

FIT

through architecture

VOLUME

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promoting physical activity and health in design

Summary

This project strives for social cohesion between young people, which will result in a healthy neighborhood in the future. In this document the neighborhood that will be focused on is Tilburg-North.

This essay describes a research of the lifestyle of young people between 12 and 18 years old, **the next generation**, in the Tilburg-North. The analysis of the results shows the bad relations between the neighborhood and the city center and between the neighborhood and the rural area.

The project introduces the concept, The Missing Link. This concept stimulates **social interaction** through various interventions spread throughout park, centrally located in the neighborhood. The interventions stand out and give Tilburg-North the distinct identity that it is lacking, which is done by engaging the public directly through supporting a wide range of activities for the users of the public spaces.

The Missing Link **modestly** adapts the lifestyle of the young people. It encourages young people to become **physically active**. In addition, the design responds to **education, safety** and knowledge of **healthy food** for young people.

Safety

A safe place is a basis for a healthy living environment. Young people have social needs and want to spend time together, on the condition that this takes place in a safe place. In addition, parents are more likely to allow young people to go outside if they know it is safe.

Playfulness

Young people do not want to sit at home all day. They want to undertake challenging and entertaining activities with their peers.

Tranparency

A healthy neighborhood must be accessible to everyone. No distinction should be made between gender, family background, age, etc. Being transparent to neighbors and peers will lead to a solid social connection within the neighborhood.

Collaboration

Together people are more potent than alone. Various parties are actively involved in the health of the young people in the neighborhood. Collaboration with other organizations and companies will boost the health outcome.

Differentiation

Young people want a unique, exciting playground suitable for themselves and their peers.

Accessibility

Young people are not willing to travel far for social activities. They require a centrally located place that is accessible to the entire neighborhood and can accommodate enough people.

IT'S
TIME FOR
A HEALTHY FUTURE!

FIT Through Architecture

ESSAY

Overweight in the Netherlands Target group

Almost 55% of adults and 20% of young people (age 12 to 18) in the Netherlands are either overweight or obese; these percentages are pretty similar across the country.¹ Obesity is a significant risk factor for several diseases, such as type 2 diabetes, cancer and heart disease. It can also affect people's self-esteem and mental health. Therefore, reducing obesity, especially for children, is a priority for The Ministry of Health, Welfare and Sport (HWS) and health agencies across the Netherlands. The Ministry of VWS encourages people to adopt healthy lifestyles: to exercise more and keep a balanced diet.² The ministry has drawn up a National Prevention Agreement to improve health in the Netherlands.

Overweight in deprived areas

The Netherlands has groups of residents that profit less from our welfare state. They are not economically independent or do not take an active part in society.

The causes of rapid increases in the levels of obesity are complex, and the influence of the environment where people live is one of the factors.

These factors can be exacerbated in deprived areas. For example, children living in the most deprived areas are twice as likely to be obese as children living in the least deprived areas.

An example of a deprived neighborhood in the Netherlands is Tilburg-North:

1. The district scores are high on rankings on which one does not want to score high at all.
2. Primary school children in Tilburg-North need extra care the most of all children in Tilburg.
3. There are youth gangs active on the streets that negatively affect the livelihood of the children in Tilburg North.

Deprived neighborhoods are usually quite culturally diverse. Every cultural group has its rituals. The living patterns of many adults are based on the rituals of their own culture and are seldomly open to change. The future of the neighborhood is in the hands of the young people. The focus must be on the young people of Tilburg-North because they are the future of the neighborhood. Young people are more willing to adjust their living patterns. Motivational and challenging new lifestyles invite young people to share them with their families. Parents and perhaps grandparents are willing to adjust their living patterns if their children share their knowledge motivationally.

The newly acquired living patterns will more easily be passed on to the next generation.

The focus of this research is on young people from 12 to 18 years old. This target group spends much time away from home. The home situation is often not stable in the neighborhood Tilburg-North. 25% of the young people live in a family with a single parent. Generally, the financial situation in those families is not super.

They prefer to spend their time with friends before, during and after school. The time spends together during school hours is at the expense of the school. Most of these young people in high school are still developing their interests.

The target group gathers in crowds on the streets during the day. The gatherings occur in dark, secluded places on the edge of the neighborhood where there barely is social control or in public spaces in front of a local supermarket. These so-called "hangouts" in the neighborhood do not motivate young people to adopt a healthier lifestyle. These environments do not radiate the urge to be physically active or opt for a healthy drink instead of an energy drink.

The role of architecture

The public environment has a significant impact on human health. A "healthy city" offers an attractive, livable and safe environment for its residents. Such a "healthy city" is a place that tempts healthy behavior and that has plenty of walking and cycling paths. It is also a city with plenty of public space for children to play and exercise and additionally it should offer attractive, valuable spaces and parks. Such an environment affects the fitness of the residents.

The percentage of overweight within the population of Tilburg-North is striking. Unfortunately, the structure and layout of this neighborhood do not generate any motivation to exercise more. The young people are willing to change their behavior, but the neighborhood's architecture currently does not prompt behavioral changes. The Missing Link is a design that intends to improve the lifestyles of young people in Tilburg-North. This design shows that the architecture in a neighborhood is an essential factor in creating a healthy future.

Crucially for this project, the architecture of the design provides more options for physical activity to the users. Furthermore, the architecture could positively impact the use of healthy food, education, and social interaction. Eventually, the building will have a beneficial effect on the neighborhood.

For a functional architecture, it must meet every need of the young people residing in its neighborhood. Therefore, every need has a strategy that is linked to the architecture. This design strategy consists of transparency, differentiation, accessibility, collaboration, safety and playfulness.

Worldwide, there are only a few examples of buildings that are designed to physically activate the user. It is therefore important to consider the entire park as one building. The interventions are positioned in such a way that connections are made within the neighborhood. The Missing Link is integrated into the district both in terms of urban development and architecture. The Missing Link is integrated into the district both in terms of urban development and architecture. As a result, the architecture is not regarded as one object in the space. The Missing Link consists of thirteen architectural interventions in the park, in the middle of the neighborhood. The architecture adds a layer to the existing park.

These interventions can be seen as pavilions; architectural interventions added to an existing structure with respect for its environment. Every city has such pavilions in its parks, inner cities, and rural areas. Such pavilions offer the current spatial planning a social impulse. They often consist of one activity that is suitable for every target group.

The project makes use of the social impulse of these pavilions. The simplicity of the interventions spread across the park creates a whole new social environment—a place where people meet within the park's contours. The materialization of the interventions has the same atmosphere as the natural structures of the park. In this way, the users of the park are modestly introduced to the interventions.

Architecture can reduce overweight in the deprived neighborhood Tilburg-North in the Netherlands.

Social control

The Missing Link is an architectural intervention in the middle of the neighborhood. The architecture creates an layer over an existing park. The location of this park has historical value. In the past, this location was the connecting element between "the north", the rural area, and "the south", the city. Previously the uses of this location were minimal, so the architecture creates an excellent opportunity to give this place a positive boost. The architecture consists of thirteen interventions spread over the entire park. All interventions are based on the wishes of the young people in the neighborhood and positioned on the potential of the area in relation to the activity of the intervention. The interventions are all related to a healthy lifestyle. The focus of these interventions is on the physical activation of the users, and on healthy nutrition, education and social interactions.

A public space offers opportunities for all people in the area. Large public spaces in a city often lack social control. Insufficient social control can lead to a negative influence in the neighborhood. The location of the plan will play an essential role in this. In the middle of the park, the organization, R-Newt, is positioned. This organization is responsible for the social control of the young people in Tilburg-North. This organization offers organized activities in the neighborhood to ensure social control. Likewise, the architecture integrates new activities in the neighborhood that provide every wish of the target group.

Society

Architecture does not only play a role in the function of the building. The architectural design can add to the experience of the space. The occupancy rate of the design can be regulated by the architecture so that the liveliness of the space makes the residents and users feel more at home. The Missing Link responds to the different parts of the day during the week, creating a pleasant atmosphere continuously. This lively atmosphere has a positive effect on the behavior of users and residents. Social contacts are increased in the neighborhood, resulting in a pleasant atmosphere among the people, creating a coherent society. This safe feeling results in a posture that is open to new things.

In addition to the social spaces in the design, The Missing Link's architecture also responds to the residents' current familiar environments. These environments consist of the hangouts of young people. In these places, the residents get to know the architectural grid spread throughout the plan area and that forms a route to it. This route has been integrated into the current street structure playfully. In this way, the architecture responds to all residents in the neighborhood. Even if the resident has not reached the plan area, the architecture has affected the resident's physical activity.

The future for young people in the neighborhood

The architectural interventions provide jobs for the young people in the neighborhood. The commercial interventions provide space for young people to earn a monthly income. Additionally, the spaces provide the opportunity to involve young people in the activities. These young people can participate in the activities that architecture has to offer.

The project becomes a visiting card of the district. Residents of Tilburg, outside the neighborhood, or tourists in Tilburg are encouraged to visit this plan area. The architectural grid in the plan area is spread out towards the rural area and the city center. This grid creates a route that forms an introduction to the plan area in Tilburg-North. The defining characteristics of the design, the physical activity and social interaction, are introduced through these routes. Young people can prove themselves to the "outside world."

Architecture is not only a form language that influences the spaces in a building. The Missing Link shows that architecture can respond to people's behavior and neighborhoods and cities. With the help of the right design strategies, positioning of the spaces and insight into the wishes of the target group, the project creates a coherent society in which the user is open to a beneficial change of their lifestyle. The project results in a healthy future for Tilburg-North regarding physical exercise, nutrition, education and social interaction.

Introduction

Being healthy is a great asset for everyone. Who does not want the opportunity to be healthy and live accordingly? There are ample opportunities to live a healthy life, to eat healthy food and to exercise enough. However, do people live that healthy? The numbers do not show this. Dutch people appear to be exercising less and gaining weight. This causes the risk of heart- and vascular disease. This disease is the product of our prosperity. If we do not act quickly, obesity can become an epidemic of the future. What cholera and smallpox were in the nineteenth century and COVID-19 is today, obesity could become in the future.

Obesity occurs when a person's energy intake from food and drink consumption is more significant than energy expenditure through the body's metabolism and physical activity over a prolonged period, resulting in the accumulation of excess body fat.

Influence of place

There is a complex web of societal, behavioral and environmental factors that make it increasingly difficult for many people to maintain a healthy weight:

The choices we make are influenced by today's pressures, the behavior of those around us, the sort of neighborhood we live in, and the prevailing culture relating to food and physical activity that favors overconsumption and inactivity.

These factors can be exacerbated in deprived areas. For example, children living in the most deprived areas are twice as likely to be obese as children living in the least deprived areas.

What is a healthy-weight environment?

A healthy weight is defined through an individual's body mass index (BMI): a BMI of between 18.5 and 25 is classified as a 'healthy weight'; BMI between 25 and 30 is classified as 'overweight'; and more than 30 is classified as 'obese.' This means that an individual's body weight is 'appropriate for their height and benefits their health.' For this document, I propose that:

A healthy-weight environment supports people in avoiding being overweight or obese through the design and provisions of the place.

Specifically, a healthy-weight environment promotes physical activity of all sorts and ensures that sustainable transport and active travel are promoted into everyone's daily life. It helps people access and choose healthier goods (in terms of food and drinks) and services (such as healthcare) that support them in choosing a balanced diet, leading an active lifestyle, and maintaining a healthy weight.

Influencing behavior

The Triade-model distinguishes three necessary factors to move people or groups. Poiesz states that behavior only occurs if three conditions are fulfilled: willingness, ability, and favorable circumstances. An individual must have sufficient motivation, capacity, and opportunity for any desired activity (behavior).⁴

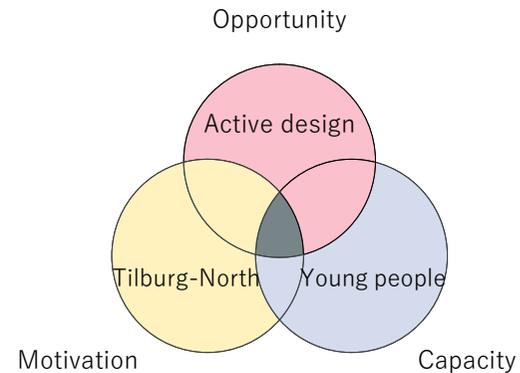


Figure 1
Triade-model

Factor 1: Motivation: wanting to show a certain behavior

Motivation is the degree to which the target group is interested in (the result of) behavior X. The person's environment determines the degree to which someone is motivated to display behavior X. The location of the design is crucial for motivating young people to change behavior. The young people must be motivated unconsciously to visit this meeting place.

Factor 2: Capacity: being able to show behavior

Capacity is the degree to which the person has the qualities, skills and tools to perform behavior X. Research into the current lifestyle of young people in Tilburg-North is essential for this.

Factor 3: Opportunity: circumstances that make the behavior possible

Opportunity concerns the degree to which circumstances outside the person have a stimulating or inhibiting effect on displaying behavior X. Active design is the key to positively stimulating the behavior. This design strategy must match the function of the building. Based on the functions of the building, research will be conducted into reference projects for each theme. Research determines which strategies can effectively be applied to influence the behavior of users utilizing architecture.

INTRODUCTION

RESEARCH



Suburb vs City

The world is urbanizing. While 41% of the population resides in cities in 1985, it has increased to 55%. In the same period, the average person gained six kilos. Thus, the average world citizen tends to be overweight. The connection seems obvious: the city makes people obese. After all, there is an oversupply of food, often rich in fat and sugar.

Urbanization is underway; people are increasingly migrating to the city. Predicted is that 75 to 80% of the world's population will soon live in large, urban environments.

Municipalities do not look at BMI differences within cities. So, for example, due to the increase of rich, usually thinner, healthier citizens, the average BMI in the city is decreasing. However, at the same time, the BMI in the deprived neighborhoods is undoubtedly increasing sharply.

The relationship between poverty and health

Overweight people in the Netherlands are more often driven to the suburbs. In Europe, highly educated people move to the city because of the employment possibilities. As a result, house prices are rising, cities are becoming increasingly expensive, and people with low income are forced to move to the outskirts. The situation of people living in poverty differs in many ways from those who are more prosperous. Adults who live with financial worries, debts, or poverty often have to deal with chronic stress, an unhealthy lifestyle, and chronic illness such as heart and vascular disease, but parenting problems are also consequences. Because people with a low income are more often obese, overweight in the suburbs is increasing.

Action must be taken in the most crucial places to reduce the percentage of overweight people. The percentage differs very much between cities and villages. The percentages in the Netherlands are much higher in cities than outside the city. The deprived areas in the cities are situated on the outskirts.

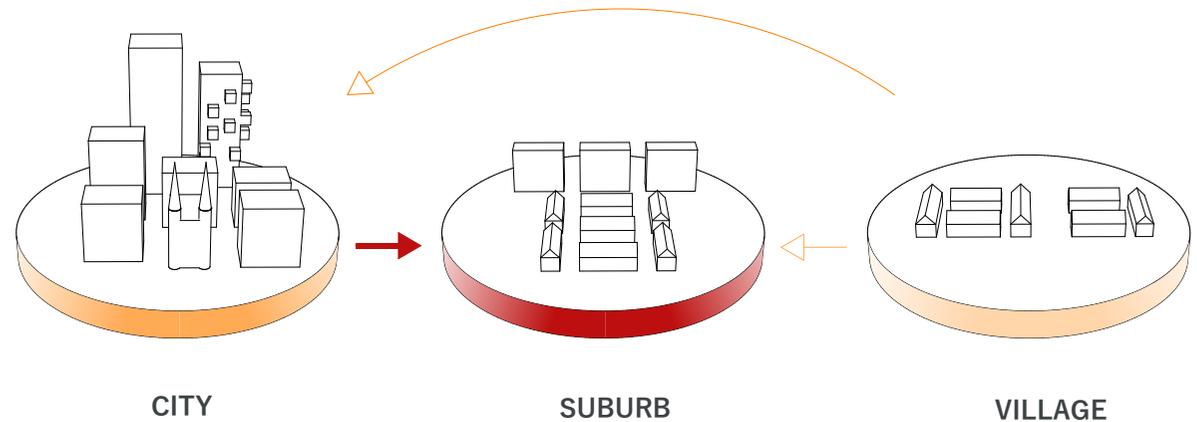


Figure 2
Diagram of the urbanization

Location

Tilburg was initially composed of several villages. There is a difference in the percentage of overweight people between in the city center and the suburbs. The district that scores remarkably high in the percentage of overweight people is Tilburg-North.

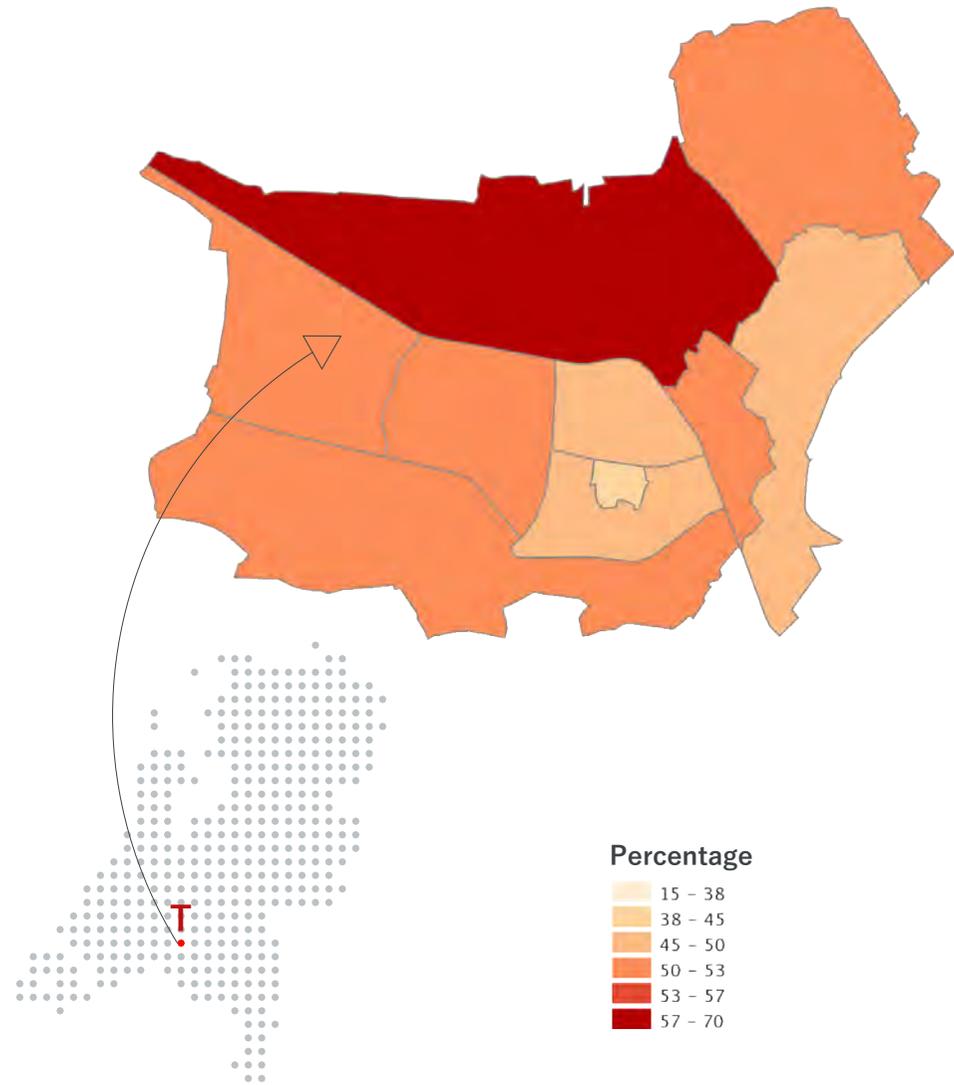


Figure 3
Overweight percentage in Tilburg

Location

Tilburg-North is an independent neighborhood, barely connected with the surrounding areas. To the west, the district is closed off with the industrial area by the Midden-Brabantweg. Also to the city center in the south, where the Wilhelmina Canal separates the two areas. There is no connection to the rural area by the N261 road in the north of the district.



Figure 4
Map of the situation of Tilburg-North

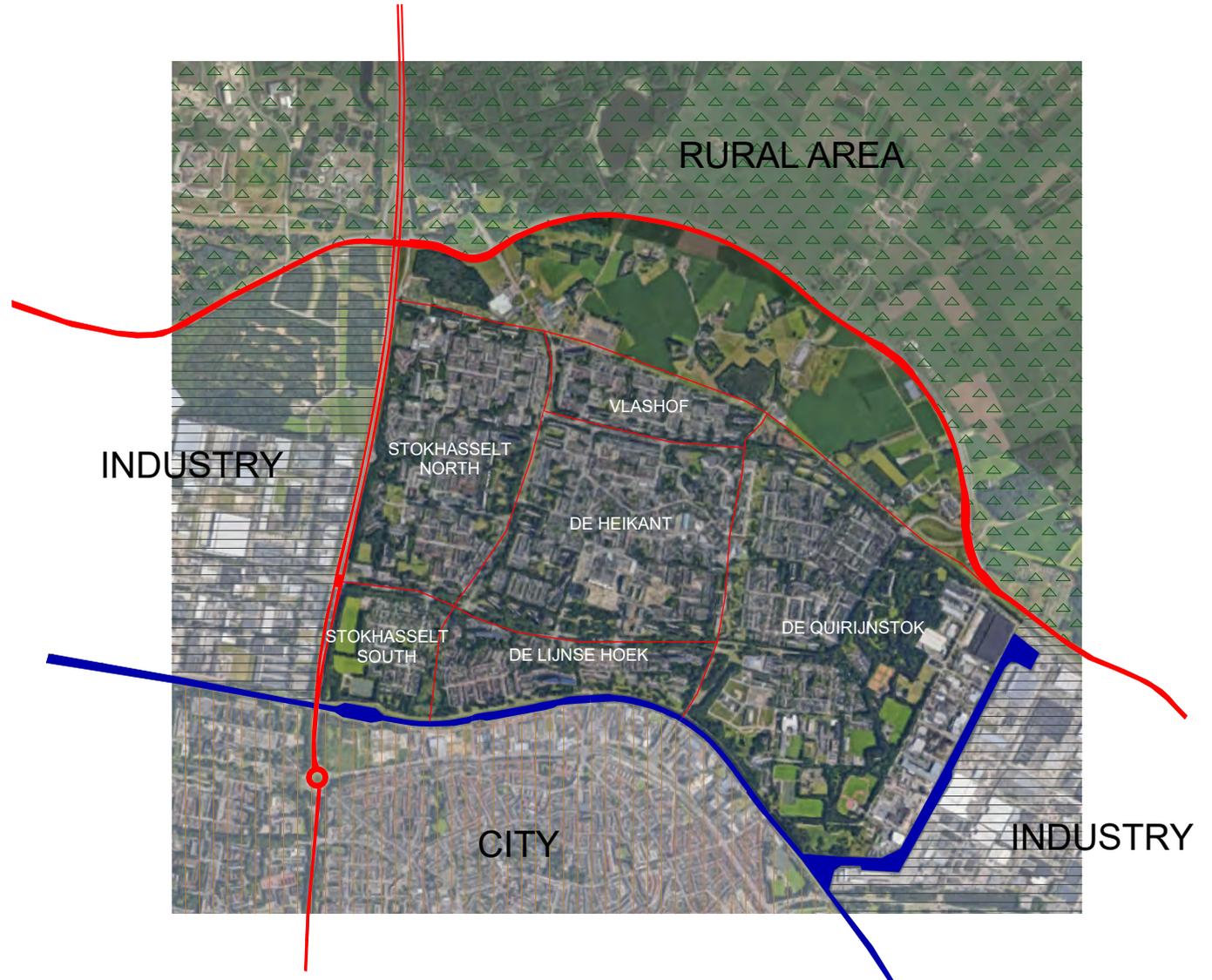


Figure 5
Map with the districts of Tilburg-North

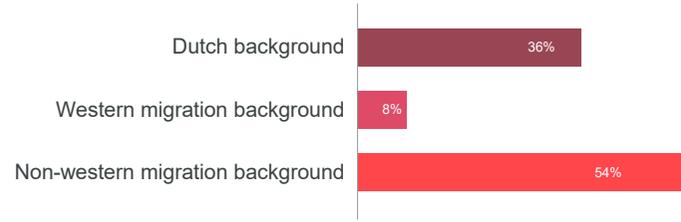
Target group

The project is focussing on the young people in the neighborhood. Young people are open to change their lives. They learn a healthy lifestyle then pass it on to their parents and possibly grandparents.

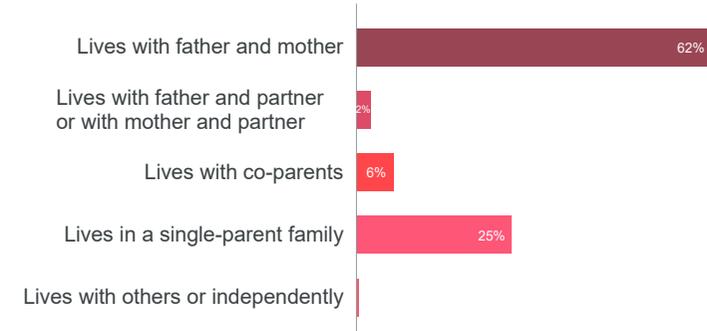
The focus of this research is on young people from 12 to 18 years old. This target group spends much time away from home. The home situation is often not stable in the neighborhood Tilburg-North. 25% of the young people live in a family with a single parent. Generally, the financial situation in those families is not super.

They prefer to spend their time with friends/girlfriends before, during, and after school. The time spends together during school hours is at the expense of the school. Most of these young people in high school are still developing their interests.

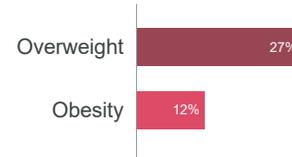
Background characteristics



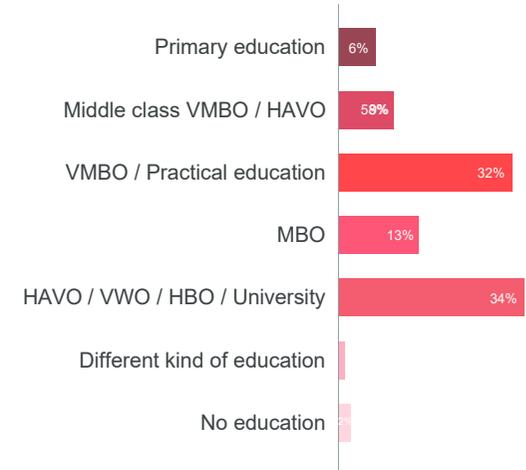
Family situation



Overweight



Education



LIFESTYLE

Method

To research the lifestyle of young people between 12 and 18 years old in the Tilburg-Noord district, I contacted the spatial planning policy officer, Margo Hutten, of the municipality of Tilburg. She referred to a website of the GGD Brabant, with multiple data from the municipality of Tilburg. By scanning through the large dataset, I identified some exciting issues. The issues are divided among the following themes; exercise, nutrition, education, and interests.

Analysis

By analyzing the figures from this site, I have made exciting discoveries for the research into the lifestyle of young people—each theme scores lower (more negative) than the Tilburg average. The majority of young people give the neighborhood a score that is lower than an 8. The research shows that many young people miss something in the neighborhood, such as a square and a hangout space.

The amount of young people who meet the Dutch standard for daily exercise is meager. The majority of young people do not reach their daily exercise standard.

The number of young people who are members of a sports club is deficient. These figures show a correlation between not having a membership at a sports club and not meeting the daily exercise standard. Young people prefer to play video games than to go out to the playing field. Furthermore, the number of young people with a healthy diet is deficient. The vast majority of young people do not eat the recommended amount of fruit and vegetables each day.



Modern hangout

The most striking results are shown in figure 3. From research, the young people in the neighborhood are not satisfied with their environment. The district does not encourage young people to adopt a healthy lifestyle.

The results of the study are all related. The vast majority of young people do not meet the daily Dutch exercise standard. This is related to the low number of young people who are members of a sports club—little exercise results in an unhealthy diet. If the young people are not aware of the daily norm for a healthy lifestyle, the neighborhood percentage will never decrease.

The financial situation at home restricts the youngsters from participating in group activities. As a result, individualism plays a significant role in the neighborhood. Young people stay at home to play video games in their spare time, resulting in poor results in school.

Ultimately, the young people miss a place where they can meet directly after class. This place should organize enough activities to motivate the youngsters to spare their free time away from home more. In addition, the meeting place should be seen as a modern hangout that young people are enthusiastic and proud to visit.

This hangout should be safe for everyone because this will motivate people to come and parents to allow their children to go.

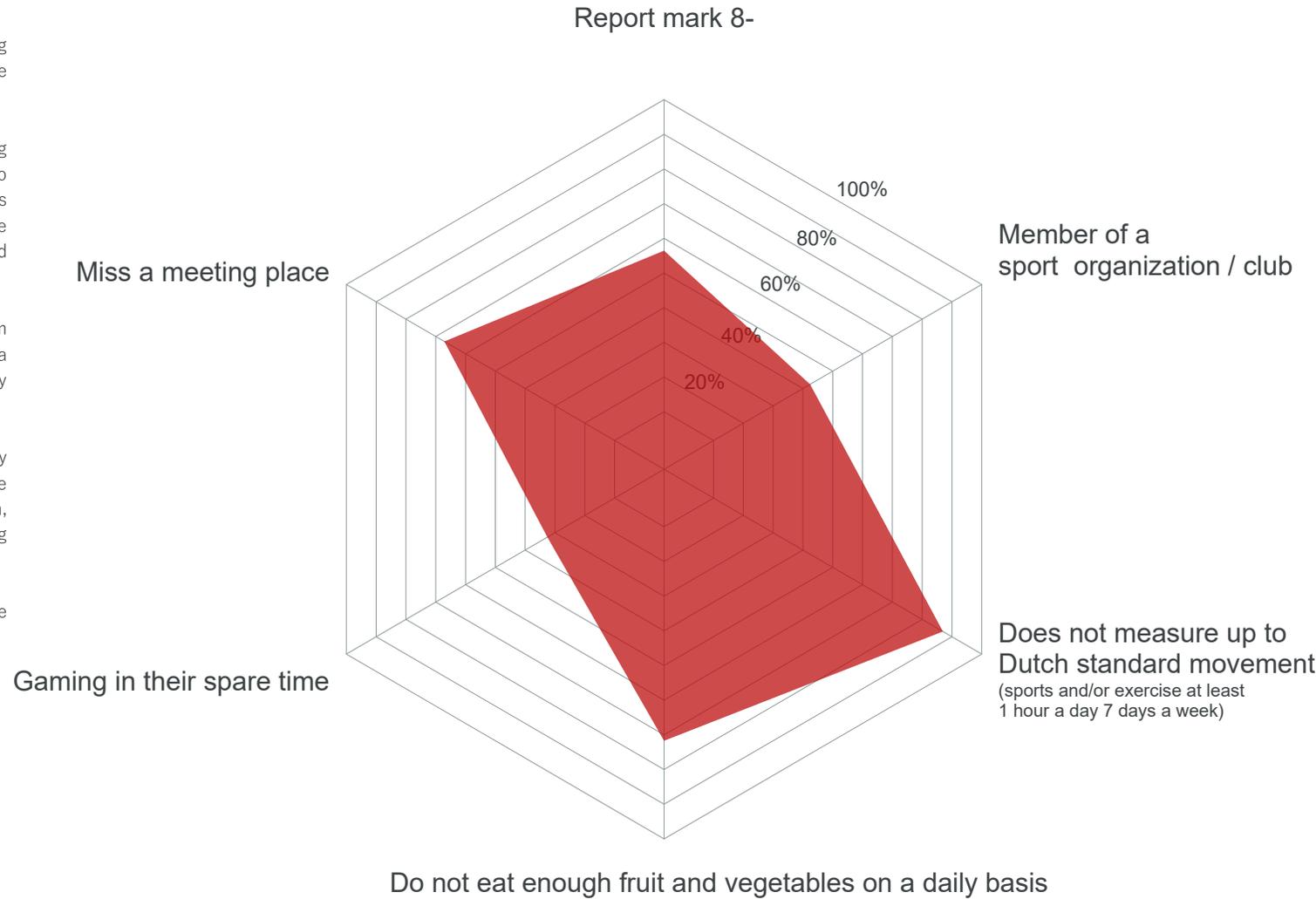


Figure 6
Results of the data on the lifestyle of young people (12-18 years) in Tilburg-North

Opportunities

The research results in figure 4 are linked to the wishes and needs of young people. The young people miss a place where they can come together.

I see the opportunity to integrate The Missing Link into the neighborhood. This modern hangout contains the following themes: sports, nutrition, and training. This place will have a beneficial effect on the lifestyle of the young people in the neighborhood.

The Missing Link is a place where (sports) group activities, clinics, workshops, and tutoring classes are held.

All these functions align with the three themes that will influence the awareness of a healthy lifestyle among young people. In addition, these themes will positively stimulate the urge for a healthy lifestyle.

Evaluation

Contacting an expert in the field of the target group in this neighborhood at an early stage, I gained much knowledge. This knowledge was beneficial, and it has produced good results.

Furthermore, it was not easy to link the results of the research on lifestyle to architecture. I immersed myself in the young people's need to find answers with the help of a neighborhood sports coach in the municipality of Meijerijstad. She helped with identifying the needs of the young people.

I would use the same expert if I had to do this research again. However, next time, I should have also talked to the young people in the ward to get a personal insight into the lifestyle.

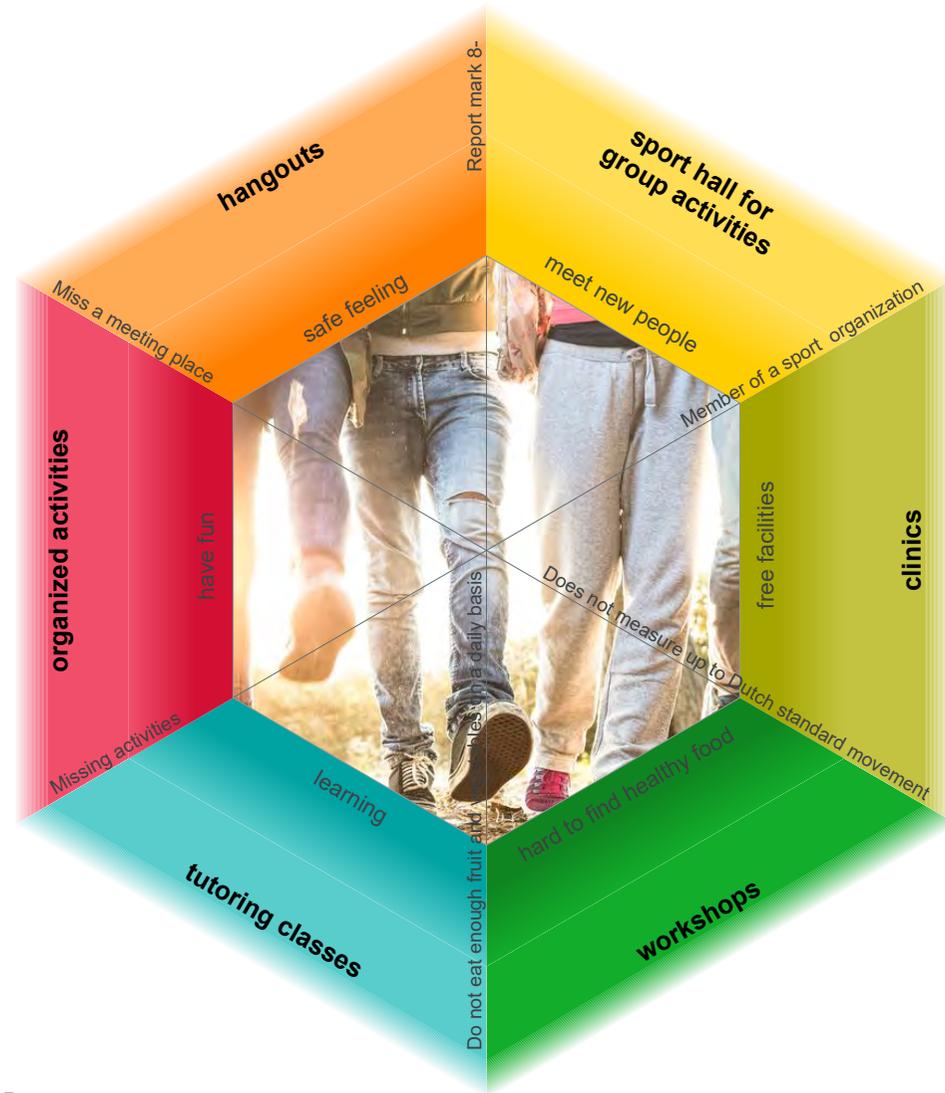


Figure 7
A diagram showing the needs of the young people in the Tilburg-North district linked to the functions of the project.



Figure 8
A map of Tilburg-North with the different districts in different colors.

