighbourhood through their impact on elements such as traffic, programme, and leisure opportunities. And while these interventions, collected in the Pattern Language booklet, have been designed specifically for Outremeuse, it would be valuable to implement them all over the city and beyond. The masterplan was created in order to highlight a public space design focussed on a target group of mothers and children. It aims to explore their needs and wishes translated into spatial interventions. By selecting these three central locations, that were already popular but also needed some transformation, more residents can be reached. These spaces are walked through or used almost every day by the mothers and children in the neighbourhood. By redesigning these central streets and squares, many people profit.
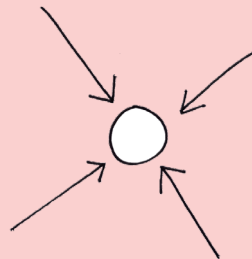
1.   Change and create policies to ensure the project is achieved on the long-term.

2.   Incorporate the existing qualities of the neighbourhood.

3.   Small interventions can have a big impact on everyday comfort and enjoyment.

4.   By transforming central locations, more people benefit.

REFLECTION

What a year it has been.

I set out at the beginning of September with a vague idea of what I wanted to do, namely something with children. I wanted to apply the things I had learned here in Delft in another context, but one I was still familiar with. So, I decided to base the project in Liège, Belgium, which is close to where I grew up. And a city that, despite living near it for 20 years, I still could not fully comprehend.

Very early on, I realized that it would be crucial to involve the parents, especially the mothers, if I wanted to succeed in getting children to play more in the public space. After discussing it with my first mentor, he agreed that this presented a clear challenge to which urban design might be able to contribute and so I embarked on this year-long project. I discovered quickly that the mother-friendly city is not a subject that is frequently discussed; instead, the attention is centred fully on the children. Which is understandable, but these themes are conditional to each other. Parental comfort is a big factor in the child-friendliness of a city. During an initial search on the topic of the mother-friendly city, not many resources for literature and design guidance specifically for this group were found.

My thesis topic was further driven by the urgency of ensuring the liveability of cities as they further densify, especially the increasing pressure this puts on public space. The public space has to accommodate an increasingly wide variety of programme and residents, while open space is becoming scarcer. This is why inclusive design of public spaces will become more and more crucial. This socially engaged side of urbanism is also the aspect of urbanism that interests me the most. Thus, why I wanted to explore a topic in which I could combine social observations and design solutions. The Design of the Urban Fabrics studio offered the possibility to focus on smaller scale design interventions which was the scale I deemed interesting for this project. Thereby, I chose this studio as it would force me to extend my design narrative through the scales. I found that I had not challenged myself a lot urban design wise during this master and wanted to do so for my thesis in order to feel satisfied with the skills I acquired during my education.

The topic of mother- and child-friendly city combines different fields of expertise. To grasp a larger part of this, I chose Machiel van Dorst as first mentor as he was well versed in the social side of urbanism and holds a position at the social studies department. And I chose Teake Bouma as a second mentor to help me more specifically with the design. Of course, these fields intertwine a lot and both mentors could guide me well on the research topic but choosing them by their field of expertise should help me to cover as most facets of the project as possible. For the more psychological child development part of the project, I had to turn to literature and earlier knowledge. On another note, I am aware that both of these mentors are men even though my project focusses on mothers. They are however both highly involved parents and I trust their professional opinions.

So, with all this in mind, and after the first ten weeks of intensive courses, I presented a first version of my research question at the P1. At the time, the research scope was set much broader in terms of social themes. But I soon realised that I would be complicating the project too much and that would make it hard to relate it back to urban design. However, from the beginning, I was set on using a mixed method approach for this project. I wanted to combine the research and literature with my own observations and theories. A mixed method approach also seemed beneficial for this project as it tries to combine the physical environment, the experience of place and the social. Not all of these aspects can be captured in rigid data sets. On the one hand, it was important to experience the neighbourhood for myself through walks and interviews with people to understand the different layers and intervention scales that this project would need on this location. On the other, the literature and reference cases would help me to build a framework of references and theories that could help me grasp the complexity of the project and possible solution directions. By comparing the two it would also become possible to identify the generic and location specific interventions on this topic. This is also how I chose my final location by, on the one hand, looking at data, and on the other, taking extensive walks through all the neighbourhoods to observe how they functioned. This led to the choice of Outremeuse, as much of a rational choice as one just because I liked the lay-out and atmosphere of the place.

To go back to my project process, my goal for P2 was to finish the theoretical framework of the project. This asked for a lot of time and focus as this meant reading as much material as possible, organising the information and rewriting it in a comprehensive manner. All this while still trying to get a first understanding of the neighbourhood through more observations, interviews and some first analysis maps. Because of this, January was a demanding month with not much time left for other things, but I was proud of the report I delivered for the P2.

With the theoretical part out of the way, I planned to focus on the design part of the project towards P3. I encountered some trouble with this transition. Initially, I took a week off after all the hard work for P2, then I got sick and, after just starting up again, I had to spend a week in quarantine. This meant that I lost almost a month before I could concentrate on my project again. Moreover, I found it difficult to make the 'mental switch' from the logical analysing way of thinking to a more explorative design way of thinking. My mentors kept urging me to just start drawing, but it took me some time because of this mental block. When I finally started, ideas followed each other quickly, and I enjoyed the process. Because of all the information initially collected, it was easy to draw and also connect ideas. This period was a bit more relaxed as half the time I was thinking about things and the other half I was drawing them down. For a few weeks I fell into a good rhythm of drawing, pausing, and getting inspired again, before drawing it down again. This inspiration could come from various sources. The lectures organised for the studio always gave me some new insights, even if it was just for an example of how to put things on paper. Then, of course, there are always reference projects in books, online or, not rarely, suggested by someone around me.

