



PLAYING OUR WAY FORWARD

Designing a Child-Friendly, Playful, and Inclusive Utrecht Overvecht.

Sandra Wolfert

COLOPHON

Title	Playing Our Way Forward: Designing a Child-Friendly, Playful, and Inclusive Utrecht Overvecht.
Location	Utrecht Overvecht
Key words	Urban design, Playful city, Human scale, Child-friendly, Outdoor play, Inclusivity

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Msc Thesis

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TU Delft

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Urban design | Playful city | Human scale | Child-friendly | Outdoor play | Inclusivity

PROPOSITION

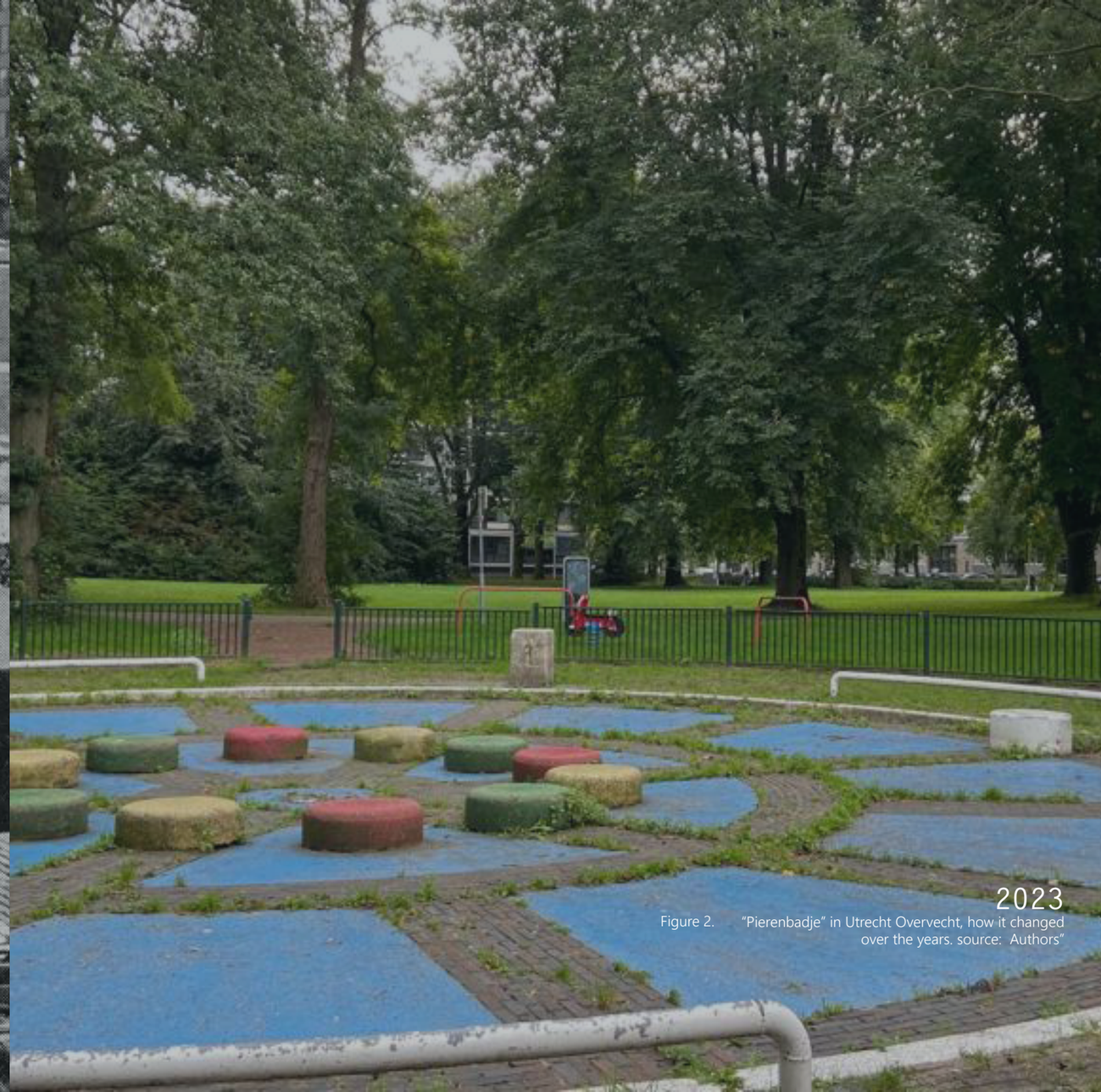
Outdoor play is declining, with negative consequences for the development, physical health, mental well being and social relations of children. There is more needed than only a playground in a neighborhood to make outdoor play popular again in this digital and urbanized century.

Not just a playground, but different interventions through different scales. The design assignment is to find out what is needed and what this new playful urban environment will look like.



+/- 1980

Figure 1. "Pierenbadje" in Utrecht Overvecht, how it changed over the years. source: (Steenhuis stedenbouw/landschap, 2006)



2023

Figure 2. "Pierenbadje" in Utrecht Overvecht, how it changed over the years. source: Authors"

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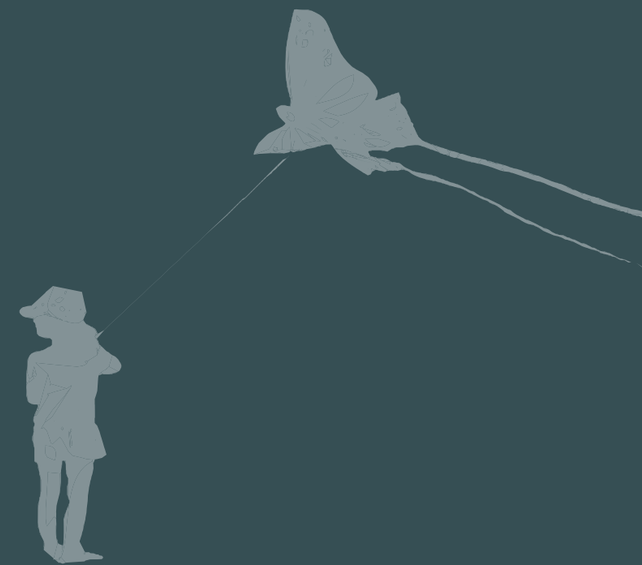
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GLOSSARY

This glossary explains how terms are interpreted within this project.

Playful
"full of fun; wanting to play" *(Oxford University Press, n.d.)*

Playful urban environment
An attractive environment that invites a form of play, which improves child development, physical health, mental well being and social relations eventually.

Social cohesion
"The extent to which people from the same community or society get along, trust eacht other, and live peacefully together, with or without social, ethnic and other demographic differences" *(baldwing & king,2017)*

Nature defict disorder
Children disconnect from playing outdoors and nature > concerns for the negative consequences on development, health and well-being. *(Louv 2005, in Steg & De Groot, 2019).*

Neighborhood Overvecht
This project focusses on the neighborhood Utrecht Overvecht as a site for the design task. "Neighborhood" relates to the eight housing districts of Overvecht, the polder area and industrial area are not part of the site.

District
A district can be seen as a 'small neighborhood". Overvecht consists of eight districts.

Principles
Key elements for a design.

Concept
A preliminary design with abstract ideas. In this project a spatial play-plan concept will be explored. The concept shows the vision for the neighborhood.

Spatial play-plan
In this project this plan can be seen as a design for the scale of Overvecht. This spatial plan focusses on how to achieve a playful environment.

Risky play
A form of play where children can get in more risky situations. They can get injured, face uncertainty or sometimes face things that they can find a bit scary. *(Ellen Sansetter, in The Documentary Channel, 2022)*

CTN
Connection to nature *(Edwards & Larson, 2020)* This connection points to how much people are used or want to be in nature.

Biophilia
Orientation towards nature *(Edwards & Larson, 2020)*

Videophilia
Orientation towards digital media *(Edwards & Larson, 2020)*

Stranger danger
Not trusting people who you do not know. *(Steg & De Groot, 2019)*

Play personalities
People have different play preferences which are summarized by Stuart Brown in eight play personalities *(National Institute for Play, 2023)*

Joker personality
People with a joker play personality are often fun, silly and enjoying jokes. *(National Institute for Play, 2023)*

Director personality
People with a Director play personality like to take the leading role and host, organize and plan things. *(National Institute for Play, 2023)*

Explorer personality
People with a explorer play personality like to explore new places, games, ideas or information. *(National Institute for Play, 2023)*

Competitor personality
People with a competitor play personality have a play style which is al about winnen. They can be very competitive. *(National Institute for Play, 2023)*

Kinesthete personality
People with a kinesthete play personality are very active in movement. They have a very physical play style. *(National Institute for Play, 2023)*

Collector personality
People with a collector play personality like to collect things, objects or experiences. *(National Institute for Play, 2023)*

Artist personality
People with an Artist play personality are very creative and like to build or design things. *(National Institute for Play, 2023)*

Storyteller personality
People with a storyteller play personality like to create their own scenario or characters. *(National Institute for Play, 2023)*

Nature
"All living organisms, their habitat, the ecosystem of which they are a part, and the associated self-functioning ecological processes, regardless of whether they occur under the influence of human activities, excluding cultivated crops, farm animals, and pets." *(ecopedia, n.d.)*

Wild nature
In this project wild nature is seen as natural areas which can grow freely without overmanipulation of humans.

Comfortable nature
Comfortable nature can be explained in this project as managed nature environments which can be more comfortable and attractive for videophilia oriented children.

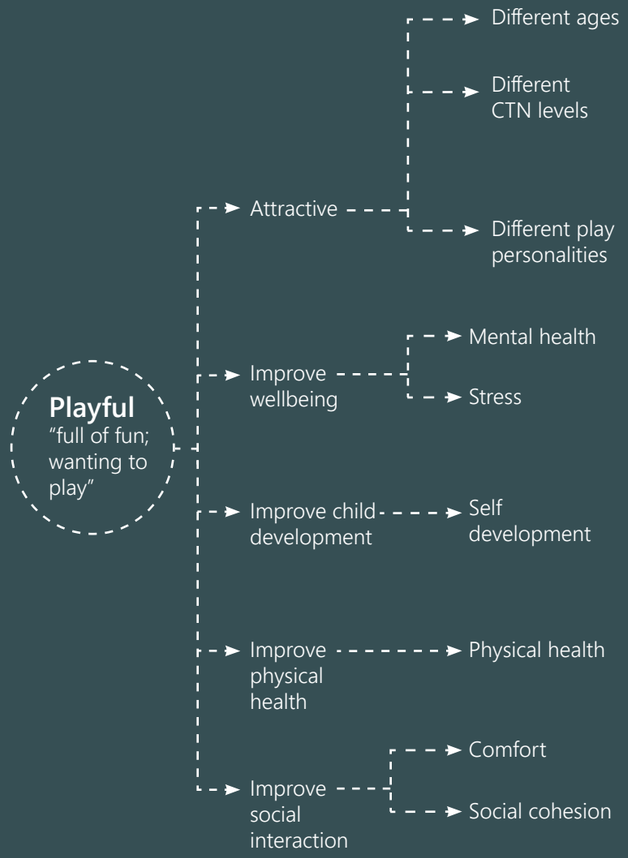
Relative accessibility
Relative accessibility depends on the attainment of objects or events. And next to that it depends on the likelihood or past exposure to minimize the surprising value. *(Bruner, 1957)*

Eyes on the street
Relates to the presence of people in a street. This presence can improve social cohesion and safety. *(Jacobs, 2015)*

Comfortable play-necklace
A design intervention of a car free and pedestrian focused route through Overvecht serving comfortable and safe playing environments.

The playful garland (speelse slinger)
A design intervention for a multifunctional sitting element along the total comfortably play-necklace. This element serves as location for people to rest and play on along the route.

Nature play-necklace
A design intervention of a nature and pedestrian focused route through Overvecht connecting the current parks and serving natural playing environments.



When is an environment succesfully playful? According to the project outcomes.

ABSTRACT

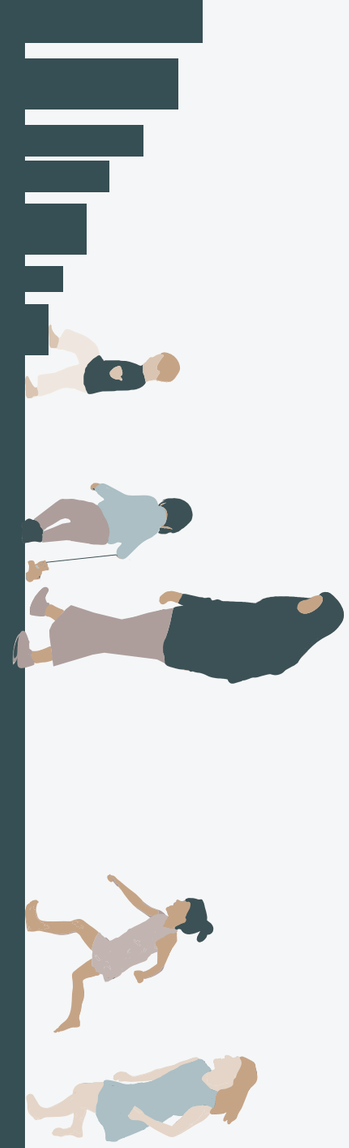
Outdoor play is declining, with negative consequences for children's development, physical health, mental well being and social relations. More action is needed than the presence of a singular playground in a neighborhood to make outdoor play popular again in this digital and urbanized century.

This thesis studies how an urban environment can be transformed into a child-friendly and playful environment that ensures a liveable future. By finding spatial solutions for not only a playground, but different interventions through different scales. The necessity for a variety of design solutions arises from the differing needs of children from different age groups, varying play personalities and orientations towards either biophilia or videophilia. A range of eyes on the streets, accessibility, mix of nature and variety of play are all essential elements in the design of outdoor play spaces. Connecting different play areas enhances accessibility and encourages exploration, enriching the overall experience for users. Incorporating comfort-focused play structures and nature-inspired play structures is essential to meet the needs for the range of target groups. The integration of these structures into one spatial design represents an effective step towards successful play areas in this digital and urbanized century.

SAMENVATTING

Buitenspelen gebeurt steeds minder, wat negatieve effecten met zich mee brengt voor de ontwikkeling van kinderen, hun fysieke gezondheid, mentaal welzijn en sociale relaties. Er is meer nodig in de openbare ruimte dan alleen een speeltuin in een woonwijk om buitenspelen weer populair te laten worden in deze digitale en verstedelijkte tijd.

Deze thesis bestudeert hoe een stedelijke omgeving getransformeerd kan worden in een kindvriendelijke en speelrijke omgeving die bijdraagt aan een levendige toekomst. Door het vinden van ruimtelijke oplossingen voor niet alleen een speeltuin, maar verschillende interventies door verschillende schalen. Het belang van een essentiële variatie in het ontwerp komt voort uit de verschillende behoeften van verschillende doelgroepen van kinderen, van verschillende leeftijden, speel persoonlijkheden, en oriëntatie naar "biophilia" of "videophilia", resulteert in een benodigde variatie voor het ontwerp. Een range van "eyes on the streets", toegankelijkheid, een mix van natuur en een variatie aan spelen. Het verbinden van verschillende speel gebieden versterkt de toegankelijkheid en stimuleert verdere verkenning, waarmee het de algemene ervaring van de gebruikers verrijkt. Het gebruiken van comfortabele speel structuren en natuurlijk geïnspireerde speel structuren is essentieel om de behoeftes van de verschillende doelgroepen tegemoet te komen. Het samenvoegen van deze structuren in een ruimtelijk ontwerp is een effectieve stap richting een succesvolle speel omgeving in deze digitale en verstedelijkte tijd.



01 INTRODUCTION

INTRODUCTION

When designing environments that cater to the needs of all demographics, the needs for the children are an important aspect that must be considered. They need special attention and designs for achieving child-friendly environments. The creation of child-friendly environments is of vital importance for the overall liveability of cities: *"If a city is a healthy place for children, it is a healthy place for everyone."* *(Enrique Peñalosa, quoted in Brown et al., 2019)*
It has been observed that children are engaging in outdoor play less frequently, which is causing negative effects for child development, physical health, mental well being and social relations. This thesis explores interventions for achieving a successful playful environment, with a particular focus on Utrecht Overvecht.

The title of this thesis: "Playing our way forward", can be interpreted in different ways. It primarily relates to how playful environments will increase the benefits for children, so literally how play as a tool or method to facilitate children's progress in life. Furthermore, "Playing our way forward" can be regarded as an metaphor for this thesis. "Playing" can symbolize creativity and exploration which is used as an design approach by working towards design interventions in this thesis. Each chapter can be seen as a next step towards a successful playful environment.

The theory goes deeper into the specific needs for children to understand what is missing in the current playgrounds and what forms of play are really needed outside in this current century. This project contributes to insights and solutions to achieve a playful environment that ensures a brighter future for the district and its future generation. A playful public space different from the current playgrounds, which will attract children to play outside again.



PROJECT MOTIVATION

The objective of this project lies in exploring urban planning at the neighborhood scale, which personally captures my interest. Guided by a preference for practical, design-oriented work, I have concentrated this project on a smaller scale. By the fascination for age friendly design, I selected a location and started an in-depth analysis to determine my specific topic. Given my affinity for Utrecht, I selected the neighborhood Overvecht as the focus of my study due to its contextual relevance. During a visit to the area, I became particularly interested in the presence of small playgrounds and wading pools. Furthermore, I was curious to know, where the children are and why the playgrounds where not in use that much. This observation brought me to delve into the topic of play in Overvecht, to understand the dynamics of play and what changes are needed for the neighborhood.

This project was developed within the context of the graduation studio: Design of the urban fabric. This studio is about urban transformation on the neighborhood or city scale by understanding the urban fabric through a design and/ or research focused approach. This project touches upon this research and design approach within the neighborhood scale.

This focus on children, play, and design led to the development of this project about understanding what play areas spatially need and how this may look like on street level. Within the designscope of Utrecht Overvecht.



Figure 3: Playground in Overvecht, source: Authors'

PROBLEMATIZATION OF PLAY

Cities are growing in size and population. At the same time, densifying in cities can result in growing scarcity of playful public spaces. With the introduction of the car, streets where children could play everywhere transformed into traffic infrastructure.
This often results in decreased connectivity of pedestrian areas and less safe environments for children to play freely.
The increasing use of the car and the resulting traffic congestion can decrease street safety *(Gemeente Utrecht, 2022)*, reducing children's freedom to explore, play, and navigate through their surroundings independently. This is also explained by Jan Gehl. In "Life between buildings", he shows statistics of the amount of children in Australia between 0 and 6 years old, who are able to run freely through the streets. This data is shown below. He concluded that hardly any children are permitted to run freely on the sidewalks of traffic streets, while on pedestrian streets they do get this freedom and do not have to hold their parents" hand any longer. *(Gehl, 1980)*
According to Unicef, cities can bring risks and challenges for children, influencing their health and healty development.

For instance: "noise and air pollution, sedentary lifestyles, traffic dangers, crime, social isolation and disconnection from nature" *(UNICEF Citation2012, Christian et al. Citation2015, quoted in Brown et al., 2019)*

Furthermore, we see growing isolation, anonymity and decreasing social cohesion. *(RTL Nieuws, 2018) (Utrecht Monitor & Bewonerspaneel, 2023)* Challenges not only for children, but also for older generations. A lack of communal public spaces can increase this isolation. These environments can hinder children's emotional development and overall happiness.

Next to the problematization of outdoor play due to growing urbanization, the increasing dominance of digital technology can also lead to children spending excessive amounts of time indoors. Children nowadays become more videophilia oriented, and less biophilia oriented. Also explained as: more oriented towards screens instead of nature. *(Edwards & Larson, 2020)* This is affecting their social interactions, physical health, and development. *(Kardefelt-Winther & UNICEF, 2017)*

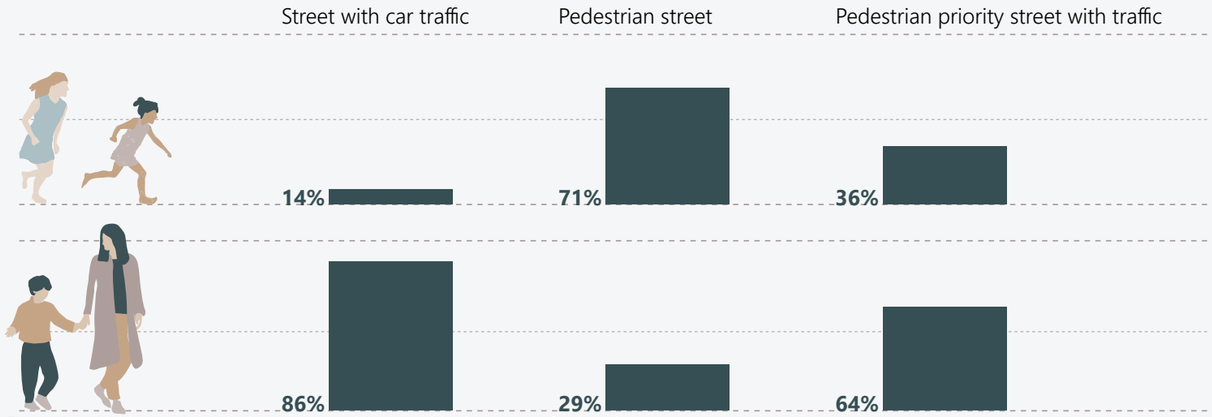


Figure 4. Children in Australia between 0 and 6 years old, who can run freely or have to hold hands in a street. Data graphic from: *(Gehl, 1980)*.

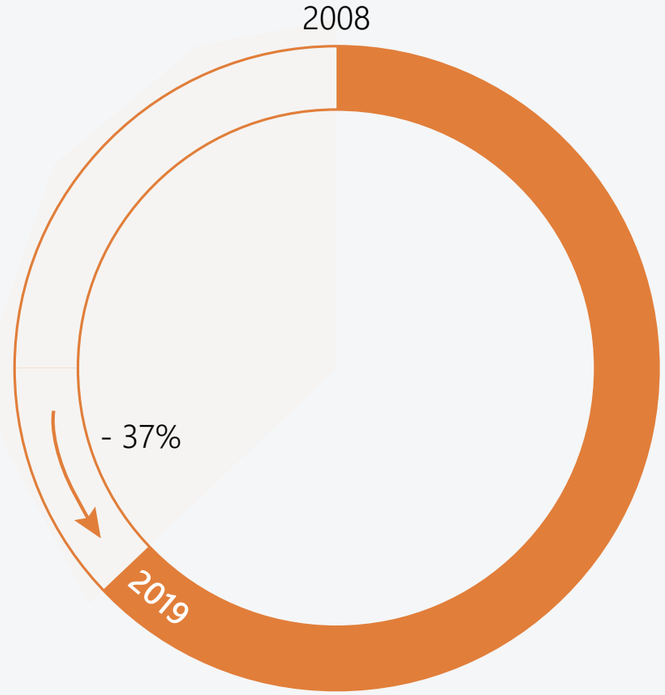


Figure 5. 37% less children play outside in their environment in comparison to the amount of children playing outside in 2008. Data graphic from: *(Lelong, 2023)*.

The results of the listed problems are visible in the decreasing amount of children playing outside.

“Kinderen spelen minder vaak buiten dan vroeger: “We mogen niet onderschatten welke gevolgen dat kan hebben”

JORN LELONG 23 oktober 2023, 18:42
Interview Johan Meire
(Lelong, 2023)

Translation: Children are playing outside less than they did in the past: we should not underestimate the consequences.

Reduced freedom for children to play freely in the city is also visible in the data. This is shown in the graphic of figure 5. According to a big research from 2019, 37% less children play outside in their environment in comparison to the amount of children playing outside in 2008. *(Lelong, 2023)*

Urgency

“Never underestimate the power of play” (Duarte & Alvarez, 2021)

Playing is generally known as something that children will do to have fun, to fill in their free time. But, research has shown that there are underlying health reasons why we play.

As Jonathan Pruitt describes: “Playing has very deep evolutionary routes.” *(Pruitt in, The Documentary Channel, 2022)*
Playing is genuinely embedded in our nature. We can see this back if we look at children, babies and especially baby animals. Playing is something that we but also all types of animals, have always done. This explains that there must be an underlying reason why we do it. *(The Documentary Channel, 2022)*

With tests on rats, researchers have found that without the ability to play together, social skills will not developed. To be more specific: playing will change the prefrontal cortex, this is a part of the brain. Growing up without playing will result in an underdeveloped prefrontal cortex. And this will result in different behavior later. The prefrontal cortex is for example important for stress. So when it is underdeveloped it will have negative consequences for the sensitivity for stress when getting older. *(The Documentary Channel, 2022)*

Furthermore, playing in childhood helps us to become mentally stronger and handle life’s ups and downs when older. *(The Documentary Channel, 2022)* Trough playing you learn how to handle with those ups and downs, sometimes you win a game and sometimes you lose, sometimes you reach the top of a tree and sometimes you do not. Going through such experiences in childhood is important for their mental development. Moreover, in risky play children will even learn more, because here they will sometimes face their fears in dangerous situations. *(Ellen Sansetter, in The Documentary Channel, 2022)*
This is further explained in the chapter: Risky play.

The book Environmental Psychology highlights also the importance of playing in nature. A research of Gibson showed that natural areas can be very valuable for children. These areas namely engage children in diverse, creative and active play experiences. *(Gibson 1979, in Steg & De Groot, 2019)* This book also mentions the importance of nature for children’s physical health, mental health and cognitive benefits such as concentrating. *(Steg & De Groot, 2019)*
All in all, playing is an incredibly educational activity, mentally, physically and socially.

However, in this last generation, the way children engage in play has transformed radically. This happened because of a few different reasons. Urbanization resulting in less childfriendly public space and protective parents play a role *(Steg & De Groot, 2019)*. But also the growing popularity of digital media and for example online gaming.

Today’s generation is missing out on much more than just fresh air and exercise. They are not experiencing many of the things that were once part of a normal childhood. Where the previous generation used to spend a lot of hours per day outdoors as a child, nowadays a lot of this time is replaced by screen time. *(The Documentary Channel, 2022)*
At the same time, World Health Organization says, in Europe mental health of young people is declining.
(World Health Organization, in the Documentary Channel, 2022)

All in all, playing outdoors is becoming less popular which is causing major concerns for child development, physical health, mental well being and social relations. Concerns for the negative consequences of disconnection from playing in nature is also called: nature defict disorder *(Louv 2005, in Steg & De Groot, 2019)*.

“Play is more important now than it has ever been in a world where information is doubling every two and a half years we need critical thinkers, we need creative innovators and we need children who have the confidence to learn from failure and to persevere so that they create new things.” (Katy Hirsh-Pasek in the Documentary Channel, 2022)





Figure 6. Polar bears playing. source: *(Hans-Jurgen Magerin in Unsplash, n.d.)*

Challenges of the current form of outdoor play

It is clear that outdoor play is disappearing and with that causing major concerns for the development of children. Bringing back outdoor play is an important aspect of the aim for this project. Moreover, there are challenges in front of us, because of these circumstances.

To start with the growing urbanization, the overall problem, as explained on page 20. Sedentary lifestyles results in people spending less time outside. Next to that the amount of accessible green is also decreasing. Furthermore, because of the increased use of the car and less social cohesion parents have become more protective and find it less safe for their children to play outside *(Steg & De Groot, 2019)*. But, as explained on page 22, through playing and risking "danger" we become prepared to deal with uncertainties. *(Ellen Sansetter, in The Documentary Channel, 2022)* And protecting children from every potential danger will oppose this. A lot of parents are not aware of this.

Moreover, because of the digitalization a new concurrent of outdoor play has emerged. Screens and digital games are very easily accessible this generation in every household. *(Edwards & Larson, 2020)*

Several lifestyle changes also resulted in less outdoor play according to researchers *(Edwards & Larson, 2020)*. Parents lifestyles have become more busy and thus organized. This can result in decreased leisure time for children or leisure time spent in structured and planned activities. *(Driessnack 2009, in Edwards & Larson, 2020)*

A very topical challenge is the time which may be running out. The drecreasing outdoor play started around the 80's. The majority of those people are now parents. So a lot of the children growing up today have parents with only few memories of the pleasure of the outdoors. Without a point of comparison, it becomes difficult for parents to realize what is missing. *(The Documentary Channel, 2022)* This depends per parent, but all in all the amount of awareness of the outside joy of parents is decreasing and will decrease even further the coming years.

We can conclude that the current playground is not attractive enough.

Multiple components should come together like the needs in an urbanized digital century, but also the needs of different types of children and how to attract them. Not only a playground, but different interventions through different scales are needed to improve child development, physical health, mental well being and social relations. The next chapters go deeper into what is needed exactly to improve the popularity of play areas for all specific target audiences, like the different ages, children who only play online via screens or different play personalities.
The area of focus for this project is Utrecht Overvecht, where challenges are also present. We see for instance decreasing social cohesion, a high dominance of the automobile, sedentary lifestyles and overweight as explained in the next chapter.

Challenges:

- Urbanization
- +
- Screens
- +
- Busy lifestyles
- +
- Missing awareness



Figure 7. Child playing game on tablet. source: *(Emily Wade in Unsplash, n.d.)*

PROBLEM STATEMENT

CHALLENGES RESULTING FROM URBANIZATION, LIKE SEDENTARY LIFESTYLES, TRAFFIC HAZARDS AND SOCIAL ISOLATION, HAVE A NEGATIVE IMPACT ON THE WELL-BEING AND DEVELOPMENT OF CHILDREN, PARTICULARLY AFFECTING THEIR ABILITY TO PLAY FREELY IN THE CITY.

CONTEXT: UTRECHT OVERVECHT

Through analyzing the neighborhood things captured my interests and this formed the focus of this project. The neighborhood was designed with a vision for the distance of family friendly functions like the playground. *(RTV Utrecht, 2022)* Therefore, we now see different small playgrounds throughout the districts. Nevertheless, it also in Overvecht seems that the playgrounds have become less vibrant.

Utrecht Overvecht is a neighborhood of 34.910 inhabitants and 6245 of the total amount are children with an age under 15 years old *(allecijfers.nl, 2023)*.



Figure 8. Location Overvecht. source: Authors"

Overvecht is characterized by its openness and green which results in a reducing human scale, but at the same time serves a lot of opportunities for interventions in the public space.

The neighborhood is located in the north of the city of Utrecht adjacent to the polder landscapes. The neighborhood is good accessible because of its own station: station Utrecht Overvecht. Next to that the city centre of Utrecht is also very good accessible by bike in around 10 minutes and walking in 35 minutes. The walking pace of children is a bit slower. They walk approximately 3 kilometers per hour. *(wandelblog.nl, 2023)*

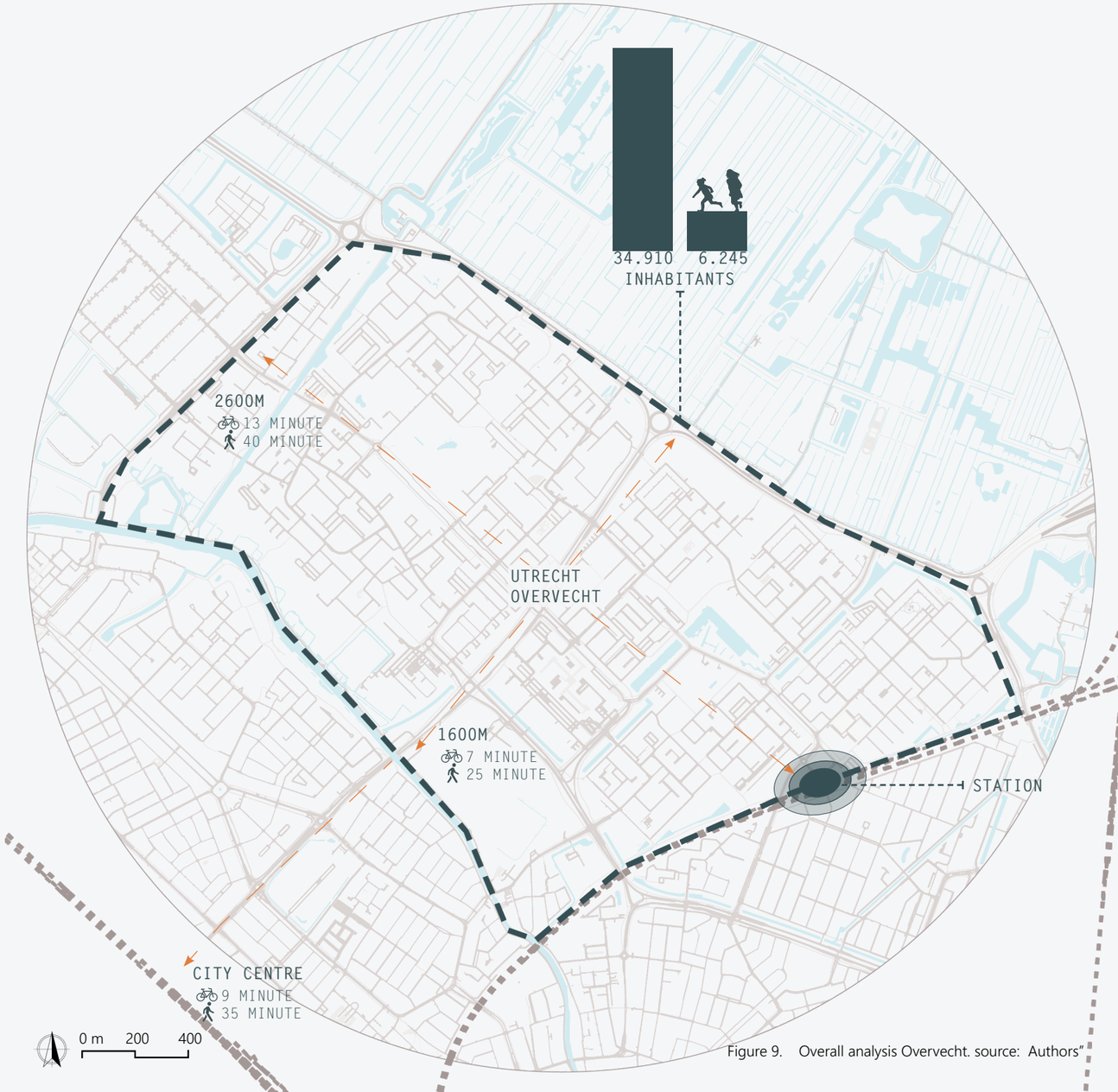


Figure 9. Overall analysis Overvecht. source: Authors"



Figure 10 Typology in Utrecht Overvecht, source; (Gemeente Utrecht, 2022)

Utrecht Overvecht is divided into ten different districts. One of them is an industrial area and another one is polder area. From now on, this project focuses on the eight housing districts. There is a notable difference in the different districts looking at the housing typology. In the north we see a lot of high rise and open spaces. In the south we see low rise and both with a high dominant car structure.
The municipality of Utrecht stated that the car was dominant in the design of the neighborhood in the 1960s. A lot of space was given to wide roads and parking lots. These major roads are now difficult to traverse and sometimes lead to unsafe situations *(Gemeente Utrecht, 2022)*.