LOCATION ANALYSIS

Method

To investigate the sports facilities in the district, I used Google Maps:

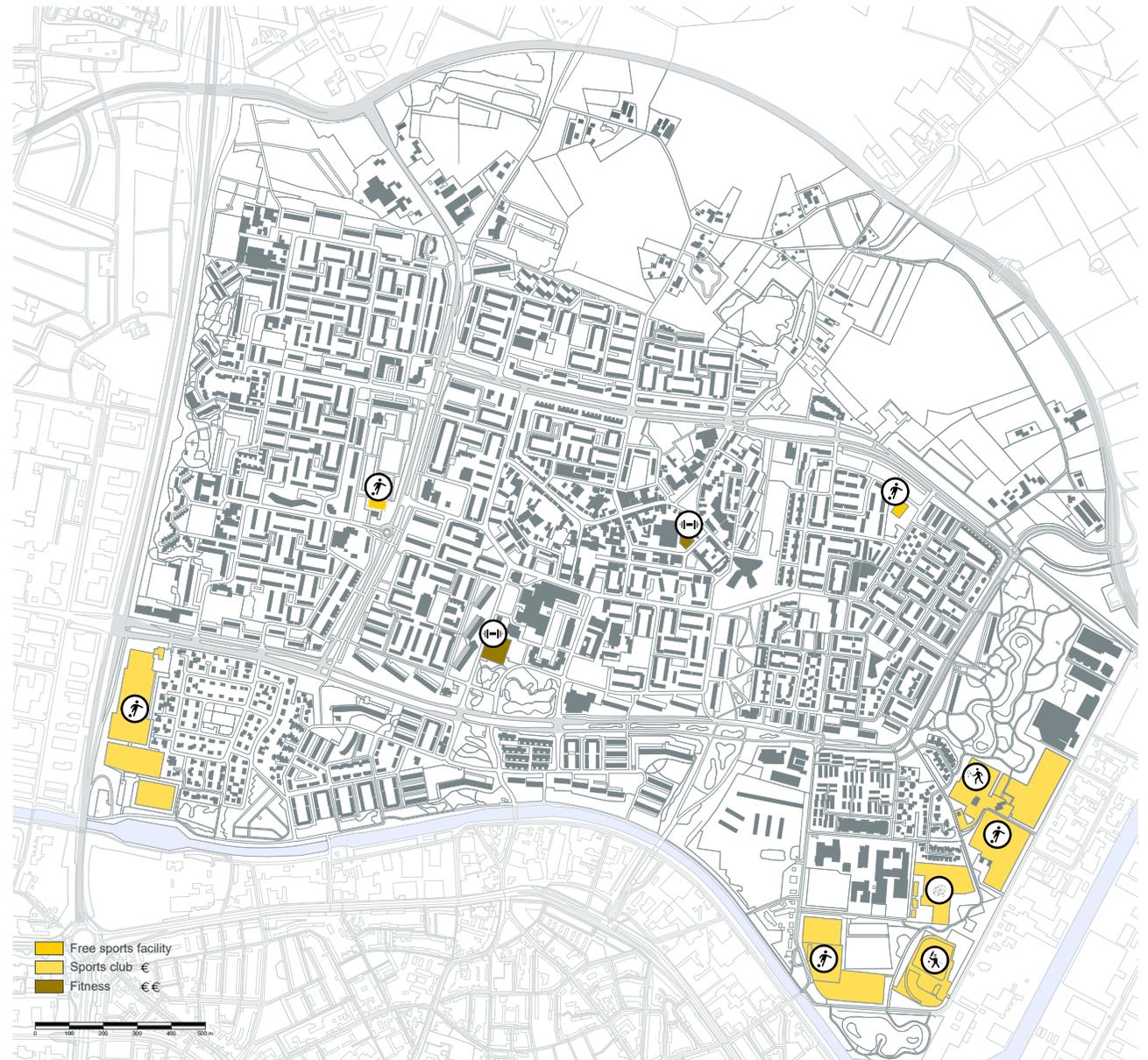
1. Google maps indicate the location of sports complexes, such as fitness centers and sports clubs.
2. I drove throughout the neighborhood to look for accessible sports facilities in the neighborhood.
3. I have analyzed these results and mapped the opportunities concerning the lifestyle of young people.

Analysis

Analysis of the research shows that there are many different sports clubs in the district. Sports such as football, tennis, baseball, and boules are available. In addition, some fitness clubs in the district emphasize individual sports. A membership at a fitness club is annually more expensive than membership at any other sports club. There are also two sports facilities in the district that are publicly accessible. These two spaces are both artificial grass football fields, one of which is a Cruyff Court.

Conclusion

Sport facilities such as sports clubs can be found on the edges of the area. This means that they are often difficult to reach on foot or by bicycle. The result: the facilities are surrounded by parked cars. Fences and greenery also ensure that sports facilities are virtually invisible. The invisibility of the associations reduces the attractiveness of the accommodation. That is not motivating. The sports facilities that are positioned in the center of the district are the more expensive clubs. These are often too expensive for the average young person in Tilburg-North. The only attractive sports facilities in the district are the two public football pitches in the district's middle. The problem, however, is that no various sports activities take place here. The only interpretation is football, which is not attractive for all young people in the neighborhood to attend.



Method

Research the quality of food in the neighborhood, I looked at the availability of healthy food. A distinction is made between supermarkets (unhealthy), snack bars (unhealthy), and farms (healthy). The locations of these chains are marked on the map using Google Maps and subsequently discovered a link between the positioning and the availability of healthy food for the young people in the neighborhood.

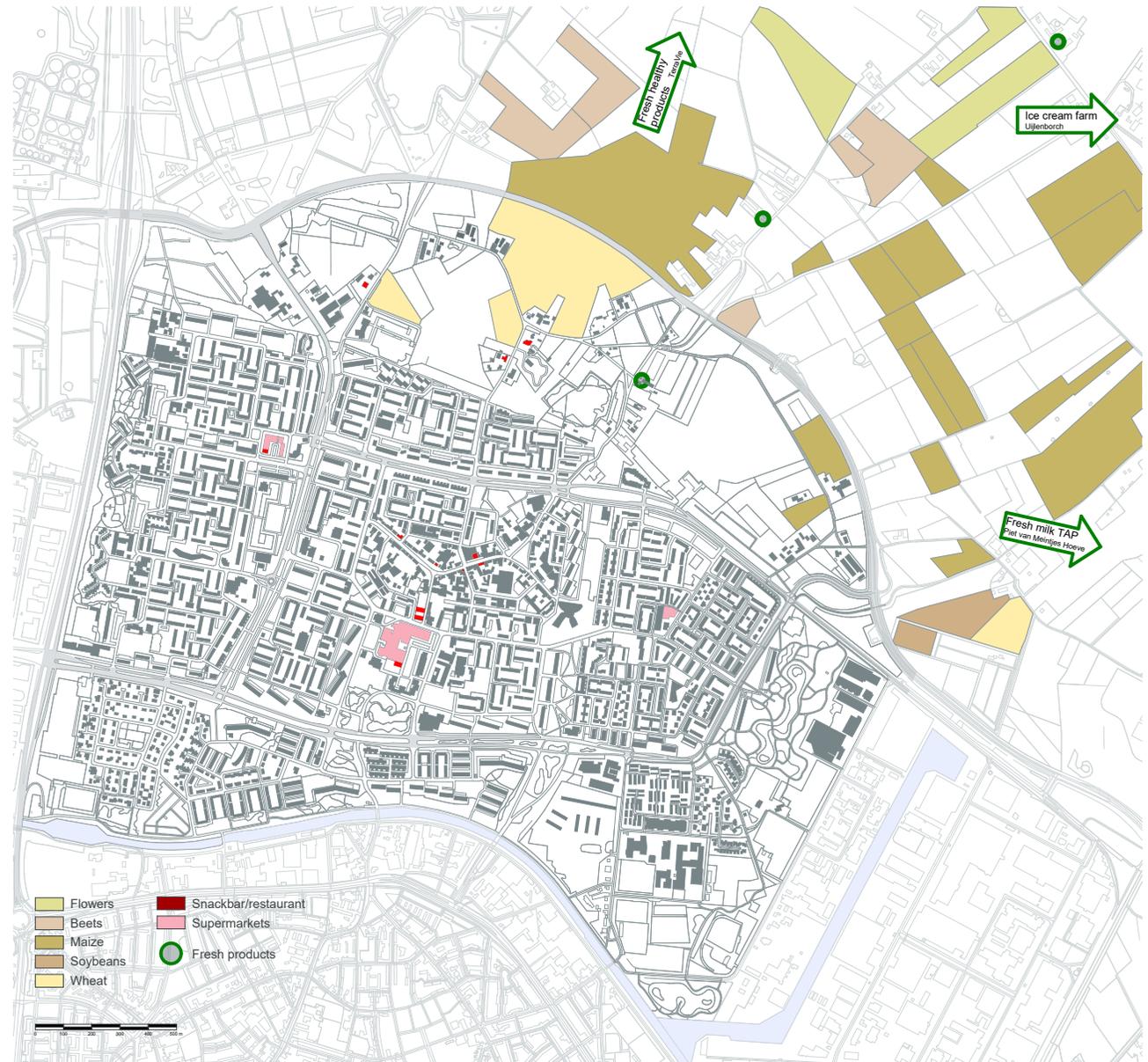
Analysis

In the district, there are only places where unhealthy food is available. There is healthy food in supermarkets, but supermarkets are set up to sell as much as possible. As a result, the cheap, unhealthy products are often at eye level, so people are more likely to choose that. In this way, supermarkets do not encourage people to eat healthily.

Healthy food can be found abundantly in the countryside. Many farms are active here that encourage people to buy fresh and healthy products.

Conclusion

Healthy food is not available to the residents of Tilburg-North. The availability has to do with the financial home situation and accessibility of these residents. The scarce healthy food found in the neighborhood is often too expensive for the average youth. Furthermore, the countryside is not connected with the neighborhood, which means that healthy products are not accessible to young people. In addition, knowledge of healthy food in the neighborhood is a significant problem. The youngsters are not aware that a minimum amount of fruit and vegetables should be eaten every day.



Method

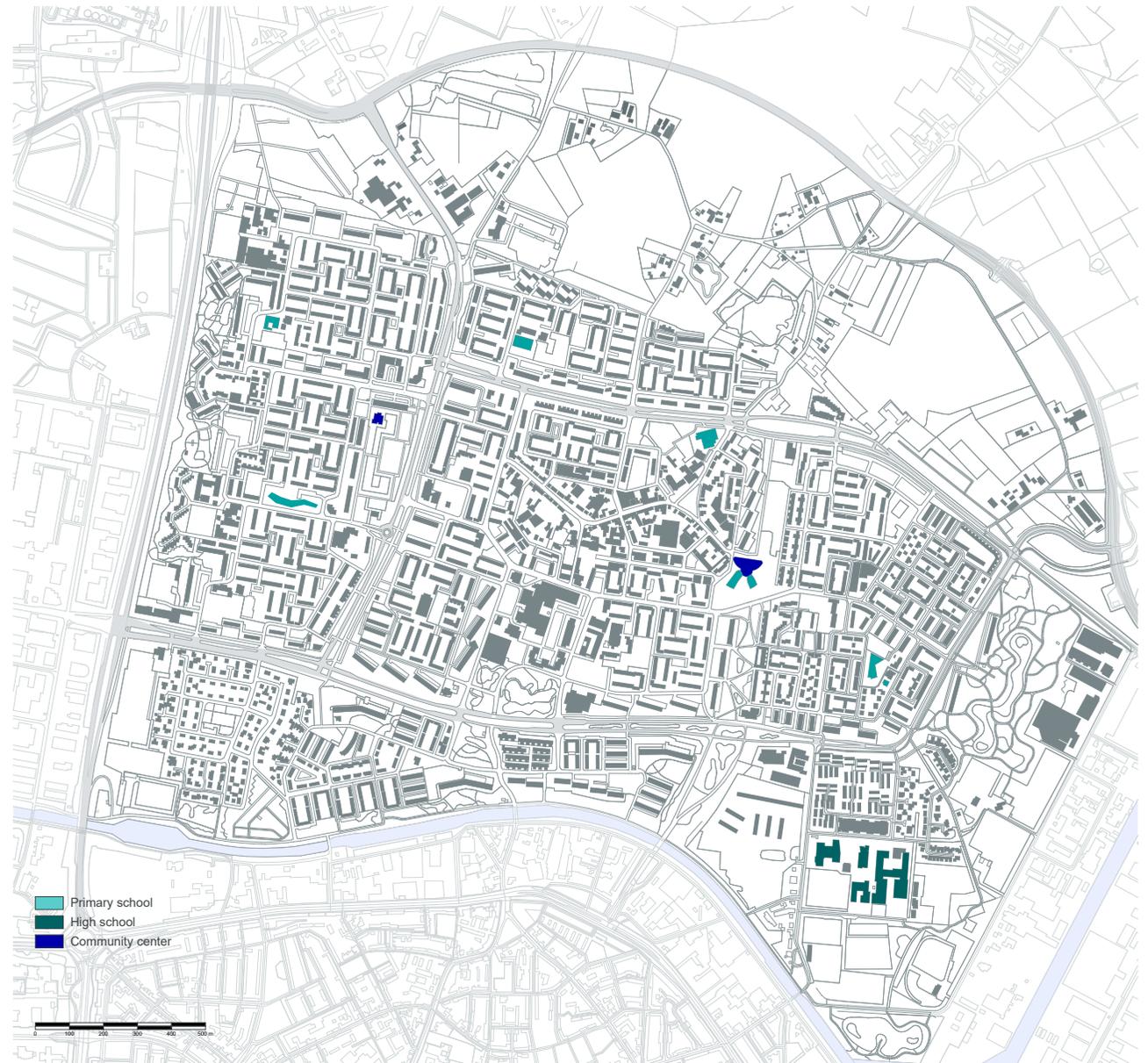
The amount of young people studying in Tilburg-North is meager. Researching the locations of further education in the neighborhood, I have mapped out the opportunities that match the lifestyle of the young people.

Analysis

Primary education (children up to 12 years old) is available in the district, centrally located between the buildings. Different levels of secondary education are available in the district. These are all positioned in the exact location on the edge of the neighborhood. There is also a community center in the district. This place offers space for young people. Despite this community center, the young people miss a meeting place and activities nearby.

Conclusion

Despite the possibilities for education in the district, more than 40% of the young people (12-18 years) have been absent from school. More than 3% of young people have skipped school at least once every four weeks, and 4% of young people have left school early.⁶ These figures indicate that a large part of the target group is trying to get out of school. There is no alternative in the neighborhood, and young people do not go to the community center to study. A safe place the young people like to visit will encourage them to make up for the education they miss due to circumstances.



Method

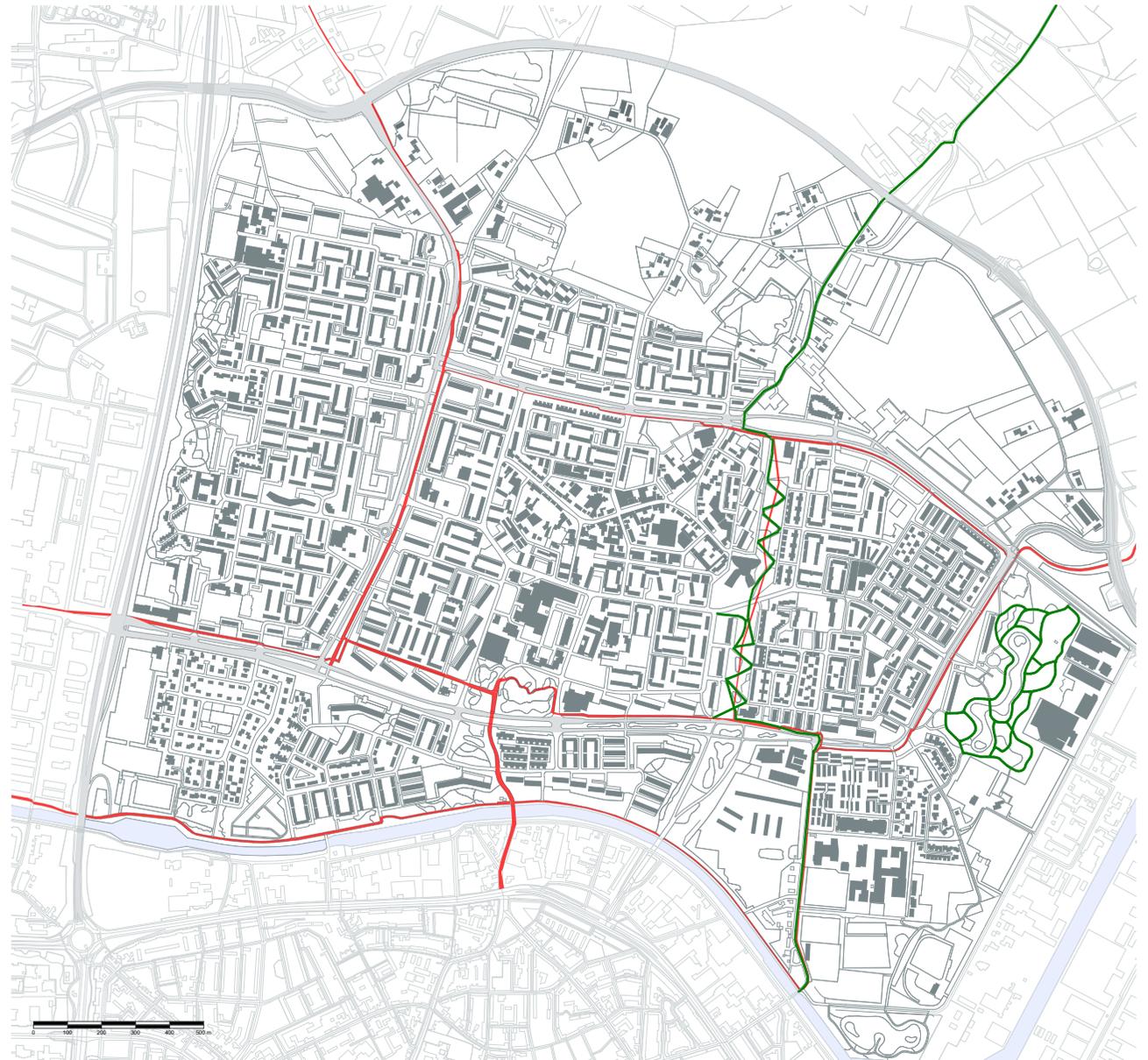
With the help of Atlas Living Environment⁷ I have mapped out the current walking and cycling paths. These measures of infrastructure are most commonly used among 12 to -18-year-olds children. That is why I want to map out the opportunities where most young people will be moving by analyzing the current situation. With this knowledge, I can anticipate the favorable structures in the neighborhood in order to reach as many young people as possible.

Analysis

Tilburg-North is located between the city center and the rural area. The infrastructure in the district is linked to these two areas. Tilburg-North is approached as a neighborhood that visitors must pass through as quickly as possible by bicycle or foot.

Conclusion

The cycling and walking paths are not designed for the internal connections within the district. The paths suffer along the large busy motorways, which does not promote the safety and attractiveness of the routes. The only positive walking and cycling path in the district is the Reijnierspad. This path has a safe appearance due to its spacious layout, lawns combined with ponds, and much green vegetation.



Method

The green areas have been mapped using Google Maps. With an overview of the different green structures, I could link the functional value of every structure. With an analysis of the utility value of the green structures, I gain insight into the positive and negative green structures in the neighborhood.

Analysis

Viewed from the map, Tilburg-North looks like a green district. However, much greenery is of low quality or has little use or experience value. Several places stand out positively: such as Ypelaarpark. The excess of space with large infrastructural bundles, conceived when large-scale car traffic was anticipated but not necessary due to the ultimately constructed ring road, reinforces this. There is often a lack of people on the street, which means that the public space often lacks social control.

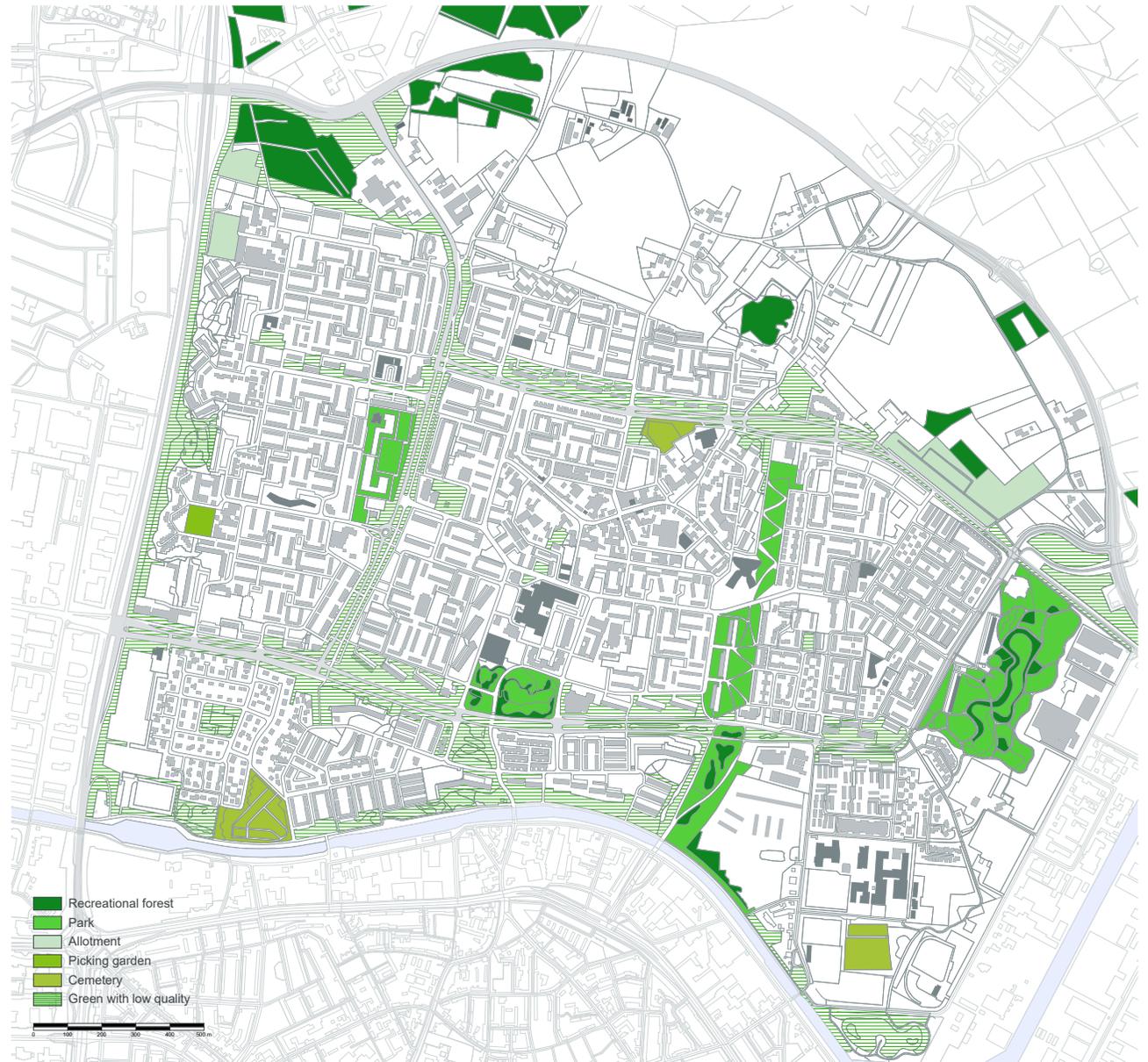


An example of the green space with low quality in Tilburg-North

Conclusion

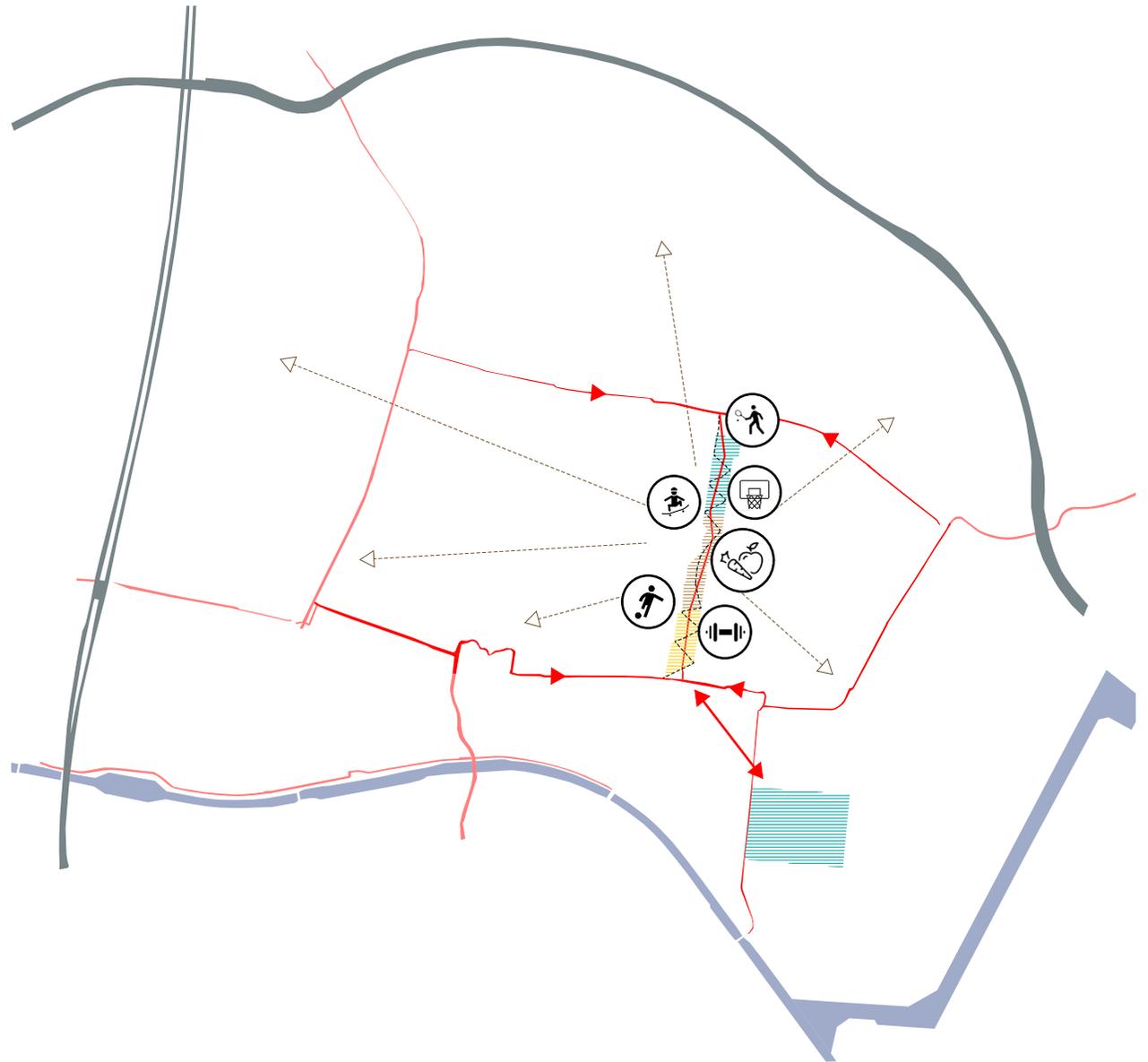
Tilburg-North is a neighborhood with many green areas but only has a few user-friendly areas for residents. Upgrading these areas has a more favorable result than tackling every green area in the neighborhood. Quality is more important than quantity.

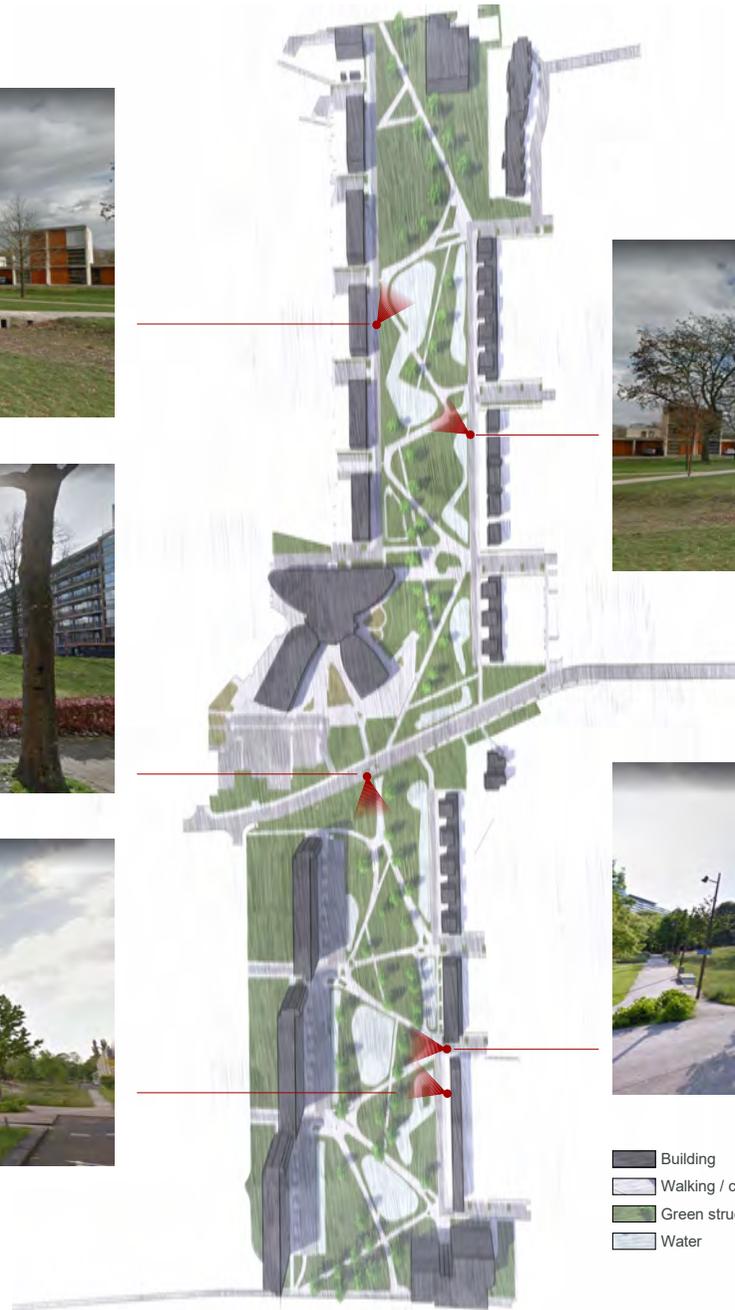
GREEN



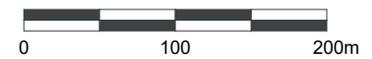
Conclusion

The opportunities per theme are exciting and accessible to apply together at one specific location. The perfect location to teach a healthy lifestyle to young people in Tilburg-North is in the green vein Reijnierspad. Due to its central location in the district and its spacious green layout, this is the perfect location to integrate this project. The location offers the possibility to have every theme brought together in one design with the same goal; motivating and activating the youth in the neighborhood.





- Building
- Walking / cycle path
- Green structure
- Water



EXISTING LOCATION

Opportunities

The green vein in the center of the neighborhood offers the perfect opportunity to activate young people. This green area consists of varying lawns, a few ponds, bicycle, and walking paths, bridges, and some facilities such as a football field, skate tracks, and benches. A primary school is located in the middle of the green vein. Children at primary school will in the future be the target group. They will adopt customs from the older youth (12 to -18 years old) in the ward. The Missing Link must have a positive influence on the lifestyle of young people.

The spacious layout offers possibilities to apply various sports facilities. These multifunctional activities will motivate all young people to exercise in this place.

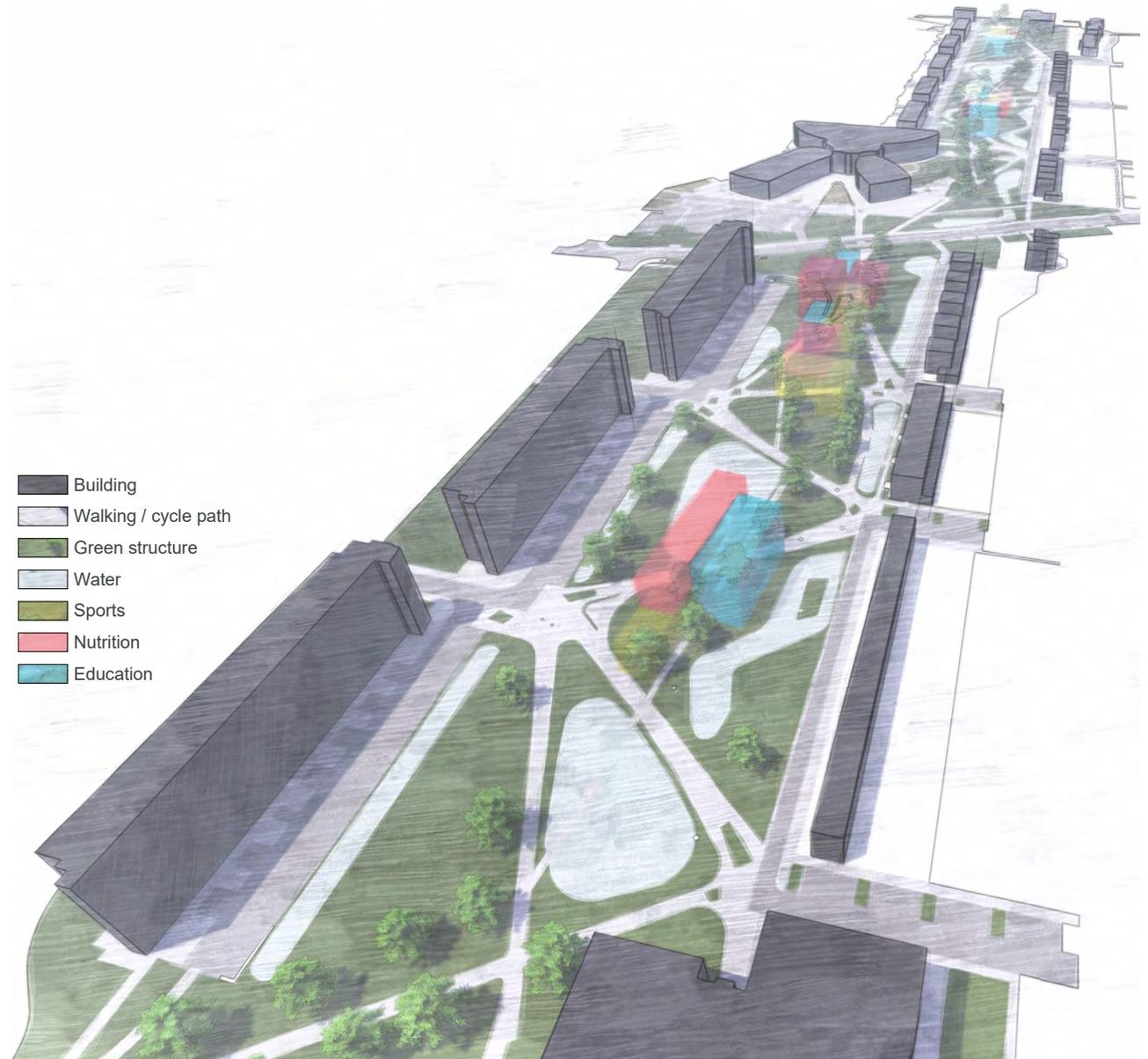
The buildings around this green vein offer the safety that the young people desire to meet familiarly.

The spacious cycling and walking paths in this area are connected to the rest of the district and surroundings, offers opportunities to encourage people to visit this place.

Strategies realize a design that has the desired influence on the lifestyle of young people. These strategies are in line with the needs of young people.

Evaluation

Analyzing the neighborhood and looking at the opportunities led me to a final location. As a result, the environment will influence the development of the design. Through this strategy, the development of The Missing Link will influence better the lifestyle of the young people in the neighborhood and produce positive results.



Method

It is crucial for this project that the architecture of the design radiates an environment of physical activity to the users. In this way, the building will have a beneficial effect on the neighborhood.

As concluded earlier, there is a function associated with each need of the young people in the neighborhood. In order to draw up the design strategies, I linked design principles to each theme in the diagram (figure 5). Based on these principles, I have researched projects that integrate these principles to design a healthy lifestyle for the user.

Worldwide there are only a few examples of buildings designed to activate the user physically.⁸ That is why I have researched similar neighborhoods that strive for an active environment.⁹

Analysis

Analysis of exercise-friendly environments has resulted in strategies I will apply in the elaboration of the design. This elaboration will teach young people a healthy lifestyle as positively as possible. These strategies have been applied in a few projects worldwide and have yielded results. For this research, I only analyzed projects that yielded positive results in the neighborhood for physical activity, healthy nutrition, or education.

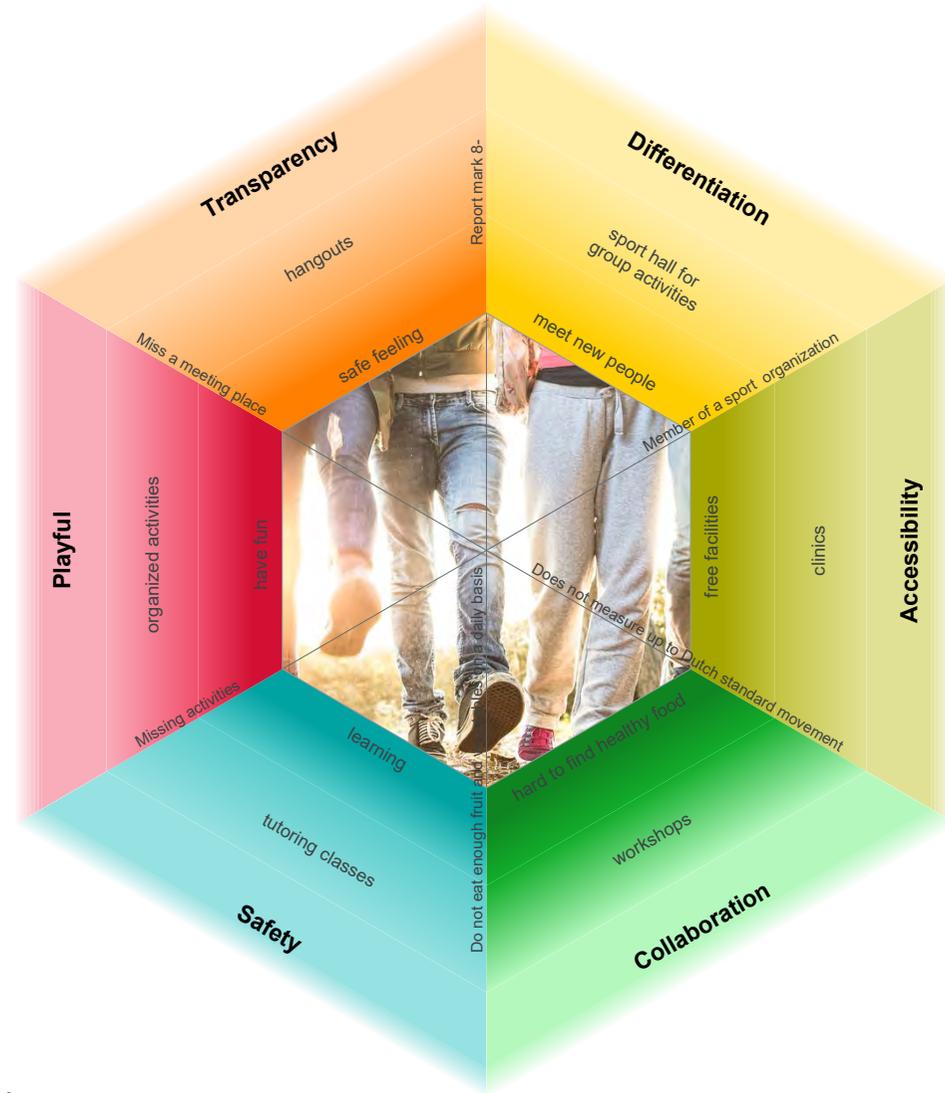


Figure 9
A diagram showing the design principles related to the needs and functions of The Missing Link.

DESIGN STRATEGIES

Differentiation

Young people want a unique, exciting playground that is suitable for people of their age.



