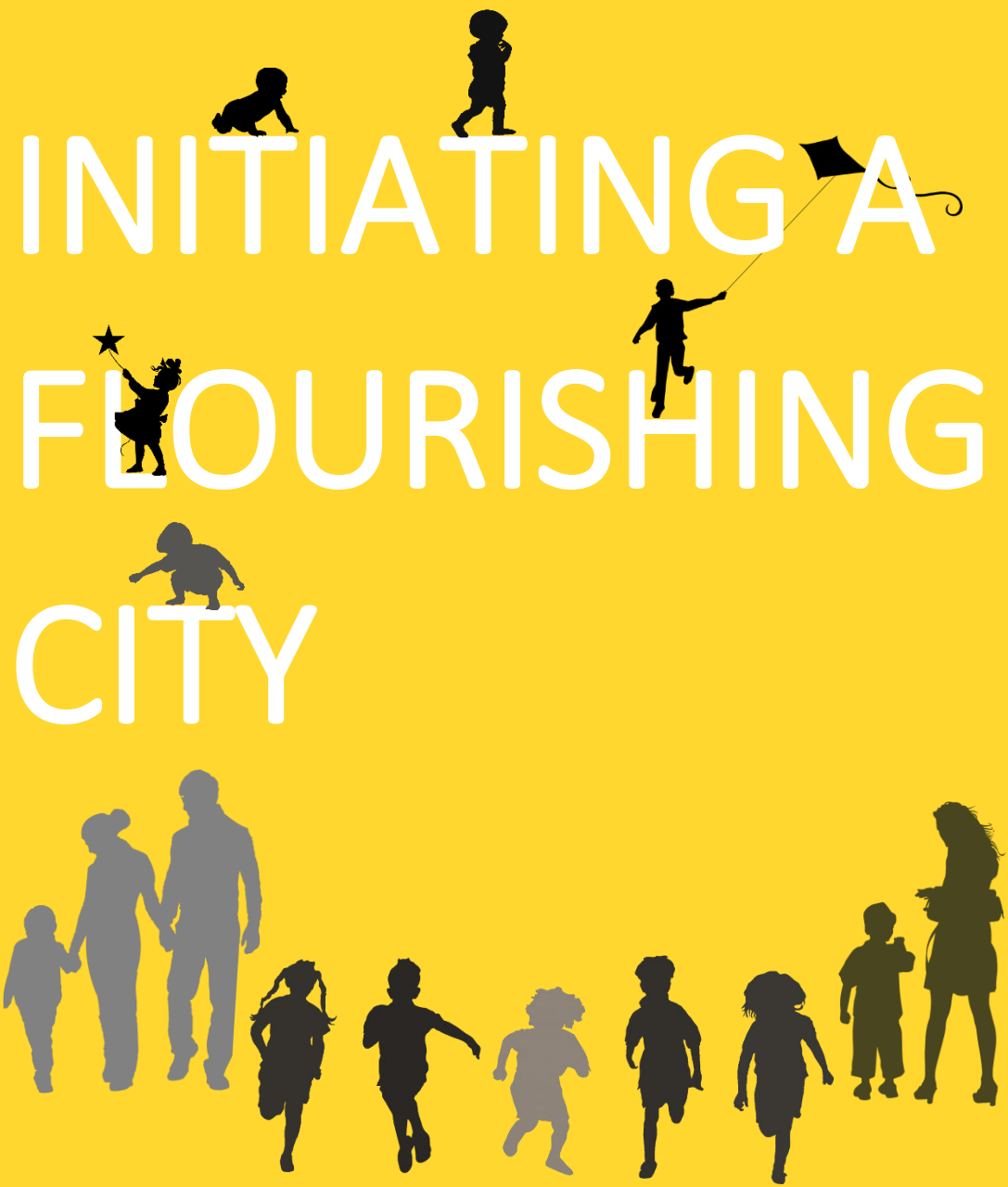# INITIATING A FLOURISHING CITY

Creating a safe environment for young urban families in M4H, Rotterdam

Graduation Project

Mazeen Majeed
4187792

Advanced Housing Studio
25-6-2021

Theo Kupers
Pierijn van der Putt
Ferry Adema

INDEX

INTRODUCTION

Imagine you are 11 years old and live in Rotterdam. You want to visit your best friend who lives a 5-minute walk away to play in the park (another 5 minutes' walk away). The problem is, there is a dangerous road between you and your friend's house and the park. You ask your parents if it is allowed to go there by yourself, they disagree, and they are too busy to take you there themselves. Instead you stay inside and play a video game on the coach. There goes your exercise and time outside, your play-time with your friend. This is the reality for many kids today – but it doesn't have to be this way.

I spent the first few years of my childhood in Iraq, living in a suburb and spent my time mostly outdoors playing with cousins and friends. We lived at my grandparents' house, which was big and we had a lot of outdoor space. Often we played in the garden or on the street in front of our house. However this freedom was restricted since I wasn't allowed to go to school by myself, or go buy an ice-cream by myself. When I was six years old we moved to the Netherlands and had to live in an apartment in Delft. In this city, my freedom became even more restricted. My parents found it dangerous for us to go outside alone. My school was only two minutes away but because of a traffic we were not allowed to go there unsupervised. So our play space was restricted to indoors in the living room or on the balcony.

Children past and present share the same natural inclination and need to play freely outdoors. The main influence on the development of young children is their relationships with the people and places closest to them. When these are reliable, nurturing and stimulating, children can flourish. And when children flourish, a city can flourish.

Dangerous roads, neglected and poor use of outdoor space all help deter kids from playing outside, pushing them towards solitary, indoor

RESEARCH

Problem statement

According to Dutch Deputy Prime Minister, Kajsa Ollongren, the Netherlands is faced with a massive task of creating one million homes before 2030. Big cities are characterized by the steady suburbanization of young middle-class families. Households often leave the city as soon as they want to have children, or shortly after their child is born. In the Netherlands this steady trend of out-migration has occurred since the 1960s, and will certainly continue in the 21st century (Wouden, 2001). CBS Netherlands reported in 2018 that, in the case of the four largest cities (Amsterdam, Rotterdam, Utrecht, Den-Haag), some 30% to 40% of families with young children leave the city within four years of the birth of their first child (CBS, 2018). The reason these families leave the city is because the available housing is either too expensive or doesn't meet their needs. Therefore, they are forced to move to the suburbs, leaving behind their job, family and friends in the city. Meanwhile, the city loses this middle class workers and the social cohesion that families provide.

For this graduation project I will investigate the reasons why young families are leaving the city and what they would need to stay. The main research question is:

    I.   Why is living in a city (Rotterdam) important for young families and their children?

The sub-questions are:

    II.   What are the reasons for young families to stay in or leave Rotterdam?

    III.   What are the needs of these young families and the needs of their children?

IV. How can we design affordable housing for young urban families which respond to the needs of the child and the needs of the parents?

Hypothesis

The hypothesis is: Living in a city like Rotterdam is beneficial for the development of the child since cities offer children exposure and better opportunities to experience public spaces (museum, cinema, etc.) and interact with a diverse range of people. Living in a city is beneficial for parents since they can live near their work, family, social life. Reasons why young families are leaving the city is because their housing needs are not met. By translating the needs of children (space to play, learn and living) and parents (work, leisure, peace of mind and living) into a design proposal, families will stay in the city.

Initiating a flourishing city

The need for bigger housing is strongly related to the wish for a 'good quality environment'. Settled families have children who want to play outdoors, travel to school and explore the neighborhood. These reasons motivates families to seek for a more quiet, greener and safer environment where their children can learn, play and live. Cities generally have only limited play and green facilities, often lack safety (traffic) and have an overload of people in certain locations. A city with children is more pleasant, more sustainable and more versatile than a city without children (Karsten & Felder, 2016). In the Woonvisie of Amsterdam it is stated that "*Children are the capital of the city*" (Gemeente Amsterdam, 2008). With urbanization set for decades to come, it is forecasted that 60% of all urban dwellers will be under the age of 18 by 2030. Therefore for cities to flourish, children must flourish, and for children to flourish, their urban environment must better represent their needs and aspirations (Gehl, 2011).

This report is divided in three parts. In the first part the problems that young urban families face will be explored. Who are the young urban families and why are they being displaced? What are the housing preferences of young urban families? What are the needs of parents and their children? What are the design tools that are used in literature for designing residential buildings for young urban families? In the second part four case studies will be analyzed to gain insight into the design tools that are needed to design a residential building meeting the needs of young urban families. Both the literature research and case study research will result in information and suggestions that can be helpful for designing

a dwelling complex that can contribute to young families staying in the city. For this studio a survey is also carried out to know what children have to say about their childhood. In the last part the design concept will be explained.

Het Parool

Steeds meer gezinnen met jonge kinderen verlaten Amsterdam

Vorig jaar vertrok bijna één op de acht gezinnen met jonge kinderen uit Amsterdam. Het zijn vooral mensen met hogere inkomens, zonder migratie-achtergrond die weggaan, blijkt uit nieuw onderzoek van het CBS.

Michiel Couzy 26 juni 2019, 10:15

Many young families are fleeing the big Dutch cities

Housing Society November 7, 2017

Many families are moving to smaller communities. Photo: Depositphotos.com

Young families are moving house even before their children reach school age especially if they reside in the four largest Dutch cities, Amsterdam, Rotterdam, The Hague and Utrecht, the national statistics office CBS said on Tuesday.

nrc.nl

Digitale editie   Webwinkel

Binnenland   Buitenland   Economie   Cultuur   Sport   Opinie   Wetenschap   Tech & Media

**Jonge gezinnen trekken weg uit de grote steden**

9 juni 2016

16

FACTS AND FIGURES

Leaving cities

CBS reported in 2018 that more young families leave the city and move to other municipalities in the surroundings of the big city. On the other hand, the amount of families in the four big cities (Amsterdam, Rotterdam, Utrecht, Den-Haag) still increases because there live a lot of people in these cities in their twenties and thirties who have babies. Families often move before the children have reached school age, particularly those living in one of the four major cities. Among families living outside the four major cities who had their first child in 2012, 14 percent moved to another municipality within four years. The share departing from the metropolitan areas was two to three times as high. Among young families in Amsterdam, 40 percent moved to a different municipality within four years after the birth of their first child, often to somewhere near the city. The share moving away from Utrecht was 34 percent; from Rotterdam, 28 percent and from The Hague, 27 percent.
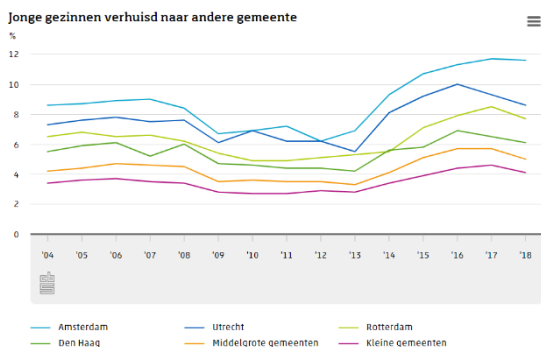
Young families leaving the city (CBS, 2018)

Households with children

On 1 January 2017, there were 7.8 private households in the Netherlands. This included 2.6 million (33 percent) households with one or more children. The majority of children live in a household with two parents (2 million), while a minority are part of a single-parent household (0.6 million). There are relatively many households with children in the so-called Bible Belt and in cities with Vinex (new housing) districts. Relatively few households with children are found in university towns as well as in border regions, particularly Zeeland, south Limburg and east Groningen (CBS, 2018). The share of households with children in Rotterdam is 29,5%. Amongst this, 15,9% are children aged between 0-15 years old.

Relocations to other municipalities after birth of first child

Before end of 2016, moved out of:

Other municipalities
The Hague
Rotterdam
Utrecht
Amsterdam

% of couples with first child born in 2012
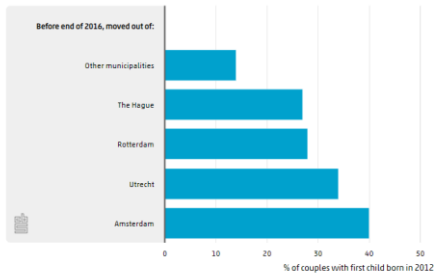
Young families leaving the city after the birth of their first child (CBS, 2018)

Households with children, 1 January 2017

Share of households with children
Rotterdam: 29.5%

(CBS, 2018)

Less than 29 (%)
29 to 32 (%)
32 to 35 (%)
35 to 40 (%)
40 or more (%)
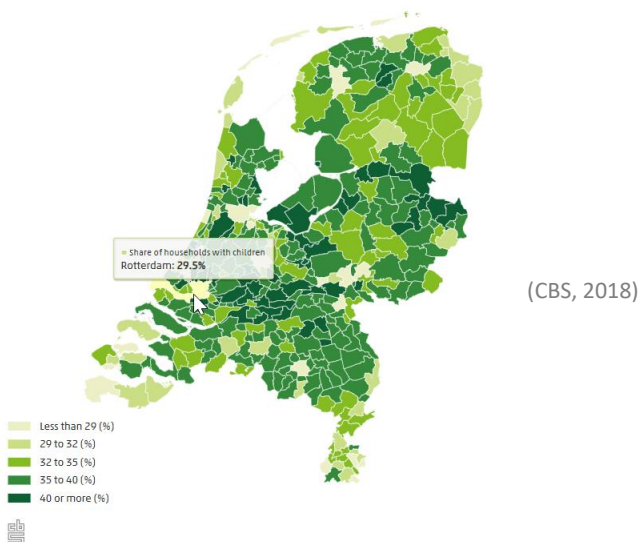
Live births

There were 170 thousand live births in 2017, almost 3 thousand fewer than in the previous year. At the start of the 21st century, the number of live births exceeded 200 thousand. Many – especially younger – women are postponing motherhood. People in their 20s have had relatively few children in recent years. In 2017, there were 55 births per one thousand women aged between 20 and 29, against 68 in 2010. The birth rate increased slightly among women over 35.

Live births
per 1,000 women
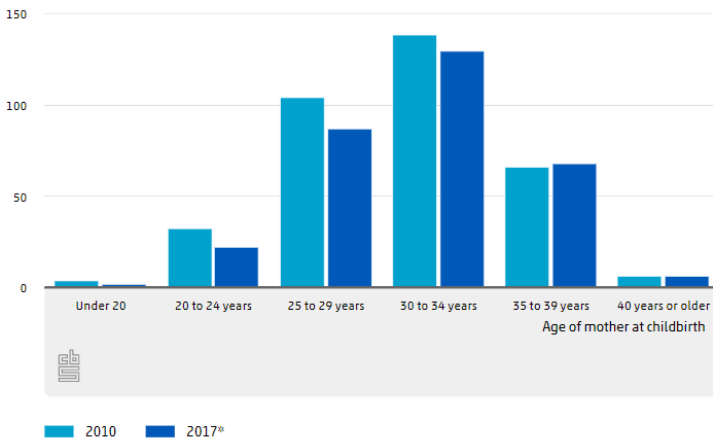
(CBS, 2018)

Households moving based on income

The amount of couples that live in a rental apartment when they get their first child is higher than couples living in an owner-occupied house. However this is not the only reason, because young families owning a house also move out of the city more often in Rotterdam. This research shows again that the biggest group of young families that is moving in the 20% highest incomes.

The target group for the design assignment will reflect these results: young families in the middle or high segment and start their family around 35 years old.
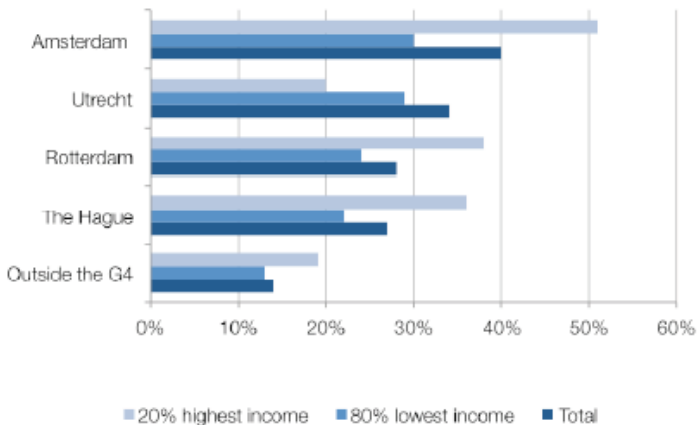
Households moving based on income (CBS, 2018)

Migration background

Young families with a migrant background are less likely to move from the big city. Of the families with a Turkish or Moroccan background, 4 percent moved from one of the four large cities, against 12 percent of the young families without a migration background. The relocations of families with Surinamese or Antillean background were in between. Even if differences in household income and home ownership are taken into account, young families with a migration background are more likely to continue to live in the large cities than young families without a migration background.

Young families with a migration background tend to move within the big cities. Young families without a migration background who live in smaller municipalities, on the other hand, move less often to other municipalities than young families with a migration background.
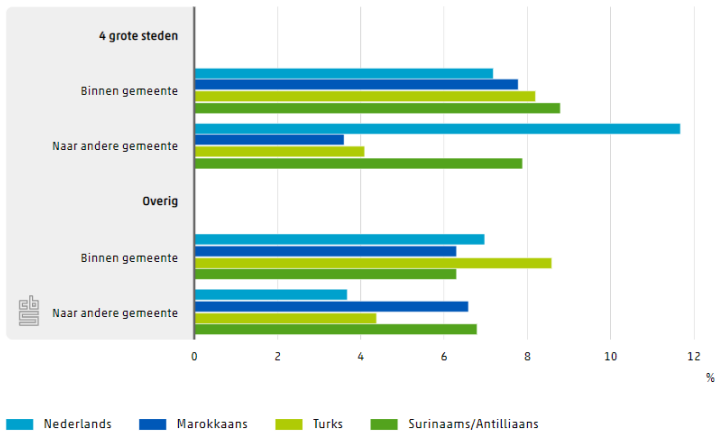
Households moving based on migration background (CBS, 2018)

YOUNG URBAN FAMILIES

In defining the different groups of families it is common to make the mistake of separating families based on their income status: the poor and rich according to Karsten & Felder. The rich families would be white and live in the center of the city while the poor families would live in the suburbs and be mainly migrants. In their book about the new generation city children, Karsten and Felder attempt to categorize the families in three groups and their assumption is based on the terms of sociologist Pierre Bourdieu (Karsten & Felder, 2016). The three groups are as following:

1. The social minimum

This group consists of families that have received little education and they have a low employment rate. This group consists mainly of the first-generation immigrants and some families with a refugee status. They live often in social housing.

2. The social climbers

The social climbers are both the migrant families and native families. They have a secondary education level and almost every parent has a job. They often live in social housing.

3. The wealthy family

This wealthy family is a family with both parents working and both have completed their university or similar level education in Amsterdam or Rotterdam. This group have the better jobs

and they belong to the wealthier group in the city. Before they became parents they belonged to the Yup's (young urban professionals) and now they are the Yupp's (young urban professional parents). They can afford it to buy a house out of the city but they chose not to. They live in owner-occupied homes.

There are different family types:

- The starting family
- The young family
- The adolescent family
- The single parent family
- The part time family

For this research I will focus on the young families. These are families with two parents who have children (0-13 years old) and single parents households.
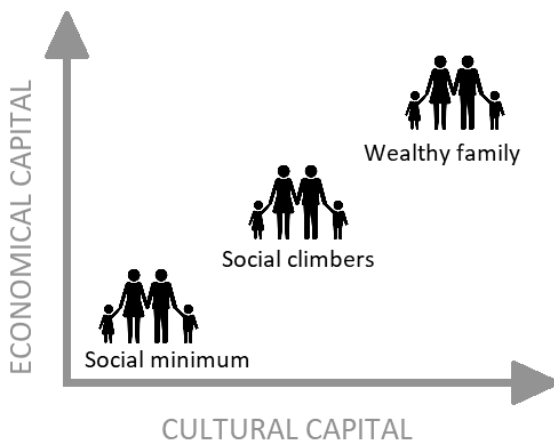
Own production, source (Karsten & Felder, 2016)

Wealthy family

Social climbers

Social minimum

ECONOMICAL CAPITAL

CULTURAL CAPITAL

THE CHILDREN

As we now know the young urban families, we also need to know the different types of children. In one of her journal articles, Lia Karsten categorizes four types of children: (Karsten L. , Vitale kinderen en creatieve steden: op zoek naar een nieuwe omgangsregeling, 2007)

1. The outdoor child

These children are often outside. These type of children are often found in the neighborhoods where there is little outdoor space, a lot of other children and there is a reasonable degree of social control. These children are outside because they live in small dwellings with little space. Children of immigrants are also in this group.

2. The indoor child

These children hardly play outside, they are often indoors after their schooltime. These children are a bit afraid to go outside because of the outdoor children who do come out on the street. Many of these children are from migrant parents who try to work their way up to middle class. They urge their children to do their homework at home and not to interfere with the street life. These children are more or less locked up at home and have hardly any room to move.

3. The backseat generation

For these children the outside space is primarily a transit area. They grew up in the car era and have been accustomed to sitting in the backseat and are taken by car to school, sports clubs, parties, etc. They are overprotected. The backseat

generation live in the better areas of the city where the individual development of children is of great importance. Their outdoor play has been reduced to rare moments.

4. The sidewalk children

These children come outside but at the same time they stay within hearing/sight distance. It mainly concerns young children who are easily satisfied with a sandbox on the sidewalk or a bicycle. They are being supervised by their parents.

Outdoor children (University of Utrecht, 2018)

Indoor children (The Guardian, 2018)

Backseat generation (Vermeiren, 2015)

Sidewalk children (The International Institute for the Urban Environment, 2007)

THE RELEVANCE OF THE CITY

From a cities perspective, young families and their children are beneficial: they help insure the cities future. Children help decrease the age of inhabitants in the city which creates diversity. They provide jobs for day care and schools, sport facilities, leisure, shops and they make the city safer. "*Children are, after all, the capital of the city"* is a statement made in the (Housing vision) of Amsterdam. Society as a whole can indeed not without children. Today's children are those who will work later, they are going to carry the society for the current generation cannot work forever. Yet, it does not mean that these children have to grow up in the city. Children do not work, they are a danger on the road and they cost a city a lot of money to keep them busy. In turn, cities come with particular risks and challenges to the health and healthy development of children. Examples include noise and air pollution, traffic dangers, crime, social isolation, disconnection from nature, poverty and inequality (UNICEF, 2018). However, there are now more people living in cities and more children growing up in cities than ever before, by 2030 up to 60% of the global population are forecasted to live in urban cities and up to 60% of these urban residents will be under the age of 18 (UNICEF, 2018).

From a families perspective the city provides them with social connections, a diverse culture, jobs and other facilities. When they move out of the city, this means they have to travel back and forth from work. Karsten and Felder explain in their book why it is important for young families to stay in the city; they mention the functional, social and symbolical binding to the location. Nowadays both parents work which means they have

to combine work and life together, which is only possible when work and home are close together.

Introducing child-friendly cities
A child-friendly city (CFC) is a city, town, community or any system of local governance committed to improving the lives of children within their jurisdiction by realizing their rights as articulated in the UN Convention on the Rights of the child (UNICEF, 2020). The initiative was launched in 1996 to make cities livable places for all. A child-friendly city aids in improving children's development health and access to opportunities. It is not about simply providing playgrounds, it recognizes the fundamental importance of independence and play, the built environment as a whole in helping to shape a child's development and prospects, and so their adult lives. A child has a right to live in a safe, clean and healthy environment and the right to engage in free play, leisure and recreation. The benefits of child-friendly cities add value to all citizens' lives. The amount of time children spend playing outdoors, their ability to get around independently, and their level of contact with nature are strong indicators of how a city is performing and not just for children but for all city dwellers (Arup, 2017).

Rights of the Child in a Child-Friendly City (UNICEF, 2020)
1. Influence decisions about their city
2. Express their opinion on the city they want
3. Participate in family, community and social life
4. Receive basic services such as health care and education
5. Drink safe water and have access to proper sanitation
6. Be protected from exploitation, violence and abuse
7. Walk safely in the streets on their own
8. Meet friends and play
9. Have green spaces for plants and animals
10. Live in an unpolluted environment
11. Participate in cultural and social events
12. Be an equal citizen of their city with access to every service, regardless of ethnic origin, religion, income, gender or disability.

Brief history

Contrary to many other European cities, the Netherlands does not have a strong tradition of urban living. The most common household type for Dutch single families are single-family homes. From the 1960s many families have left the city, but in recent years the number of families has been increasing that continues to live in the city is increasing again. On the one hand because many higher educated want to stay live in the city where they studied, where their social life takes place and where they work, even now that they have had children. On the other hand the proportion of families with a migration background in the cities is increasingly higher, and these families have more children. The range of attractive urban living arrangements for middle class families, however, are lagging far behind these developments (ANA architecten, 2019). Children have always lived in the city and have never really disappeared from the city, they are carefully finding a new place in the city. Although entire generations have grown up in the city and children still make up a large part of the urban population, professionals have been voicing their concern about urban children for many years. At the beginning of the 20th century there were poor housing conditions in the city where large working-class families lived in small units and basements. This environment had very unhealthy conditions for the well-being of adults and children. From an educational angle came the question of urban children not getting enough in touch with the nature. The educators thought that children needed separate attention and special amenities that catered to the unique child status. They thought that attention had to be paid to the development and learning of children. Primary education was not accessible to all children for a long time. But that changed in 1874 with the ban on child labor and compulsory education for six to twelve years old children in

1901. From this moment on children became protected by these measures and they were no longer seen as little people but childhood was considered as a special time. Still, there remained one question unanswered: what should children do with their time after school? So children got another right: the right of play. However, according to educationalists the city didn't have ideal play spaces for growing children. With this came the task to design suitable playgrounds: "Enclosed gardens where working class children can play under supervision, with which civilized entertainment and healthy exercise go hand in hand " (NUSO, 1992). The first playgrounds were private places where children could enter them with payment or membership. After the Second World War the government saw creating spaces for play as a regular assignment. Renowned architects and urban planners contributed to these developments, such as Aldo van Eyck and Jacoba Mulder, attempting to make children and families part of the city and urban life.

Independent mobility & safety

There are some factors that have impact on a child's prospect. The built environment is one of these factors: where a child lives has impact on their behavior, health and development (WHO, 2020). So we can say that the built environment has influence on their childhood and their adult lives. Activities such as cycling, playing and walking support a physically active population while high density traffic, poor air quality and a lack of public space are barriers and interrupt people from being active (Arup, 2017).

"Globally, children under 16 years old are restricted in their independent mobility by their parents for fear of traffic and strangers" (Policy Studies Institute, 2015).

The opportunity to move freely in the environment without a supervising adult is defined in the literature as children's independent mobility One of the reasons parents are preventing their children independent mobility is because of the dominance of cars in cities. Cars are considered one of the biggest obstacles to child-friendliness. Children are more vulnerable to being hit by a car because of their smaller size, their underdeveloped ability to judge speed and their lack of experience and understanding of traffic danger (Arup, 2017). So improvements to children's daily routes such as safe routes between home, school and community facilities can reduce traffic accidents and create more pleasantly activity. After all, if children are able to move around freely and in a safe environment, parents will have less parental stress and they will have more freedom and time. A generation ago, children were far more likely to be able to play independently in their own neighborhood (Malone, 2011). In this report Malone mentions that Austrian parents reflecting on their childhood, they usually remember having far more freedom than their own children have today, this is because of increased fear of strangers. Children also have less time available to play outside because they and their family are busy and children's leisure time is often full of scheduled activities (Malone, 2011). And often parents have to drive their children to these activities because of the greater distance involved and an increased fear of traffic and 'stranger' danger (Karsten & Felder, 2016).

