COLLECTIVE HOUSING DESIGN FOR THE NEW URBAN MIDDLE INCOME FAMILY IN THE CITY OF AMSTERDAM

Research report Dwelling graduation studio 2018 / 2019
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PREFACE

Dwelling design for a future Amsterdam

Fig. 1 Mental map of the project location
Amsterdam is booming, as are most large cities in Europe. The tendency of people moving to and staying in the city causes a continuously growing number of inhabitants in the city. As a result, new questions arise for the city, how is Amsterdam going to deal with this continuous growth? What is the future of Amsterdam going to be like and who will (still) live in the future city of Amsterdam?

During the graduation studio of the chair of Dwelling, we are challenged to think and form our vision on what the future of cities and especially Amsterdam will look like. By taking a deeper research into the current state of Amsterdam, the tendencies, the housing market, the inhabitants, other global cities, this provides us the ingredients to form a critical manifest on the future of Amsterdam and which will form the basis of our own personal graduation design assignment and research subject.

We focus on the area along the Singelgracht which surrounds, and is part of the historical city center of Amsterdam. Being the buffer zone of the projected cityscape of this UNESCO world heritage, it is a diverse area with many historical sights and monuments, but also newer building designs and therefore a certain design freedom according to our graduation project. The area goes through different neighborhoods, from housing areas till even the Leidsche plein and therefore touches multiple sides of Amsterdam, which gives a lot of possibilities for the graduation project.

This research forms my investigation into the topic of how the future city of Amsterdam can become and remain an inclusive city. It is the people that make the city and therefore no groups should be excluded of the city. Amsterdam should stay from everyone and in this report I therefore take deeper research on how architecture can contribute to a more inclusive Amsterdam of the future.
0  PREFACE
    DWELLING DESIGN FOR A FUTURE AMSTERDAM  P. 3

1  THE MIDDLE INCOME FAMILY LEAVES THE CITY
    CURRENT SITUATION  P. 7
    HOUSING VISION AMSTERDAM 2025  P. 8
    THE MIDDLE CLASS FAMILY LEAVES THE CITY  P. 9
    THE NEW URBAN MIDDLE INCOME FAMILY  P. 10

2  MANIFESTO
    THE MIDDLE CLASS LEAVES AMSTERDAM  P. 15

3  THE HISTORY OF COLLECTIVE HOUSING
    HISTORY OF COLLECTIVE HOUSING  P. 17
    INDUSTRIALISATION  P. 17
    POST WORLD WAR I  P. 18
    POST WORLD WAR II  P. 19
    THE COLLECTIVE MOVEMENT  P. 20
    THE FALL OF THE BERLIN WALL  P. 21
    THE UNAFFORDABLE CITY  P. 21
    CONCLUSION  P. 22
4 THE SUCCESS OF VIENNA: A CASE STUDY

VIENNA AS A CASE STUDY
HISTORY OF VIENNA
KARL MARXHOF
THE SPECIALTIES OF VIENNA’S GEMEINDE BAU
NEW FORMS OF COLLECTIVE HOUSING
CONCLUSION

5 DESIGNING COLLECTIVE HOUSING

BENEFITS OF COLLECTIVE HOUSING
THE SIZE OF A COLLECTIVE LIVING
DESIGN TOOLS TO ENCOURAGE SOCIAL INTERACTION
PLAN ANALYSIS
CONCLUSION
COMMUNAL FACILITIES

6 LOCATION ANALYSIS

THE JORDAAN
HISTORY
GENERAL
URBAN PLAN OF REQUIREMENTS BY THE MUNICIPALITY
TRAFFIC & ACCESSIBILITY
GREEN & ENVIRONMENT
FUNCTIONS & FACILITIES

7 DESIGN BRIEF AND CONCEPT

DESIGN BRIEF
FACILITIES
DIFFERENT DWELLING TYPES
AFFORDABILITY
DESIGN CONCEPT

8 SUMMARY

9 APPENDIX

BIBLIOGRAPHY
TIMELINE
1. THE MIDDLE CLASS FAMILY LEAVES THE CITY

How the current housing market drives the middle class out of the city

Amsterdam housing market tendencies regarding the middle income class, future goals of the city to keep this group and a description of the new urban middle income family.
Amsterdam is becoming a more exclusive city as housing prices are rising because of the overpopulation. As a result, the middle class has a hard time staying in the city. Earning too much for social housing but too little for free sector, the gap between social housing and high income dwellings is growing, driving the middle class out of Amsterdam. Both socially and economically it is of great importance for Amsterdam to maintain this group, but this will be discussed further on in this research report.