Strategies

Multiple-use

The playing needs of people with different identities like gender and nationality must be met.

Space can be used for different functions and activities. Multifunctional spaces encourage young people to choose an active activity that suits them best.



Joubertplein, Amsterdam, The Netherlands



Ketelveld, Den Haag, The Netherlands

Accessibility

Young people are not willing to cycle far to get together. They are looking for a centrally located place accessible to the entire neighborhood, accommodating enough people.



Strategies

Bicycle storage

Provide good, sufficient, and accessible bicycle parking facilities at the playground. Good, guarded, or unsupervised bicycle parking facilities promote an active lifestyle and make it more attractive to leave the car behind.

Multiple outstanding entrances

Multiple entrances on each side of the building will more likely encourage young people to enter as well. Friendly conspicuous entrances encourage people to enter. This means that the use of material, position, and color determines whether people will like to enter. The entrance must convey a comfortable feeling to the visitor.



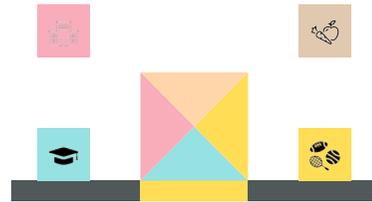
De Fietsenappel, Alpen aan de Rijn, The Netherlands



Cept university, Ahmedabad, India by Doshi

Collaboration

Together people are more potent than alone. Various parties are actively involved in the health of the young people in the neighborhood. Collaboration with other organizations and companies will boost the health outcome.



Strategies

Introduce farmers' markets into the city.

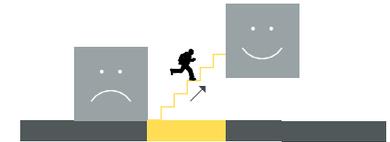
Greenmarkets or farmers' markets, where farmers sell products directly to consumers, are especially beneficial in densely populated areas with little access to fresh produce or supermarkets.¹⁰ Farmers markets can be located in the center of the neighborhood. These markets give residents access to healthy and fresh food for an affordable price.



Union Square Greenmarket, Manhattan, New York

Playfulness

Young people do not want to sit at home all day, but they want to undertake activities with their peers that challenge and entertain them.



Strategies

Ground markings

Areas for sports and multiple uses, such as playgrounds, can be designed to increase physical activity and prevent injuries.¹¹ A recent study found that children who attended schools where the playgrounds were redesigned with color-coded activity zones engaged in more vigorous activity than children in schools without the redesign.¹²



Public School 64, Queens, New York. By Thomas Balsley Associates

Positive feedback

Based on the idea that 'something as simple as fun is the easiest way to change people's behavior for the better, positive feedback is necessary for changing behavior. People want to be rewarded when they follow a specific path. In order to influence the behavior of humans to follow the most active path, they must receive positive feedback for what they have done so that next time, they will follow the same path.

For example, The Fun Factory team set themselves the challenge of getting more people to take the stairs by making it fun to do so. Stairs located next to escalators were transformed into a working piano, with every step playing a note to the Swedish public. This project resulted in a 66% increase in people taking the stairs.



Piano stairs, Stockholm Sweden. By the Fun Theory supported by Volkswagen

Safety

A safe place is crucial for a healthy living environment. Young people would like to come together, but only in safe places. In addition, parents are more likely to allow young people to go outside if they know it is safe.

Strategies

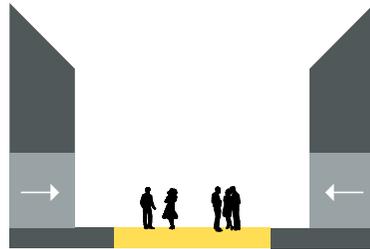
Surrounded by residential buildings

A public space close to buildings contributes to social safety and liveliness on the street, parks, and squares. The degree to which public space is perceived as pleasant is related to the danger of the users. If the user experiences the space as safe, he will visit this place more often and invite people.

Light

Dark passageways, streets, and squares are associated with insecurity and a lack of social control. Inefficient or absent streetlights can discourage residents from walking or cycling in public spaces.

Dark passages and squares must be avoided in the design. It is necessary to provide adequate lighting, especially along critical walking routes in the neighborhood. Outstanding and unique designs contribute to safety. These can also contribute to an attractive, unique, and recognizable public space during the day.



Public School 64, Queens, New York. By Thomas Balsley Associates



Van Eesterenplein, Almere, The Netherlands by Roosegaarde

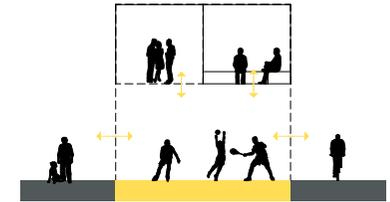
Transparency

A healthy neighborhood must be accessible to everyone. No distinction is made between different gender, family backgrounds, age, etc. If people keep no secrets, it will lead to a solid social connection within the neighborhood.

Strategies

Expose physical activity

Design building exteriors and massing that encourage physical activity. The exterior of a building could support physical activity indirectly by inspiring passers-by through a performance of active people. Research suggests that exterior design and massing may create more safety,¹³ and positively promote social support and daily activity.¹⁴ Transparent building facades can help create inviting, active pedestrian environments. Exposing the functional spaces in a design to adjacent spaces encourages people to activate physically.



GAME Streetmekka, Viborg by Effekt



GAME Streetmekka, Viborg by Effekt

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- c. Proper, K.I. & Bemelmans, W.J.E. (2011). Rijksinstituut voor Volksgezondheid en Milieu, Overgewicht en psychische problemen: hoe vaak komen ze samen voor?
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CONCEPTUAL DESIGN



Streetculture

In Tilburg-North, the number of youths who can be found on the street daily is high compared to the rest of the city. Street culture is a closed and relatively unknown world for many. The residents and professionals (police, care providers, and teachers) collide with the nuisance-causing youth and their environment. Street culture is composed of groups of young people and their collective views, norms, and values. The expressions of their belief often deviate strongly from the social manners in the dominant civic culture. Any young person can join a street group.

The pursuit of behavioral change is the goal of this project. Changing the behavior of the people on the streets is a complicated task. This project can only succeed if the architecture fits this target group. This target group is difficult to influence, but the youths of this group are open to change as long as they are treated with respect and without coercion. The conceptual design forms a modern hangout where young people like to come together, and cohesive society is formed. The interests of this concept are significant for the target group, residents, and professionals.



History

Sports must be returned to the public space.

We can learn from the past to make sport accessible again for everyone. Sports was seen as a healthy and social activity that is suitable for everyone. Before the associations were formed, public parks were used for physical exercise. We must go back to the Volkspark-evolution!

The landscape and garden theorist Christian Cay Lorenz Hirschfeld published his five-volume *Theorie der Gartenkunst* in the period 1779-1785. He expresses the need for a city to have a public place where the city dweller can move in the free and healthy air, relax after work and enjoy the beauty of the sky and the landscape.



In 1864 a group of businessmen led by C.P. van Eeghen created a "driving and walking park" on an undeveloped site outside the Singelgracht. With the installation of a statue by poet Joost van den Vondel in 1867, the park was named Vondelpark. A few years later, the still modest park was expanded to its current size according to this design by the Zochers.



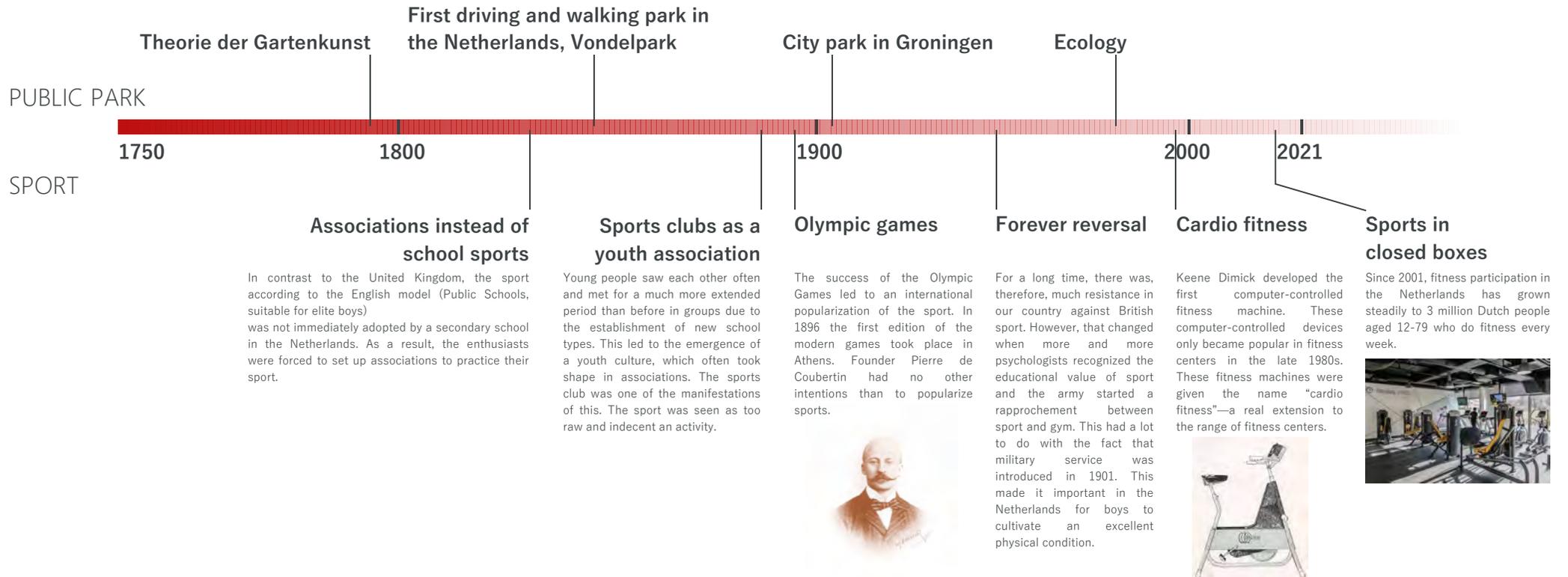
The first park in the Netherlands, which various sports facilities determine, is the city park in Groningen, built in 1913. Led by the industrialist Jan Evert Scholten.

From around 1970, other considerations also play a role in green management, such as nature, the environment, ecology, and health. Due to the greater emphasis on the importance of this greenery for plants and animals, management has been intensified in many places. Special provisions for animals have been made, such as nesting boxes and ecoduts.

Conclusion

Activities must be placed in the public park to make sports accessible to everyone. People are removed from the individual sports 'world' of today, and social interactions arise between different age groups.

The park in the middle of the district is an ideal environment to activate people physically. The central location in the district and the spacious layout offer an excellent environment for the start of a healthy future.

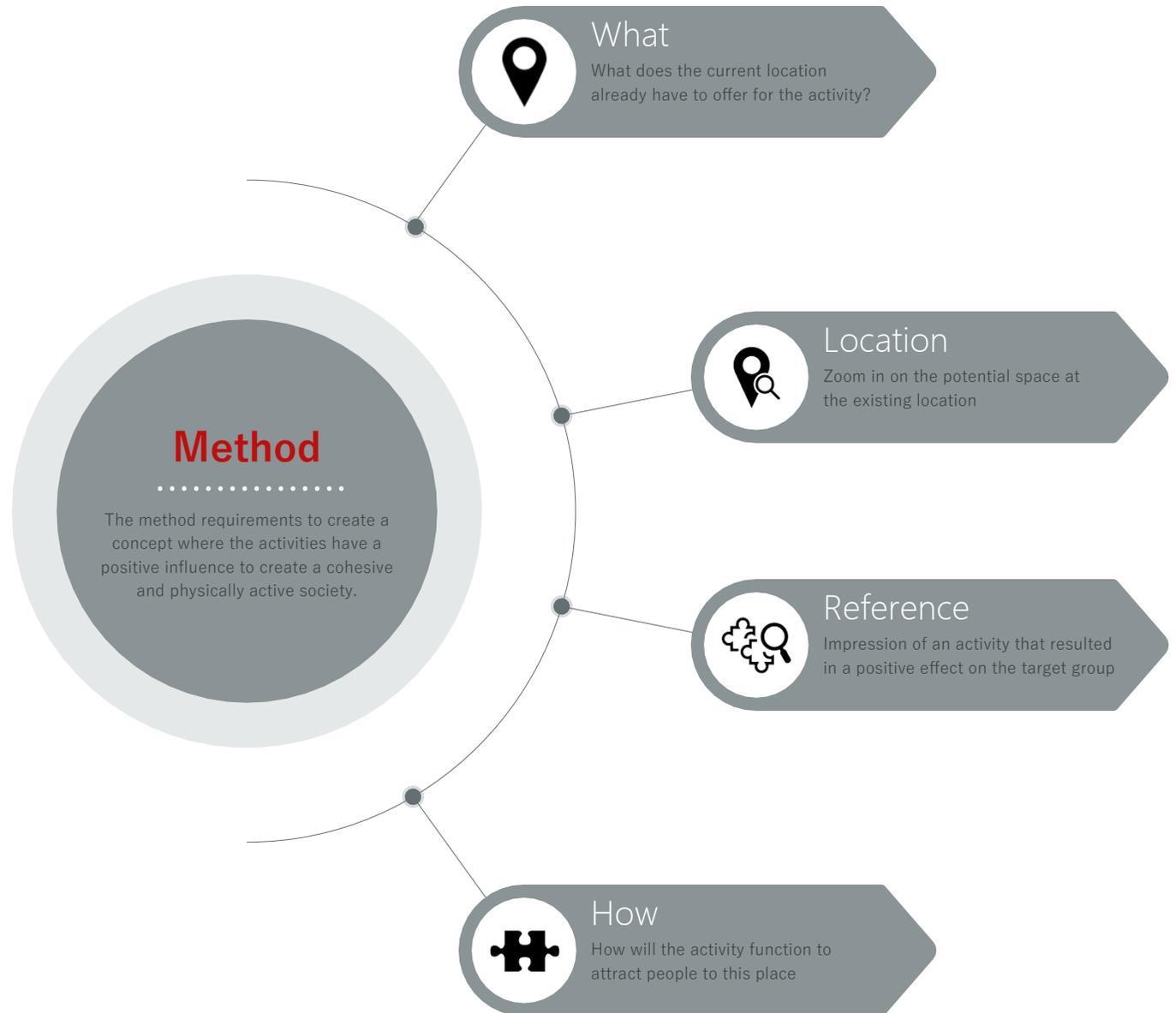


Activities

This concept design forms an active environment for young people.

An exercise-friendly environment is an environment in which users are encouraged (for example, through information and activities) to move, play, and exercise actively—an environment of activities linked to the facilities so that the facility is used sustainably. The facility is clean, accessible, safe, and challenging and was created from the involvement (urgency) of the users and through collaboration between public and private parties, which have been applied and adjusted to the correct scale level.

In order to shape this environment to conform to the wishes of the target group, several activities are essential in the design. These activities meet the needs of the target group and will stimulate behavioral change. The spatial requirements for this are formulated on the next page. Furthermore, the activities are analyzed based on; what does the current location already have to offer (WHAT), an image of the potential space (LOCATION), an impression of an activity that has a positive effect on the target group (REFERENCE), and how will the activity function (HOW).





Activities

The spatial requirements of the activities that will take place in The Missing Link to stimulate a healthy lifestyle for the young people.

Tutoring / Workshops

- Quiet place
- Individual / group



Healthy drinking

- Water spots
- Healthy shakes



Healthy food

- Fresh food
- Easy to move



Yoga

- Restful space
- Size: 1,95m² p/p



Freerunning

- Different ramps
- Size: ≥ 7x8m : 14m² p/p



Boxing

- Boxing balls
- Size: ≥ 7,8x7,8m : 3m² p/p



Dance

- Open spot
- Music
- Size: 9,3m² p/p



Football

- Paved / Grass surface
- 2 Goals
- Size: 28x40m : 50m² p/p



Skating

- Flat paved surface
- Ramps
- Size: ≥ 17x40m : 35m² p/p

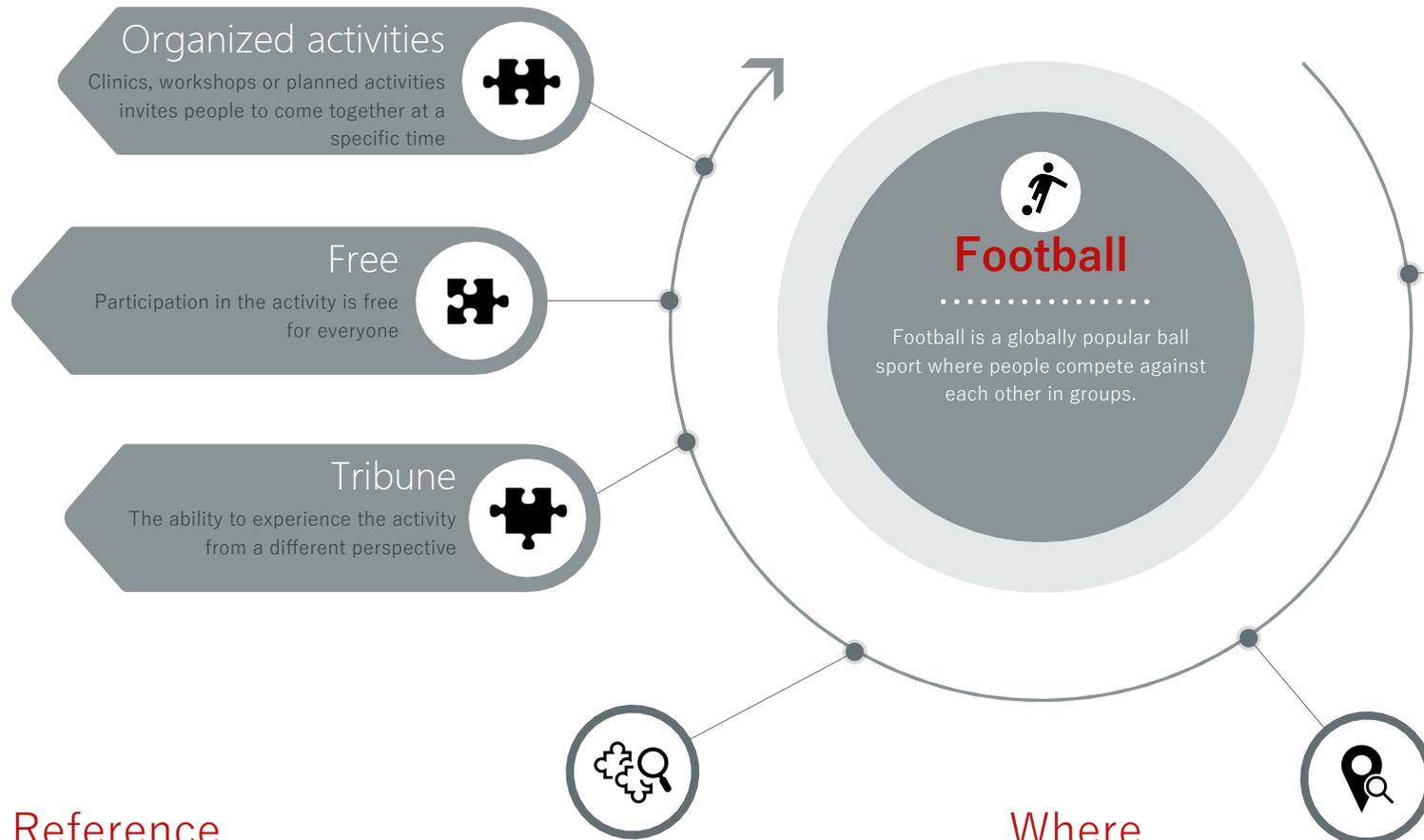


Basketball

- Flat paved surface
- Ramps
- Size: 14x27m : 27m² p/p



Invite



What



Reference

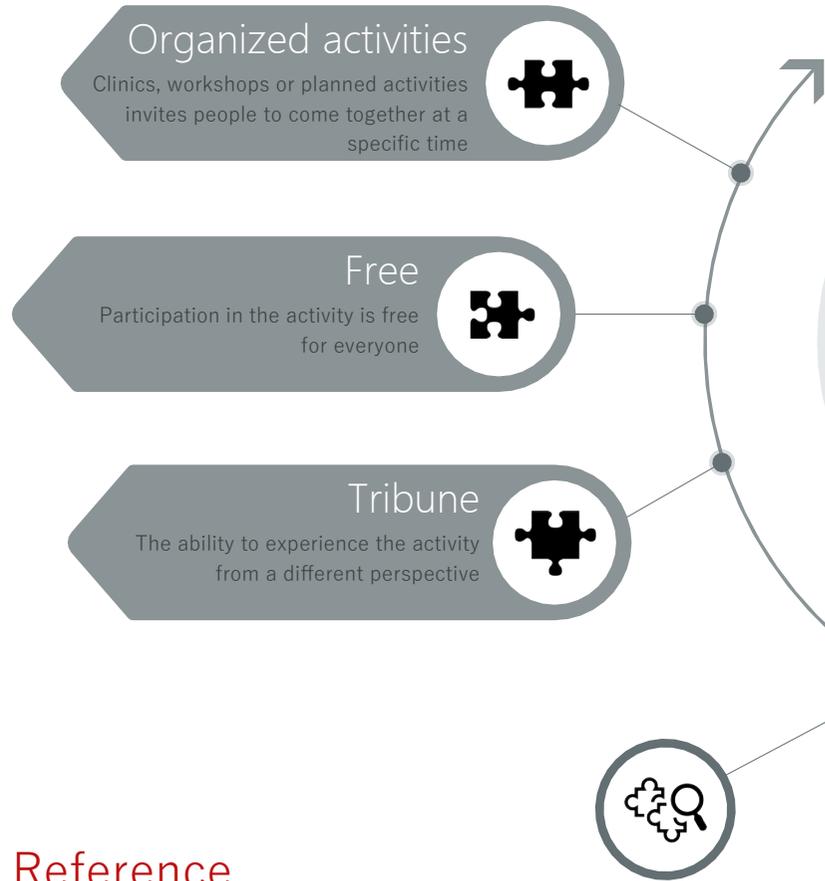
- Body
 - Improves your body coordination
 - Improves your stamina
- Social
 - Connect people



Where



Invite

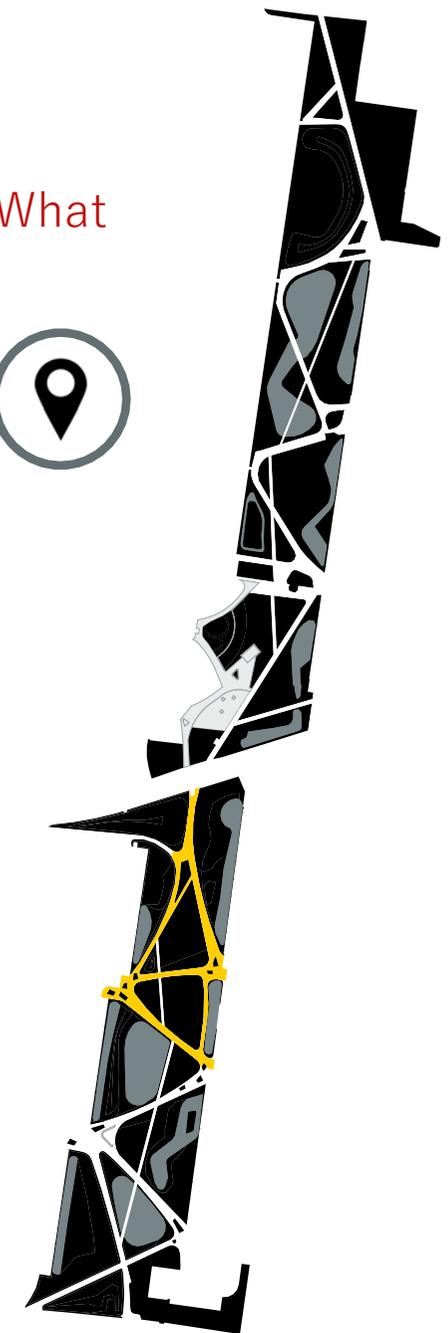


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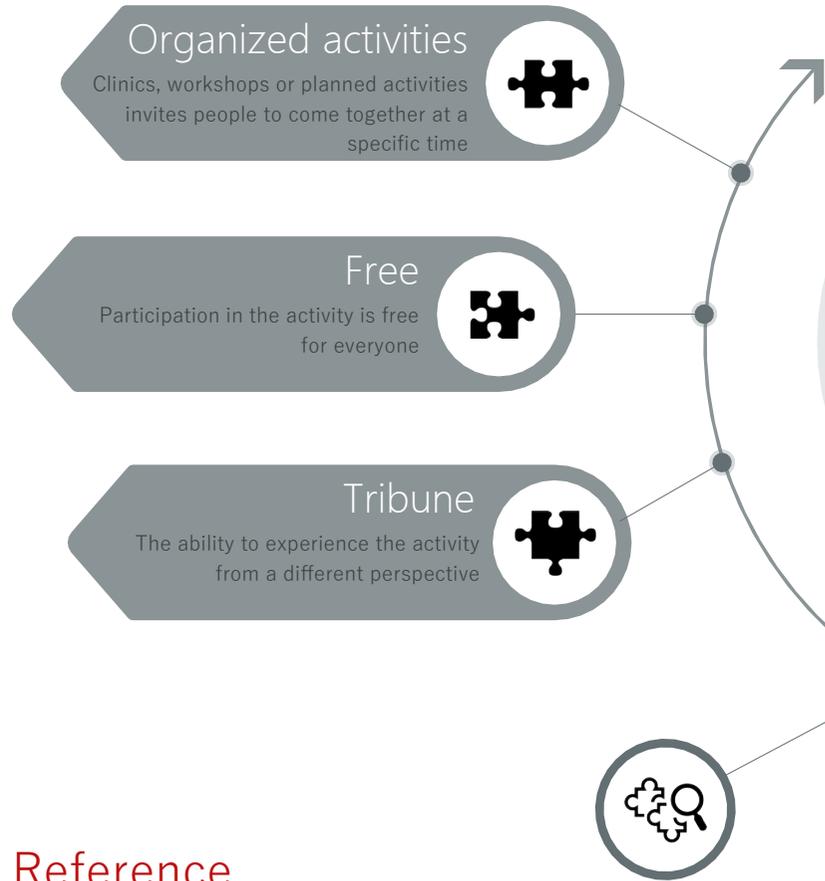
- Body
- improves your stamina
 - improves your total body strength



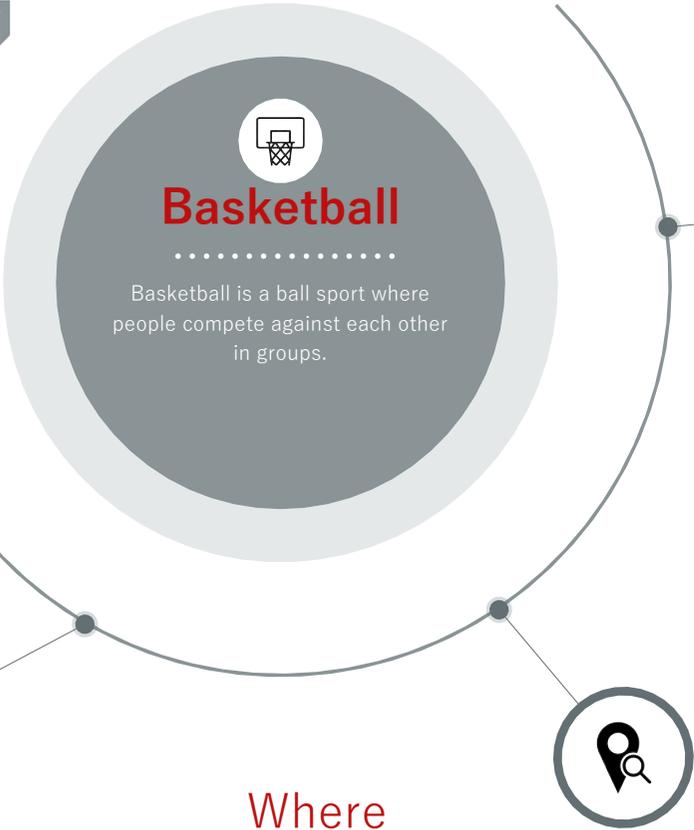
Where



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What

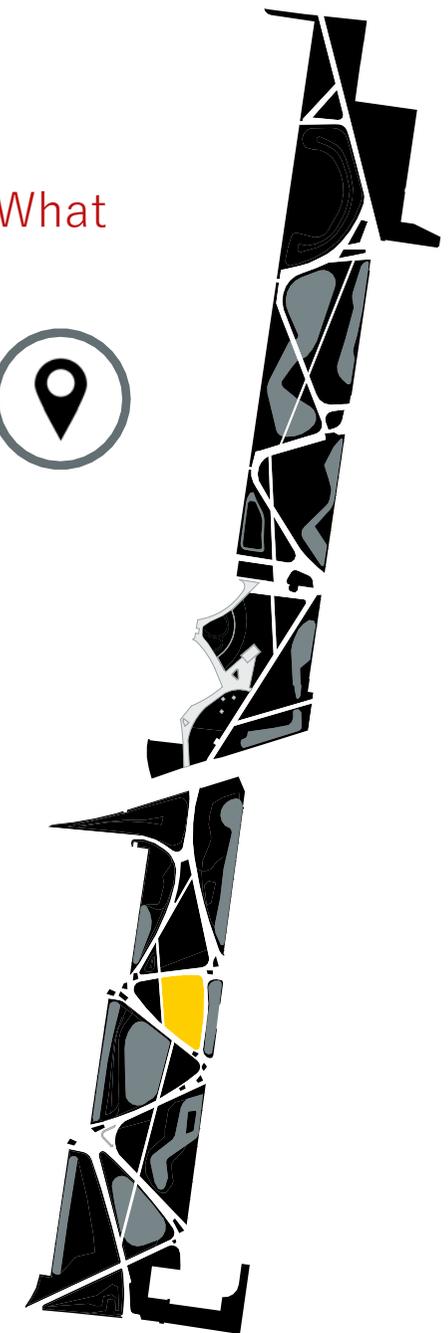


Reference

- Body - improves your body coordination
- improves your stamina
- Social - connect people



Where



Invite



What



Reference

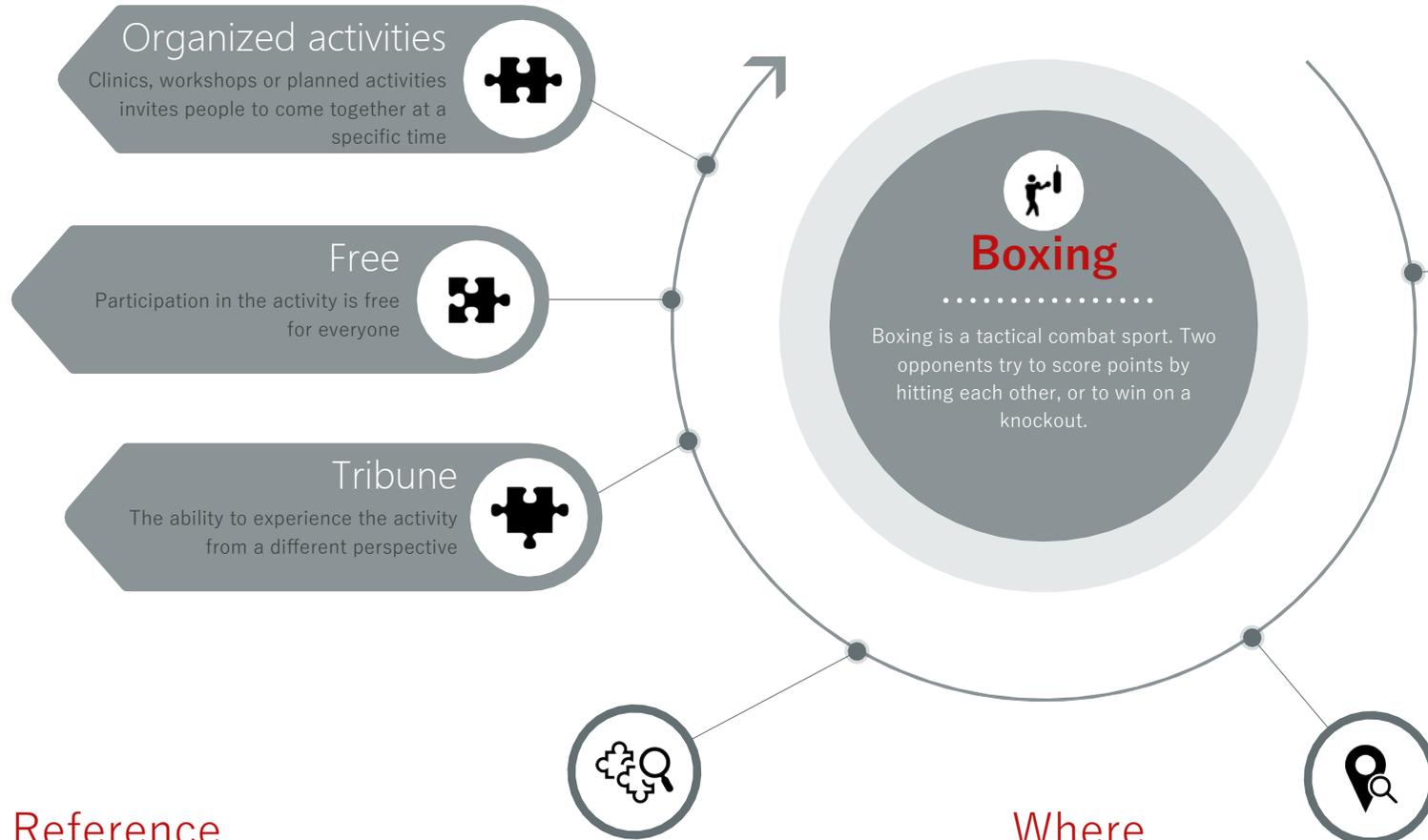
- Social - connect people
- Body - improves your posture
- Mind - decreased stress



Where



Invite



What

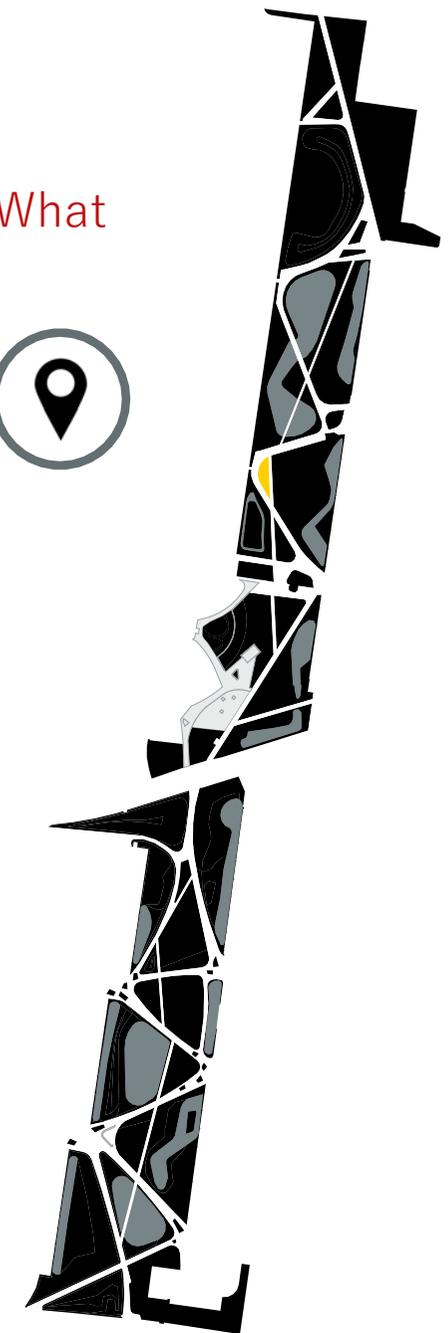


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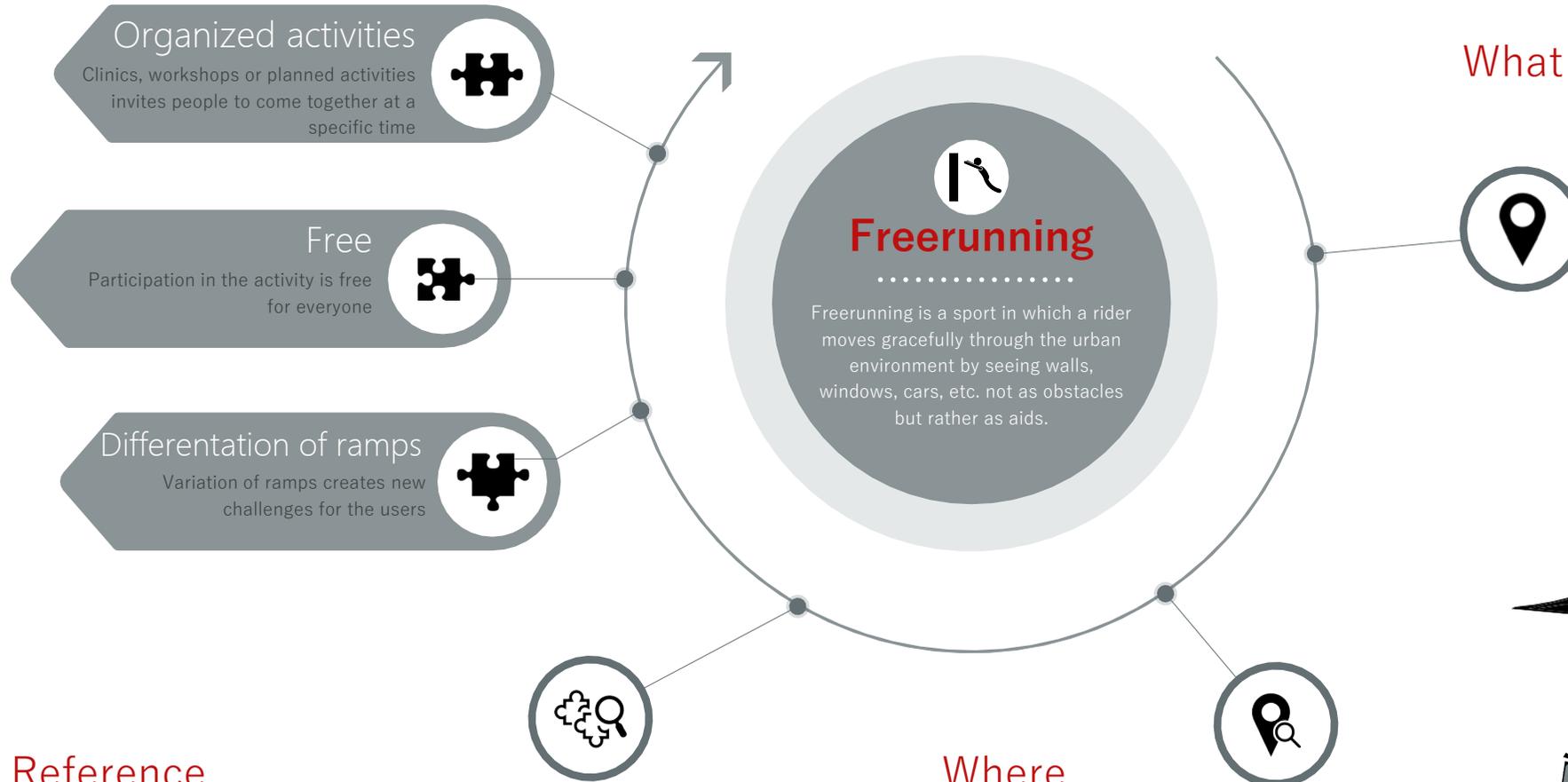
- Body
 - Improves your total-body strength
 - Better hand-eye coordination
- Mind
 - decreased stress
 - Gives you the opportunity to defend yourself
 - It boosts your confidence