"It is normal for children to carry out activities in the road environment – such as cycling, walking, running, playing and other common group activities. It is also important for their healthy development that children, from an early age, undertake such activities. For this reason, it is important for the road environment to be safe so that these activities can be undertaken without the child's safety being put at risk."
[WHO & UNICEF 2008 in World Report on Child Injury Intervention]

Children and adults are more likely to build relationships and neighbourliness by meaningful positive social contact between community members (Mcgrath, Brennan, Dolan, & Barnett, 2009). For these communities to create opportunities to meet and interact it is important that the public realm feels inviting, inclusive, accessible and safe. Children have a positive impact in creating a sustainable community by attracting people to places, since adults are more likely to spend more time outdoors if children are present there (Bornat, 2016). Architect Dinah Bornat (ZCD Architects) together with the University of East London has conducted a research of 10 housing developments across the UK about the use of external spaces around where people live. In this report Bornat states that although there is an emphasis on developing play strategies for children, most policy overlooks this need for children's unchaperoned play and independent mobility; both are essential factors of healthy child development. The method which is used is inspired by the work of Jan Gehl Architects, it is a study of numbers of people, their activities and the time they spend outside as an indicator of what Gehl calls "life between buildings". By gathering and analyzing new data, the report presents a number of new findings:

1. External spaces in housing schemes are natural places for social activity

2. Children are the dominant users of external places

3. There are positive links between play and a wider use by the rest of the community

4. There is a positive link between children's independent mobility and their extended use of external spaces

5. Car-free shared open spaces that are directly accessible from dwellings are the most well used. If an open space is separated by a road it will be used far less by residents.

6. Shared surface streets often display high levels of anti-social parking: blocking pavements and external spaces that should be used by pedestrians for social activity.

"CHILDREN ARE THE GENERATORS OF COMMUNITY LIFE."
DINAH BORNAT, ARCHITECT

"PLAY, AS WE KNOW, IS AN ESSENTIAL PART OF A HEALTHY, HAPPY CHILDHOOD, TAKING PLACE WITHIN THE HOME FROM BIRTH, THROUGH FORMAL AND INFORMAL LEARNING, AND IN COMMUNITY SETTINGS THROUGH THE USE OF PUBLIC SPACES AND SERVICES."

Children are vulnerable to their surroundings, a city's negative (or positive) effects are felt more acutely in childhood (Schuff & Kielgast, 2019). In The City at Eye Level for Kids it is mentioned that there is a socio-spatial inequality at children's level: children have to pay to play. A solution to this problem is giving back the street to children; this way the socio-economic inequality at child's level will be prevented and the opportunity to play independently will be stimulated. It is also advised to think in each direction (implement pavements, plinths and elements along the road) from a child's perspective (95-140cm) (Urban95, Bernard van Leer Foundation, 2018). This way their independent play will be extended. And by attracting parents to these places is also important (by use of benches, shelters, etc.). According to Gehl the quality and relevance of the street is a result of the combination of the design and use of ground floors (Gehl, 2004). This is also in accordance to Jane Jacobs observation of the street. Jacobs speaks of the "eyes on the street", which she refers to the atmosphere of a mixture of people and the presence of small business shop-keepers. According to Jacobs these "eyes on the street" create safe places where children learn to be around adults and get exposed to a variety of activities that happen in the streets (Jacobs, 1961). (Gehl, 2004)

Gehl states that if we reinforce city life so that more people walk and spend time in common spaces, in almost every situation both real and perceived safety will increase. The presence of others indicates that a place is perceived as good and safe. There are "eyes in the street" and often "eyes on the street" as well because it has become meaningful and interesting for people in nearby buildings to follow what is happening in the street. When people make their daily rounds in city space, both the space and the people who use them

becomes more meaningful and thus more important to keep an eye on and watch out for. A lively city becomes a valued city and thus also a safer city (Gehl, 2011).

Gehl also mentions that ground floor building design has a huge impact on the life and appeal of city space. Ground floors are what we see when we walk past buildings. It is also from the lower floors that people inside can follow what is going on outside, and vice versa. If ground floors are friendly, soft and populated, pedestrians will be surrounded by human activity. Even at night when little is happening in cafés and front yards, furniture, flowers, parked bicycles and forgotten toys are a comforting witness of life and proximity to other people. Light streaming from the windows of shops, offices and dwellings at night helps increase the feeling of safety in the street (Gehl, 2011).

YOUNG FAMILY'S NEEDS

Young families and their children have needs on different scale levels: neighborhood scale, building scale and dwelling scale.

1. Neighborhood scale

The elements that are important for young families on this scale are education facilities like a day care and school. Facilities like supermarkets, sport facilities, shops and places to play are also important. It is also essential for young families to live near their work (Karsten & Felder, 2016). The closer the elements are near their home, the better the neighborhood is. Day care is important if both parents are working, so a day care near their work or on the way to their work is ideal. When children become 4 years old they go to primary school, so a school near their house is also ideal. In the research of Karsten and Felder the school is part of the neighborhood of the children. Children know their friends mostly from school/day care and they often live in the same neighborhood. They also see each other after school or in the weekends.
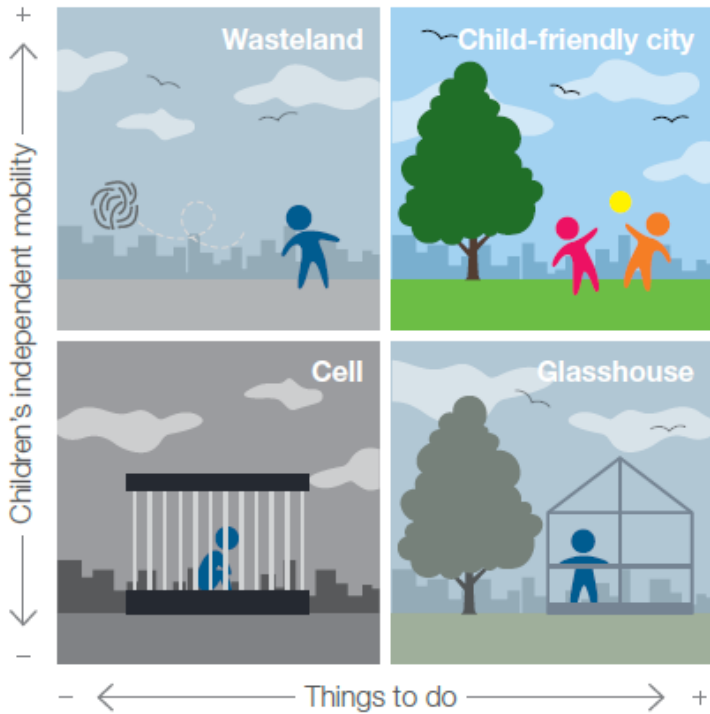
This diagram, based on the work of Finnish academic Marketta Kyttä, is a conceptual framework which presents childfriendliness in terms of the relationship between the availability of things to do in an environment and the levels of freedom or independent mobility a child has to explore and enjoy them (Arup, 2017).

Range of action

Young parents want their children to be able to walk and play freely in the neighborhood. In the literature this is called the range of action (Keesom, 2016). There are three ranges of action for children by which the vulnerability of children and their wish to explore the world are taken into account (Karsten & Felder, 2016):

First range: 0-4 years old

The range of action for these children is 30 meters. This range is to enhance their motor skills.

Second range: 4-8 years old

The range of action for these children is 150 meters. This range is to enhance their social skills.

Third range: 8-12 years old

The range of action for these children is 500 meters. This range is for children to enhance their independence. Facilities in other neighborhoods also belong in their range.
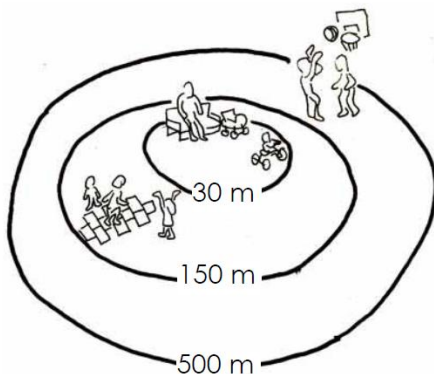
Range of action (Keesom, 2016)

Type of activities

In their book The new generation city children Karsten and Felder divide the neighborhood and the city into action areas by using daily, weekly and monthly activities. These activities are part of the needs of the young families. These areas are used by parents as a way to let children move independently.

- *Daily activity area:* these facilities are used daily and are easily accessible by foot. These include day care, school and supermarkets.

- *Weekly activity area:* these activities are after school or weekends activities and are going to sport clubs, clubs, after school care and playgrounds. These activities are also easily accessible by foot.

- *Monthly activities area*: these activities are the bigger parks, leisure (zoo, museum) and bigger parks. These activities are accessible by car, bicycle or public transport.
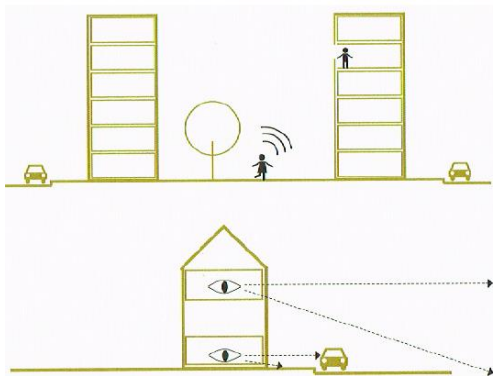
Supervision (Karsten & Felder, 2016)

2. Building scale

On building scale level the ability to see children play outside from the building has an effect on how often children play outside. Children (especially young children) play outside under supervision more than half of the time (Karsten & Felder, 2016). Supervision can happen from inside the house or gallery. When parents trust their neighbors, parents are more inclined to let go of the supervision of their children (Karsten & Felder, 2016). In a building where supervision is possible from different angles can stimulate this. On the playground, for example, it is advised to put benches there or even a sheltered place for parents to supervise (Karsten & Felder, 2016).

3. Dwelling scale

Young families prefer living in a ground bounded dwelling with a garden, many rooms and enough space to grow. Karsten explains that families are willing to give up on a ground-bounded house or any house with a garden if a pleasant collective courtyard is part of their building.

Possible reasons for the departure of families from the big cities include a shortage of living space or the lack of a garden. The WoON2018 study by BZK and CBS shows that families in large cities who do not have a garden or (too) few rooms want to move more often than families with a garden or sufficient living space. Of the families in the large cities who have a garden, 12 percent indicated in the study that they wanted to move within two years, compared to 29 percent without a garden. Families with more rooms than family members were

less likely to want to move (11 percent) than families with fewer rooms than family members (39 percent) (CBS, 2018).

Furthermore, there are six topics that are essential for families living in dwellings according to Keesom:
- Storage space
- Layout of the dwelling
- Flexible use of space
- Growth of children in the dwelling
- Connection between inside and outside
- Living area.

These topics will be addressed further in details.

Gezinnen in grote steden die willen verhuizen, 2018
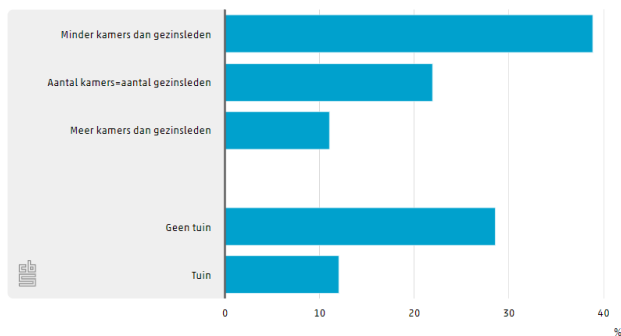
Reasons why young families move out of the city (CBS, 2018)

Tuin en woonruimte gezinnen met kinderen, 2018
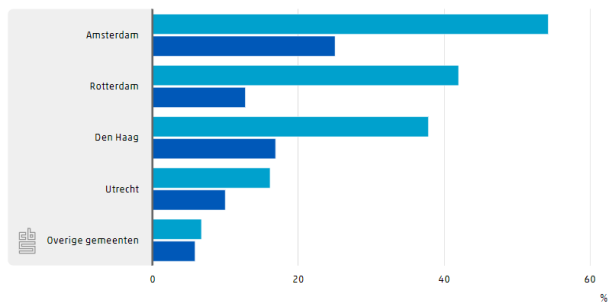
DAILY LIFE OF YOUNG FAMILIES

Both parents work

06:30 Wake up and shower

07:00 Morning routine kid

07:00 Breakfast

WORK AND SCHOOL

18:00 Home and cook

18:30 Dinner

19:00 Bed routine kid

19:30 Cleaning and chilling

One Parent Stays Home

07:30 Wake up and shower

08:00 Morning routine kid

08:20 Breakfast

09:00 Play

10:30 Grandma visits

11:30 Grocery shopping

12:30 Lunch

13:00 Afternoon nap kid and cleaning tasks

15:00 Play

17:00 Cooking

17:30 Dinnertime

18:00 Play

19:00 Bed routine kid

19:30 Cleaning and chilling

Living room
Kitchen and Dining-room
Bathroom
Bedroom kid
Master Bedroom

Living room
Kitchen and Dining-room
Bathroom
Bedroom kid
Master Bedroom

The families where both parents work won't use so much of the house during weekdays. The kitchen will be used much and the bathroom. Later during nights the living room will be used to watch some tv and then the parents will go to bed. The scenario where one parent will stay at home shows that the Livingroom, kitchen and the bathroom will be used the most. The bedroom for the kid is just for sleeping, not for playing. This house is much more used during the day. Looking at the schedules, it is clear to see that the living room and kitchen plus dining room are used the most for the family activities, which need the most space for living. The bedrooms will be used for sleeping only. [own product].

DESIGN TOOLS

In this part the design suggestions from other researchers will be discussed. There are three documents that have been used:

- Nestelen in de Stad (Nesting in the city) (Keesom, 2016)
- De nieuwe generatie stadskinderen (The new generation city children) (Karsten & Felder, 2016)
- De leefwereld van het kind (ANA architecten)

These books suggest interventions which could help make the city a more liveable place for families and their children. These interventions are on neighborhood, building and dwelling scale. Together they complement each other.

Nesting in the city (dwelling scale)

In this book by Heren 5 and BNA architects, 16 different architects propose suggestions to keep young families in the city. These suggestions are:

1. More storage, space

Most families feel that they lack storage enough storage space. The current measurements are 1,8m x 2,5m x 3m, but this could be more practical in a different configuration. Also, a closet can be multi-functional varying from a bookcase to wardrobe or a place where an extra bed is stored. These closets can also function as inner walls.

2. A smart layout

Families need a lot of space but the apartments in the city are small, so a smart layout is important. A room with a double function is an option, but the privacy should be maintained. A

wide hall for multiple functions and a separated kitchen (for privacy when needed) are suggested interventions.

3. Flexibility of space

Some dwelling floorplans are very rigid, especially the bathroom and kitchen. While the bedrooms, living room and hallways are flexible. By adding sliding doors, more flexibility will be created since they can provide more privacy and more create more rooms.

More storage space (Keesom, 2016)
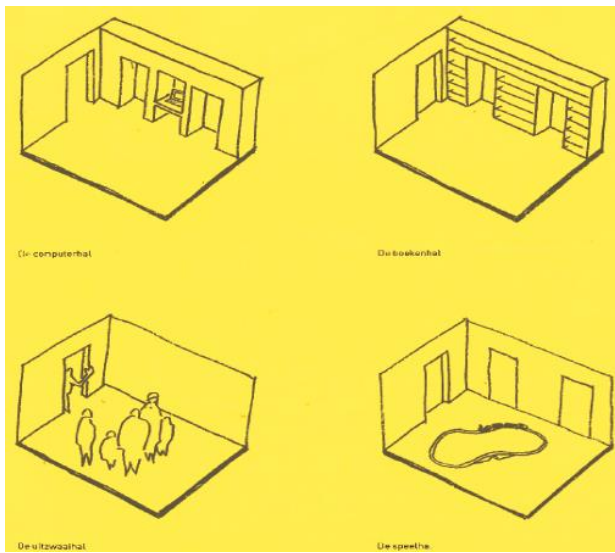
A smart layout (Keesom, 2016)
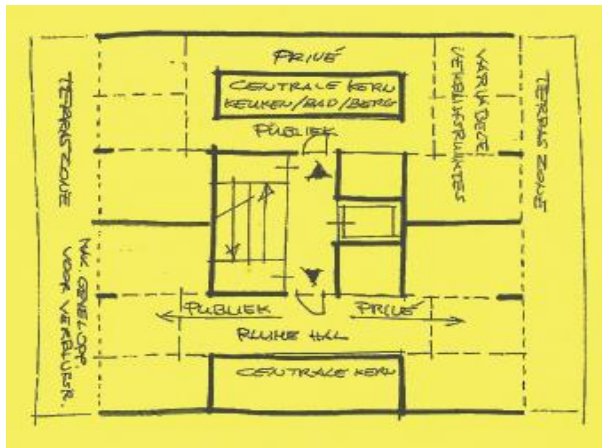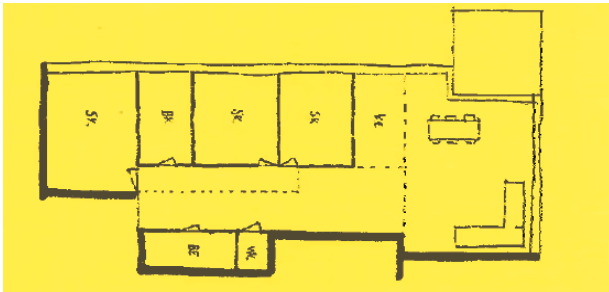
Flexibility of space (Keesom, 2016)

4. Between inside and outside

The space between the front door of the building and of the dwelling is often impersonal, unattractive space and the transition very abrupt. If this is done well, the transition becomes gradual and can act as a communal place where playing and meeting can occur. Karsten describes unplanned meetings (socializing) as positive being valued and it creates the feeling of social safety (Karsten L. , 2003). A private outdoor space can enhances the social cohesion: eating/sitting outside, playing outside, contact with neighbors.
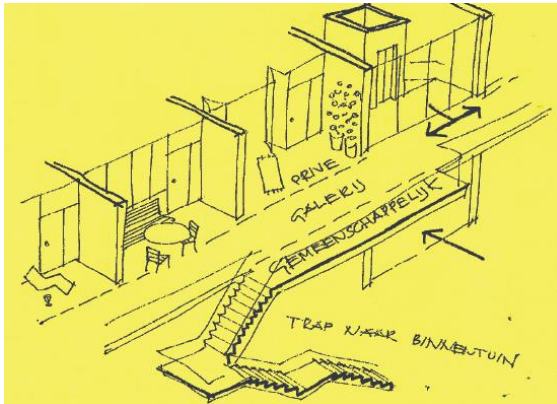
Connection between public and private (Keesom, 2016)
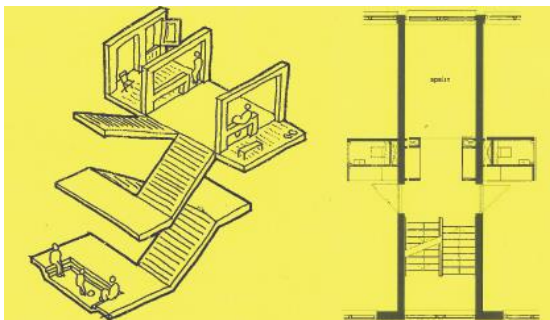
5. Adaptable to the growth of children

When young families or couples look for a house, they often want a dwelling to grow in it. They will either want to expand their family or they want to stay longer in this dwelling where their children grow (a space to play in, a space to make homework, a room to pull back in). It is also suggested to create a working room for parents to work from home. Now with the pandemic going on, this would be a great idea
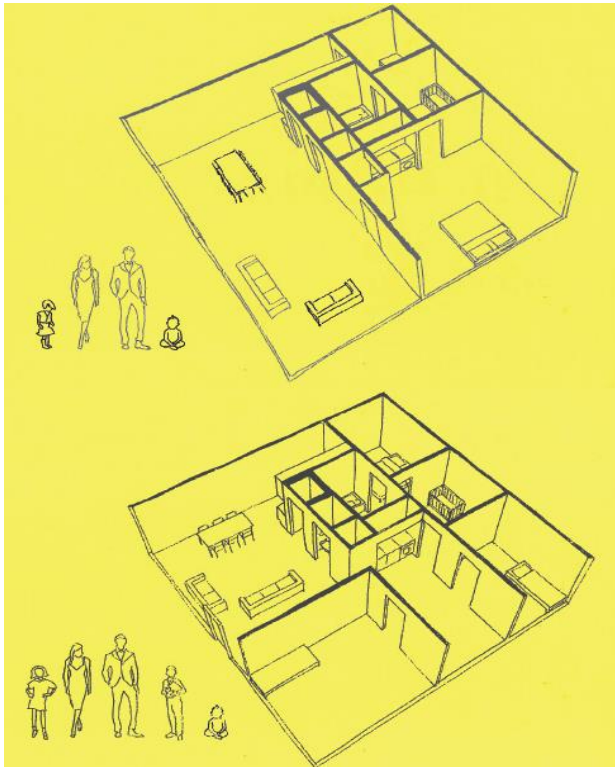
Adaptable to the growth of children (Keesom, 2016)

6. Family friendly environment

Keesom suggests that there is not a playground required on the neighborhood scale, but instead to opt for elements that can help children to evolve in their motor skills. He also suggests to create a safe route to school and to have facilities in close proximity of the dwelling so the neighborhood becomes more attractive. Interventions are: playstreet, playgrounds on a roof, car-free street.
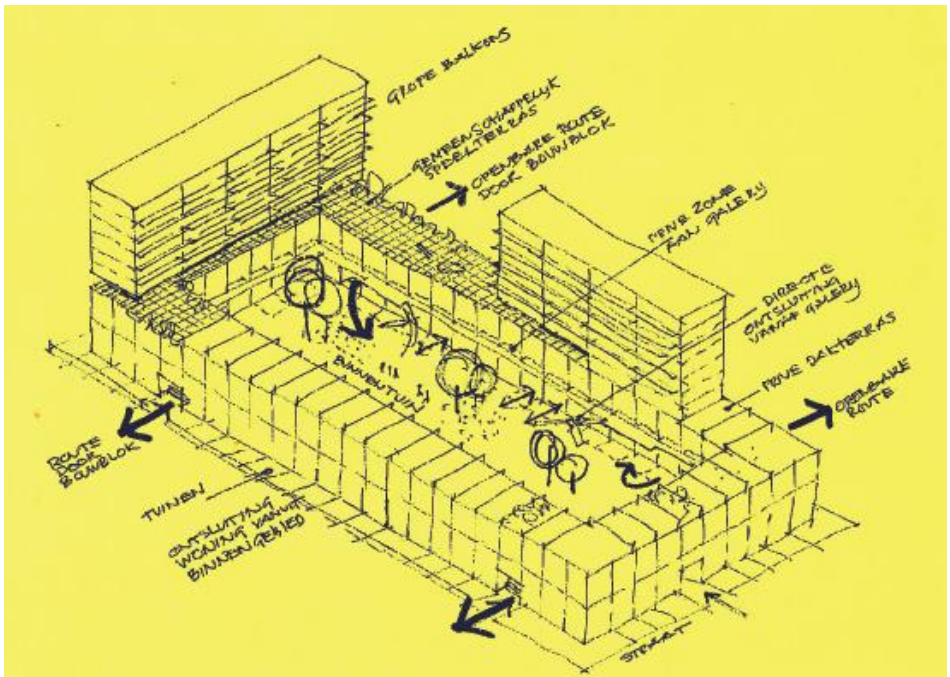
Family friendly environment (Keesom, 2016)

The new generation city children (Neighborhood scale)

This book is a result of interviews with families in Amsterdam and Rotterdam and this book consists of six topics.

1. Neighborhood and school

For a neighborhood there are elements that decide if a neighborhood is attractive or not. These elements are social and physical: friends, school, park, store.

2. Playing outside

This research shows that the two most important locations for children to play outside are the street and sidewalk, and the schoolyard. Cars should be parked around the corner and there should be a division between parking and playing on the street. Parking should be clustered and the bicycles can be placed in the left-over space, partially out of sight. Karsten and Felder state that children will play everywhere and with everything, and that it is advised to combine different functions of the street and street furniture.

stoep

P fiets
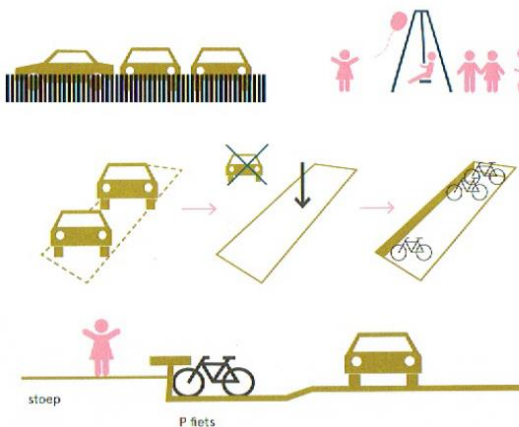
3. Club and day care

Since most parents both have jobs, after school activities have become important for children. In this research it shows that these activities are almost always located on the outskirts of the city. The distances are too big so children are not allowed to go there by themselves. Flat rooftops can be used as playgrounds or activities such as gardening, extra rooms for music and dance lessons.
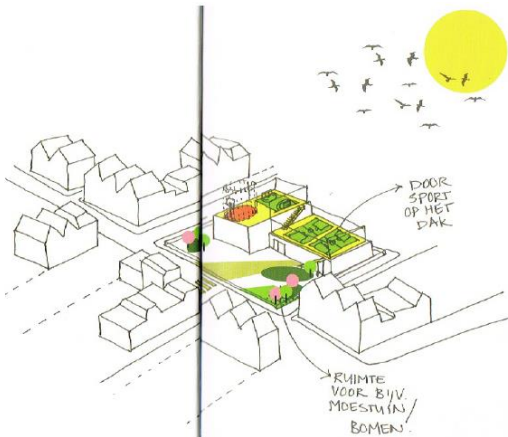
4. Family outings

These family outings are described as "various ways how parents and their children consume the city together spontaneously". These outings are often in a multifunctional public urban space that is shielded from the hectic city life.
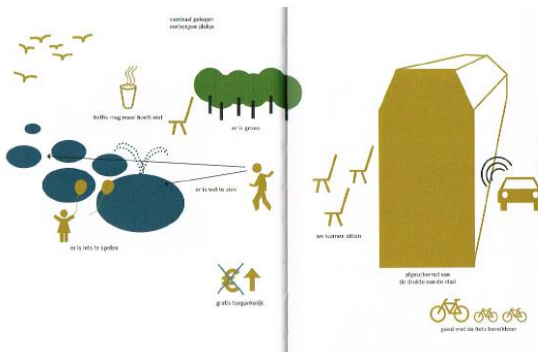
5. Neighborhood and school

Karsten and Felder advise to make connecting streets with slow traffic. The streets become diverse and safe for children. Car-free streets are preferred.