Utrecht Overvecht has notable low scores for social cohesion and public space. For example: the general neighborhood opinion (of the public space), scores a 5,7 compared to a 7,3 for the average of Utrecht *(Gemeente Utrecht, n.d.)*.

We see also more obesitas and less exercising among children in Overvecht compared to the average of Utrecht *(Gezondheidsmonitor Jongvolwassenen & Gemeente Utrecht, n.d.)*. This relates to the sedentary lifestyles as explained in the chapter: problematization of play.
Research shows that increasing amounts of children with obesitas does partly relates to less movement or outdoor play. *(Den Hertog et al., 2006; Nicis, 2007; De Vries et al., 2010)*
At the same time there are more children living in Utrecht Overvecht compared to the average of Utrecht. Furthermore, the city is still growing. Utrecht Overvecht wants 5000 new residences in the coming years *(Gemeente Utrecht, 2022)*.

Overvecht has a lot of small playgrounds and “pierenbadjes”: wading pools. Especially the “pierenbadjes” are very typical in this neighborhood. Nevertheless, they have become less vibrant. It seems like they are not attractive enough anymore in this digitalized century. At the same time, Overvecht has a lot of openness and public space. But this space is not safe to play, mainly because of the car. The book “De nieuwe generatie stadskinderen”, explains a similar situation. They interviewed an amount of mothers about the needs for playing opportunities, who explained that there is not a lack of space, but that the space is not suitable for play. They mention the missing space for children to run or play ball games.
(Karsten & Felder, 2016)
All in all, this neighborhood has interesting characteristics to dive further into.

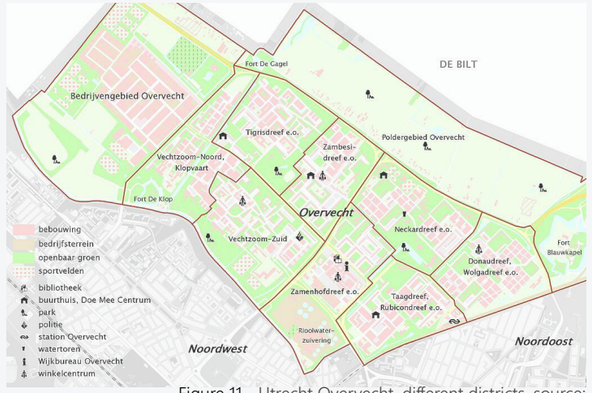
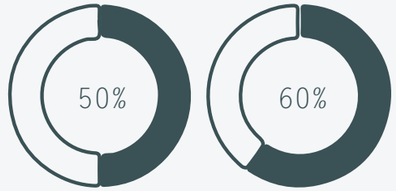


Figure 11. Utrecht Overvecht, different districts, source: *(Gemeente Utrecht & Ruimtelijke informatievoorziening, n.d.)*


Figure 12. Small “playground” in Utrecht Overvecht. source: Authors”



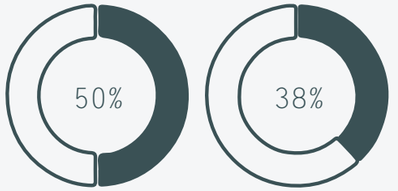


Figure 13. Data Overvecht and Utrecht. Data graphics from: *(Gezondheidsmonitor Jongvolwassenen & Gemeente Utrecht, n.d.)*.



Figure 14. The neighborhood consists of a lot of empty paved areas with garage boxes. Source: Authors"



Figure 15. Overvecht has a lot of green and opennes. But most of this public space is at this moment not play friendly. Source: Authors"

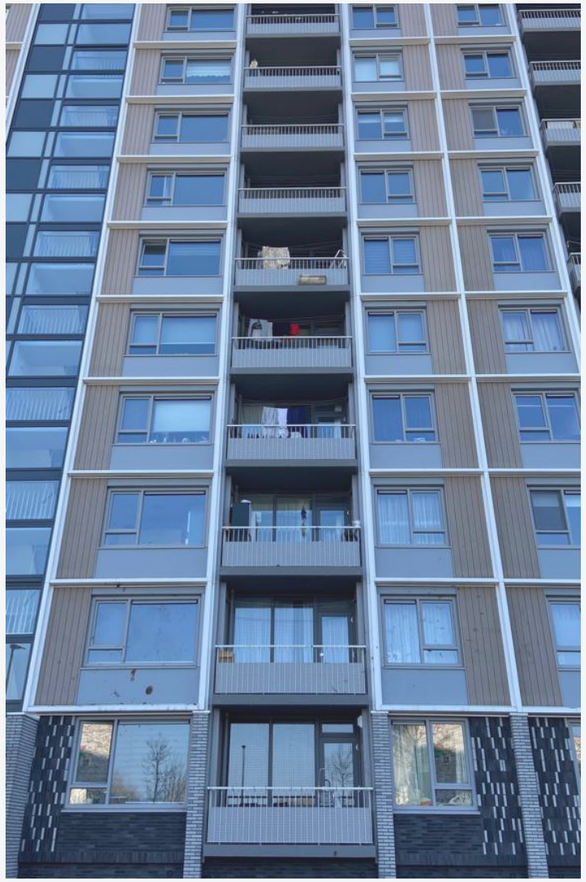


Figure 16. A lot of appartment and a lot of cultures, which results in anonymity in the neighborhood. Source: Authors"



Figure 17. Overvecht has a very present traffic structure, which is reducing the child-friendly-ness. Source: Authors"

Challenges in Overvecht

Starting with diving further into the social challenges in overvecht illustrates that the challenge about the overprotective parents (as explained on page 26)is very clear visible in Overvecht. The urbanization in the last decades resulted for Utrecht Overvecht in a diverse multicultural neighborhood. This has resulted in segregation in the public space and because of that also a decreasing social cohesion and interaction among the different cultures. As a result that this is specifically visible among the children *(Buurma, 2016)*.

A big percentage of the inhabitants of Overvecht has a migrant background. At this moment around 50% of the inhabitants is non western. A big part, 38,9% of all the inhabitants, have a maroccan background. This is seen in figure 18. *(allecijfers.nl, 2023)*
This results in a neighborhood with diverse cultures and habitats living together.

In the neighborhood of Overvecht, some parents with a western background have become overly protective when it comes to allowing their children to socialize with children from non-western backgrounds. This is mainly due to the different cultural norms and values that non-western children grow up with. These parents are worried that their own children might be influenced negatively by the other children. This results sometimes even in choices of parents to send their children to schools outside the neighborhood or even keep their children inside from playing with other children in the public space. *(Buurma, 2016)* This is also visible when walking through the neighborhood. A lot of non western cultures are visible and the mix between native, western and non western backgrounds looks missing. Because of the protectiveness of these parents, this segregation is mainly visible among the children.

Next to that we see that the social cohesion is decreasing in Utrecht; in januari 2023 more than 50% disagrees with the statement that they experience more social cohesion in the society. This is seen in figure 20 *(Utrecht Monitor & Bewonerspaneel, 2023)*. A low social cohesion is resulting in less social interaction among neighbors. And this in the end will increase "stranger danger", as what we see in Overvecht, among the different cultures. Stranger danger can be explained as not trusting people who you do not know. *(Steg & De Groot, 2019)*

All in all, increasing the social cohesion and interaction in Overvecht is important to decrease the social division between different cultures. This should increase the trust of overprotective parents and in the end give more freedom to their children and give back the possibility to play outside with other children.

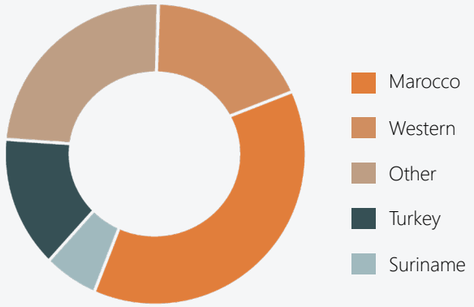


Figure 18. Migration backgrounds in Utrecht Overvecht in 2022, data graphics from: *(Utrecht Monitor & Bewonerspaneel, 2023)*

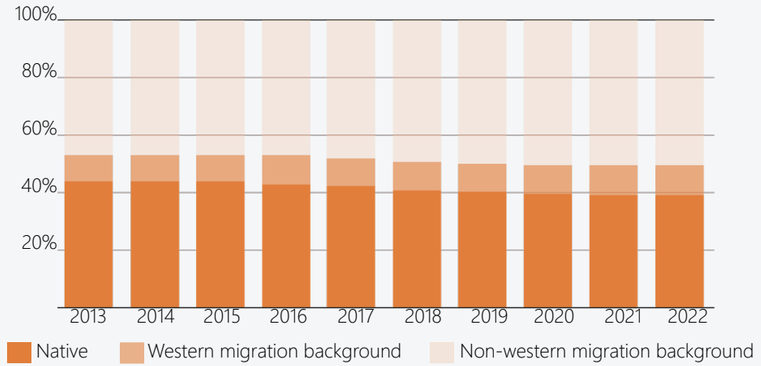


Figure 19. Native or migration background in Utrecht Overvecht between 2013 and 2022, data graphics from: *(Utrecht Monitor & Bewonerspaneel, 2023)*

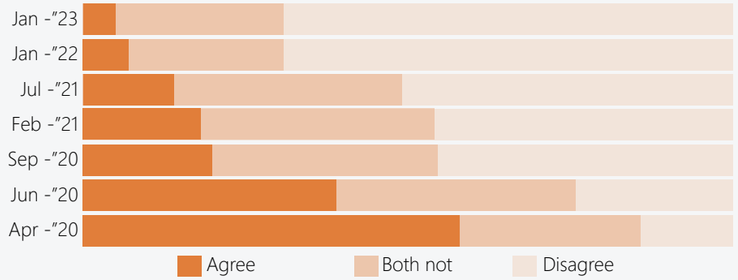


Figure 20. "I experience more social cohesion in the society", data graphics from: *(Utrecht Monitor & Bewonerspaneel, 2023)*

AIM OF THE STUDY

Outdoor play is decreasing which is causing negative effects for child development, physical health, mental well being and social relations. (as explained on page 22-23) There is more needed than only a playground in a neighborhood to make outdoor play popular again in this digital and urbanized century.
For this design assignment, multiple components should come together like the needs in an urbanized digital century, but also the needs of different personality types of children and how to attract them. Not only a playground, but different interventions through different scales are needed. The design assignment is to find out what is needed in Utrecht Overvecht. And what this new playful urban environment will look like.

The aim of this study is to create a child-friendly and playful urban environment in Utrecht Overvecht that ensure a brighter future for the neighborhood and its future generation.

By adding the component of "child-friendly", it is essential to recognize that the outcome should not only prioritize playfulness but also children's physical and mental health. These aspects align with the goal of securing "a brighter future for the neighborhood and its future generation". For instance: through child-friendly design the child development will have positive effects which will benefit children on the long term, the future generation.

With a growing number of children nowadays *(Gemeente Utrecht, n.d.)*, the needs of this group may be more direct and require urgent attention. Enhancing living conditions for children can have immediate positive effects on the community.
This study for Utrecht Overvecht can also serve as a case study for other locations. Giving clear principles and innovative design solutions for achieving a playful city can improve the usefulness of this project for future research on other locations.

This study aspires to outcomes which are a first important step into the right direction, a more successful playful urban environment. Next to that with bringing awareness for different people to not underestimate the importance of outdoor play.

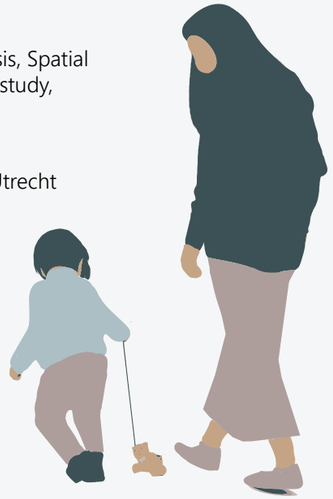
RESEARCH QUESTION

HOW CAN AN URBAN ENVIRONMENT BE TRANSFORMED INTO A CHILD-FRIENDLY AND PLAYFUL URBAN ENVIRONMENT THAT ENSURES A LIVEABLE FUTURE?



RESEARCH FRAMEWORK

Problem field	Redesign for lack of succesful playful environments
Key words	Urban design | Playful city | Human scale | Child-friendly | Outdoor play | Inclusivity
Location	Utrecht Overvecht
Problem statement	Challenges resulting from urbanization, like sedentary lifestyles, traffic hazards and social isolation, have a negative impact on the well-being and development of children, particularly affecting their ability to play freely in the city.
Research aim	Create child-friendly and playful urban spaces in an urban environment that ensures a brighter future for the neighborhood and its future generation.
Research question	How can an urban environment be transformed into a child-friendly and playful urban environment?
Design assignment	The conclusions from the research show what is needed for a succesful playful urban environment. The design assignment is to transform these conclusions into a design of a spatial play-plan for a specific location: Utrecht Overvecht.
Research and design approach	Theory to understand the urgency and needs of play, combined with research by design to generate suitable solutions for Overvecht.
Used methods	Literature research, Demographic analysis, Spatial analysis, Research by design, Reference study, Site visits.
Desired fiinal outcome	A design visualizing what is needed in Utrecht Overvecht to be transformed into a child-friendly and playful urban environment that ensures a liveable future for the neighborhood and its future generations. And what this new playful urban environment may look like. This is visualised with a spatial play-plan for the total neighborhood and some zoom ins to understand the smaller scale.



Main research question
"How can an urban environment be transformed into a child-friendly and playful urban environment?"

To awnser this question, multiple research and design subquestions are formulated. Each of these subquestion focuses on a part of the main question. Bringing all the conclusions together of the research questions will give an awnser for the main research question. Next to that, bringing all the conclusions of the design questions togheter will help to bring up a site specific design for Utrecht Overvecht.
An important aspect of this design for a succesful child-friendly and playful urban environment in Overvecht is that it should ensure a liveable future for the neighborhood and its future generations.

Sub question 1
What are the different needs for a succesful inclusive playful environment?

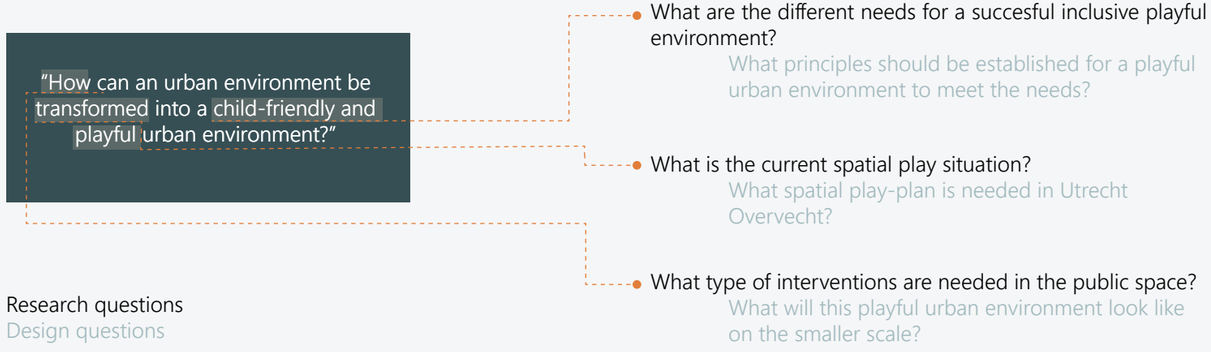
This sub question goes further into theories to understand what is needed to create a succesful playful urban environment. Through research by design and these findings, this research question will be concluded with principles, which can also be used for broader application. These principles can be seen as the needed goals to achieve the main research question.

Sub question 2
What is the current spatial play situation?

Next to the principles for a succesful inclusive playful environment, the current urban fabric and its needs should also be understanded. This will be done by analysing the choosen location Overvecht. With this step needed interventions will be made clear which will help to achieve the spatial play plan for Overvecht. Research by design is a main method to achieve this spatial plan.

Sub question 3
What type of interventions are needed in the public space?

A reference research will be done to understand needed interventions. Some zoom ins for Overvecht will be made to understand which design interventions are needed and how this spatial plan can work on the smaller scale. Working through the scales will show how Utrecht Overvecht can be transformed.



METHODOLOGY FRAMEWORK

Main research question	Sub research questions	Method	Expected outcomes
"How can an urban environment be transformed into a child-friendly and playful urban environment?"	What are the different needs for a succesful inclusive playful environment?	• Literature research on needs for different types of children, like: risk vs comfort types biophilia vs videophilia types and different play personalities • Spatial analysis • Design thinking	This research question will be concluded with principles, which can also be used for broader application.
	What is the current spatial play situation?	• Research by design • Literature research • Spatial analysis of Utrecht Overvecht • Gis mapping of Utrecht Overvecht • Site visits	A spatial play-plan that will focus on how these principles can be integrated on the location of Utrecht Overvecht. This spatial play-plan will show the vision and will be explained with a design on the scale of Utrecht Overvecht.
	What type of interventions are needed in the public space?	• Research by design • Reference research • Spatial analysis of the selected sites in Utrecht Overvecht	Zoom ins that will show how this spatial plan can work on the smaller scale. These zoom ins will be understandable by visualisations, like plans, sections, eye perspective etc.

METHODOLOGY FRAMEWORK

Research by design method

This project is elaborated through a design approach. Therefore, the research method, research by design is coming back a lot. The research by design method is mainly used by generating design options to inspire creativity and compare different solutions to find out which works the best, through evaluating their strengths and weaknesses. This design exploration of option generating is also part of the ADP Methods from the Delft Approach. This method personally, helps a lot for making conclusions for the design.
The “Elements of the Delft approach” is explained within an urbanism course, The approach is about using analysis, design and presenting parallel, by switching fastly between them.

An illustrative example of the method’s application can be seen in figure 21. By generating design options it gives me the opportunity to think out of the box. By then analyzing the pros and cons of each design enables the formulation of conclusions regarding the most effective interventions for a specific location. The next step involves the integration of these outcomes to facilitate the development of a more comprehensive design.



Figure 21. Research by design method, source: Autors”

CONCEPTUAL FRAMEWORK

The conceptual framework visualizes the structure of this project. With this project a new way of playing will be designed in Utrecht Overvecht. Through understanding the urgency of playing and at the same time take the challenges into account, conclusions could be made about what play should be abided by.
As explained in the introduction part of this report, there is an urgency of playing for: child development, physical health, mental well being and social relation. Furthermore, there are growing challenges in this generation because of urbanization, screens, busy lifestyles and missing awareness.

Then there is a range of target audience values which results in multiple different forms of playing that are needed, each of them interesting for one or multiple target audiences. Some of these different forms of playing would have overlap with each other.

Eventually, these forms of playing will come together in a combined design for Utrecht Overvecht. A design that because of this framework, will have a child-friendly and playful urban environment that ensures a liveable future for the neighborhood and its future generations.

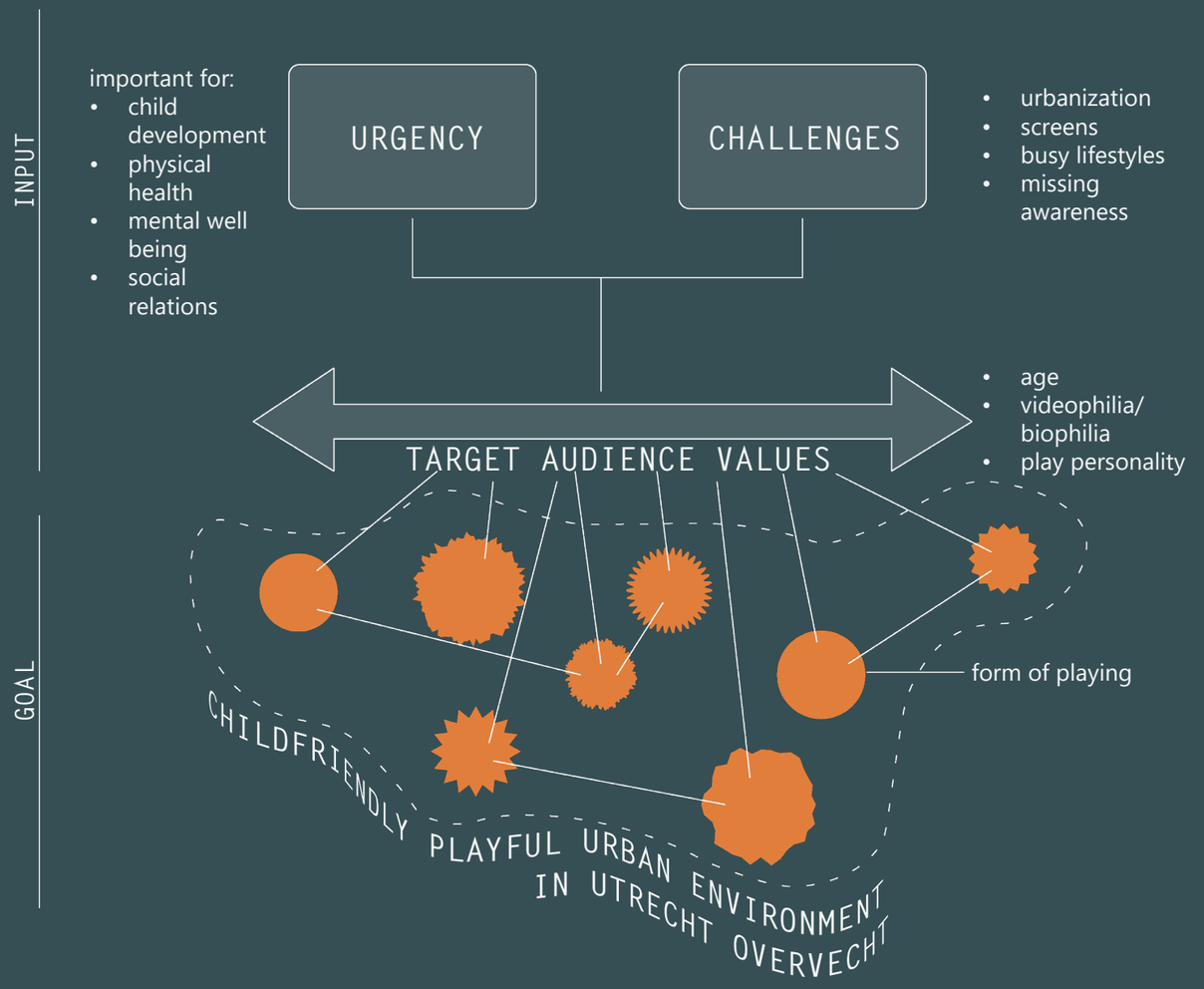
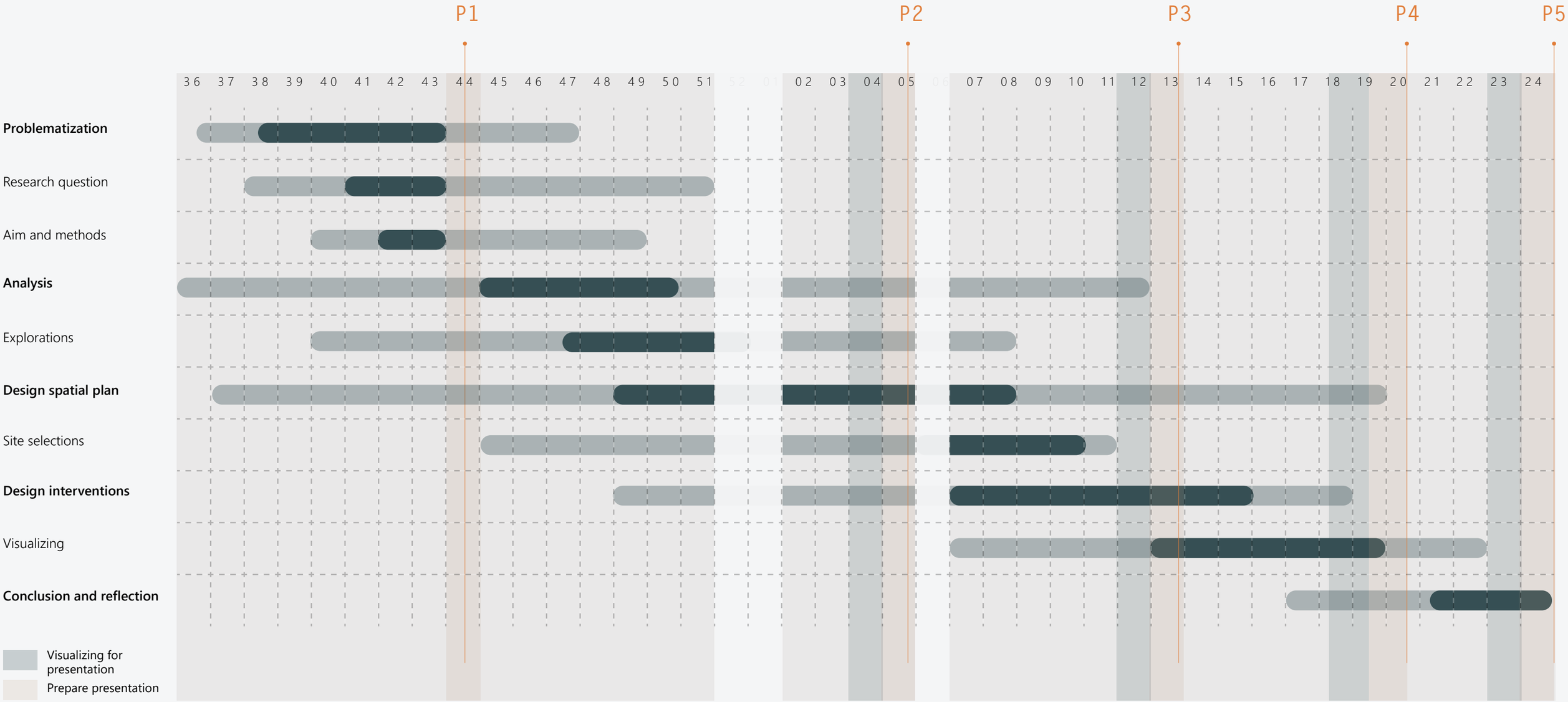


Figure 22. Conceptual framework. source: Authors"

PLANNING


P1
P2
P3
P4
P5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Problematization
Research question
Aim and methods
Analysis
Explorations
Design spatial plan
Site selections
Design interventions
Visualizing
Conclusion and reflection
Visualizing for presentation
Prepare presentation

SOCIETAL, PROFESSIONAL AND SCIENTIFIC RELEVANCE

Societal relevance
This project's societal relevance is present by creating happier, healthier, and more connected communities. The decreasing amount of "play" in our younger generation is a threat for child development, physical health, mental well-being and social relations. Children are our future; therefore a shift is needed in our environmental design by focusing on attracting children to play outdoors again.
With this project, pressing urban challenges will be addressed. It is relevant for the children and the community itself, but also for the future generation.

"If a city is a healthy place for children, it is a healthy place for everyone."
(Enrique Peñalosa, quoted in Brown et al., 2019)

Starting from designing for a target group like children should also increase the social cohesion, liveability and safety for pedestrians. With this starting point we can create places interesting for children but also older target groups. And in the end improving neighborhoods for everyone.

Professional relevance
By providing principles and design solutions that can be applied in other locations, this project's research outcomes have the potential for broader application. This project can contribute to the field of urban planning, design, and child development, providing insights and solutions that can be beneficial for both researchers and practitioners.
This is important, because at this moment the awareness of the importance of play is underexposed.

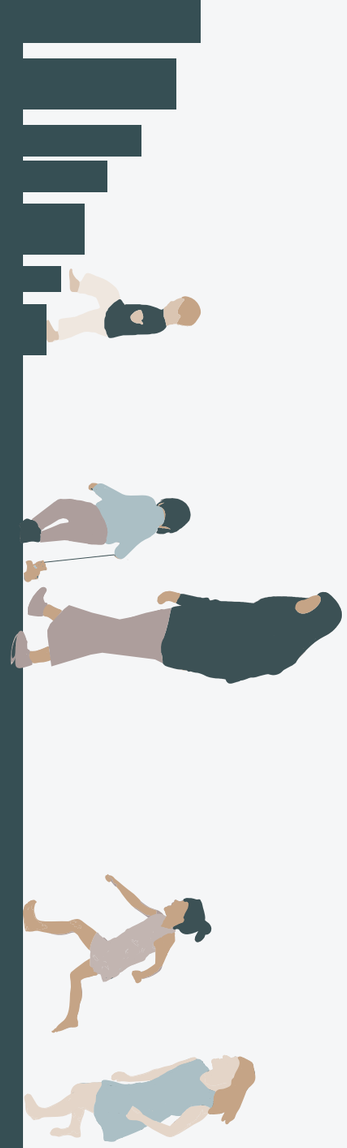
Scientific relevance
Creating more awareness extends the scientific relevance to a wider urban planning and design audience. Furthermore, creating awareness among a wider audience should improve scientific attention.
Next to the changes designs in the built environment can make, this awareness is also an important step for for example the parents. Helping understanding the urgency of play will improve the scientific relevance and this can change their way of upbringing their children and with that improve their (future) well-being.

In conclusion, the societal, professional and scientific relevance of this project illustrates that the need to redesign environments encouraging outdoor play and to create knowledge and awareness among a wider audience is a priority for children and will also benefit the community itself.

ETHICAL CONSIDERATIONS

Ethical aspects which are important to consider when designing for Overvecht include: Child safety, Inclusivity, Environmental impact, Long term inpact and Cultural sensitivity.

- Child safety: Prioritizing the safety of children in urban environments is necessary. Ethical considerations include reducing traffic risks and creating secure play areas.
- Inclusivity: Ensuring that the design of urban spaces is inclusive and accessible to all is an ethical issue.
- Environmental impact: Creating green and playful urban spaces aligns with ethical concerns about environmental sustainability.
- Long term impact: The long-term impact of the project on future generations should be considered. Ethical planning should aim for sustainable (climate positive) solutions.
- Cultural sensitivity: Utrecht Overvecht is a culturally diverse community. Ethical urban design should respect the cultural diversity of the area, providing spaces that are inclusive for different communities.



02 UNDERSTANDING PLAY

RISKY PLAY

As explained in the chapter: problematization of play, outdoor play serves an important role for a child's mental development. Through outdoor play children will experience both highs and lows. It teaches them how to handle various situations in life which is crucial for a child's mental development. Especially risky play can benefit children's mental development, where they may have to face their fears in dangerous settings. *(Ellen Sansetter, in The Documentary Channel, 2022)*

Risky play is a different form of playing. Children can get in more risky or dangerous situations. They can get injured, face uncertainty or sometimes face things that they can find a bit scary. Through childrens eyes risky play can be seen as thrilling or exciting, they also call it: scary funny. *(Ellen Sansetter, in The Documentary Channel, 2022)* This risky part is what makes risky play important and at the same time interesting for the development of children. It is extremely learnful, because it is expanding their limits. Children learn how to handle different situations, different setbacks but also different fears. Furthermore there is even research which suggests that risky play might help to prevent phobias. They have found for example, a higher number of people who did not had experience in climbing have a phobia of heights. *(The Documentary Channel, 2022)*

Ellen Beate Hansen Sandseter is one of the world's leading experts of risky play. She has found six categories of risky play based on her research:

Great Heights



Adventurous play at great heights offers children the opportunity to climb, hang or balance. As Sandseter explains *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)* does this form of play help children to face their fears, such as the fear of heights, thereby give them more confidence.

Rapid Speeds



Rapid speeds provides children the opportunity to run, slide, skate with a high speed. These activities facilitate the development of physical skills and understanding their bodies capabilities. This contributes to the overall physical development of children. *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)*

Dangerous Tools



The use of dangerous tools affords children the opportunity to engage in creative play and to experiment with new tools such as saws, rope or power tools. This form of play helps children to develop skills and confidence in using these more dangerous tools. *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)*

Dangerous Elements



Dangerous elements can provide children with the opportunity to engage in play activities such as playing with fire and moving water. As Sandseter explains, does this form of play help children to understand nature and face fears. *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)*

Rough And Tumble



In the context of rough and tumble play, children have the opportunity to engage in physical activities such as fighting, wrestling or chasing. As Sandseter explains does this form of play help children to improve their physical and social skills. *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)*

Disappearing Or Getting Lost



Disappearing or getting lost gives children the opportunity to explore new or unfamiliar spaces. *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)* This form of play can help children to understand new environments and build confidence.