This is the point that I started to feel more connected to my design location. By visiting it so often, I discovered more and more hidden beauty and I enjoyed my walks through the neighbourhood very much, helped by the good weather I often had during site visits. I set out to illustrate the pattern language I created with pictures I had taken myself and, if possible, from the neighbourhood itself. This meant that the creation of the pattern language actually became an observation exercise. It compelled me to start looking for reference points already present at the location. Additionally, the survey I had made gathered more response and a few trends became increasingly clear: people wanted more green space, safer streets, and areas to meet and play. All of this made me a bit more confident in making my design choices. I felt like I knew what people wanted. And even though some interventions would be on the long term, I could figure out how this could be achieved. This is also the moment that I was grateful to have a whole year for one design project. It meant that that I could become more confident in my design choices, because I had a better understanding of all the factors that came into play. Contrarily to the usual ten-week design projects used throughout the rest of the education programme.

The difficulty of having chosen a whole neighbourhood to focus on is that there are so many possibilities. This is why, around P3, I tried to sketch through the scales: neighbourhood scale, streets in length, sections, eye-level drawings, ... This is also the point where people started asking 'but what exactly are you designing?' Which I thought was a good question, but I did not have an answer to for a long time because I found everything interesting. In the end, a series of strategic locations was chosen to demonstrate the application of the learned knowledge. The third presentation, in front of my peers, allowed me to discuss the design interventions of my project more casually. It mostly helped me to work towards a clear narrative for my project, starting from my motivation and ending with the consequences of the design interventions on everyday life. Having this overview in my head made it possible to highlight the gaps still present in the story, such as how the phasing would unfold and to make different types of play more explicit, and to work in a structured way towards P4.

The chosen locations have been detailed at different scales, with a more in-depth design for the Boulevard de la Constitution. This however brought up the question of the application on the smaller scale; and I discovered I had no idea how to do this. Having to translate a more abstract masterplan in a detailed small-scale plan brought on one emotion: panic. Fortunately, I had a meeting scheduled with both of my mentors soon after and they did their best to calm me down and give me some direction. This did help and, after having more realistic expectations for my P4 report, I was able to return to a more composed workflow. This also meant the return of inspiration and good ideas and, while it will not be possible to develop and incorporate these fully for P4, they offer a grip for after P4. Summarised, the period between P3 and P4 was rocky with many highs and lows – an injury of my writing hand not helping at all – but the design part made big strides.

At the beginning of the year, I made the conscious choice of graduating in a design-oriented studio, I wanted to challenge myself. That challenge was certainly present; I wanted to make the research as well as the design as complete as possible in the given timeframe. While I was already more familiar with the structure and methods of the research part, the design part

confronted me with my insecurities. It became clear that I had trouble to trust my intuition and expertise when designing, making me unsure about how to proceed many times. I was already aware that I avoid designing beyond the conceptual level, which is why I specifically chose the design studio, but the last months of my graduation urged me to explore the reasons why; making me grow as a designer.

The end result is a full project from neighbourhood scale to a functional lay-out of a street section that incorporates many parts of my prior research. However, the process described in detail here might have taught me more than the project itself. This project pushed me to my limits, made me reflect and question myself, and strengthened my confidence as a designer.

And for that opportunity I am grateful.

ACKNOWLEDGEMENTS

This year has been a rough but wonderful ride.

It contained many ups and downs that shaped the final product of my graduation thesis. The fact that I can be proud of the final result is thanks to many people that helped and inspired me along the way.

Therefore, I would like to thank...

My first mentor, **Machiel van Dorst**, who guided me through the complex topics from this project and helped me to keep looking for the bigger story.

My second mentor, **Teake Bouma**, who listened with much patience to all my design struggles and helped me work towards feasible solutions.

Our studio coordinator, **Birgit Hausleitner**, for all the inspiring lectures that were organised and her insightful advice.

The people from **Babibar**, especially **Caroline**, for their insights into the neighbourhood, their help with distributing the survey and their warm welcome every time I visited.

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My dear friend **Pien** for the mental support.

My **family** and **friends** for their support this year and for always believing in me and cheering me on.

I thank you all.

◀ *Picture along the waterfront, May 2022*

REFERENCES

Alexander, C. (1978). *A Pattern Language*. Oxford University Press.

Althaus, C. E. (1999). Outdoor play. *Graduate Research Papers. 267.* [University of Northern Iowa].

Ampofo‑Boateng, K., & Thomson, J. A. (1991). Children's perception of safety and danger on the road. *British Journal of Psychology, 82*(4), 487–505.

Bertrand, F., Bomal, N., De Wispelaere, O., Denoël, F., Lafleur, J.-M., Mager, A., Moor, T., Nicolas, N., & Schippers, M. (2012). *Outremeuse, île endormie ?*
Retrieved from https://urbagora.be/interventions/etudes/outremeuse-ile-endormie.html

Cele, S. (2008). Communicating place: methods for understanding children's experience of place. In *Children's Geographies* (Vol. 6, Issue 1).

Chillón, P., Panter, J., Corder, K., Jones, A. P., & Van Sluijs, E. M. F. (2015). A longitudinal study of the distance that young people walk to school. *Health and Place, 31*(August 2011), 133–137.

Christie, J. F., & Johnsen, E. P. (1987). Reconceptualizing constructive play: A review of the empirical literature. *Merrill-Palmer Quarterly: Journal of Developmental Psychology, 33*(4), 439–452.

Colard, F. (2018). *Femmes et Transports en Commun, Parcours de Combattantes?*
Retrieved from https://www.femmesprevoyantes.be/2018/12/14/etude-2018-femmes-et-transports-en-commun-des-parcours-de-combattantes/

Colard, F. (2019). *Sexiste, l'espace public ?*
Retrieved from https://www.femmesprevoyantes.be/2018/06/29/analyse-2018-tu-seras-violent-mon-fils-des-consequences-de-lentre-soi-masculin-dans-nos-villes/

Danenberg, R., Doumpa, V., & Karssenberg, H. (Eds.). (2018). *The City at Eye Level for Kids* (Vol. 160, Issue 1). STIPO Publishing.

Dowdell, K., Gray, T., & Malone, K. (2011). *Nature and its Influence on Children's Outdoor Play. Australian Journal of Outdoor Education, 15*(2), 24–35.

Fjørtoft, I. (2004). Landscape as Playscape: The Effects of Natural Environments on Children's Play and Motor Development. *Children, Youth and Environment, 14*(2), 21–44.