6. Growing up in the city

This chapter summarizes everything that Karsten and Felder suggest. These interventions are:

- Design on basis of an analysis
- Densify
- Create parks
- Enrich the neighborhood
- Foot, bicycle, car (importance order)
- Schoolyard as playground for the neighborhood
- Close proximity of sport facilities
- Parking around the corner instead of playing around the corner
- Wide side walks
- Make space for bicycle parking
- Design double use
- Connect dwelling to ground level

Differentiation in the neighborhood (range 500-1000m) (Karsten & Felder, 2016)
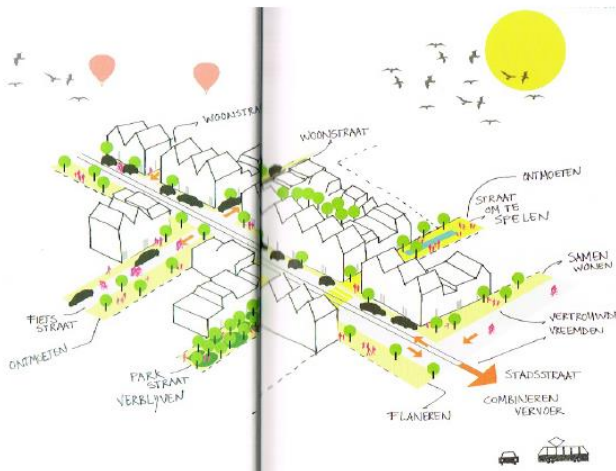
De leefwereld van het kind (The living world of the child)

In their book 'The living world of the child', ANA architects describe that ethnical, social and cultural backgrounds are mainly decided by the environment in which children live, play and learn. A good school, a good dwelling and a playground have positive impact on the effect of the behavior, wellbeing and development of the child (ANA architecten, 2019).

ANA architects implement in their designs these three aspects for children:

1. Living

A safe place to play, accessibility from dwelling, facilities, accessibility by bike, public transport and car are essential.
The building must stimulate encounters. The dwelling must grow with the child but should not be too flexible.

The living room as a hub for single-family house (ANA architecten, 2019).
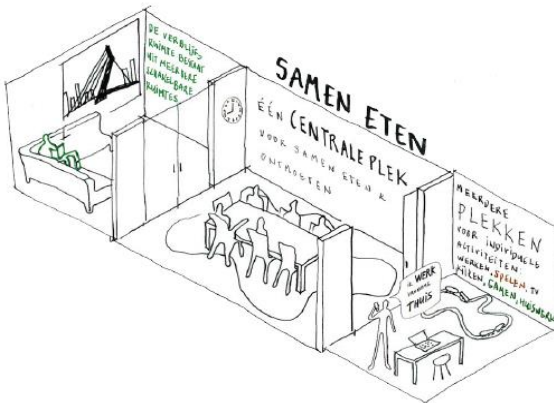
2018

2. Playing

Playing outside is extremely valuable for the development of the child. It contributes to the health, prevents obesity, it makes children stronger and more social, it has a positive effect on brain development and in addition children who play outside have a positive impact on the quality of the neighborhood. According to in the study, children play outside less because they find many play areas boring, it too busy with school and hobbies, put them in play more fun or because playing outside is not may or may not (ANA architecten, 2019).

1960

The use of the car vs walking (ANA architecten, 2019)

[6] O+S, 2014

Wide street

Playground

Collective courtyard

Gallery
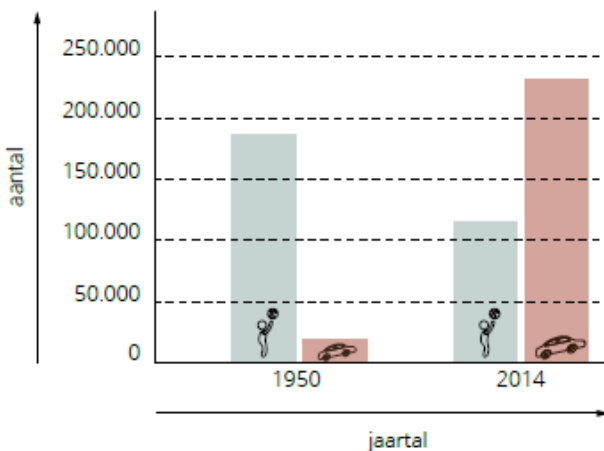
Elements for playing (ANA architecten, 2019)

3. Learning

It is important that the school stimulates the personal development of the child by varying relationships with the world outside of school and thus challenge the child to move out personal boundaries. The school offers security and gives at the same time the space to the need of children to be able to develop, to discover and to be challenged.
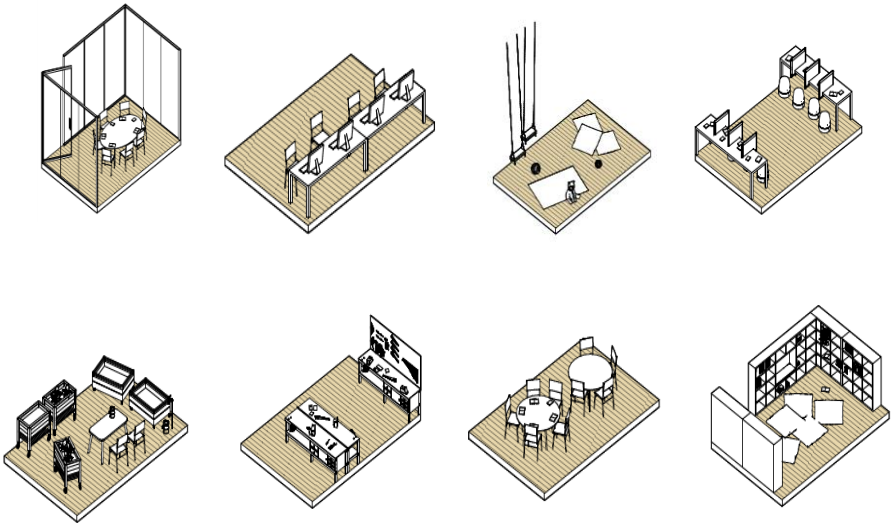
Flexible elements for co-operative learning (ANA architecten, 2019)

SURVEY

SURVEY

For this graduation studio I carried out a survey among 24 people, 13 of them were 15 years old or younger. I formulated some questions about childhood and these are the findings.

I played rather (more): (Ik speelde liever (meer))
24 responses

● outside (buiten)
● Inside (binnen)

41.7%

58.3%
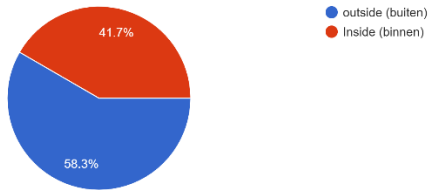
How did you usually get to school? (Hoe ging je naar school?)
24 responses

● By car (met de auto)
● By bus (met de bus)
● Walking (lopend)
● Cycling (fietsend)

29.2%

50%

20.8%
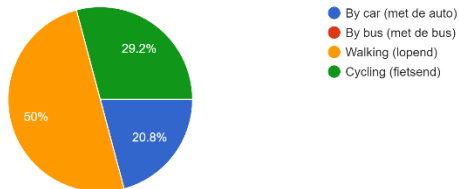
When school was over, where did you go? (Toen school over was, waar ging je naar toe?)
24 responses

● To home (naar huis)
● To my friends/family (naar vrienden/familie)
● To a hobby (naar een hobby)
● I played outside (ik speelde buiten)

12.5%

12.5%

75%
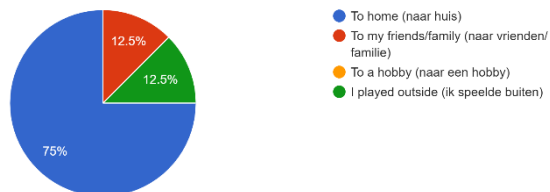
Childhood in three words:
- *Very much chaotic*
- *A happy thing*
- *Boring yet good*
- *Carefree, free, nice*
- *A good childhood*
- *Playful, fresh, unsure*
- *Tv, soccer, friends*
- *Cozy, fun, funny*
- *Playing very much*
- *Nice, short, cozy*
- *Carefree, playing, learning*
- *Nice, tv and playing*
- *Free, nature, playground*
- *Tv, books, family*
- *Family, friends, protected*
- *Nice, gaming, playing*
- *Fun, social, happy*
- *Active, freedom, happy*

Favorite memory of childhood:
- *Playground and park*
- *Playground next to our home, all of my friends were there.*
- *Playing on the street with all of my friends.*

- *There was a neighbor who we called ''oma minnie snoepie''. She was an old lady and whenever we rang the bell to her house, she would answer with a bowl of candy and we could pick something. We went by almost every day.*

Did you go out to play without a grown up? (Mocht je buiten spelen zonder toezicht?)
24 responses
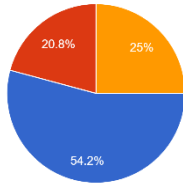
- Often (4 -6 times a week) (vaak, 4-6 keer per week)
- Sometimes (1-3 times a week) (Soms, 1-3 keer per week)
- Never (nooit)

20.8%
25%
54.2%

Did you go to visit friends/family without a grown-up? (Mocht je vrienden/familie bezoeken zonder toezicht?)
24 responses
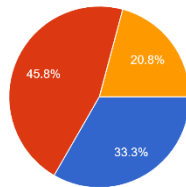
- Often (4 -6 times a week) (vaak, 4-6 keer per week)
- Sometimes (1-3 times a week) (Soms, 1-3 keer per week)
- Never (nooit)

45.8%
20.8%
33.3%

What would you have liked to be in your vicinity? (Wat zou je dichtbij je huis gewild hebben?)

61
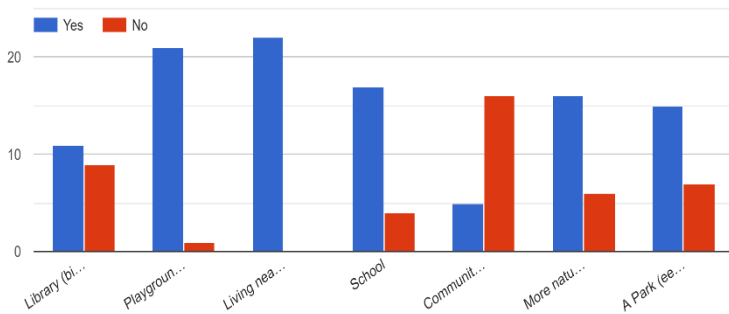
Most of the responses wished they had more nature (73%), a park (68%), playground (100%), library (55%) and living near by friends (100%) and school (81%) in their childhood.

When asked what their favorite space in their home was and the reason, most of the respondents found the living room their favorite place because everybody was there and their bedroom because it was their personal space where they could rest/play/ have privacy.

When asked what their favorite space outside their home was and why, most of the respondents answered the playground near their house since they could play there and meet up with friends.

"The was a playground near my house that had a house-like structure as a plaything. It was really nice to be able to roleplay in it, but it also acted like a sort of shelter. We made it our own thing. Oh and scouting, a place where children meet, play and learn in a different way. You learn so many things, but it's also about having just a fun time."

The respondents stated that they had freedom to go outside but it was limited to their playground or school. For most of them independent mobility began at 8 years old.

"As a small child I was smart enough not to go to places where I had never been with my mother."

"I feel safe as I was not allowed to go too far away. "

"I think it was pretty good, depending on the age I could go further and further every year, which meant I could explore new things."

"The attic was divided in 2 spaces, 1 room where my parents slept and a space in between the stairs and the room. In this space there was a desk with a computer, and during the day it was the only space that was actually quiet and not busy. Even though the computer was old and you couldn't do much on it, it was really nice to have a place to yourself and watch videos or sing along songs, while also not being secluded in your room."

"the stairwell: because there was a large landing where you could play and i was also allowed to make a big mess on the stairs and use it as a play area."

"the living room, after school i always went to the living room to eat while i watched tv. On the weekends when everyone was free, we sat in the living room and that was the only time we did something together with the whole family at home."

"my bedroom. It belongs to me. I can stay in my room without being disturbed by my parents."

CASE

STUDIES

- The family
- Masira
- Babel
- narkomfin

The Family

Location: Delft Spoorzone
Architect: ANA
Realised: 2009
Dwellings: 68

In The Family residential complex, in the Spoorzone Delft, several apartments are specially for families. The homes of one or several floors are due to a smart design easy to adapt to any family stage and diverse family compositions. Not just the individual houses but the whole complex is designed to offer families a perfect living environment in an urban setting. In and around the building, places have been set up for children of different ages. Young children play in front of the door on the extra wide galleries or on the green play deck. For the older children there is a soccer cage on the roof off the building. It is "City Family Community Building" a complex that offers space and security who want households with children, within walking distance of the urban bustle and affordable for families with middle income.

0   50
20   100
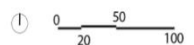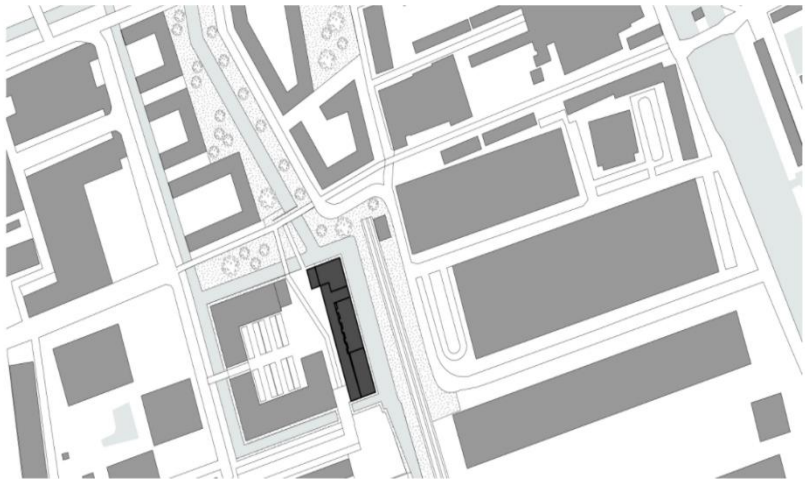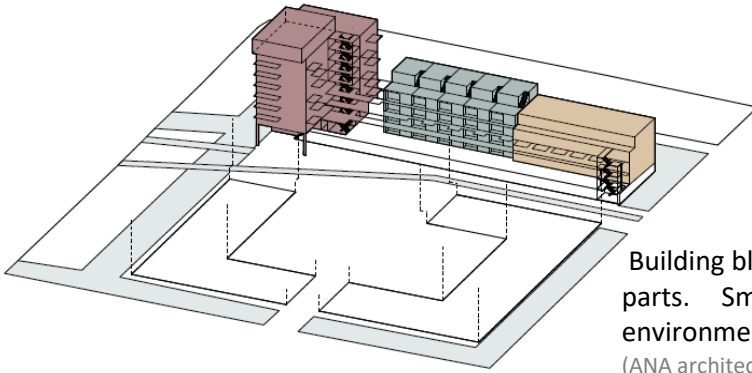
Building block is cut in three parts. Small—scale living environments are created. (ANA architecten, 2019)
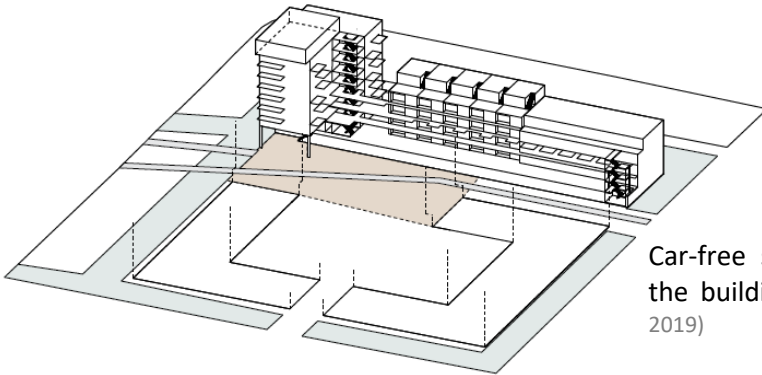
Car-free square in front of the building. (ANA architecten, 2019)
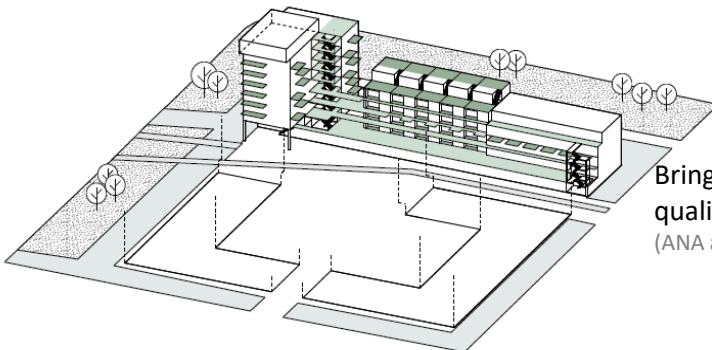
Bringing environmental qualities into the building. (ANA architecten, 2019)

Sport cage | Play-stage | Play-

Wings | playgroun

Play deck
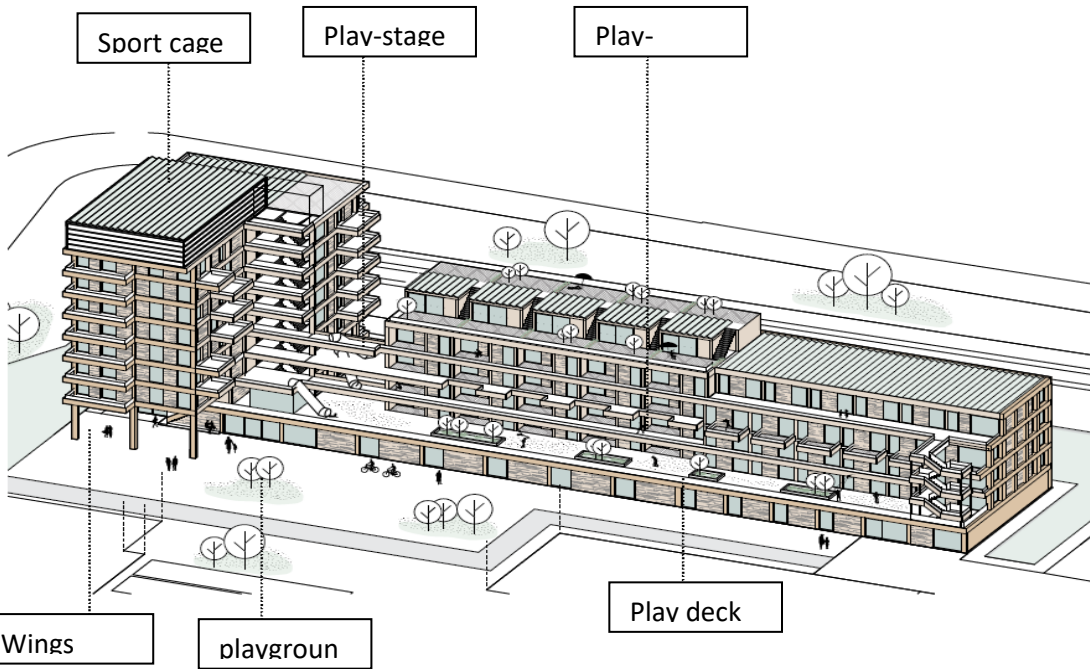
Different types of play are implemented in the building. This
is based on the action range of children. (ANA architecten,
2019)
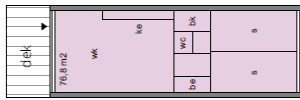
Family apartments
2 persons
76m2
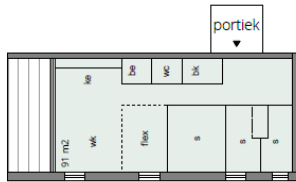
Family apartment
2-3 persons
91m2
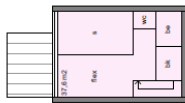
Family apartment
3-4 persons
114m2
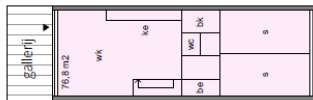
Family apartment
4-5 persons
95-130m2
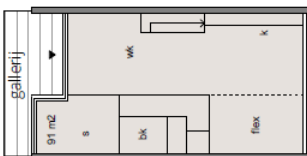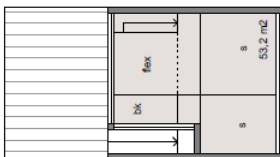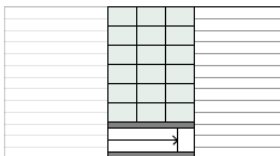
Collectiveness

The family is a gallery flat with different sizes of galleries. These galleries become smaller on the higher floors. The ground floor is for parking and trees go through this deck, and light enters the parking space. Children can use different galleries by means of slides, which makes the family a playground on itself.

The dwellings don't have a hallway but instead the kitchen is connected to the gallery. This makes the connection to outside stronger and it gives parents the possibility to observe their children playing outside. The high-rise consists of dwellings for bigger families. On top of the high rise there is a football court for children. This way children can play outside without crossing streets and being supervised by their parents.

69

Masira

Location: Delfland, Amsterdam
Architect: ANA
Realised: 2004-2010
Dwellings: 106

Masira is a new building block which replaces an open building block from the 1960s. In the plinth of this residential building maisonettes for families are realized. These maisonettes are anchored on different ways with the environment. The building block is hybrid since it represents itself as a closed building block where the orientation of the dwellings arise from the strip construction which characterizes the Garden Cities. The courtyard is not private but a mix of private, collective and public space which is accessible through large gates on both long sides of the building. A diversity of dwelling typologies is achieved by varying circulation, outdoor space types and usage areas.

0   50
20   100

Collective courtyard

Car-free play- street

Private zone at the street

street

Playing on the sidewalk
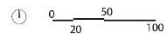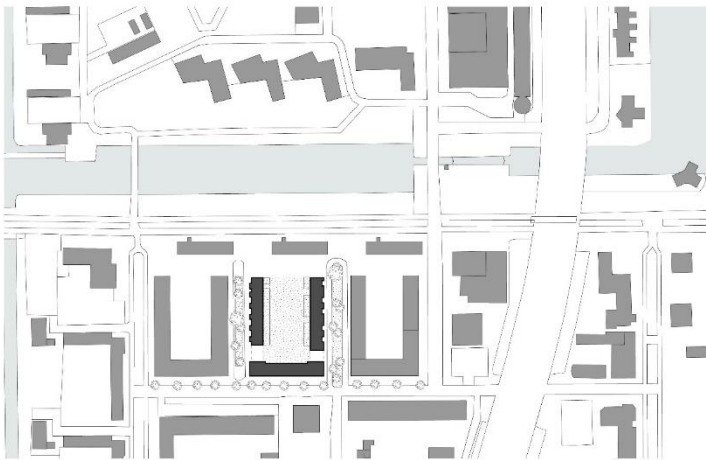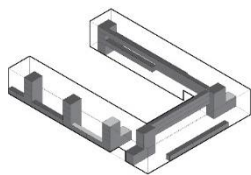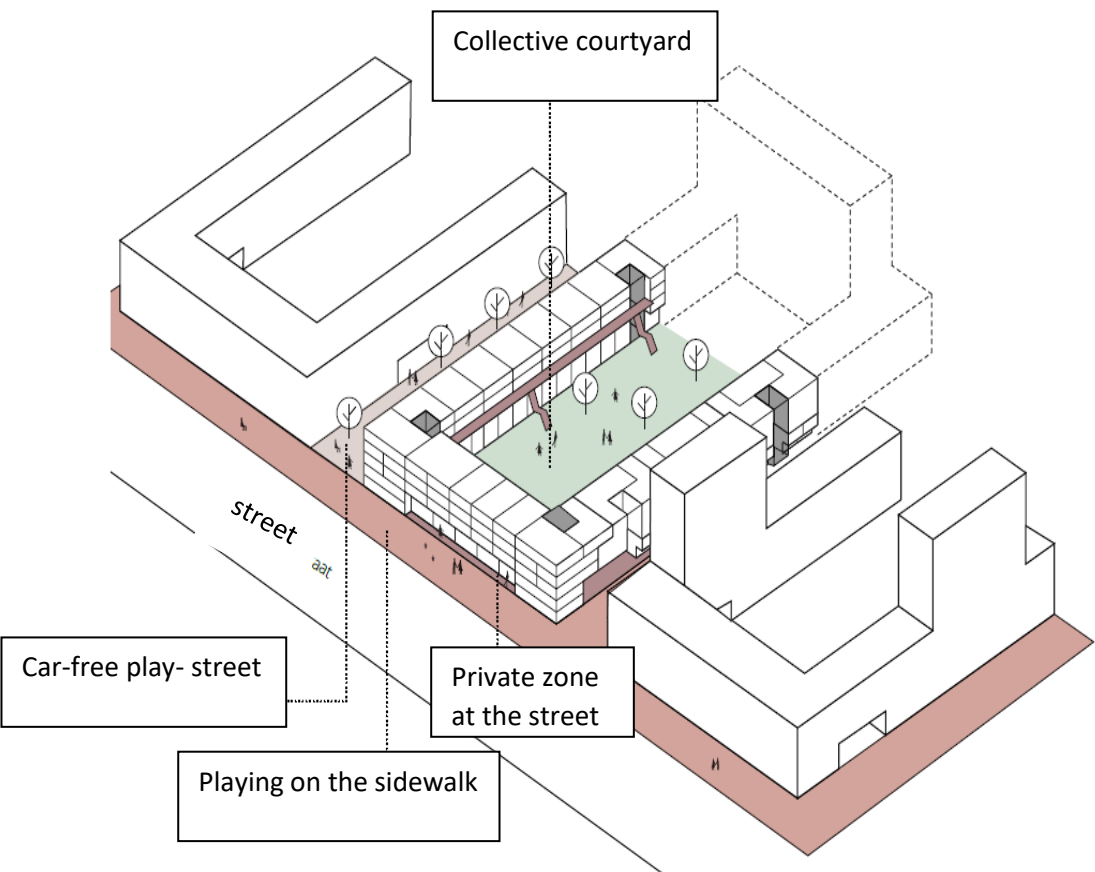
Circulation consists of different typologies: corridors, gallery and central cores.
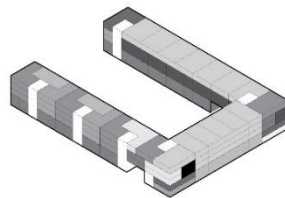
There is a cluster of dwelling typologies.