Figure 23. Six categories of risky play, source: *(Sandseter & Explorations Early Learning For Playvolution HQ, 2020)*

VIDEOPHILIA - BIOPHILIA

Playing outdoors is becoming less popular which is causing concernings for child development, physical health, mental well being and social relations.
According to Edwards and Larson (2020) nature based play is declining under twenty-first-century youth. One of the main causes is that there is a transition happening in human orientation. The connection to nature, also explained as CTN, for children is declining. One of the main reasons is that a lot of this outdoor play becomes replaced by screen time. The human orientation is transforming from nature to digital media. *(Edwards & Larson, 2020)*

Biophilia – orientation towards nature
Videophilia – orientation towards digital media

A qualitative research from Sebire et al. (2011) indicates that 10- to 11-year old children would replace their screen time with active recreation if they had to decrease it.
"If there wasn"t the technology then I would probably be out everyday" *(10- or 11- year old in (Sebire et al., 2011))*
Digital media can be seen as leisure activities which compete with outdoor play. Due to situations why CTN is decreasing, as: growing parental risk aversion, urbanization an less access to green, societal reliance on digital media, over-organized childhood and decreasing parental CTN, this transition from biophilia towards videophilia is occurring. *(Edwards & Larson, 2020)*

What is concerning is that impact of nature based programs is often limited because of the disappointing participation of youth. Wild nature environment can be interesting and will have a positive impact on CTN oriented children. While on the contrary videophilia focused children can find this to intimidating or not inviting, because of their low CTN lifestyle. There are specific interventions needed for digital media oriented children to succeed their participation in outdoor play. *(Edwards & Larson, 2020)*

We"re living in a digital century, where the urgency of outdoor play is extremely increasing, but at the same time the possibility to attract people to participate in outdoor play is becoming a bigger challenge.

For videophilia focused children these environments need to inspire curiosity and have comfort in nature. This comfort in nature is for them growing in managed environments which is in contrast to the wild environments which are important for biophilia focused children. *(Edwards & Larson, 2020)* This is shown in figure 24.
At the same time these environments should have a form of entertainment that can compete with digital media.

Edwards & Larson, 2020 describe five recommendations which give little guidance to attract young people who are more videophilia oriented to interact with nature-based play:

"Recommendation 1: ensure marketing and engagement strategies reach and appeal to digital-media-oriented youth

Recommendation 2: select locations with unintimidating forms of nature to increase comfort levels of digital-media-oriented youth in the outdoors

Recommendation 3: create role models by involving entire families and mentors

Recommendation 4: integrate gamification techniques within program design

Recommendation 5: use location-based,technology-enhanced learning approaches to leverage prior interest in digital media"(Edwards & Larson, 2020)

Not all these recommendations are even interesting, looking at spatial design of play areas. Nevertheless, recommendation 2 can be seen as a good principle for spatial design of outdoor play to also attract videophilia oriented children more.

On the other hand, videogaming also has its own benefits. Video games are in literature and research mostly highlighted as problem-giving. Nevertheless, research from Granic et al., 2013, has shown interactive video game play is also able to improve social, emotional and mainly cognitive skills. Just like outside play can do. *(Granic et al., 2014)*

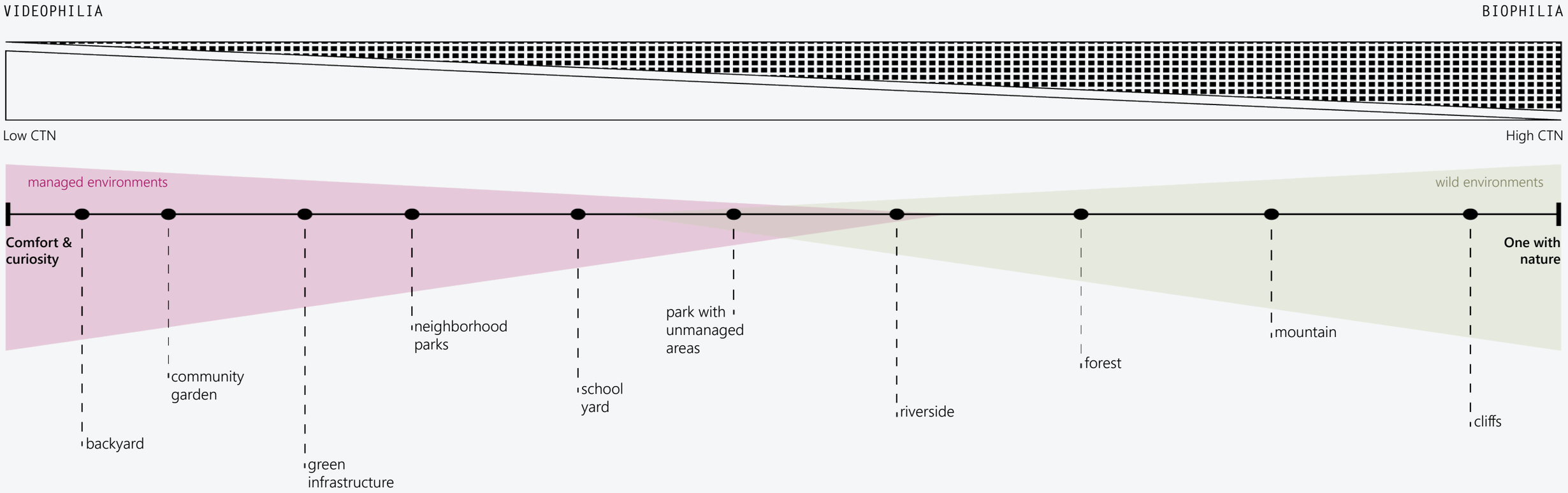
But the importance of the physical interaction in outdoor play is much more important for the child development and health. Therefore we should find new forms of playing to attract children from gaming inside to playing outside. We can learn from games by looking at their success elements of how they became popular to introduce in outdoor play. This is done in chapter: the success of videogames.

However, to make this clear, not every child is biophilia or videophilia oriented. For example a child who likes to play outside, but is not very connected to nature because he or she likes to sport a lot. On the other hand a child can also have a very low connection to nature because he or she likes to stay inside. This does not always immediately have to mean that this child is very screen focused. But, when staying inside, screens are very obvious and easy accessible. Screens are forming a serious challenge, because of their competition with outdoor play as explained in the "challenges" chapter. This is why this project should consider videophilia oriented children as an important actor from the target audience.

For these videophilia oriented children, the accessibility of play is very important to make it more attractive. For the term "accessibility" this project works further with the theory of Bruner.

Bruner explains that the relative accessibility depends on two factors *(Bruner, 1957)*:
First, the accessibility depends on the likelihood or past exposure to minimize the surprising value. Relating this back to an urban environment makes it understandable that a location is better accessible for a person knowing that certain location and surroundings. But also makes it better accessible if the likelihood is higher to visit that location. Sightlines and landmarks are important to understand and recognize certain routing.
Second, the relative accessibility depends on the search requirements of a person and with that the attainment of objects or events. Relating this back to an urban environment an example can be the search requirements to get groceries and then the attainment to this (super)market. So how far is that certain location.

To conclude, videophilia oriented children mainly need more comfort and curiosity in the public space to be involved in outdoor play. This can by achieved by using comfortable forms of nature, a high accessibility to play and the integration of gamification techniques. On the other hand, biophilia oriented children are more attracted by wilder forms of nature.



Important for videophilia oriented childrecn:

- recognisable surrounding
- accessibility

Important for biophilia oriented childrecn:

- wild nature
- new surroundings

Figure 24. Videophilia and biophilia, source: Autors"

PLAYING PERSONALITIES

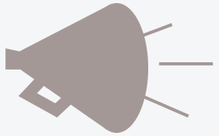
While one child has more needs to run or be physically active outside, another one can catch interest if a location invites creativity. This is all based on someone's personal interest. Stuart Brown has defined eight different types of play personalities. Mainly people are a mix of some of these personalities. But most of the time people can identify one or more dominant ones. *(Monroe, 2023)*
Stuart Brown is founder of NIFP (national institute for play) and has researched play backgrounds of 60.000 people. He finished more than 5.000 reviews about play histories of people and concluded that people have play preferences which he could link to eight play personalities *(National Institute for Play, 2023)*, which are described below. It is important to understand these different play personalities to understand what is missing in the current playground to meet the needs of all different types of children. There should be interesting play areas for everyone, not for for instance only one play personality.

Each play personality has different interests and feels attracted to different forms of play. With an exploration, the interests of the different play personalities have been made spatial. The Joker and the Director can be seen as personalities with no high values for a certain spatial environment. They have higher values on social levels. That is why these have not been made spatial.



JOKER

The joker describes personalities which can typically be described as the class clown. *(Headspace, n.d.)* The persons are often fun, silly and enjoying jokes. *(National Institute for Play, 2023)*
Their play style can be described as a high energy play style. They are not looking for certain play elements but often enjoys playing with others and needs space to express themselves.



DIRECTOR

Where the joker likes to enjoy and entertain people, the director is more a person who likes to host, organize and plan things. They play by planning. *(National Institute for Play, 2023)*
In this play style you often see people back who are leaders of a group. They like to have control and organize things themselves. They need opportunities for planning and organizing.

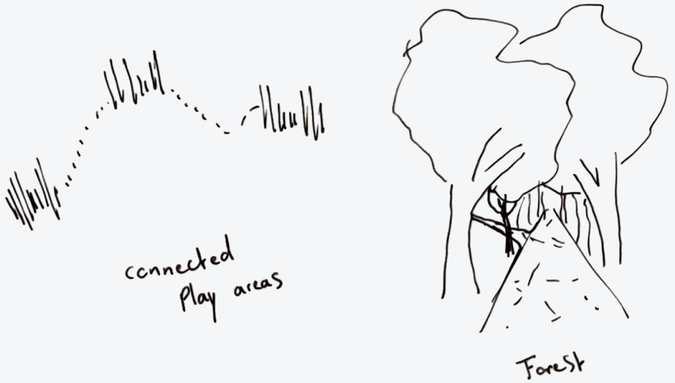


Figure 25. Play environments attracting explorer personalities, source: Autors"



EXPLORER

The explorer is a play personality which likes to explore new places, new games, new ideas or new information. This person can become enthusiastic when discovering something new. *(National Institute for Play, 2023)*
The play style of the explorer can be described as a curious play style. It is a lot about finding the unexpected. They need areas where they can explore new things every time. With a design based exploration, environments are lisited where this play personality can play in an explorative way. Therefore, wild nature can be interesting providing rich and diverse natural environments to be explored. Furthermore, another form of explorable environment could be interesting, with a diversity of public spaces. And lastly unexpected new places are attractive for an explorer play personality.

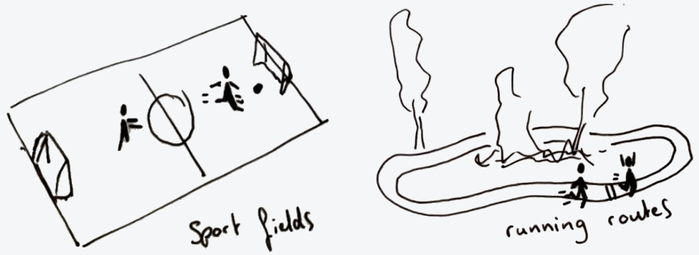


Figure 26. Play environments attracting competitor personalities, source: Autors"



COMPETITOR

The competitor can also be an active play personality, but for this person it is all about winning. He or she can be very competitive. *(National Institute for Play, 2023)*
This play style is often linked to sports and games. This person likes to keep scores and make a competition out of things. With a design based exploration, environments are lisited where this play personality can play in a competitive way. Therefore, sports with scores or playing against each other can be interesting providing the competition element. Furthermore, a lot of online games or boards games are also attracting this personality. Visible is that this play personality needs competition in play to be attracted.

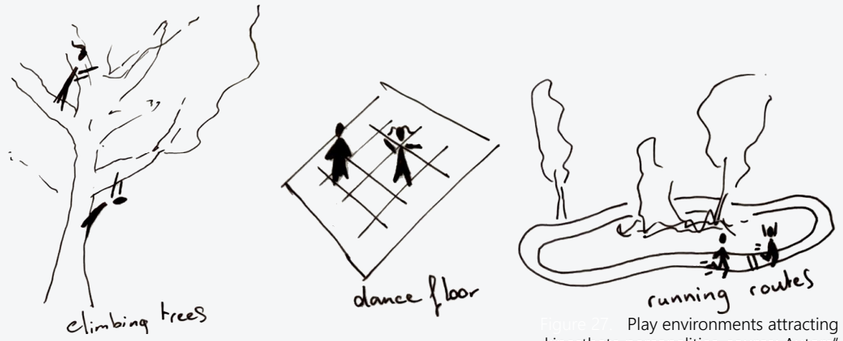


Figure 27. Play environments attracting kinesthete personalities, source: Autors"



KINESTHETE

Where the joker can be very active in social interaction, is the kinesthete play personality very active in movement. A person with a kinesthete play personality often likes to move. *(National Institute for Play, 2023)* For example: when running, walking, cycling, swimming or even dancing. This personality is found back a lot among restless people/ children. They most of the time need physical play where they can be in motion. With a design based exploration, environments are lisited where this play personality can play in a kinesthete way. Therefore, routes or networks can be interesting providing the possibility for running, cycling or walking. Being in motion does not always needs these networks, for instance a dance floor or trees to climb in is also attracting kinesthete personalities.

"Leon runs down slopes and jumps over posts. At parking spots, he hops from one curb to the next," his mother says. "He actually doesn"t need any fancy playground equipment to have fun. Look, now he's enjoying himself on a simple climbing frame. And as you can see, he's already playing on the way here. That's often the case; I just have to factor in that we"ll take three times as long to get to a store or from school to home." An interview done by (Karsten & Felder, 2016), described in "De nieuwe generatie stadskinderen".



Figure 28. Play environments attracting collector personalities, source: Autors"



COLLECTOR

The collector is someone who likes to collect things. With this play personality, you can think of collecting interesting objects. But also collecting experiences. This person can be thrilled because of their collection. *(National Institute for Play, 2023)*
In this play style people can become enthusiastic by expanding their collection. Among children you can often see this with trends and collecting certain cards or coins. Another form of playing linked to this personality is play at marbles and winning more marbles to expand their collection. With a design based exploration, environments are lisited where this play personality can play in a collective way. Therefore, natural environments can be interesting providing collectable items. Furthermore, this personality can be interested in gamification techniques providing things which could be collected within an app.

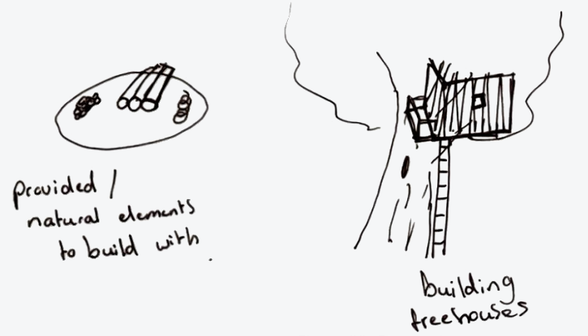


Figure 29. Play environments attracting artist personalities, source: Autors"



ARTIST

The artist is a play personality which likes to build or design new things. These people often likes inventing, designing, constructing, or building. *(National Institute for Play, 2023)*
Their play style can be described as a very creative play style. They often do not need certain play elements, they have enough creativity to make their own elements or games. With a design based exploration, environments are lisited where this play personality can play in a creative way. Therefore, environments with access to (natural) materials can be interesting providing the opportunity to build. Furthermore, a form of risky play where children build with dangerous tools can be another attractive form of play for artis play personalities.

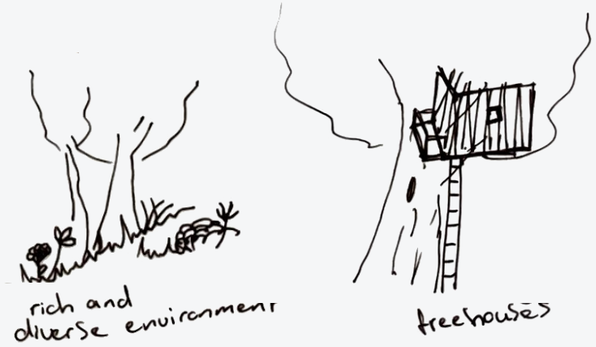


Figure 30. Play environments attracting storyteller personalities, source: Autors"

STORYTELLER

Lastly, the storyteller is a play personality which describes persons who likes to create their own scenario or characters. They can often imagine a whole story about one object. *(National Institute for Play, 2023)* Their play style can be described as an imaginative focused play style. Sometimes areas or elements can increase this imaginative exploration. With a design based exploration, environments are lisited where this play personality can be attracted to to play. Therefore, free forms of play can be interesting providing a flexibility for imagination. Furthermore, an overall environment which stimulates imagination is needed to attract this personality.

Looking at all the elements of the different play personalities gives insight into what very specific forms of play and which environments are suitable for different play personalities. **A lot of different needs, that are not visible in the current playgrounds. Therefore, more variety in play is needed linked to the play personalities.**

There is one element standing out, which works for every play personality: the forest.
A forest with a rich and diverse environment, provided natural elements to build with, a running route, trees to climb in and sport areas forms an environment attractive for all play personalities.

However, this is only working for very biophilia oriented children. For videophilia oriented children, more close by in comfortable nature, areas are needed.



Figure 31. Stairs and slide at station Utrecht Overvecht, interesting for kinesthete play personalities. source: *Authors"*

THE SUCCES OF VIDEOGAMES

Videogames have become super popular. Each game has their own element of success. What if some of these elements can also be introduced in outdoor play?

To understand the success of different games, the 20 most popular video games of all time, according to *(Tyler, 2023)*, are analyzed. Part of their elements of success according to *(Tyler, 2023)* are listed underneath. The ones that are listed per game are the ones which may also be interesting for outdoor play:

Looking at these elements, some specific play personality based preferences are coming back in the games. So, the success can also be linked to super interesting features for a specific play personality. These are highlighted with [ ]
For example: innovative motion control is very interesting for a kinesthete play personality. The rest of the elements can be interesting for all personalities in outdoor play.

All in all a few important success elements are coming back in multiple games and are possible to be introduced in outdoor play, namely:

- new experiences (each time you play),
- link to playing personalities,
- and customize to own interest.

In my opinion, a new layer is needed for outdoor play to compete with indoor games. Succes element of videogames can be introduced in outdoor play. Furthermore, social interaction and making play part of the daily routine is how playing can stand out versus indoor gaming. Because these elements in real life are not feasible in online gaming.

1. **Pacman**
   Progressive difficulty curve
   Mimics the childhood game of tag

2. **Tetris**
   Puzzle genre

3. **Wii sports**
   Popularity due to social media
   Innovative motion control

4. **Sonic the HedgeHog**
   Unique speed

5. **The Sims**
   Endless possibilities
   Sandbox experience

6. **Diablo III**
   Fresh experience each time
   sense of adventure
   Thrill of collecting

7. **Super Mario Bros**
   Timeless game design
   Sense of exploration

8. **Super Smash Brothers**
   Character variety

9. **Pokemon**
   Nostalgia factor
   Timeless mechanics

10. **The legend of Zelda**
    Battle

11. **Metal gear solid**
    Innovative features

12. **Halo**
    Vehicles offer unique experience

13. **Final Fantasy**
    variety of outcomes
    replayability

14. **Call of Duty**
    realism scenario

15. **Angry Birds**
    Managed response time
    Playground alike
    variety of challenges

16. **Skyrim**
    boundless freedom to explore
    own fantasy
    customization of characters
    unique experience for each player

17. **Grand Theft Auto**
    Crime sandbox genre
    explore
    one of the most talked-about games

18. **WoW**
    Updates with new content
    Attracts diverse range of players

19. **CounterStrike**
    Teamwork

20. **Minecraft**
    Costumize their experience
    Personal sandbox

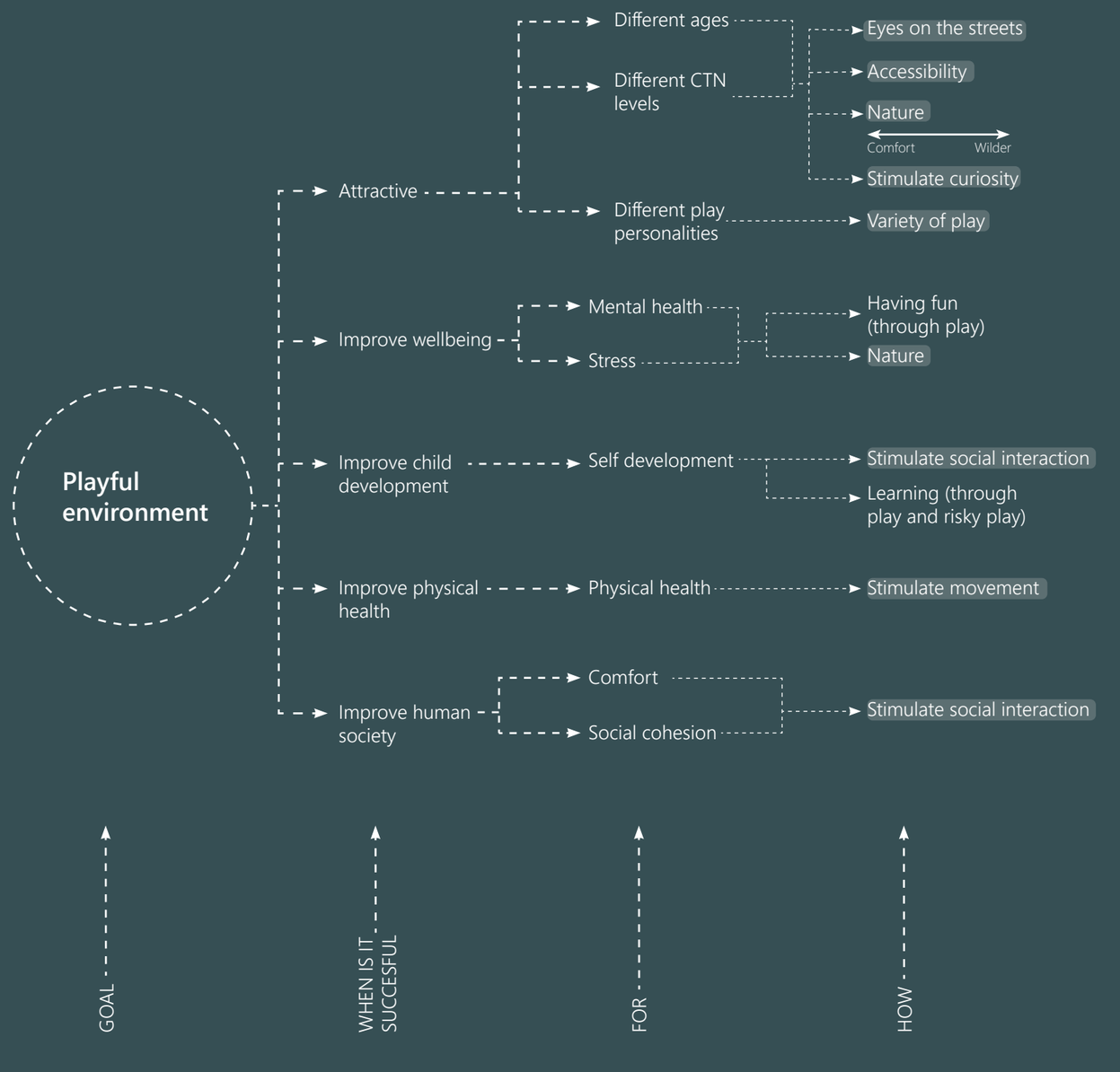
WHAT IS NEEDED

In order to comprehend the required elements, it is essential to look back at the aim and conceptual framework of this project. To achieve the aim, the goal is to create a playful environment. Based on the previous explained theories conclusions can drawn regarding the elements under which this playful environment can be seen as successful. Therefore it should contribute to the values which will be improved through play. Namely, wellbeing, physical health, child development and social relations. In addition, a playful environment should also be attractive for all different types of personalities. Like different CTN levels and play personalities.

The age of children also influences their needs. As discussed in the book "De nieuwe generatie stadskinderen", the age of children plays a significant role in the level of supervision. When children reach the age of ten, the level of supervision required from parents typically undergoes a shift. This is because parents tend to focus more on preparing their children for secondary school during this period. *(Karsten & Felder, 2016)* Consequently, the amount of "eyes on the streets" is mostly a lot higher for children under the age of ten. When this supervision is not possible, children may be unable to get the approval to play outside.

For the term "eyes on the streets", this project focuses on the theory of Jane Jacobs. Jane Jacobs relates eyes on the streets back to the presence of activity happening in a street. Where a crowd of people exists, our streets become safer for use. For example, if a situation occurs where a person is in trouble, there are eyes on the streets who can help or protect from danger. More eyes on the streets will enhance the social character of the public space, as it will be more likely for people to get to know each other.
"When there are people present in a public space such as city streets, it strengthens the space and inspires social cohesion." *(Jacobs, 2015)*

By looking at how the various elements of succes can be achieved summarizes what is needed for a playful environment. The highlighted terms, on the right-hand side, are used as beginnings of principles to work further with.



A comprehensive list is developed based on literature and an exploration of play personalities. This list serves to identify and summarize the diverse needs of various target groups.

The list, which highlights the unique requirements of each group, is shown on the right-hand page. It serves as a helpful guide in understanding the specific needs of different individuals, such as children with different ages, CTN levels and play personalities. Identifying and serving to these specific needs ensures that every individual gets the most out of their playtime.

AGE

Young children
- eyes on the streets
- accessibility: playing near facilities, playing close by home

Teenagers
- sport areas
- larger networks
- outdoor gym
- visibility

CTN LEVEL

Biophilia oriented
- wild nature in walking distance
- nature in networks
- free play in nature

Videophilia oriented
- eyes on the streets
- accessibility
- comfort forms of nature
- safe networks
- gamification techniques

PLAY PERSONALITY

Kinesthete — attractive places for movement

Joker — no spatial needs

Explorer — explorable environment

Competitor — games to play togheter

Director — no spatial needs

Collector — attributes or games for collecting

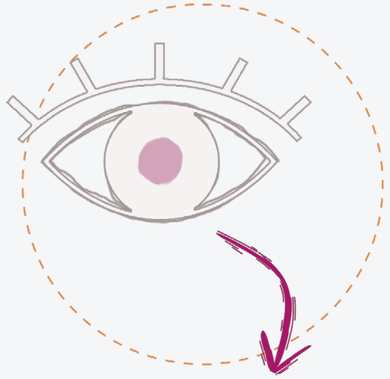
Artist — attributes for creativity

Storyteller — atmosphere which stimulates imagination

PRINCIPLES

All in all, every target group has other values to achieve successful playing in the public space. These values show what is needed based on the different theories and own research by design. All these values come together in the following four principles: eyes on the streets, accessibility, mix of nature and variety of play.

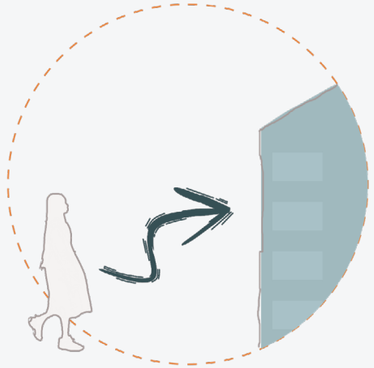
An important conclusion from the literature is that it is important to give children and playing a certain freedom or variety. By not designing every corner of the playground with the same elements, since every play personality has very different needs (as explained in the chapter: playing personalities). This variety is also needed for the other principles of the design, to achieve successful play areas for all the different target groups. For different ages, for videophilia or biophilia oriented children and for different play personalities. For example, only focusing on eyes on the streets is important for young children, but is not working for older biophilia oriented children. Therefore, a certain range is needed for every principle.
So these principles are the starting points for a playful spatial plan. They should be enhanced on different levels in a neighborhood to achieve a child-friendly and playful urban environment. An exploration is done, how these principles could be interpreted. This design exploration is shown in the appendix on page 206.



Eyes on the streets

High visibility of the play area

Lower visibility of the play area



Accessibility

High accessibility of the play area

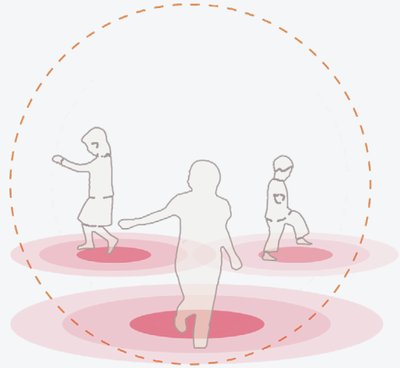
Lower but still walkable accessibility of the play area



Mix of nature

Playing possibilities in wild nature

Playing possibilities in comfortable nature



Variety of play

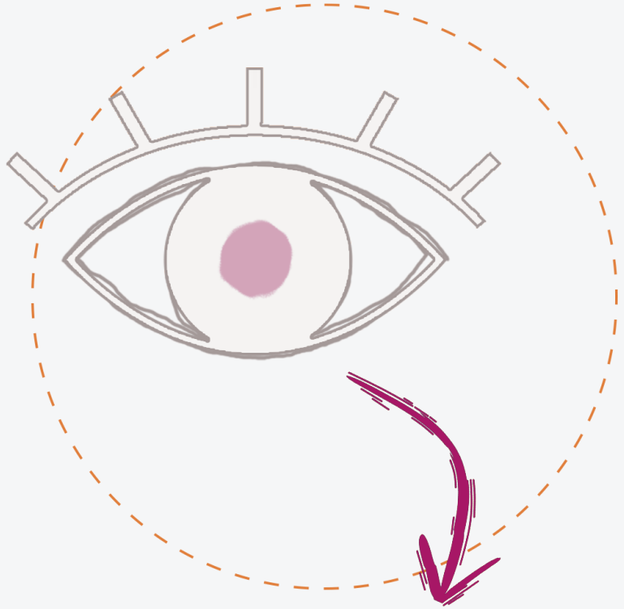
Variety of play on the larger scale

Variety of play on the smaller scale

Eyes on the streets

A high amount of Eyes on the streets is important for the visibility and safety of play environments. This is needed for young children, but can also help for more videophilia or inside oriented children because of the higher level of comfort. Seeing other friends play outside can stimulate their own will to join them. Furthermore it can help to gain trust for protective parent. Because they can watch from inside, or know that other people will be around. Next to that it stimulates social interaction by seeing other people and joining.

On the other hand a lower visibility of the play area is super interesting for children who does not want to be supervised and are more connected to wild nature. These children does not need and want that high level of comfort and visibility.



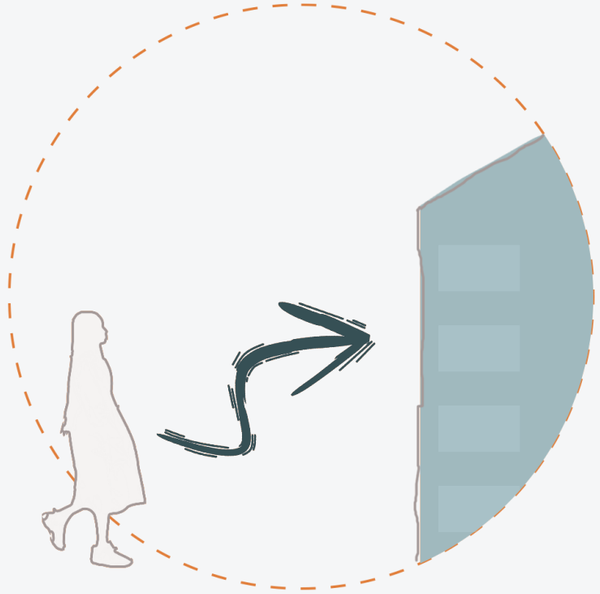
High visibility of the play area

Lower visibility of the play area

Accessibility

"Never underestimate the power of play" (Duarte & Alvarez, 2021)
The urgency of play has been made clear, at the same time we see that play has been pushed into a corner of the neighborhood called the playground. Playing on the streets is not possible anymore because of the cars. The possibility of play is pushed away further from us while our lifestyles has become busier.

Playing has to be better accessible again, it should be part of our daily lifestyle or even literally in our most walked routes. A high accessibility includes: playing close by home, close by facilities or in our daily network. High accessibility of the play area is important for young children, videophilia and inside oriented children. But for example biophilia oriented teenagers can accept a lower accessibility.



High accessibility of the play area

Lower but still walkable accessibility of the play area

Mix of nature

There is a certain mix of comfortable and wild nature needed on the larger scale. On the one hand playing possibilities in comfortable forms of nature needs to be introduced. This is of high value for videophilia oriented children. Comfortable nature can be seen as better accessible.

At the same time different target groups have more needs for wild nature networks. Namely the biophilia oriented children. And by connecting wild nature into bigger networks this network can also be connected with running or cycling routes to attract more teenagers and kinesthete play personalities. Connecting wild nature into a network also increases the accessibility of the wild nature and increases the biodiversity.
For both these forms of nature it is important to introduce different forms of playing, to attract all the play personalities. Furthermore, places to stay for resting and social interaction should also be included.
Using nature as one of the principles is overall important for benefits for children's physical and mental health. *(Steg & De Groot, 2019)* As explained on page 22-23.