CURRENT SITUATION

RISING OF INHABITANTS, RENTS, HOUSING PRICES

There are multiple reasons why the middle income group has a hard time finding a house in Amsterdam. The flexibilisation of the job market results in fewer households being able to buy a house. But also the high price rises and unavailability of the social housing stock contribute to the middle income group having a hard time finding a suitable house in the city.\(^1\)

The number of inhabitants in Amsterdam increased to 840.000 in 2016. The growth of the last 10 years was greater than ever and the predictions are that Amsterdam will have more than 900.000 inhabitants in 2025 and around 922.000 in 2050. Despite the high amount of new dwellings (being) build in Amsterdam, the housing prices have risen explosively. The average WOZ value in Amsterdam has been increased by 27% in the last two years.\(^2\)

MIDDLE INCOME GROUP IS STUCK

Only 15.8% of all households in Amsterdam has a middle income. The stock average housing is 5.6% of the total and from middle income group, only 10% lives in mid-rent housing. The medium expensive purchase stock covers 11.8% of the total housing stock. From the middle-income group, only 23% lives in a mid-priced private property.\(^3\)

In Amsterdam, we see that mainly the rental price of apartments between 50 and 75 square meters are rising (+ 5.8%), which are mainly the mid-priced rental apartments. Because of the fast rise of the apartments, mid-priced houses shift to the expensive segment which results in the decline of mid-priced rental housing. Therefore, middle income groups got stuck as the amount of suitable and affordable housing for them is declining. They are falling in the price gap between social housing and free sector rent.\(^4\)

The demand for mid-priced rent with prices between 711 and 1.000 euros per month is high. In Amsterdam, the upper limit of mid-priced rent lies around 1.150 euros. There is a big gap between demand and supply as if we look on average basis in the Netherlands, each street with 20 dwellings consists of 12 private properties, 7 social housing tenements and only 1 free sector tenement. The demand for mid-priced rent is therefore at this moment the highest, according to parasius where 43% of all the registrations are looking for this type of house and only 25% of the stock represents this.\(^5\)

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5. Parasius (2017)
Because of the gap between the price segments and the income groups, households are not always living in suitable housing. This means their income is too high or too low for the rent or housing price. The low income groups live the most suitable. 86% of this group lives in affordable housing whereas 83% regulated rental housing (social housing). Sometimes middle-income (44%) or high-income (14%) income households also live in social housing, this because their income has risen, they started living together, they got the dwelling with their middle income or multiple other reasons. High-income households also live in middle segment housing as this segment is also available for them. The same goes for low-income groups living in middle segment housing (114%). This comes mostly because there is a gap between the income groups and the housing segments, which make non-suitable housing unavoidable. This affects the low and middle incomes most, as they cannot shift to a higher segment.6

In the buying sector this non-suitable housing problem is hard to show, as not the WOZ value but the amount of the mortgage and the purchase amount are relevant, as for example a household bought a home for a much lower WOZ value than it would have present day.7

**Housing Vision Amsterdam 2025**

**20-40-40**

Goal of the municipality of Amsterdam for the housing vision of 2025 is: Enough, affordable, and good quality dwellings. Also they want to work with a 40-20-20 rule, meaning 40% regulated rent, 40% mid-priced (rental and private property) and 20% expensive tenements and private properties.8

**Figure 6 Income groups and housing market segments**

**Action Plan More Mid-priced Rent**

Because the demand for mid-priced rental housing is rising and will keep rising the coming years, Amsterdam formulated an action plan to catch up with the need for mid-priced housing. The ambition is to build 1500 mid-priced housing each year at least till 2025 by new construction and transformation. It will also become possible to add mid-priced rent as a separate category in the zoning plan.9

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6 Gemeente Amsterdam (2017) Woonagenda 2025, p. 16
7 Gemeente Amsterdam (2017) Woonagenda 2025, p. 16
8 Gemeente Amsterdam (2017) Woonagenda 2025, p. 9
By setting conditions, it is ensured that the new homes remain in the medium expensive segment and be assigned to a defined target group, to prevent the disappearing of the houses to the expensive segment after the first mutation.