Wide sidewalk

Collective garden
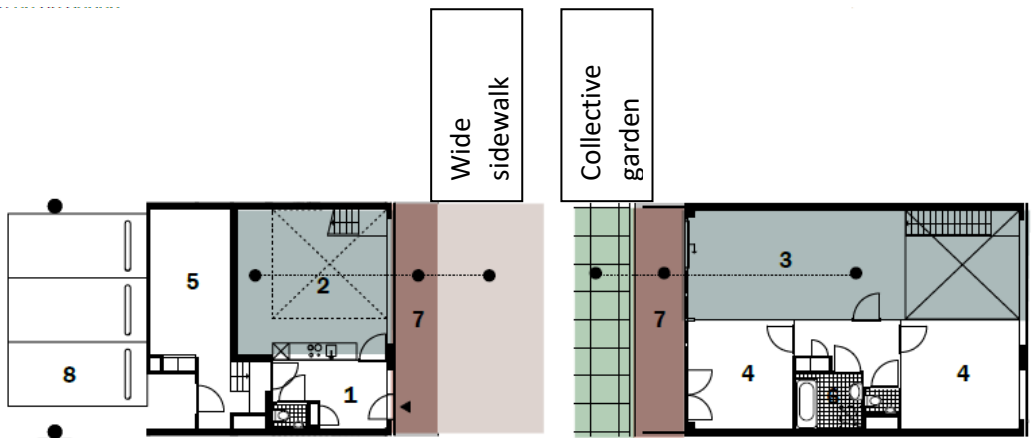
1. hallway
2. kitchen
3. living room
4. bedroom
5. storage
6. bathroom
7. terrace
8. parking space

The dwellings have a front and back door adjacent to the and wide pavement is the kitchen. Private zones of the houses are on the upper floor levels, this way privacy is being kept. (ANA architecten, 2019)
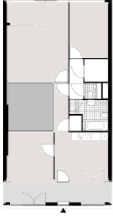
Family Apartment
5-7 persons
120-140m2

Family Apartment
5-7 persons
120-140m2
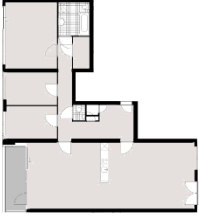
Family Apartment
2-4 persons
90-120m2

Elderly Apartment
1-2 persons
70-80m2

Family Apartment
3-4 persons
90-120m2

Family Apartment
3-4 persons
90-120m2

Family Apartment
2-3 persons
70-90m2

Family Apartment
3-4 persons
90-120m2

Babel

W19
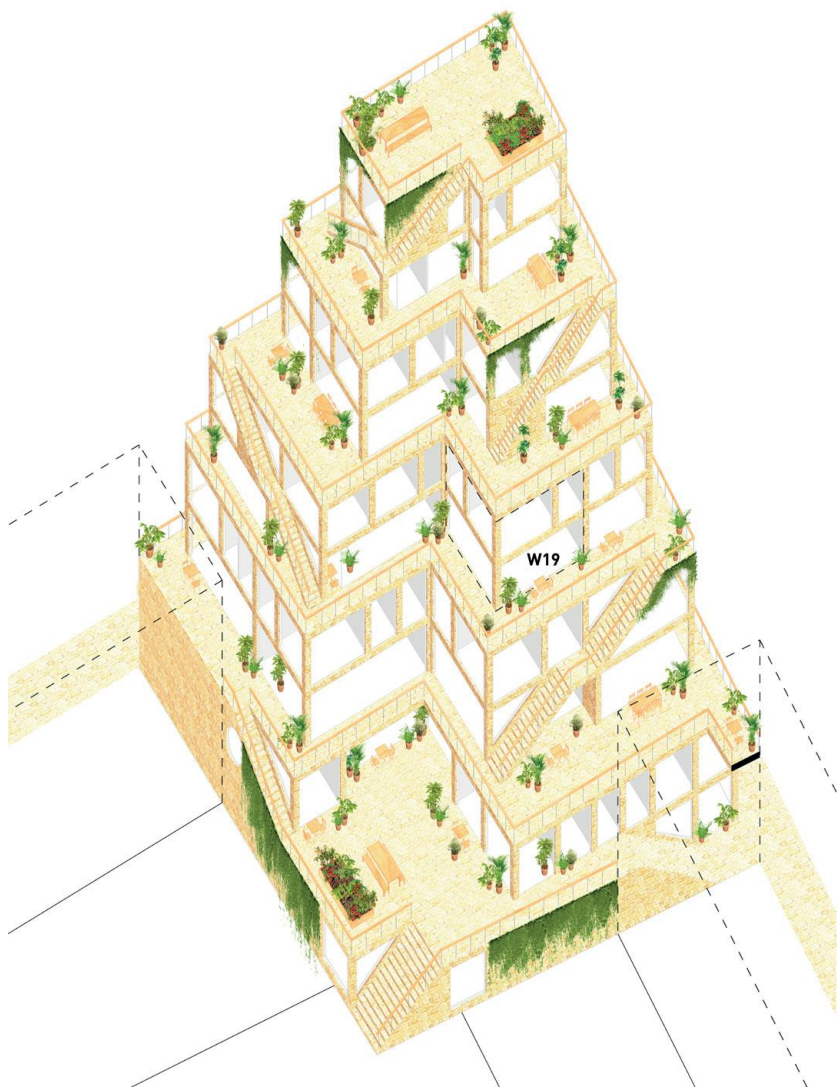
Location: Rotterdam
Architect: Laurens Boodt Architect
Realised: 2018
Dwellings: 24

The Tower of Babel is a design for a new residential tower with 24 family homes on the Kratonkade on Lloydpier in Rotterdam. A special feature of this residential tower is the street that goes up around the building and which connects the various private terraces. in size from approx. 90 to 145 m². The ground level, the other houses are accessible by accommodates the stair and terraces around the building.
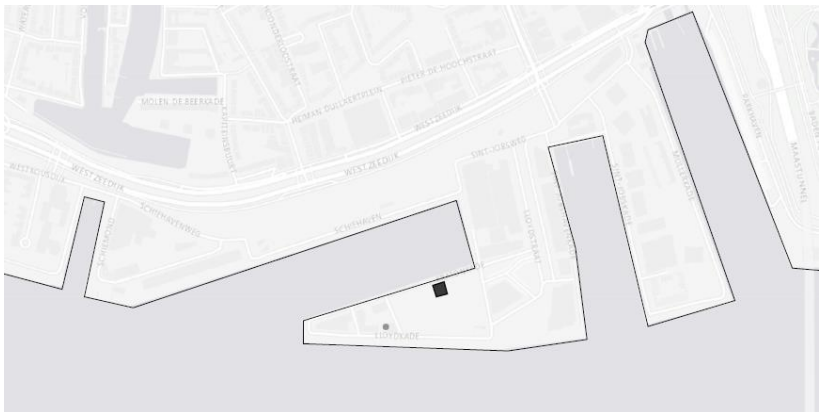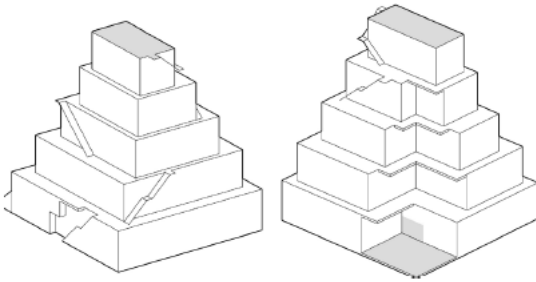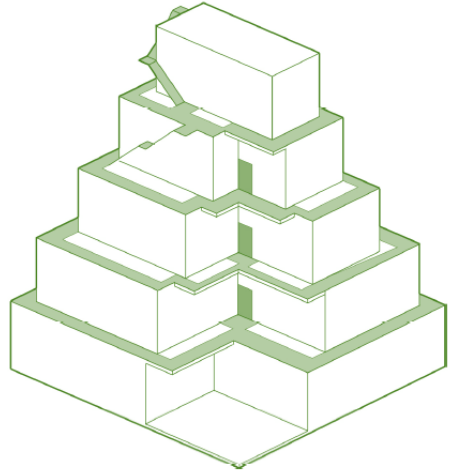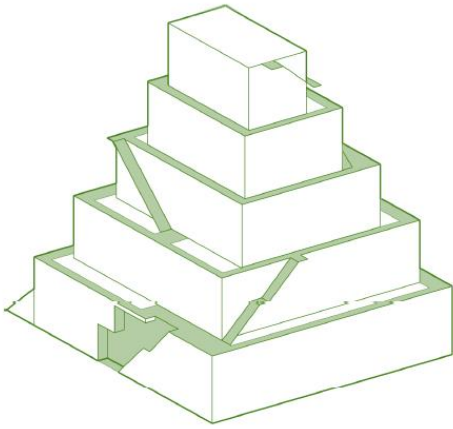
Legend:
- Type A
- Type B
- Type C
- Type D
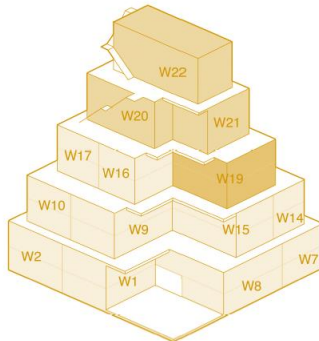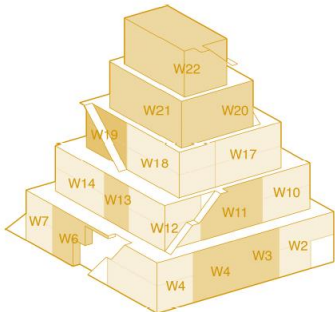
Front side

Back side

77
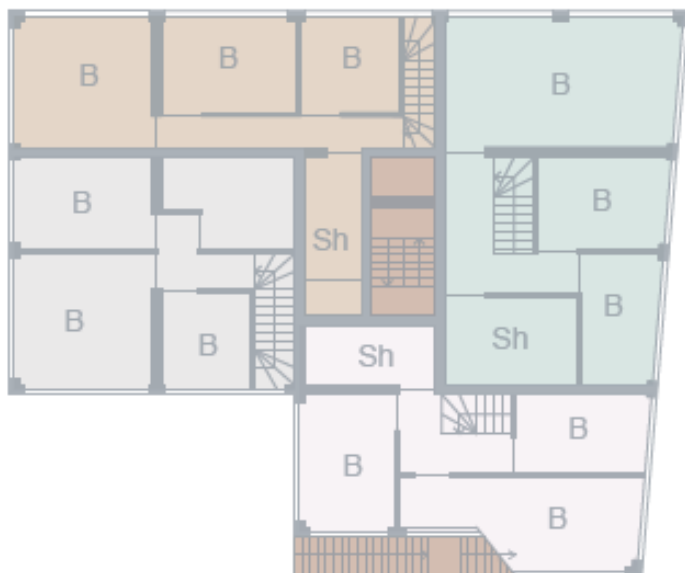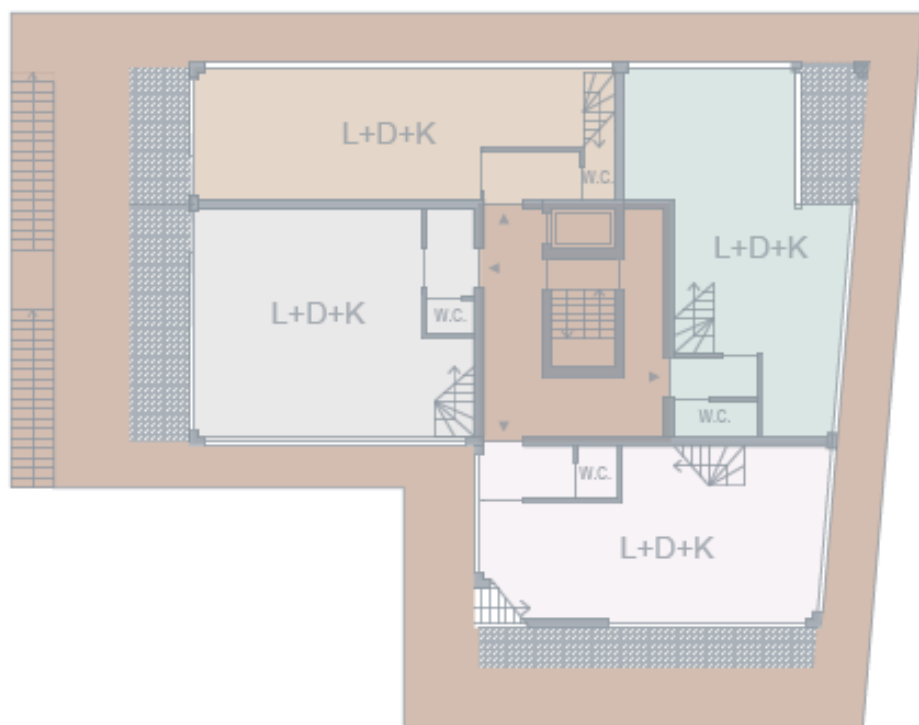
Level 7

Level 6

Narkomfin

Location: Moscow, Russia
Architect: Moses Ginzburg and Ignaty Milnis
Realised: 1928
Dwellings: 54

Ginzburg had a clear vision about how architecture could play an active role in embracing the communal life. Therefore the living unit in the Narkomfin building must be redirected outwards towards society at large. This was achieved by moving many daily functions into communal areas, such as lounging, excercising, eating, child-care. The interior features two level apartments, spacious entry halls and corridors, and a community terrace on the roof. The building stands on pilotis, and features ribbon windows, a plain facade and a roof that can be used for additional facilities. In communal apartment buildings, people would be free from individual household work and spend most of their leisure time in public.
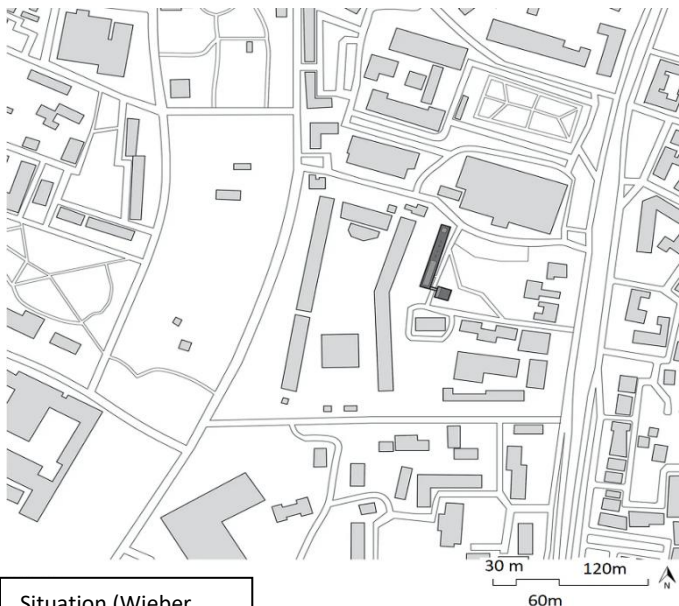
Situation (Wieber, 2020)

Narkomfin has five inhabited floor levels, but only two corridors, on the second and fourth level. The Narkomfin has two types units: F-type and K-type, both having the innovation of a split level. In section, each apartment forms the shape of an L, and interlock so that the central void becomes the access corridor. The F type units are minimal dwelling units – containing only a single room divided into a living and sleeping area as well as a bathroom. In each unit a small and removable kitchenette is included. Most of the units belong to the K-type with a double height living room) and F-type connecting to an outdoor gallery.

Type F Apartment Unit

Type K Apartment Unit

Indoor Public Corridor

Outdoor Public Corridor
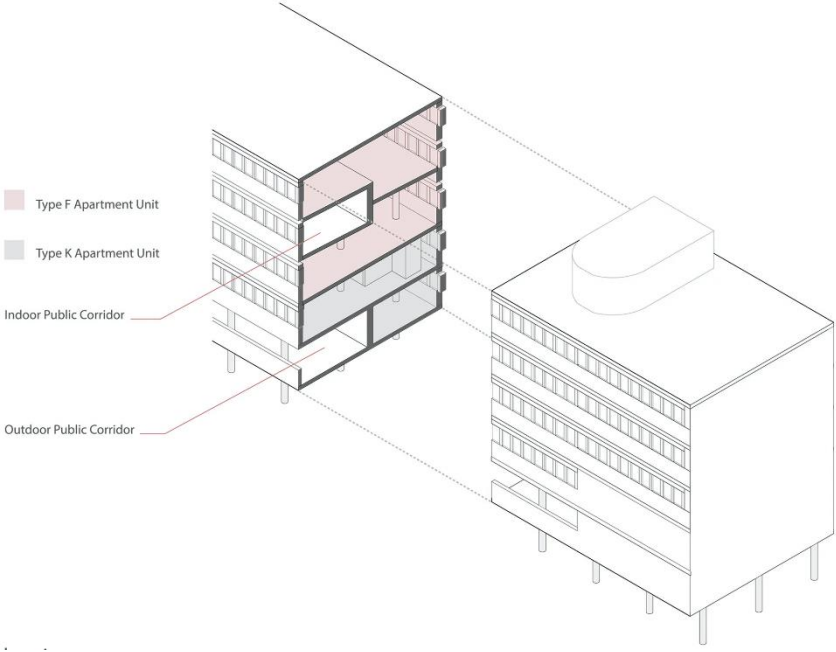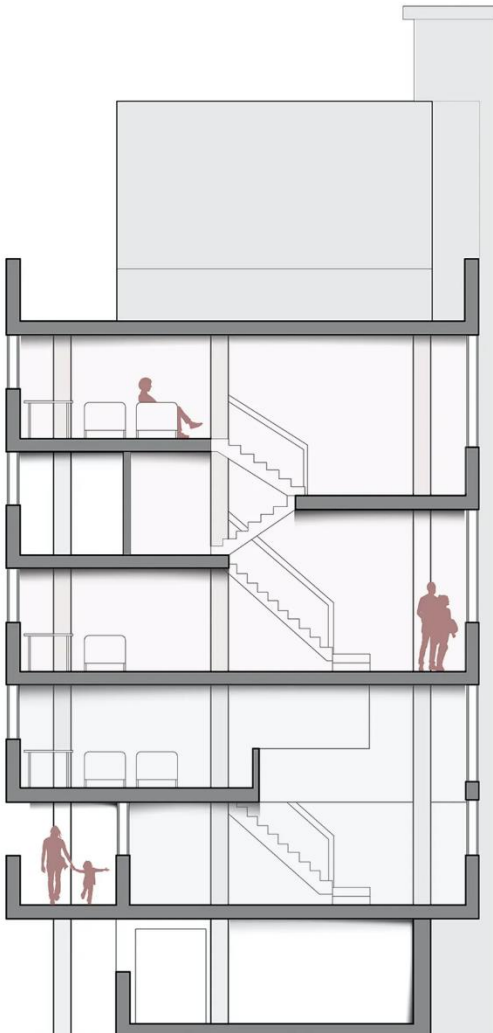
Penthouse rooftop garden: These penthouses were for the higher class and were at the top of the building. There is access to a rooftop garden.
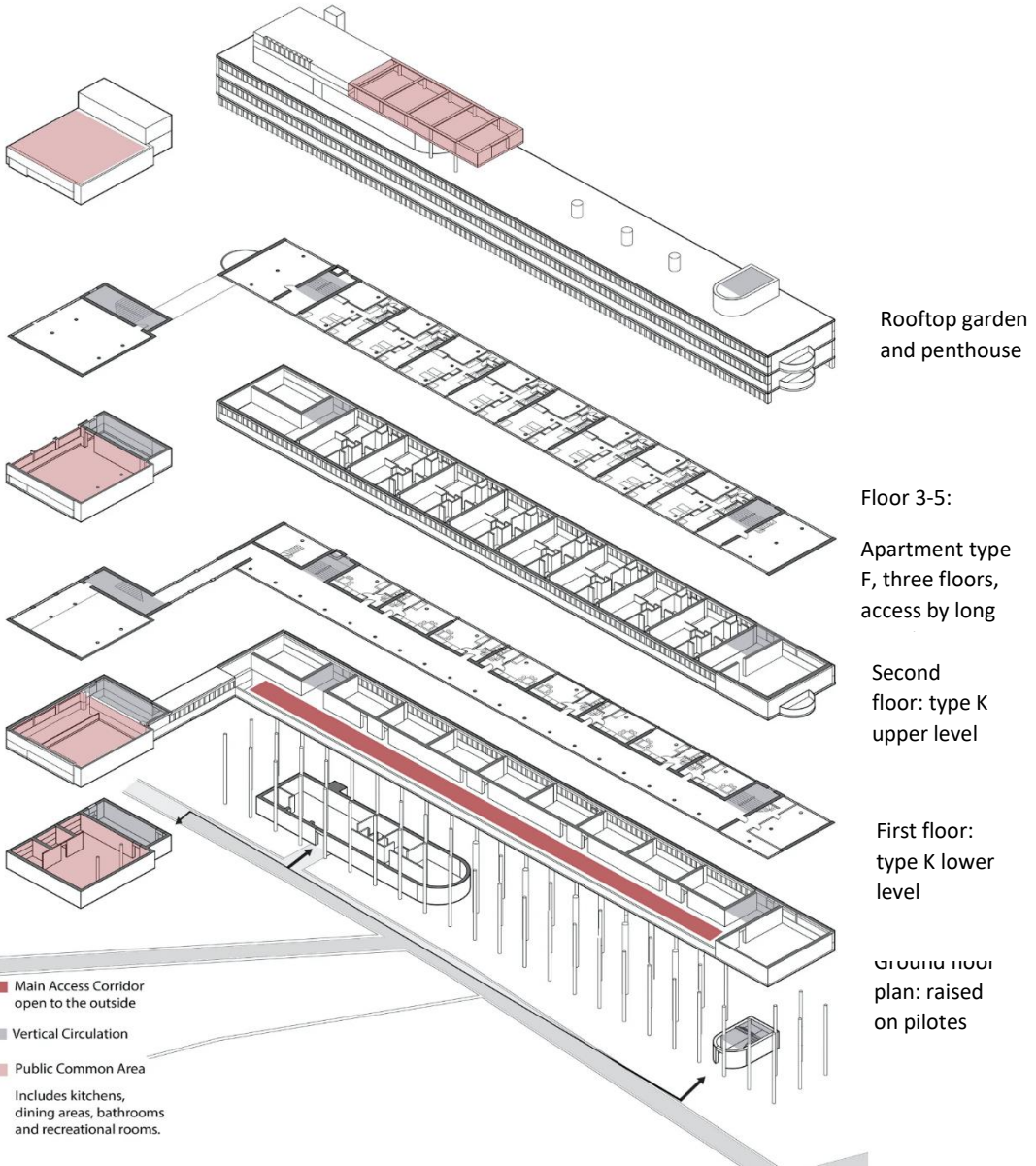
Type F apartment: these apartments were for single or a couple. It's suited for a communal living and has only one bedroom, living space and a bathroom.
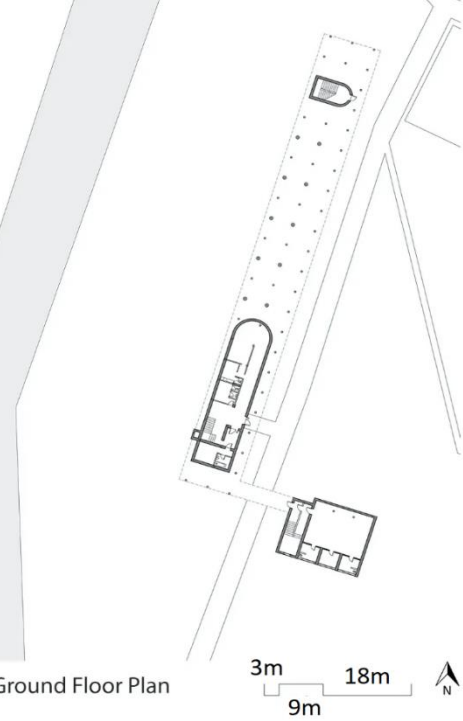
Type K apartment: these were for families. There are bedrooms, a living space, bathroom and a small kitchen.
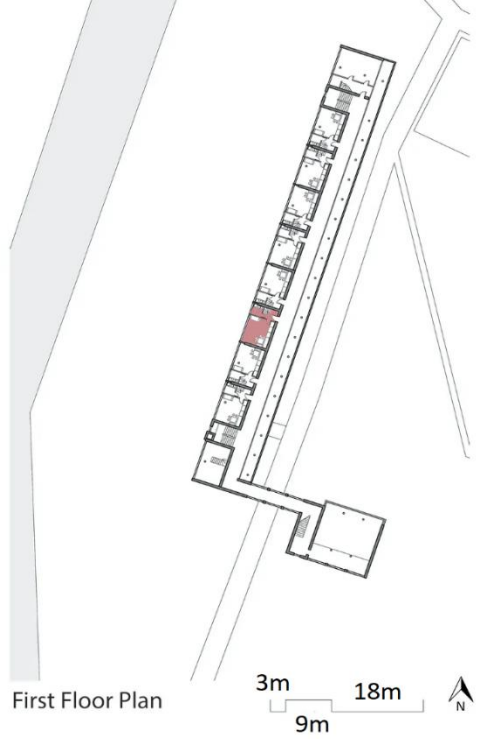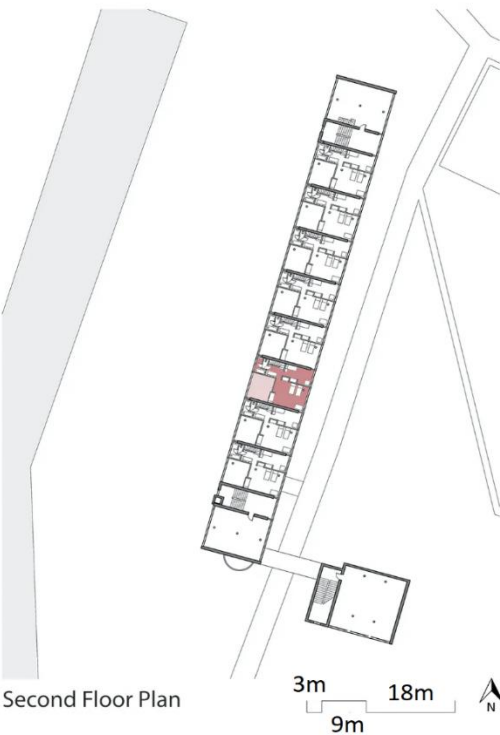
Rooftop garden
and penthouse

Floor 3-5:

Apartment type
F, three floors,
access by long

Second
floor: type K
upper level

First floor:
type K lower
level

Ground floor
plan: raised
on pilotes

Main Access Corridor
open to the outside

Vertical Circulation

Public Common Area

Includes kitchens,
dining areas, bathrooms
and recreational rooms.

Floorplans Narkomfin (Wieber, 2020)

Ground Floor Plan

3m 18m N
9m

First Floor Plan

3m 18m N
9m

Second Floor Plan

3m 18m N
9m

Sources:
archi.ru. (2018, 10 18). retrieved on 5-12, 2020, from
archi.ru: https://archi.ru/en/79374/15-faktov-o-dome-narkomfina
architect jvr. (2015, 6 7). Retrieved on 16-12, 2020, from https://architectjvr.wordpress.com/2015/06/07/welcome-to-moscow-welcome-to/
de Architect. (2019, 10 1). Retrieved on 18-12, 2020, from https://www.dearchitect.nl/architectuur-blog/2019/10/blog-gemeenschappelijk-wonen-narkomfin-gebouw-1928-in-moskou-door-moisej-ginzboerg-en-ignaty-milinis-101230824

84

URBAN

MASTERPLAN

Urban masterplan M4H

Site Location

The Merwe-Vierhaven area (M4H) is an old port site of approximately 100 hectares on the North side of the Maas. Once, it was the largest fruit ports in the world where daily storage and shipment of various types of fruit took place. Now the port is slowly growing into a new living and working area. The area is home to a variety of activities, the so-called Makers-district. For the graduation studio the Keile-kwartier on the M4H is the location site.

The new masterplan offers a big variety of urban interventions between the quadrants. High-rise dominated quadrant in section A is connected by a bridge with a more human scale, family-friendly area on the opposite side of the water. Second section on the other hand shows two similar typologies that share a communal open space in between. Lastly, as the long section shows, the whole area of Keilekwartier is composed in a form of a bookcase defined by the high-rise buildings on the opposite sides of the district.