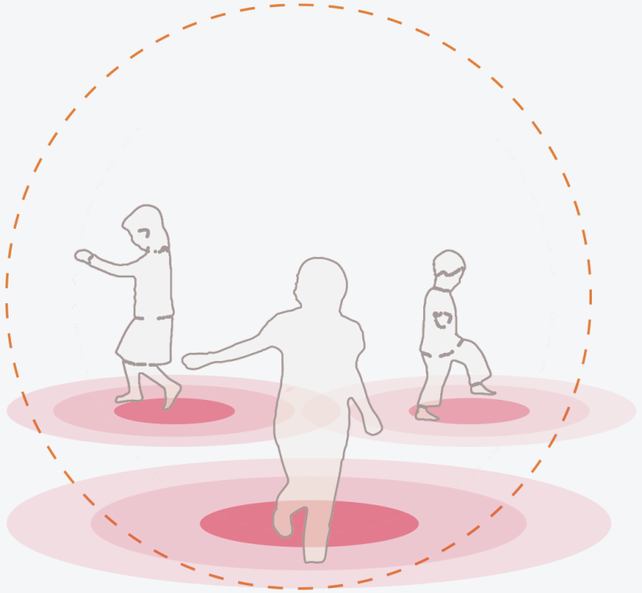
Playing possibilities in wild nature

Playing possibilities in comfortable nature

Variety of play

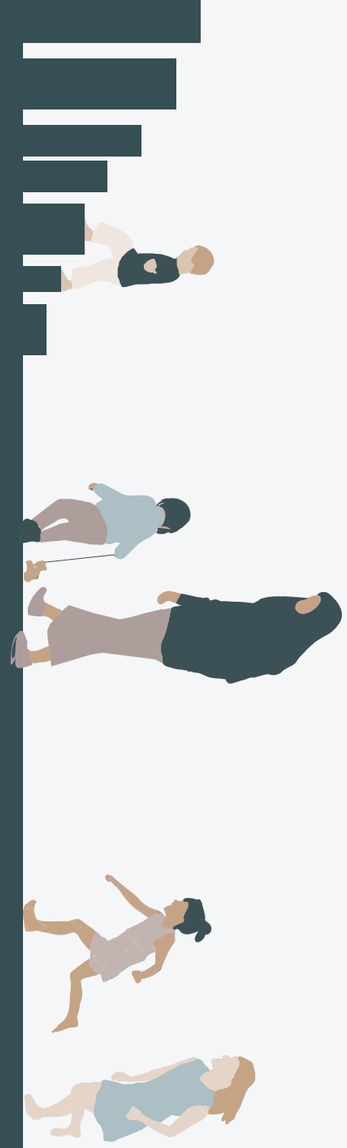
One of the main principles to help outdoor play become popular again is that the new forms of playing should be attractive for al the different target groups. Each target group: age, ctn level and play personality has different values, so a certain variety of play is needed. A variety on the smaller scale, so freedom in types of playing in one play area. But also on the larger scale, like sport play networks, play in wild nature or for example interactive comfortable play.

Furthermore, risky play should be introduced in this variety of play to stimulate learning through play. With risky play children learn how to handle different situations, different setbacks but also different fears.



Variety of play on the larger scale

Variety of play on the smaller scale



03 PLAY PLAN FOR OVERVECHT

Next to the theoretical research, spatial analysis are needed of Overvecht to understand where challenges and opportunities are and how the principles should be interpreted in this urban landscape to achieve a child-friendly and playful environment.

Inventarisation playing – Where can children play at this moment in Utrecht Overvecht?

There are different forms of playing that we can categorize in Overvecht. Three popular ones recognisable in Overvecht are: a typical playground, a wading pool and a sports field.

Additionally, the parks offer also important playing opportunities. Overvecht knows three larger parks.

Public parks

playground





wading pool





sports field





parks





Figure 32. Forms of playing in Overvecht. source, if not indicated: Authors"

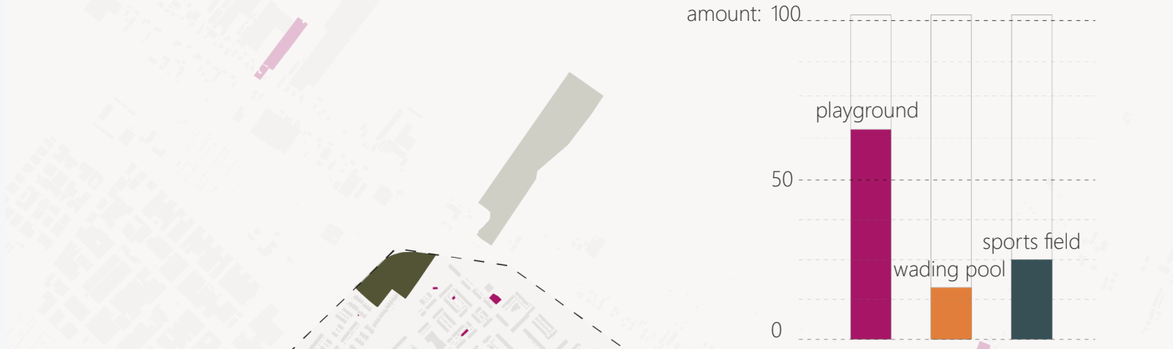


Figure 33. Playgrounds in Overvecht. source: Authors"



Figure 34. Small "playground" in Utrecht Overvecht, source: Authors"

Best accessible walking routes <300m between playgrounds – Which routes will children take between playgrounds in Utrecht Overvecht?

Looking at the current play locations in Utrecht Overvecht, we see that some of them have opportunities for connecting them in routes. These routes could be utilized to enhance the freedom of play. Therefore the comfort of the routes is a crucial factor for younger children or videophilia oriented children.
These routes are generated in QGIS by generating the most direct routes between playground in 300 meters.

Public parks

Best accessible walking routes

Playgrounds



Figure 35. Best accessible walking routes <300m between playgrounds, source: generated by QGIS

Accessibility of the parks <300m – For which areas are the parks accesible at walking distance?

The parks are very important for opportunities for playing forms in wilder natural environments.
This map shows the streetnetworks of the neighborhoods in grey where the accessibility to a park is not in walking distance.
In these neighborhoods more opportunities or improved accessibility to wilder natural environments is needed.
For health, but also CTN oriented people.

This information is generated in QGIS

Public parks

Proximity of a park within 300 meters



Figure 36. Accessibility of the parks <300m, source: generated by QGIS

Walking routes and points – Which routes are used as official walking routes through the area?

This map shows official walking routes through Overvecht. These routes have interesting oportunities for conecting into a playful network. These routes are already used and can become populair for people interested in walking. Furthermore there is a reason why this network is here. This route has environmental qualities.

Source data map: *(Provincie Utrecht & Stichting Wandelnet, 2022)*

Official walking routes



Figure 37. Walking routes and points, data graphic from: *(Provincie Utrecht & Stichting Wandelnet, 2022)*

Speed traffic – Which streets form barriers looking at the allowed speed?

Roads with a high speed limit can result in the formation of barriers between neighborhoods. These barriers can for children decrease the opportunity to play. It is possible that the street is not safe to cross or playing along the street is not safe any longer. Therefore, it is necessary to explore methods for enabling children to play in these areas.
The pink roads on the map are 50 km/h roads and are thus forming the largest safety bariers for children in this neighborhood.

50 km/h roads

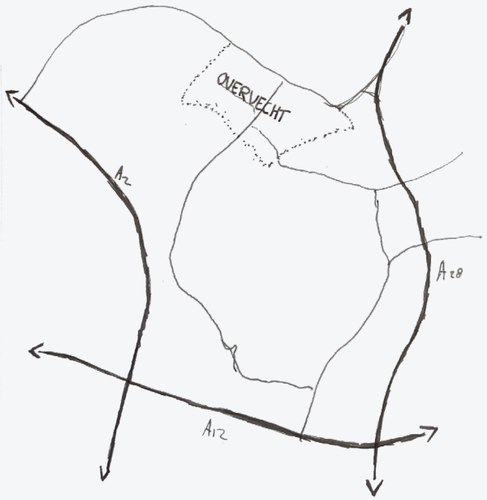


Figure 38. Larger infrastructure and its connections with Overvecht, source: Authors"



Figure 39. 50 km/h road network, source: Authors"

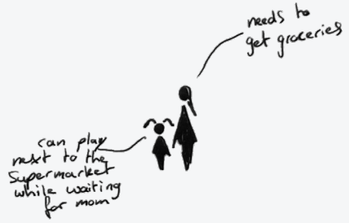
EXPLORING THE CONCEPT

Every target audience has specific values and needs for a successful playful urban environment. Designing different scenarios for different target groups specifically can give a wider range of design solutions for Utrecht Overvecht.

What if I am five years old?
Through the imagination of what a five-year-old child needs, the following scenario emerged. The next things are values at this age: eyes on the streets (for safety and to comfort the parents), playing near facilities and a high accessibility, like playing close by home. In this scenario densities are added to decrease the amount of wild nature and increase the amount of eyes on the streets. Examples of forms of environment open for play are: community gardens and playing streets.

Scenario strengths:
- Accessibility to play

Scenario weaknesses:
- Decreasing green



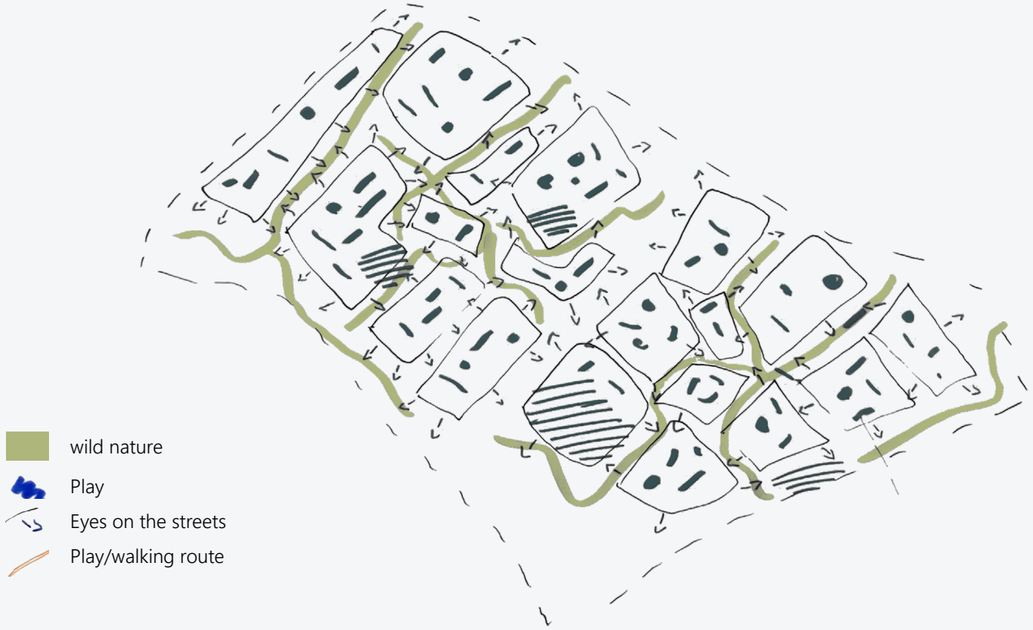


Figure 40. Exploration five year old child, source: Authors"

What if I am 16 or older?
Through the imagination of what a 16-year or older child needs, the following scenario emerged. The next things are values at this age: sport areas, larger networks for running or biking, outdoor gym possibilities. In this scenario the larger parks of Overvecht are connected into a bigger green structure with a walking/biking route going through. There are multiple bigger areas with sport fields and more smaller ones with outdoor gym possibilities.

Scenario strengths:
- Green networks
- Playing in daily networks

Scenario weaknesses:
- Not attractive for younger children

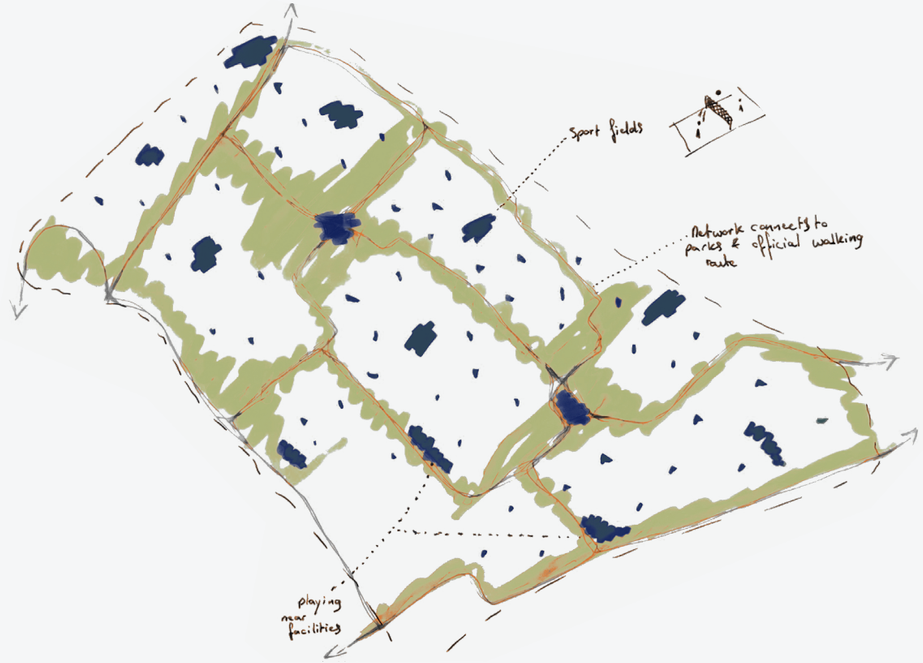


Figure 41. Exploration 16+ year old child, source: Authors"

What if I am 10 years and videophilia oriented?
Through the imagination of what a 10-year-old and videophilia oriented child needs, the following scenario emerged. The next things are values for this person: eyes on the streets, accessibility (like close by home), comfort forms of nature, safe networks (to encourage further outside exploration) and lastly gamification techniques. In this scenario a comfortable structure is introduced where children can play in a comfortable environment. By connecting these play areas in a network, it becomes easier for these children to explore the environment further.

Scenario strengths:
- Accessibility to play
- Connections between neighborhoods

Scenario weaknesses:
- Decreasing green



Figure 42. Exploration videophilia oriented child, source: Authors"

What if I am 10 years and biophilia oriented?
Through the imagination of what a 10-year-old and biophilia oriented child needs, the following scenario emerged. The next things are values for this person: wild nature in walking distance, nature in networks (to explore) and possibilities for free play in nature. In this scenario a big green structure is introduced where children can play in a wilder natural environment. The green structure is wide enough to create an environment where children can be totally surrounded with nature.

Scenario strengths:
- Green networks

Scenario weaknesses:
- Not attractive for videophilia oriented children
- Less connections between neighborhoods
- Less social interaction because of the decreased eyes on the play areas

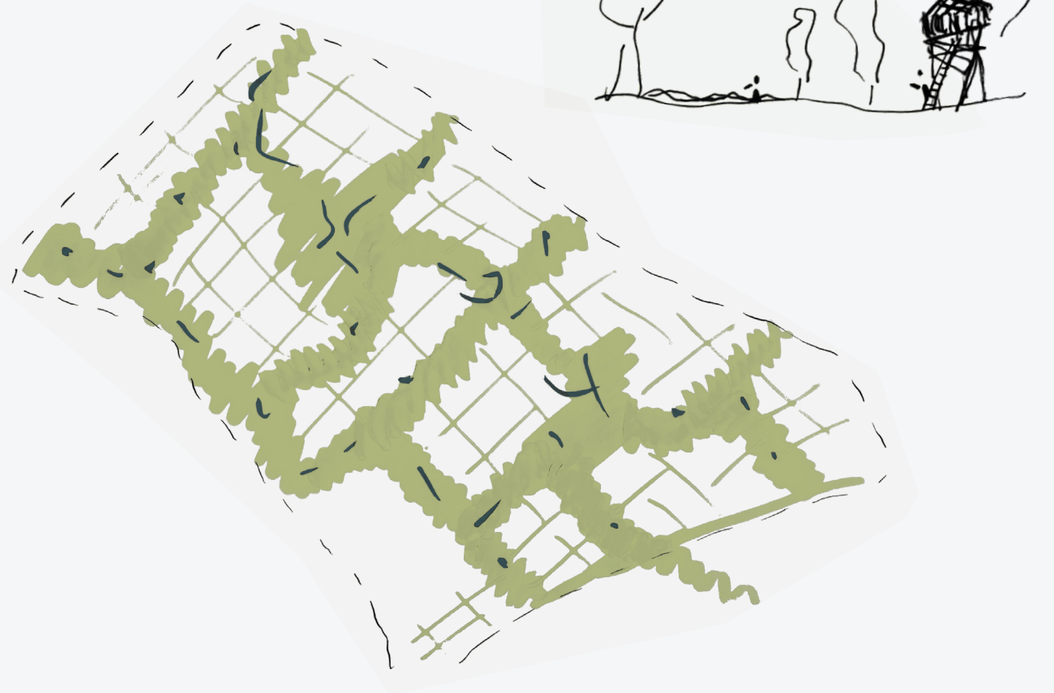


Figure 43. Exploration biophilia oriented child, source: Authors"

Visible with this exploration is that different target groups have very different values which result in totally diverse play strategies for Overvecht. A solution should be to determine where the values of te most opposite play personalities could be incorporated into one spatial play-plan that is effective for every target group, without selling short on another opposite target group. At the same time the principles out of the theory should be taken in mind. A first concept exploration is shown below.

With this combined concept two layers become visible. The green wilder nature structure is forming the basis layer. Next to that streets in a certain network will become car free and form a comfortable play structure.

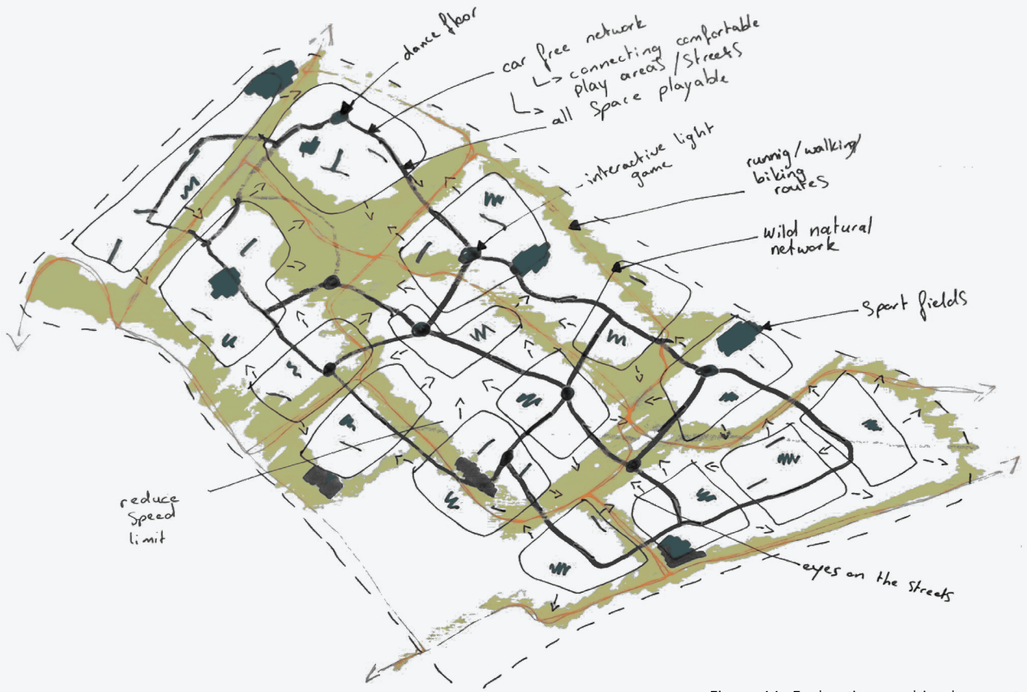


Figure 44. Exploration combined concept, source: Authors"

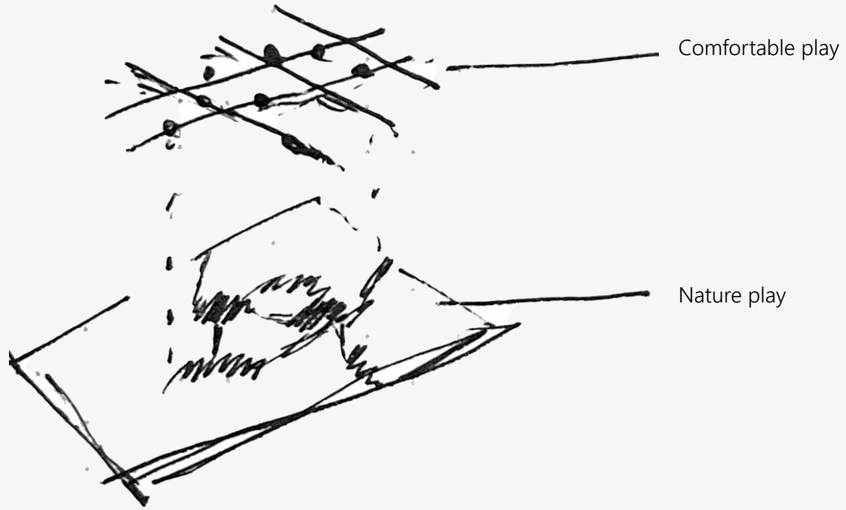


Figure 45. Exploration two layers concept, source: Authors"

CONCEPT

Enclosing the different needs of the different target groups, including different ages, play personalities, and tendencies toward either biophilia or videophilia, results in a needed variety for the design. A variety of eyes on the streets, accessibility, mix of nature and variety of play. Connecting different play areas enhances accessibility and encourages exploration, enriching the overall experience for users. Creating one connected play area can meet the needs of different target groups. For instance, younger children and videophilia oriented children benefit from improved accessibility and more eyes on the streets in outdoor play. They need more comfort and safety. While biophilia oriented children and older children are more looking for risky or wild nature area's for adventurous outdoor experiences. They need opportunities for another form of playing. Thus, incorporating both comfort-focused play routes and nature-inspired play routes is essential. Both expanded as a "necklace" through Overvecht. By introducing these two layers successful play areas can be created for all these different target groups. successful play areas can be developed to accommodate the diverse needs of all target groups. Additionally, the intersection of these layers promotes exploration and engagement, enhancing the overall play experience.

The comfortable play-necklace

The comfortable play-necklace is important for successful play opportunities for for instance younger and videophilia oriented children. For this route it is very important that it serves the comfort for these target groups to play. There must be eyes on the streets for improved safety and no accessibility for the car to increase individual play for younger children. These play opportunities will be improved if it will be around lifely public areas. Therefore in this case this can work with lively public walking routes. A main comfortable route bringing people together, where playing is possible along the route. Not only focussed on playing but also on creating a walkable route with comfortable forms of nature to functions and schools. This route is not only interesting for children who want to play but also for the other residents of the neighborhood. With this intervention playing can become part of the daily network and the social cohesion will be stimulated by bringing people together.

The nature pay-necklace

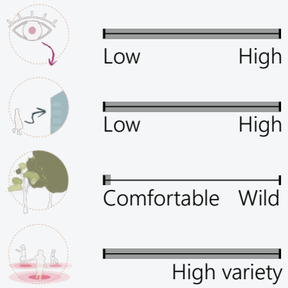
Next to the comfortable play-necklace the nature structure is important for successful play opportunities for for instance teenagers and biophilia children. These target groups are sometimes looking for different forms of playing. They do not need the comfort and often look for play areas with less eyes on the streets , more wilder nature or risky play forms. Connecting green is good for accessibility , attractiveness and ecology. This can serve as network for biking and running routes which is not only interesting for children, but also for older target groups. The nature structure will consist of different types of nature. This variety of nature is needed according to the research of biophilia and videophilia. Not everyone is extremely biophilia oriented which is why we need these different forms to attract all types of people. Next to the variety of nature there will be a variety of play , to attract all different types of play personalities. This will be realized in this network by giving much freedom for play. These target groups are able to create their own games and ways of playing in nature.



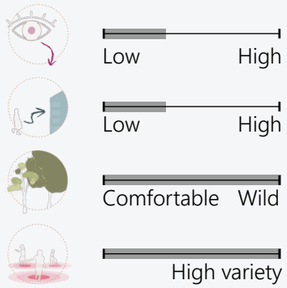
Figure 46. Concepts, source: Authors"

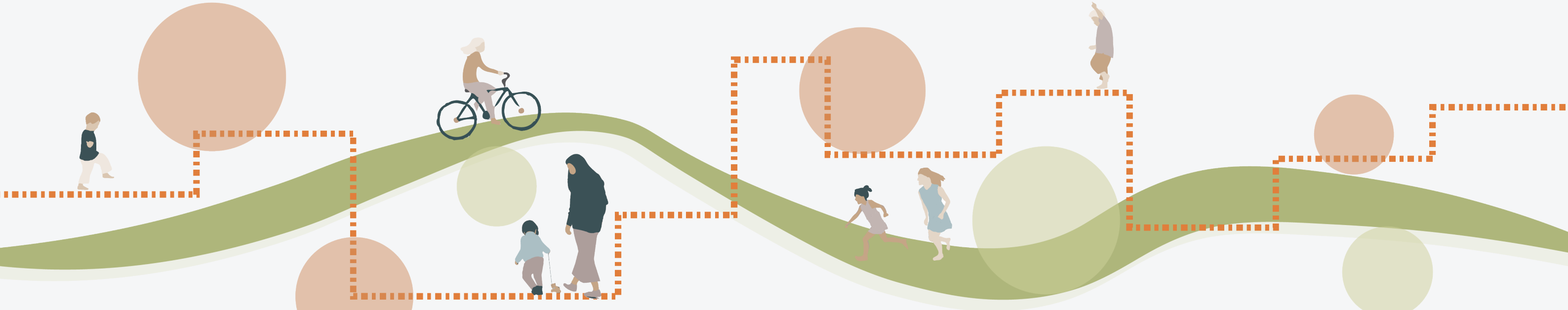
The differences between the necklaces can be visualized, looking at the principles: "eyes on the streets, accessibility, mix of nature and variety of play."

The comfortable play-necklace



The nature pay-necklace





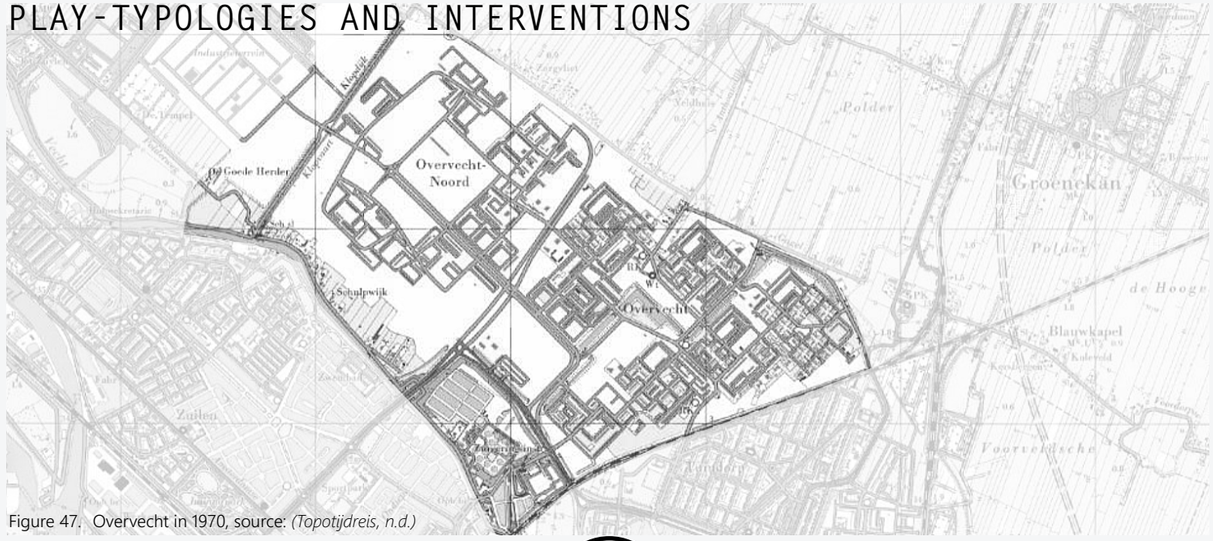
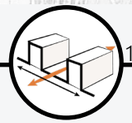


Figure 47. Overvecht in 1970, source: *(Topotijdreis, n.d.)*



Figure 48. Overvecht in 1990, source: *(Topotijdreis, n.d.)*



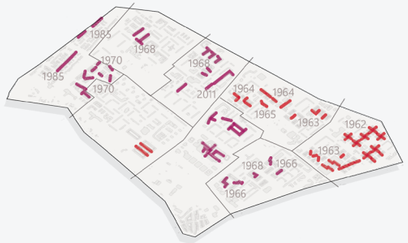
1970 Pedestrian streets



1990 Play sidewalks

Urban play biography

A historical analysis shows when Overvecht was constructed a signigicant number of "pedestrian street" typologies were incorporated. These types of streets can be defined as a car free street. This typologie consists of two types: pedestrian streets fronts and pedestrian streets backs. In the pedestrian streets fronts typology, the entrances of the buildings face the pedestrian street. For the pedestrian streets backs typology the entrances of the buildings are not oriented towards the pedestrian street. These already pedestrian focused streets give opportunities to incorporate in the play friendly design for Overvecht.



Red: Pedestrian streets fronts
Purple: Pedestrian streets backs

Upon the realization of the northern Overvecht area, a notable shift of the typology of the streetscape became visible.
In the North we see much more pedestrian streets backs and also a lot of wide sidewalks. These wide sidewalks give more opportunities to play compared to a normal sidewalk. Consequently, this type also gives opportunities to incorporate in the play friendly design for Overvecht. Nevertheless, at this moment a lot of these wider sidewalks are next to a 50 km/h roa, which raises concerns about their safety for play. So interventions are needed.





Figure 49. Overvecht in 2015, source: *(Topotijdreis, n.d.)*

2015 Potential nature

2023

Other play types are visible in the nature environments. Nature is suitable for free play and can be interesting for biophilia oriented children. In the typology "nature play" we can find three different types with interesting opportunities for this project: the parks, the end of the parks and the green corridors. A green corridor is an car free area with a greenery environment.



Dark green: parks
Light green: green corridors

The current play typologies are the result of the convergence of various types of play areas, each with its own characteristics and potential for interaction. This analysis help to define where the current types are and so to define where the opportunities for introducing more play are in the current typology network of Overvecht.

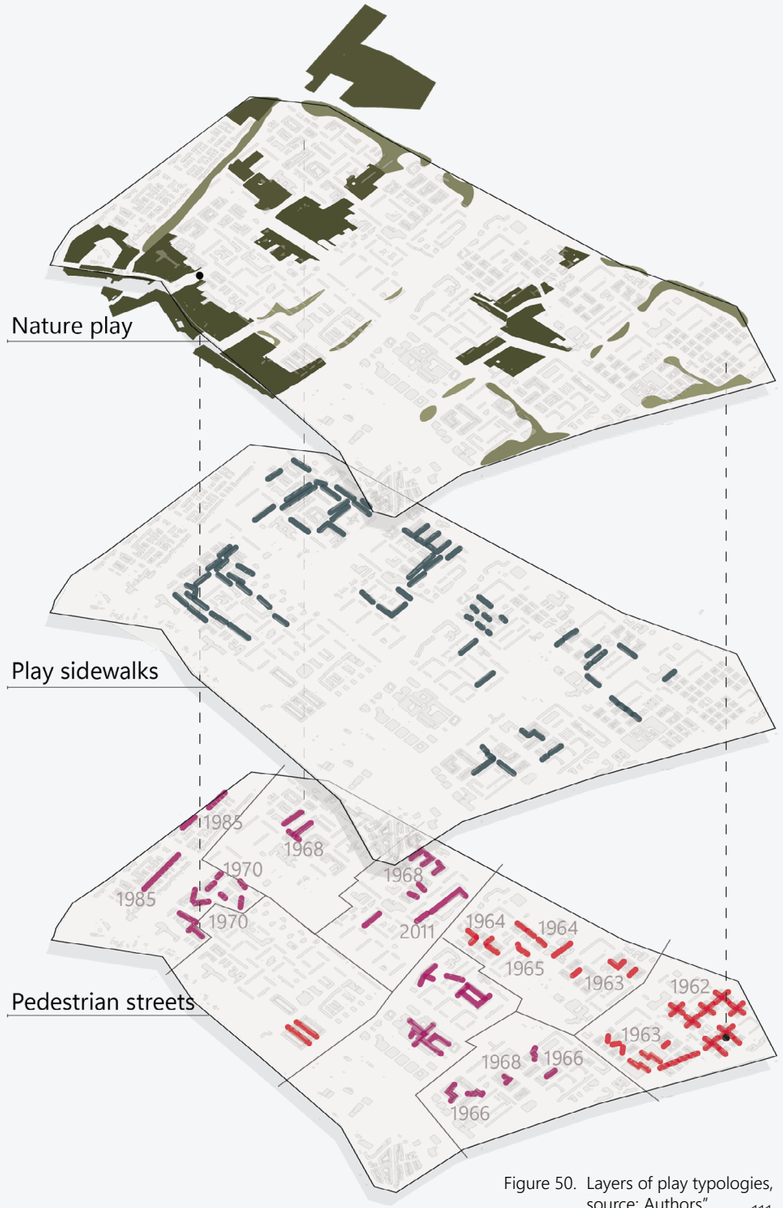


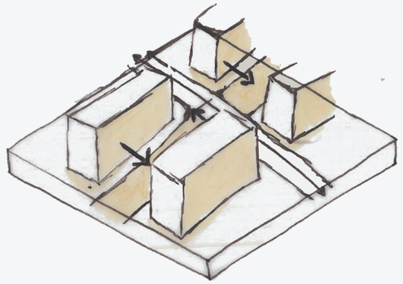
Figure 50. Layers of play typologies, source: Authors"

Pedestrian streets

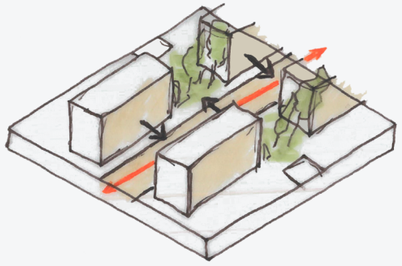
The play typology “pedestrian streets” is analyzed and divided in two types: “Pedestrian fronts” and “pedestrian backs”. Both of these types consist of pedestrian-focused areas that can increase the accessibility to play. Through research by design, different interventions for every type are proposed to increase the play opportunities for each. These scenarios are shown on the right page and are design proposals for the public space. These can be seen as examples and the further interpretation depends on the specific site. These interventions are an addition to the concept and design elaboration of the comfortable and nature play-necklace and explain possible interventions for the different typologies in the neighborhood.