Galanakis, M. (2013). Intercultural public spaces in multicultural Toronto. *Canadian Journal of Urban Research, 22*(1), 67–89.

Gaskins, S., Haight, W., & Lancy, D. F. (2007). *Play and Development: Evolutionary, Sociocultural, and Functional Perspectives*. Taylor & Francis Group.

Helleman, G. (2021). *Buitenspelen: wie, waar en wat?*
Retrieved from https://stadslente.blogspot.com/2021/12/buitenspelen-wie-waar-en-wat.html

Kaal, M. (2022). *Onderzoek buitenspelen 2022, Een onderzoek onder ouders en kinderen.* Retrieved from https://jantjebeton.nl/pers/40-van-de-kinderen-speelt-

minder-dan-1-uur-per-dag-buiten

Karsten, L. (2003). Children's use of public space: The gendered world of the playground. In *Childhood* (Vol. 10, Issue 4, pp. 457–473).

Karsten, Lee. (2005). It all used to be better? different generations on continuity and change in urban children's daily use of space. *Children's Geographies*, *3*(3), 275–290.

Karsten, L., & Van Vliet, W. (2006). Increasing Children's Freedom of Movement, and Other Papers. *Children, Youth and Environments*, *16*(1), 69–73.

Kern, L. (2020). *Feminist City, Claiming Space in a Man-Made World.* Verso Books.

Lahaye, L. (2020). *Politiques familiales & égalité femmes-hommes font-elles bon ménage ?* Retrieved from www.femmesprevoyantes.be

Lesan, M., & Gjerde, M. (2020). A mixed methods approach to understanding streetscape preferences in a multicultural setting. *Methodological Innovations*, *13*(2).

Maxwell, L. E., Mitchell, M. R., & Evans, G. W. (2008). Effects of Play Equipment and Loose Parts on Preschool Children's Outdoor Play Behavior: An Observational Study and Design Intervention. *Youth and Environments*, *18*(2), 36–63.

National Association of City Transport Officials. (2020). Designing Streets for Kids Guide. In *National Association of City Transport Officials* (Issue June).

National Playing Fields Association. (2000). *Best play - What Play provision should do for children.* Retrieved from www.playwales.org.uk

Rubin, K. H., Watson, K. S., & Jambor, T. W. (1978). Free-Play Behaviors in Preschool and Kindergarten Children. *Child Development*, *49*(2), 534.

Talen, E., & Coffindaffer, M. (1999). The Utopianism of children: An empirical study of children's neighborhood design preferences. *Journal of Planning Education and Research*, *18*(4), 321–331.

Thomas, F., & Harding, S. (2011). The role of play: Play outdoors as the medium and mechanism for well-being, learning and development. *Outdoor Provision in the Early Years*, *1970*, 12–22.

UNESCO. United Nations Educational, S. and C. O. (2017). *Inclusion Through Access to Public Space.* Retrieved from http://www.unesco.org/new/en/social-and-human-sciences/themes/urban-development/migrants-inclusion-in-cities/good-practices/inclusion-through-access-to-public-space/

Van Andel, J. (1985). Effects on children's behavior of physical changes in a Leiden Neighborhood. *Children's Environments Quarterly*, *1*(4), 46–54.

Ville de Liège. (2015). *Tableau de bord de la population liégeoise.* Retrieved from https://www.liege.be/fr/vie-communale/administration/liege-en-chiffres/tableaux-de-bord-population/tableau-de-bord-population-2015.pdf

Whitebread, D., Neale, D., Jensen, H., Liu, C., S., & S.L., Hopkins, E., Hirsh-Pasek, K. Zosh, J. M. (2017). The role of play in children's development: a review of the evidence. *Creative Commons Attribution, November,* 4–39.

Woolley, H., & Lowe, A. (2013). Exploring the Relationship between Design Approach and Play Value of Outdoor Play Spaces. *Landscape Research*, *38*(1), 53–74.

Appendix

INTERVIEWS

<u>Written questions exchange with Caroline from le Babibar (11/01/2022)</u>

1.   Quels types de familles trouvent le chemin vers vos services ? Savez-vous aussi quels groupes sont plus difficiles à atteindre ?

Le public vient tout azimut, à travers toute la province de Liège et parfois de plus loin encore. Nous sommes installés dans le quartier depuis 5 mois avant la pandémie et nous sommes à nouveau ouverts de manière régulière depuis septembre dernier seulement. Nous commençons seulement - tout doucement - à toucher des familles du quartier.

Les villes manquent de projets de ce type nous disent les familles. La grande majorité des personnes viennent par le bouche-à-oreille (de familles mais aussi sur le conseil de psychologues, sage-femmes... qui connaissent le projet et qui encouragent les jeunes parents à rencontrer d'autres parents, pour briser l'isolement et l'épuisement maternel) et aussi via notre Page facebook. Soit pour les matinées-rencontres mais souvent, les personnes arrivent pour la première fois en s'inscrivant à un atelier collectif mené par une professionnelle. C'est manifestement plus facile pour une partie des gens de pousser la porte en s'inscrivant à un atelier, surtout pour les parents d'enfants de moins de 6 mois. Pour les familles d'enfants au delà de 1 an, ce sont souvent des familles déjà en questionnement (en devenant parent, on refait souvent le tri dans ses propres valeurs, on envisage l'avenir peut-être différemment pour son enfant) ou qui souhaitent rencontrer des parents pour échanger les avis/trucs et astuces par rapport à une question ou encore plus simplement pour permettre à leurs enfants de rencontrer d'autres enfants. Ce sont majoritairement des mamans et je dirais que les papas (qui viennent seuls) viennent plutôt s'ils se retrouvent à garder leur enfant (crèche fermée par exemple) et que la maman leur conseille de venir.

Il y a une mixité sociale et culturelle mais nous touchons plus rarement la très grande précarité. Quand nous échangeons avec d'autres associations du quartier, depuis la crise sanitaire, même ceux qui drainent habituellement un public très précaire, nous disent que ils ont de + en + de mal à les toucher, ils s'isolent encore plus depuis la pandémie.