Where



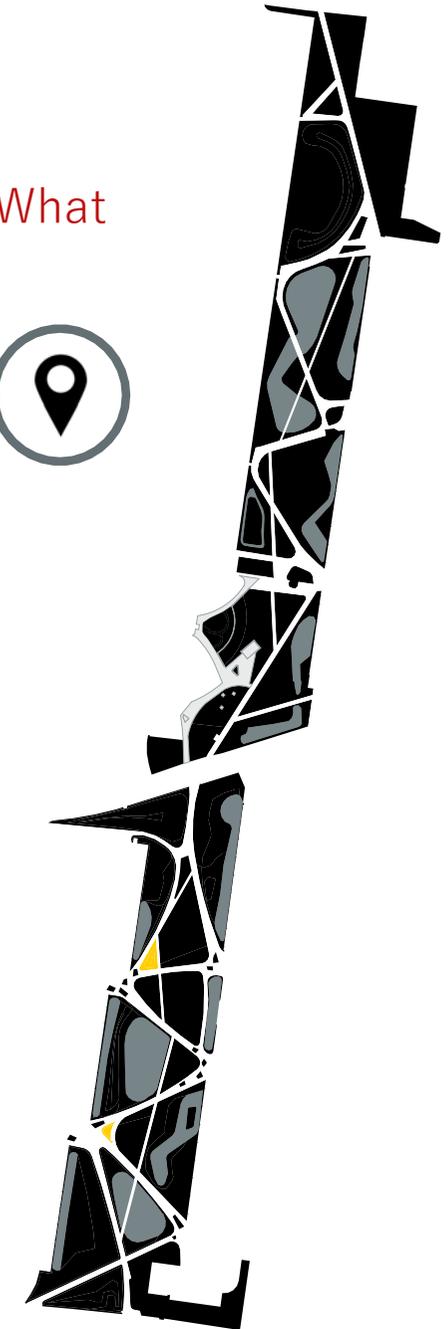
Invite



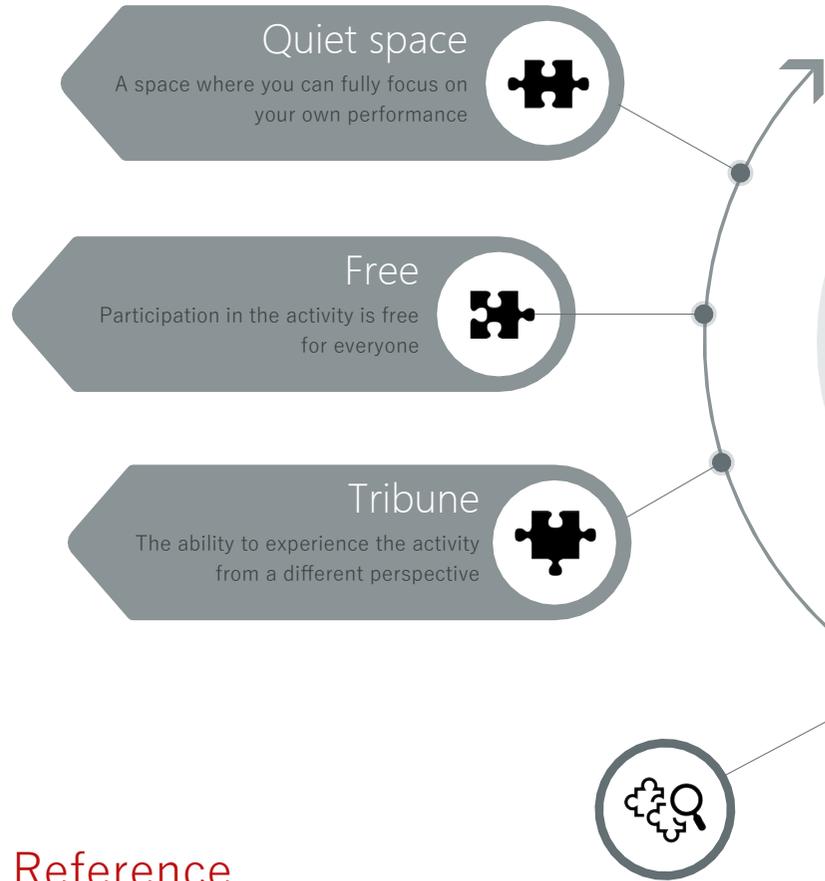
Reference

- Body
 - Improves your total-body strength
 - Better hand-eye coordination
 - Learn to discover and push your own boundaries
- Mind
 - Stimulates brain development

Where



Invite



What



Reference

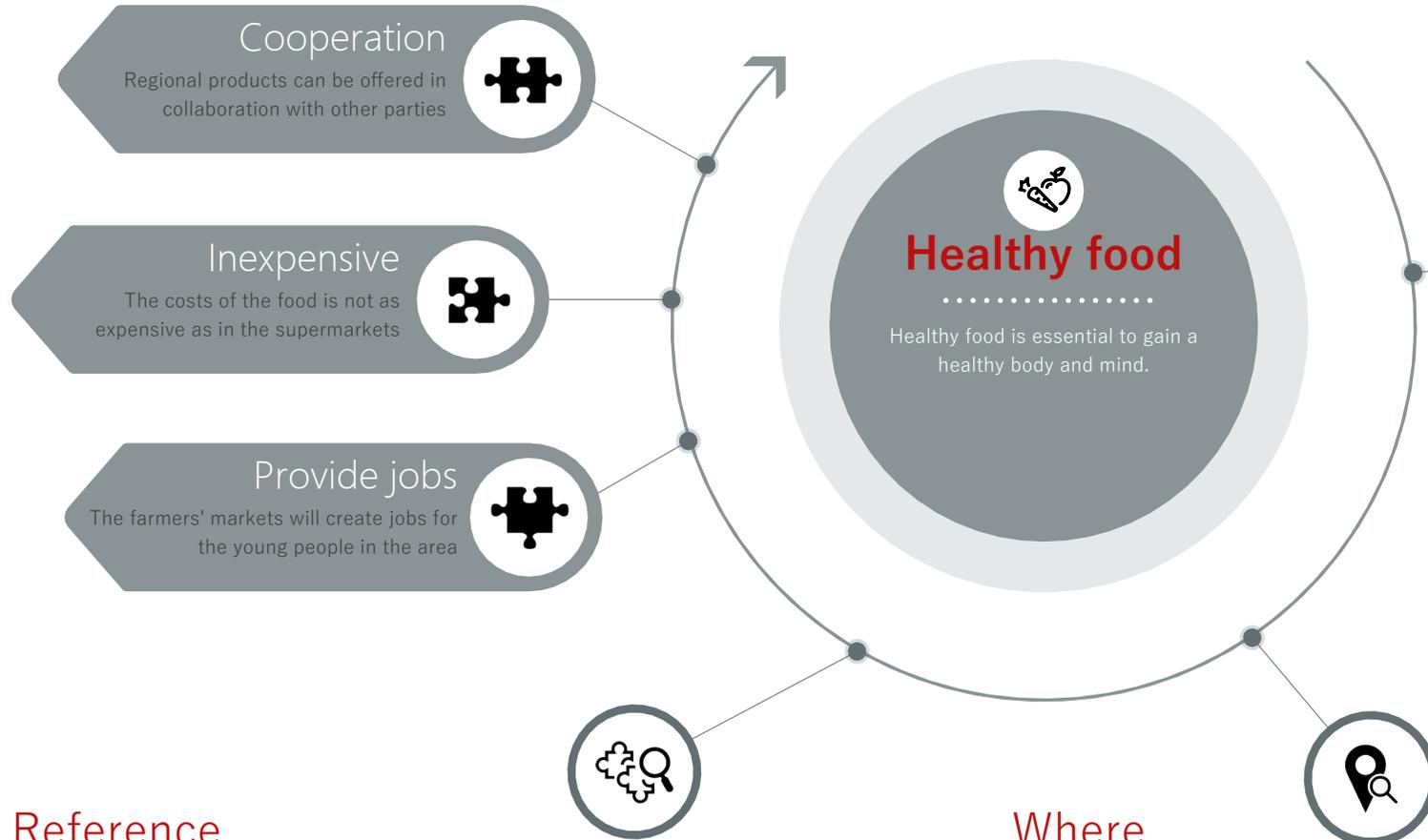
- Body - improves your flexibility and balance
- improves your body strength
- Mind - decreased stress



Where



Invite



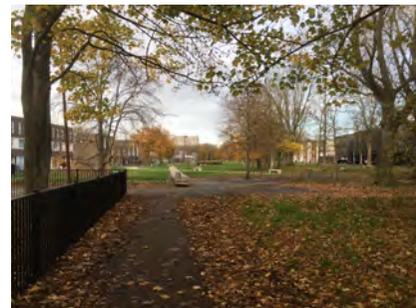
What



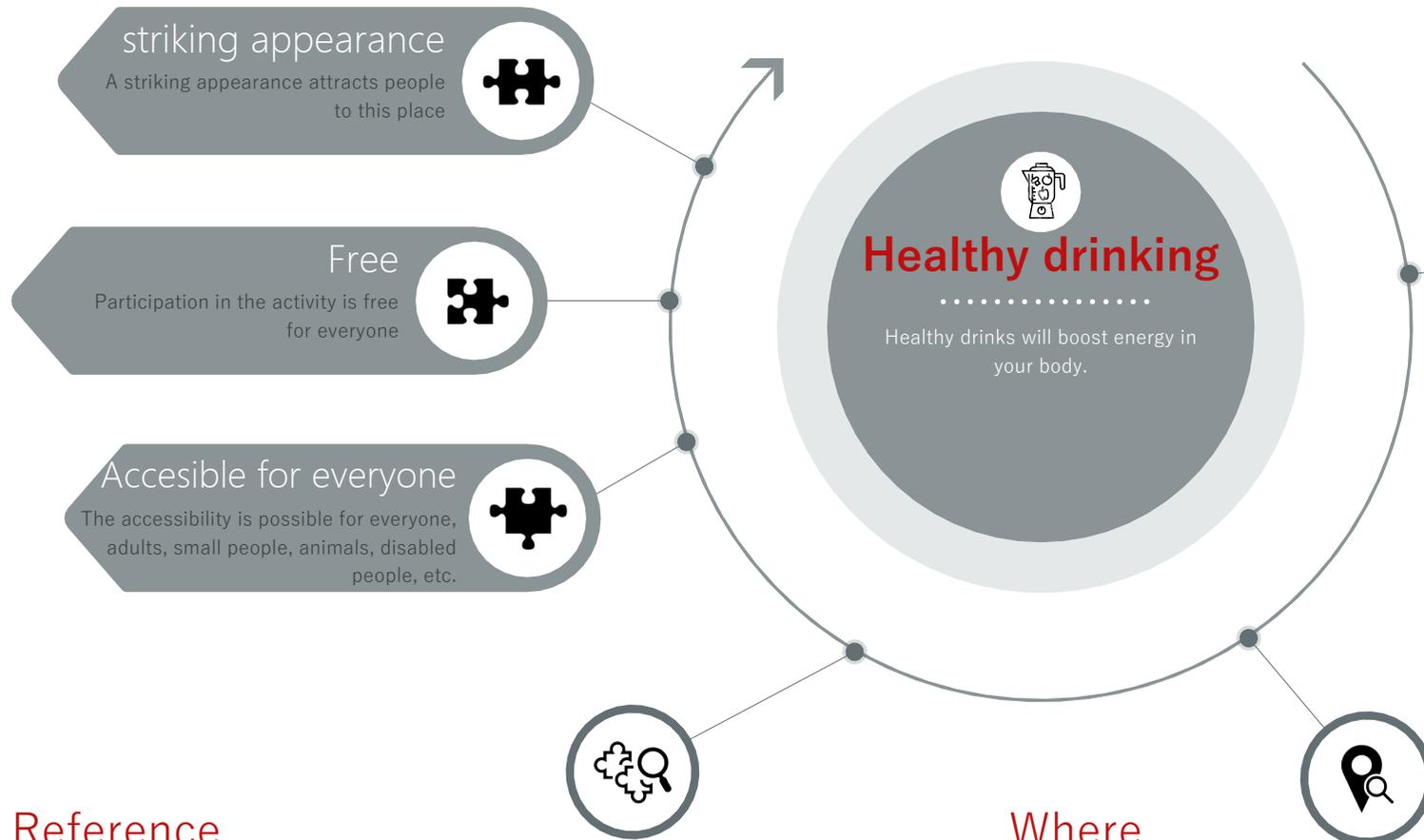
Reference



Where



Invite

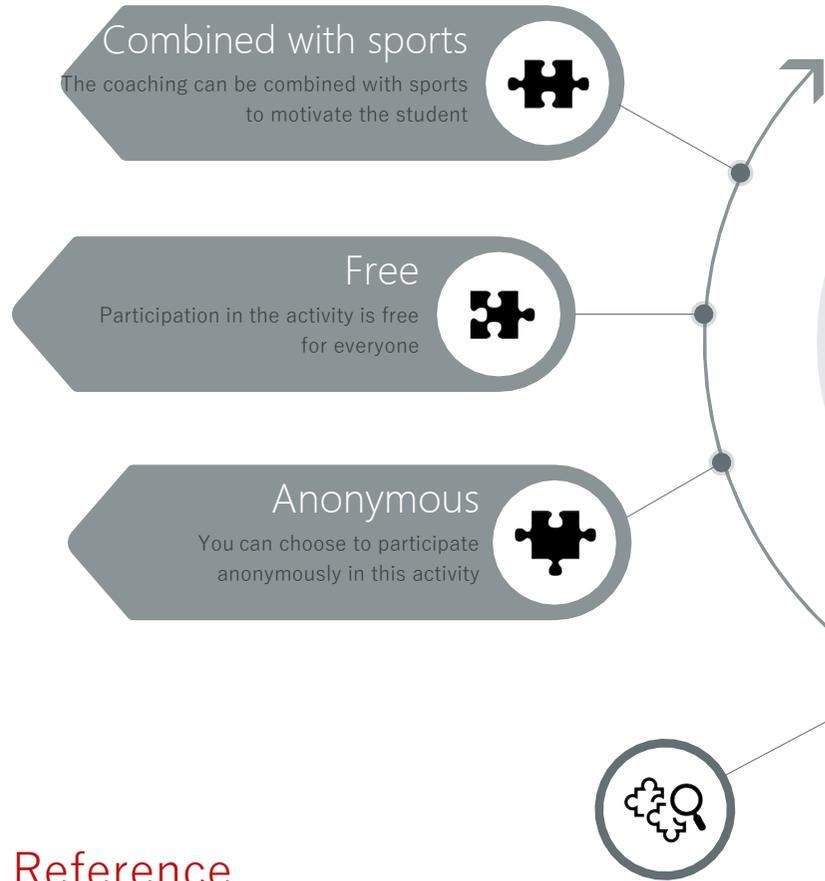


Reference

- fewer bottles are carried around, which means less waste and rubbish is thrown on the street
- water is the best drink before and after physical activities



Invite



Combined with sports
The coaching can be combined with sports to motivate the student

Free
Participation in the activity is free for everyone

Anonymous
You can choose to participate anonymously in this activity

What



Where



Reference



Relation schedule

The relations between activities are essential. This diagram shows the potential relationships between the activities related to the space requirements. Some activities can occur in the same space, and others must be held separately to be functional. This diagram can be a perfect starting point for the design, next to the spatial requirements of the activities and occupancy rate of the young people in the neighborhood.



Figure 12
Diagram of the relationships between the activities

Society

The concept must fit the correct scale level. By combining the number of users with the space requirements of the activities, the correct scale level can be designed. The occupancy rate of young people present on the street every day is essential for this design. The number of young people on the streets varies per part of the day, meaning that space must be adjustable for the correct scale level.

The space can not function if it is too large for the number of young people present or too small concerning the occupancy rate.

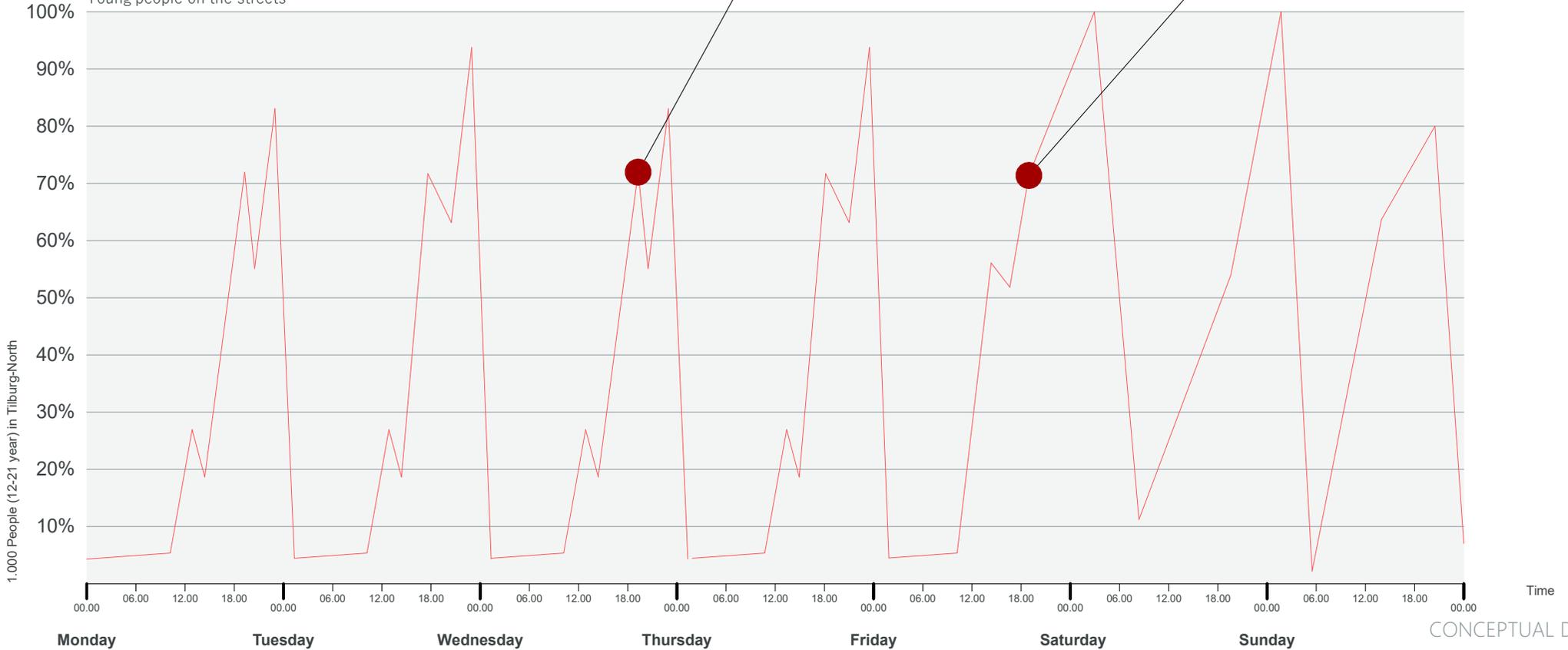
The organization that works for young people on the streets can currently reach 300 to 400 people. The reaching target of this organization is 1000 people. This project will focus on this number because a maximum reach in the neighborhood must be anticipated.

Examples



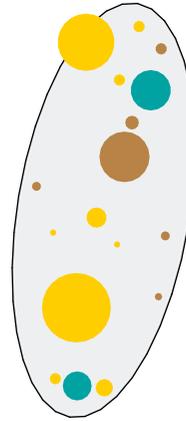
Occupancy rate

Young people on the streets



Creating one complete square is an essential part of this concept. This square brings together activities that meet the needs of everyone in the neighborhood. Thanks to the multi-purpose space, every place within this new plan area contributes to forming a solid and cohesive society.

In terms of appearance and experience, the square will contain one theme consistently continued in every structure. This active square gives a new dynamic to the neighborhood, where young people like to come together to share ideas, experiences, talents, and sports.



Reference projects



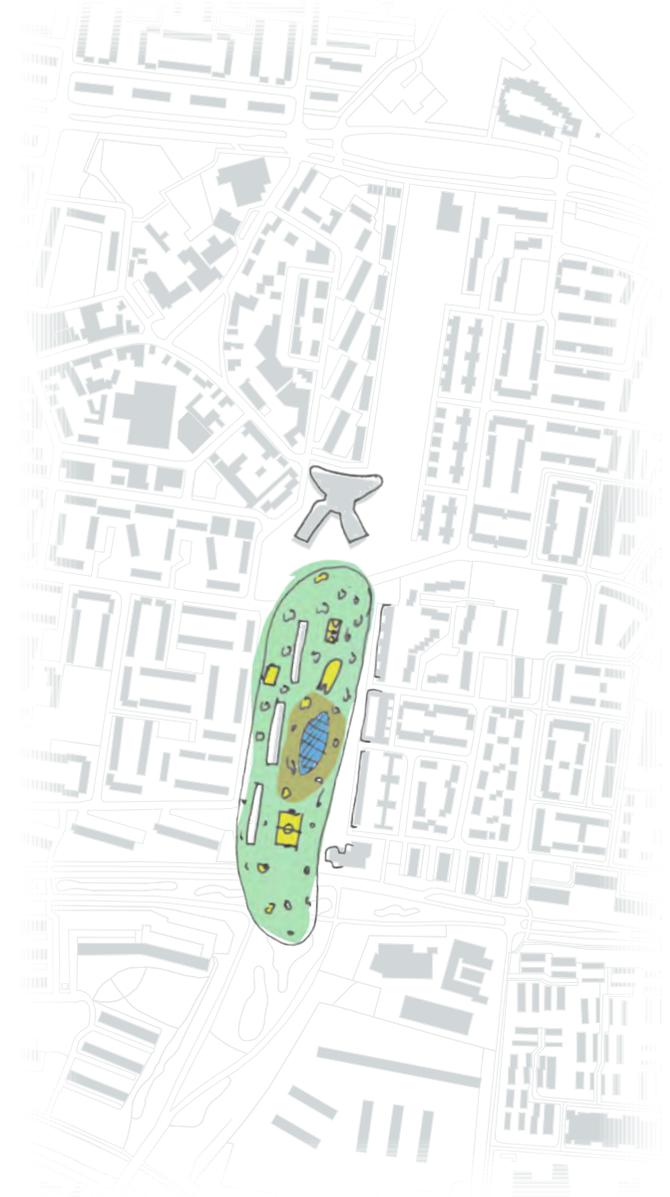
Superkilen Park
Copenhagen, Denmark
BIG, Topotek1 and SUPERFLEX

Superkilen is a half-a-mile-long urban space wedging through one of Denmark's most ethnically **diverse** and **socially** challenged neighborhoods.

Superkilen is a park that supports diversity. The conceptual starting point is a division of Superkilen into three zones and colors - green, black and red. The different surfaces and colors are integrated to form **new, dynamic** surroundings for everyday objects.

Athletic Exploratorium
Odense, Denmark
Keingart

The Athletics Exploratorium is meant to be attractive, **inspiring**, and **exciting**. It should function as a training facility for serious athletes, a laboratory for physical rehabilitation and research, and everyday playground, a popular tourist attraction, and a place of interest that you visit if you happen to be passing by. The project's ambition has been to **connect many types of activity**, thus addressing many types of users and needs.

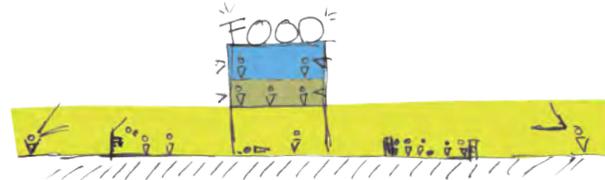


01. ACTIVE PLAZA

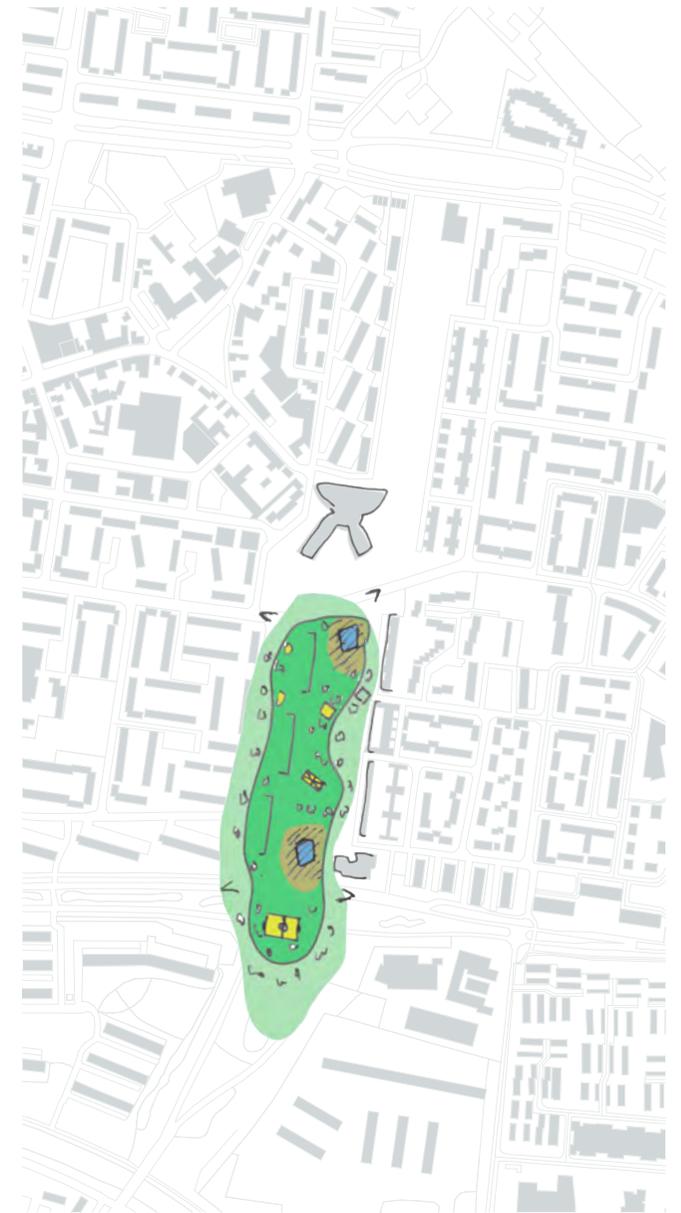
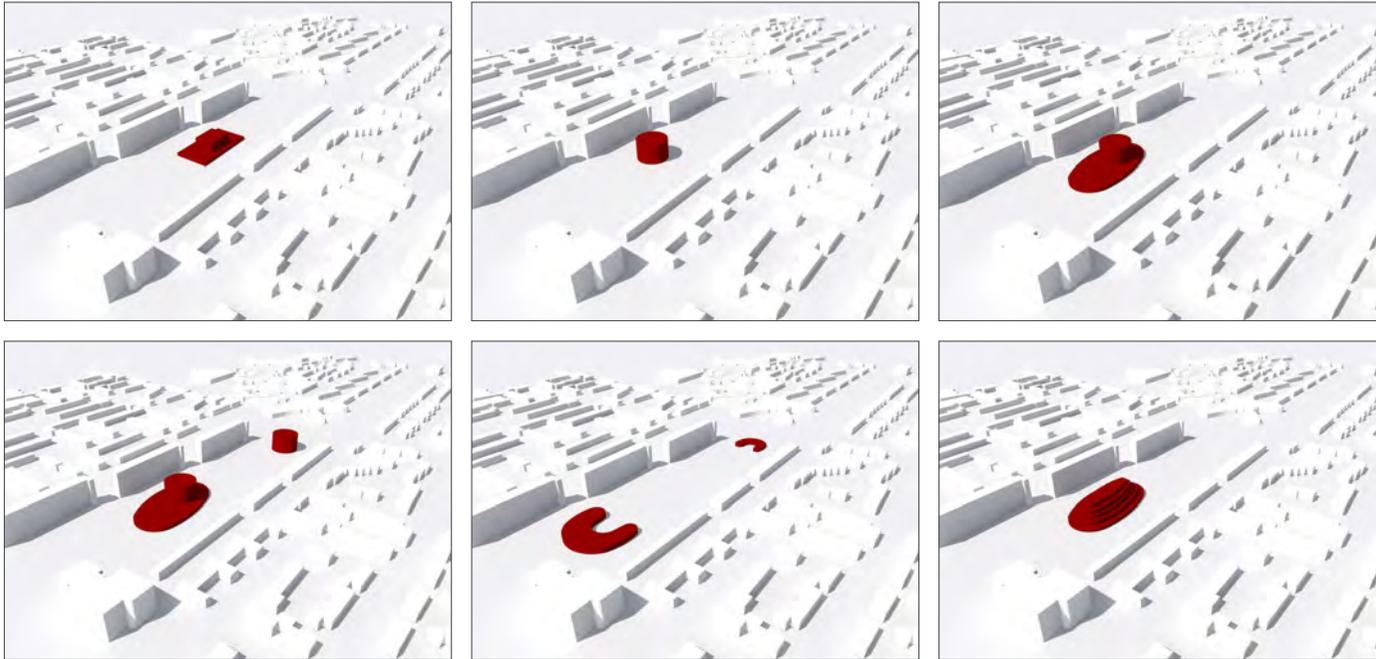
Conclusion

Active plaza has a wide variety of options. The square forms one coherent concept in which movement plays a predominant role. The activities will reinforce each other, and social interaction will arise between the young people and the residents in the neighborhood.

However, the existing park in its entirety already forms one public square in the residential area, which means that the relationship between the project and the neighborhood will not be strengthened. The park does not function in the current structure and can only establish a connection with the neighborhood with the help of other interventions in the park.

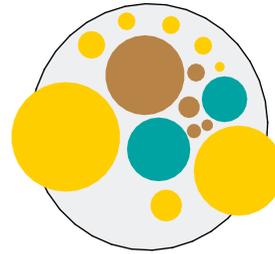


Urban design variants



The stadium is a campus where young people can come together in one private place. This campus is fully equipped for the target group in terms of appearance and activities. The activities offer new opportunities for cultural and social activities.

This concept forms a cohesive society within the youth in the neighborhood where everyone feels safe and secure. Problems, experiences, and home situations can be discussed confidentially.



Reference projects

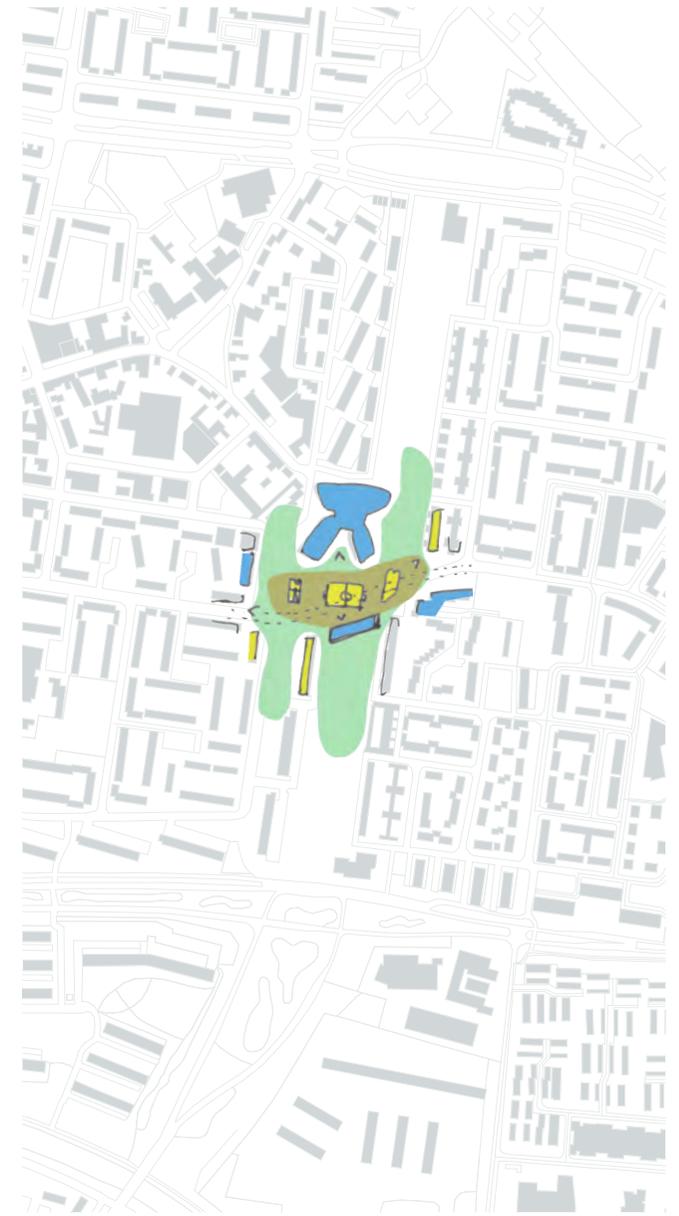


Homeless World Cup Legacy Center
Rio de Janeiro, Brazil
Lompreta Nolte Arquitetos

The building performs as a ramp. It functions as a sloped public square, with vegetation and landscaping, including seats. The **ramp** can also work as a stand for **cultural activities**. From above the ramp, people have a **new perspective** of the community and the environment, a new perspective that symbolizes the change, which brings to the community of Santa Cruz with its integration by the **use of sport as a social catalyst**. The facade faces the pitch, and the roof-ramp faces the cultural activities.

Game Streetmekka
Aalborg, Denmark
JAJA

JAJA has strived to preserve its industrial magic and generate an environment that invites the users to play and **experiment** with new forms of movement. The aim is to create a **thriving** and **dynamic** 'street laboratory! The Experimental Hall, with its **height** and **spaciousness**, is the perfect setting for street activities. The activities with practical and acoustic requirements are placed in the Lab Wing. The façade of the laboratory building becomes a **living canvas** for street art.



02. STADIUM

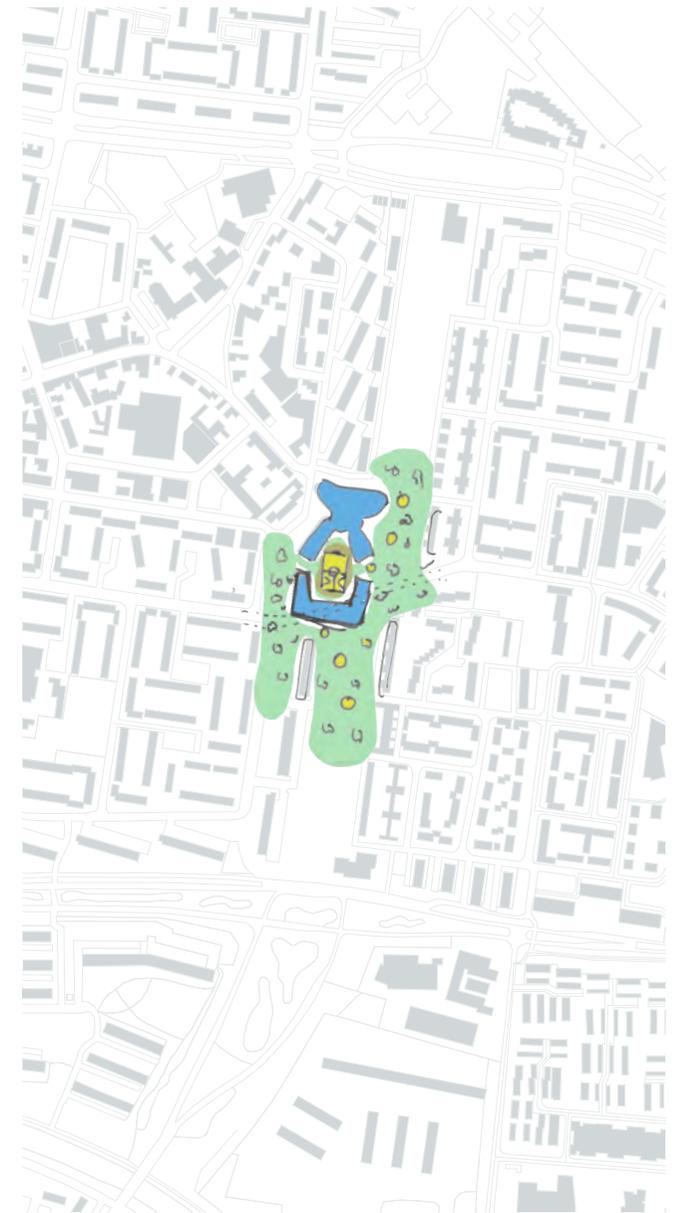
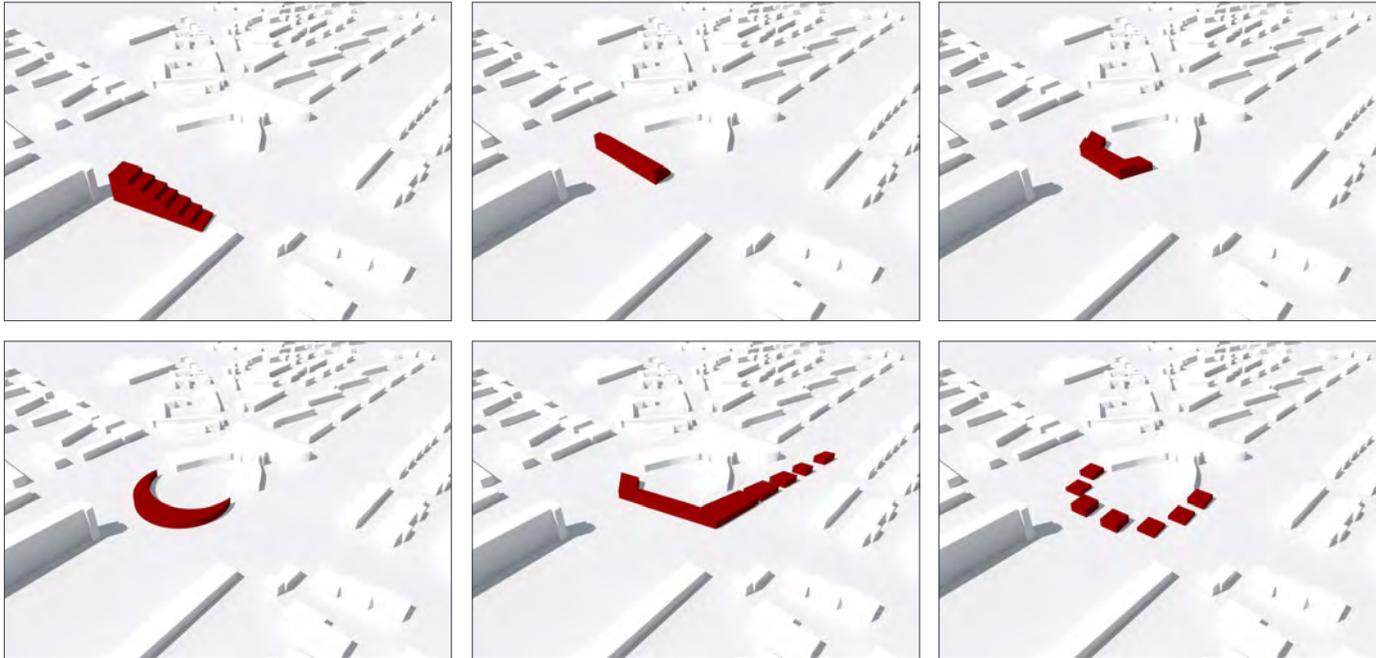
Conclusion

The strength of this concept is the closed community. The space can be shaped for the user. Maintenance and overview of this space are easy to regulate. At the same time, this is also a weakness of this concept. The Stadium is not open to visitors or passers-by. This will not result in a cohesive society in the neighborhood.