The pedestrian fronts is a type where the entrances of the surrounding buildings are oriented towards the pedestrian streets. For this type is advised to connect the pedestrian streets where possible in a route, this will increase the safety and accessibility of play areas and furthermore increases the freedom to explore. Another intervention could be to create safer crossings of the car roads and give the pedestrians priority. In this situation the car becomes a guest.

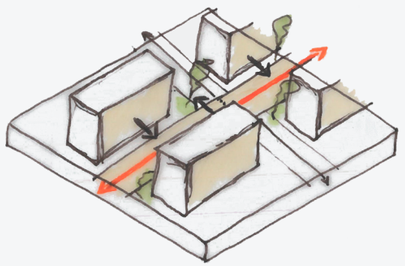
The pedestrian backs is a type of urban space where the entrances of the surrounding buildings are not oriented towards the pedestrian streets. This lack of orientation of the eyes on the streets suggests that other interventions are needed. One possible solution is to make use of the missing supervision by creating an area with more greenery and opportunities for risky play. An area with an overarching theoretical term: “Terrain vague”. As Growth and Corijn *(Cited in Barron & Mariani, 2013)* mention, these areas can for example be empty areas with diverse vegetation inviting for certain people to make spontaneous or creative use of them. The other option is to add the eyes on the streets, by turning the entrances towards the pedestrian streets. Or, the same principle, switch the pedestrian street with the car street and parking areas in the front of the buildings. In this manner, the pedestrian street will be situated in proximity to the entrances, thereby enhancing accessibility and the number of eyes on the streets. Lastly there is also an opportunity to achieve more eyes on the streets by opening up the back gardens and create one shared garden where children can also play.



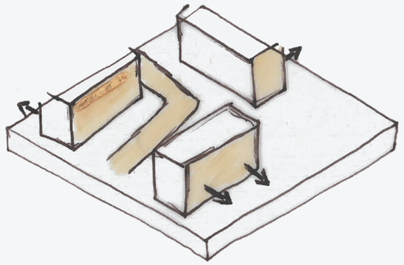
PEDESTRIAN FRONTS



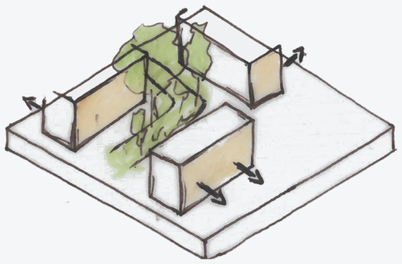
Connect in route



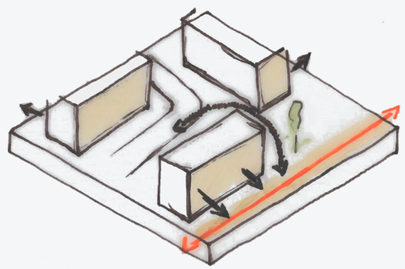
Car is guest



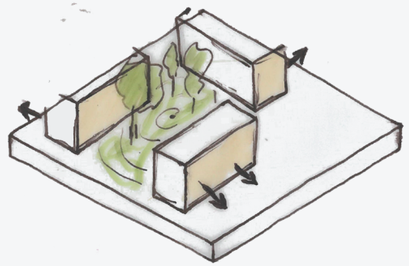
PEDESTRIAN BACKS



Green risky play



Turn around



Shared garden

Figure 51 Pedestrian streets types and interventions, source: Authors”

Play sidewalks

The play typology play sidewalks is analyzed and divided in two types: “Wide sidewalk” and ‘sidewalk 50”. Both of these types consist of areas with wider sidewalks than typically needed. These sidewalks serve as play opportunities due to the open space. However, interventions are necessary since they are most of the time located along busy car streets.

The “wide sidewalk” is a type where a sidewalk with a wider depth than typically needed is located along a normal car street. For this type is advised to connect the sidewalks to one another, allowing pedestrians to traverse routes without crossing a car road. This increases the accessibility and play opportunities by expanding the sidewalks. Another option is to maintain the accessibility for the car, but give the pedestrians priority.

The sidewalk 50 is a type where the wider sidewalks are located along a 50 km/h road. In this type the space for play is present, yet it is not a safe or attractive environment to play along a 50 km/h road. Consequently, alternative interventions are needed. At first there is the possibility for specific locations to reduce the traffic speed from 50 km/h to 30 km/h. This would enhance the safety of the sidewalks. Furthermore, if feasible, speed borders for example with greenery along the street can help to create a barrier between the road and the sidewalks. This can increase the safety even more.

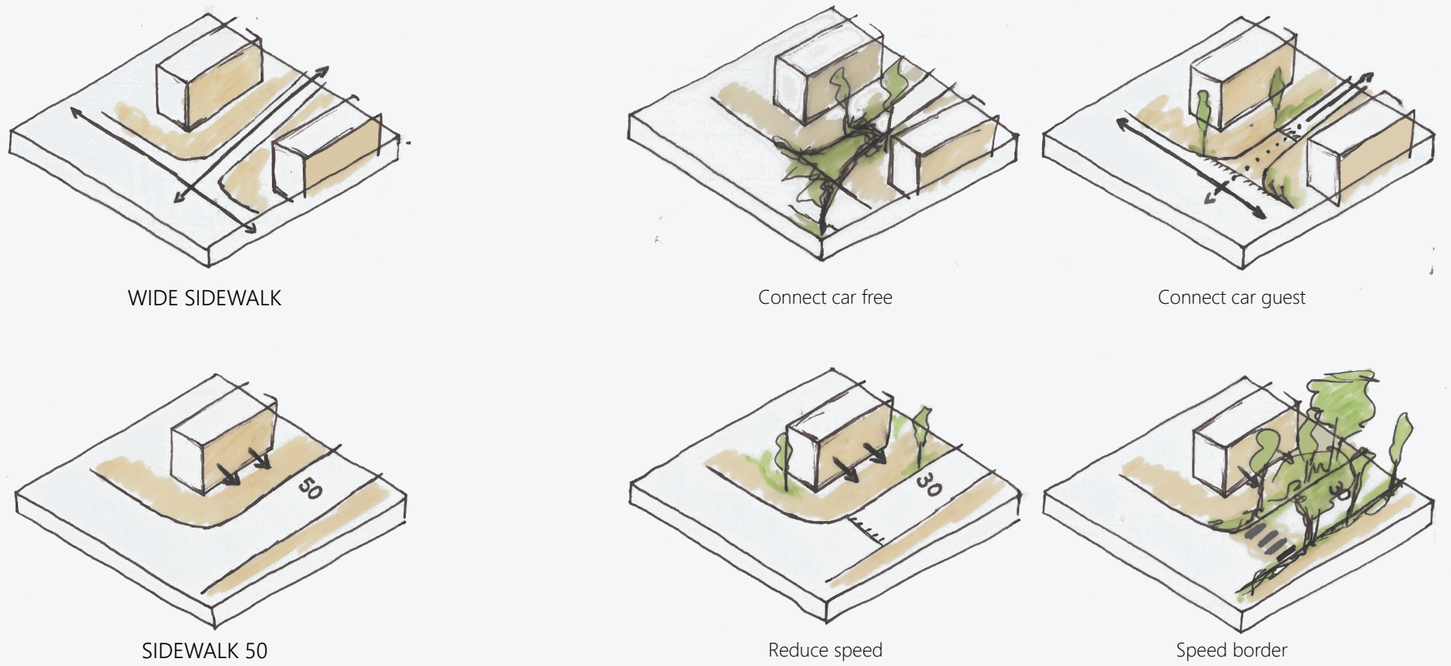


Figure 52. Play sidewalks types and interventions, source: Authors”

Potential nature

The play typology potential nature is analyzed and divided into three types: “Green end”, “corridor” and “managed park”. All three types consist of areas with greenery that have the potential to be nature play areas. However, interventions are necessary since the nature in this case is not attractive for play.

The green end is a type where the park transitions into a car focused street. As explained in the chapter: concept, have the parks the potential to be connected into a larger nature network; the nature play-necklace. Therefore, these green ends are considered to be potential locations for expansion. So for this type is advised to expand, if possible for the location, the current park into the street to create green connections. In another situation, the park can be expanded by incorporating a narrow strip of infrastructure adjacent to it.

The corridor is a type with a pedestrian-focused area in a green environment. These corridors are of interest to biophilia-oriented children, but they lack sufficient depth to serve as engaging play areas for more biophilia-oriented children engaged in more risky play with less eyes on the streets. Potential interventions include widening the corridor. In some cases, the roads adjacent to the corridor are not necessary for the accessibility of the dwellings. Secondly, the addition of water creates a more diverse natural environment, with opportunities for play and interaction with water.

The managed park is a type of a park with managed nature. These are coming back in Overvecht. Wild nature provides more play opportunities for biophilia oriented children, as explained in the chapter: videophilia and biophilia. Furthermore, wild nature give more opportunities for risky play. Therefore, the managed parks can use interventions. So the first option is to add areas with more wilder nature. It is not necessary for all of the nature to become wild nature but a certain variety is needed as also explained in the chapter: principles. Secondly water can be added to increase variety and playing opportunities with water.

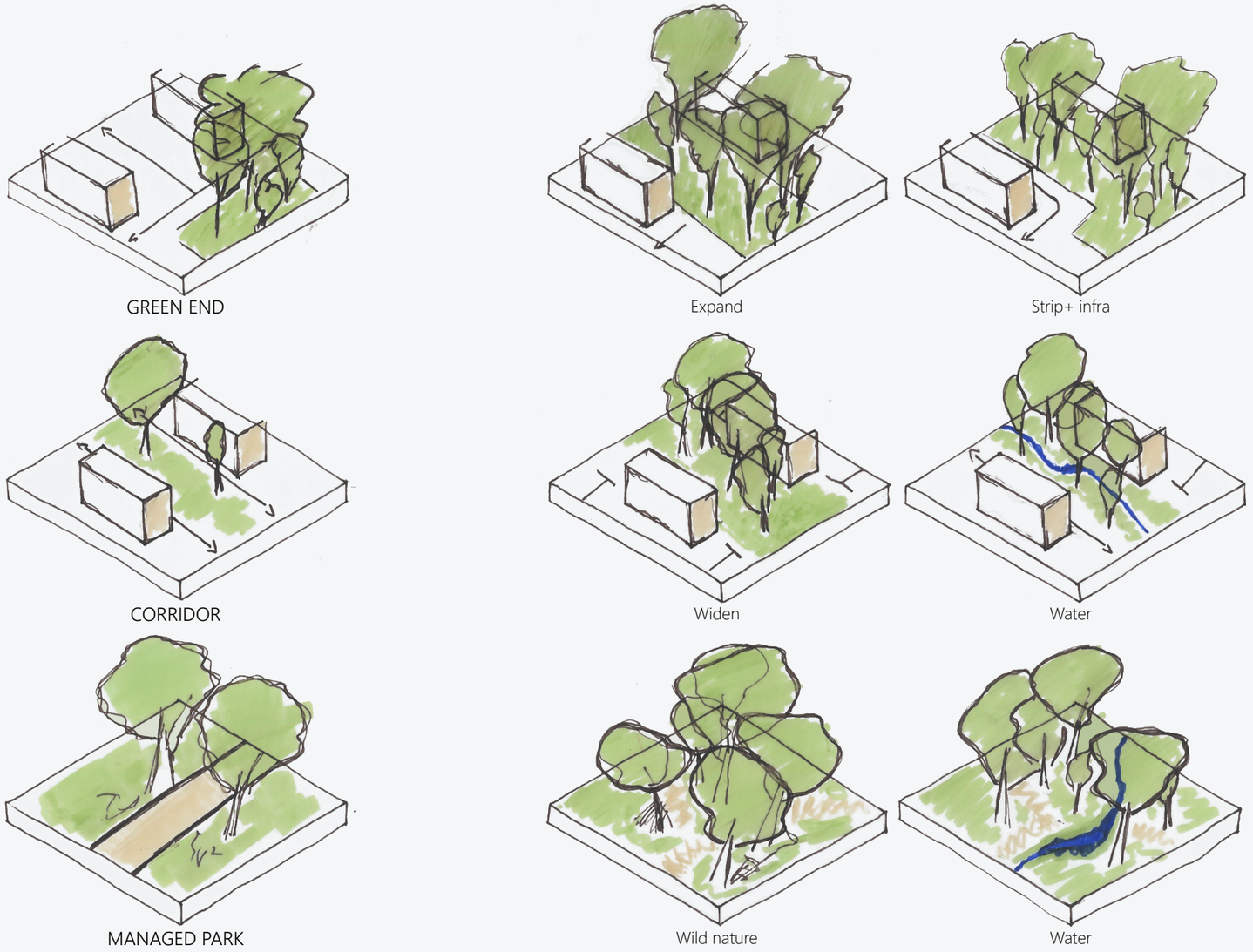
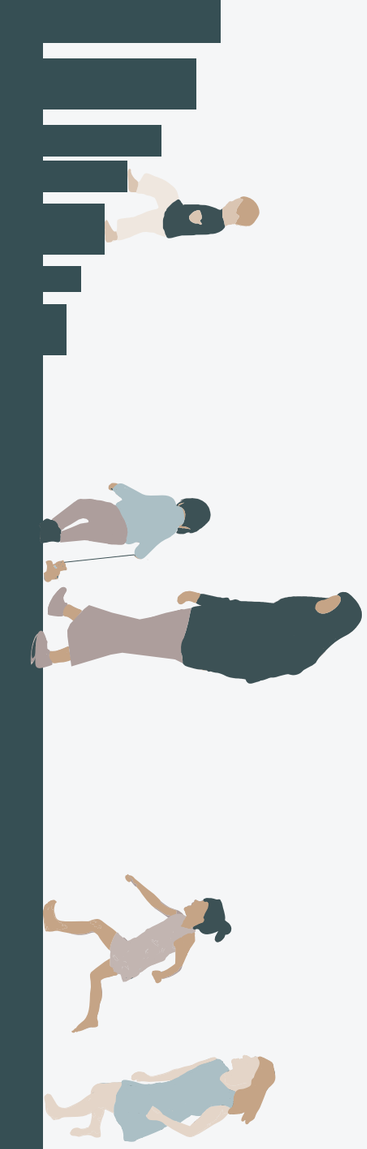


Figure 53. Potential nature types and interventions, source: Authors”

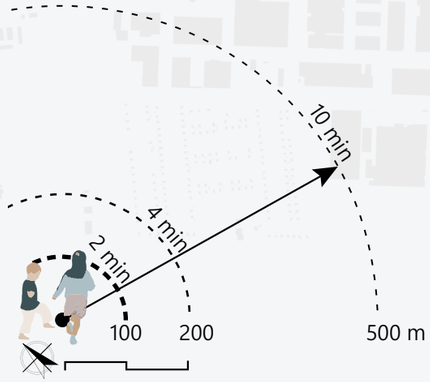


04 COMFORTABLE PLAY-NECKLACE

THE COMFORTABLE STRUCTURE

The concept explains the intervention for the comfortable play-necklace and the nature play-necklace; two layers of interventions needed to achieve a successful playful Overvecht for every target group. This map explains the structure of the comfortable play-necklace. It shows the interventions that are required based on the research. On the next pages the legend is explained with the addition of references, and with that the design of the public space becomes clear.

- Comfortable play-necklace
- Higher amount of green
- Play elements
- Interactive play
- Places to sit down
- Functions
- Primary schools
- Sports fields
- Playgrounds
- Crossing 50 km/h road



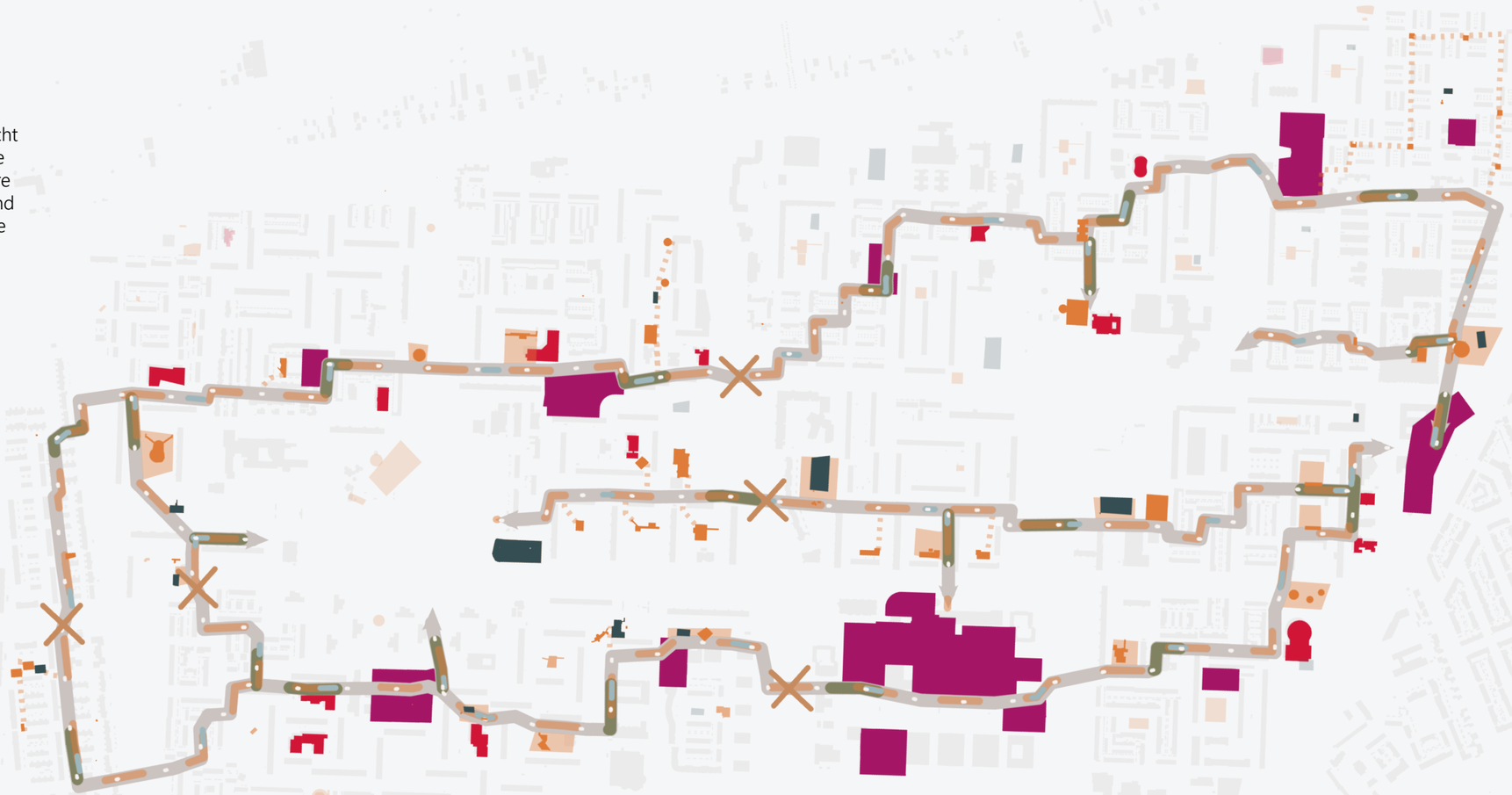


Figure 54. The comfortable play-necklace, source: Authors"

Figure 55. References, source: *

Car free

Continuous

As explained in the chapter “Problematization of play” car free streets are very important to give children the ability to run freely. A study conducted by Gehl (1980) revealed that 71% of children are able to run freely in a pedestrian street compared to 14% in a street with car traffic. *(Gehl, 1980)*

This is especially visible among younger children and children with protective parents, which are one of the main target groups for this route. By concentrating on car-free streets, the capacity for these children to engage in play is considerably higher.



*(Quartet – Lanxmeer, n.d.)

Pedestrian focused

Continuous

In this comfortable play-necklace the car lanes will be reduced as much as possible. Crossings will be retained to facilitate the learning of traffic management skills among children. The streets themselves will be much more pedestrian-focused to improve the human scale and the ability to play. Pedestrian-focused streets are also interesting for kinesthete play personalities, because it gives them the ability to run freely through the streets.



*(Courtyard Garden at Bernhard Bangs Allé by MASU Planning, n.d.)

Comfortable amount of green

Continuous

Depaving streets is needed for future challenges. For instance, it can facilitate the infiltration of rainwater and help to mitigate the urban heat island effect. Additionally, a pleasant atmosphere can encourage people to spend more time outdoors. Focusing on an comfortable amount is important for the videophilia target group. As explained in the chapter “Videophilia and Biophilia”, is a comfortable amount of greenery much more attractive compared to a high amount of greenery (like in forests or dense parks). *(Edwards & Larson, 2020)*



*(Professor Schoemaker Plantage | Groen-blauwe Netwerken, n.d.)

Eyes on the streets

Continuous

Eyes on the streets are needed to improve social safety and social interaction. (Jacobs, 2015)

This is very important for the neighborhood Overvecht. But also to create this comfortable and safe atmosphere in this comfortable play-necklace. This is also explained in the chapter: “Principles”.



*(Lebuinus Squares Deventer by BoschSlabbers, n.d.)

Figure 56. References, source: *

Street lighting

Continuous

Safety is important which will also be improved by street lighting everywhere along the route. Darker areas should be reduced along the path to increase the accessibility and safety also on the darker moments of a day.



*(Blaha Lujza Square by Lépték-Terv, n.d.)

Recognizable pavement

Continuous

The route will be recognizable by the type of pavement. Therefore, this pavement should be different from the current sidewalks.



*(buitenbart, n.d.)

Higher amount of green

Location-based

As explained in the chapter: “Principles”, a variety of green is needed to explore. Where this higher amount of green will be along the route is location-based. The map on the page before shows this concept, but not the specific locations. The zoom in of this route on the following pages shows an example of where this higher amount of greenery can be realized.



*(Watertorenhof – Lanxmeer, n.d.)

Play elements

50%

Play elements along the route can be very helpful to attract children to play, especially for the videophilia focused children. Play elements on the route linking towards different play personalities should help children to find out the fun of playing.



*(Bogaardplein Rijswijk by DELVA, n.d.)

Interactive play
10%
Next to play elements as part of the route, new play areas should be introduced. New areas which are more focused on interactive play to also attract videophilia focused children.

Figure 57. References, source: *



*(Oklahoman, 2020)

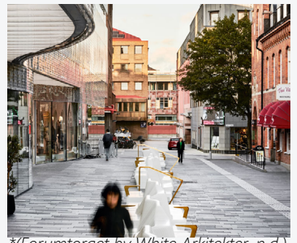
Places to sit down
Every 100-125 meters
For the accessibility and attractiveness also of older people, places to rest are needed. To much places to sit down will decrease the social interaction. Therefore places to sit down will be introduced every 100-125 meter. This is needed according to Scholte en Tollenaar *(Scholte & Tollenaar, 2023).*

100-125 m



*(Land8: Landscape Architects Network, 2015)

Link with entrances functions
Location
In the chapter: "Principles" is explained that a high accessibility is needed, especially for the comfortable play-necklace. Linking entrances of functions with the comfortable play-necklace increases the accessibility and the eyes on the streets. This will make the route interesting for not only children but also visitors of these functions.



*(Forumtorget by White Arkitekter, n.d.)

Link with entrances schools
Location
This route is very important for younger children, to increase the accessibility playing should become part of the daily walking route or next to often visited functions. Therefore linking the route with the entrances of primary school will increase the accessibility.



*(Amos – a Primary School in Dolní Jircany, n.d.)

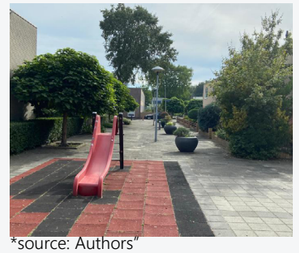
Current sport areas
Location-based
Some of the current sport areas are located along the comfortable play-necklace. For these sport areas interventions can be introduced to also attract more videophilia oriented children. Therefore for instance, interactive goals can be added.

Figure 58. References, source: *



*(Gemeente Utrecht, n.d.)

Current playgrounds
Location-based
It is not necessary to demolish the current playgrounds, instead these areas linked with the comfortable play-necklace already have an increased accessibility and eyes on the streets. By adding or changing play elements more focused on play personalities these playgrounds can become interesting again.



*source: Authors"

Safe crossings
Location
In the map the crossings of the comfortable play-necklace with the 50 km/h roads are shown. For these crossings interventions are needed to increase the safety and comfort, making these places safe for children to cross without parents.



*source: Authors"

EXPLAINING THE STRUCTURE

Opportunities comfortable play-necklace – Where are opportunities for the comfortable play-necklace and where should this route be?

Through research by design the location of the comfortable play-necklace is defined. With every analysis, the route is defined and adjusted more to find the most suitable locations. This design process is shown on page 208.
The first analysis shows the best accessible walking routes in 300 meter between the current playgrounds. These streets are already interesting for children because it is connecting playgrounds. Therefore, interesting to become part of the comfortable play-necklace.
With the second analysis the public shopping functions are analyzed. By connecting the route with the public shopping functions in every neighborhood, the route becomes also interesting for visitors of these functions. And with that the accessibility of play along the route increases.
With the third analysis the primary schools are analyzed. By connecting the route to the entrances of primary schools, the accessibility of play will be increased as this is a daily visited function for the children. By linking the route to the primary schools, playing should become part of the daily walking route.
With the fourth analysis the types: “pedestrian streets” and “play sidewalks” are analyzed. These types out of the urban play biography analysis show existing suitable streets in the current network for interventions to improve play.

- Final location of the comfortable play-necklace
- Public shopping functions
- Primary school
- Best accessible walking routes <300m between playgrounds
- Pedestrian streets type
- Play sidewalks type





Figure 59. Opportunities comfortable play-necklace, source: Authors”

Bottlenecks comfortable play-necklace – Where are bottlenecks the comfortable play-necklace can not be lineair with?

Next to opportunities, there are also bottlenecks for the ability to introduce play in the current layout of Overvecht. Through research by design, the location of the comfortable play-necklace is adjusted more to find the most suitable locations.

The first map shows the new layout for the 50 km/h roads. For this project is chosen to reduce the 50 km/h roads back to the minimum what is needed. An analysis of measuring the speed of a bus, by driving in it in Overvecht showed that because of the multiple stops and bends, the bus almost never reached a speed of 40 km/h of more on certain roads through the neighborhoods. This shows that the speed of certain roads could be reduced. The 50 km/h roads which will be maintained for the accessibility of the neighborhood and the accessibility with the bigger infrastructure on the bigger scale, will form bottlenecks with the comfortable play-necklace. The comfortable play-necklace can not be linear with one of these streets because of the car free principle.

The second map shows the layout of the bus network in Overvecht. This bus network is important for the accessibility of the neighborhood and can not be reduced. Therefore the comfortable play-necklace can also not be linear with these bus streets because of the car free principle.





Final location of the comfortable play-necklace

Public parks

50 km/h roads in design

Bus routes

Figure 60. Bottlenecks comfortable play-necklace, source: Authors"

The current types – What are the current types the comfortable play-necklace will walk through?

The analysis of the types in chapter: Play-typologies and interventions, showed what kind of play types could be analyzed in the current public space structures of Overvecht. To understand the specific design interventions that are needed for zooming in into street level design, the current types on the specific location of the route are analyzed.

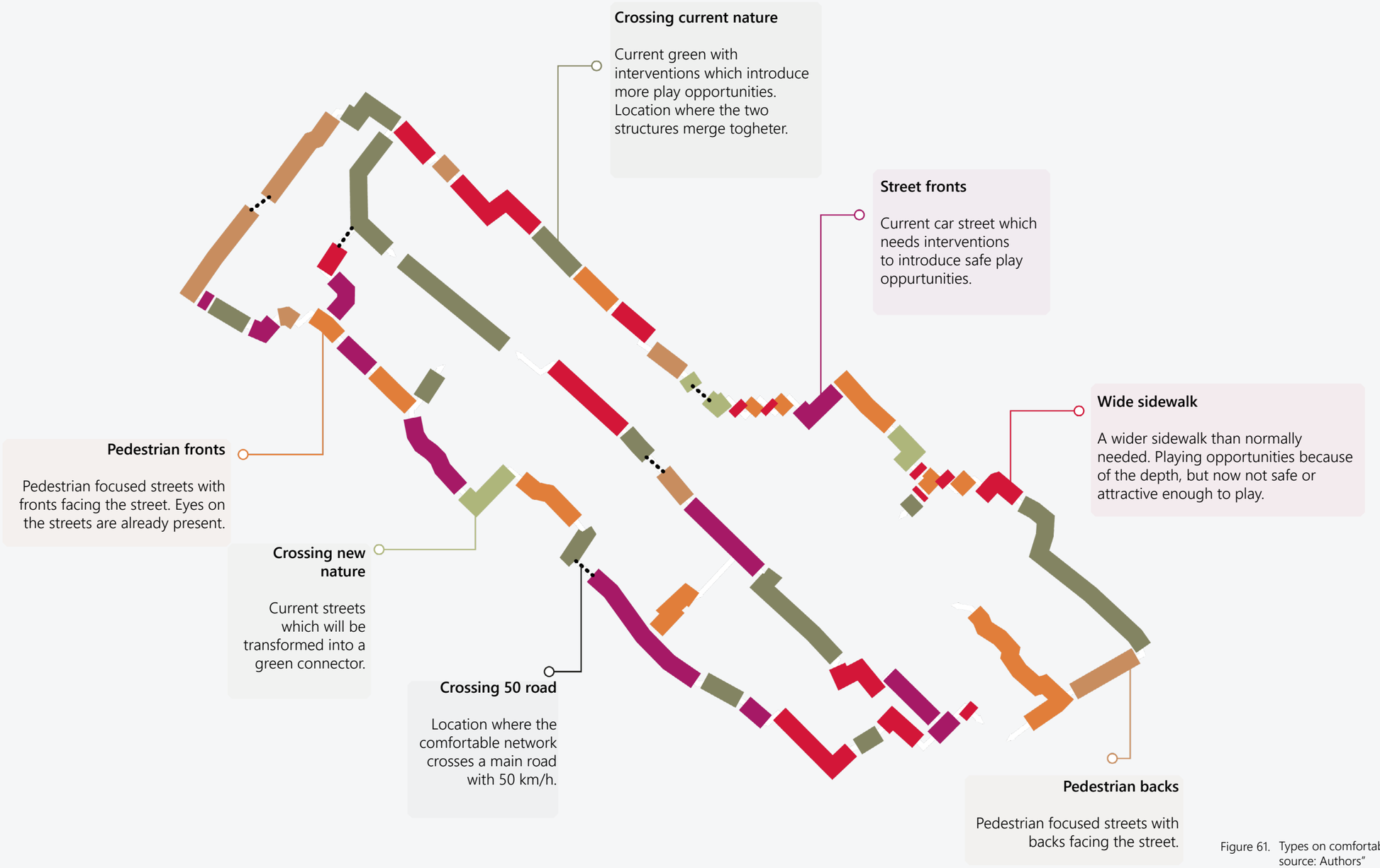


Figure 61. Types on comfortable play-necklace, source: Authors"

ZOOMING IN ON THE COMFORTABLE PLAY-NECKLACE

A variety is needed, on the larger and on the smaller scale. The Fazendadreef is one of the car streets which have opportunities to transform into a playful street. The Fazendadreef is next to a primary school and ends at a the shopping centre of the neighborhood. In the current situation the playing opportunities are missing, there are not much children visible in the streets and the play area of the school is also not accessible after school. When walking through these streets, I experienced a non comfortable atmosphere where social safety was missing. A change is needed to increase the play opportunities and the social safety for this area. A change based on the principles from the research suitable for this typologie of the comfortable structure: More eyes on the streets, better accessibility to play, a mix of nature (focusing on comfortable nature) and a variety of play.