2.   Quels endroits est-ce que les parents, en particulier les mamans, aiment fréquenter avec leurs enfants dans le quartier / la ville ? Pourquoi ?

Dans le quartier, si j'observe les familles d'enfants de tout âge (nous allons ouvrir une ludosphère prochainement et nous drainerons des familles avec des enfants de tout âge mais pour l'instant, notre public est majoritairement composé de familles avec des bébés entre 0 et 3 ans), je dirais que la place de l'Yser et sa petite plaine de jeux rassemblent quelques familles (mais j'ai l'impression que moins que la place Saint-Léonard (= la place des Déportés) sur l'autre rive (les familles du quartier Saint-Léonard s'y retrouvent plus massivement et de tout âge).
Le quartier est plutôt vu comme sale avec beaucoup de vols, de toxicomanie. Mais quelques ruelles apportent un charme qui leur est propre avec la possibilité pour les enfants (de ces quelques rues, comme la rue Beauregard ou la rue des Récollets) de jouer dehors, même si ça reste rare ... de jouer dehors.
On espère que le projet de jardin de la rue Porte-aux-Oies sera accueillant pour les familles.
Le jardin de la maison intergénérationnelle d'Outremeuse (porté par la ville) est sympa avec son potager collectif mais n'est pas très fréquenté.

Sinon globalement, je peux résumer que en devenant parent, la ville apparaît plutôt hostile aux parents.

Peu d'espaces sont adaptés. Les trottoirs sont pénibles avec une poussette (heureusement qu'il y a le portage). Et on espère que Liège suivra l'exemple de Bruxelles et la campagne d'une association pour répertorier les lieux qui sont accueillants pour les jeunes parents et plus particulièrement pour les mamans allaitantes. https://www.lavenir.net/cnt/dmf20180810_01208127/carte-ou-allaiter-votre-bebe-dans-les-bars-et-restaurants-bruxellois

Les familles nous renvoient plutôt qu'il manque de projets comme le nôtre dans les villages, les villes.

3.   Quels lieux est-ce que les mamans évitent dans le quartier lorsqu'elles se promènent dans le quartier avec leurs enfants ? Pourquoi ?

Je n'ai pas l'impression qu'il y ait un lieu particulièrement évité par les mamans. Soit ce sont des familles du quartier (et elles savent que c'est + une question d'horaire : le soir, la rue ne donne pas un sentiment de sécurité : jeunes en bandes, personnes saoules et droguées (même si on peut parfois voir quelqu'un se faire une ligne de coke dans l'entrée de nos voisines, l'Assistance à l'Enfance quand nous arrivons le matin vers 9h). J'habite de l'autre côté de l'île (quai Churchill, après la coupure de la rue Gretry) : si je dois passer au Babibar en soirée, au lieu de venir à pied, je prends la voiture car je ne me sens pas en sécurité en soirée dans le quartier.

Soit ce sont des mamans qui viennent dans le quartier (pour venir au Babibar par exemple ;-)) mais dans ce cas, ce n'est pas une vraie balade, elles vont d'un point à un autre par les grands axes. Les trottoirs sont étroits (surtout Puits-en-Sock) : le quartier n'est pas très pratique avec une poussette (comme plein d'autres endroits en ville ceci dit).

4.   Selon les mamans avec qui vous avez discute lors de ce projet, que manque t'il dans le quartier (services, lieux de rencontre, verdure, …) ?

De la verdure, c'est indéniable.
En fait, elles ne vont pas spécifiquement noter des manques dans le quartier : ces manques s'étendent au centre-ville. Manque d'endroits kids friendly. D'endroits équipés (où sont les tables à langer ? Et quand il y en a : uniquement dans les toilettes des femmes)., d'endroits où on n'a pas l'impression de déranger quand on allaite. Et d'heures d'ouverture les week-ends (pour les parents qui travaillent et qui se sentent aussi isolés en tant que parents) et les autres matinées de la semaine (nous sommes actuellement ouverts le mardi, jeudi et vendredi de 9h30 à 14h).

Certaines viennent en voiture, de plus loin, et sont découragées car elles trouvent difficilement de la place, se parker revient cher (et les amendes tournent si on a dépassé le temps de son ticket : les mamans gardent toujours dans un coin de leur tête qu'elles doivent faire attention de ne pas dépasser l'heure du ticket d'horodateur) Il manque de places de parking gratuites… pour les parents (si ils doivent se garer trop loin, cela les décourage). Et venir dans le quartier en voiture, depuis les travaux du tram, relève parfois du parcours du combattant (selon les fermetures de ponts).

<u>Personal experience from a mother from the neighbourhood (04/11/2020)</u>

"Outremeuse ou comment se sentir dans un village en pleine ville."
On avait vécu 2ans dans le Laveu avant de débarquer en Outremeuse. Et avant cela, nous étions partis comme volontaire un an au Burkina Faso. C'était donc évident qu'après cette expérience, nous avions encore plus envie d'être entouré de multiculturalité…

Qui dit multiculturalité…dit Outremeuse!
Et voila 5ans que nous habitons ici et que nous nous y sentons bien :-).
Au coin de chaque rue, nous rencontrons encore bien des personnes que nous connaissons et moi, j'aime l'idée qu'on puisse bavarder quelques minutes un peu comme si c'était "le village d'Outremeuse". L'ambiance y est accueillante, solidaire et bienveillante.

J'aime aussi les rencontres que j'ai pu faire via LE BABIBAR et l'ASSISTANCE À L'ENFANCE. En tant que parents, nous nous y retrouvons aussi. Ca bouge dans le quartier. Il y a toujours des choses à faire et à découvrir avec les enfants (St-Pholien, Comité de quartier, Navette Fluviale, Fêtes traditionnelles,…) Nous partageons également les valeurs du "commerce local" (Oufticoop, Un pain c'est tout et Le potiquet) . C'est chouette de voir de nouvelles initiatives et projets fleurir de jour en jour (Le café livre joli, le jardin de la porte aux oies, la nouvelle bibliothèque des Chiroux,…)

Il y a tellement à dire, à voir et faire… Un quartier vivant du lundi au dimanche!