A central location is an advantage for the guidance of the users. The location either does not benefit the functionality of the activities. Not all activities can be arranged according to their spatial requirements.



Urban design variants



The Missing Link refers to the historical plans in the district and is enlarged by extending this infrastructure line to exciting places in the area—the Loonse en Drunense Duinen in the north and the city center in the south.

By integrating an attractive, slow-traffic route into the neighborhood, the opportunities of the young people are opened up to the surroundings. The young people will come together on this path to be introduced to diverse and multifunctional activities related to the path. This can be physical or visual.

Reference projects

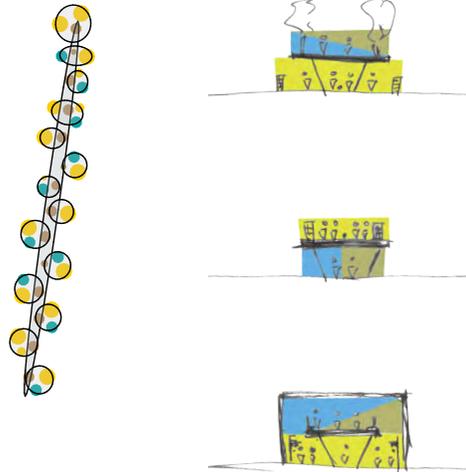


The High Line Park
New York, USA
James Corner Field Operation, Diller Scofidio & Renfro

The singular linear experience of the new High Line landscape is marked by **slowness**, **distraction**, and an other-worldliness that preserves the strange, **wild character** of the High Line, yet does not underestimate its intended use and popularity as a public space.

The strategy behind the design of The Goods Line was to create a solid civic spine and establish a **range of opportunities** for people to come together, inhabit/ occupy and use the space. The Goods Line is a place that speaks to a new kind of social infrastructure where **multiple** opportunities for gathering, playing, and exchange of ideas can occur. By embracing unique modes of interpretation, the rich **history** of The Goods Line is revealed and, at the same time, has created a **new identity** for the precinct.

The Goods Line
Sydney, Australia
ASPECT Studios & CHROFI



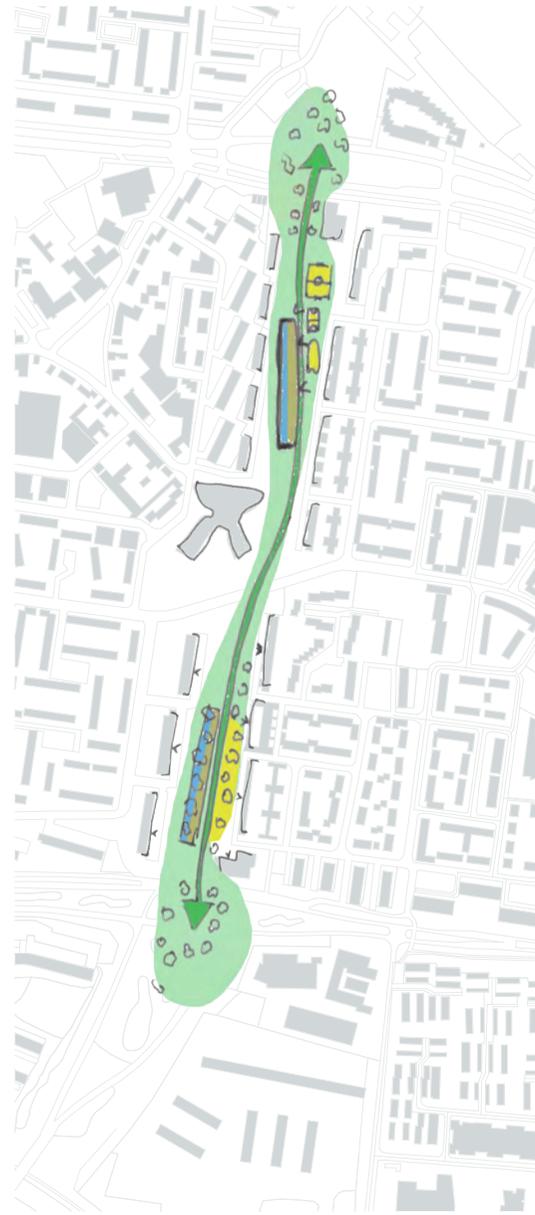
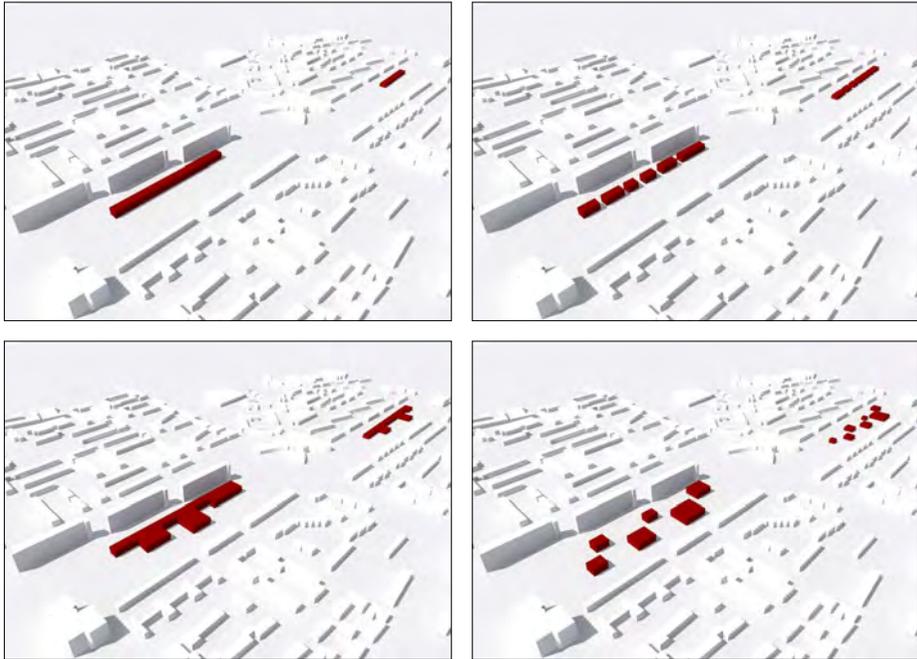
03. THE MISSING LINK

Conclusion

This concept responds to the various wishes of the user. By spreading different activities in the park, different social environments are created. Every user can join their desired environment. This open social environment strengthens the community in the neighborhood. Every resident is welcome, and this creates social interactions between different target groups.

In addition, this concept connects the neighborhood with the "outside world." The structure of the concept is extended to both the north and the south. The district is currently seen as a secluded area. The Missing Link will restore and improve these connections.

Urban design variants



Empathy

I contacted R-Newt to choose a concept that was going to be developed. R-Newt is an organization that stands for modern and innovative youth work. In consultation with Kareem Wahby, a youth worker at Tilburg-North, I chose the concept, The Missing Link, because this offers the most opportunities for the project's success.

Kareem Wahby is an expert with personal experience and has been active as a youth worker in Tilburg-North for two years. He gave insights into the living patterns and needs of the youth in the neighborhood.

The development of the concept, The Missing Link, is most promising to influence young people's behavior utilizing an architectural intervention positively. This concept offers a wide variety of 'hangouts' that together create a cohesive society.

In addition, The Missing Link offers the opportunity to bring people from outside Tilburg-North into the neighborhood. Tilburg-North is not known as a pleasant area to visit for inhabitants of Tilburg or tourists. The Missing Link will act as a visiting card for Tilburg-North, allowing the district to show its qualities to the 'outside world.'

Unlike the other two concepts, this concept always involves activity. Even if no users are present, activity occurs due to the existing infrastructure line right through the area.

This concept will involve the surrounding environment in the project in contrast to the other concepts. The project only works if there is a collaboration between the two concepts. That is why this concept has been chosen to function best in the neighborhood and even beyond.

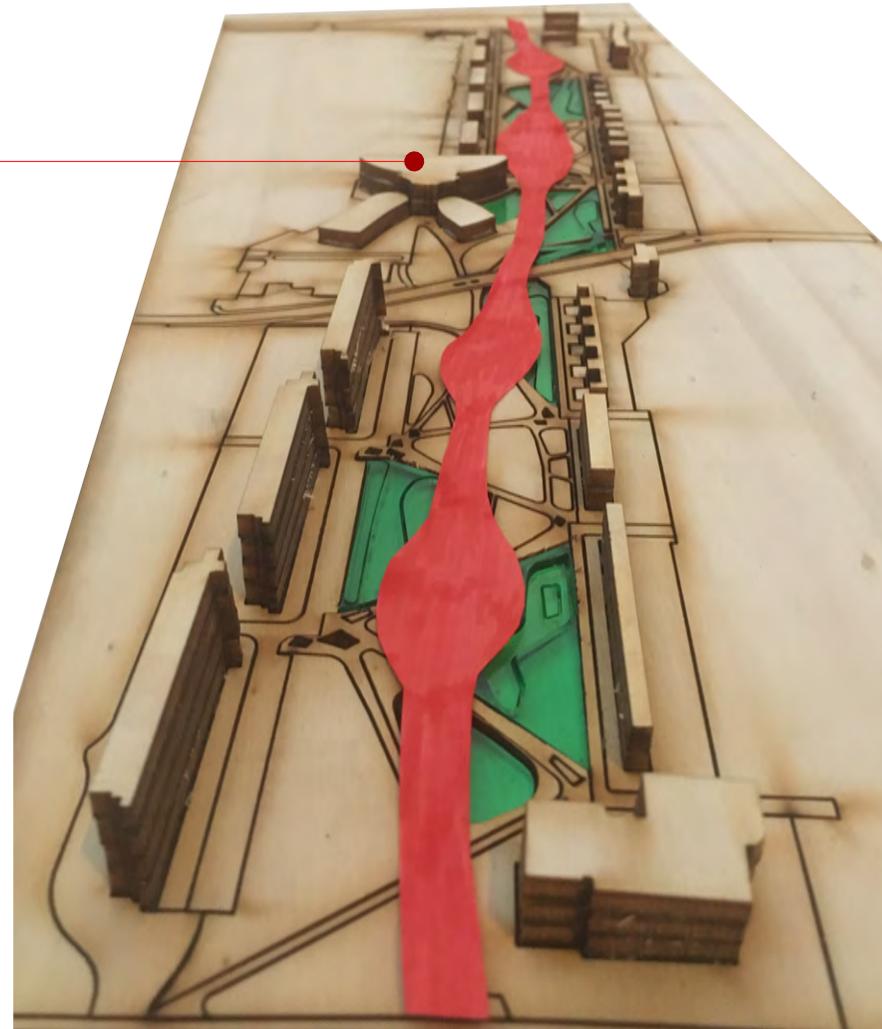


Figure 13
Model of the conceptual approach integrated in the existing situation

Conclusion

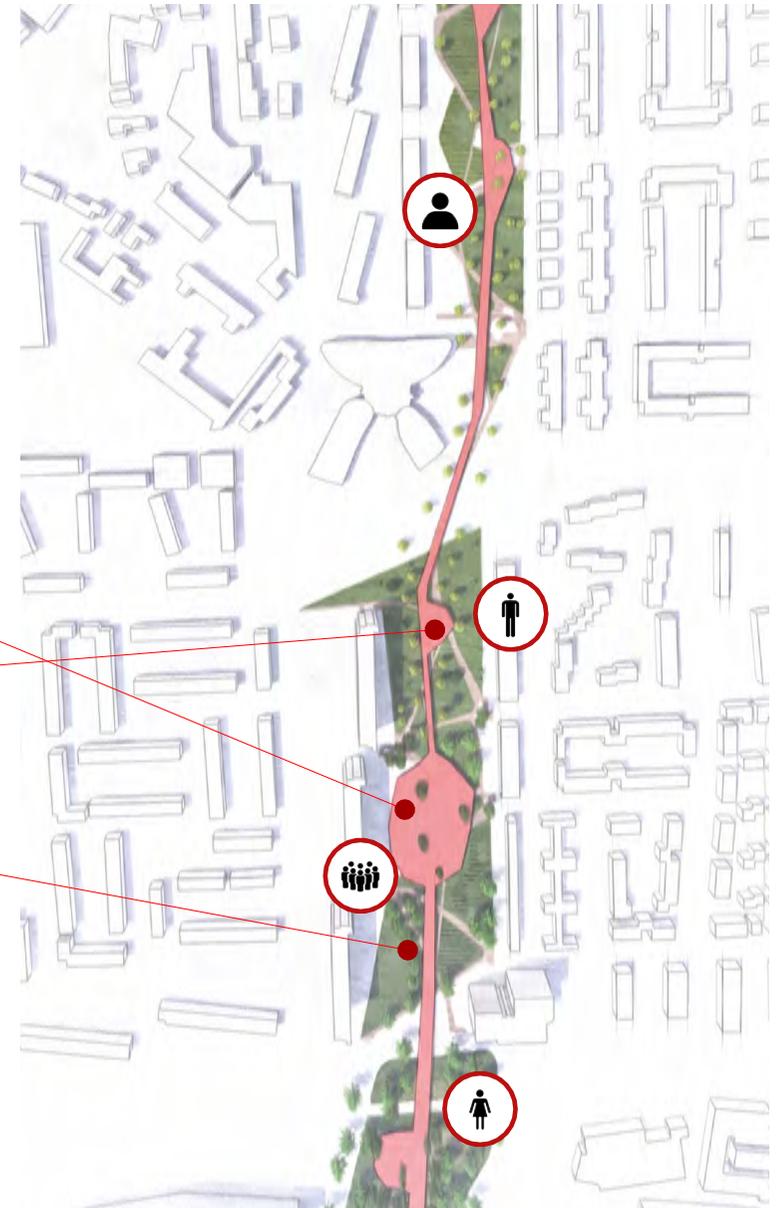
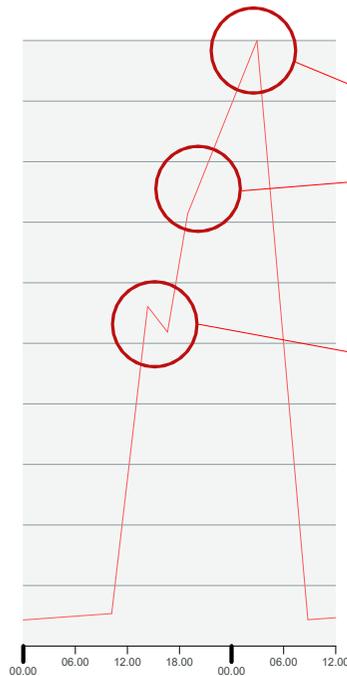
The Missing Link can anticipate in different circumstances. The concept consists of different spaces that meet the target group's needs at any time during the week: accessible, safe, and challenging. As a result, this concept continually offers a modern hangout for young people where interaction occurs between the target group, residents, and professionals. The various spaces are elaborated with one architectural concept through which The Missing Link will be experienced as a campus with healthy, active, and creative activities.

The varied spaces that this concept creates offers to allow different activities that can be carried out separately. The varied spaces allow women, for example, to exercise more separately from men, which is insisted according to their culture.

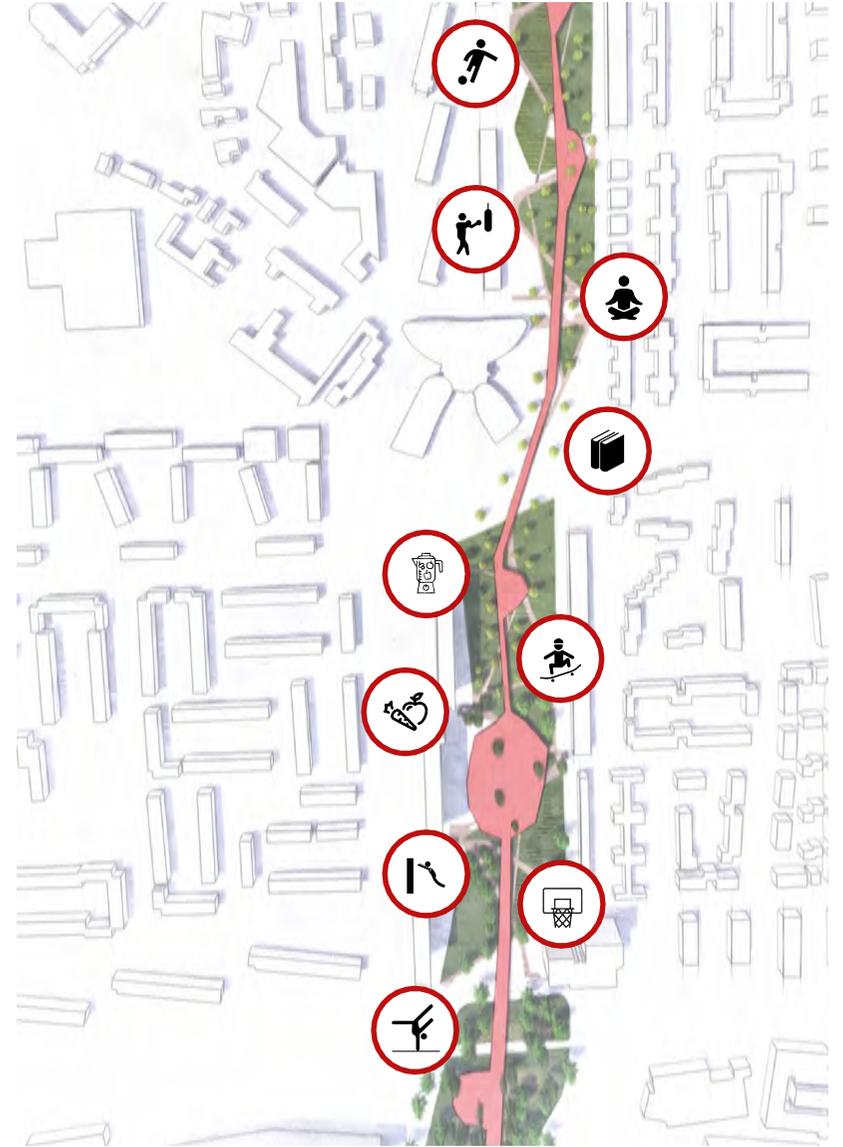
In addition, this concept will become an invitation for people outside the neighborhood to come and visit Tilburg-North. People will be surprised by the promising environment that the neighborhood offers and the talented young people hidden behind the canal every day. This offers young people the opportunity to show their talent to the "outside world."

The Missing Link will have a positive influence on the lifestyle of the young people in the neighborhood. The young people in the neighborhood will positively influence the next generation, making this concept the start of a bright future for Tilburg-North.

Occupancy rate
Young people on the streets



WINTERSCHOOL



Combining activities

I took part in the winterschool organization. The winterschool was entirely devoted to the activities. The devotion was shown in the programmatic requirements in each activity and the translation to spatial design. With the help of four architecture students, I investigated the possibilities for making the activities function optimally.

I also questioned whether some activities that contain the exact spatial requirements could be combined or not. Inspiring discussions and designs are the results.

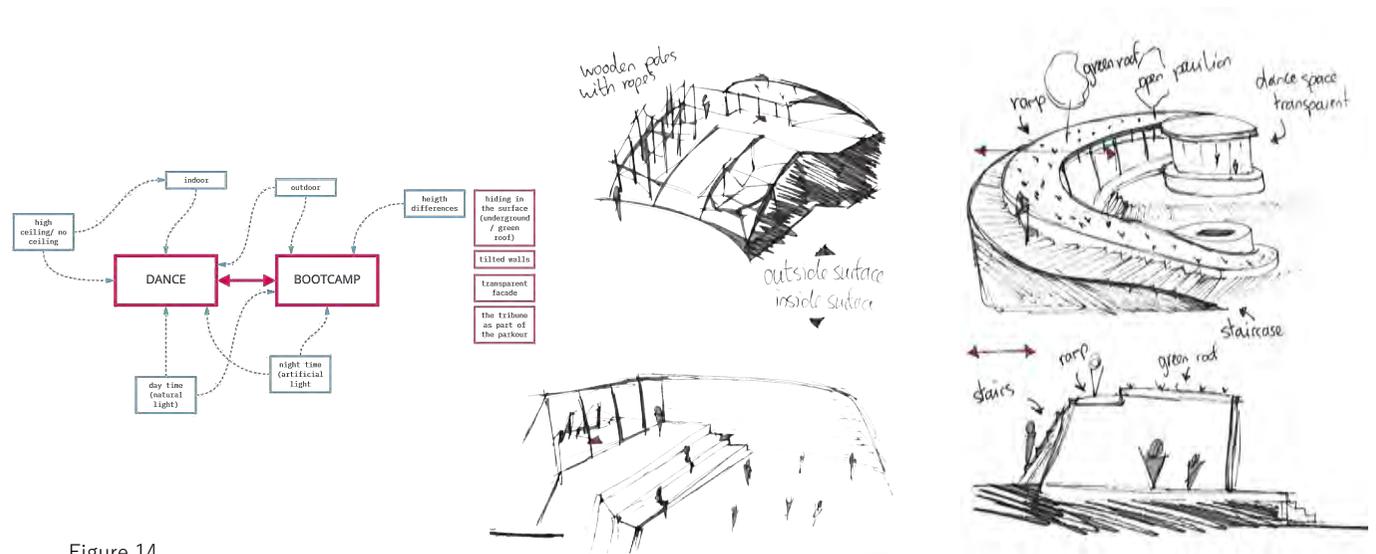


Figure 14
Two different designs in which the activities dance and bootcamp are combined

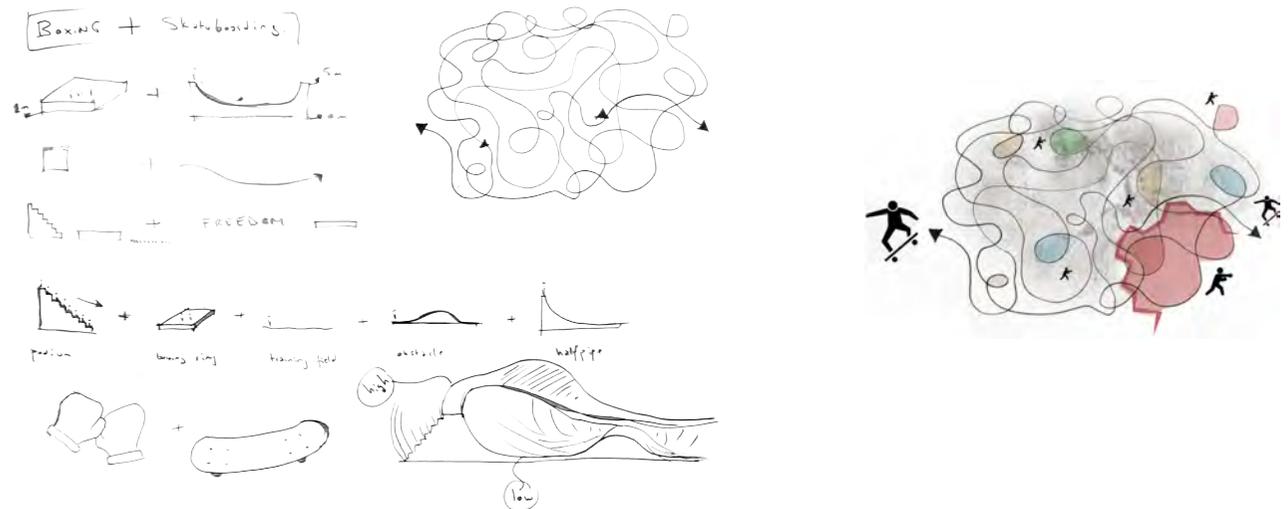


Figure 15
Model of the conceptual approach integrated in the existing situation

Conclusion

The conversations and sketches result in an inspiring concept. A concept I never thought of before. This concept consists of merging different activities. Larger-scale interventions will be the result of this concept. These interventions can play a more prominent role in the differentiation of the spaces.

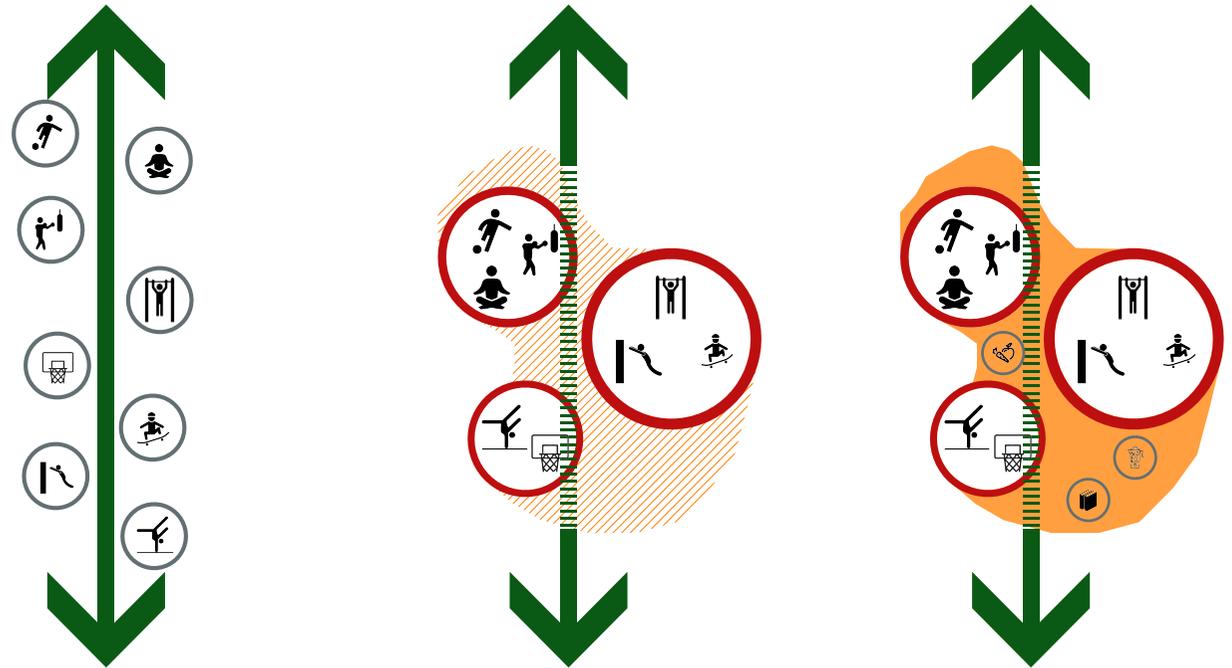


Figure 16
Diagrams of the conclusion of winterschool

PRELIMINARY DESIGN

Restore the connection

Tilburg originated from small villages, merged after 1950. The map shows that in 1950 the Tilburg North district included the village of De Heikant. The Herdgang, connected by a direct road from the 'center' of Tilburg to the rural area. From 1980 the motorway has been moved outside the district. The redevelopment of De Heikant is no longer visible due to the construction of the ring road of Tilburg North. The simple connection with the city of Tilburg has disappeared, results in less car traffic in the district, but the accessibility and recognisability of the district have disappeared.

The Missing Link refers to the historical connection between De Heikant, the city center, and the rural area. The connection will restore, utilizing an intervention in the park that will restore a car-free infrastructure line, which will restore the accessibility and recognisability of the district in a positive way.

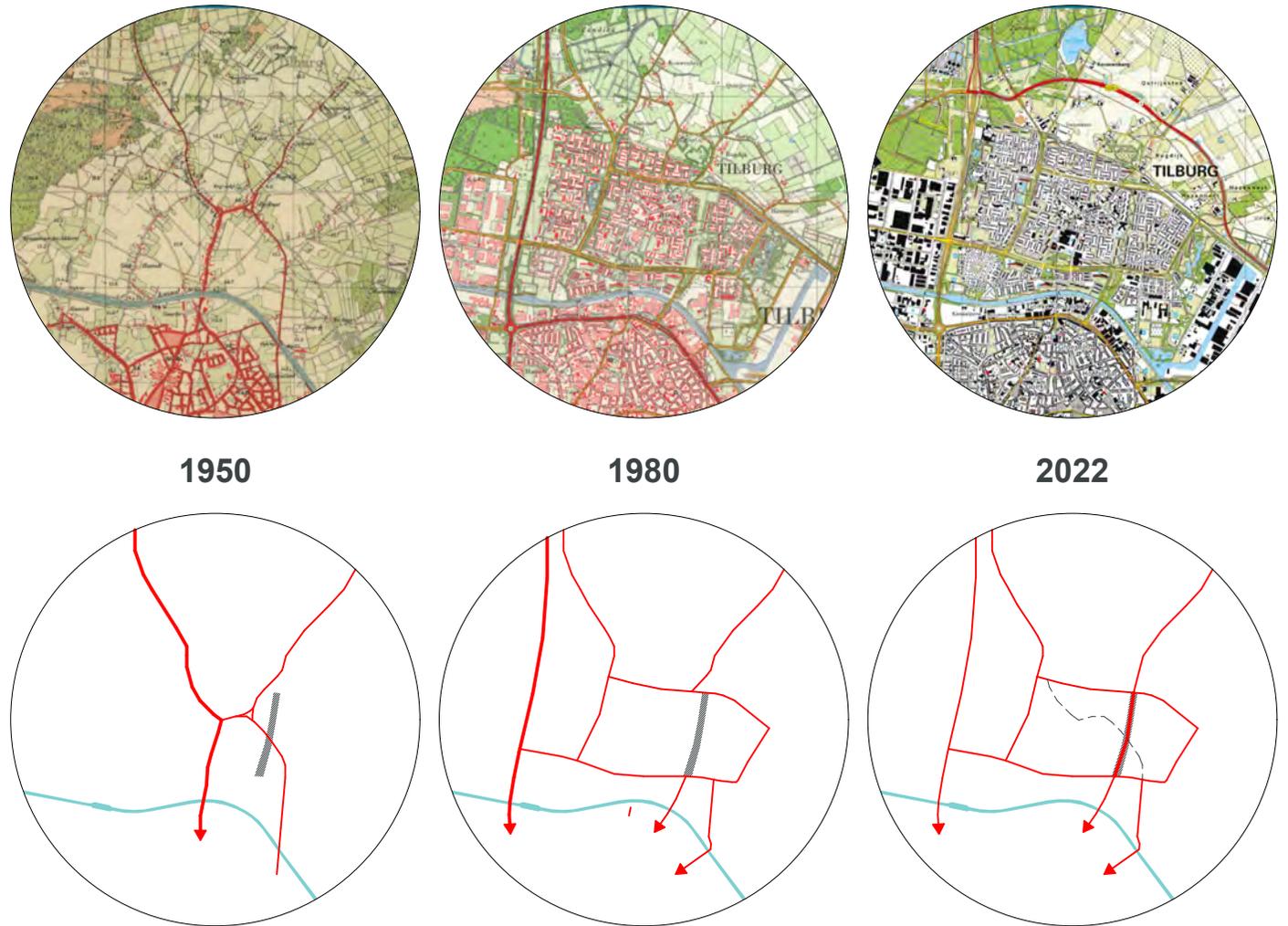


Figure 17
Evolution of Tilburg-North with the environment

Approach

This project strives for a design that has urban dimensions. The plan area has an area of 41,000 square meters in the middle of the Tilburg-North district. It is crucial to discover the qualities of this area and to consider the location as one building. The building is spread out over the entire area. Different activities can be combined at the exact location.

A design that functions depends on the degree of experience and social control. The correct occupancy rate in the park always influences the behavior of the users. A good design can be made using the right ingredients (activity level, infrastructure, potential space, and density).



Activity map

The design must be able to adapt to the number of people present during the week. This amount varies per week. The activity maps above indicate the intensity time per part of the day. The density should be pleasant for the users every time in the week. The connecting spaces should be flexible to the intensity of the visitors. The activities will be placed at a fixed location throughout the area but will be experienced as one building due to the flexible spaces.



12pm - 4pm



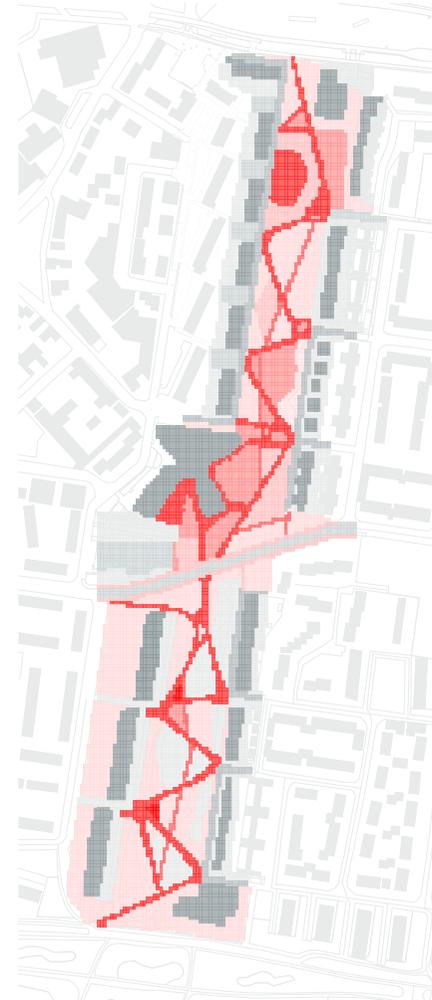
4pm - 8pm



8pm - 12am



weekend



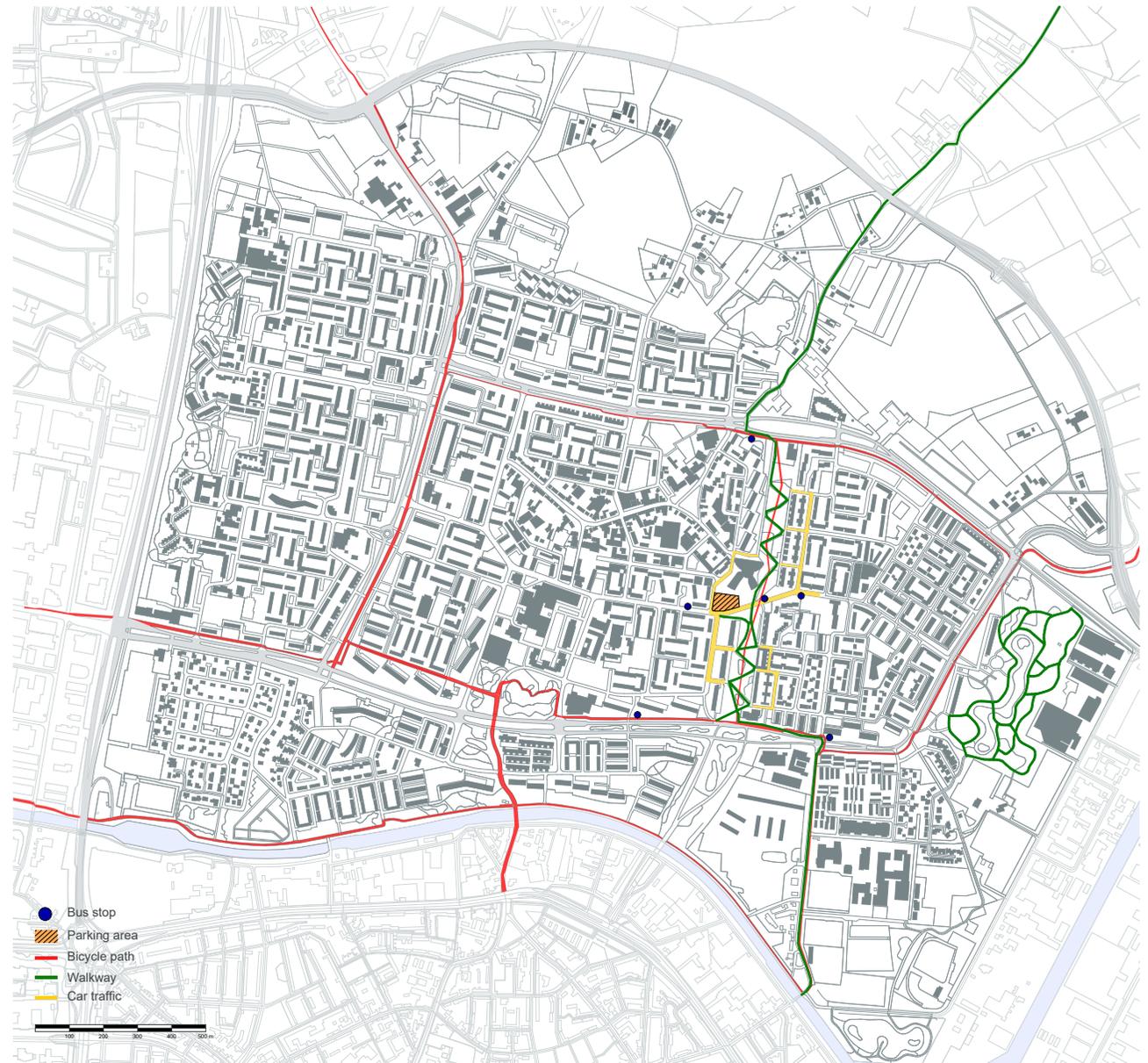
2020



2025

Infrastructure

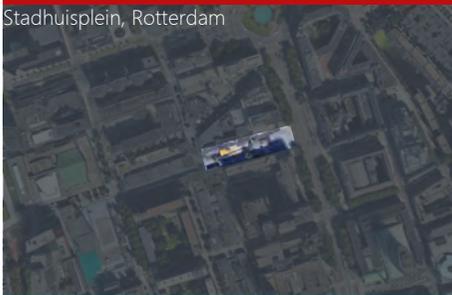
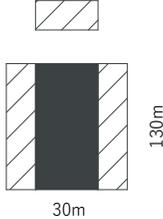
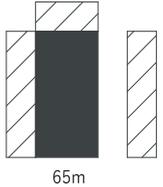
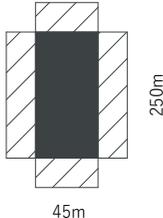
The connection of the building to the environment is essential for the accessibility of the activities. The activities must be visible from public roads, encourages people to visit the building. The park is in good condition; it is a shame to change this. Concerning the environment and infrastructure lines, the activities of the building should be implemented into the plan area.