The whole urban arrangement of the new masterplan for Keilekwartier is designed to give each of the quadrants equal importance and to keep their existing unique character.

LEGEND

plot border
category break
landmark cross the line
possible overhang
commercial ground floor
plot number
building's max. height
tree placement
residential
workspace
existing building
green/open space

Design interventions
The site plan was divided in four quadrants and each group, consisting of 3-4 students had to design one quadrant. We started our design process by analysing several reputable Dutch neighborhoods, including Strijp S, Binckhorst, Katendrecht and Kop van Zuid. From this analysis, we were able to pin-point the typological characteristics that contributed to the success of these neighborhoods and used them as inspiration for our design. This has resulted in four very distinct quadrants which are still very much connected through urban interventions such as collective open spaces and a bridge connecting quadrants C and D. The differences in typology and vision for each of these quadrants allows Keilekwartier as a whole to be able to accommodate for different wishes and promote the notion of inclusiveness. Within our masterplan, we have tried to respect the history of the location as much as possible and preserved many monumental and iconic buildings, which takes up about 20% of the entire built footprint.

As for the circulation, the masterplan follows the existing infrastructure hierarchy and we've tried to keep motorized traffic to a minimum while still allowing each block to remain accessible by car.
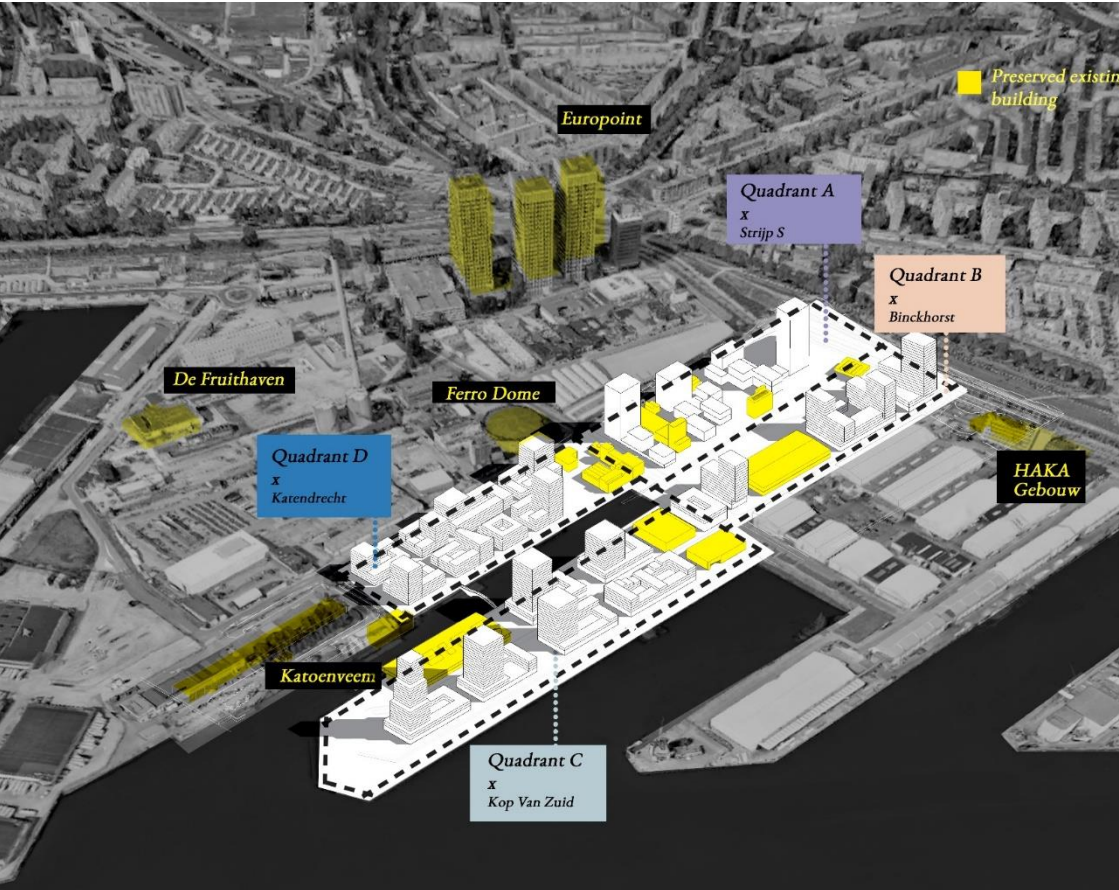
 Most of the ground floors will be dedicated to commercial functions, workshop space and office space in order to ensure the level of privacy necessary for dwellings facing the public streets. Our masterplan is defined by a set of urban regulations. First of all, extending the axis of Keilehaven as a public open space. New plots have mixed-use functions with publicly accessible ground floors. Some streets are given new hierarchy and importance. For example, part of the frontage of
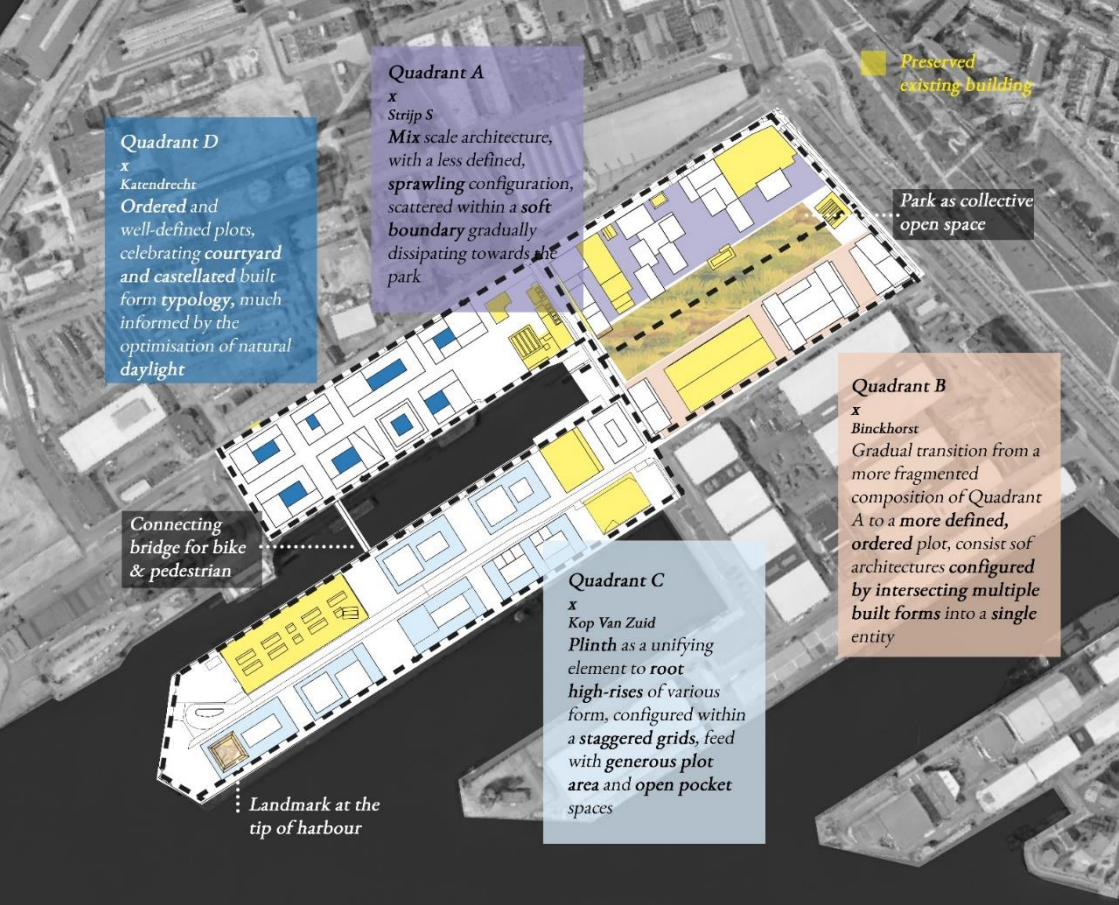
Keilestraat and Vierhavensstraat must be built-up with mandatory facades. Same for Benjamin Franklinstraat and a part of Keileweg. Crossroads of Vierhavensstraat and Keilestraat is highlighted by the 77 meters high tower as an entry point to Keilekwartier. Most of the other plots allow for tower placement, although not higher than 75 meters. Plot number 13 is an exception and allows a maximum height of 94 meters, as a landmark of the Keilekwartier.

When it comes to building typologies, adjusting to the existing infrastructure and plot widths plays a big role. Another important aspect is densifying the area to maximize its potential. Since keeping the existing buildings makes a big impact on the density, it must be compensated by relatively condensed new structures. That's why most of the plots consist of courtyard blocks with a possibility to build relatively high.

Preserved existing building

Europoint

Quadrant A
x
Strijp S

Quadrant B
x
Binckhorst

De Fruithaven

Ferro Dome

Quadrant D
x
Katendrecht

HAKA
Gebouw

Katoenveem

Quadrant C
x
Kop Van Zuid

Quadrant A
x
Strijp S
Mix scale architecture, with a less defined, sprawling configuration, scattered within a soft boundary gradually dissipating towards the park

Preserved existing building

Quadrant D
x
Katendrecht
Ordered and well-defined plots, celebrating courtyard and castellated built form typology, much informed by the optimisation of natural daylight

Park as collective open space

Quadrant B
x
Binckhorst
Gradual transition from a more fragmented composition of Quadrant A to a more defined, ordered plot, consist sof architectures configured by intersecting multiple built forms into a single entity

Connecting bridge for bike & pedestrian

Quadrant C
x
Kop Van Zuid
Plinth as a unifying element to root high-rises of various form, configured within a staggered grids, feed with generous plot area and open pocket spaces

Landmark at the tip of harbour

Masterplan quadrant D

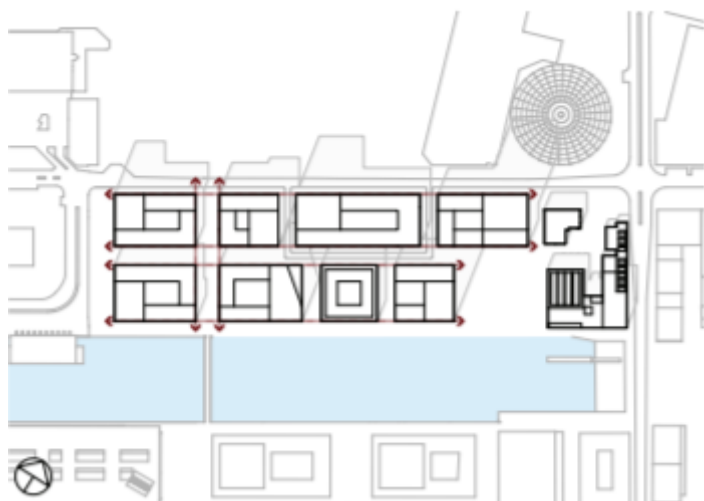

MAKERSDISTRICT

M4H

Rotterdam

PARK

Green connection
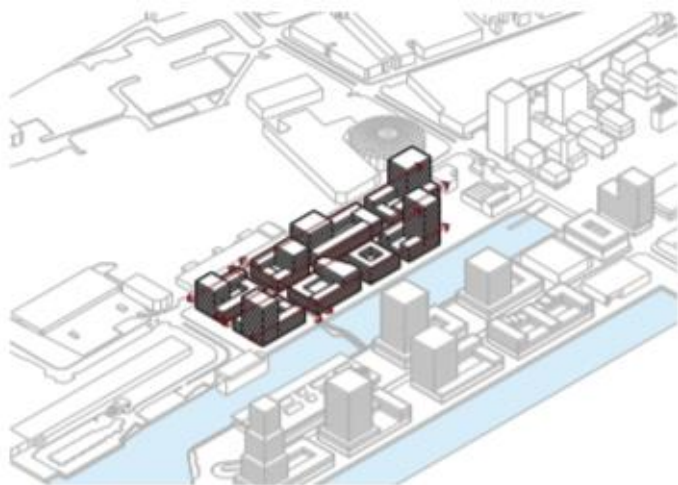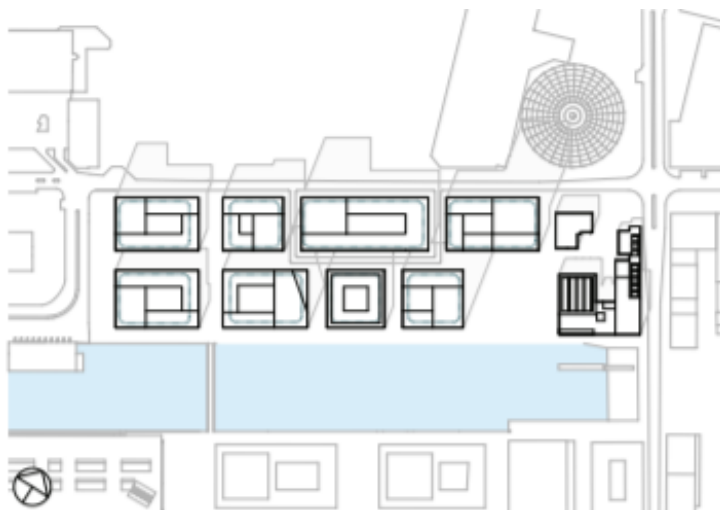
WATERFRONT

PARK
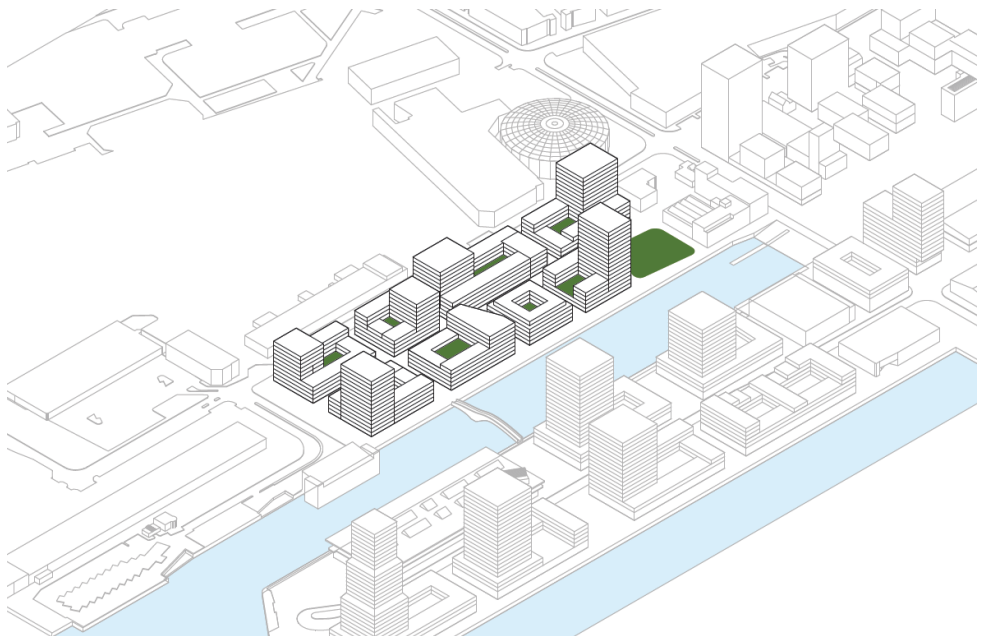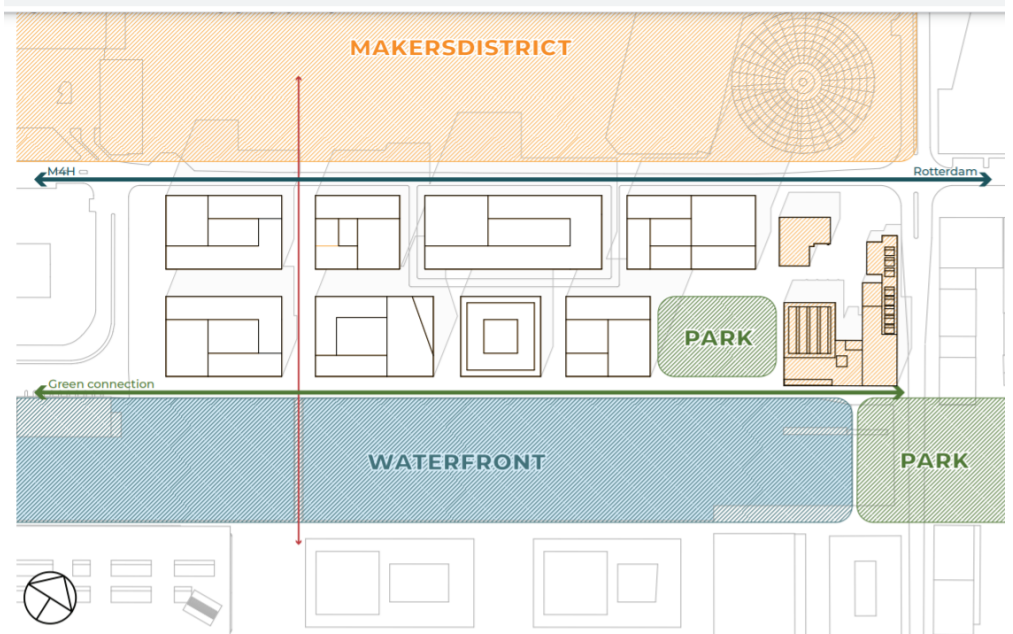
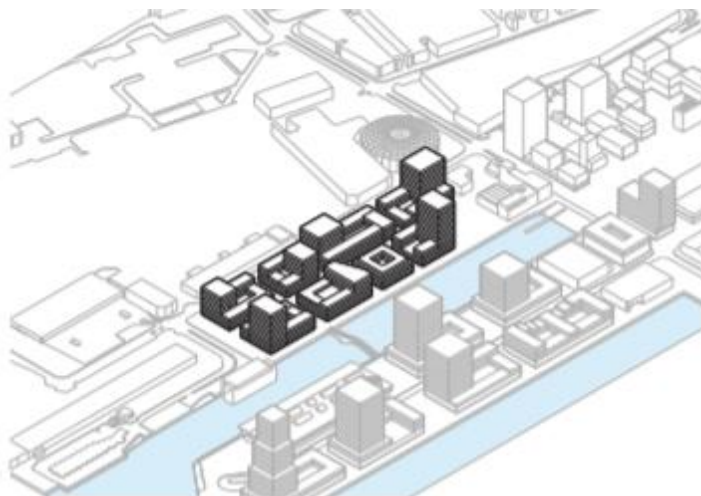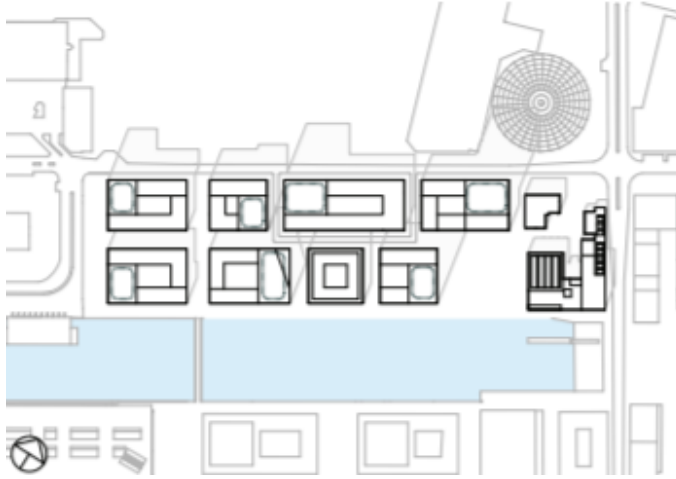# Urban design rules
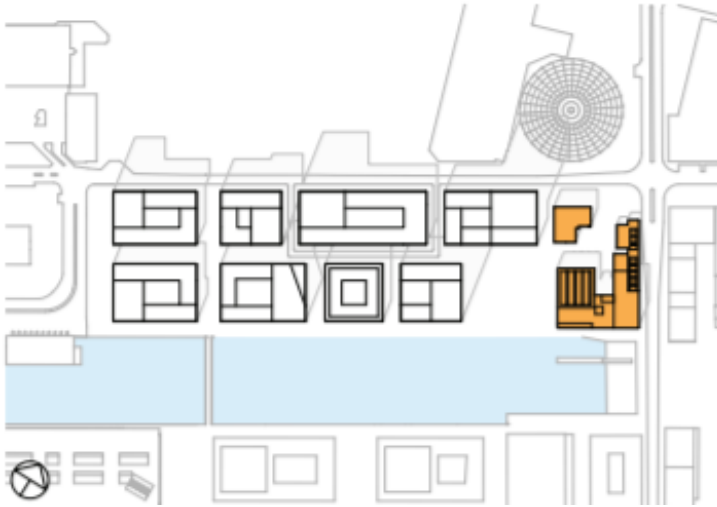
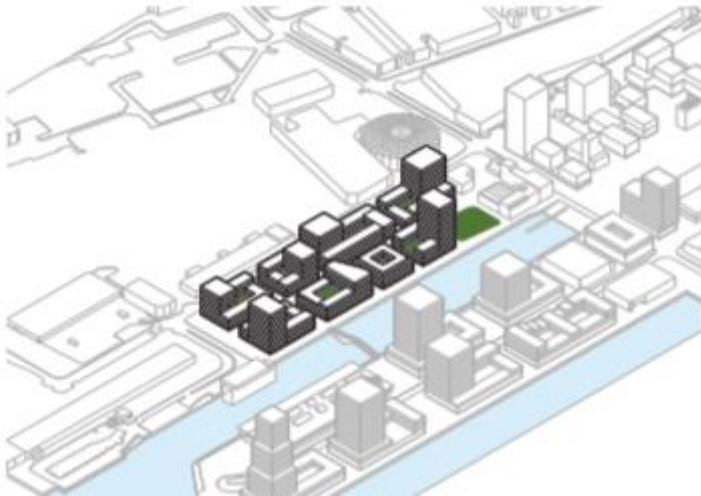Existing cultural hub will be kept.
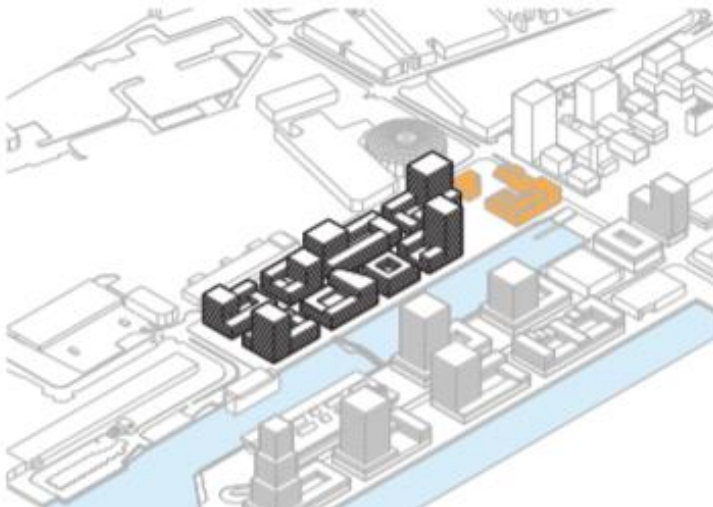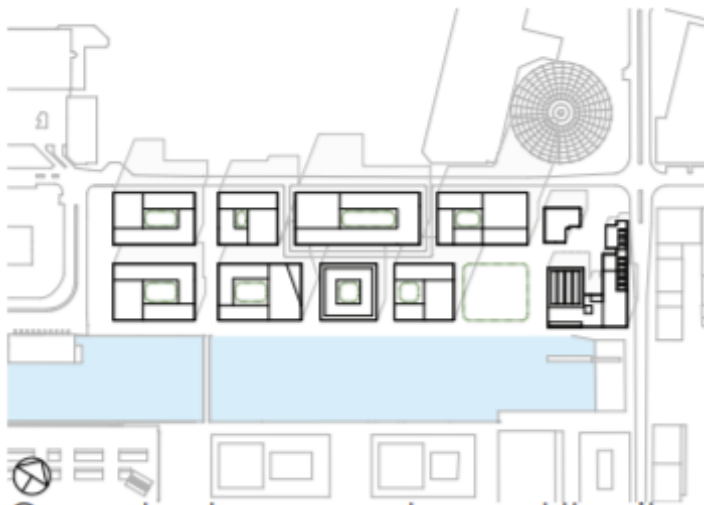
Facades on the main axes are continuous.

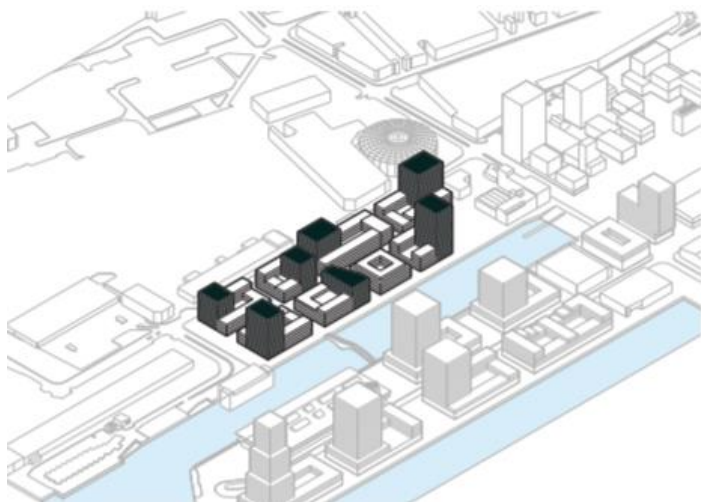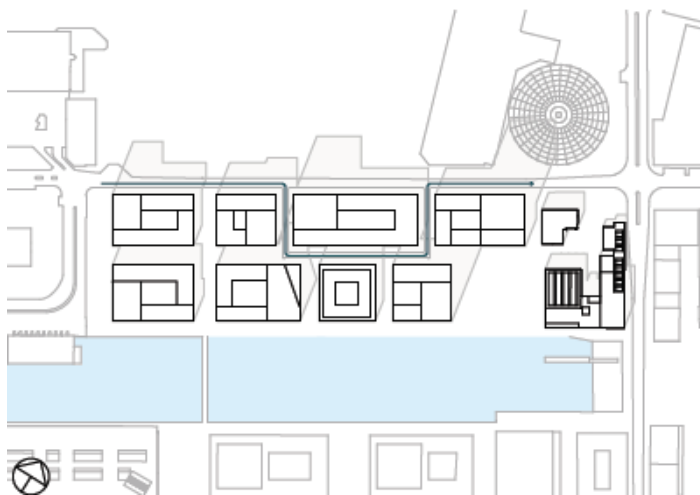Closed building blocks separate public and private life.