Prochain objectif: découvrir les bons petits plats des pays que nous n'avons pas encore goûté :-)
Petits bémols: la mobilité actuelle dans le quartier en tant que parents cyclo est un vrai cauchemar et nous espérons voir arriver très prochainement de nouveaux services publiques facilement accessibles (distributeurs de billets, espaces verts, plaines de jeux et poste)!

SURVEY

Bonjour,

Pour mon mémoire de master, je m'intéresse à l'aménagement de l'espace publique de la ville pour que celle-ci soit accueillante et agréable pour les mamans et leurs enfants (âge 0 – 12 ans). Comme lieu de projet, je m'intéresse à Liège et, de plus près, le quartier d'Outremeuse.
Vos réponses m'aideront à guider mes recherches / important de récolter des témoignages personnels.

Le questionnaire est anonyme.

Quel est votre relation avec le quartier d'Outremeuse ?
o   Habitant
o   Usager habituel (travail dans le quartier ou fréquente plusieurs fois par semaine)
o   Usager ponctuel (fréquente le quartier occasionnellement)
o   Je fréquente uniquement Le Babibar

Combien d'enfant(s) avez-vous ?
o   Open question

Quels âge(s) ont-ils ?
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – plus âgé(s)

Combien de fois votre/vos enfant(s) jouent-ils dehors (hors des heures d'école) ?
o   Une fois par jour
o   Une fois tous les deux jours
o   Une fois tous les trois jours
o   Une fois par semaine
o   Moins d'une fois par semaine
o   Je ne sais pas

Laissez-vous jouer votre enfant seul dans la rue / le quartier ?
o   Oui
o   Non
o   Je garde un œil de loin / par la fenêtre

Si oui, non, pourquoi ?
o   Open question

Quel(s) endroit(s) est-ce que vous aimez fréquenter avec vos enfants dans le quartier ? Pourquoi ?
o   Open question

Quel(s) endroit(s) est-ce que votre / vos enfants aime(nt) fréquenter dans le quartier ? Pourquoi ?
o   Open question

Quel(s) lieux évitez-vous avec votre / vos enfant(s) dans le quartier ? Pourquoi ?
o   Open question

Que manque-t-il dans le quartier selon vous (services, lieux de rencontre, verdure, …) ?
o   Open question

Quel est votre genre/sexe ?
o   Homme
o   Femme
o   Non-binaire
o   Je préfère ne pas répondre à cette question

Quel est votre âge ?
o   Open question
o   Je préfère ne pas répondre à cette question

Un tout grand merci pour votre participation !

Si vous voulez partager plus d'informations qui ne rentrent pas dans ce questionnaire ou si cela vous intéresse de discuter en plus de profondeur sur ce sujet, vous pouvez me joindre par cette adresse mail :

Tijdstempel	Quel est votre relation ave	Combien d'enfant(s) avez-	Quels âge(s) a-t-il / ont-ils?
1/26/2022 13:55:20	Habitant	2	4, 6
1/26/2022 13:59:37	Usager ponctuel (je fréque	1	1
1/26/2022 14:06:49	Habitant	2	4, 6
1/26/2022 14:23:22	Usager habituel (je travaille	4	11, Plus âgé(s)
1/26/2022 14:46:16	Habitant	2	0, 3
1/26/2022 16:46:11	Usager ponctuel (je fréque un		2
1/26/2022 18:51:09	Usager habituel (je travaille	1	0
1/26/2022 19:55:50	Usager ponctuel (je fréque	2	3, 6
1/26/2022 22:43:23	Usager ponctuel (je fréque	2	6, 8
1/27/2022 1:01:03	Habitant	2	5, 7
1/28/2022 18:56:38	Je fréquente uniquement L	1	1
1/28/2022 21:28:52	Usager ponctuel (je fréque	3	2, 5, 7
1/28/2022 22:19:51	Habitant	2	2, 5
1/28/2022 22:23:18	Je fréquente uniquement L	3	2, 5, 8
1/28/2022 23:29:04	Usager ponctuel (je fréque	1	7
1/29/2022 0:35:42	Usager ponctuel (je fréque	1	3
1/30/2022 2:36:56	Habitant	1	4
1/30/2022 8:52:27	Habitant	3	7, Plus âgé(s)
1/30/2022 9:08:53	Habitant	1 (petit enfant je suis une r	1
1/30/2022 14:32:48	Usager ponctuel (je fréque	1	8
1/30/2022 16:33:10	Usager habituel (je travaille	3	4, 8, Plus âgé(s)
1/30/2022 21:35:24	Habitant	2	8, 10
1/31/2022 18:23:08	Habitant	2	4, 6

Combien de fois votre/vos	Combien de fois votre/vos	Laissez-vous jouer votre/v	Si oui, non, pourquoi ?
Une fois par jour	Une fois par semaine	Non	Ils ne sont pas en sécurité
Une fois par jour	Moins d'une fois par sema	Non	Elle est trop petite pour ça,
Une fois par jour	Une fois par semaine	Non	Circulation automobile trop
Une fois par jour	Moins d'une fois par sema	Je garde un œil de loin	
Une fois tous les trois jours	Moins d'une fois par sema	Non	Trop jeune ;)
Une fois par jour	Une fois par semaine	Non	cela ne me semble pas ad
Une fois par jour	Une fois par jour	Non	Peur des mauvaises renco
Une fois par jour	Une fois tous les trois jours	Non	Trop de dangers
Une fois par jour	Une fois par jour	Oui	Cela m est arrivé mais c es
Une fois tous les trois jours	Une fois par semaine	Non	Trop jeunes. Pas assez de
Une fois par jour	Une fois par jour	Non	
Une fois tous les deux jour	Une fois par semaine	Non	Peur du trafic et des gens
Une fois tous les trois jours	Moins d'une fois par sema	Non	Voiture, saleté
Une fois par jour	Moins d'une fois par sema	Non	Peur des voitures, d'une pe
Une fois par semaine	Une fois par semaine	Non	trop de voitures
Une fois par semaine	Une fois par semaine	Non	Danger
Je ne sais pas	Une fois tous les deux jour	Non	
Une fois par jour	Une fois tous les trois jours	Non	Le quartier est trop danger
Moins d'une fois par sema	Moins d'une fois par sema	Non	Le quartier est beaucoup tr
Une fois par semaine	Moins d'une fois par sema	Non	Crainte des passants incor
Une fois tous les trois jours	Une fois par semaine	Non	insécurité
Moins d'une fois par sema	Moins d'une fois par sema	Je garde un œil de loin	(ils jouent peu dans la rue
Une fois tous les deux jour	Une fois par semaine	Non	Voitures, inconnus, le quar