Density, people

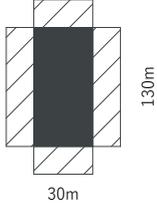
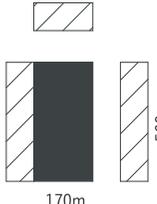
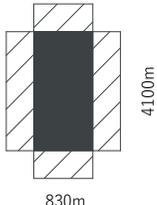
For the excellent experience of the users in a public area, they must feel comfortable. This experience means that the public area should not be too quiet but also not overcrowded. In order to create a pleasant atmosphere, the area must meet a minimum and a maximum number of users. To get an average for these numbers, I have looked at public squares in Tilburg, the Netherlands, and abroad. These places have a minimal number of users in, for example, the winter months—maximum number of users at events. In order to arrive at an average number of users, which creates a pleasant atmosphere in the public area, I used the book *A Pattern Language*. The author states in chapter 123: Pedestrian density indicates that an average of 7 to 10 users per 100m² creates a pleasant atmosphere. This average roughly corresponds to the reference projects.

REFERENCES

		DENSITY P=people		
		LOWER LIMIT (wintertime)	UPPER LIMIT (festivals etc.)	LIVELY (weekends)
Stadhuisplein, Rotterdam 	SIZE  30m 3.900m²	60P 1.5P/100m ²	45.000P 1.150P/100m ²	310P 8P/100m ²
Piusplein, Tilburg 	SIZE  65m 2.925m²	30P 1P/100m ²	15.000P 510P/100m ²	210P 7P/100m ²
Piazza Navona, Rome 	SIZE  45m 11.250m²	220P 2P/100m ²	50.000P 444P/100m ²	1.100P 10P/100m ²

Density, surface

Because the location of the intervention consists of a public park, it is crucial to gain insight into the proportions of surfaces within a public park. A park with a good atmosphere for the users has the right proportion of surfaces. By analyzing a few reference projects of parks that create the right atmosphere, I gained insight into these proportions. The public parks are Vondelpark, Spoorpark, and Central Park. By looking at the potentials of the current park, I took the correct proportions into account.

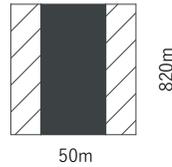
REFERENCES		SIZE	SURFACES		
			GREEN FACILITIES (grass, forest, bushes)	WATER (river, lake)	PAVED (playground, road)
Vondelpark, Amsterdam		 30m 130m 470.000m²	290.000m² 62%	80.000m² 17%	100.000m² 21%
Spoorpark, Tilburg		 170m 560m 100.000m²	75.000m² 75%	7.000m² 7%	18.000m² 18%
Central park, New York		 830m 4100m 3.410.000m²	2.390.000m² 70%	562.000m² 16%	458.000m² 13%

Density, The Missing Link

With the correct averages of the reference projects, I was able to conclude my project location. With the help of these numbers, I have gained insight into the number of users that have to be present in the building during the weekends (lively moments). I split this number into a minimum number of users (during the week) and a maximum number of users (holidays), which must be present in total. I have divided these numbers per activity to know what the space requirements of the different activities must meet to receive the correct number of users.

The ratios of numbers per activity come from a conversation with a youth worker from the R-Newt organization. He has insight into the wishes the young people have concerning each activity.

SIZE



41.000m²



APPLIED ON THE SITUATION AVERAGE

SURFACES			DENSITY P=people		
GREEN FACILITIES (grass, forest, bushes)	WATER (river, lake)	PAVED (playground, road)	LOWER LIMIT	UPPER LIMIT	LIVELY
69%	13%	17%	1.5P/100m ²	701P/100m ²	8P/100m ²
28.500m ²	5.530m ²	6.970m ²	105P	48.860P	560P

ACTIVITIES

DENSITY P=people

		MINIMUM PERSONS 6P/100m ² = 420P	MAXIMUM PERSONS 10P/100m ² = 700P
HORECA	10%	42P	70P
EDUCATION	5%	21P	35P
PASSERS BY	10%	42P	70P
PHYSICAL ACTIVITIES	75%	315P	525P
FOOTBALL	35%	110P	184P
BASKETBALL	14%	44P	74P
DANCE	12%	38P	63P
YOGA	5%	16P	26P
BOXING	16%	50P	84P
FREERUNNING	5%	16P	26P
SKATING	6%	19P	32P
BOOTCAMP	7%	22P	36P



- Two goals
- Bal
- Borders
- Tribune
- Lighting
- Outdoors
- Field 28x40m

110P - 184P
min: 2.000m²
max: 2.500m²



- Restful space
- acoustics
- ventilation
- Yoga mat
- Tribune
- Indoors

16P - 26P
min: 30m²
max: 50m²



- Boxing balls
- Borders
- Stage
- Tribune
- Indoors/outdoors
- Ventilation

50P - 84P
min: 150m²
max: 250m²



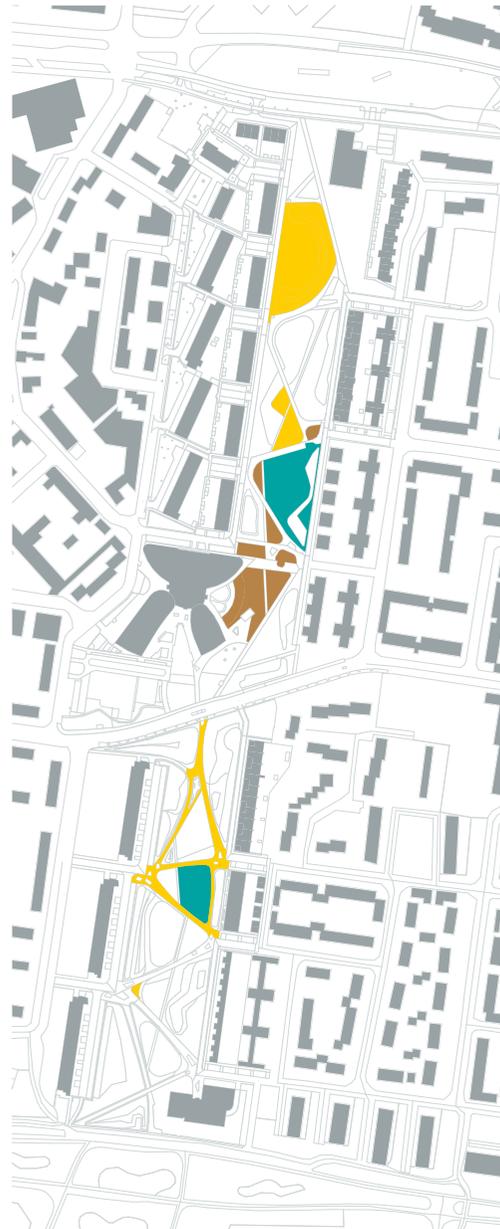
- Flat surface
- Skateboard
- Obstacles
- Lighting
- Tribune
- Indoors/outdoors

19P - 32P
min: 650m²
max: 1.100m²



- Flat surface
- Two baskets
- Ball
- Borders
- Tribune
- Field 14x27m
- Indoors/outdoors

44P - 74P
min: 500m²
max: 900m²



32P - 54P
min: 250m²
max: 400m²

- Bar -
- 2 Toilets -
- Kitchen -
- Cool store -
- Freezer room -
- Terrace -
- Indoors -



21P - 35P
min: 100m²
max: 160m²

- 2 Toilets -
- Bookcase -
- Storage space -
- Terrace -
- Indoors -



10P - 16P
min: 100m²
max: 150m²

- Bar -
- 2 Toilets -
- Kitchen -
- Cool store -
- Freezer room -
- Terrace -
- Indoors -



22P - 36P
min: 600m²
max: 1.000m²

- Obstacles -
- Lighting -
- Tribune -
- Outdoors -



38P - 63P
min: 200m²
max: 300m²

- Stage -
- Music -
- Acoustics -
- Lighting -
- Tribune -
- Indoors -



SPACE REQUIREMENTS

Communal organization

Different organizations can own the activities. These organizations are responsible for the opening and closing of the buildings and the care of the building. Finally, one company is made responsible for the organization and supervision of the activities.



Football

Football consists of a football field that meets the dimensions of a Johan Cruyff Court. There is also space to watch the game, meet people and organize activities in groups.
2.000 - 2.500m²



Boxing Dance Yoga

The activities can be combined in one building. One space can meet the requirements of the three sports. There must also be the possibility to increase the space for larger groups.
250 - 350m²



Horeca Education

It must be possible to order healthy food preparation in the catering industry. People can take a workshop here to learn how to prepare healthy meals and see the harvesting of the ingredients.
300 - 600m²



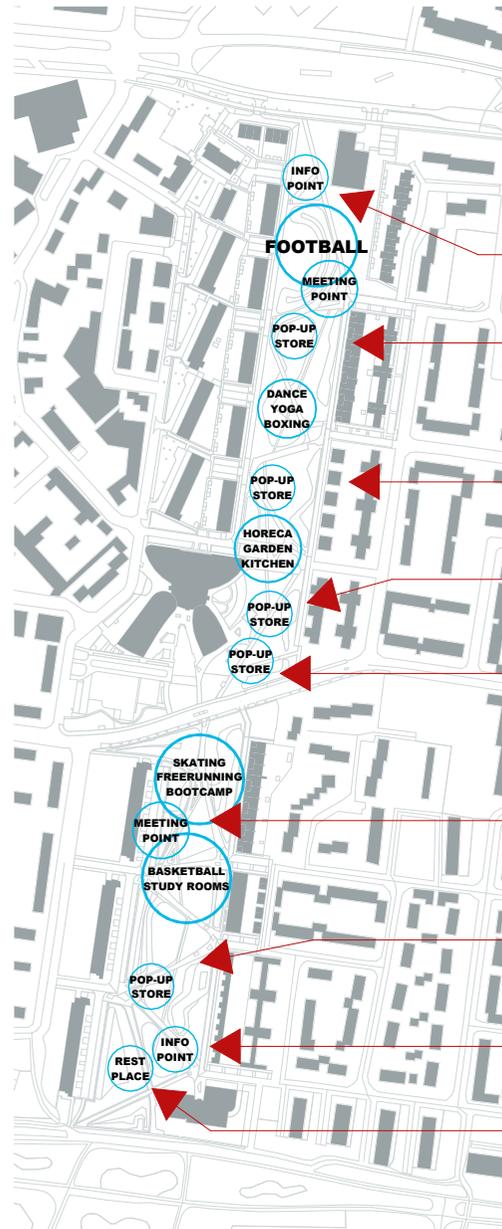
Skating Freerunning

The three sports can be combined outdoors by integrating temporary obstacles into the existing situation.
650 - 1.100m²



Basketball Education

An indoor basketball court can be used all year round, combining with other sports. The study rooms are connected to the sports field to encourage young people to join the game.
600 - 1.000m²



Independent entrepreneurs

Small-scale entrepreneurs are allowed to kick-start their businesses. Temporary contracts and design of the spaces offer the opportunity to put the companies at this location in the spotlights. All companies will have a relationship with a healthy lifestyle.



- charging point (charge your mobile devices)
- map of the location
- simple healthy drinks



- sport articles
- test your sport articles
- custom made articles



- flower shop
- bookstore
- simple healthy drinks



- barber shop
- care products
- simple healthy drinks



- charge your phone (charge your mobile devices)
- map of the location
- simple healthy drinks



- cinema
- relaxing chairs
- seating areas suitable for groups



- jus des boules
- dart tournaments
- billiard tables



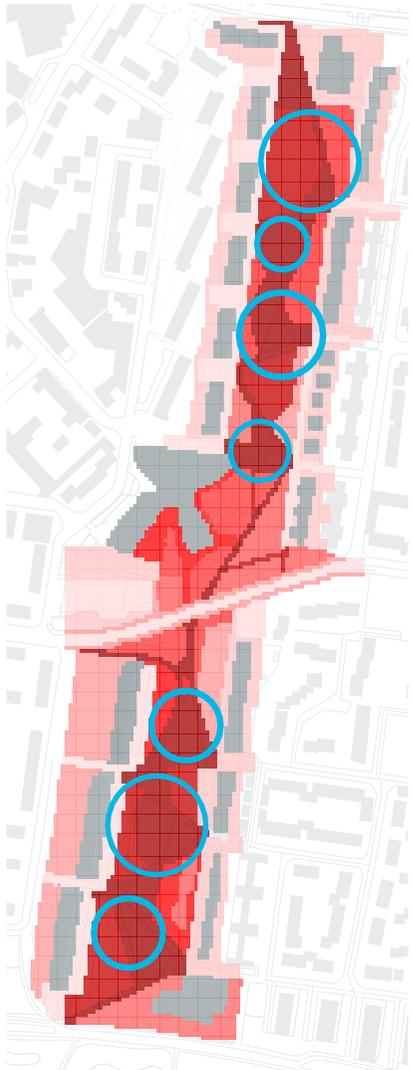
- charge your phone (charge your mobile devices)
- information of the activities
- information of the neighbourhood



- time to relax
- recharge yourself
- body treatments

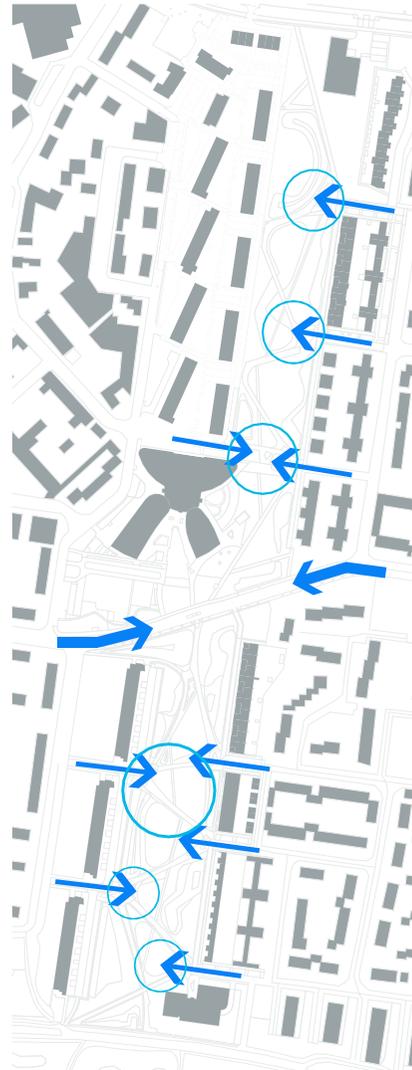
URBAN REQUIREMENTS

ACTIVITY



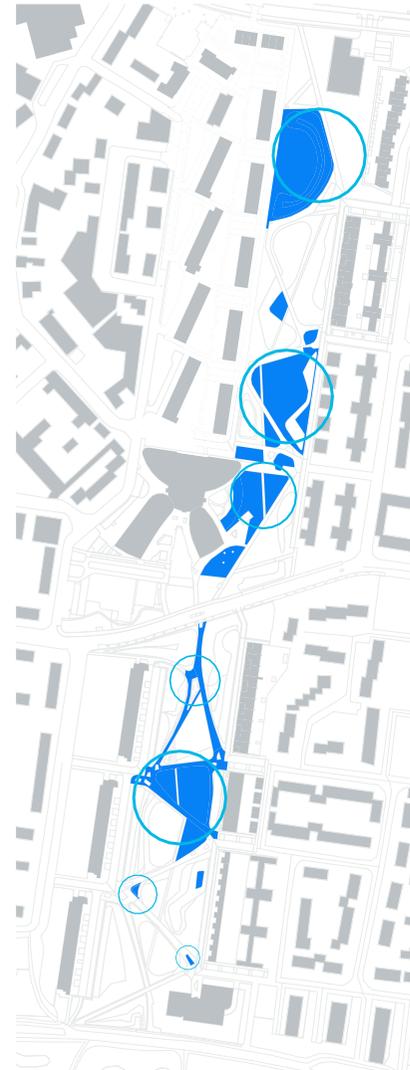
The activity map indicates where the most opportunities are to increase the physical activity of the users.

INFRASTRUCTURE



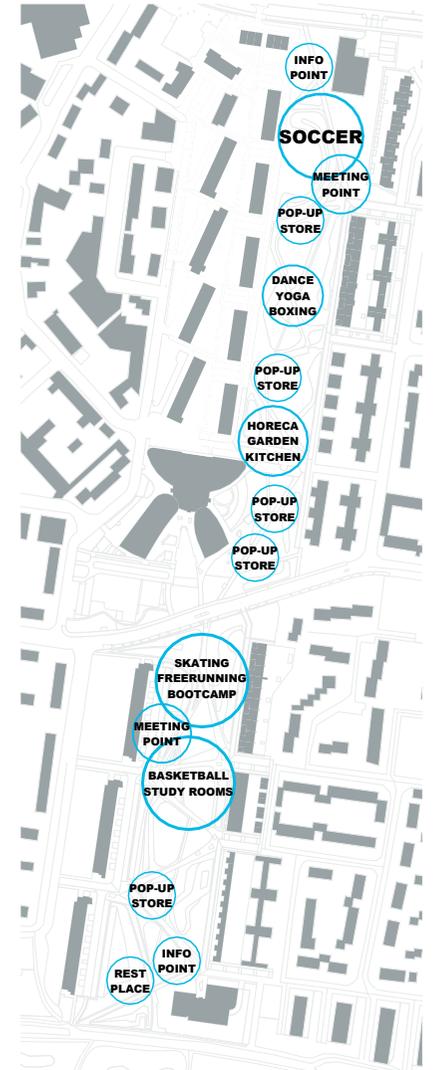
The infrastructure map indicates the connection of the district to the park. The park offers the best accessibility with the environment and visual contacts with the neighborhood in these places.

POTENTIAL SPACE



The potential spaces per activity have been mapped based on the results of the research.

DENSITY

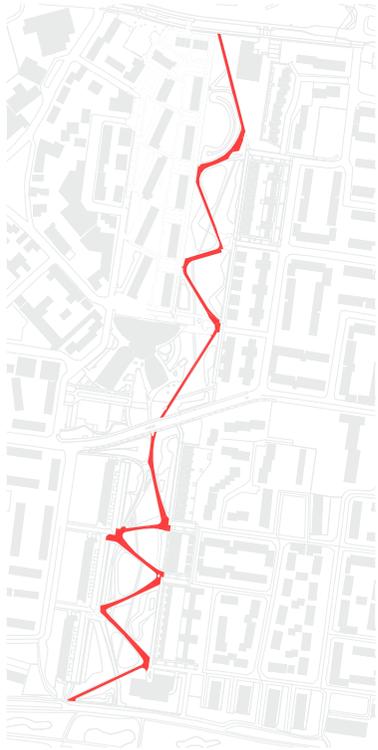


The density map shows wherein the current location is an opportunity to integrate the activity based on the number of users expected to be minimal and maximal for a lively atmosphere concerning the space requirements.

STRATEGY

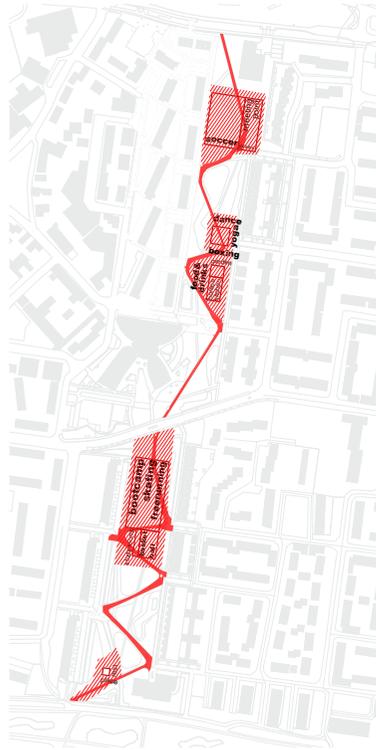
Conclusion

The Missing Link consists of 13 interventions spread over the entire park. There arise spaces between the activities through the division of the interventions. The interventions' design must be designed so that the spaces in between are experienced as social spaces. This zone offers meeting places where everyone can organize the space themselves. These zones create one social cohesion, and thus the park is experienced as one building. A coherent concept of the interventions responds to this social cohesion, and it is easy to extend this design outside the neighborhood, towards the city center and the rural area.



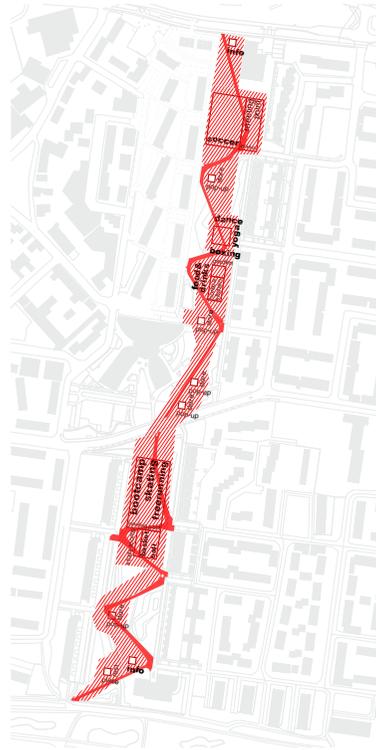
STAGE 0.

The design must treat the current park with respect. The cycling and walking paths are in good condition, making these infrastructure lines a starting point in the design.



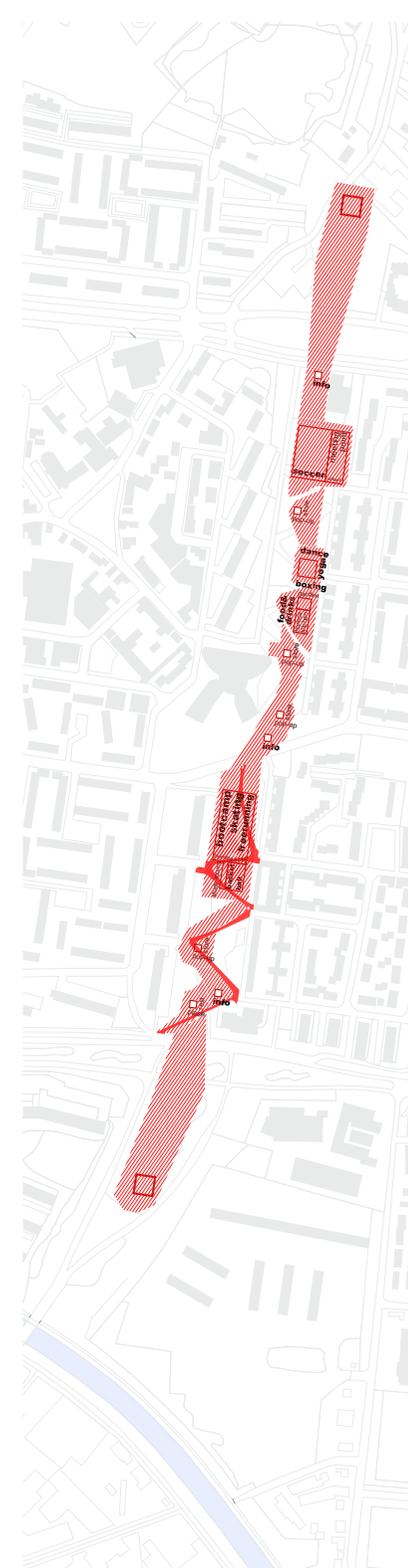
STAGE 1.

Physical activities are essential to the purpose of the project. Some of these interventions need a physical building. Together they make a significant contribution to the social spaces.



STAGE 2.

With the more minor interventions, it is possible to respond to the spaces between the more extensive physical interventions. As a result, these interventions are in the middle of the social spaces where these entrepreneurs want to be.



STAGE 3.

With a design manual, new interventions can be implemented outside the neighborhood to restore connections with the 'outside world.'

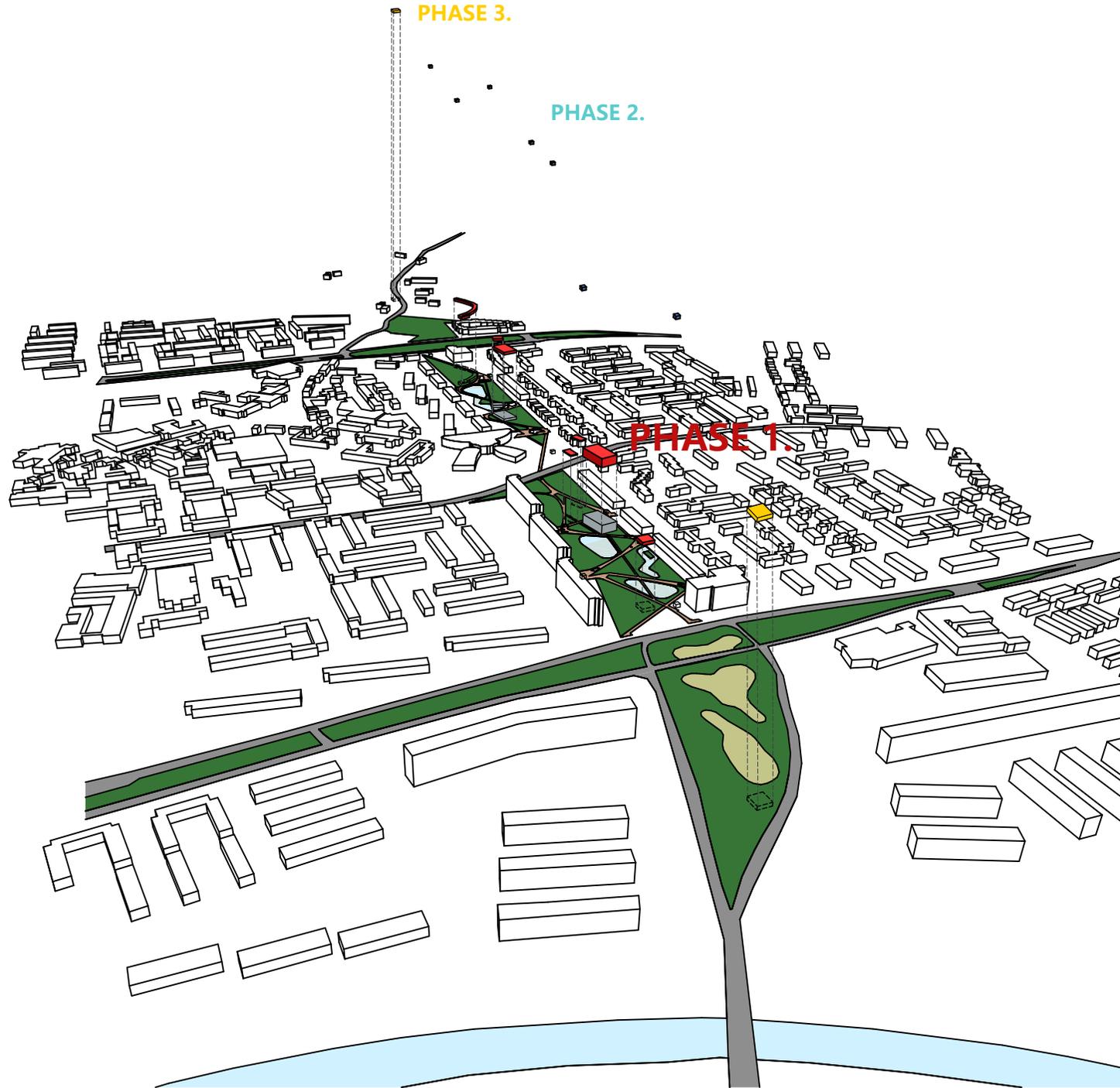
Phasing

The design consists of several phases, and each phase consists of coherent interventions. The interventions are placed on top of the existing park layer, raised pavilions.

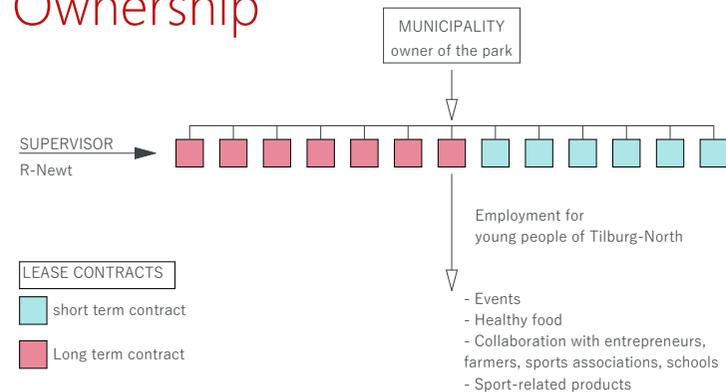
Phase 1. ■
 The first phase consists of interventions that are responsible for the behavioral change of young people. These interventions consist of closed, open, and semi-open spaces. The interventions are helpful to use as a design tool to form a design manual of elements that the interventions must meet. This manual makes it possible to outsource some interventions to other design agencies. Despite the elaboration of various offices, a coherent design will arise.

Phase 2. ■
 These small interventions form spaces for the kick-starting entrepreneurs. These spaces can be used temporarily because of their independence. The temporality is ideally in line with the wishes of the entrepreneurs. Therefore the interventions are placed in the middle of the social spaces, between the physical interventions. The entrepreneurs depend on the wandering users that are present in this zone.

Phase 3.
 With a wholly invented area in the heart of the Tilburg-North district, an attractive route between north and south will appear. This vertical route offers opportunities to expand to the north (rural area) and south (city center).



Ownership



Design concept

Before starting the design, I made a diagram that the design must meet to achieve behavioral change for the young people in the neighborhood. The design strategies that the research has concluded are decisive in this.



GREEN ROOF

The green roof results in a well insulated space. In addition, rainwater is absorbed into the roof so that less water needs to be drained into the soil.

SOLAR PANELS

The roof surface is suitable for integrating solar panels. The open area allows maximum sunlight to be collected.

STRIKING CORE

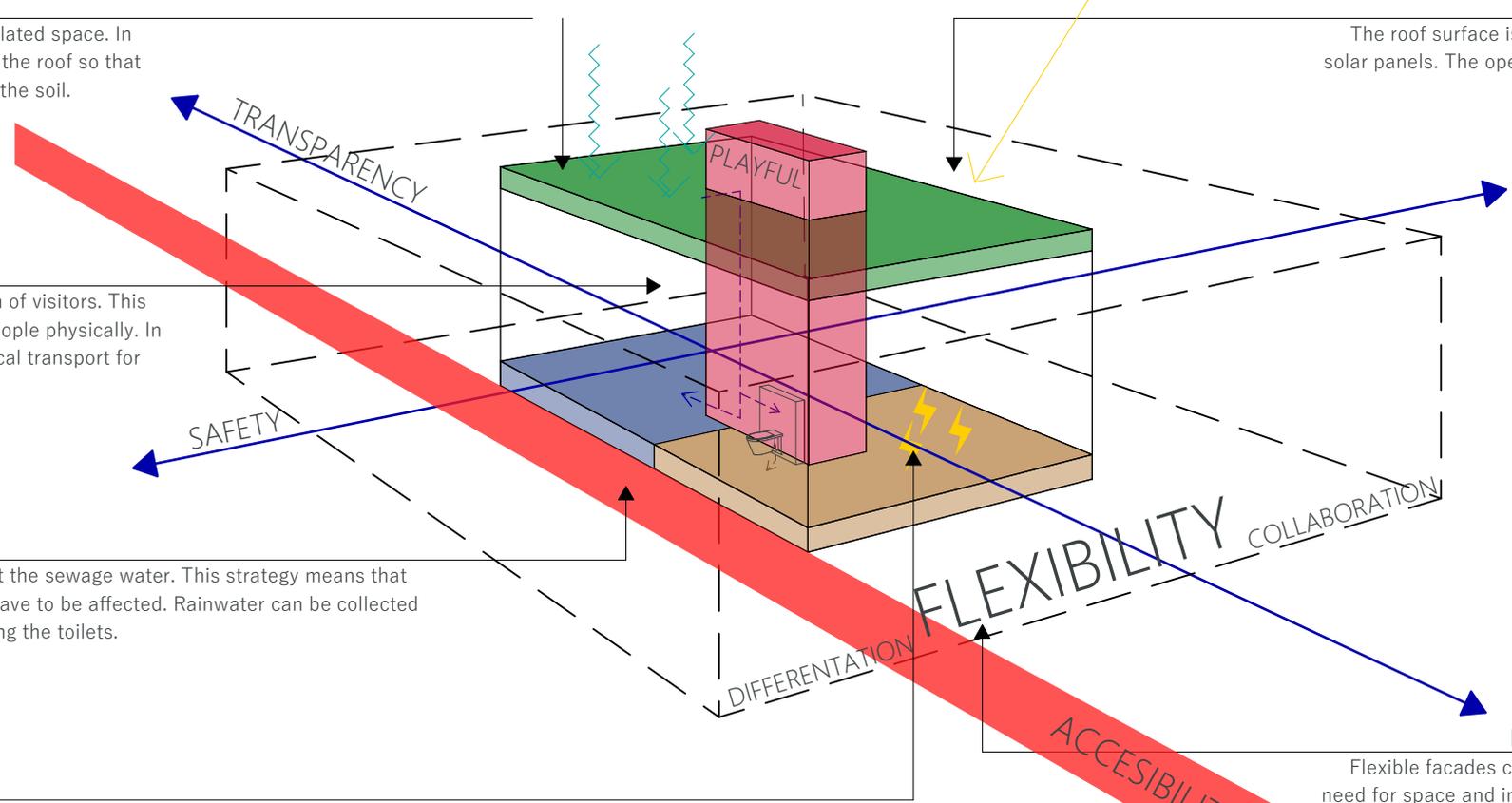
A striking core attracts the attention of visitors. This attention can be used to activate people physically. In addition, the core functions as vertical transport for installations.

RAISED GROUND FLOOR

The function of the floor is to collect the sewage water. This strategy means that the existing environment does not have to be affected. Rainwater can be collected in the floor and then used for flushing the toilets.

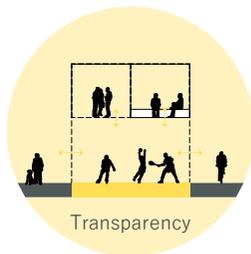
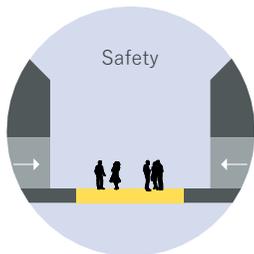
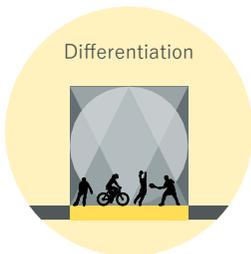
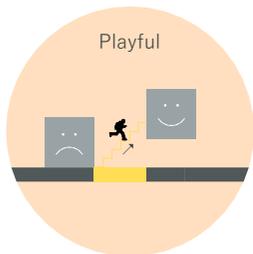
RAISED GROUND FLOOR

The floor can convert the movement of the users into energy. This energy can be used for both the facilities in the building and the park.



FLEXIBLE FACADES

Flexible facades can respond to the user's need for space and increase the surface area of the space.



Coherent design

Despite the many interventions in the project, the project strives for one coherent design. The strength of the Parc de la Villette project (Paris, 1982-1998) is architecture and urban organization strategy. The project involved the design and construction of over 25 buildings, promenades, covered walkways, bridges, and landscaped gardens. La Villette could be conceived of as one of the most significant buildings ever constructed, a discontinuous building but a single structure, nevertheless overlapping the site's existing features and articulating new activities.

Inspired by the urban/architecture/landscape strategy that results in one cohesive building, I applied the design principles to several interventions in the park.