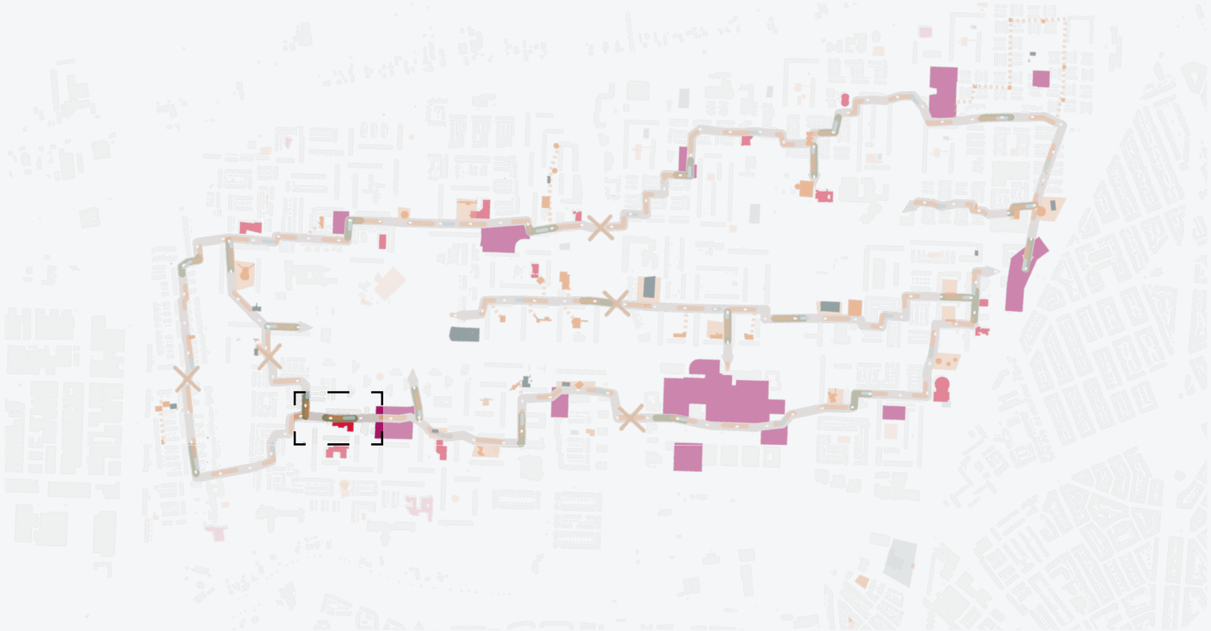




Figure 62. Aerial photo Fazendadreef, source: *(PDOK, n.d.)*

Elaborating the comfortable play-necklace by zooming in on the Fazendadreef is further done with the research by design method and implementing the elements of the comfortable play-necklace. The analysis of the site visualizes the current types, opportunities and weaknesses. Like where eyes on the streets are missing because of “pedestrian backs” types. And where important functions are located.
Through research by design and generating different options, design solutions are found. These options are shown on the right page, focusing on the missing eyes on the streets for one part of the comfortable play-necklace. Looking at the pros and cons, the best implementation is to add entrances on the other side of the building, adding eyes on the streets, and improving accessibility.

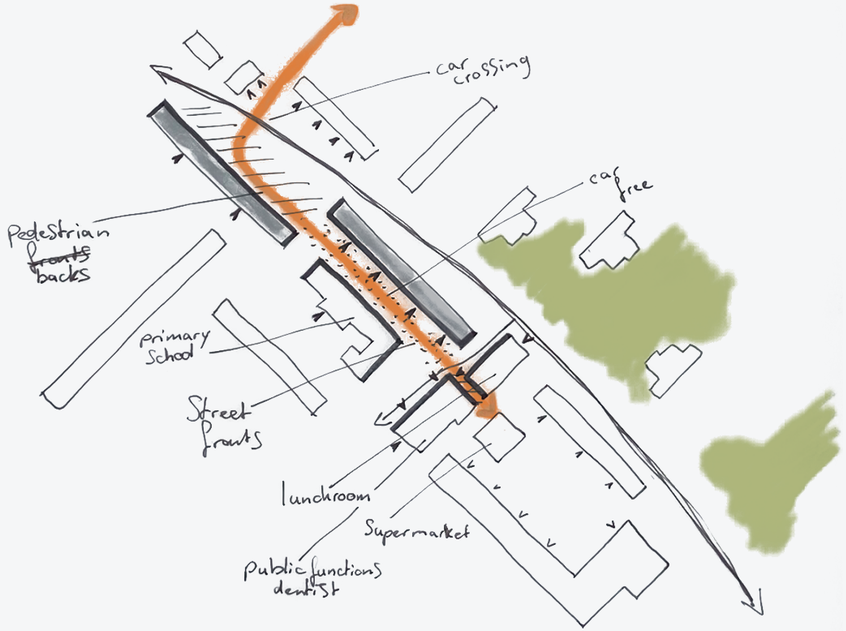


Figure 63. Analysis Fazendadreef, source: Authors”

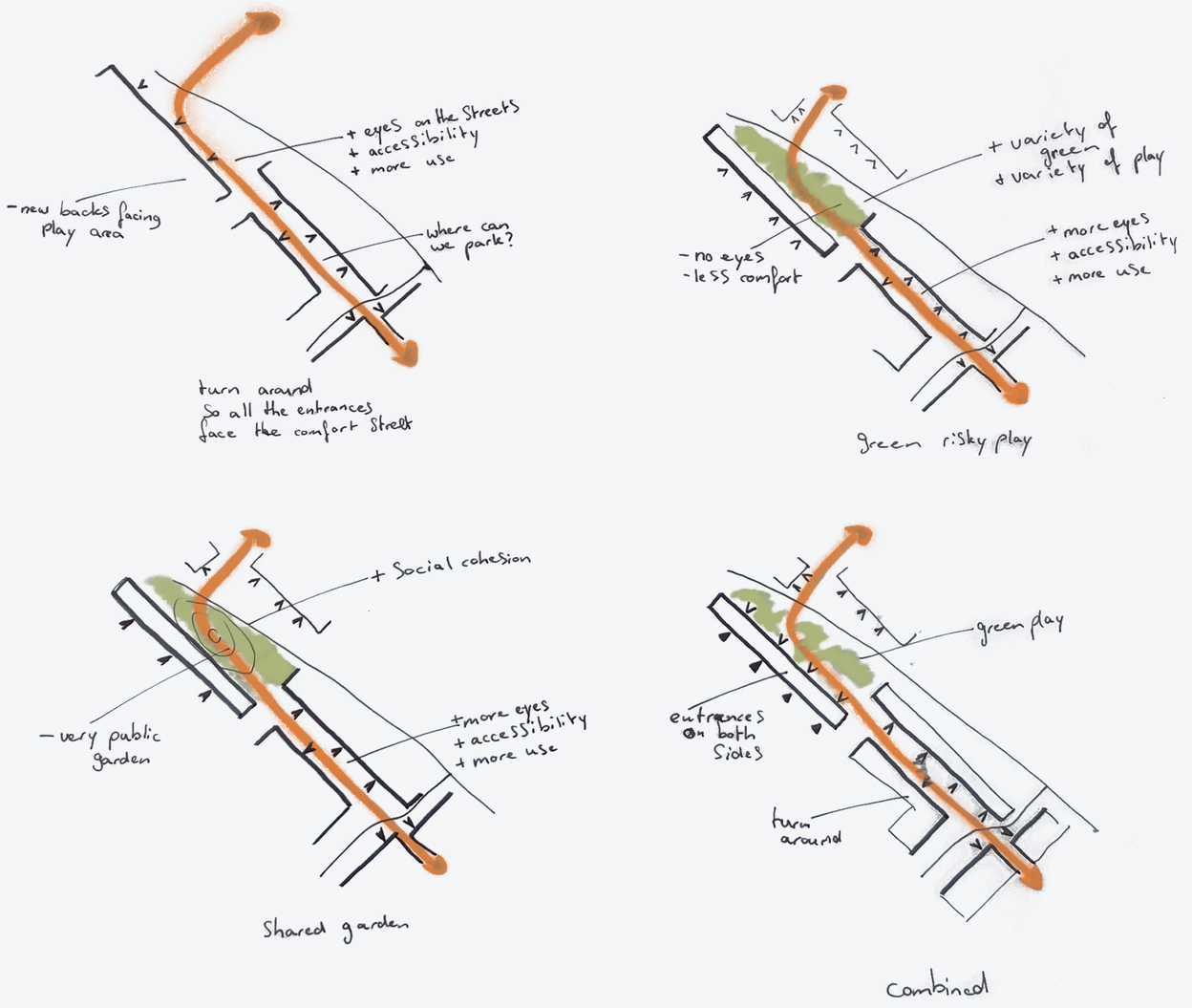


Figure 64. Research by design with options Fazendadreef, source: Authors”

STREETDESIGN

The Fazendadreef is an illustrative example of a design for a playful public space of a current car focused street in the comfortable play-necklace. The design of the public space demonstrates how a car street can be transformed into a comfortable play street.

The street of the Fazendadreef can become non accessible for the car, by taking out only this one street all the buildings stays accessible and at the same time the focus on the pedestrians in this street can increase extremely. As explained in the chapter: "Problematization of play" car free streets are very important to give children the ability to run freely. 71% of the children may run freely in a pedestrian street compared to 14% in a street with car traffic. *(Gehl, 1980)* This is an important first step for the target groups of younger children and videophilia focused children, because it increases the accessibility of play.

Next to the accessibility, more eyes on the streets are needed. The social safety and liveability of this area is low, which is also explained in chapter: "Zoom in selections". Based on the theory of Jane Jacobs, more eyes on the street are needed. *(Jacobs, 2015)* Therefore, new entrances are introduced for the building in the north-west of the site. Entrances connecting with the comfortable play-necklace. This will also happen for the primary school where a new entrance will be created towards the comfortable play-necklace.

In this way, the comfortable play-necklace becomes a main walking route connecting public functions and residences in an accessible and pedestrian friendly route. A route not only interesting for children who wants to play, but also a route interesting for all other inhabitants of the neighborhood. For example to walk in a comfortable route to the supermarket, or to bring their children to school.

For this comfortable play-necklace a mix of nature is needed, with the focus on a comfortable amount of nature. This is based on the research to videophilia and biophilia oriented children; A comfortable amount of greenery is for videophilia oriented children more attractive compared to a high amount of greenery (like in forests or dense parks). *(Edwards & Larson, 2020)*

Playing along the comfortable play-necklace is incorporated in the design of the public space. The variety of play is visible in the different ways and different forms of play. Playing on the route is possible with the 'speelse slinger" as explained in chapter 'streetdesign"of this comfortable play-necklace. At the same time there are some play elements on the tiles of the route and playing next to the route with an higher amount of green and play elements is possible. In this situation, interactive forms of play are advised in the higher amount of green area next to the route to also attract videophilia oriented children. With the addition of a game (explained in chapter: Play element guidelines) through the area playing becomes interesting for all kinds of play personalities and should attract more videophilia children to go outside.



Figure 65. Design Fazendadreef, source: Authors"



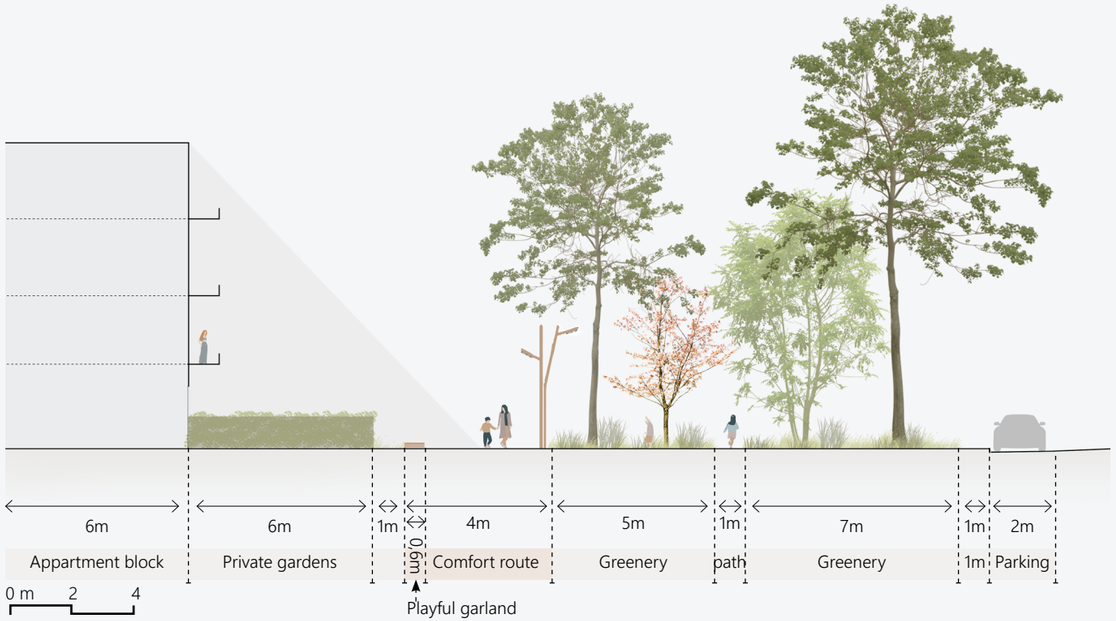


Figure 66. Section Fazendadreef north, source: Authors"

Playing next to the route can in this situation be a form of interactive play in an area with a higher amount of green. The higher amount of green is a step further for the videophilia oriented children, but adding interactive play will attract them. The street lighting is visible in the section which is important for the comfortable and safe atmosphere, bus also for the eyes on the streets and the visibility.

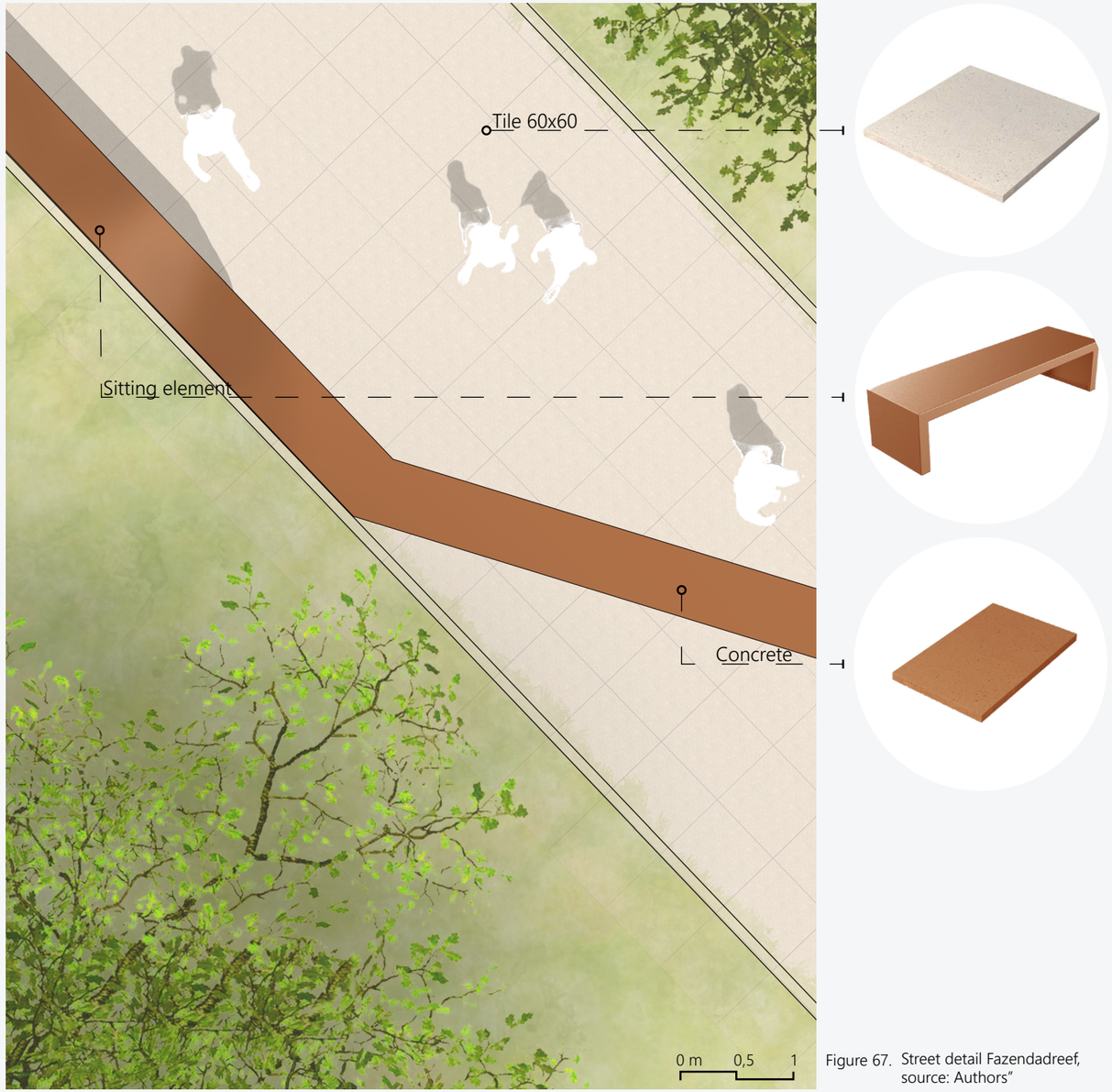


Figure 67. Street detail Fazendadreef, source: Authors"

The playful garland (speelse slinger) is a design for a multifunctional sitting element along the total comfortably play structure. This element serves as location for people to rest along the route, but has also playful small hills for children to play on. It is multifunctional and a recognizable element. The design for this playful garland is playful and can also be very flexible, depending on the needs for the site. The total element can be made out of concrete. Just as the neutral tiles. Concrete is suitbable for the playful garland, because of its flexibility. The project of Lungo Mare by EMBT Arquitectes visualizes also the suitability of concrete for a flexible design of a sitting element. *(EMBT Arquitectes, 2000)*
For the areas where the playful garland is at ground level, there is no height difference with the other tiles of the path. In that situation the playful garland is still recognizable due to his different gradient. The garland has a depth of 60 cm to achieve a spacious sitting element.

The concrete neutral tile is chosen to make the path recognizable in the public space. With a bigger size and different color from the current sidewalk tiles. With a 60x60 tile it matches with the dept of the playful garland. The tile needs to be suitable for public space and therefore needs a bevel edge. This bevel edge will prevent fractions in the tiles and is also visible in sidewalk tiles. *(MBI De Steenmeesters, 2023)*

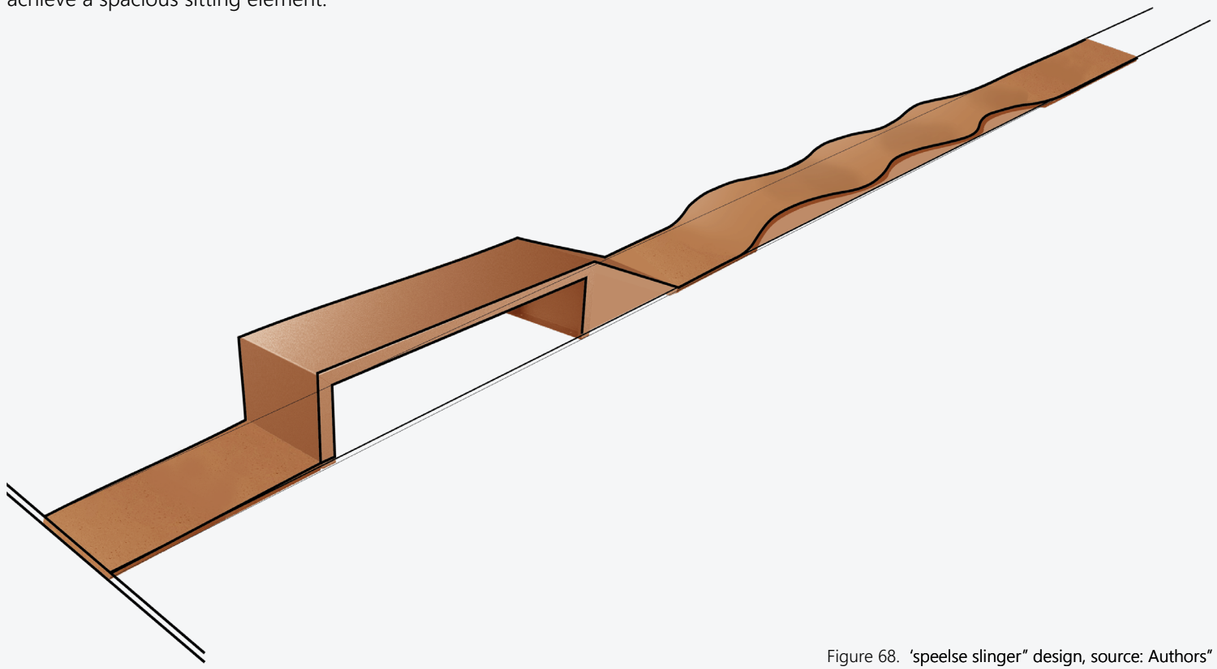


Figure 68. 'speelse slinger" design, source: Authors"

THE COMFORT EXPERIENCE

Through the eyes of a 5 year old child.

With her kinesthete focused play personality she always liked to be in motion. Unfortunately, despites that she was walking to school, with the design of the earlier car focused street this was hardly possible. She always had to hold her mothers hand, not even talking about playing after school. By being to young to go to the playgrounds on her own and her parents not able to join she could not get the development needed at that age through playing.
The design of the comfortable play-necklace changed this perspective. The street became pedestrian focused and has playing opportunities by only just walking through. The street became fun to walk through. And for her
also run through.



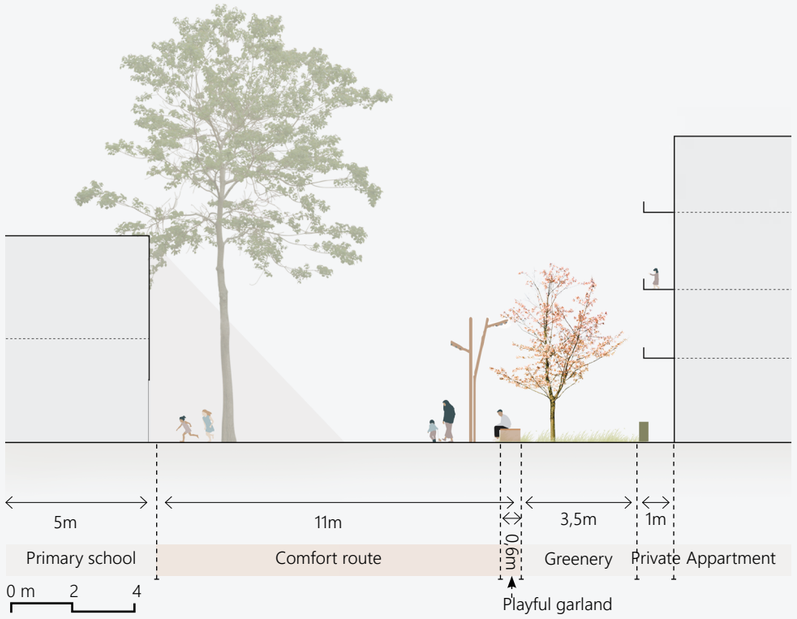
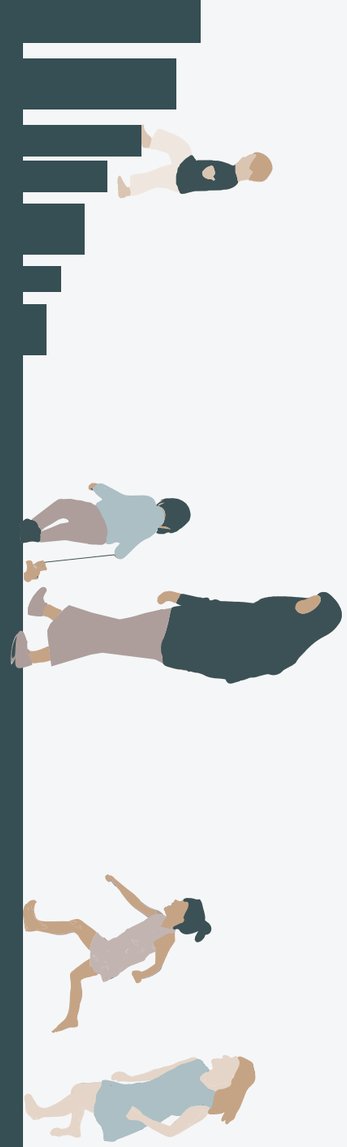


Figure 69. Section Fazendadreef, source: Authors"



Figure 70. The comfort experience, source: Authors"



05 NATURE PLAY-NECKLACE

THE NATURE STRUCTURE

The concept explains the intervention for the comfortable play-necklace and the nature play-necklace; two layers of interventions needed to achieve a successful playful Overvecht for every target group. This map explains the structure of the nature play-necklace. It shows the interventions which are needed based on the research. On the next pages the legend is explained with the addition of references, and with that the design of the public space becomes clear.

- Nature play-necklace
- Different levels of nature
- Places to sit down
- Wilder play nature
- Green next to 50km/h road
- Play elements connecting routes
- Sports fields
- Playgrounds
- Crossing 50 km/h road

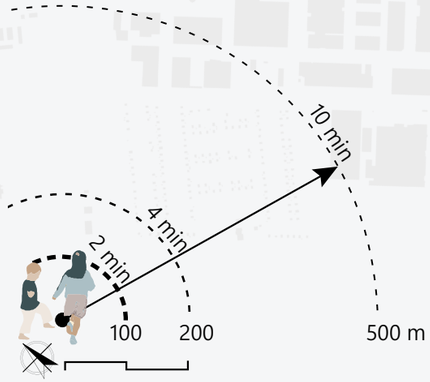


Figure 71. The nature play-necklace, source: Authors"

Park environment
Continuous
The main goal of the nature play-necklace is to connect the parks and create routings through this green environment. Therefore everywhere along the route a certain minimum amount of greenery is needed. This will be compared with a park environment.

Biking/running routes
Continuous
These biking and running routes are important for older children, biophilia focused children and children with a kinesthetic play personality. But also just for any other target group who likes to walk through a nature environment.

Lighting
Continuous
Just as for the comfortable play-necklace safety is important which will also be improved by street lighting everywhere along the route. Darker areas should be reduced along the path to increase the accessibility and safety also on the darker moments of a day.

Different levels of nature
Continuous
As explained in the chapter "Principles": different levels of nature are needed. This is a principle to create interesting play areas for more and less biophilia focused children. Every child has different needs and interests also for the amount of green which invites to play.

Figure 72. References, source: *


*(Watertorenhof – Lanxmeer, n.d.)


*(Estates Tempel and Nieuw Rhodenrijs, Rotterdam by Bureau B+B, n.d.)


*source: Authors"


*(Watertorenhof – Lanxmeer, n.d.)


*source: Authors"

Less eyes on the streets
Location-based
Next to the safe and comfortable playing areas, there are also children who are much more looking for the unsafe or less supervised areas to play. A reference is this path in the Jac.P.Thijsse park in Amstelveen.

Wilder play nature
Location-based
Very biophilia focused children are more attracted to wilder nature to play in. A reference is this area in the play forest in the north of Overvecht where children can build their own huts.

Green next to road
Location-based
In the map on the page before, the areas where the nature network merges with the 50 km/h roads are shown. In these areas greenery will come together with an important infrastructure. The reference of the Ringbaan Zuid shows how this for instance can be done.

Play elements connecting to the comfortable play-necklace
Location-based
In the map is shown where the two routes are merging together. For these areas elements should be introduced to increase the ability for the children from the comfortable play-necklace to explore parts of the nature play-necklace. Therefore, play elements from the comfortable play-necklace can be introduced in these parts of the nature play-necklace.

Figure 73. References, source: *


*(Gemeente Amstelveen, 2015)


*source: Authors"


*(O099-Ringbaan Zuid - B+B, 2023)


*(Bogaardplein Rijswijk by DELVA, n.d.)

Places to sit down

Every 100-150 meters

Just as for the comfortable play-necklace, for the accessibility and attractiveness also of older people, places to rest are needed. To much places to sit down will decrease the social interaction. Therefore places to sit down will be introduced every 100-125 meter. This is needed according to Scholte en Tollenaar *(Scholte & Tollenaar, 2023).*

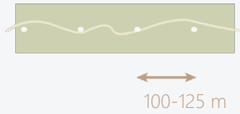


Figure 74. References, source: *



(Fortress Muiden by MTD, n.d.)

Current sport areas

Location-based

Some of the current sport areas are located along the nature play-necklace. For example this sport field in Park de Gagel in Overvecht. By connecting these sport fields with this route the accessibility and visibility will improve.



(Gemeente Utrecht, n.d.)

Current playgrounds

Location-based

It is not necessary to demolish the current playgrounds, instead these areas linked with the nature play-necklace already have an increased accessibility. By adding or changing play elements more focused on play personalities these playgrounds can become interesting again.



*source: Authors"

Safe crossings

Location-based

In the map the crossings of the nature play-necklace with the 50 km/h roads are shown. For these crossings interventions are needed to increase the safety, comfort and greenery, to achieve that these crossings will not become borders for the green connections.



*source: Authors"

EXPLAINING THE STRUCTURE

The current typologies – What are the current typologies the nature play-necklace will walk through?

The analysis of the typologies in chapter: Play-typologies and interventions, showed what kind of play typologies could be analyzed in the current public space structures of Overvecht. To understand the specific design interventions that are needed for zooming in into street level design, the current typologies on the specific location of the route are analyzed.

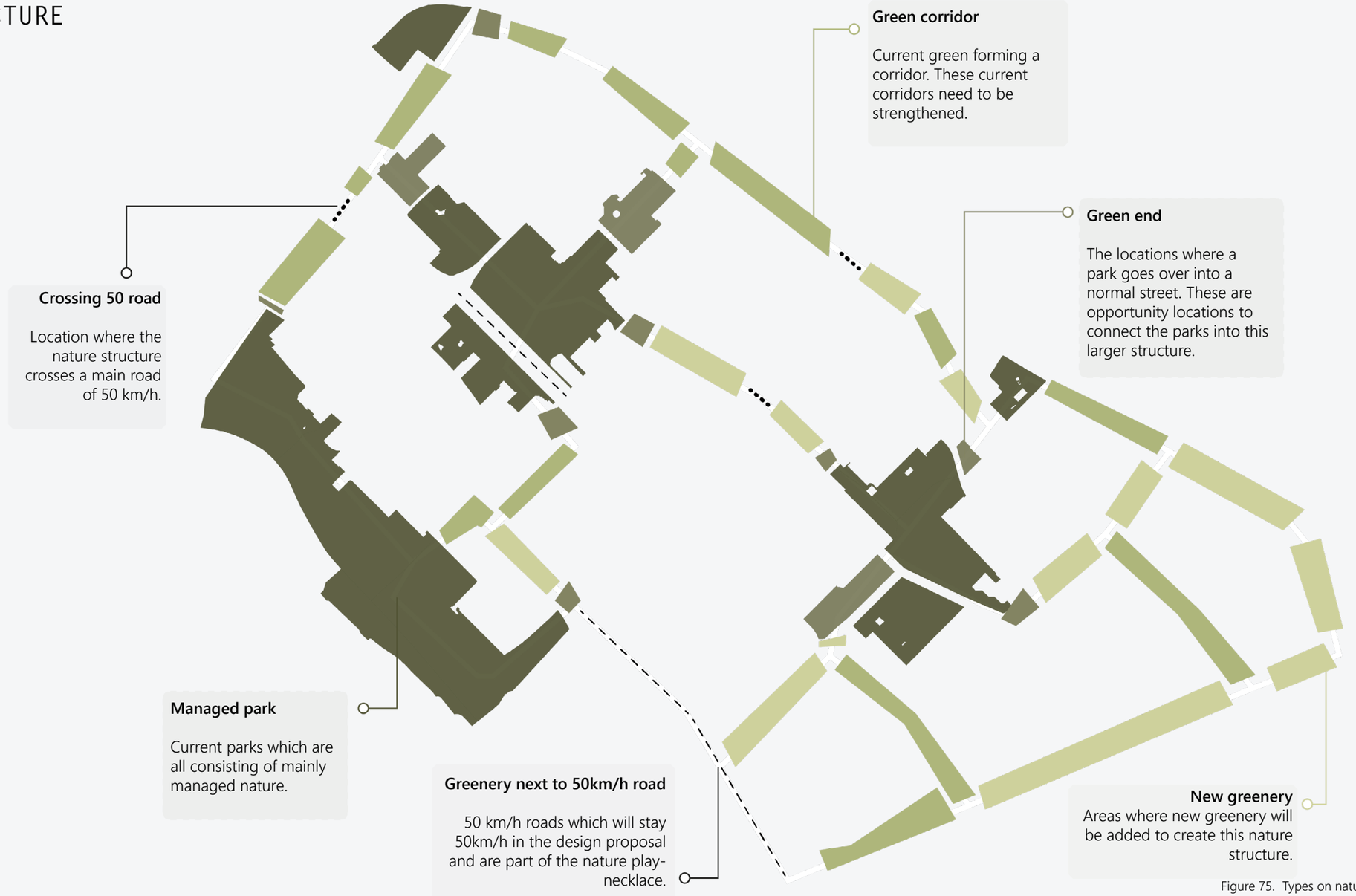


Figure 75. Types on nature play-necklace, source: Authors"

In the chapter: “the nature play-necklace” is explained that the nature play-necklace will consist of different levels of nature. This is in accordance with the principle: “mix of nature”. The current parks in Overvecht consist of a considerable amount of managed nature with not that much variety and diverse green. Different levels of nature are explored with the use of references. These references show different forms of nature, which are useful for this project to achieve this variety and mix of nature. The projects towards the right are more interesting for biophilia oriented children and thus not for the comfortable play-necklace. Since these do not exists of comfortable levels of nature.