| Quel(s) endroit(s) est-ce q	Quel(s) lieux évitez-vous a	Que manque-t-il dans le q	Quel est votre genre ?
Le Ravel avec les vélos et	Le blvd de la Constitution ι	Des parcs, de l'herbe, des	Femme
Dans mon quartier, les plai	Les restaurants le soir car	Des plaines de jeux adapte	Femme
Des parcs et une vraie plai	Les quais de la dérivation a	Parcs et plaines de jeux	Homme
Place de l'user espace ac	Les cafés car pas prévu pc	Pas de parcs, peu de verc	Homme
La plaine de jeux place de	Les quais de la dérivation ι	Espace vert !!!! Un endroit	Femme
les magasins de seconde ι	la place de l'Yser car pas a	de la verdure en général el	Femme
Babibar, petits parcs, bove	Sous les ponts (toxico), ru	Vrais trottoirs. Propreté. Pa	Femme
Plaine de jeux	Pas vraiment de lieux mais	Verdure, plaine de jeux, re	Femme
La plaine de l ancien théât	La rue puits en sock a des	Je n y habite pas, difficile c	Femme
Place de l'Yser, plaine de j	Rue puits en sock à cause	Verdure principalement	Je préfère ne pas répondre
Babibar, rencontré d'autres	Sentier en gravier	Je ne connais pas suffisan	Femme
-	-	-	Femme
Aucuns...	Place de l'yser.	Lieux verts	Femme
En outre Meuse, uniqueme	Je n'évite pas de zone en p	Je n'y vais pas assez pour	Femme
place de l'Yser (je ne vois ρ	aucun a priori, mais ça dér	verdure ça c'est certain: m	Femme
Aucun	Les rues plus éloignées, sc	Lieu de rencontre et verdu	Femme
La plaine de jeu parce que	La place de l'Yser parce qu	Un parc	Homme
Aucun	Aucun	Espace vert, plaine de jeux	Femme
Aucun	Tous	Verdure	Femme
Petits commerçants car les	Place de l'yser car mal fréc	Espaces verts, plaines de j	Femme
plaine de jeux (rue henri de	aucun lieu en particulier, p	verdure	Femme
La place de l'Yser quand il	Je n'évite pas de lieux mai	Il manque un espace de ve	Femme
Parc de la boverie, place d	Les rues étroites où l'on ne	De la verdure (+++), de la s	Femme

Quel est votre âge ?

34ans

	35
	35
	50
	35

39 ans

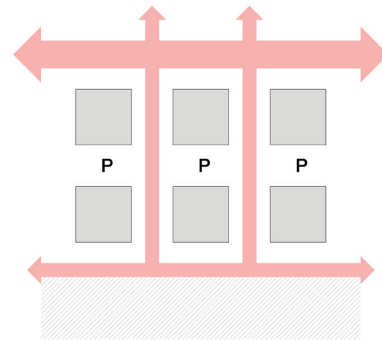|	
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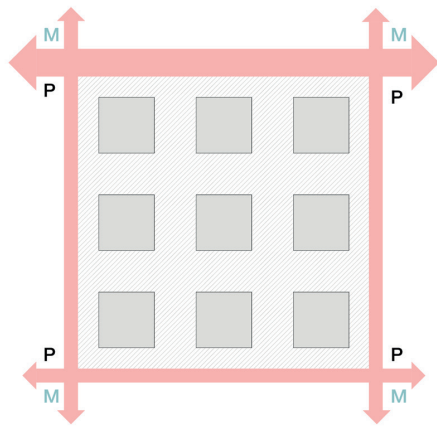# PARKING AND TRAFFIC MODELS
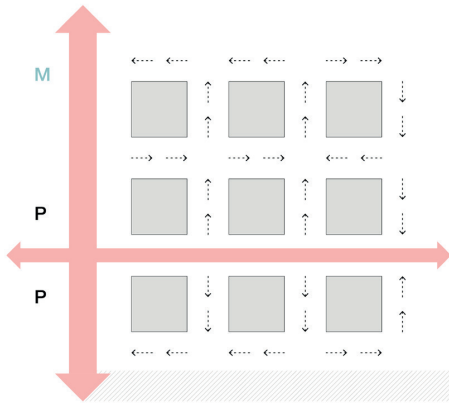
Gammelholm, Kopenhagen

- Eenrichtingsverkeer lussen
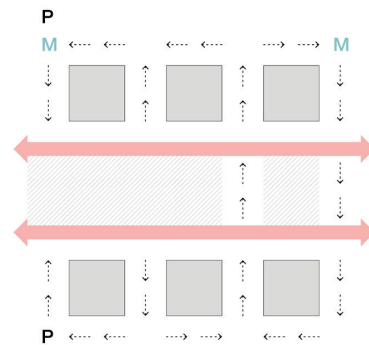- Parkeren bij kruising twee grotere assen

East Bayfront, Toronto

- Specifieke parkeerplek voor alle grotere bestemmingen
- Direct van grote assen naar parkeerplaats

RMIT, Melbourne

- Gebied tussen grotere assen autovrij maken
- Parkeren bij de kruisingen
- OV bij alle kruisingen van grote assen

Promenade du Paillon, Parijs

- Autovrije gebied tussen twee grotere assen
- Eenrichtingsverkeer lussen
- Parkeren en OV in zijstraten

R&D EXERCISE

A mother's neighbourhood

Three possible experiences of Outremeuse from a mother's perspective have been made. The profiles for these three distinct mothers were created and then tied to locations in the neighbourhood. These locations have been highlighted in the following experience maps.