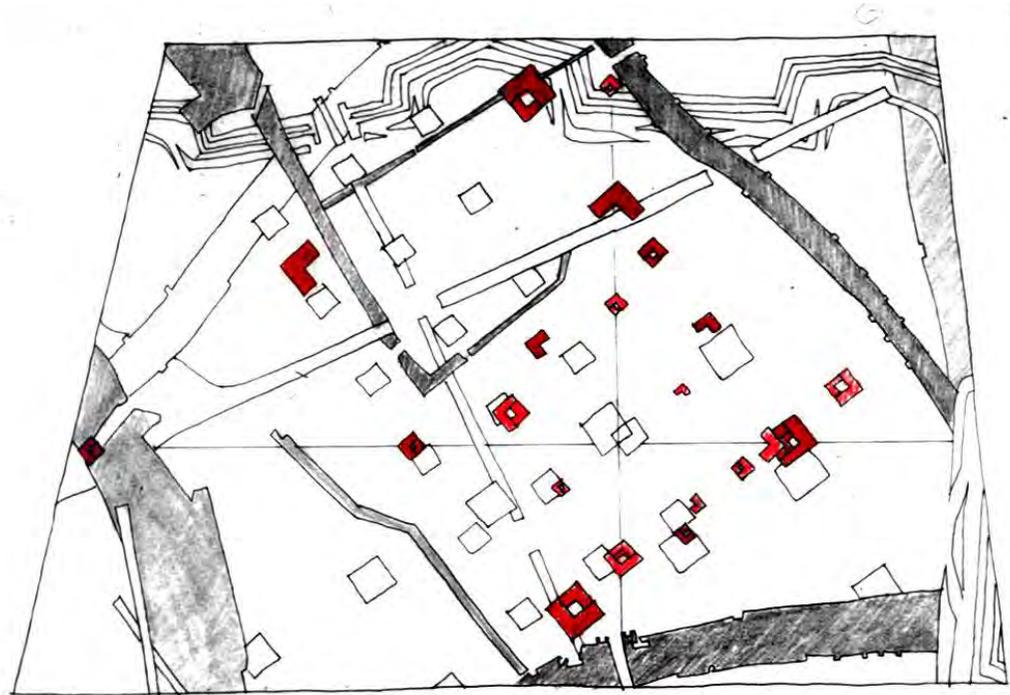
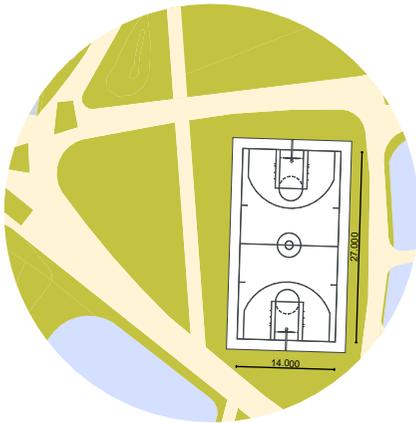


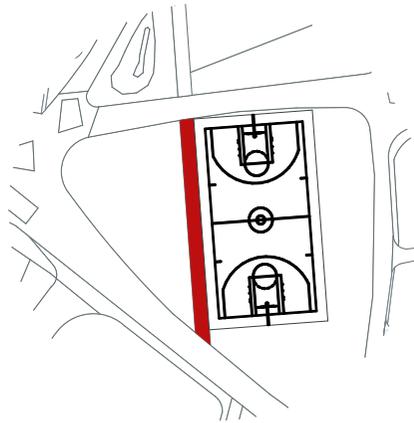
Figure 18
Conceptual sketch of Parc de la Villette, Paris 1987

Design evolution basketball / study

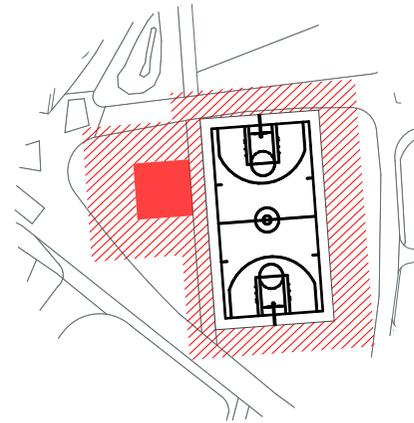
The building contains two different functions. Nevertheless, the spaces form one visual environment. The basketball court has regulatory dimensions. The facades of the court offer the possibility to perform other sports at the same time. The study space offers the possibility to focus on the individual goal or as a group. The pleasant space can be used in both summer and winter.



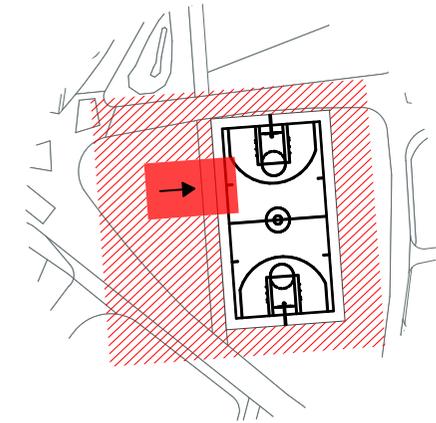
The required space is placed in the existing situation.



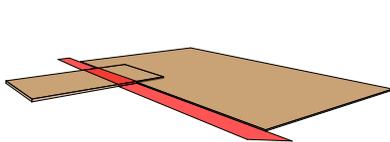
The intervention is positioned against the existing routing in the park to strengthen the connection between function and routing.



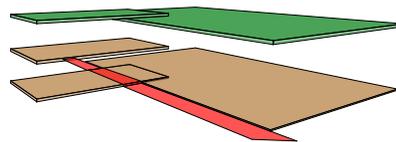
The space on the other side of the path increases the social environment within the area.



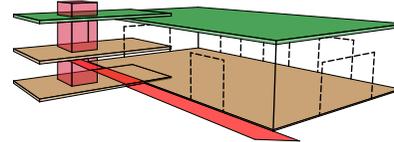
By interweaving the functions, the connection is strengthened and the social area enlarged.



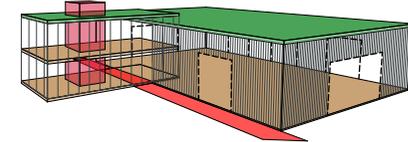
Height differences as a floor base form a smooth transition between the functions and the transition between the surroundings and the interior space concerning the existing path.



The floors on every level are intertwined. The first floor offers space for studying and consulting.



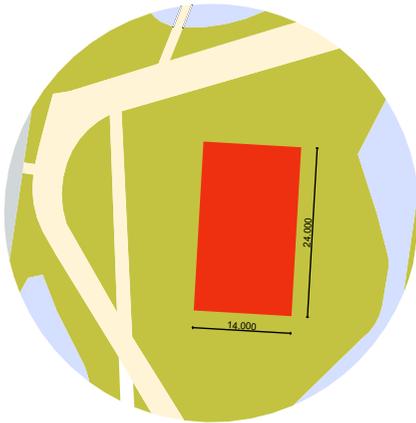
The basketball court must function both closed and open, functioning at all times.



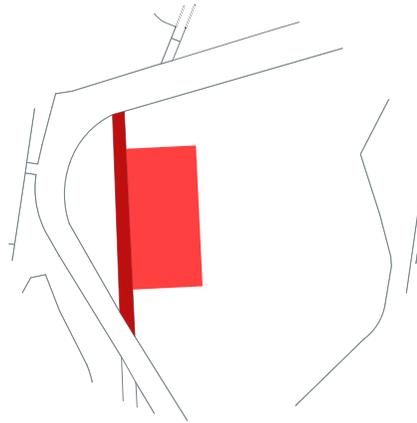
The closed facade of the basketball court should not provoke vandalism. The transparent facade of the education section must be regulated from within. This system allows a distinction between different places in the space, both on the ground floor and the first floor.

Design evolution horeca / workshops

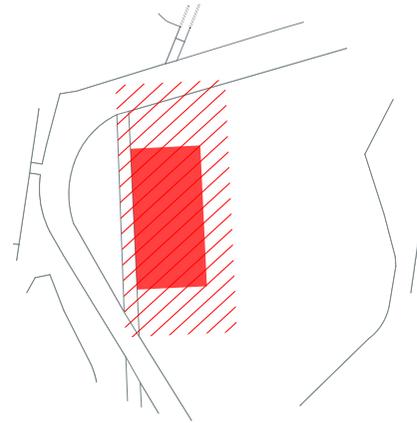
The building consists of a space where fresh and healthy drinks and snacks can be ordered. These can also be consumed here on the terrace when the weather allows it. Otherwise, there is enough space to sit inside. There is also space where workshops can be given, so people learn to prepare healthy meals with fresh products harvested on the green terraces.



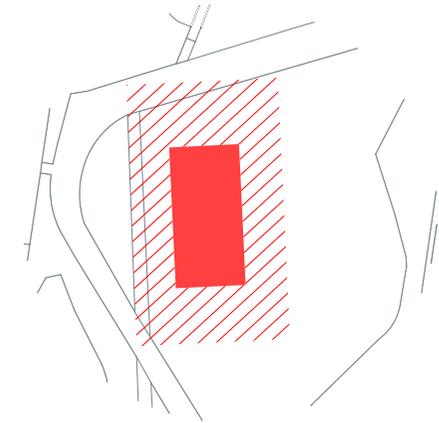
The required space is placed in the existing situation.



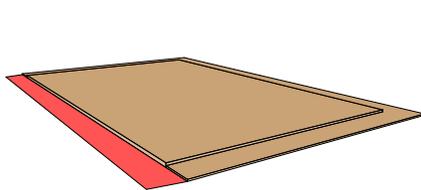
The intervention is positioned against the existing routing in the park to strengthen the connection between function and routing.



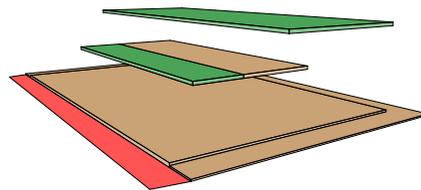
Because the space is positioned in the middle of the park structure, a social space is created between function and environment.



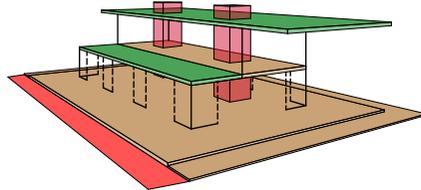
By separating the space from the existing path, the social space is increased, which offers extra outdoor space for the horeca.



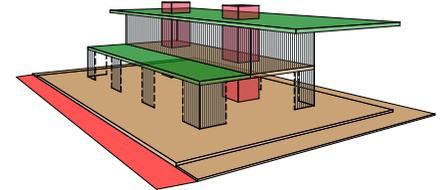
Height differences as a floor base form a smooth transition between the surroundings and the interior space.



The terraces are staggered on top of each other, so they flow smoothly into the environment.



Two cores in the building provide a constructive basis so that the facades can be made transparent. The indoor and outdoor space will be experienced as one space.



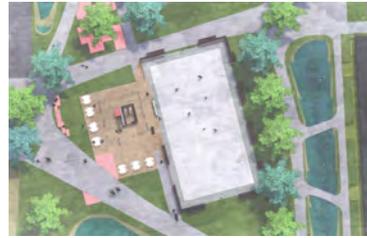
The ground floor is very transparent compared to the first floor. This floor offers space for workshops. During the workshops, concentration is required, so that the transparency of the facade itself must be determined.

Conclusion

The elaboration of several interventions makes the design principles clear and applied in the rest of the buildings. Despite the different activities and functions, a coherent design is created.

However, the design requires a more subtle elaboration of the buildings. The architectural elaboration of the buildings is too exuberant and varyingly present in the plan, at the expense of the robust design principles.

Is it possible to make more architecture with less?



Basketball / Study



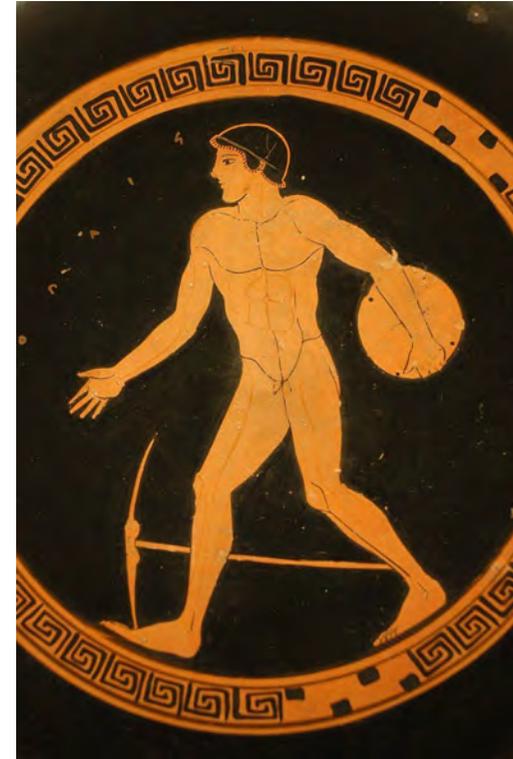
Horeca / Workshops



Dance / Boxing / Yoga



DEFINITIVE DESIGN



Reflection

The interventions have different functions but must speak the same architecture. The interventions must fit into the park structure and the urban structure to create a cohesive design.

Inspired by the architecture of Peter Eisenman, I investigated how one coherent whole can be formed with a grid system. Eisenman's many projects have a distinctive character but fit in well with the environment.

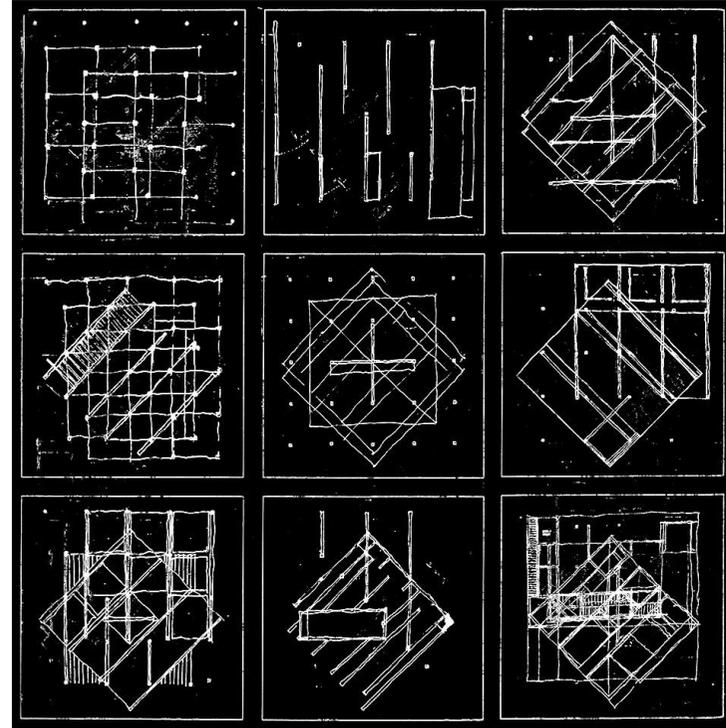


Figure 19
Conceptual sketch of House III, Lakeville 1971

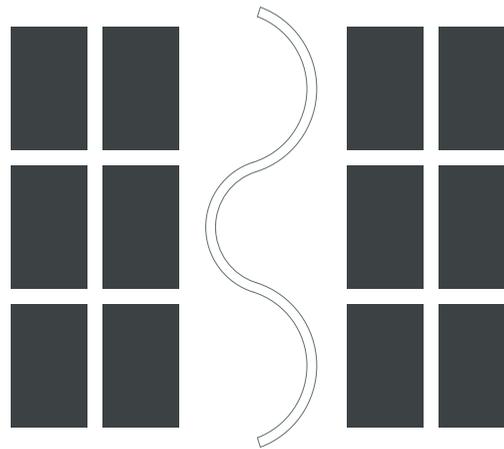
Architecture grid

The urban development structure of the location has a precise grid. This grid has not changed over the years. What did change is the function of the new park. Around 1960, Tilburg-North consisted of a small village. The park's location was the connecting route for cars traveling between the rural area and Tilburg. This connecting route later disappeared and was replaced by a relatively large green facility that splits the district in two.

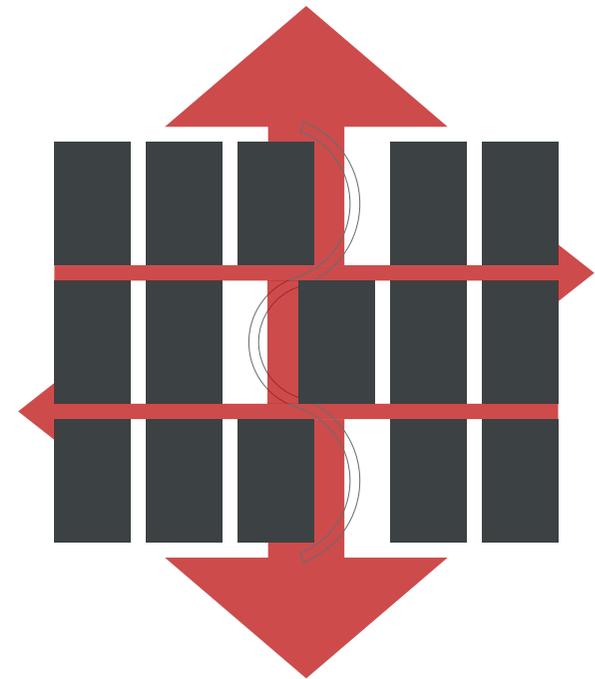
Incorporating the urban grid into the project plan creates a relationship between design and surrounding buildings. This relationship will strengthen the transition from the neighborhood to the project plan, and the connection between the split neighborhoods will be restored.



Tilburg-North is connected to the city and rural area



Tilburg-North is divided by the park



The project will restore connections both in the neighborhood and with the city/countryside.

Figure 20
Diagram of the effect of the urban grid on the project plan

Design plan

The Missing Link is a concept in which I determine the rules of the game. Several architectural offices can be part of this plan. The zones of the 13 interventions are determined in the park. As a result, all interventions spread around the park are oriented in the same grid. Despite the large distances that arise between the interventions, they create one coherent design. Each intervention is designed in a 1.8 meter * 1.8-meter grid with its own zero-point. This zero-point represents the entrance to the intervention.



Program

HOW

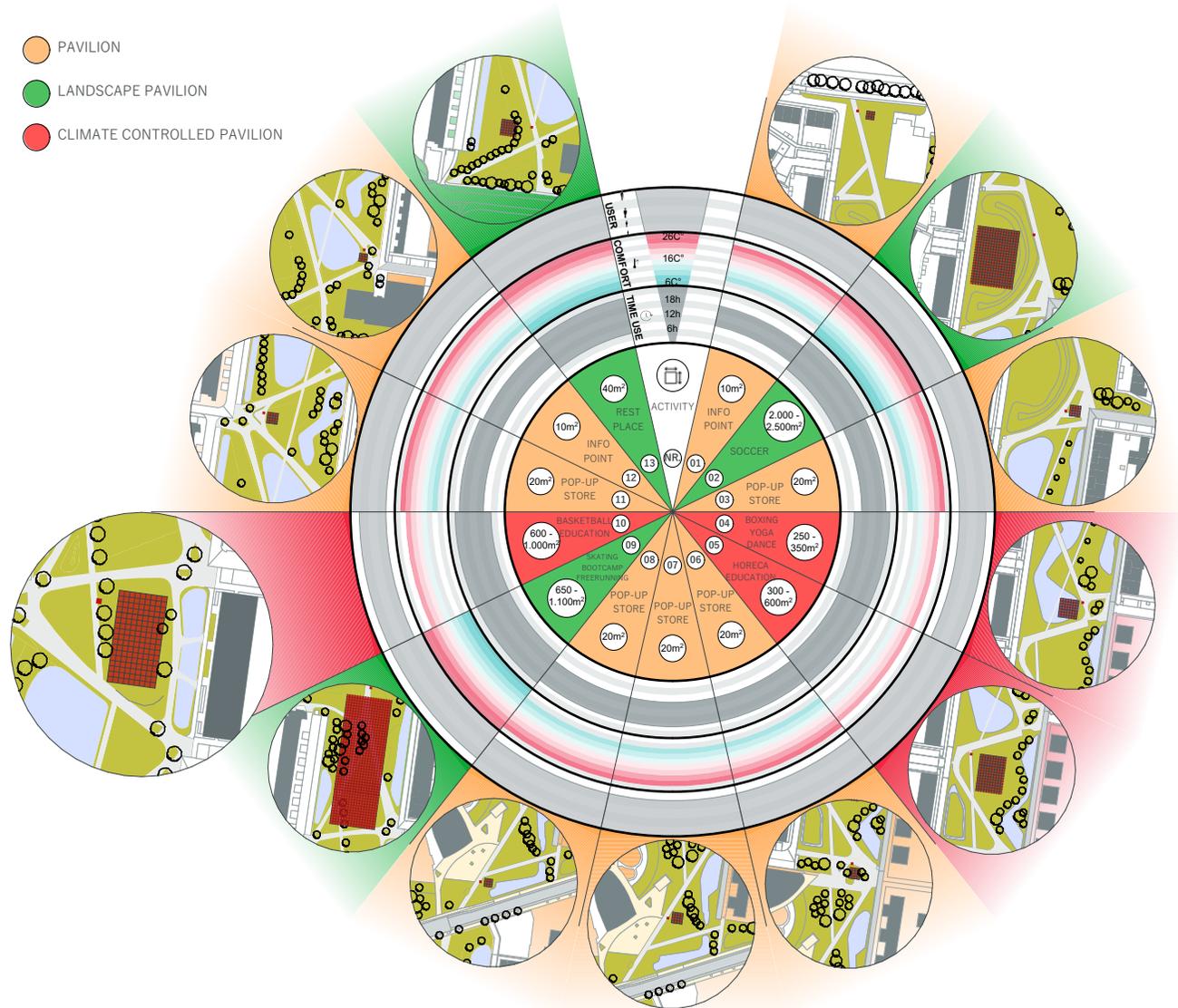
Based on a few design principles that will result in behavioral change in the users, one coherent design will result from the 13 interventions. These will not all have the same look or materials but the same strategies. The design will result in a diversity of physically connected pavilions utilizing the current park structures and have the same architectural language.

WHY

The research concludes that 13 interventions positioned in the park match the wishes of the young people in the neighborhood. These positions are based on the potential space in the park that matches the activity of the intervention.

WHAT

The interventions each have their schedule of requirements. The dimensions of the park require a specific occupancy rate to create an attractive space. This occupancy rate is divided into the interventions responsible for a space requirement (middle circle in the diagram). Every intervention has a specific need for use, climate, and target group (outside circle in the diagram). Based on this need, the interventions can be divided into three groups. A group longing for a physical building (red color). A group longing for attributes in the landscape (green color). Finally, a group that longs for a pavilion for shelter (orange).

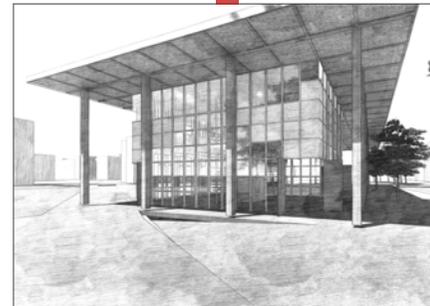
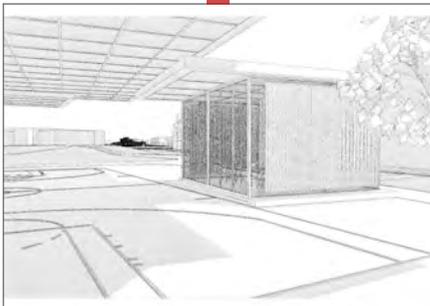


Evolution

The process towards the final design has many variants. These variants helped to test and improve the design. The location and orientation of the building are determined. The search for a thin architectural elaboration with a self-evident appearance was the goal.

In order to draw up the architectural criteria for all interventions, I worked out one intervention into a definitive plan. The other interventions can be designed based on these characteristics.

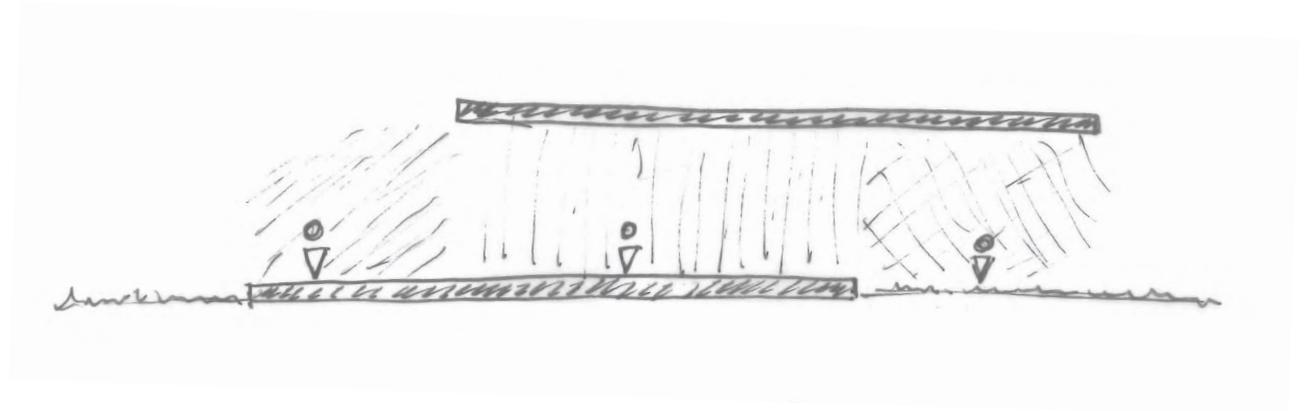
I have chosen to work out the most challenging intervention. This intervention consists of the activities such as basketball and study areas.





Less is more

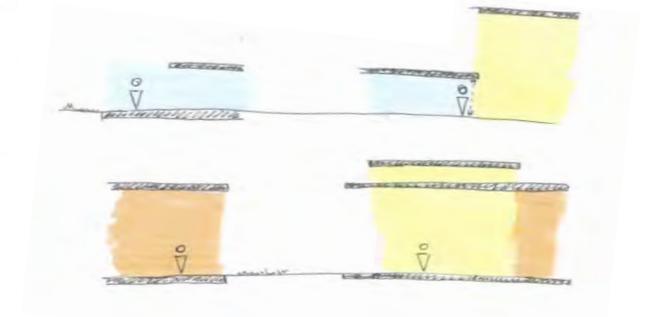
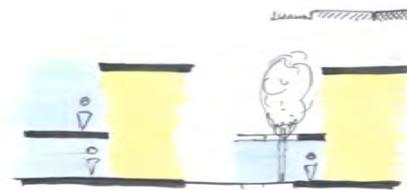
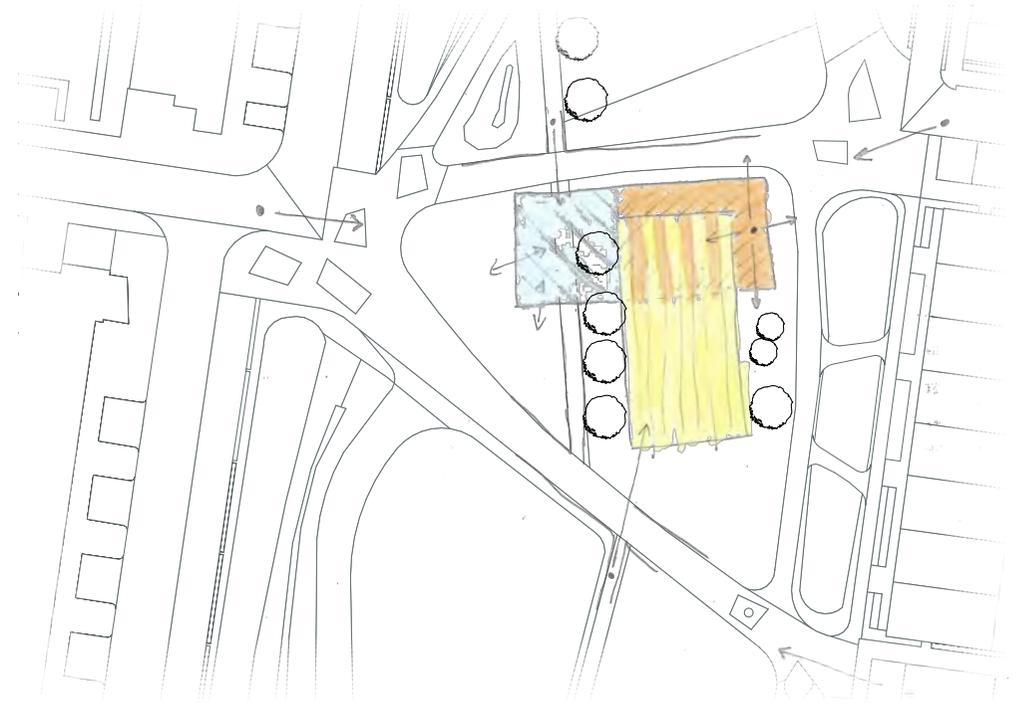
Despite the urge to design an exuberant building, this project requires a subtle interpretation of the plan area. As a result, the design will better match the park, and it will be possible to respond better to the user's needs. The spaces will provide a subtle hint to the function using minimal attributes. With the use of floor and roof surfaces, different zones can be created.

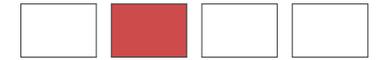




Space connections

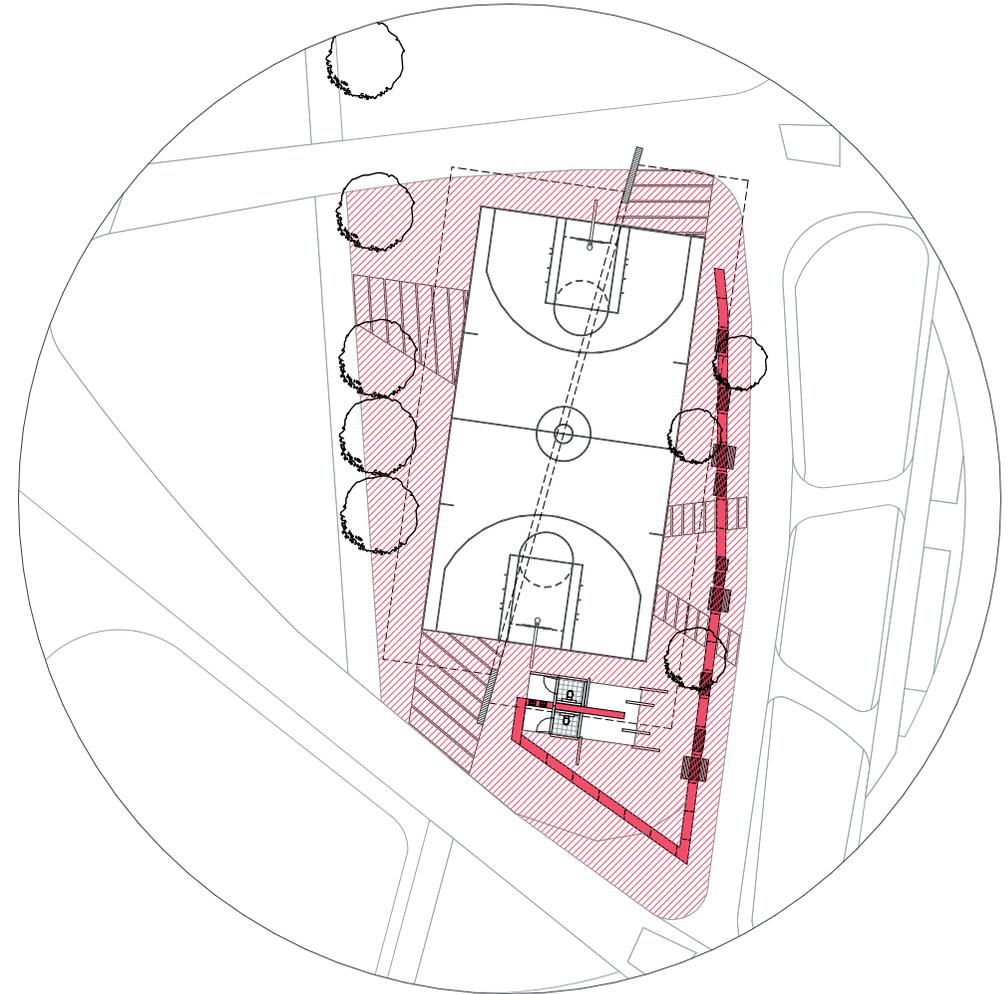
Awareness of the relationships between different functions in the building is essential. Every relationship plays a different role and requires a different effect. A distinction can be made, despite the minimal attributes.





Social interaction

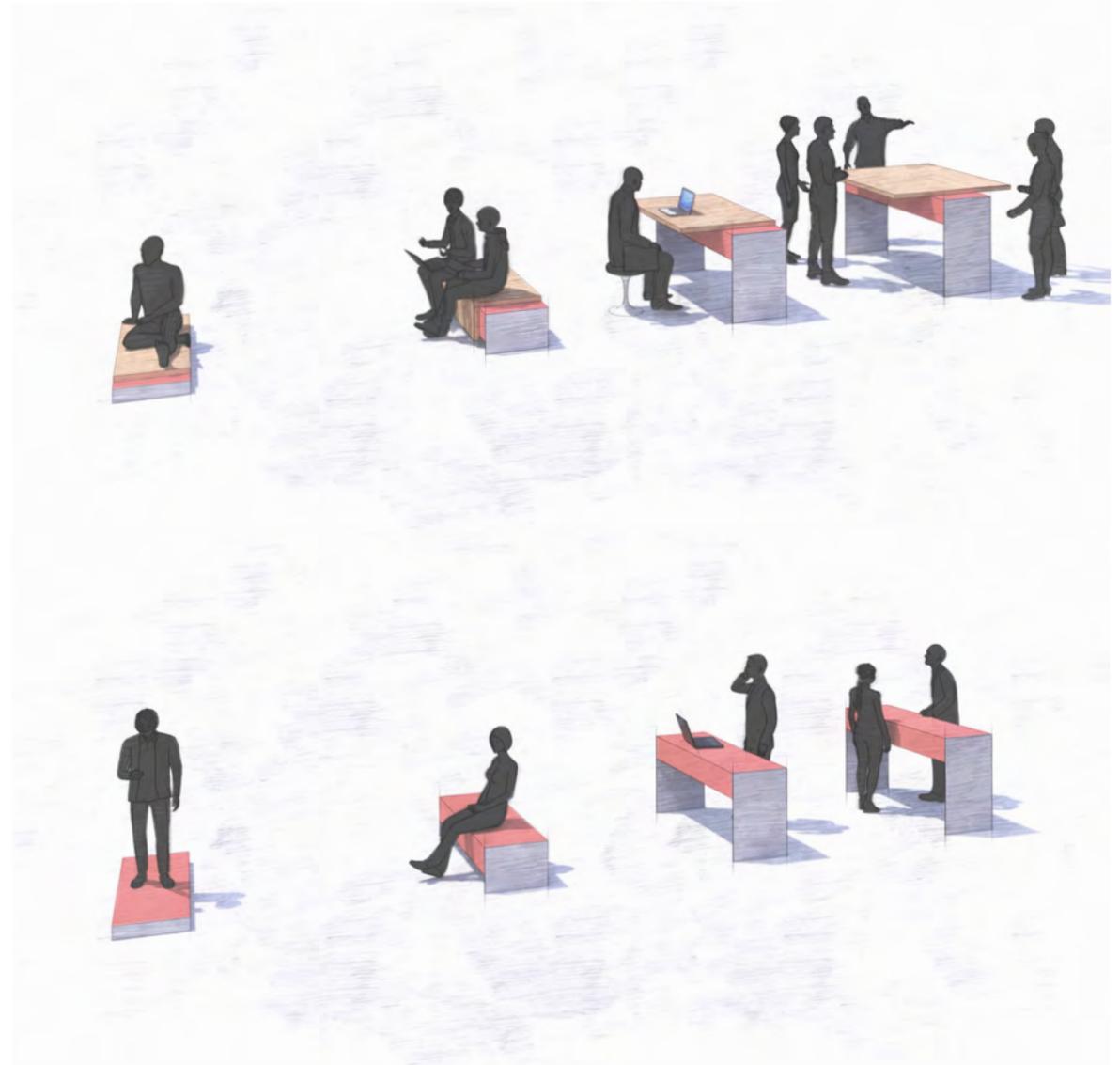
The design must be open to the wishes of the user. Sufficient space between the various functions and structures results in room for maneuver for these functions. This zone will be shaped by the users of the space themselves and will result in a social environment. This interaction between the users is essential to keep the user open to behavioral change.





The space must suit every users' needs

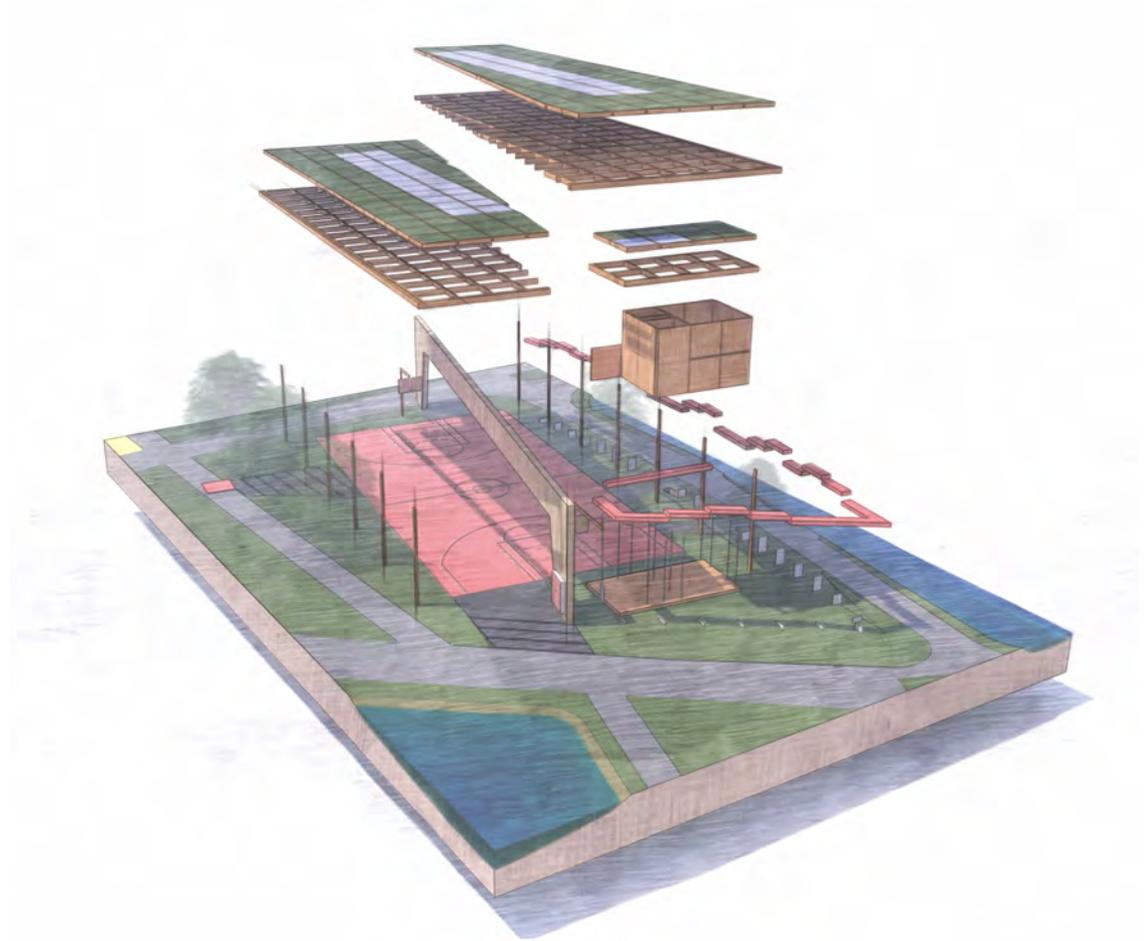
The space must be adaptable to the needs of the user. In this way, the space is flexible and can satisfy every individual. In addition, the space is designed to carry out various activities during the year. Activities that can be held are for example: events, workshops, lectures and sports tournaments.





Modular design

The building is constructed from modular elements to enhance the flexibility of the design. These modules ensure longer runs in the factories but guarantee good material quality and short execution time on site. As a result, the environment is disturbed as little as possible. In addition, the buildings can be adapted to use in the future.