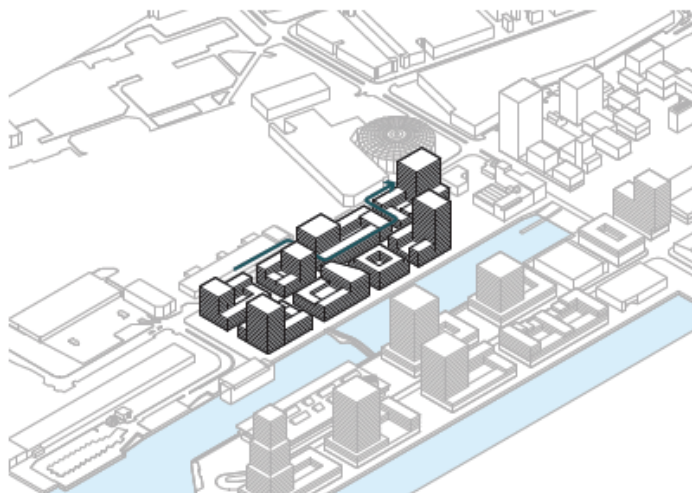Green structures spread around the site give residents a pleasant place to stay.
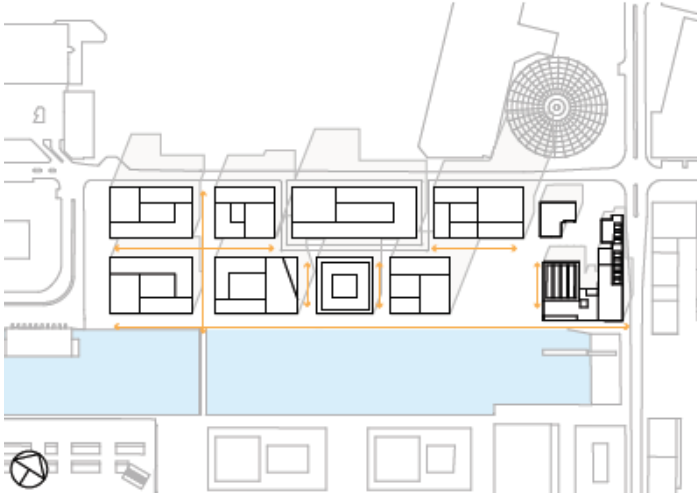
Facades on the main axes are continuous.

A single car road connects all buildings in Cluster D, This way the rest of the area is kept clear for pedestrians and bikes.

Pedestrians and bikes have the right of way in Cluster D, for this reason most streets are car free, and open for residents to explore freely.
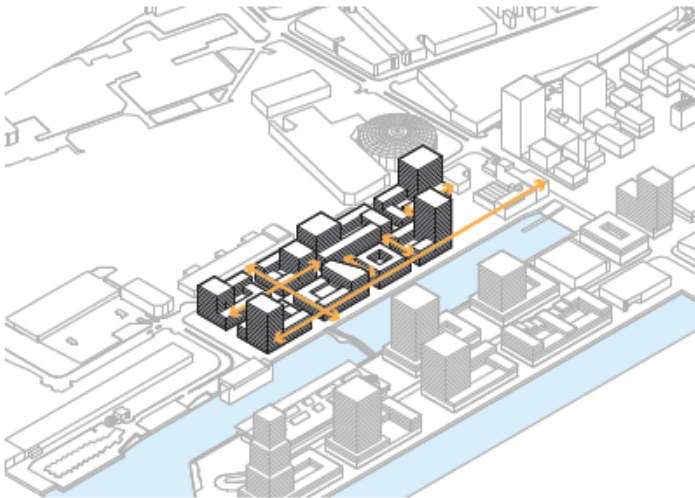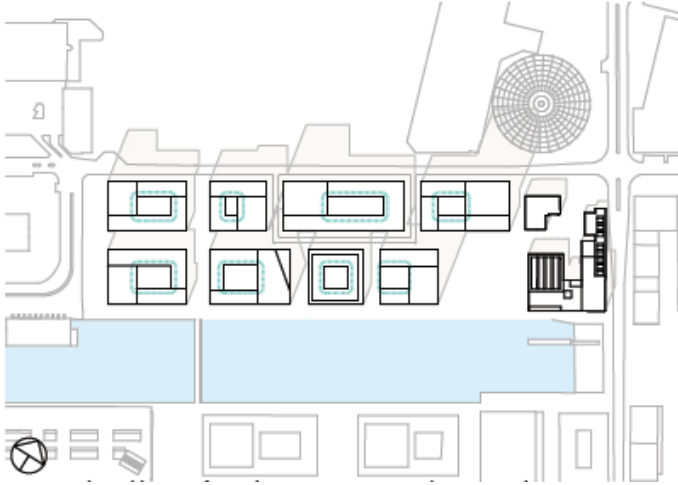
Due to the single car road, each building can solve their parking needs internally.

Conclusion design rules

Straight facade
Pedestrian cc
Green structu
Closed buildi
Courtyards
Towers
Car road

Circulation

Pedestrians
Cars

Building heights

30m | 18m
6m
12m

18m
30m
12m

33m
6m
15m

15m
9m | 6m | 42m
12m | 15m

12m
42m | 6m
15m
FSI=2.88

12m
9m | 24m
15m

6m
15m

15m
6m | 51m
15m
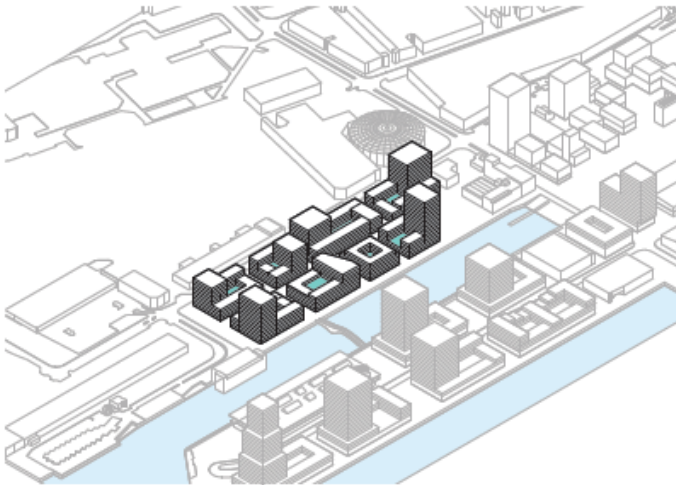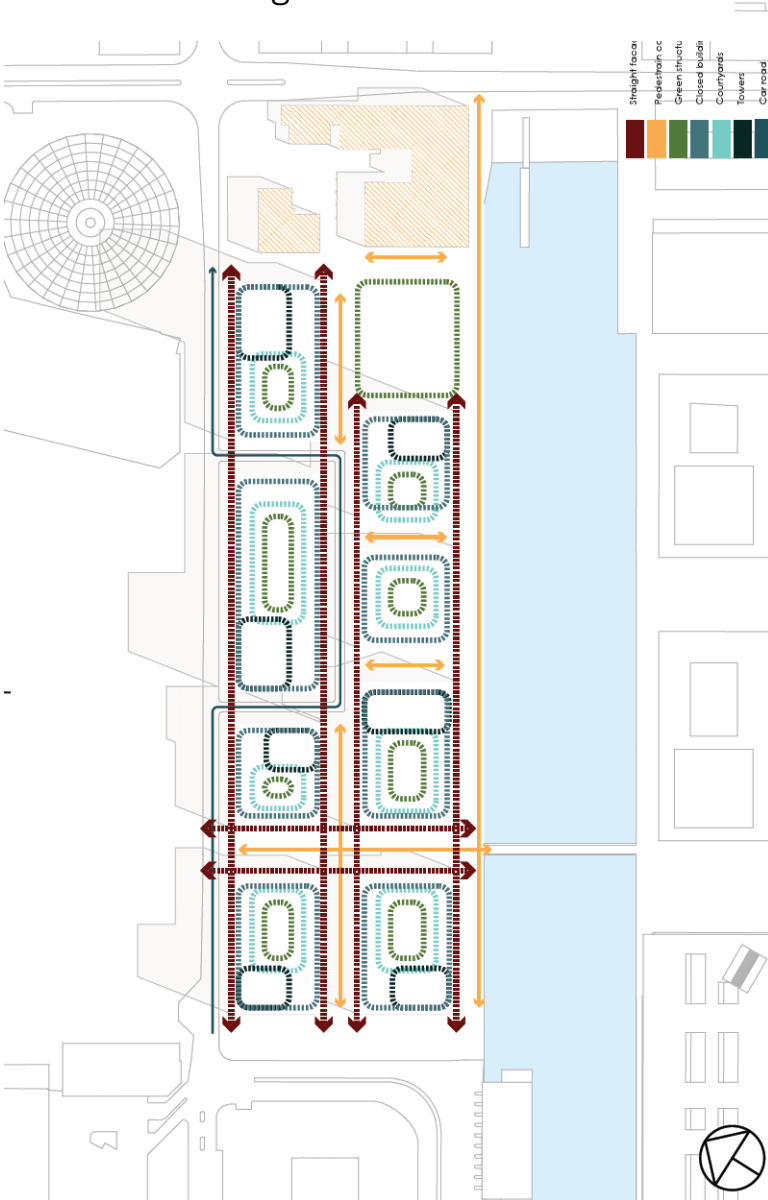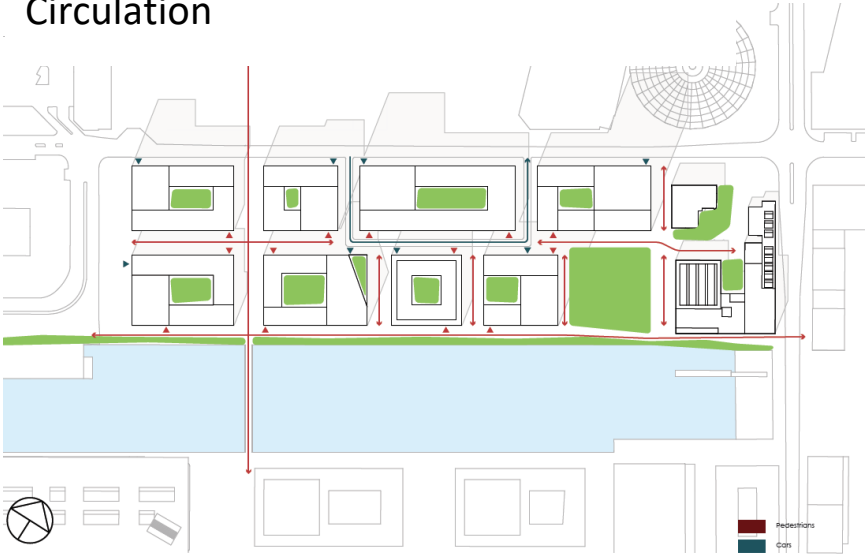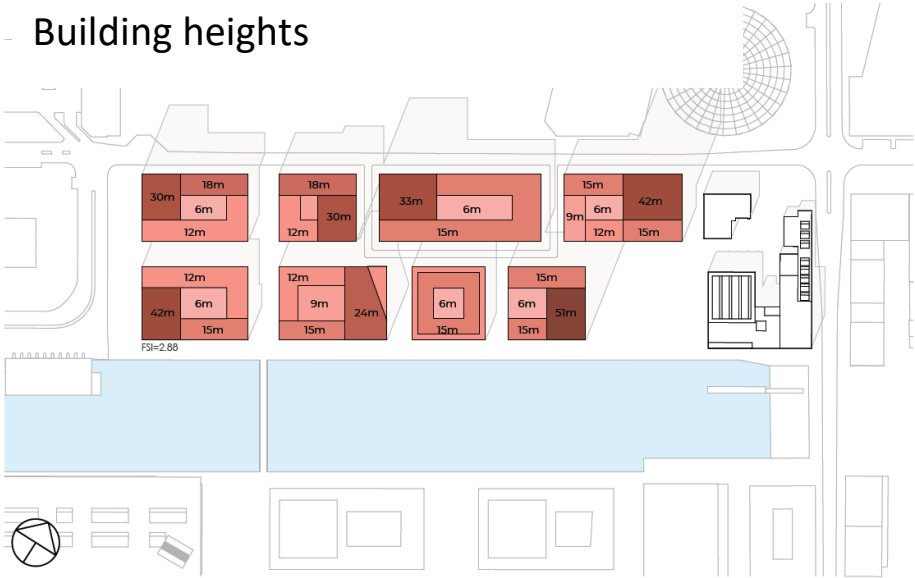
Solar study – total of 4 days

Sections

11m 13m 11m 13m 11m 16m 11m 77m 43m

20m 25m 11m 16m 56m 13m 38m 12m 40m 63m

55m   16m   40m   12m   30m   54m   12m   61m   12m   14m
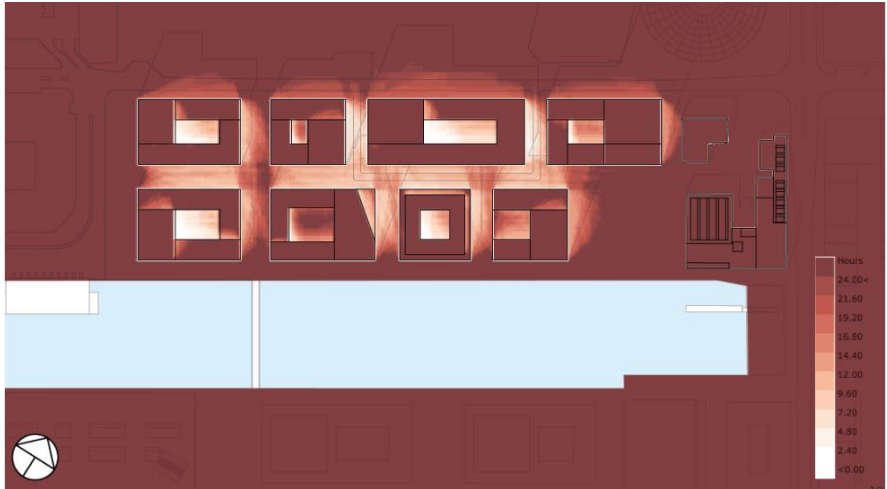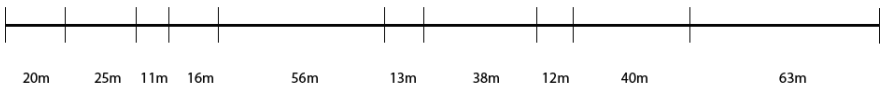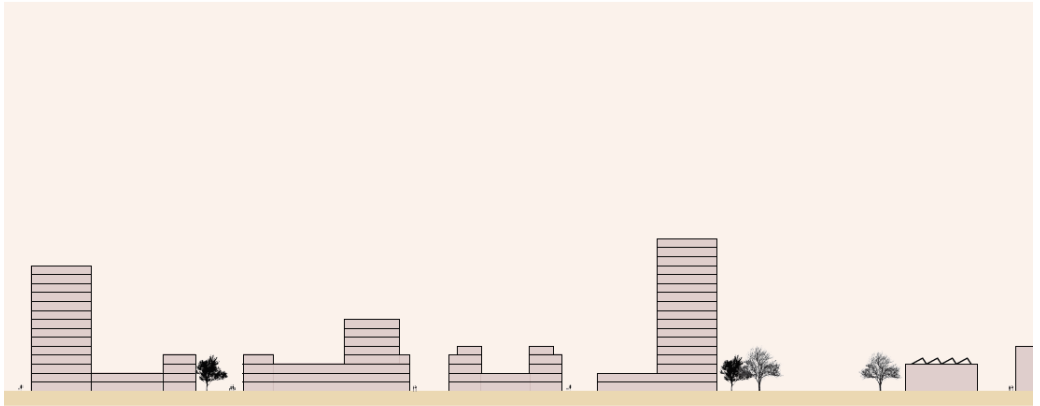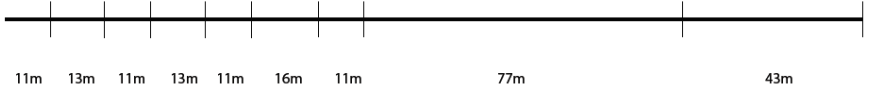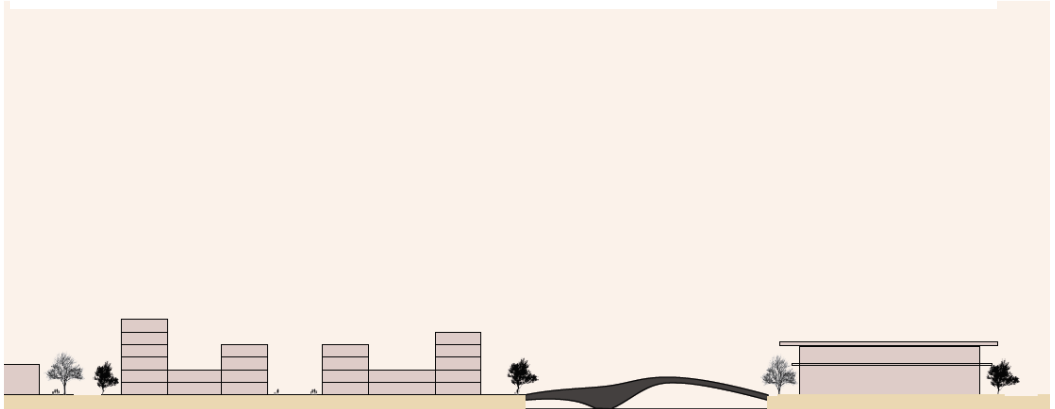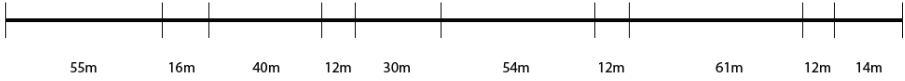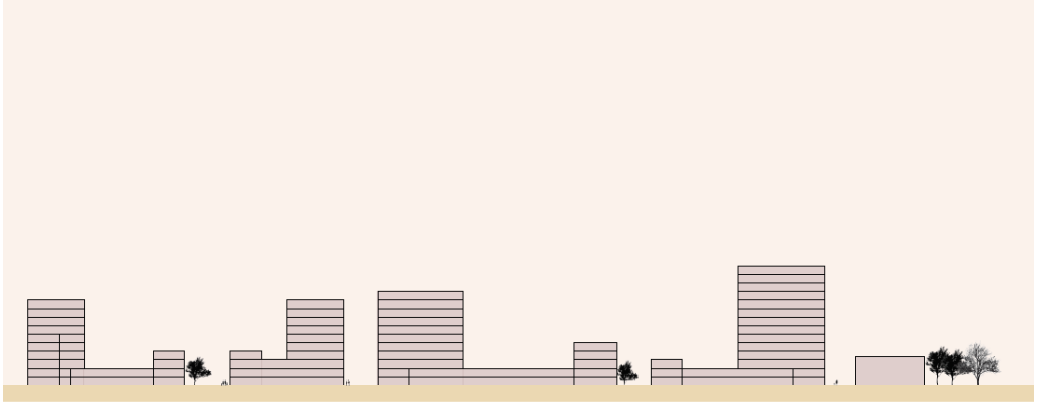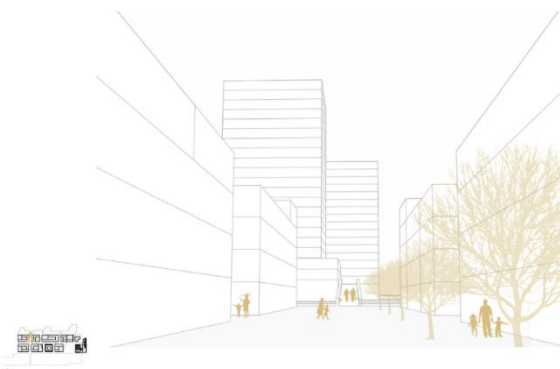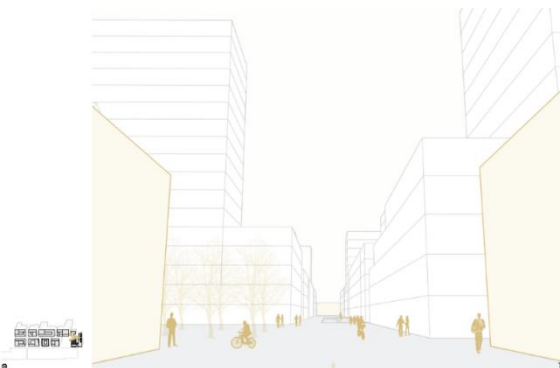
Design concept

DESIGN CONCEPT – LOCATION ANALYSIS
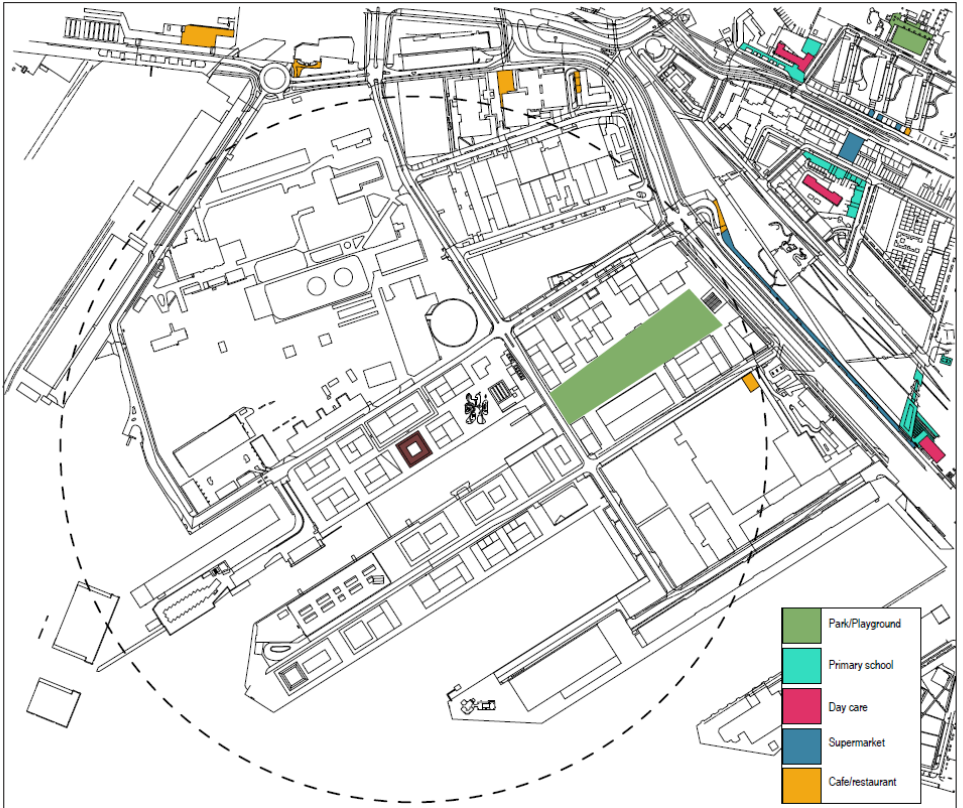
A playground , daycare and supermarket will be added to the
building, since these are out of the activity range.

ACTIVITY RANGE

URBAN CONCEPT

Dwellings orientated towards the south

Collective courtyard

3m wide street in the air, activity range

Playground for children, in activity range

Collective terrace towards the waterfront

Plinth
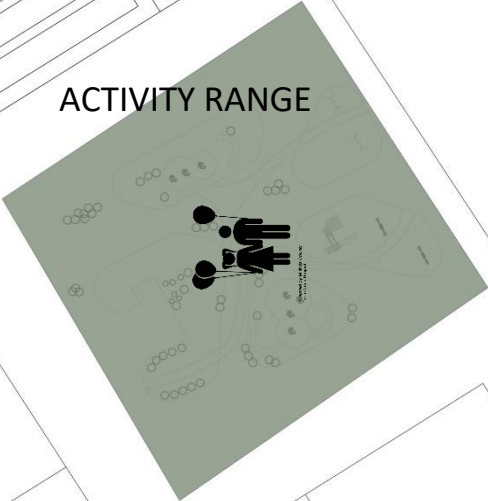
Connection to the waterfront
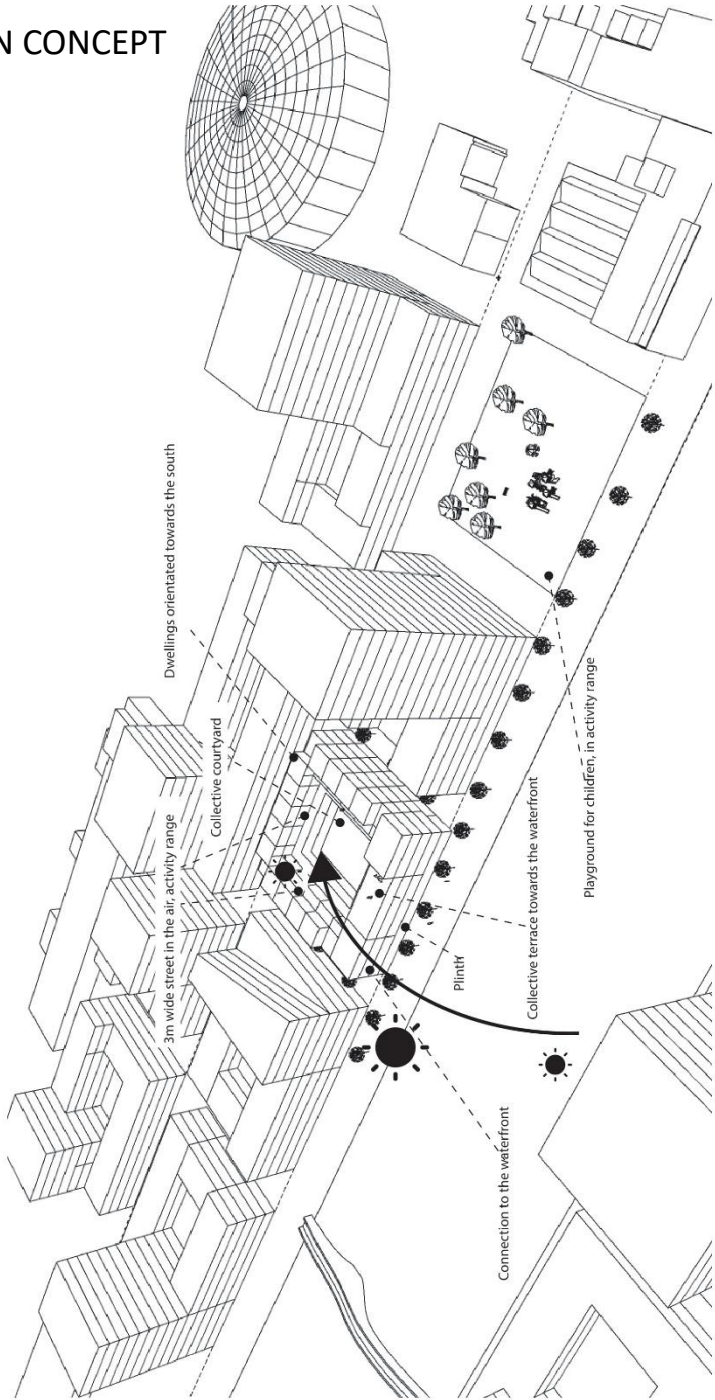
SUN ANALYSIS
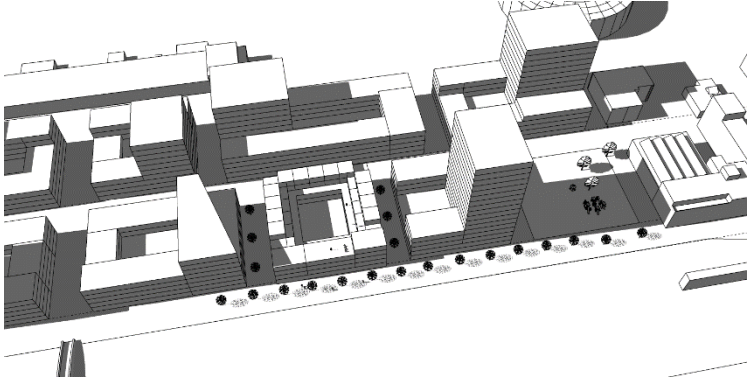
March 18th 15:00 o'clock
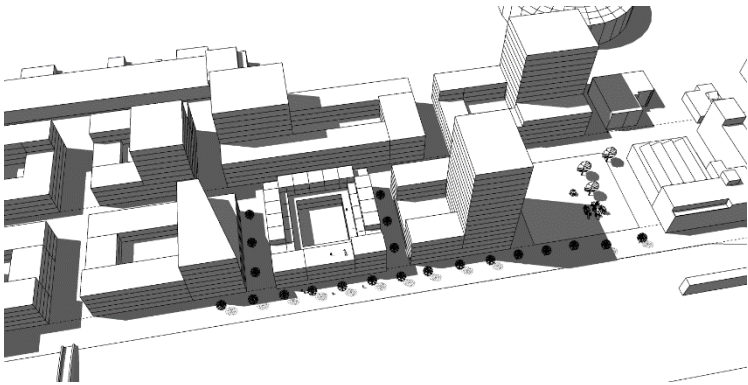
November 18th 15:00 o'clock