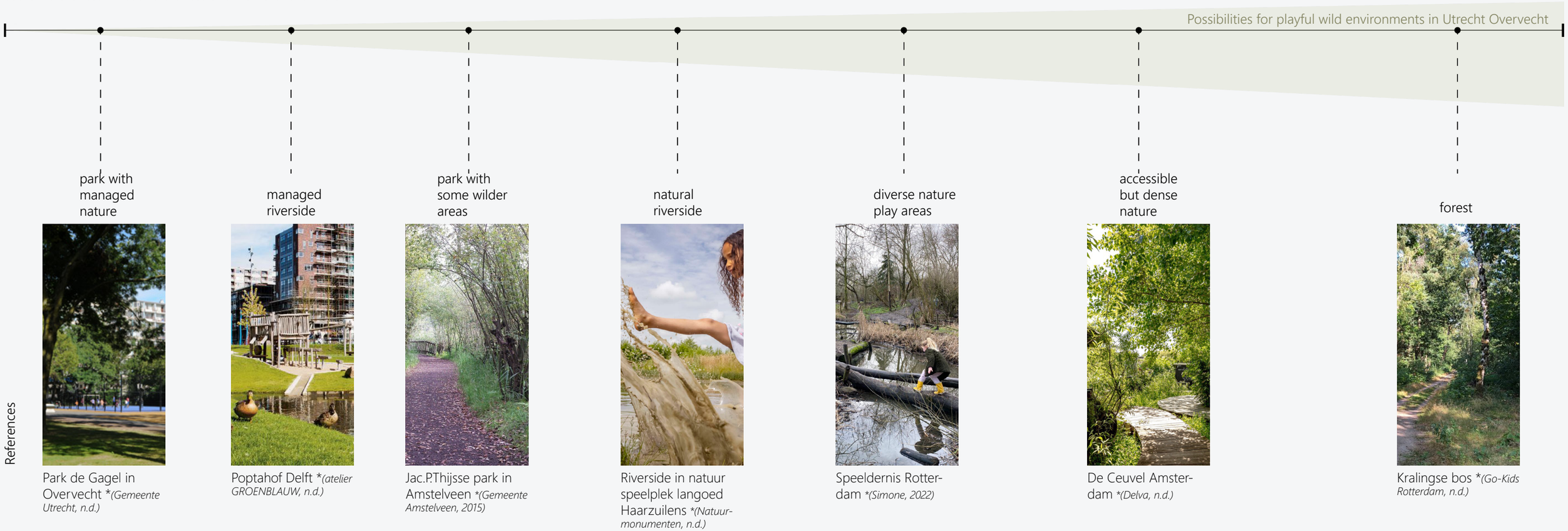


Figure 76. References of nature, source: *

ZOOMING IN ON THE NATURE PLAY-NECKLACE

The Humberdreef is one of the car streets which have opportunities to transform into a nature playful street. The Humberdreef is at the extension of a green end type next to a park. The other side of the street shows a crossing of a 50km/h road. At this crossing the two layers of the comfortable play-necklace and the nature play-necklace come together and have to cross the road. The road of the Humberdreef consists of bus stops which are important for the accessibility of the mbo school along the street. In the current situation the playing opportunities are missing, the street is focused on the infrastructure of the car and bus. The grass in the street is not inviting to play. A change is needed to increase the play opportunities and green connection for this area. A change based on the principles from the research suitable for this typology of the nature structure: "less" eyes on the streets, accessibility to play, a mix of nature and a variety of play.

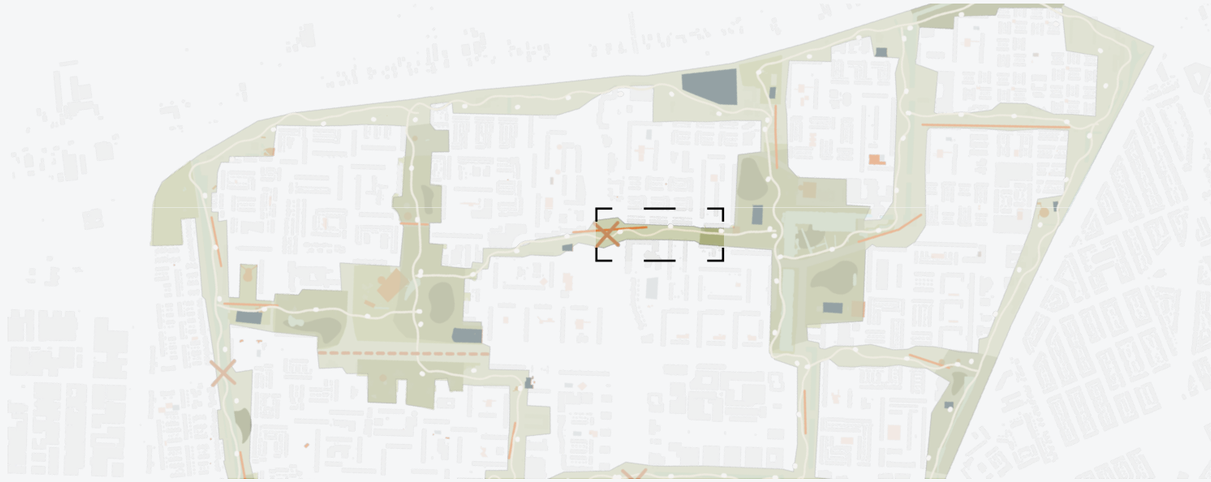
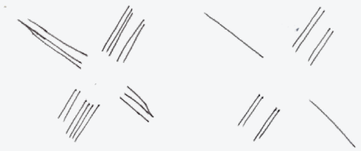




Figure 77. Aerial photo Humberdreef, source: *(PDOK, n.d.)*

Elaborating the nature play-necklace by zooming in on the Humberdreef is further done through research by design and implementing the elements of the nature play-necklace. The analysis of the site visualizes the current types, opportunities and weaknesses. Like where bottlenecks are forming through car crossings. And what different types are located in this site: the green end type and the managed park type. Through research by design and generating different options, design solutions are found. These options are shown on the right page, focusing on the combination of greenery and infrastructure. Looking at the pros and cons, the best implementation is to decrease the car lanes and make te street only accessible for busses. By changing the infrastructure in one bus lane the lanes of the crossing could also decrease resulting in a more nature focused street instead of infrastructure. The crossing will become clearer increasing child-friendliness. The amount of lanes of the changing crossing are shown below.



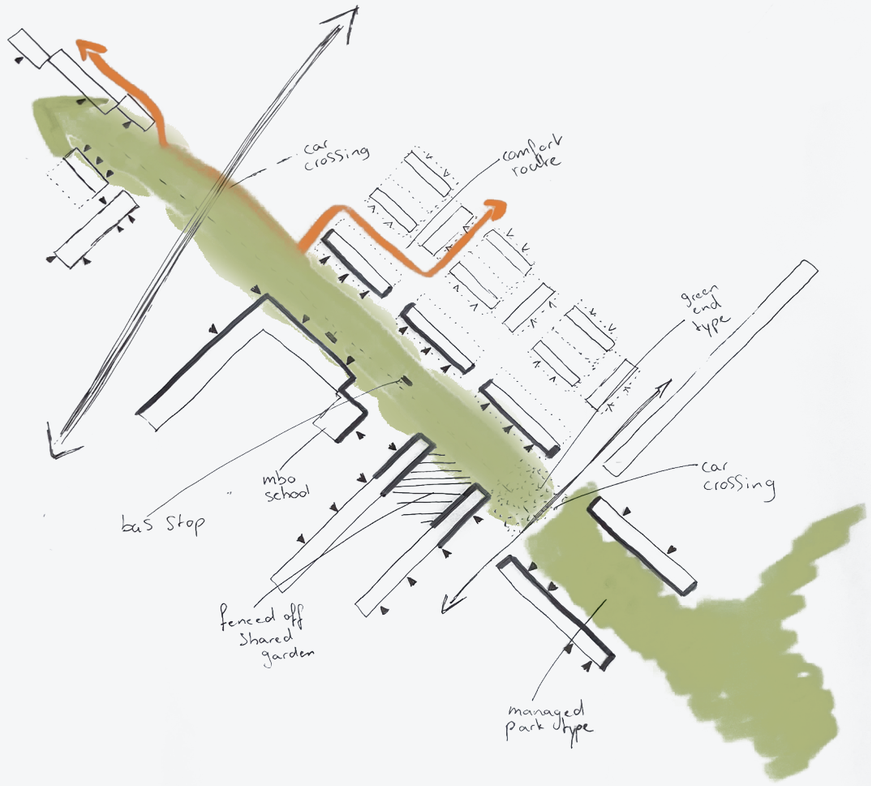
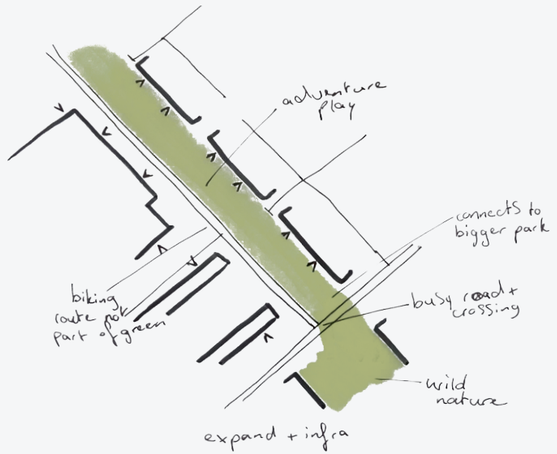
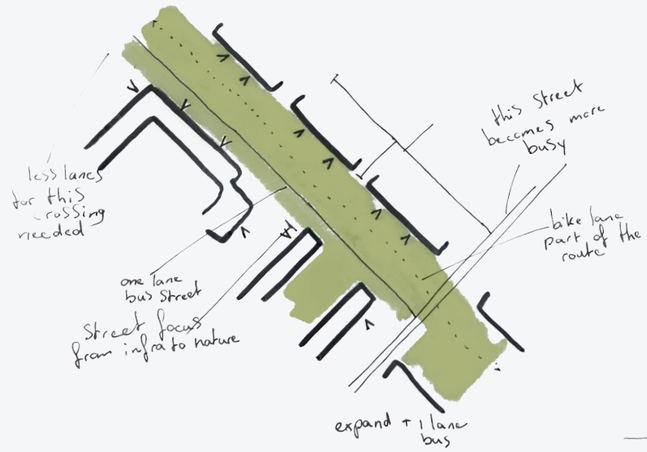
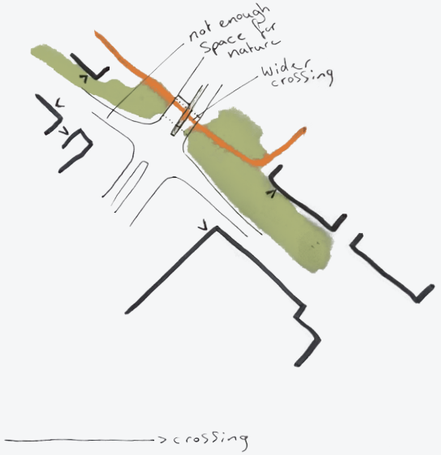


Figure 78. Analysis Humberdreef source: Authors"







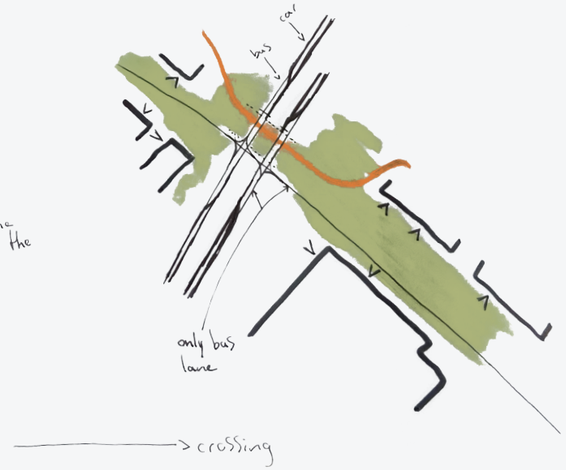


Figure 79. Research by design with options Humberdreef, source: Authors"

CONNECTING NATURE

The Humberdreef is an illustrative example of a design for a greenery focused playful public space of a current car focused street. The design of the public space demonstrates how the car street can transform in a comfortable greenery and pedestrian focused play street.

The street of the Humberdreef can become unaccessible for the car, by leading around the car traffic. Nevertheless, the bus stop is very important for the accessibility of the mbo school and has to stay. By reducing the traffic and road lanes to one bus lane, the focus on the pedestrians and greenery in this street can increase extremely. With current technology and traffic lights, also at the bus stop, it is possible to have two-way traffic in this street. Walking and cycling routes through the densified greenery increases the accessibility to nature. This is an important first step for the target groups of older children and biophilia focused children.

Next to the accessibility, a variety of eyes on the streets are needed. Based on the theory of Jane Jacobs, more eyes on the street are needed to achieve social safety and cohesion. *(Jacobs, 2015)* For this location and target groups, the focus is more on risky play and less supervision. For the Humberdreef there will be some eyes on the streets, but for the park in the east, less eyes and more denser nature are needed. To achieve these areas with less supervision where children can play in nature.

In this way the nature play-necklace will connect the different parks into a larger structure. With routes not only interesting for children who wants to play, but also a route interesting for all other inhabitants of the neighborhood. For example to walk in a green environment, or to sport through for example running or biking.

For this nature play-necklace a mix of nature is needed, with the focus on a higher amount of nature, compared to the comfortable play-necklace. This is based on the research to videophilia and biophilia oriented children; A higher amount of greenery (like in forests or dense parks) is for biophilia oriented children more attractive compared to a comfortable amount of greenery. *(Edwards & Larson, 2020)*

Along the 50km/h roads, flower verges can be introduced. Along the Humberdreef the level of nature can be comparable to a park environment. And the level of nature in the current park can become denser and a bit wilder.

Playing along the nature play-necklace is incorporated in the design of the public space. The variety of play is visible in the different ways and different forms of play. Playing/sporting on the route is possible by following the walking and cycling path through the different neighborhoods. At the same time there are some nature play elements in the greenery of the route. Furthermore, building elements can be provided so children can build and play with nature. This is attractive for certain play personalities and biophilia oriented children.

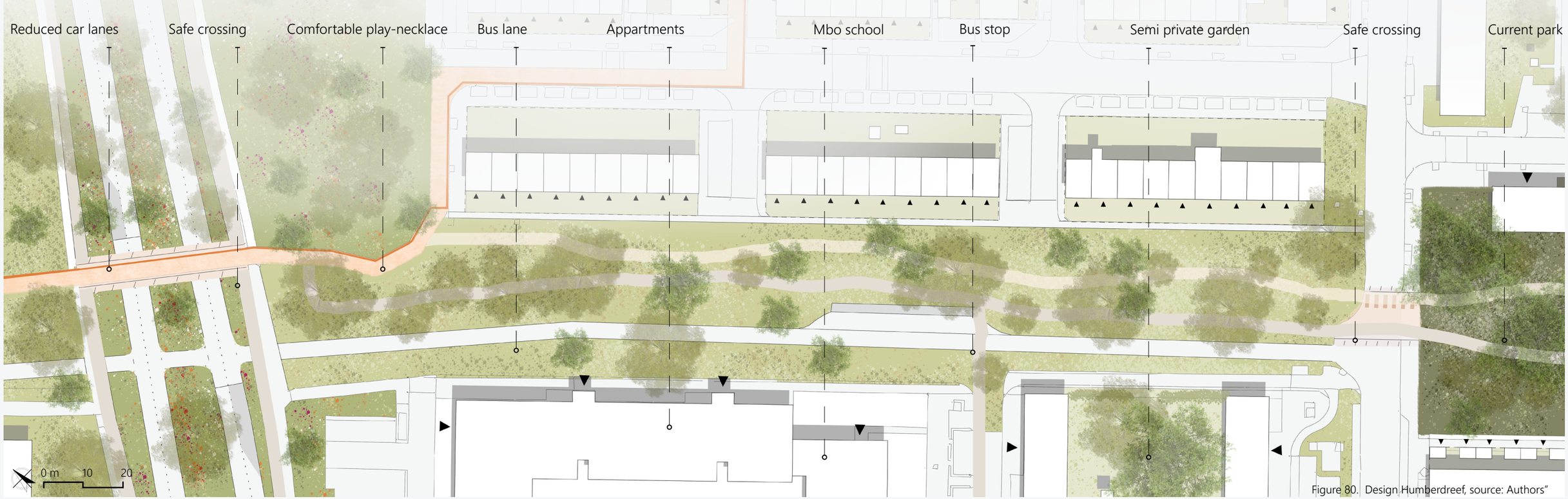


Figure 80. Design Humberdreef, source: Authors"





Figure 81. Section Humberdreef, source: Authors"

The nature play-necklace exhibits a higher amount of greenery compared to the comfortable play-necklace. The higher amount of greenery is a step further for the videophilia oriented children, and of primary interest for the biophilia oriented children. The street lighting is visible in the section which is important for the safe atmosphere, but also for the eyes on the streets and ensuring the visibility. Otherwise, trees can rapidly darken the street, creating less safe environments. This section illustrates a part of the location of the existing park, which has been designed to incorporate a denser natural environment.



Figure 82. Street detail Humberdreef, source: Authors"



Figure 83. Reference street lighting, source: Authors"



Figure 84. Reference flower strip, source: *(Salland, 2023)*

The natural street lighting along the walking and cycling paths is a recognizable element of the nature play-necklace. The natural design of the necklace is well-suited to the natural environment and simultaneously enhances the safety and accessibility of the paths.

Furthermore a flower strip will be added along the nature play-necklace. In this situation the flower strip will be situated along the bus lane, thereby indirectly create a soft barrier for the bus lane, prompting children to look out and not directly run over it. A flower strip contributes to the biodiversity by attracting butterflies and pollinators, and with that also different types of birds. It is interesting for the children to learn about the insects and flowers. Furthermore a flower strip requires less maintenance than other greenery. *(Biodiversitree, n.d.)*



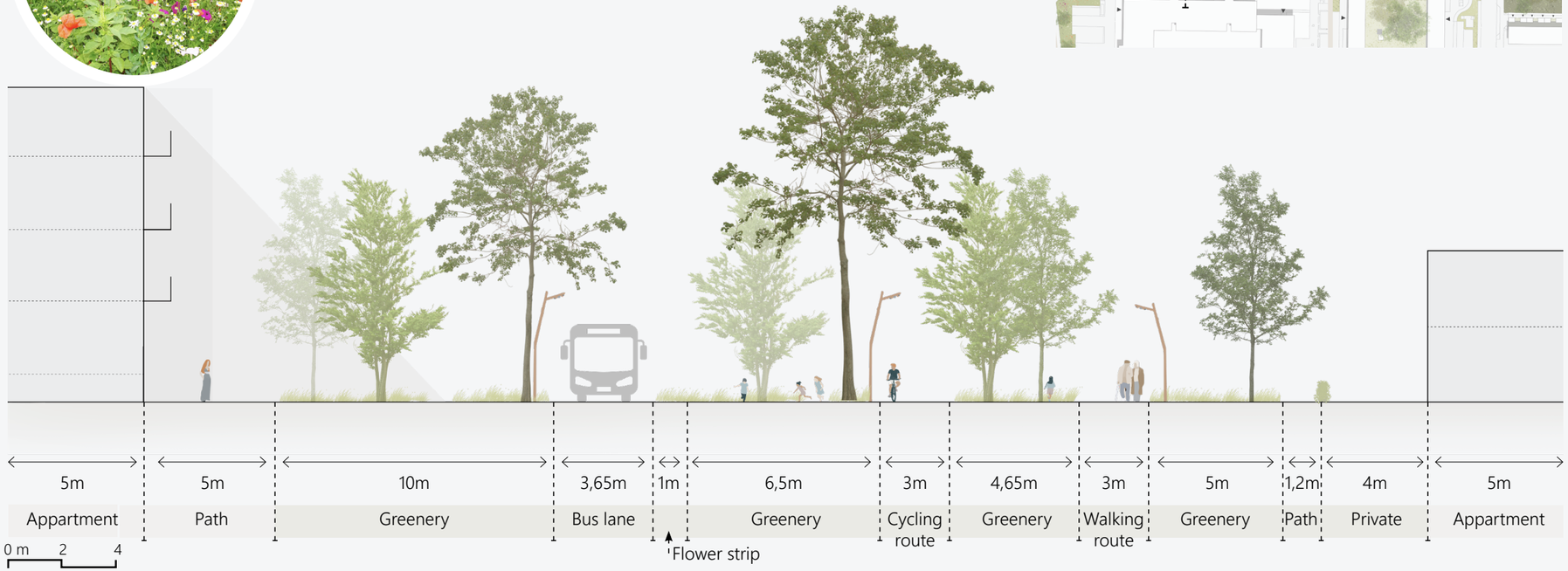


Figure 85. Section Humberdreef new park, source: Authors"

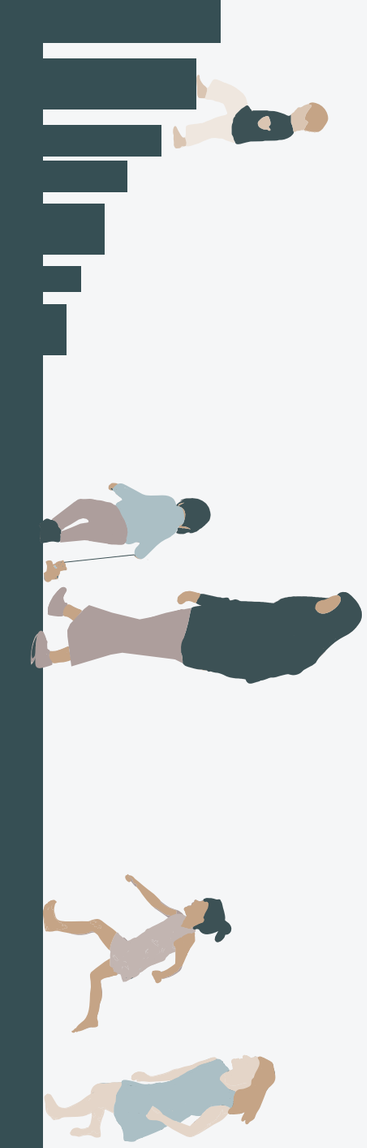
THE NATURE EXPERIENCE

Through the eyes of a 9 year old child.

With her explorative focused play personality she always liked to explore new things. Unfortunately, the earlier design of the playgrounds did not capture her attention. Because of her biophilia orientation and explorative play personality her favorite playground was the play forest in the north of Overvecht. However, this playground was to far away to go to. She did never play in the streets of the Humberdreef.
The design of the nature play-necklace changed this perspective. With the new design she comes here almost every day. By walking along the route she explores new play areas and friends every week. With the design of the earlier car focused street, playing in this area was not inviting, even for a biophilia oriented child.



Figure 86. The nature experience, source: Authors"



06 PLAYFUL OVERVECHT

ZOOM IN SELECTIONS

The elaboration of both the zoom in locations explain how this playful environment can be achieved on street level. They both zoom in on one of the most interesting locations of the play-necklace.

The interventions for the Fazendadreef in the comfortable play-necklace will contribute to achieving a playful environment. Next to that with the pedestrian focused route, improved accessibility and more eyes on the streets, not only the children will experience benefits. It will also help to improve social interaction, social cohesion and liveability overall. Which is very important for this location since the liveability is largely insufficient. This is explained with an analysis on the next page.

Together with the interventions for the Humberdreef in the nature play-necklace both the structures will contribute to achieving this inclusive play environment. For all types of play personalities, different ages and biophilia and videophilia oriented children. The design interventions for the Humberdreef will also help to improve the liveability by creating a pedestrian friendly environment. This is also needed because of the current insufficient liveability as explained on the next page.



Zoom in 1: Comfortable play-necklace

This specific location was choosen for defining of the design. The interventions for this location can for instance improve:

- playing opportunities
- the liveability
- accessibililty to the primary school and a partly renewed shopping centre
- human scale, by focussing on the pedestrian

Zoom in 2: Nature play-necklace

This specific location is choosen for defining the design of the nature structure. The interventions for this location can for instance improve:

- playing opportunities
- the liveability
- green networks
- safe crossings
- human scale, by focussing on the pedestrian

Figure 87. Zoom in selections, source: Authors"

Liveability – Which areas need interventions, looking at the liveability?

This map shows the liveability for different areas in each district of the neighborhood. The liveability overall in Overvecht is insufficient and is in need for interventions. For the zoom in locations is chosen to elaborate areas with largely insufficient liveability to improve the relevance of the designs.

Source data map: *(Werkplaats Overvecht, 2020)*

- Largely insufficient
- Insufficient
- Weak
- Good

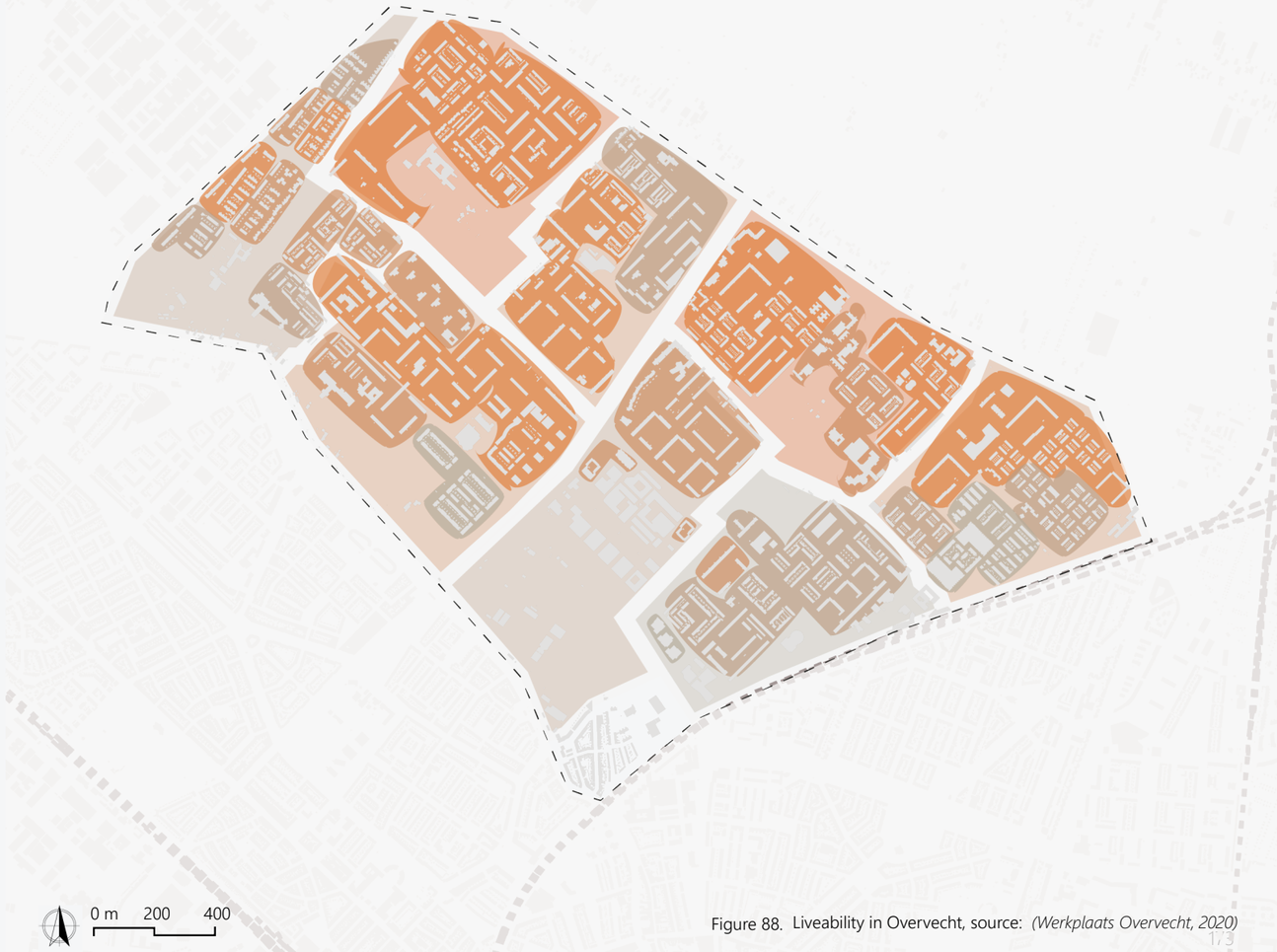
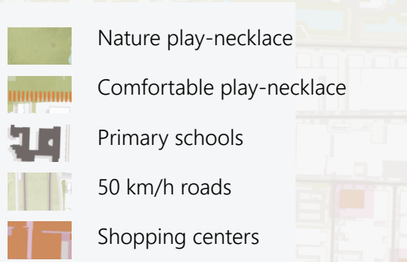


Figure 88. Liveability in Overvecht, source: *(Werkplaats Overvecht, 2020)*

SPATIAL PLAN

The layers of the comfortable play-necklace and the nature play-necklace will merge in the final spatial plan for Overvecht. Individually, these layers have elaborated design interventions but together, they form an inclusive playful spatial plan. Inclusive for all the different play personalities, different ages, video- or biophilia oriented but also for the teenagers, parents or elderly.
All in all, achieving a childfriendly and playful future for Overvecht.



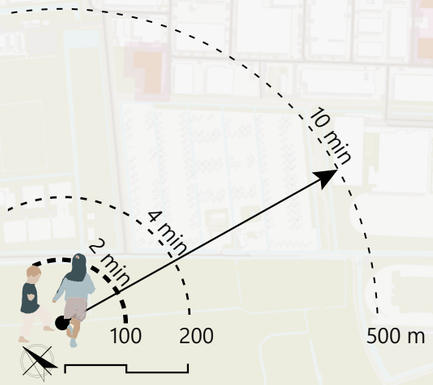


Figure 89. Spatial play plan for Overvecht, source: Authors"

Where the layers merge –
The variety of the different elements of the play-necklaces results in very explorative routes. Exploring new elements is a successful play element out of games to keep children playing. As explained in the research on page 72. The comfortable play-necklace is more focused on attracting young children and videophilia oriented children to go outside and play. Next explorative steps for them is becoming comfortable in the outdoor environment and wanting to explore more by putting their boundaries further. To let the public space help them, play elements are incorporated in the areas of the nature play-necklace where the two layer merge with each other. This encourages them to engage further with the nature play-necklace. The locations of these interventions are shown in orange. An example of play elements for these locations are play elements on the route and/or the outdoor game. The guidelines for different forms of play elements are explained in the chapter: play element guidelines.

Comfortable play-necklace

Nature play-necklace

Play elements connecting routes

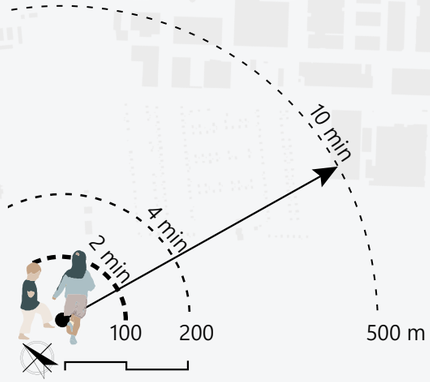




Figure 90. Where the layers merge, source: Authors"

EXPERIENCING PLAYFUL OVERVECHT

The spatial plan, which incorporates the implementation of the comfortable play-necklace and the nature play-necklace, is designed to create a child-friendly and playful structure in Overvecht. A design with variation, attracting a diverse range of children towards more outdoor play. The experience of variety through the route is visible in the serial vision.