New conditions for realising mid-priced rents in Amsterdam:
1. Allocation to transferers from the social sector
2. Allocation to middle incomes
3. Maximum rent and no linked parking space
4. Rent increase in inflation
5. 25-year hiring as medium-rent and 25-year ban on contracting out
6. Focus on house size.10

THE MIDDLE INCOME FAMILY LEAVES THE CITY

The middle income concerns many different target groups. For this graduation assignment, I focus on the middle income family. With both parents mostly working in or close around the city center but having to manage working life with taking care of the children and social life, there is an increased desire by middle income families to stay in the city.

Off all households in Amsterdam, almost 25% percent is a family. (In the Netherlands this is 33%). AM research shows more and more families are leaving the city. Of all the young families in Amsterdam, 40% left the city within four years after the birth of their first child. Also, more families are already leaving the city within a year after the birth of their first child, in 2016 this was 18%.11

If we look at figure 7, the prognosis diagram of AM (2017), it becomes visible that only the amount of families with a high income will rise and that the middle and lower income families will decrease, especially the middle income families.

THE IMPORTANCE OF KEEPING THE MIDDLE INCOME FAMILY

The middle income family leaving the city is an unwanted tendency as families are important for the city in many different aspects. As AM (2017) describes, the middle income class is one of the most important groups of the urban society as they concern our teachers, policemen, nurses. For these jobs it is necessary to live in the proximity of their work, therefore it is important that this group maintains a place in the city.

Andriesse describes in Woonlab010 (2017), a research into families in the city of Rotterdam, why it is important to keep families in the city. Families are of major importance for the city for various reasons. Children are small connectors that, because of the schools of sport clubs they are going to, they connect parents from all different classes. Also families mostly feel great solidarity with the neighborhood and feel therefore more responsible for keeping the neighborhood viable. And because of their active use of facilities, they keep the range and quality up to standard.

Families bring liveliness to the city and take care of the future of schools, libraries, and other facilities such as swimming pools, sport clubs, theaters and cinemas. With families, the city assures its own future. Also children who grow up in a pleasant environment, create a bond with the city and are likely to become the residents of the future.12

Therefore, the main research question for this research report I formulated is:

How can suitable and affordable housing for the middle income families in the city center of Amsterdam be realised?

10 Gemeente Amsterdam (2017), Actieplan meer middeldure huur 2017-2025, p. 2
11 Centraal Bureau voor de Statistiek (2017)
12 Keesom, J. (2013) p. 15
THE NEW URBAN MIDDLE INCOME FAMILY

THE INCREASING WISH TO STAY IN THE CITY

Despite that more middle income families are forced to leave the city, living in the city becomes more and more popular. Where traditionally families moved away from the city after the birth of their first child for more (outdoor) space, more families are interested in staying in the city center. Especially middle income families are interested in staying longer in the city. This can, according to Karsten (2014), be explained by the fact that young professionals are economically and socially bonded to the city and therefore it is not matter of course anymore to leave the city when children are born. They don’t want to give up their urban environment (yet).

AM (2017) describes this group as the new urban middle income family and for my graduation project, I focus specifically on this group. The new urban middle income family is according to the AM (2017) a group that lives according to an urban lifestyle: living in the city is a way for them to distinguish themselves socially. They have intensive social networks in the city, are economically linked to this and see life in the city as part of their own identity.

THE NEW URBAN MIDDLE INCOME FAMILY

The middle income families can be divided into two groups, the traditional middle income family and the new urban middle income family. After the birth of the first child, priorities of families change from location of the dwelling to characteristics of the dwelling and the neighbourhood. (Green, 1997) Traditionally this meant that families left the city to move to a bigger house in a smaller town or village. (Mulder, 2006) Proximity of work location was seen as less important compared to quality of school, good local facilities, safe neighborhoods and easy reachable recreation spots. (Karsten 2007) The traditional middle income family still follows this path.