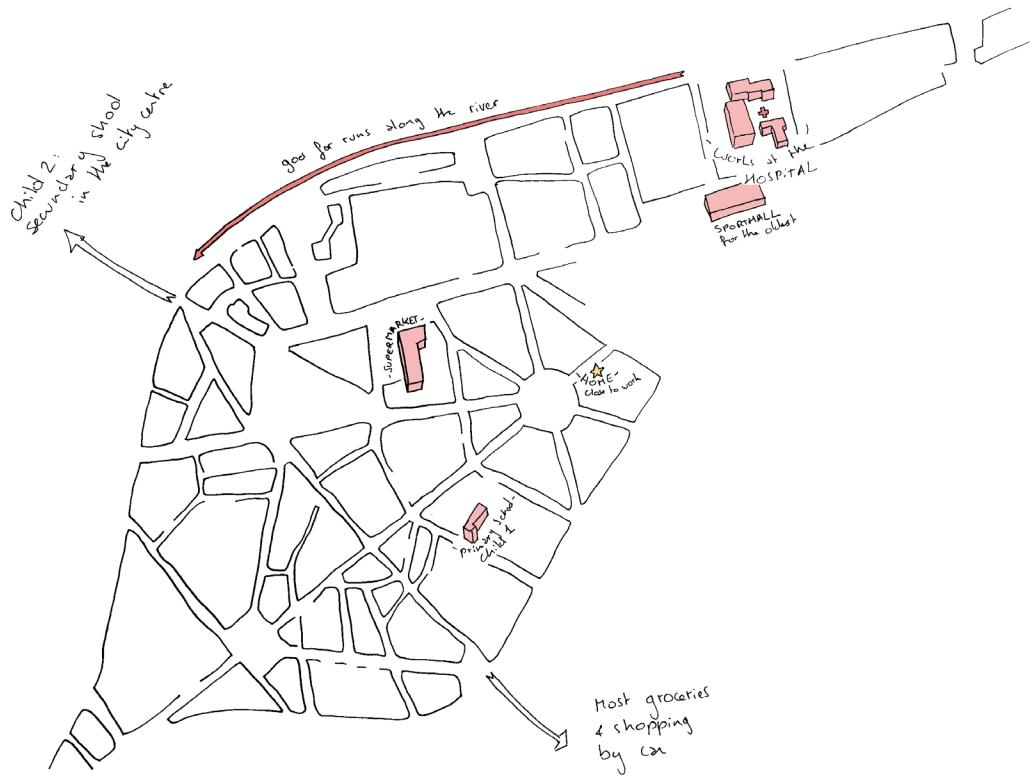Mother 1: pregnant and has two children, Muslim, struggles financially and does not have a car.

Mother 2: has two children, works at the hospital, owns a car, lives here because it is close to work and is not involved in the neighbourhood.