BUILDING PROGRAM: 40 DWELLINGS AND COLLECTIVE FACILITIES
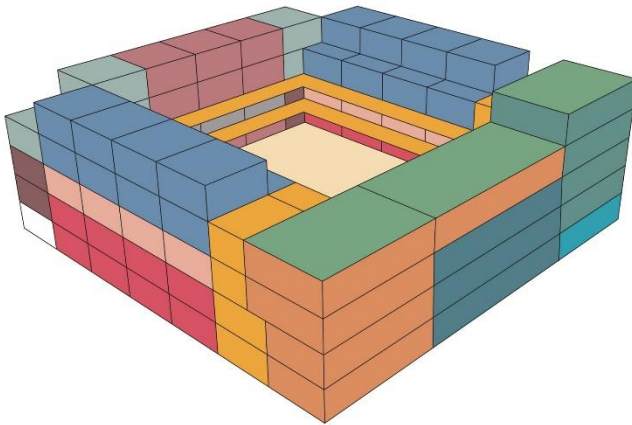
Maisonette type A 8x (81m2)

Maisonette type B 8x (81m2)

Maisonette type C 6x (63m2)

Apartment type D 8x (54m2)

Maisonette type E 2x (108m2)

Apartment type F 5 x (72m2)

Studio 3x (36m2)

Circulation (864m2)

Makers space (504m2)

Daycare (396m2)

Supermarket (72m2)

Collective rooms (288m2)

Collective rooms (288m2)

Collective courtyard (672m2)

BUILDING BLOCK – MASS AND CIRCULATION
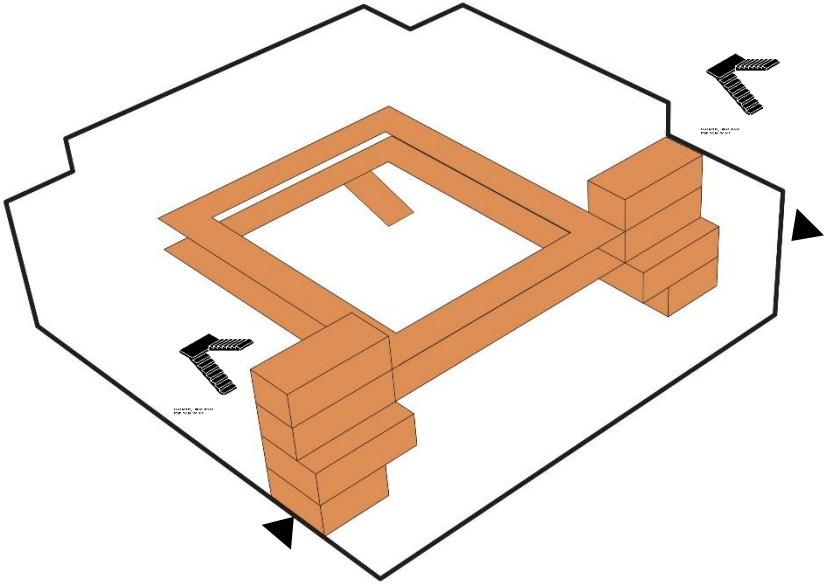
BUILDING BLOCK - COLLECTIVITY

Collective terrace

Collective space
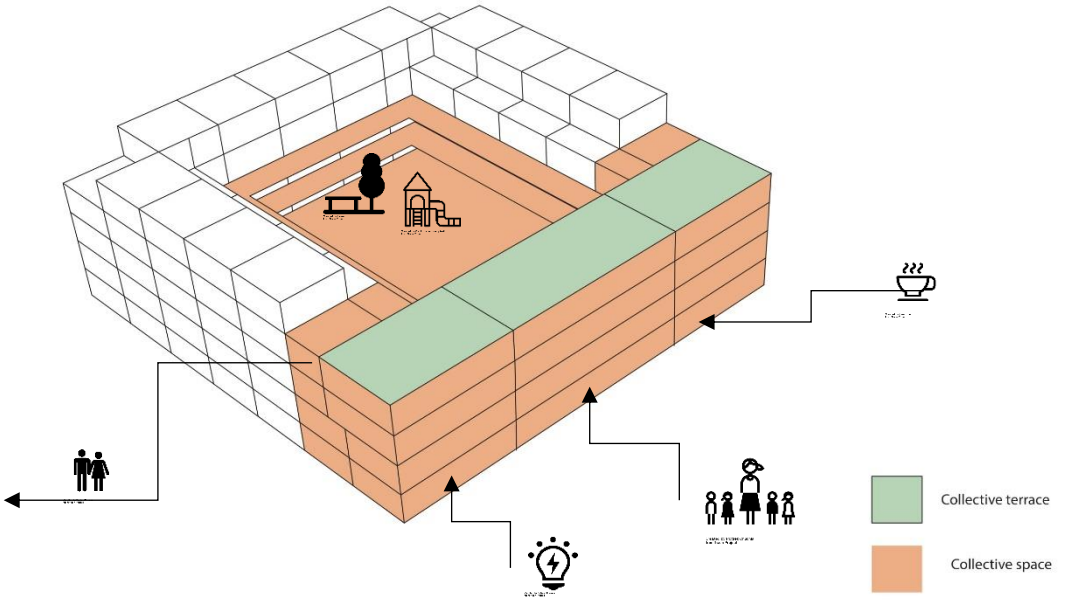
GROUND FLOOR
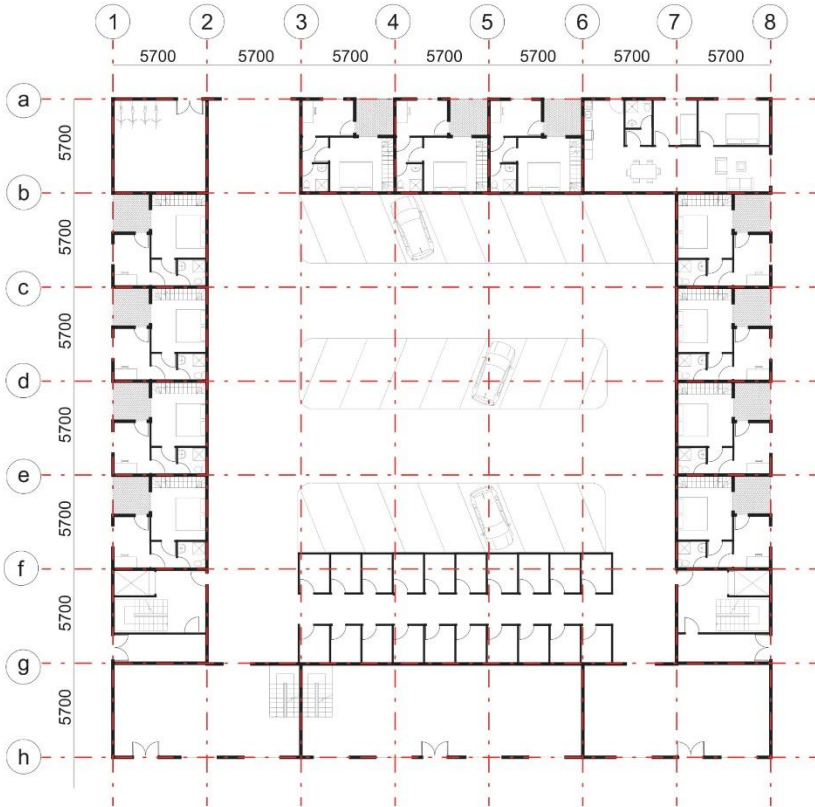
FIRST FLOOR
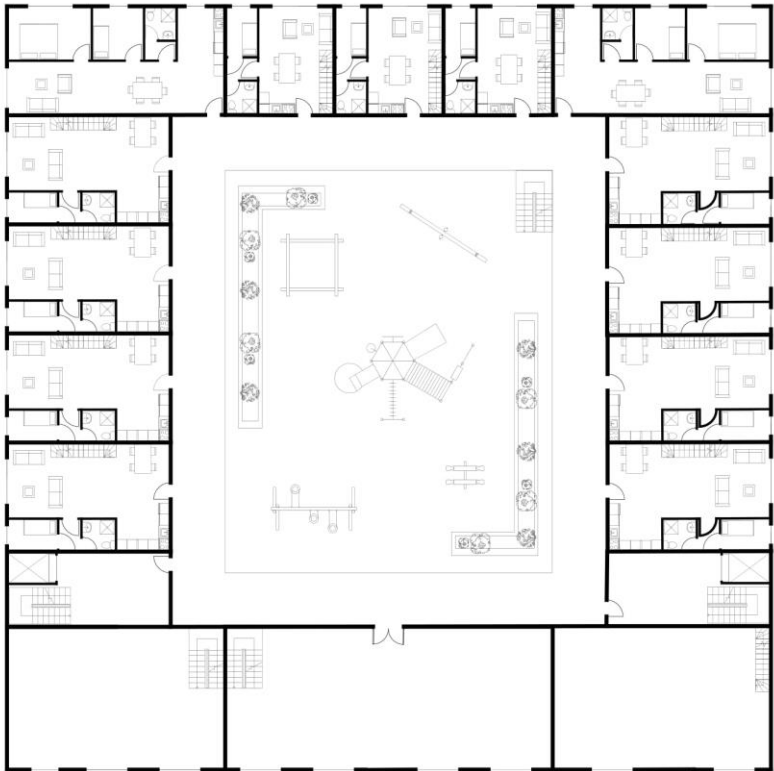
SECOND FLOOR
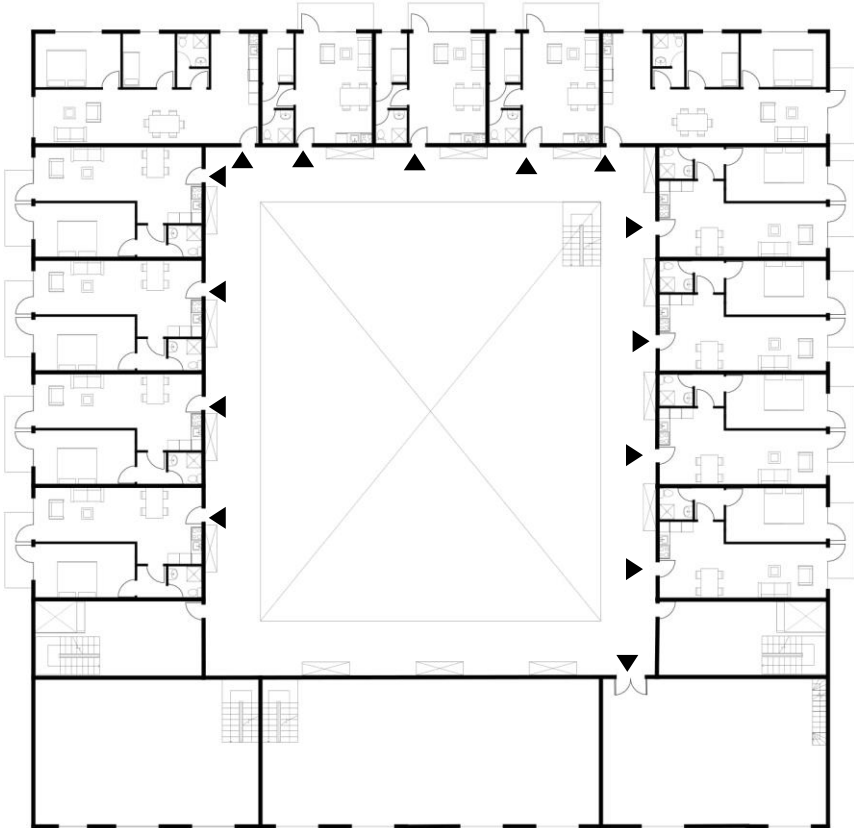
THIRD FLOOR
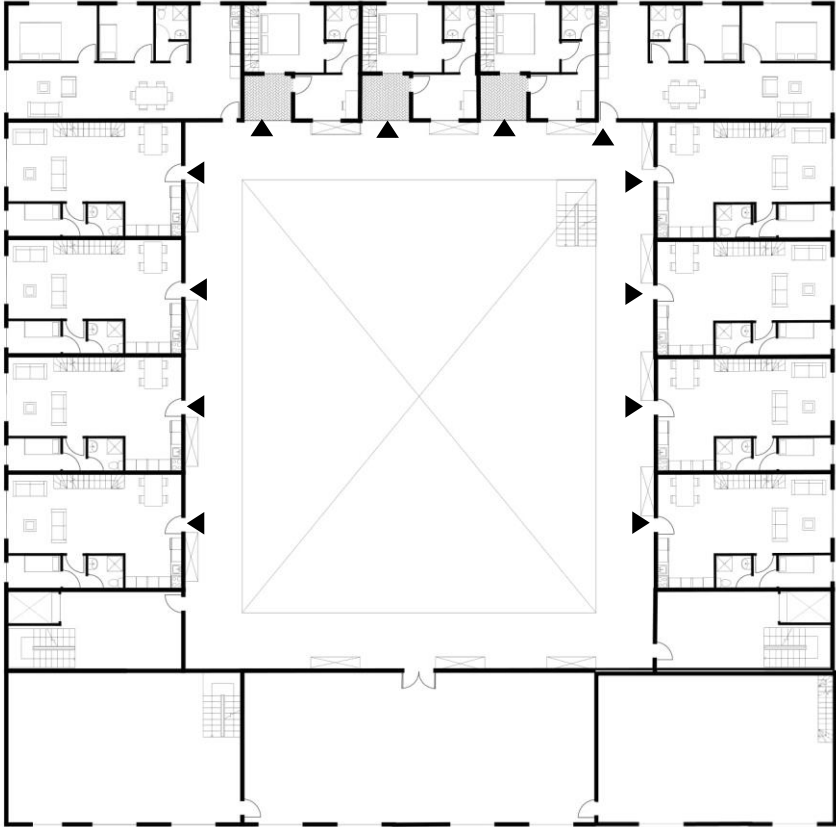
FOURTH FLOOR
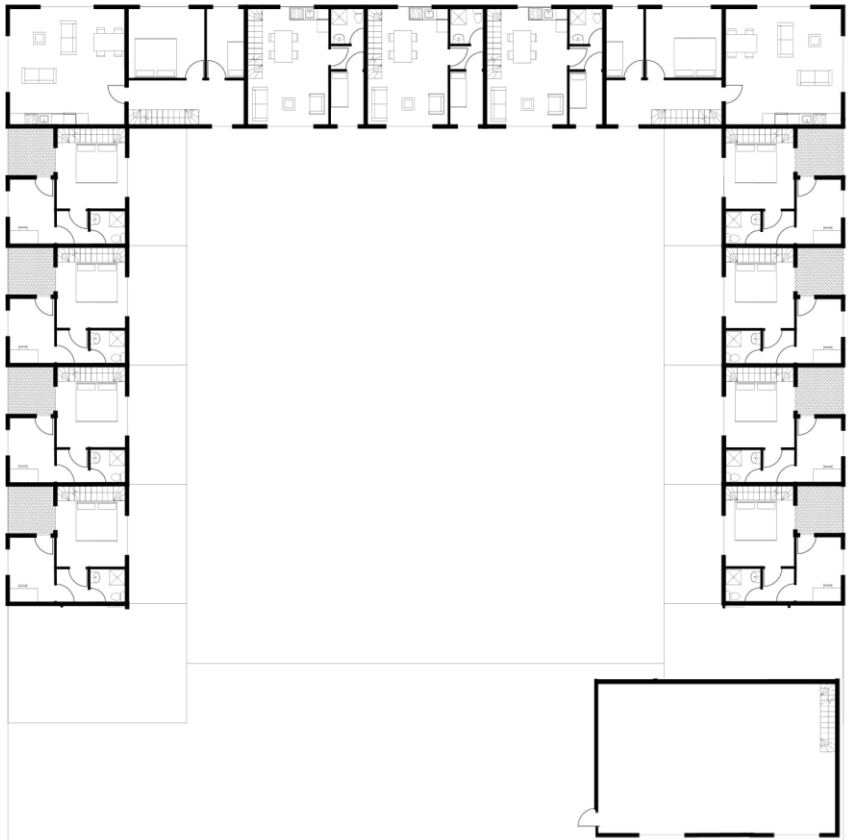
IMPRESSION- TEMPORARY PLAY STREET

Street closures for play, gardening and social interaction

CHILD-FRIENDLY COMMUNITY ROOMS
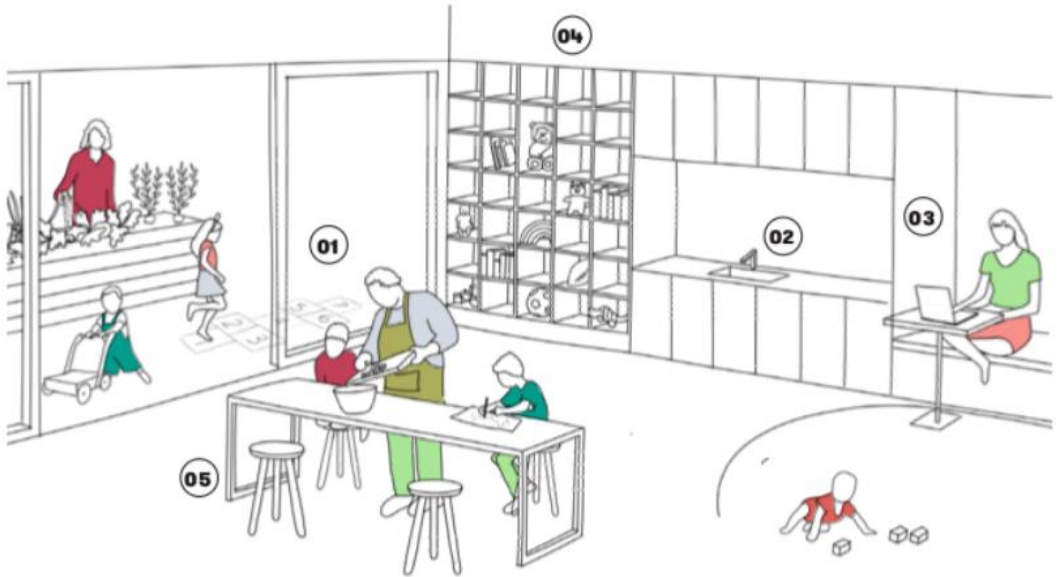
Communal living room for play and socializing.

1. Direct access viability to terrace

2. Small kitchenette

3. Reading and study nooks

4. Shared storage for study and books

5. Flexible space for gathering and activities

CHILD-FRIENDLY COMMUNITY ROOMS
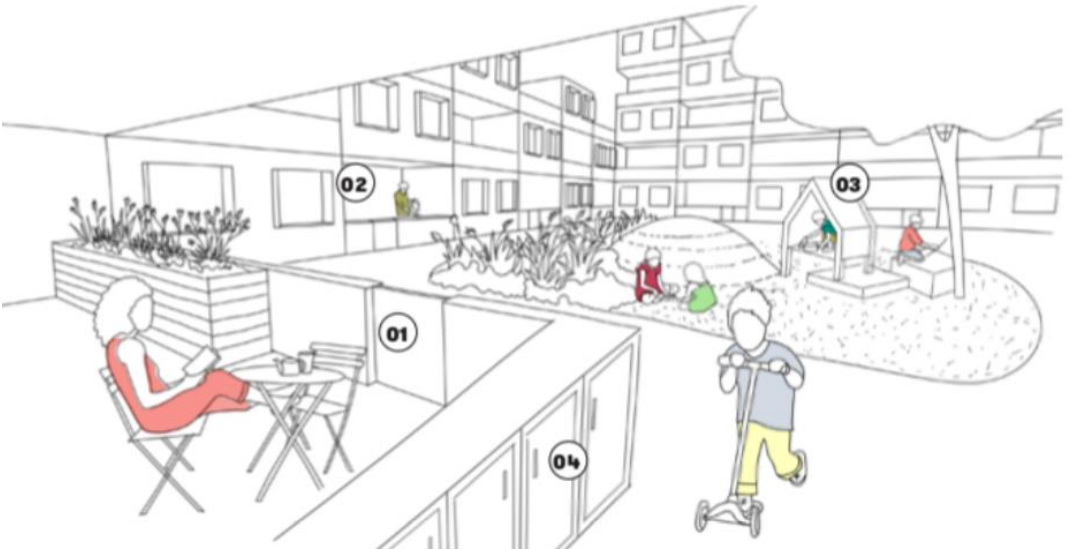
Common outdoor amenity for play and socializing

1. Direct access to courtyard from dwelling

2. Direct visibility to playspace from private open space

3. Playful elements with the landscape

4. Shared outdoor storage for toys

CONCLUSION DESIGN TOOLS
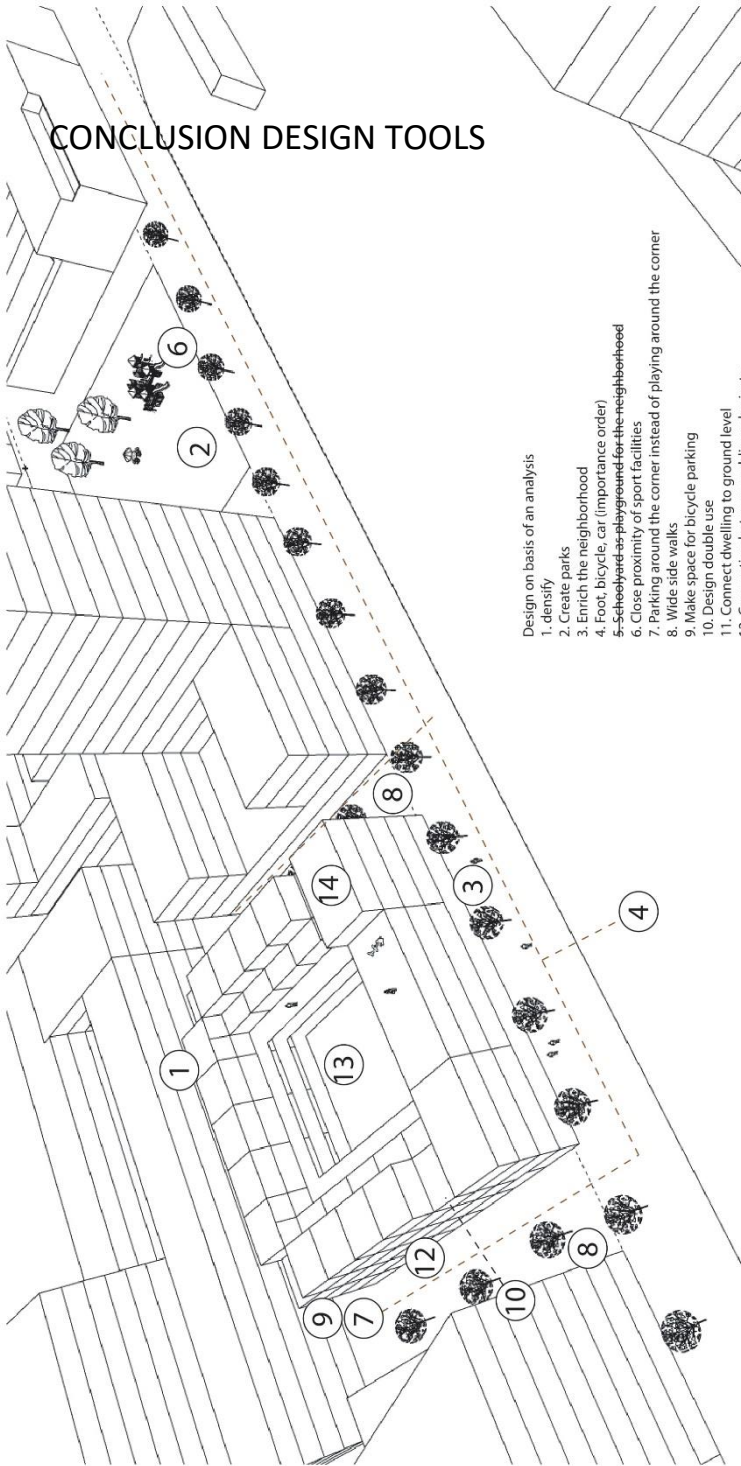
Design on basis of an analysis
1. densify
2. Create parks
3. Enrich the neighborhood
4. Foot, bicycle, car (importance order)
5. Schoolyard as playground for the neighborhood
6. Close proximity of sport facilities
7. Parking around the corner instead of playing around the corner
8. Wide side walks
9. Make space for bicycle parking
10. Design double use
11. Connect dwelling to ground level
12. Connection between public and private
13. family friendly environment
14. Building stimulates encounters

REFLECTION

Aspect 1 – the relationship between research and design

Research and design are meticulously related. Since architecture is an academic field, it is important that the choices we make are based on research. This research can be fundamental research or applied research.

 "*It is a matter of generating and testing alternatives, of transforming ideas, of using parallel lines of thought, and of accepting 'incomplete and possibly conflicting ideas coexisting, without attempting to resolve them too early in the process'.*

Elise van Dooren makes it very clear that the design process is a continuous process and not a linear process. In the first semester of this graduation project, the focus was more on design, and in the second semester we had to translate this research into design. For my graduation project I have conducted several research methodologies: the first methodology being a literature research (text based research) where I investigated the needs and wishes of young urban families on three main scale levels as described in 'De nieuwe generatie stadskinderen' by Lia Karsten and Naomi Felder: the

neighborhood, the building block and the dwelling. These scale levels were related to the development of the child, in accordance with the 'range of action 'of a child growing up. These scale levels have provided insight for my design project. In her book De stadskinderen, Lia Karsten has investigated a lot about young families and their children growing up in the city. Therefore, she introduces several design principles which can be used when designing for this target group. I used her design principles as a guiding line and as a starting point for my design on these three scales levels.

Another book which helped me a lot with designing the dwellings was *Nestelen in de Stad* by Keesom which consists of design suggestions proposed by 16 architects on how to keep families in the city.

The second research method is a theoretical assessment of variables within architectural case studies. The outcome of the literature research served as a framework to review the case studies and the case studies were examined using the literature outcomes.