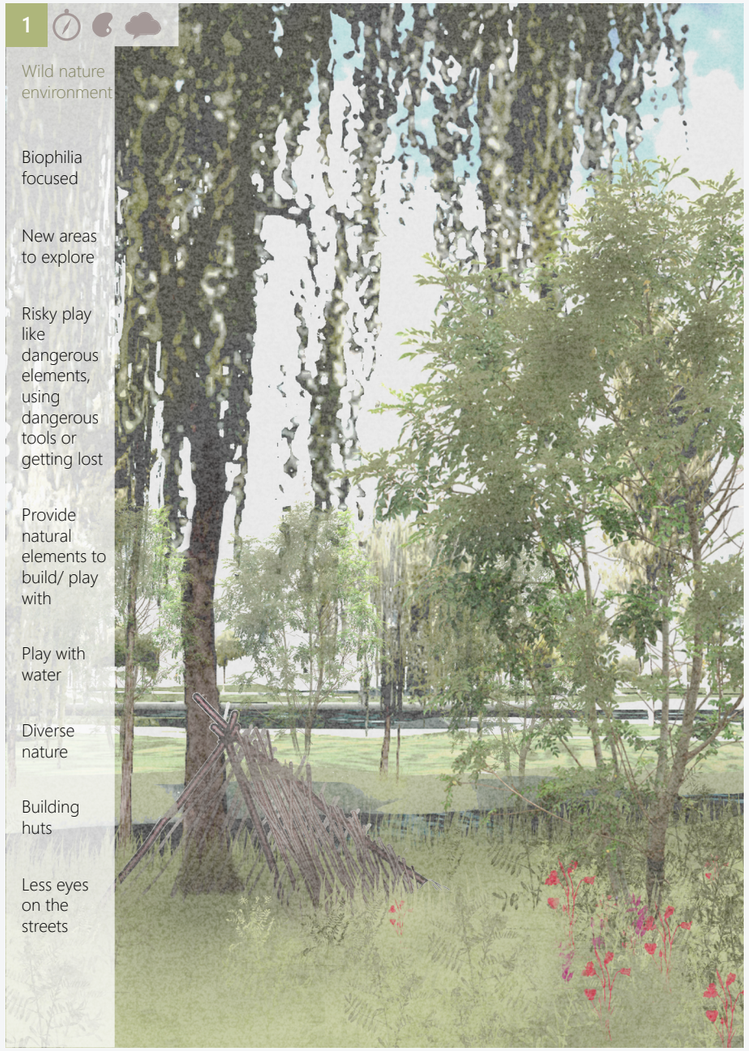


Figure 91. Serial vision design proposal, source: Authors"

2

Current park

Biophilia focused

New nature to explore

running/ biking routes

Less eyes on the streets

High grass



3

New connecting nature

Routes connecting parks

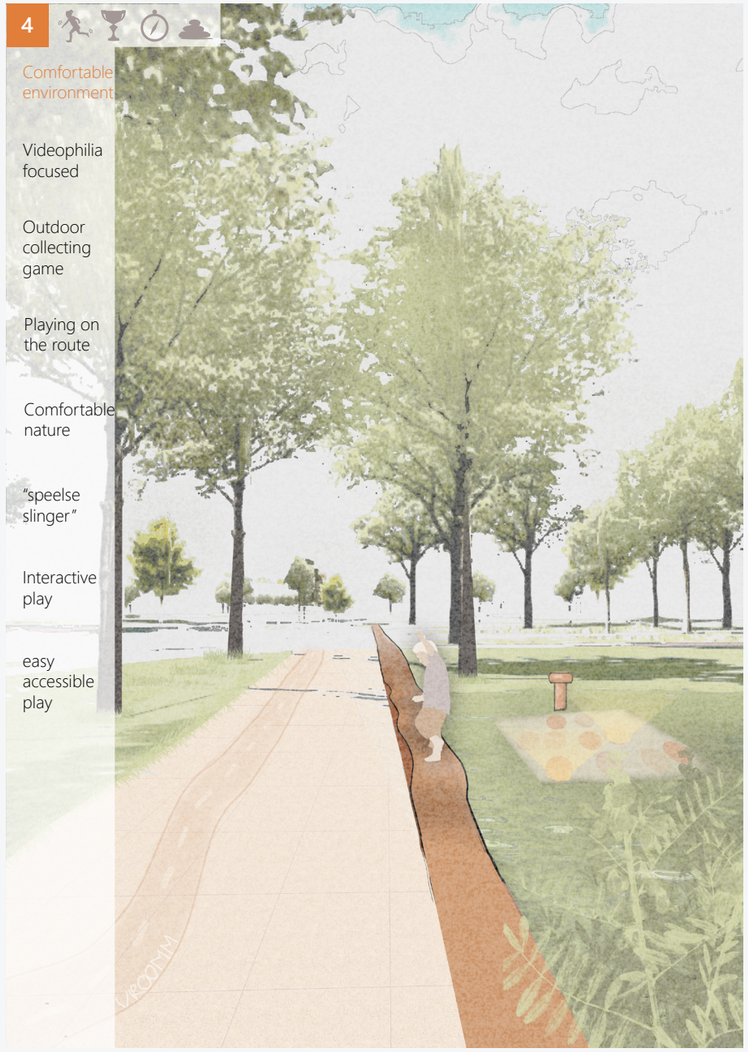
Provide play elements

Running/ biking routes

New areas to explore

Less denser nature compared with 1&2







Experiencing the necklaces through the seasons.
The visualizations give an impression of the environment of the necklaces during the summer or spring seasons. However, the necklaces can be used in any season.

The comfortable play-necklace will be used throughout the year, because of its location. In the summer, it is likely to be used more frequently than in the winter due to the pleasant weather conditions. However, in the winter children also have to go to school. It could be even more fun for them to walk this route along the comfortable play-necklace when it has snowed. When walking to school or the shopping center becomes a normality, this will potentially extend to the other seasons. This will introduce children to the fun side of play when things can become messy by for example stomping in the puddles. In particular, during the colder seasons, it is as important to attract children outside with this comfortable play-necklace to get them in movement.

De experience of the nature play-necklace throughout the seasons will be different. While the comfortable play-necklace is linked to public functions, the nature play-necklace is less. In the summer the environment of the nature play-necklace will be green and diverse, but in the winter it will be more barren with more mud. Nevertheless, this can also be an attractive play environment. Where children can engage in activities that involve getting dirty and wet from rain and mud. This is more attractive for children with a biophilia orientation, which is also the goal of this nature play necklace.

PLAY ELEMENT GUIDELINES

This project does not focus on the design of the specific play elements. The elaboration of the further design for the play elements can be considered as a next step after this project, particularly for those with expertise in playground design.

At the same time this project researched what forms of playing are needed for attracting different target groups. Therefore, this program of requirements explains some of the important guidelines for the play elements.

Playing along the route

- **'speelse slinger"**

At first the design already showed the intervention for the 'speelse slinger" along the comfortable play-necklace. This is a multifunctional play element and serves mainly as element to sit and to play on. The sitting elements should pop up between every 100-125 meter and if possible close by public functions. The play elements of the 'speelse slinger" should be wavy and can be different on every location, so children can explore. The 'speelse slinger" is interesting for different play personalities like: kinesthete, explorer, storyteller. But also for for example older people to rest. The 'speelse slinger" can become a place for social interaction.



Figure 92. Abstract location speelse slinger, source: Authors"

- **Outdoor game**

A suggestion is to introduce a game for the specific location Overvecht. This game should help videophilia oriented children to make the first steps in going outside to play. With this game children should be able to explore and collect. This outdoor game will be in line with recommendation 5 of Edwards en Larson *(Edwards & Larson, 2020).*
With the game children can collect icons, like birds, insects or game figures, which can be find along the comfortable play-necklace and in some parts of the nature play-necklace where the two routes merge or cross each other. This game is not endless but can serve as a first step to attract children to play outside. This game is interesting for different play personalities, like: kinesthete, explorer, competitor and especially the collector.

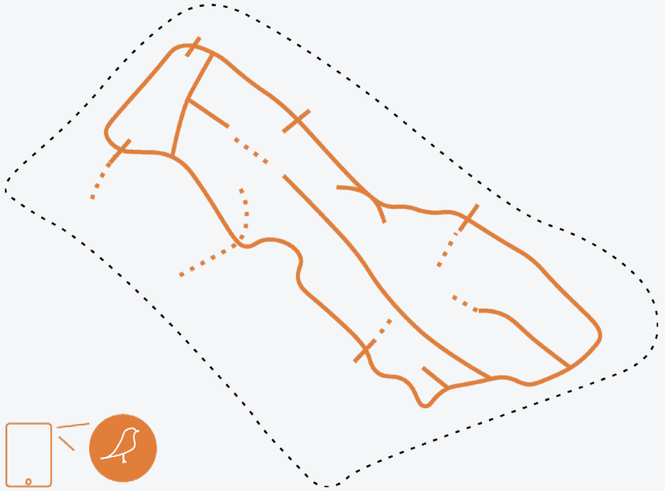


Figure 93. Abstract location outdoor game, source: Authors"

Playing on the comfortable play-necklace

- **Simple forms of playing**

These simple forms of playing should be attractive for different play personalities on the pavement. Playing on the route in general is already interesting for videophilia oriented children, because the accessibility is increased. At the same time playing elements on a route is interesting for the explorer play personality to explore new play elements in every street. The specific play elements should be further developed and designed, but some examples to think of are:

- Running competition, interesting for kinesthete and competitor personality
- "knikkerpotje", interesting for competitor and collector personality

Playing next to the route

- **Interactive play elements**

Along the comfortable play-necklace new play areas can be introduced with interactive play elements, interesting for different play personalities and more attractive for videophilia oriented children. This can for example become interesting for play personalities like: kinesthete, competitor, artist, explorer and the storyteller.

- **Improve current playgrounds**

The current playgrounds can be improved to attract more play personalities. For example, a "pierenbadje" when turned of, like a lot of them are all the time, is not interesting for one of the play personalities. However, when the "pierenbadjes" are activated on a regular basis, adjustable water sprayers linked to an interactive game are incorporated, and those pierenbadjes will be connected in a route will make this "pierenbadjes" interesting for a lot more play personalities. Like: kinesthete, explorer, artist, storyteller and competitor.

- **Improve current sport fields**

The current sport fields along the comfortable play-necklace can be improved by for example adding an interactive goal or system that measures the points.

Playing in nature

- **The routes**

The design shows already the intervention for the running and biking routes. This is an important element for the older children but also for the biophilia and sportive parents. Running and biking routes are interesting for play personalities like: kinesthete, explorer and competitor.

- **Playing in and with nature**

It is also recommended that play elements should be provided in the nature and greenery areas. These elements can be much more nature oriented because of the main target group of biophilia children. But as explained in the principles, a certain variety is needed. Some play elements for example can be: providing wood and certain tree types so children can build treehouses or providing wood so children can build huts. Building treehouses and huts can be interesting for play personalities, like: artist and storyteller. It can also introduce more forms of risky play like: great heights and dangerous tools.

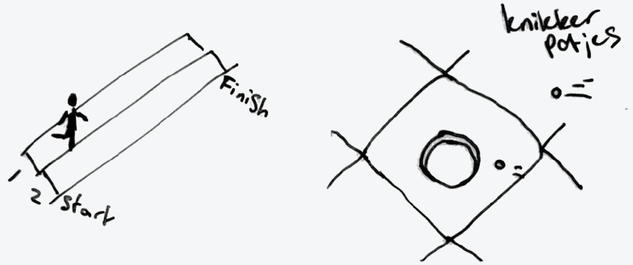


Figure 94. Simple forms of playing, source: Authors"

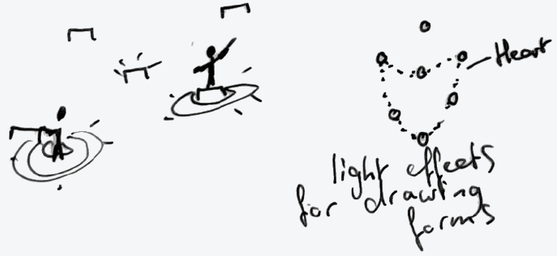


Figure 95. interactive play elements, source: Authors"

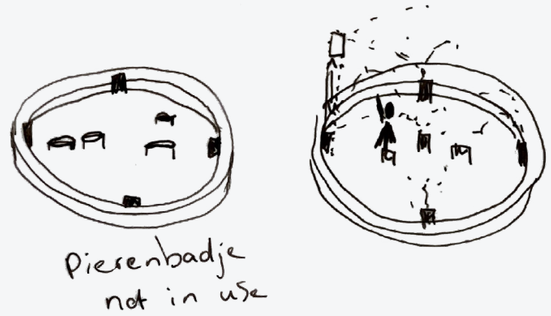
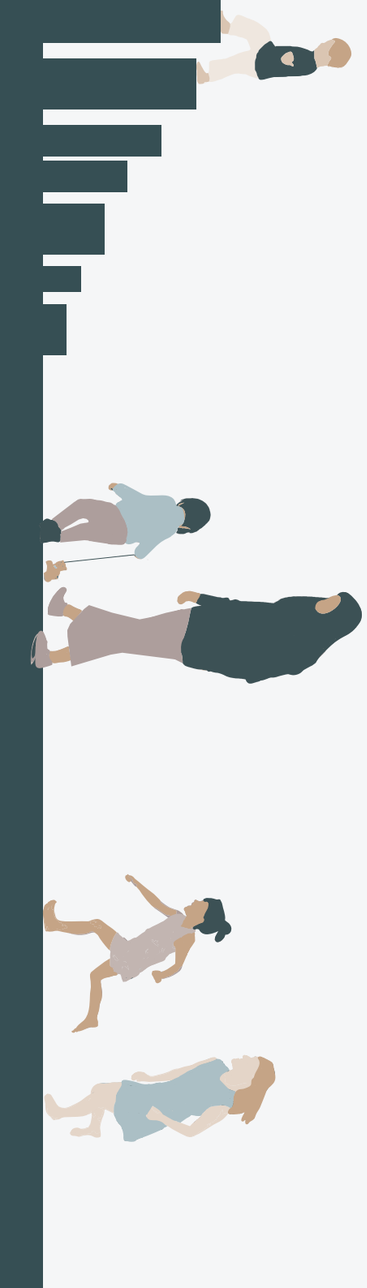


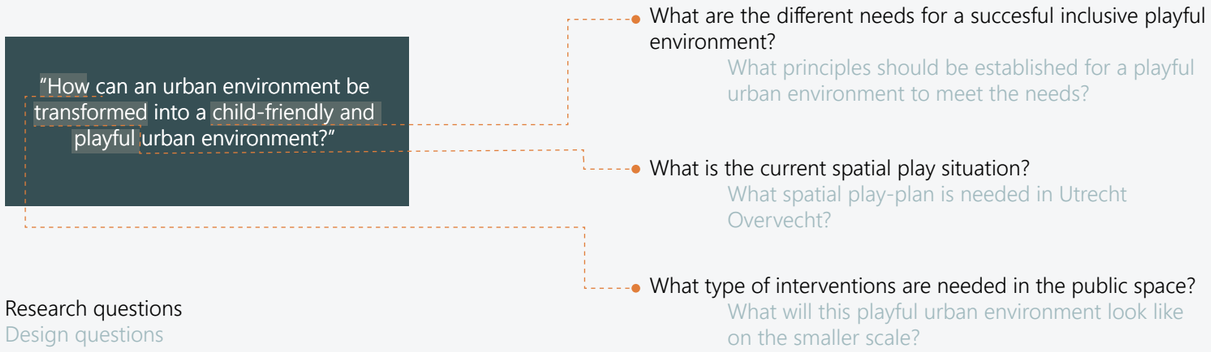
Figure 96. improved "pierenbadje", source: Authors"



07 CONCLUSION

CONCLUSION

Recap



Research questions
Design questions

The objective of this project was to find an answer on the main research question: "How can an urban environment be transformed into a child-friendly and playful urban environment?". Within this conclusion the findings and conclusions answering the main research questions will be discussed based on the sub questions:

1. "What are the different needs for a succesful inclusive playful environment?",
2. "What is the current spatial play situation?"
3. "What type of interventions are needed in the public space?".

As described in the chapter: problematization of play, outdoor play is extremely important for the well-being, physical health, child development and social relations. Therefore achieving a successful playful environment should benefit these aspects, through stimulating social interaction, movement and serving natural environments. Additionally, the main challenge is attracting all types of children to play outside. This project focused on the following different target groups to identify a range of elements that could attract different types of children towards outdoor play. The target groups were divided into three categories: children of different ages, children with different CTN levels (like videophilia or biophilia oriented children) and children with different play personalities, as defined by Stuart Brown. These personalities include: the joker, the kinesthete, the explorer, the competitor, the director, the collector, the artist and the storyteller. In conclusion, each target group has different values and needs to achieve a successful playful urban environment. The explicit different needs of all target groups are concluded on page 77. With the design task of this sub question these different values of all target groups have been made spatial applicable in the following principles: eyes on the streets, accessibility, mix of nature and variety of play.
A key conclusion from the literature is that it is important to give children and playing a certain freedom or variety. To create interesting play areas for everyone.

Through analyzing Overvecht, opportunities for play areas where found in the current typologies: the pedestrian streets, the wide sidewalks and the potential nature. Furthermore the amount of open space and possibilities to reduce the car infrastructure resulted together with the needed range of principles in a concept of two layers for Overvecht. Within the design task for this subquestion the needs and principles have been translated into a location based design proposal for Overvecht. Connecting different play areas enhances accessibility and encourages exploration, enriching the overall experience for users. Creating one connected play area can meet the needs of different target groups. For instance, younger children and videophilia oriented children benefit from improved accessibility and more eyes on the streets in outdoor play. They need more comfort and safety. While biophilia oriented children and older children are more looking for risky or wild nature area's for adventurous outdoor experiences. They need opportunities for another form of playing. Thus, incorporating both comfort-focused play routes and nature-inspired play routes is essential. Resulting in a proposal for a comfortable play-necklace and a nature play-necklace through Overvecht.

For Overvecht interventions are needed based on the concept, the spatial morphology and the needs of different target groups. This is achieved by developing the comfortable play-necklace and the nature play-necklace on the smaller scale. For the comfortable play-necklace interventions are needed to increase outdoor play for among others younger and videophilia oriented children. This resulted in interventions as a pedestrian focused car free route with a variety of play elements to increase accessible play with eyes on the streets and comfortable forms of nature. A specific intervention for this route is the 'speelse slinger", which is located along the total comfortable play-necklace route and serves as sitting and play element (page 141). For the nature play-necklace interventions are needed to increase outdoor play for among others older and biophilia oriented children. This resulted in the implementation of interventions to connect the larger parks of Overvecht and to provide a certain amount of greenery along this route. Additionally, different forms of play were introduced in different forms of nature. nature.

In conclusion, coming back to the main question, the main challenge is attracting children to play outside again in this century.
"How can an urban environment be transformed into a child-friendly and playful urban environment?"
Therefore, it is crucial to consider the specific interests and needs of the target audience. For Overvecht this resulted in the proposal of two distinct structures: the comfortable play-necklace and the nature play-necklace. Two environments with a variety of interventions merging and forming childfriendly and playful connected areas through Overvecht.

Future recommendations
The norm of adding playgrounds in the public space to create areas for children to play outside needs intervention. As this project shows there is more needed than only a playground in the design of the public space to attract children to play outside in this digital and urbanized century. This awareness is needed among people related to public space design. Most of the time the norms for outdoor play areas are just being followed. For instance the norms of: a playground accessible between every 300 meters. Nevertheless, the challenge to create a child-friendly and playful urban environment attractive for all types of children needs more interventions. Therefore, this project recommends the following principles while designing play areas in two different connected structures: The comfortable play-necklace, pedestrian focused and where possible car free, and the nature play-necklace, focused on playing in a natural environment.

- **Eyes on the streets.**

A high amount of eyes on the street among comfortable play areas and lower amounts of eyes on the streets among parts of nature play areas.

- **Accessibility.**

A high accessibility of the comfortable play-necklace, especially where the route connects to public functions and primary schools.

- **Mix of nature.**

This variation is important to attract different target groups. Comfortable forms of nature are needed along the comfortable play-necklace and more wilder forms of nature can occur along the nature play-necklace.

- **Variety of play.**

This variety of play is needed in both structures. A variety to attract all types of children to go outside.

The concept of the structures and together with the principles are broader applicable. Since reducing outdoor play is a problem visible in not only Overvecht. They do need a critical view for other site specific designs to elaborate how they could be implemented.

Further research is needed to design the specific play elements needed for this variety of play. This project does some specific recommendations for the play elements, which are described in the chapter: play element guidelines. But most importantly some play elements should attract videophilia oriented children, and all of them should be interesting for different play personalities to achieve inclusive play areas.



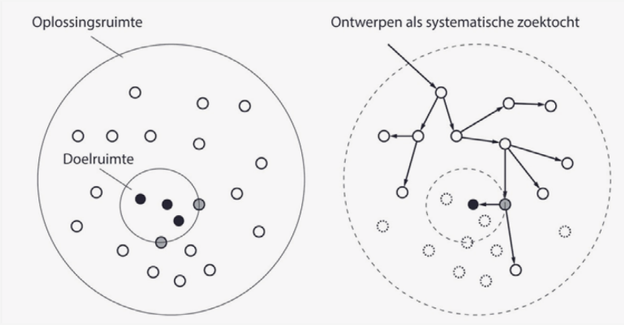
REFLECTION

This reflection looks back on the graduation process within the master of Urbanism, providing insights on my personal experiences in the exploration and elaboration of this thesis. Understand the urgency of play as a start was critical for defining my project and direction. Delving into the research, I came to the realization that a shift was needed in the way we design spaces for outdoor play.

Relation between graduation project topic, the studio topic, master track urbanism, and master programme (MSc AUBS).
The graduation project is entitled: "Playing Our Way Forward: Designing a Child-Friendly, Playful, and Inclusive Utrecht Overvecht". The chosen studio is: Design of the Urban Fabrics.
This is a design-focused project for the public space of Utrecht Overvecht. Due to its project method and way of working, it is related to the studio. The studio, "Design of the Urban fabrics", is mainly design focused and integrates social and spatial factors. Within the studio, designing from the beginning is seen as an important tool for research. This relates to my project's approach and my own way of working, where I also use design as an important tool. The projects outcomes include a new approach to designing play areas with a focus on creating child-friendly spatial structures for the neighborhood. By working through the scales and designing for public spaces of different spatial morphologies, this project aligns with the master track of Urbanism. Additionally, for this design social and environmental elements were of primary importance.

Relation between research and design in graduation project.
Outdoor play is decreasing which is causing negative effects for child development, physical health, mental well being and social relations. There is more needed than only a playground in a neighborhood to make outdoor play popular again in this digital and urbanized century. For this design assignment, multiple components should come together like the needs in an urbanized digital century, but also the needs of different personality types of children and how to attract them. Therefore theoretical research has been done to understand the different target groups and what could attract them to outdoor play. Not only a playground, but different interventions through different scales. The design assignment is to find out what is needed in Utrecht Overvecht. And what this new playful urban environment will look like. Therefore, through research by design, the theoretical results have been made spatial. And come back into principles and an overall concept for Overvecht. Through design exploration and relating back to the research results this is further elaborated into the smaller scale with the two zoom in locations.

Way of working.
I approached my graduation project from a design perspective. Looking at projects from a design perspective is something that has brought me enthusiasm since the beginning of my study. Therefore, I wanted to use this design trajectory in my graduation project. Because of this I have also chosen for a first mentor who works with a design approach: Rients Dijkstra.
The intensive: Elements of the Delft approach, introduced the ADP design approach to me:
using analyse, design and presenting parallel, by switching fastly between them.
A helpful research by design method for me, which I also use in my own way of working is generating options and evaluating them. This helps me to find new inspiration or idea's which I did not think of earlier.
For me, generating these options through the ADP method did me think of the links with literature about research by design explained by Nijhuis, S.. Research by design can be described as a cognitive tool to achieve an efficient design, with visual thinking being essential. In this exploration, solutions are drawn or modeled. Through experimentation and evaluation, this can lead to a more efficient final design. (Nijhuis, 2017, pp. 60–65)
This is shown by Nijhuis, S. in the illustration of figure 97.



Research by design as a systematic quest. source: *(Nijhuis, 2017)*

Furthermore, in my way of working, design is used as a method to define the design. Through various analyses of the environment the design can evaluated and adjusted. This design-focused approach helped for me personally to make steps forward towards addressing the main research question.

Reflection on academic and societal value, scope and implication of the graduation project, including ethical aspects.
Creating more awareness, insights and solutions, with the focus on spatial solutions, is a necessity for the underexposed topic of this project. What makes the academic value of this topic present. For instance the solution of the two layers of the comfortable play-necklace and the nature play-necklace, have an academic value because of its new approach to outdoor play. There are a few projects that have been realized with a comparable vision, but these are mostly limited to minimal interventions. For instance: 'Kindlint Amsterdam', This is a playful route for children on their way to school. The route is seen as successful for the neighborhood, but still unknown to many residents. *(Hoyng, 2019)* The layers of the play-necklaces are a new approach, because of the variation and connectivity of interventions through the different layers and scales. The approach of the play-necklaces through the neighborhood is nowadays not a common design approach for creating outdoor play spaces. However, this approach should be considered as a potential solution, as it could be a valuable long-term investment for the neighborhood and health of the residents. The design interventions of this project are more expensive than those of the 'Kindlint' project, but the interventions of this project will attract children outside to play and improve on the long term their health and social skills. For now an investment but on the longer term it will result in savings for healthcare.

The societal scope is recognizable through the inclusive and pedestrian focused approach which was needed for this topic. This project has a clear societal value focused on improving environments for children. Next to that through starting with designing for one furnerable group, the public space also become a safer and more liveable environment for other inhabitants or users of the public space. Ethical aspects like, child safety and inclusivity are incorporated during the design process. Furthermore the cultural sensitivity is also important for Overvecht, and taken into account. Nevertheless, this project does not go deep into the design for play elements. For the furter design of the specific play elements and locations, the cultural sensitivity could be taken into account even more. By for instance, respect the cultural diversity of the area, analyze different forms of playing from their cultures and incorporate this in the design for the specific play elements. To provide play elements inclusive for different communities.

Reflection on the value of the transferability of the project results.
The transferability of the project results is important for further implications. These project findings can be applied to other neighborhoods. The design for Overvecht is site-specific and serves as an illustrative example of how the concept and principles should be applied to achieve child-friendly and playful urban environments. On the other hand,

the concept of the structures together with the principles are broader applicable. This is of high value, since reducing outdoor play is a problem visible in not only Overvecht. It is necessary to adopt a critical view for other site specific designs to elaborate how they could be implemented. Overall, this project represents a preliminary step in showing the importance of play and bringing over new possible insights and solutions. Furthermore, the play element guidelines provide specific recommendations for the play elements, usefull for further research.

What were challenges during the design process, and how were they handled?
In the beginning of the project I struggled with defining my topic and focus, since my interest were with multiple themes. I found it challenging to work through projects when I lacked a clear vision of my objective. This often resulted in a reduction in my productivity. When recognizing this at the beginning of the project, I attempted to make choises regarding what I would focus on and what I should let go of. The decision to focus on a single target group like children and later on the specific scope of play really helped me in increasing my own productivity throughout the project.

What measures are taken in the design of the comfortable play-network and the nature play-network to ensure inclusivity for all?
In this project the focus of inclusivity was on multiple aspects,
To start with achieving a design for inclusive urban play areas attracting this range of different types of children. Each child has different interests, which profoundly influence their play behaviors and preferences. This project incorporates these considerations from the outset, through comprehensive research of different types of children and their needs.
Secondly, the inclusivity for other inhabitants of the neighborhood is also considered. For instance, the design does not only focus on the addition of play elements, but also incorporates places to rest, areas for sitting and opportunities for social interaction along the play-necklaces. Furthermore, the necklaces connect to the most used public functions of Overvecht, thereby creating engaging walking routes for all inhabitants of the neighborhood.
However, the pedestrian-focused and thus car-free aspect of the design could result in some locations for a decreased accessibility of the car. This is due to the fact that it can extend the distance that people who are strongly attached to cars must travel. This is very minimized due to realistic considerations of the current use of the car.

ACKNOWLEDGEMENTS

I would like to start by thanking my two mentors. Rients Dijkstra, for guiding me through the design process and challenging me every time to develop a stronger design. And Saskia de Wit for her always helpful feedback and critical eye on my research and word choices. I really appreciated all the mentor meetings I had with both of you. We were able to discuss my steps in research and design, which helped me move forward.

I would like to thank my family, friends and boyfriend. For the confidence they always had in me. Even in tougher times for us as family, with losing grandma, you always reminded me that I could do this.

Even though this graduation master thesis is an individual project, I got a lot of motivation and inspiration from my fellow urbanism friends (students). Thank you for your support throughout the whole graduation year, for all the fun times between the hard work, we did it!

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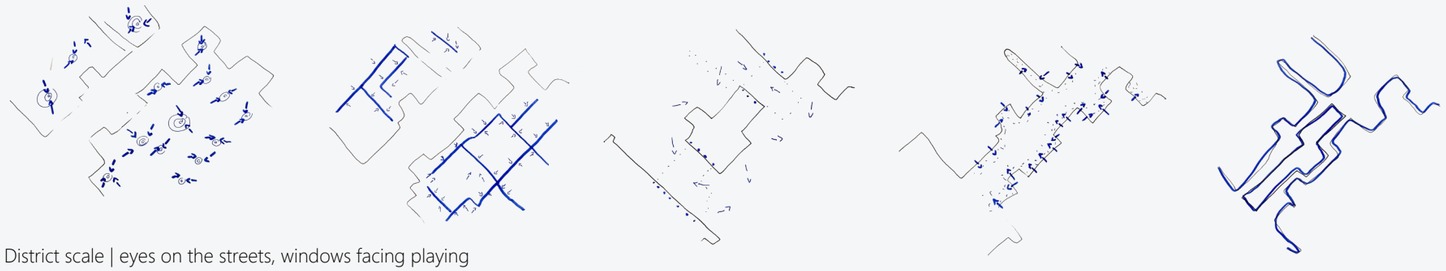
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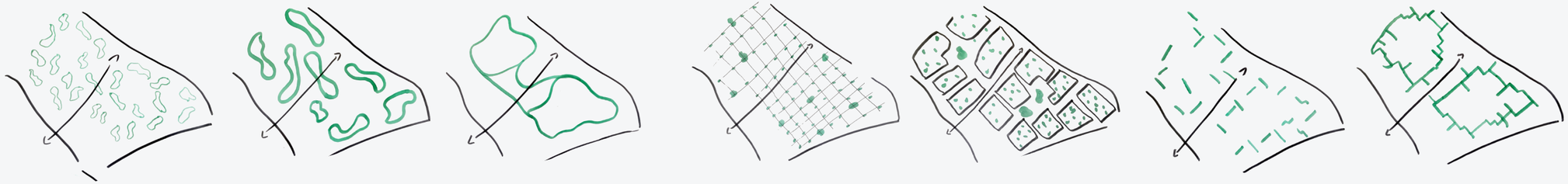
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APPENDIX

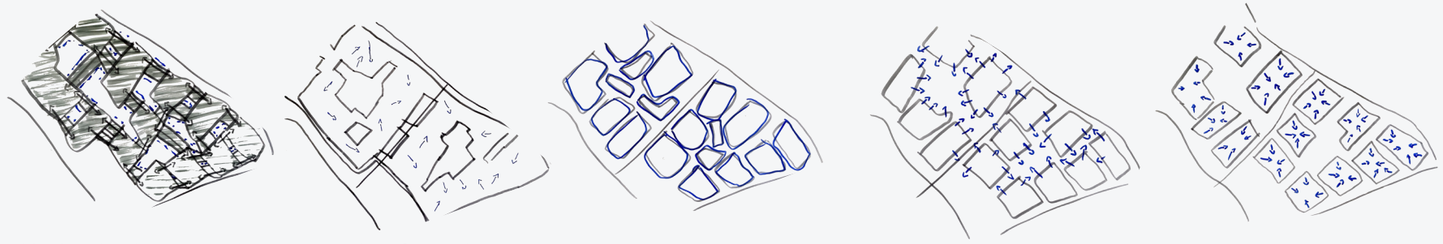
Looking at a location specific, every principle can result in multiple different designs. Therefore an exploration is done of different options on different scales. These options help to relate the research outcomes back to the location. To understand what results it can lead to.



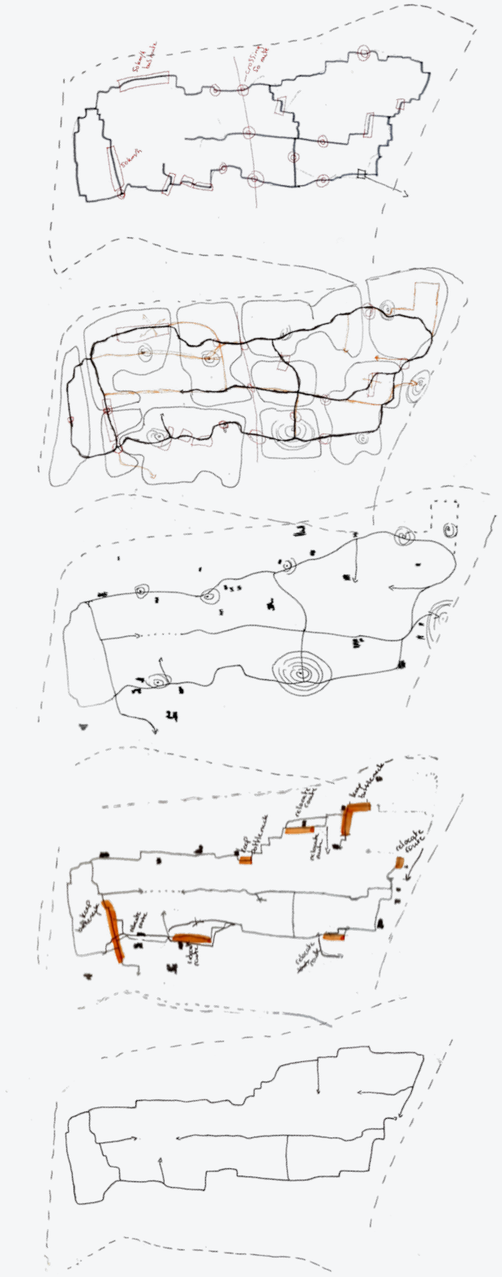
District scale | eyes on the streets, windows facing playing



Neighborhood scale | accessibility, focussing on where can we play



Neighborhood scale | eyes on the streets, windows facing playing



The design process of the comfortable play-necklace.

From top to bottom, the design of the location of the comfortable play-necklace is defined based on different analysis. A specific example of the design process in steps. Based on the analysis of page 126-129.