Gymnasia

About 3000 years ago, the Greeks built the so-called Gymnasium. These were old sports centers where the participants of the Olympic games could train. So you can see this as the very first gyms.

In the Ancient Greek gymnasia, the buildings in Athens where the sport was practiced, there were porches for use in bad weather and covered porches where philosophers and literary people gave public lectures and debated disputes. Next to the sports rooms, the Gymnasium also had libraries.

The gymnasia buildings subtly separate the various functions in the public space with their columnar structure. I use this powerful strategy in the design.

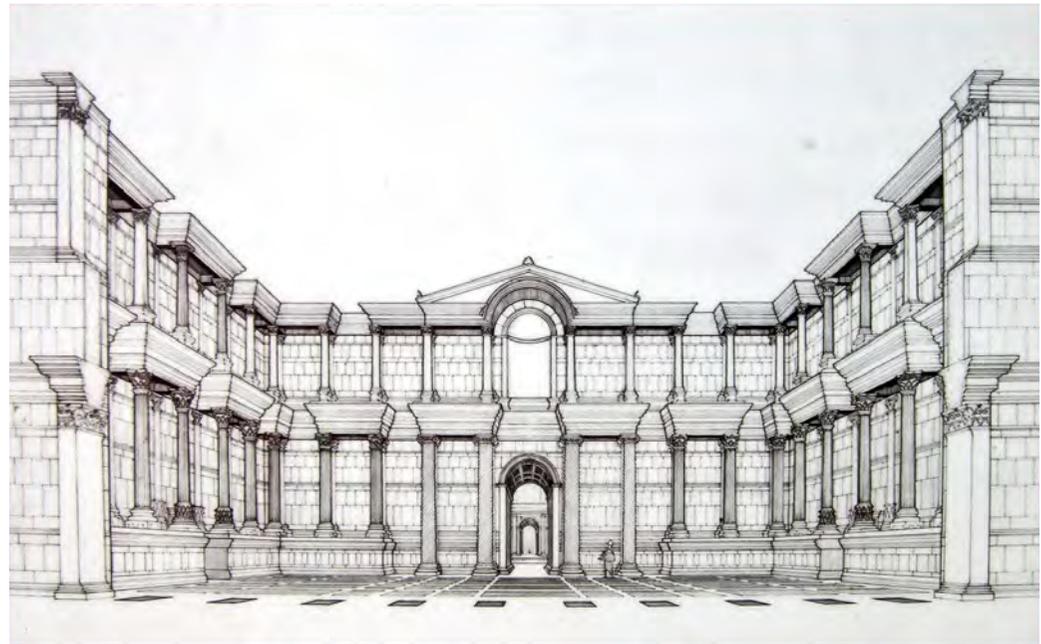
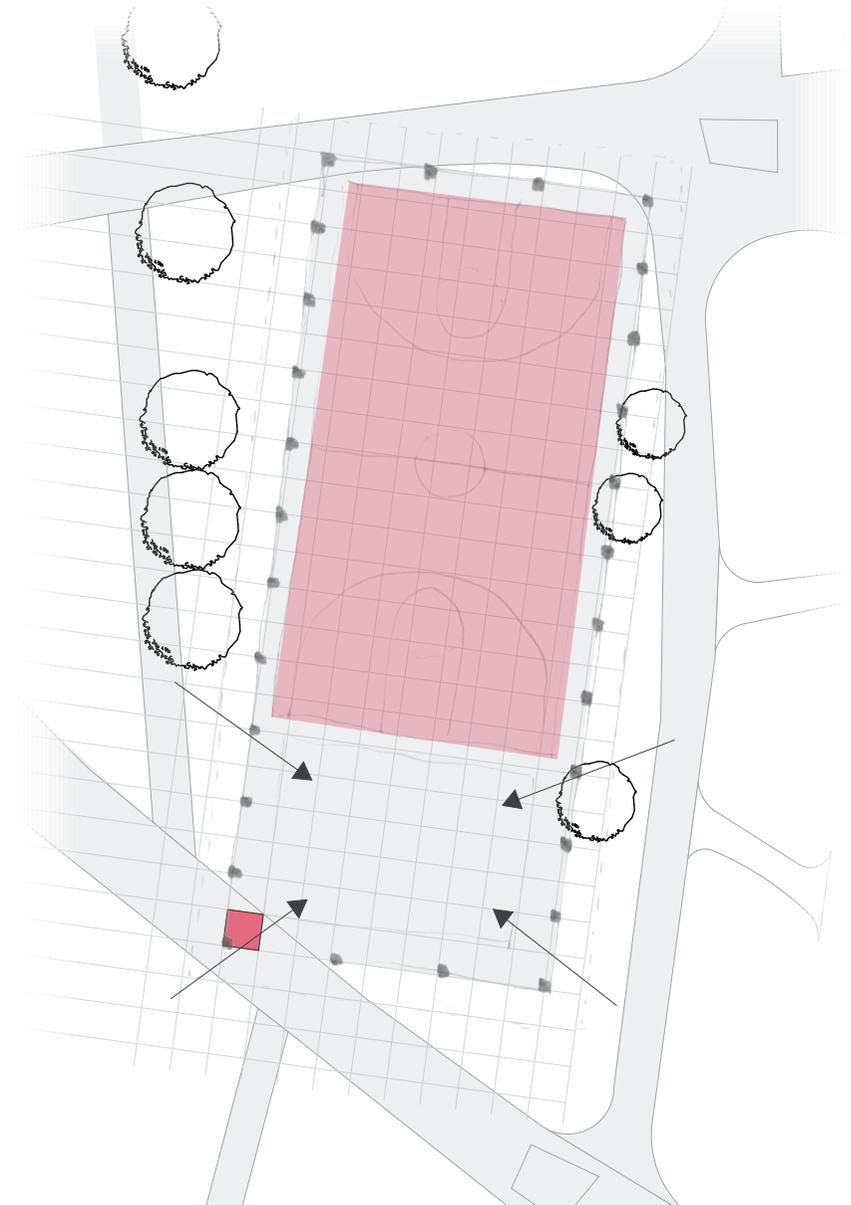
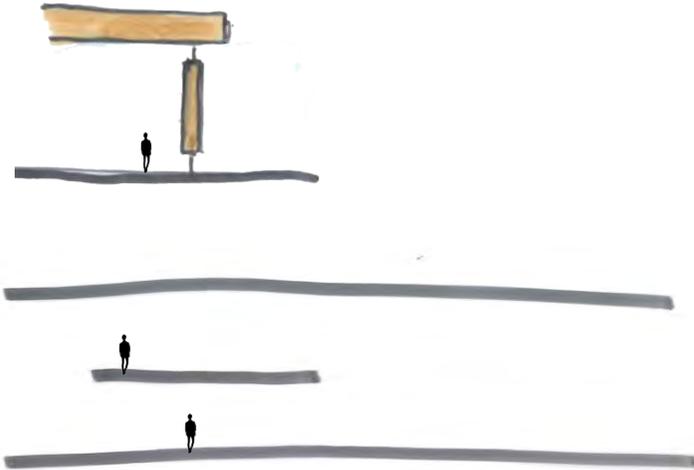


Figure 21
Bath-Gymnasium complex at Sardis

Open structure

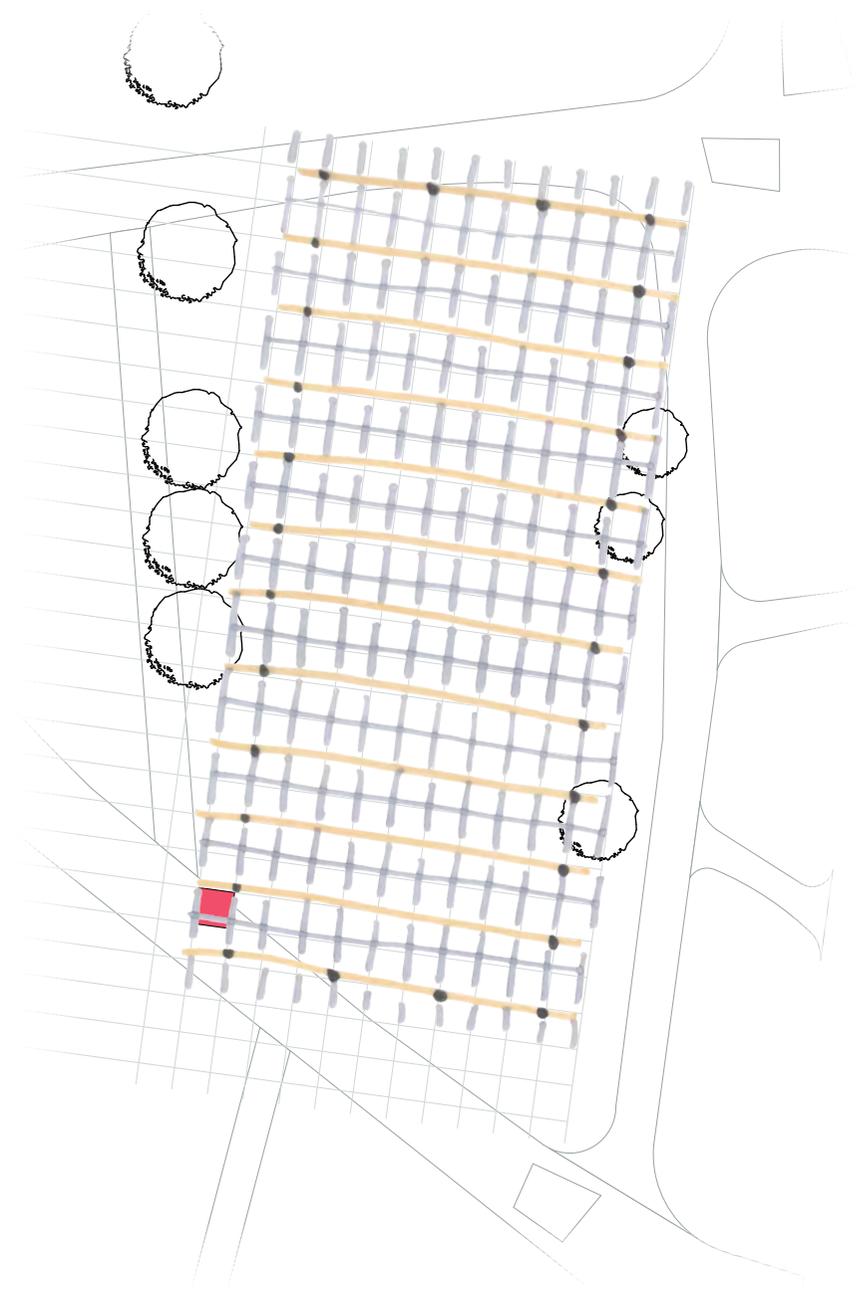
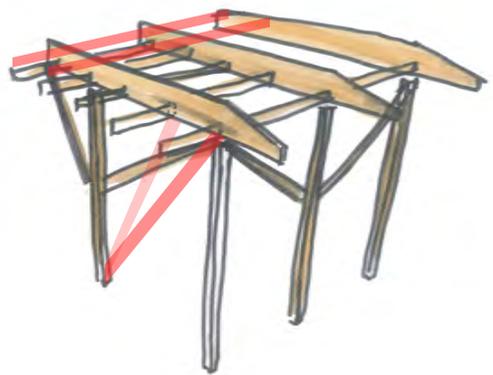
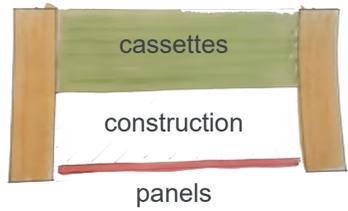
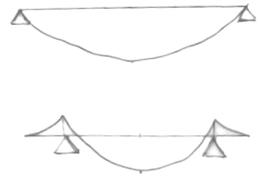
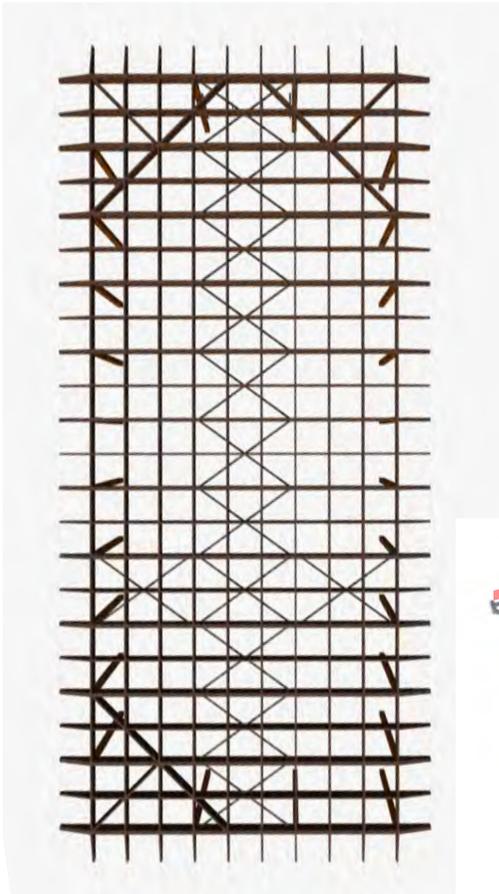
The open structure around the two functions creates a closed atmosphere on the inside. Despite the outdoor space, this structure creates a closed environment. The transparent structure guarantees the safety of use without disturbing the structures of the park.

Transparency also occurs in the connections between the floor and roof surface.



Structure

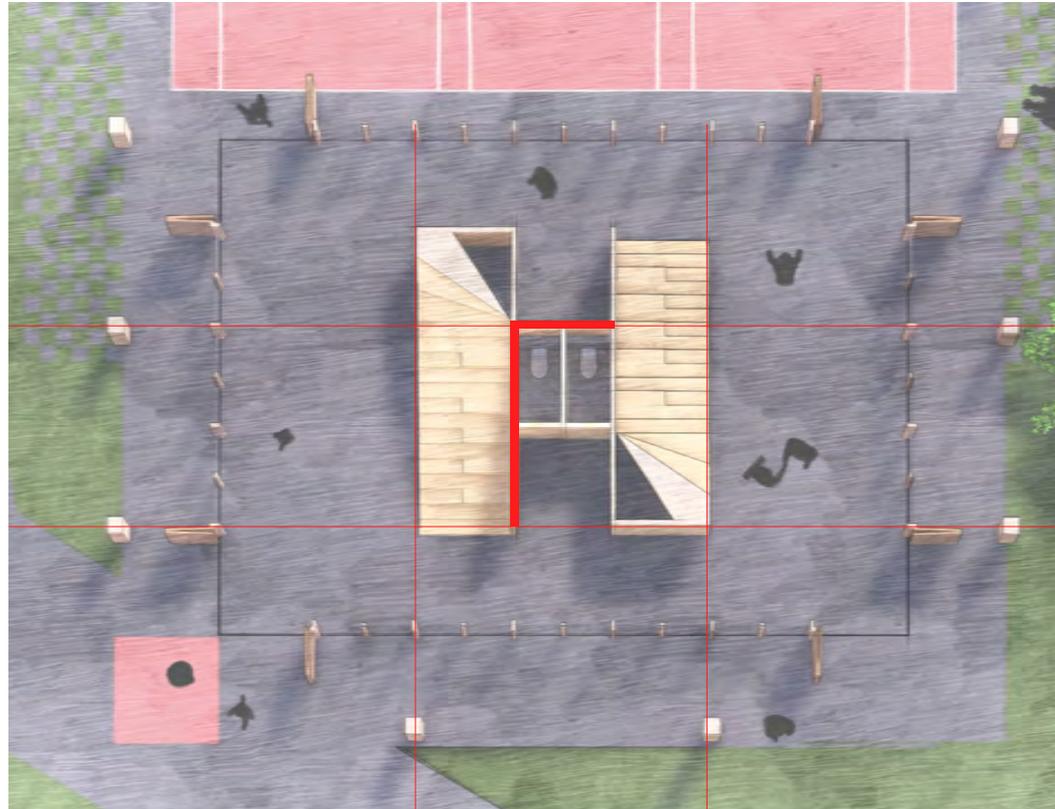
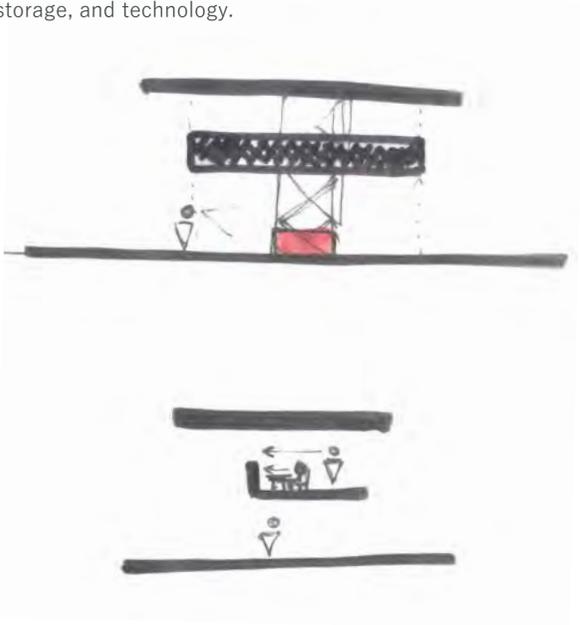
In collaboration with a constructor, I designed a modular, stable, and realizable roof surface. The columns and the roof surface form a sheltered space for the basketball court and the study areas. The building is an addition to the environment without affecting the structure of the park.



Study

The study room is accessible to everyone. The open ground floor leads the users of the park inside. The striking object in the middle of the room (the two open stairs) leads the users to the study areas on the first floor. This floor has different zones, so users can study in total concentration without being distracted by the environment, and lectures can be given. The study area is connected to the basketball court despite the height difference. From the study area, there is a view of the court next to the green surroundings of the park. This relationship is essential to encourage users to participate in the game after studying.

The object in the center of the space guarantees the stability of the building. The red walls in the image opposite are responsible for the stability and offer space for some closed functional spaces such as the toilets, storage, and technology.

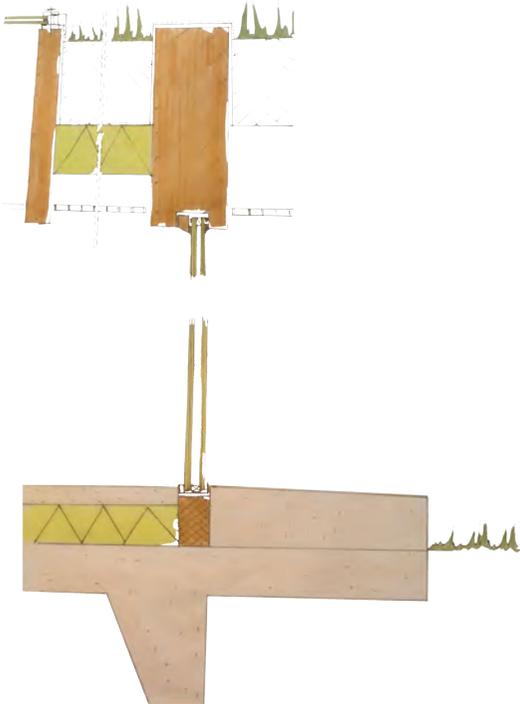
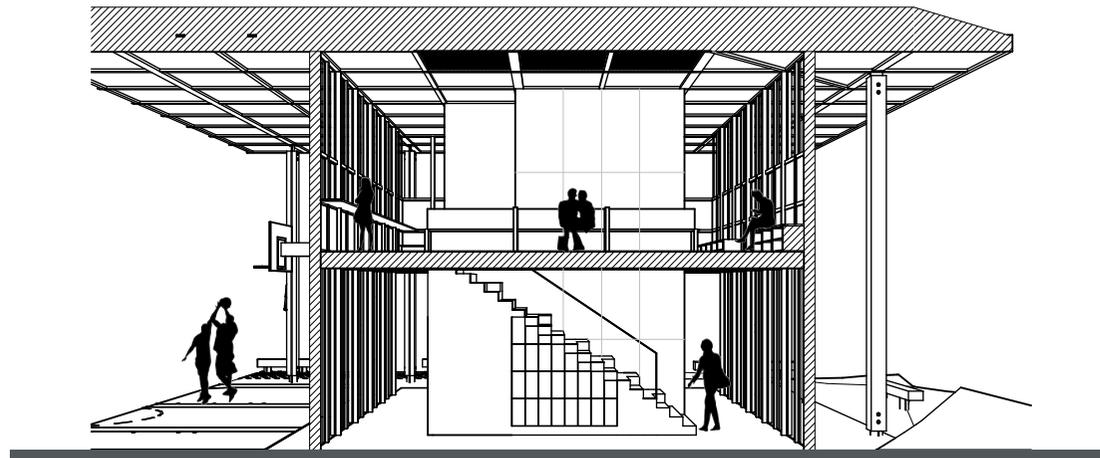


Transition zone

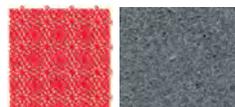
The transition between the different functions subtly merges into each other. The concrete structures form a transition from the existing concrete paths in the park to a smooth finish of the concrete floors in the building. The building is made of the same type of wood, Accoya, creating a calm appearance. In order to distinguish between different constructions in the design, different finishes are used. Accoya is a sustainable material suitable for roof construction, laminated beams, and façade finishing.

The columns form a weathered appearance that matches the tree structures in the park. The wooden pillars have a warm appearance for the use of the study space.

To allow the transition of every space, the transparency in the floor-wall-roof connections is optimally detailed.



basketball



study



transition



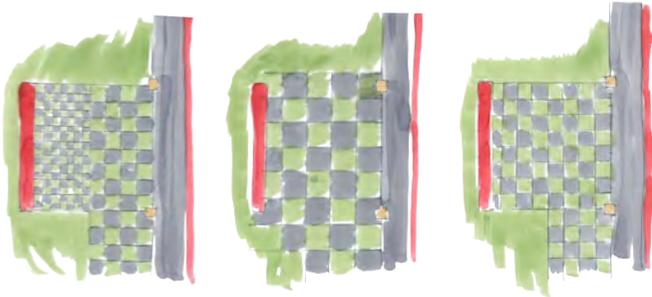
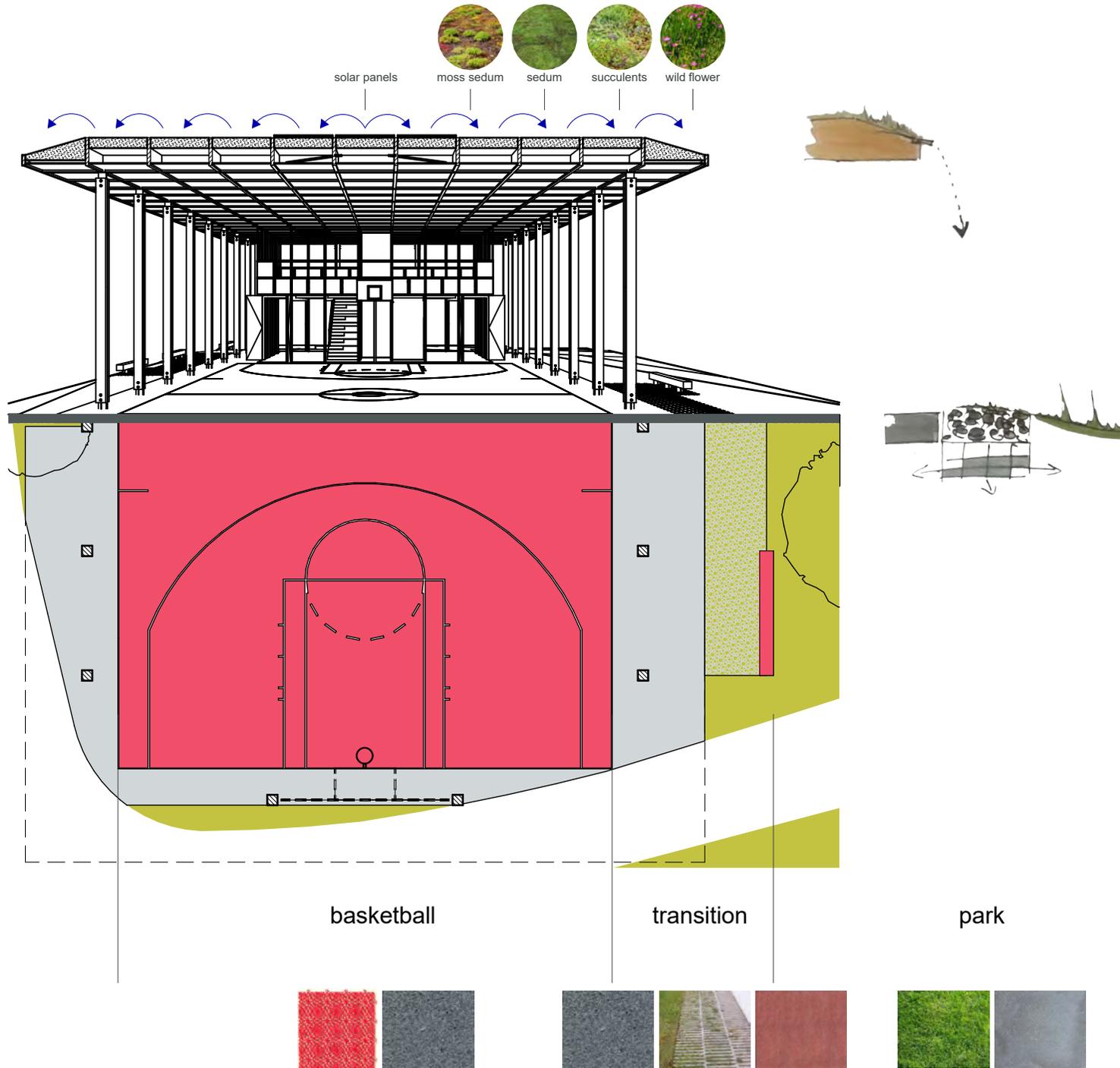
park



Transition zone

The connection between the basketball court and the park environment is designed, taking into account the functionality of the activity. A concrete structure around the basketball court gives flexibility to the users. The concrete tiles that surround the concrete floor form a semi-transparent ground plane. Grass between the tiles will ensure that the rainwater can sink from the roof into the ground. The rainwater will gradually spread into the soil with the help of infiltration crates.

The modular elements in the roof gradually direct the rainwater to the roof edge. Gargoyles on each side lead the water into the grass cover. The different water levels in the elements in the roof make it possible to integrate different green facilities. These facilities benefit the biodiversity and sustainability of the building and the environment.



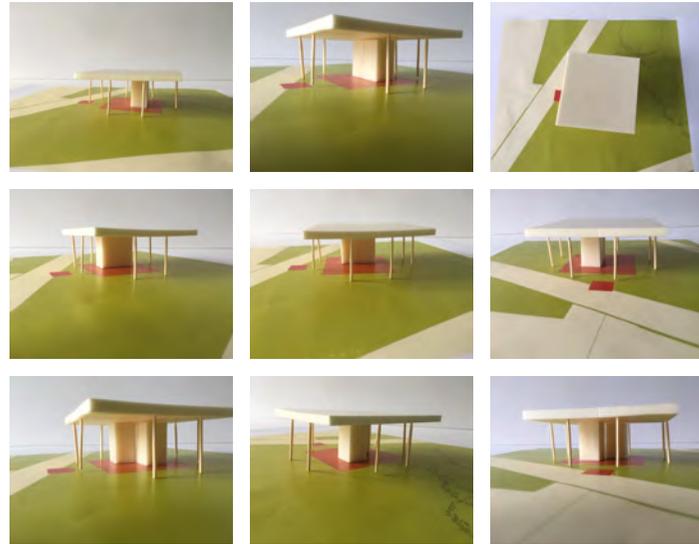
transition structure



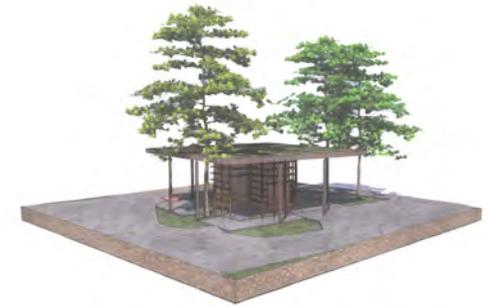
Interventions

In order to conclude that the design principles are applied correctly in the design, the elements are tested in several other interventions. In this way, I have shown that multiple buildings can be designed with the help of one design strategy, each with its function.

The project gets more dynamics when the buildings are open to other architects. In this way, different architectural ideas come together, which in addition to a close society also results in close cooperation. Due to the different designs of the buildings, they may differ in appearance, but they speak the same language due to the design strategy.



Pop-up stores



Horeca / Workshops



Connection with the north and the south

The Missing Link will restore the connections with the surroundings. The surroundings are hidden behind the Wilhelmina canal in the south and behind the highway in the north. This project will become an invitation for people outside the neighborhood to come and visit Tilburg-North. Visitors will be surprised by the encouraging environment that the neighborhood has to offer. Next to this the talented young people who are hidden behind the canal every day. The publicity offers young people the opportunity to show their talent to the "outside world."

In this project, the characteristics of **physical activity** and **social interaction** come together. The routes from the north and south towards Tilburg-North form a gradual introduction of these features.

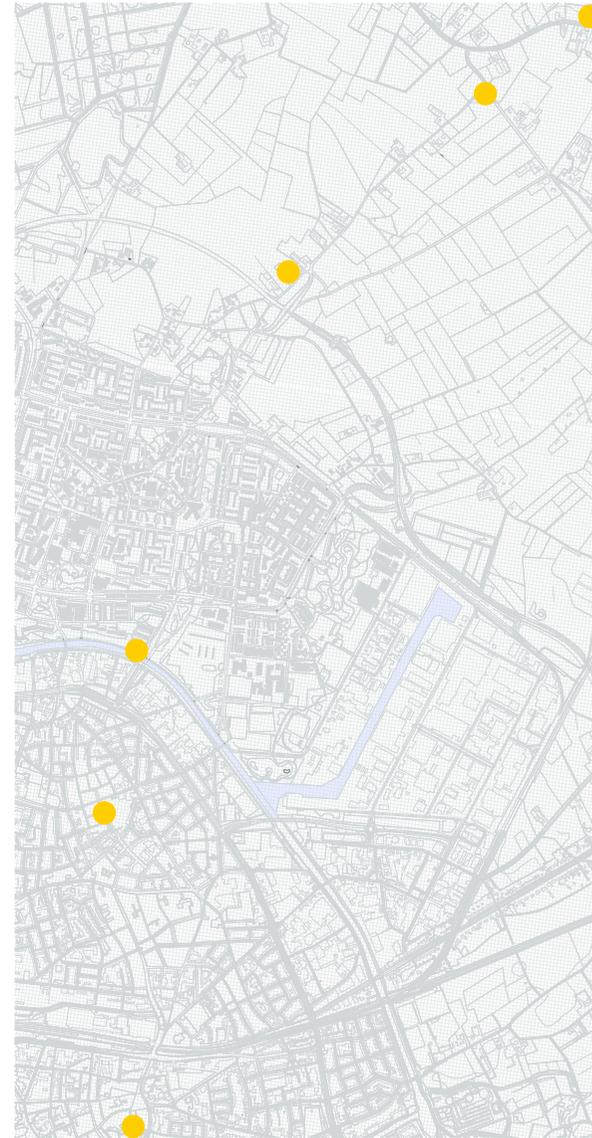
From the rural area on the north side, visitors will become acquainted with the social strength of the plan. The architecture grid that characterizes itself in the architectural concept continues in the same grid to the outer area. This route can easily be picked up from Udenhout via the extensive cycle path network already present here. Via the route towards the plan area, visitors will become acquainted with the social society of this area. This will result in a design that responds to the improvement of the social interactions within the neighborhood.

From the center of Tilburg, visitors will be introduced to the design's physical activities. By following a route formed from the architecture grid, visitors qualify for different activities characterized by their physical activity. The intensity of the activities increases as they approach the plan area.

SOCIAL INTERACTION
PROGRESS



PHYSICAL ACTIVITY
PROGRESS



CYCLING ROUTES
UDENHOUT



FARMERS



FARMYARD



WILHELMINAKANAAL



SINT PIETERSPARK



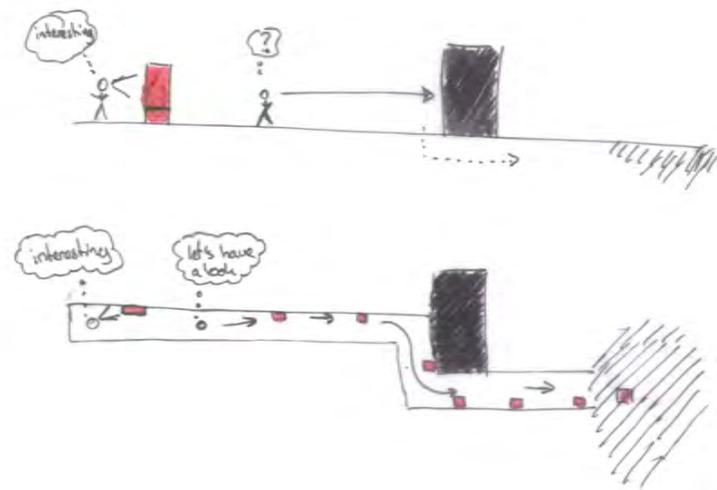
HEUVEL

Connection with the neighborhood

The project aims to motivate the young people in the neighborhood in a modest way to visit the plan area. Without compulsive intervention, the young people are guided to the plan area from their permanent, reliable hangouts in the neighborhood. From these hangouts (indicated in yellow), a route is formed with tiles in the recognizable red color. These tiles have been incorporated into the current street structure. Together they have the exact dimensions as the architectural grid and orientation.

These tiles have a print that presents a game for the children in the neighborhood. The project also positively affects the children who are not old enough to walk independently through the neighborhood towards the plan area.

The four tiles appear in every street scene and together form a route towards the plan area.



Conclusion

The architectural elaboration of the project results in a language that communicates with the residents of the neighborhood. The interventions are based on the wishes of the young people living in Tilburg-North. However, they are also open to every resident in the neighborhood and the surroundings. These interventions together form one coherent project that subtly stimulates the users to physical exercise.

The design is open to every need of the user, which will result in a positive behavioral change. In addition, the social control and social environment will result in a safe neighborhood.



F I T
through architecture

THANK YOU

Graduation 2020-2021

Again behind the laptop, after a very intense graduation year 2020-2021. This adventure started in the spring of 2020 when orienting in which direction to go with the project. The project had to be something that gave me enough energy and satisfaction to work on for a whole year, and it also had to be something that can tackle a social problem. The subject was quickly clarified, but applying this subject in an architectural design became a challenge. The social problems of obesity have been highlighted in the media, but this was not the problem. How was it possible to combat this problem with the help of architecture? There are many examples worldwide of architectural solutions in landscape space, but I am an architect. I accepted this challenge.

I have found that research phase very interesting. In this first period of getting to know overweight problems and design strategies, I learned a lot. With the help of various experts, I was able to draw clear conclusions and related to the architecture. However, I had no idea how I could tackle the problem with the help of a building. Ultimately led to further research into the ultimate experience, spatial requirements, and occupancy rate of the design.

I ran out of time due to postponing the design phase. This phase resulted in a rapid elaboration of a preliminary design, in which design principles were not consistently applied. However, I noticed that the design of the various interventions in the park went more smoothly than I expected. The thorough investigation had a positive effect.

Despite the many qualities in the preliminary design, I have been critical of the plan. Maybe I was too critical. The design created too little cohesion, and the design principles could be developed more strongly and subtly. Here, I started a search for the correct frequencies for the design. Many sketches, consultations, discussions, references, and experiments have resulted in a tiring and stressful period in which many design variants have been made. I found it challenging to connect the design to the different structures present in the existing context. Ultimately, this process resulted in an exciting outcome of the project that I am delighted with.

This graduation year was a challenging process in several respects. Despite the covid-19 measures, I managed to hand in an excellent project. These measures presented a challenge to schedule online meetings. Since I am a person who prefers to present my work in person, this was a massive challenge for me. Presenting your work online requires a lot of preparation and clear explanation. I learned a lot from this. However, this period has also had advantages. The distractions in my area were a lot less, such as festivals and football matches, and experts are more open to an online meeting. It was an intense process in which I learned a lot and matured. I am grateful for this and will use this academic year for my future.

REFLECTION

MAIN EXPERTS

Hans van Helvoirt

Constructor | Helvoirt structural consultancy

Hans helped during the development phase of the design. The complex roof construction required the advice of an expert. Together with Hans, we came up with various solutions to constructively feasible the roof while maintaining the design principles.

Kareem Wahby

Youth worker R-Newt | Tilburg-North

Throughout the year, I have been in regular contact with Kareem. Kareem is a counselor for young people in Tilburg-North. He knows the neighborhood very well and knows the needs and behavior of the young people in the neighborhood. Together with Kareem, I have elaborated the research and design process with a solid empathetic capacity.

Joyce van Busse

Neighborhood sports coach | Municipality of Meijerijstad

In collaboration with Joyce, I have gained insight into the needs of young people in a neighborhood to get them physically active. The insight helped to develop the schedule of requirements for each sport in a public environment.

Margot Hutten

Researcher / Advisor | Municipality of Tilburg

During the research phase and design phase, I had regular contact with Margot. She is an expert in every kind of data and neighborhood survey of Tilburg-North. With her knowledge, I was able to map out the district's opportunities and translate them into a design.

Martijn van Daalen

Teacher physical education | ALO, HAN University of Applied Sciences

Martijn is an expert in getting young people to exercise. The many experiences that Martijn encounters every day at HAN have given exciting insights into the current trends in sports and the needs of young people's sports.

Willem Jan Bluysen

Sales manager | Accsys

During the development of the design, I had regular contact with Willem Jan. His expertise in Accoya wood has helped to incorporate the product into the final design. I was able to discuss the different properties with different applications with him. In addition, I have received samples to make a final choice.

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- Figure 18. Parc la Villette 1987, Eisenman Architects
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- Figure 20. *
- Figure 21. Roman bath-gymnasium complex sketch, The history of the gymnasium

* figure is made by myself

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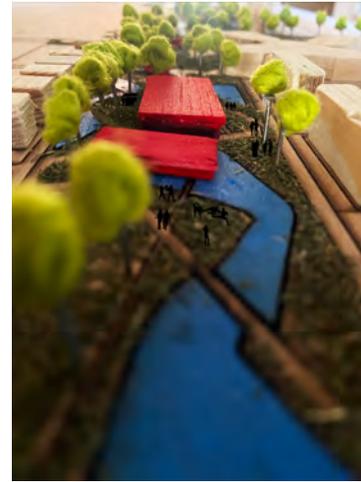
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FINAL MODEL





MODEL



MODEL