In this reflection paper I will describe the different approaches which I took to account for the preliminary results of the

research and design. The aim of this reflection is to look back and see:

- If my approach worked
- My understanding on the "how and why"
- My reflection upon the feedback that was given by my mentors and how I translated this into my work
- How I have learned from my own work

Since the location was decided upon by my mentors I started first with researching which target group I would like to design for and the actual importance of providing housing for this target group in the city of Rotterdam. This research included the reading of newspapers, consulting CBS data and reading scientific articles. Soon I decided to design for young urban families with children. Alongside reading and gathering information on this topic, I started to define a way of organizing this information by using the three different scale levels for this: the neighborhood, building block and the dwelling.

When I first started with designing the broadest scale, the neighborhood, it was a bit too late for me since we already had designed the masterplan with the group. So this scale is one

which could not be influenced so much as the dwelling studio also does not intend to design at such a large scale. So what I did was analyzing the site location according to Lia Karsten and this made it visible which facilities were essential for families but were not in the vicinity. Some aspects were already implemented in our masterplan car free zone, wide streets and a park and other aspects were not: day care, shops. I therefore decided to put these facilities in my building.

The research I did on the scale of the building block gave me insight as well. This was effective for a quick and functional setup of my building block design. By research I mean the literature research and the case studies research as well. The literature research made me understand the problems young urban families are facing, and the case studies gave me insight how these problems are solved by architects. For example the issue of supervision in apartment blocks, Karsten and Felder advise to design a building where supervision is possible from different angles, this way parents are more inclined to let children play outside. Since I would be designing a building block with five levels, this was an issue I wanted to solve in the best way possible. This is why I decided to create wide galleries

(also because children like to play on the street and young families prefer having their front door adjacent to the street) which I learned about from the case studies Justus van Effencomplex and the Family. One issue I didn't take into account in the beginning of choosing a building plot was that I was going to design a building for families with children. My building is located next to a waterfront. On one hand this water provides for the sheltered environment that is needed, but on the other hand water could be dangerous for young children. This led to the design principle of a protected playing area for the youngest children. In the design this became a raised street, a courtyard, the roof terrace and having the commercial plinth on the ground floor. In my research I integrated the activity range when designing outdoor space: the older they become, the less supervision they need and want. Almost every source I read about children and playing, the information I found was basically the same. Each age group likes to play on the side walk/street. Therefore the streets in my project are broad and next to every front door and meant for every age group. To have each front door located on the street was feasible in my design. I visited the Justus van Effencomplex and liked the design of having the front door facing the gallery and

the courtyard and the back of the dwellings are closed off facing the streets. This is similar to the building type of the Dutch Hofje. Here collectivity is combined with individuality, this was visible in the Justus van Effencomplex and this is what I wanted in my building as well.

If I reflect back on my graduation project, I can say that I used the three scales (neighborhood, building block, dwelling scale) as the starting points and in between there were six topics of research are which are the leading topics in the design. I will explain for each topic how the research design solutions and the research are related.

Safety

The first aspect of the design solutions is safety. The literature study showed that a division of spaces will create a safer feeling and using wide side walks and creating boundaries are also design solutions which can be used in the design of a building for young families. I translated this into my design by creating safe spaces on different levels of the building (wide street (gallery), the transition zone between outside and inside

and the double functions of the staircase which functions as a playing space.

Research: boundary between playing and traffic

Street closures for play, gardening and social interaction

Facilities

The second aspect of the design and research are the facilities
that should be available in the surrounding of the building
complex. The literature showed the range of activity for
children in different age groups. Depending on the vicinity of
the facilities that are available in these different ranges the
location is more suitable for young families or not. The
research showed that a playground, daycare and supermarkets
needs to be added to the building since these are out of the
activity range.

Missing facilities are added to the location

<u>Playing and interaction</u>

The third aspect is playing and interaction. This is a very important aspect of my design since I will be designing a building where children will live and play. The research showed how important it is for children to play outside and meet each other and the lack of those spaces in the current M4H. Children are very resourceful and they are very imaginative so they don't need playing grounds to play outside. A wide sidewalk, street elements like benches can provide enough space for children to play. In my design I have created different areas for children of different ages to play. The courtyard is a meeting point for children and parents and is separated from the street, parking and daycare. The courtyard is a semi-public space since only the people who live in the building have direct access to it. This enhances the safety. The circulation space is used as a important place to meet each other and play (double use). A neighborhood with a lot of families creates a place where children can meet and play, and their parents can meet and help each other. A sense of community will be created. The case study analysis showed that new designs combine the private and collective spaces to enhance the connection between the residents.

Collectivity

Collective terrace

Collective space

Connection between public and private
(Keesom, 2016)

3m wide street in the air, activity range

Dwellings orientated towards the south

Collective courtyard

Connection to the waterfront

Plinth

Collective terrace towards the waterfront

Playground for children, in activity range
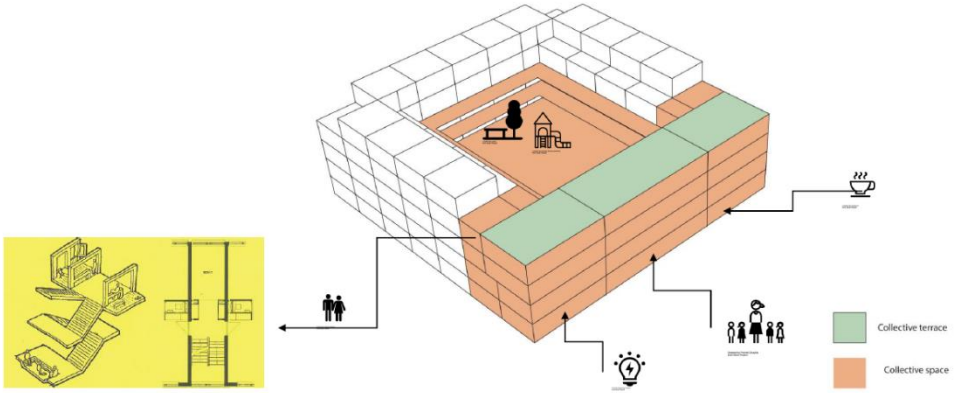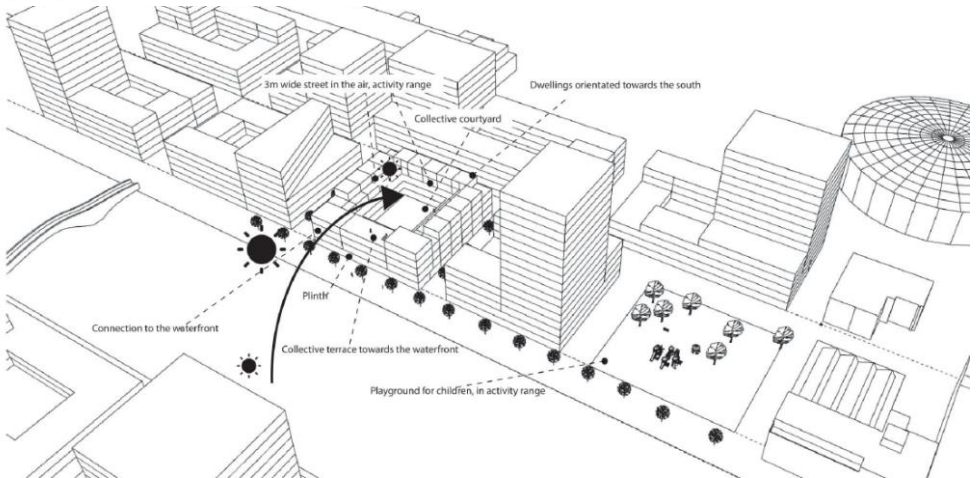
Urban concept

Supervision

The fourth aspect of the design is supervision. The solutions to supervisions are: facilities for parents at the playground, supervision from the gallery, the inner courtyard and a good view from the dwelling to the play areas. This last point is achieved by making a direct connection of the kitchen and living room with the gallery. The orientation of each dwelling is focused on the inner square. There are sitting elements for parents to supervise.
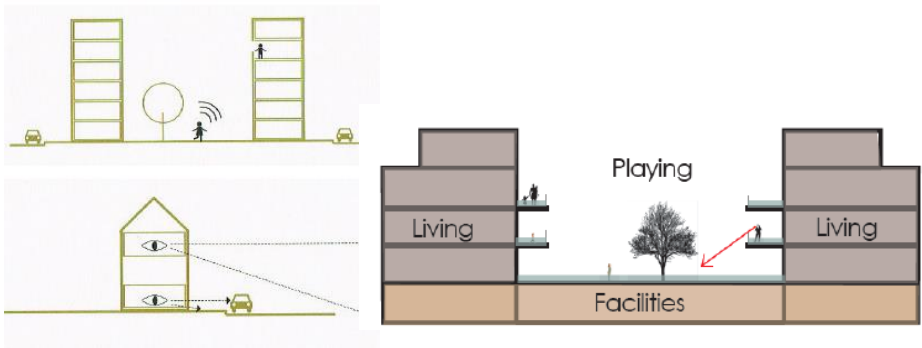
Supervision from gallery and dwellings

Space

The last aspect is space. This concerns both space for children to play outside a and enough space for young families inside the dwelling. This topic was for me the most important and challenging aspect of the building. The spaces in the dwelling (gallery, courtyard) is where children can move around and explore the building freely and safely as I pointed out earlier.

On the dwelling scale the design suggestions from research have given me guidance as to where and how to design. For example create a lot of rooms, provide privacy and use rooms for different functions. The case study research showed that many dwellings have a separation between private and public. In my design I used the wide gallery and courtyard as an extension of the living space. On the scale of the dwelling, the main principle for appropriate housing was adaptability: when young families look for a house they often want a dwelling to grow in it. They will either want to expand their family or they want to stay longer in this dwelling where their children grow. I found different ways to achieve this adaptability based on the suggestions made by Keesom:

1. more storage, space

2. a smart layout

3. flexibility of space

4. create a transition zone between inside and outside

5. adaptable to the growth of children

6. family friendly environment (playground, raised street, car-free zone)

The options I found couldn't be combined into one single house, since my dwelling configuration prescribed the design of multiple different dwellings, which matches my target group well. I wanted to design for young families and single parents from three different groups:

1. the social minimum

2. the social climbers

3. the wealthy family

Single parents for example need smaller dwellings, and young families from the wealthy family can afford bigger dwellings than a family from the social minimum. By designing dwellings with different solutions of adaptability, I tried to solve this issue and create diversity. In the floorplans it is shown how this is solved. After analyzing the case studies and reading

literature, I came to the conclusion to have the kitchen and living room on the gallery side facing the courtyard. This way the supervision will be enhanced and the transition becomes gradual and can act as a communal place where playing and meeting can occur. Also, I decided for this option after carefully analyzing the daily routine of young families, and concluding they spend their daily life mostly in the kitchen and living room. And families and their children prefer their privacy when needed, so they can have their 'personal space'.

In one of the feedback I got from my tutor Theo, he told me to first design the 'fixed' elements and after that design the rest of the dwelling. This helped me a lot, and I discovered that it was easier this way to create the different dwelling typologies since I could use this as a guideline. Also, since these elements are fixed (bathroom, toilet, shaft and kitchen) I could easily choose the smallest and most suitable size.

I also need to add, that I had a lot of difficulty with the size/dimensions of spaces. For me it is difficult to design a space if I have no sense of how this space looks in reality in terms of size. I remember when I first designed the dwellings, during my P2 and sent them to Theo for feedback, I got the following remark: *"Do you have any idea how much a dwelling*

costs with a size of 175m2? Can you perhaps replace them with dwellings with a maximum size of 75m2 or even smaller?" The reason why I had these big size dwellings is because in the literature it was stated that families want big dwellings, that the current housings were too small, so I took this literally. After Theo his feedback I studied the case studies carefully and came to the understanding that even a dwelling size of 90m2 costs around 450.000 euros (the Family, Delft). So again, research is very important and crucial to design and the lesson I learned here was how important it is to design cost-efficiently as early as possible and how important it is to use precedents as a reference.

Extension of the living space onto the street, 19th century

Extension of the living space onto the gallery with an individual zone
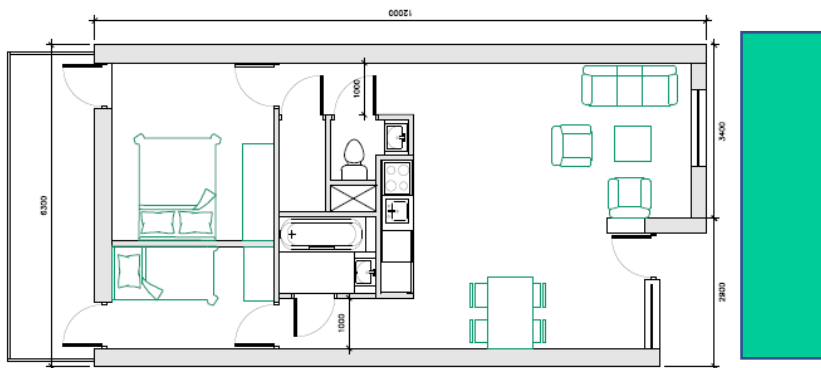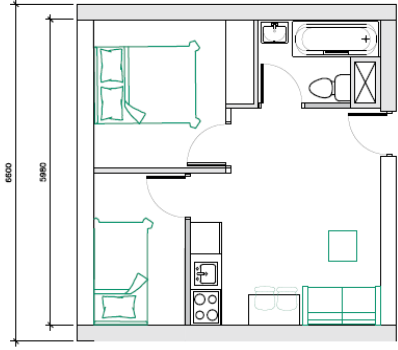
Option 4
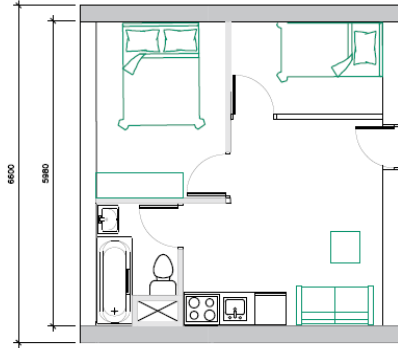
Option 3
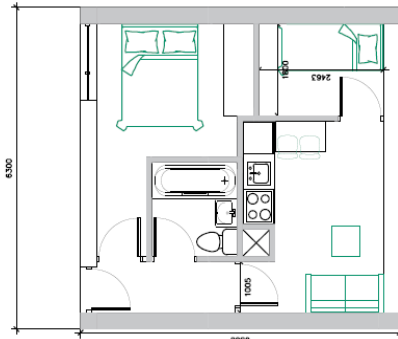
Option 2
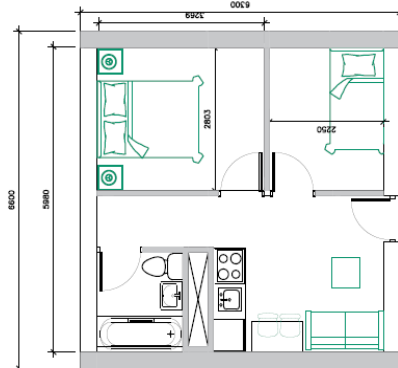
Option 1

In these floorplans you can see the different options I tried out for the single parent dwelling. In the end I went with option 5 since the dwelling configurations fits best with the preferences of my target group.

Option 6

Option 5

142
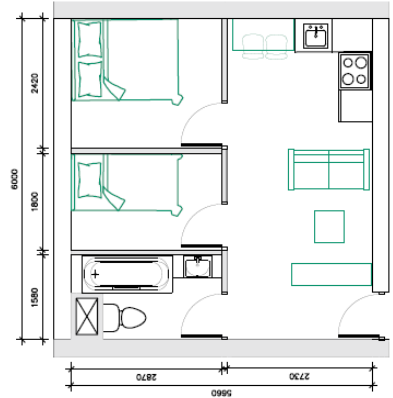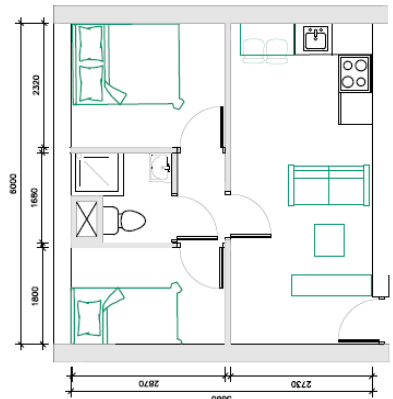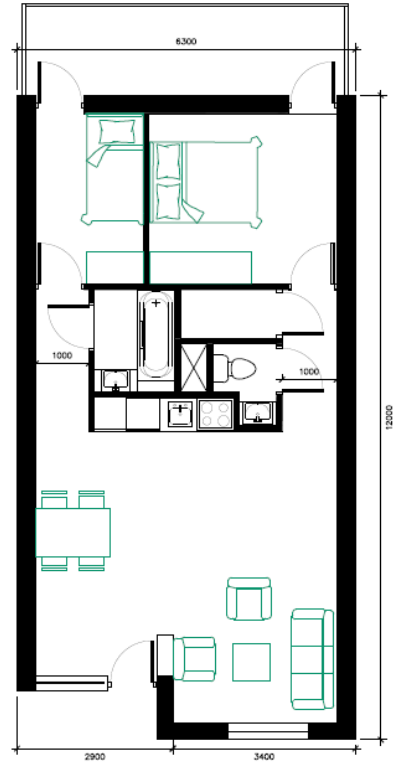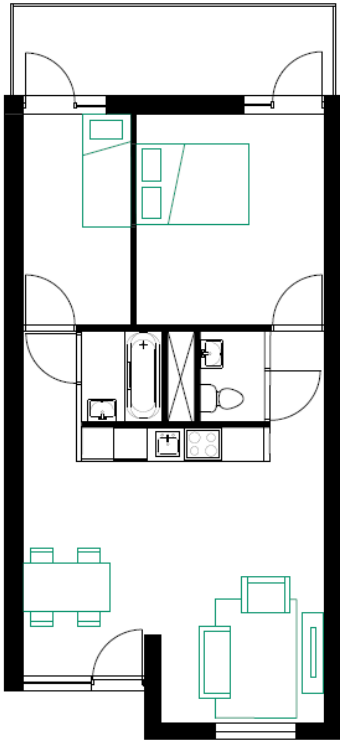
For this family apartment I adjusted the size of the private area (bedrooms) and the collective area (living room and the kitchen), after the feedback of my tutor. I could even insert a storage space.

In conclusion I can say that the most important relationship between research and design is the use of design solutions provided by research directly into the design. The conclusion of the research is that the design solutions or design tools were a good starting point for the design process. There were some aspects that have not been researched enough: the façade, and also topics like circularity.

Aspect 2: the relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master program (MSc AUBS).

In the studio Advanced (Dutch) Housing, we are expected to design a certain type of city for a certain target group. I am designing a residential building for young families with dwelling that can 'grow' with them. A part of this approach is designing with children in mind: "Children are the capital of the city" (Gemeente Amsterdam, 2008). With urbanization set for decades to come, it is forecasted that 60% of all urban dwellers will be under the age of 18 by 2030. Therefore for cities to flourish, children must flourish, and for children to flourish,

their urban environment must better represent their needs and aspirations (Gehl, 2011).

The master track as well the entire program's main aim is to challenge students to take an architectural position and to be aware of the role of the architect within society and its current trends. My personal view of the position of the architect is that he is the master of designing and therefore his/her impact on the building environment is big. An architect is also a scientist in my opinion because a lot of decisions he/she makes are carefully researched by precedents. The graduation project is both a result of many years of acquiring knowledge and skills and how to continuously improve/expand them. My graduation project shows rules and guidelines an architect can use for the design of a family housing complex in the M4H Rotterdam (or elsewhere). Although the research mainly focusses on the living quality of young families, some of the conclusions could also be used in other architectural fields to create a safe environment for children.

Aspect 3: elaboration on research method and approach chosen by the student in relation to the graduation studio

methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

The approach chosen in the Dutch Housing studio is very effective and clear. By analyzing case studies I was able to learn from precedents how they translated certain topics into their design. There is however one challenge aspect regarding a case study analysis. The chosen cases should have overlapping elements with the research topic otherwise the results will not suffice. These elements needs to be correctly connected to the topic and analyzed and illustrated in the correct way in order to be of help for the design. Since we did a case study analysis about collectivity with a group of fifteen students I believe we did a more objective study and have more trust worthy results. The cases were checked upon by our mentors as well and the whole group had to approve of the results. Therefore, the results of this collectivity research can also be used as a precedent. My design is an example of how to use the research conclusions. A case study analysis can however not be the only research method used for the graduation research. A literature study will help to understand what needs to be analyzed in the cases. And lastly a location analysis is another research method

used in the project, since it is important that the building reacts and fits into the context.

Aspect 4 Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

The relevance of this graduation work is that many young families in the Netherlands are moving out of the big cities according to several sources. This number is increasing. With urbanization set for decades to come, it is forecasted that 60% of all urban dwellers will be under the age of 18 by 2030. Therefore, if we want to keep young families in the big cities we must design with children in mind, because where children go, adults will follow. Families and cities both needs each other: families have a big influence on the quality of life in the city, and cities provide more opportunities for young families and their children. The research is a product of relevant information and possible design solutions. Since the context differs, this means that not all the solutions can be used everywhere. The research suggests design solutions that can

be combined in different ways. This research can be used as a design tool and can grow over time, with new research.

Aspect 5 Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.

The research is focused on a specific target group: the young families and single parents. With this target group I have omitted other groups like the divorced families and patchwork families. Because research showed that especially young families are finding it hard to find a house in Rotterdam I thought providing a home for this target group will create a more equal balance in the households in the future. Within the young family there are different needs and I tried to design different typologies for different families, but overall the general needs of these families will be similar.

The main issue I have encountered is when designing small dwellings for single parents. The real question I ran into it was whether I should really design a living space of 33 square meters for single parents. I believe single parents have it

already hard enough by having no support of a partner, and to put them in a small dwelling like that was an ethical issue for me. Small living is required for densification and affordability, but it feels weird to live in such a small space even if I attempt to give them good quality in their environment. But when I read about their social status, I think it is better for worse if they live in such a dwelling. Also I tried to divide the dwellings on each level, as to not create a hierarchy.

LITERATURE

The International Institute for the Urban Environment. (2007). *Rapportage verkeersveiligheidsproject "Verkeersveilige straten voor kinderen".* Delft: The International Institute for the Urban Environment.

ANA architecten. (2019). *De leefwereld van het kind.* Amsterdam: ANA architecten.

Arup. (2017). *Cities alive: designing for urban childhoods.* London: Arup.

Bornat, D. (2016). *Housing design for community life.* London: University of East London, ZCD Architects.

CBS. (2018). *CBS*. Retrieved from CBS: https://longreads.cbs.nl/trends18-eng/society/figures/population/

Fenner, N. (2017, 7 12). *The street was our playground*. Retrieved from Museum of London: https://www.museumoflondon.org.uk/discover/time-to-play-street-was-our-playground

Gehl, J. (2004). *Towards a Fine City for People: Public spaces and public Life-London.* London: Gehl Architects.

Gehl, J. (2011, June 13). Retrieved from https://sf.streetsblog.org/2011/06/13/danish-architect-jan-gehl-on-cities-for-people-the-safe-city/

Gemeente Amsterdam. (2008). *Woonvisie, wonen in de metropool.* Amsterdam: Amsterdam.

Jacobs, J. (1961). *The Death and Life of Great American Cities.* New York: NY:Vintage.

Karsten, L. (2003). Family Gentrifiers: Challenging the City as a Place Simultaneously to Build a Career and to Raise. *Urban studies*, 275-290.

Karsten, L. (2007). Vitale kinderen en creatieve steden: op zoek naar een nieuwe omgangsregeling. *Rooilijn*, 319-325.

Karsten, L., & Felder, N. (2016). *De nieuwe generatie stadskinderen.* Rotterdam: nai010.

Keesom, J. (2016). *Nestelen in de stad. Appartementen voor gezinnen.* Amsterdam: BNA Onderzoek.

Malone, K. (2011). *Designing and Dreaming a Child Friendly Neighbourhood for Brooks Reach, Dapto.* Bankstown: University of Western Sydney.

Mcgrath, B., Brennan, M., Dolan, P., & Barnett, R. (2009). Adolescent well-being and supporting contexts: A comparison of adolescents in Ireland and Florida. *Community & Applied social psychology*, 299-320.

NUSO (1992) De eerste 'openbare ' speeltuinen in ons land, Utrecht

Policy Studies Institute. (2015). *Children's Independent Mobility: an international comparison and recommendations for action.* London: Policy Studies Institute.

Schuff, S., & Kielgast, L. V. (2019, March 26). *Child friendly cities #1*. Retrieved from Gehl: https://gehlpeople.com/blog/towards-child-friendly-cities-1/

The Guardian. (2018, 2 28). *What would the ultimate child-friendly city look like?* Retrieved from The Guardian:

https://www.theguardian.com/cities/2018/feb/28/child-friendly-city-indoors-playing-healthy-sociable-outdoors

UNICEF. (2018). *Shaping urbanization for children.* New York: UNICEF.

UNICEF. (2020). *Child Friendly Cities Initiative*. Retrieved from UNICEF: https://childfriendlycities.org/what-is-a-child-friendly-city/

University of Utrecht. (2018, 12 20). *Buitenspelen in de stad: het perspectief van kinderen*. Retrieved from https://www.uu.nl/nieuws/buitenspelen-in-de-stad-het-perspectief-van-kinderen

Urban95, Bernard van Leer Foundation. (2018). *The city at eye level for kids.* Rotterdam/Amsterdam: Stipo.

Vermeiren, R. (2015, June 5). *Achterbankgeneratie is niet gestoord*. Retrieved from ouders.nl: https://www.ouders.nl/opinie/achterbankgeneratie-is-niet-gestoord

WHO. (2020, November 26). *WHO*. Retrieved from WHO: https://www.who.int/en/news-room/fact-sheets/detail/physical-activity

Wouden, R. v. (2001). *De stad in de omtrek. Den Haag: sociaal en cultureel planbureau.*

EPILOGUE

This year has been a different year, especially my graduation was not how I planned it to be because of the corona virus. Still, it has been a year I can look back and proudly say that I have learned a lot, and I would like to thank my tutors:

THEO You have challenged me so much, from learning working with AUTOCAD and pushing me to design better and learning to express myself better. I learned from you how to translate literature findings into a coherent design. I learned from you how to get a better grip on the scale and dimensions, and I also learned from you how to think out of the box. You also taught me how to be strict and more precise with myself when designing, and I have to thank you a lot for this. You inspire me to become a good architect. So, Thank you very much Theo.

PIERIJN: Your research tutoring were always something I looked forward to, and I am always in awe how you can talk as if you have practiced every word, I never get bored with your stories. If you would ever write a book, I will be the first one to buy it. Thank you Pierijn for guiding me during my research and pushing me into the right direction when I got lost.

FERRY: We mostly met during online sessions (except for that one time), and you are one of my favorite teachers. Building Technology is not my strongest point but you were always so patient, calm, optimistic and kind that it made me like building technology for the first time ever. Thank you Ferry for being patient and always knowing how to help me when I needed it.

I also have to thank my family and friends for motivating me and believing in me. Thank you to my Mom and Dad, because you were both my inspiration and reason why I am where I am now. And thank you to my family and friends for motivating me all the way from Iraq.