Mother 3: young mother of one child, does not have a car and is looking to

Mother 1

Mother 2

Child 2: Secundary school in the city centre

good for runs along the river

Works at the HOSPITAL

SPORTMALL for the oldest

SUPERMARKET

"HOME" close to work

primary school Child 1

Most groceries & shopping by car

Mother 3

Pedestrian bridge to walk to family

BIG STORES → CHEAP

playground

Socialising: City

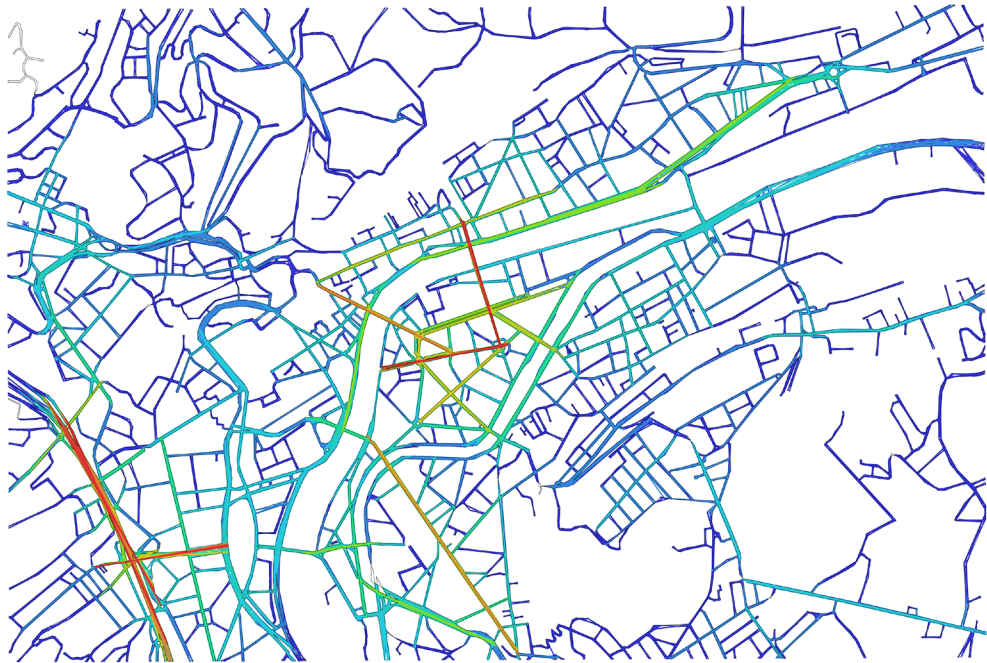Socialising: coffeebar

Kindergarden

local shop

"HOME"
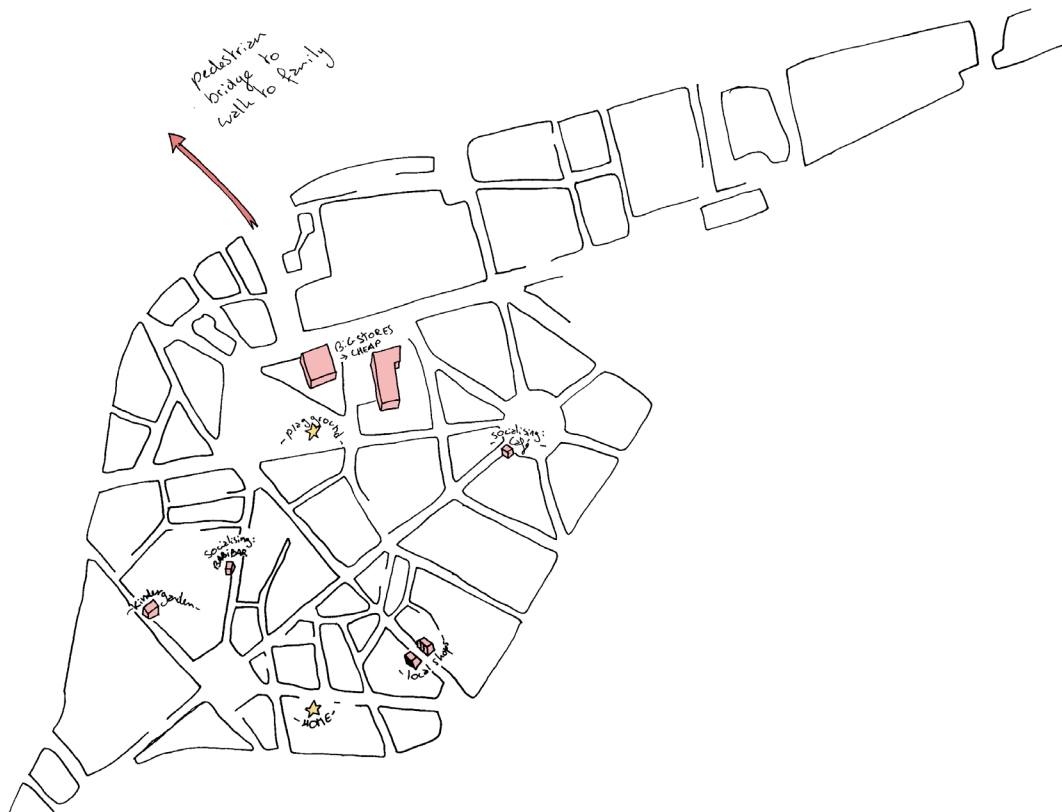
SPACE SYNTAX
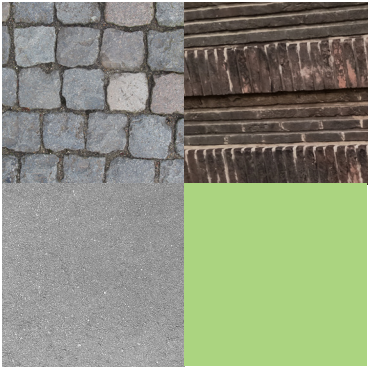

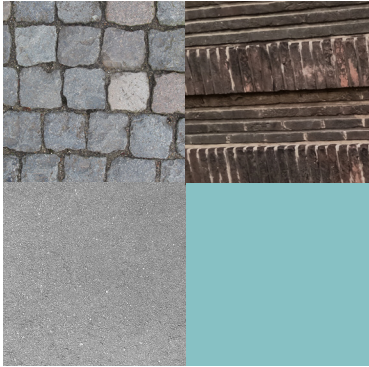*Figure x: Connectivity analysis*
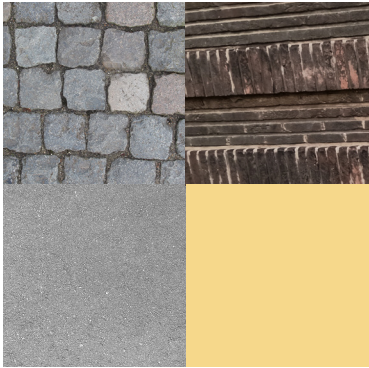
Figure x: Choice factor analysis
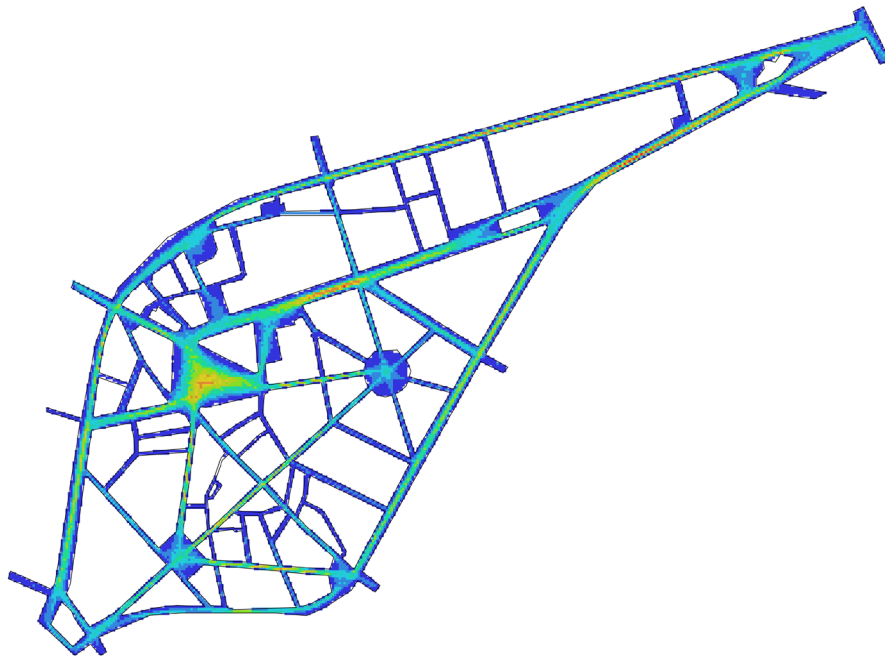
Figure x: Agent analysis
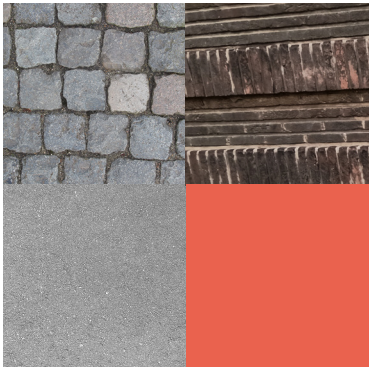
Materials of Boulevard de la Constitution

Materials related to topic