But the group of the new urban middle income family is growing and these families have a different lifestyle and wishes than the traditional middle income groups.13

<table>
<thead>
<tr>
<th>Difference between the new and the traditional urban middle income family</th>
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</thead>
<tbody>
<tr>
<td><strong>New urban middle income family</strong></td>
</tr>
<tr>
<td>Wants to live inside the ring</td>
</tr>
<tr>
<td>Location is leading</td>
</tr>
<tr>
<td>Children are taken less into account</td>
</tr>
<tr>
<td>Proximity of facilities is important</td>
</tr>
<tr>
<td>More often the creative class</td>
</tr>
<tr>
<td>Metropolitan identity</td>
</tr>
</tbody>
</table>

Fig. 8

WHY STAY IN THE CITY?

There are multiple reasons why more families want to stay in the city center. AM (2017) did research into middle income families in Amsterdam and discovered 8 reasons why there is an increase in families who want to stay in the city center, which can be summarized in three primay reasons: economical bond, social bond and urban identity. For young working families, because of the daily combination of work and taking care of your family, living close to work becomes more important again. This is also strengthened by the increasing number of women working. A strategic location in the city located closely to work and other facilities is more valued to combine all activities in an efficient way.

Also couples tend to stay longer in the city after they finish their study. It is the place where there friends live, and therefore it feels for them less attractive to move to the suburb. Urban identity arises from the flow of cultural oriented families that want to raise their children in a diverse and urban environment.14 15

13 AM (2017) p. 19
14 AM (2017) p. 5 - 6
15 Woonlab010 (2017) p. 37
8 reasons why there is a increase in families who want to stay in the city center\textsuperscript{16}

<table>
<thead>
<tr>
<th>ECONOMICAL BOND</th>
<th>SOCIAL BOND</th>
<th>URBAN IDENTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. proximity of work</td>
<td>2. proximity of family</td>
<td>4. proximity of a diverse variety of facilities</td>
</tr>
<tr>
<td>3. proximity of social network</td>
<td></td>
<td>5. presence of different cultures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. habituation to the city</td>
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<td></td>
<td></td>
<td>7. the social behaviour in the city</td>
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<td></td>
<td></td>
<td>8. the benefits that the city offers the child</td>
</tr>
</tbody>
</table>

**WHERE DO THE FAMILIES LIVE NOW?**

As more families are leaving the city, in certain outskirts families form 60 percent of the inhabitants. Outside of the ring, this is mostly in the neighbourhoods Nieuw West, Gaasperdam, IJburg and Tuindorp Oostzaan. Inside of the ring, the neighborhoods where the most families live are Zuid (Prinses Irenebuurt and Chassébuurt), Oostelijk Havengebied and Oud-West (Helmersbuurt). But this situation is sensitive to changes. This because of the process of gentrification, where the amount of low income families decrease and the amount of middle and high incomes classes increase, what happened in De Pijp and De Jordaan and is now also happening in Bos en Lommer.\textsuperscript{17}

![Diagram showing the distribution of families and available dwellings.](image)

Fig. 9 Number of families and available dwellings

<table>
<thead>
<tr>
<th>Housing supply till € 360.000 (May 2017)</th>
<th>Percentage of middle income families of total families (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 - 65 m(^2)</td>
<td>0 - 3.6%</td>
</tr>
<tr>
<td>65 - 85 m(^2)</td>
<td>3.7 - 6%</td>
</tr>
<tr>
<td>85 - 100 m(^2)</td>
<td>6.1 - 10%</td>
</tr>
<tr>
<td>100 - 160 m(^2)</td>
<td>10.1 - 15%</td>
</tr>
<tr>
<td></td>
<td>15.1 - 22%</td>
</tr>
</tbody>
</table>

The diagram shows that there are not a lot of families living in the city center. Also, the houses available for the middle income in the city center are small, mainly between 50 - 65 m\(^2\).

\textsuperscript{16} AM (2017) p. 14
\textsuperscript{17} AM (2017) p. 9
CHANGING HOUSING DESIRES

Where the traditional middle income family moved to a larger home in the suburbs with more outdoor space, the new urban middle income family has different desires according to their housing than the traditional family. Densification is inevitable because of the continuous growth of inhabitants which makes the traditional desire of a freestanding house with a private garden for most families impossible. But still this raises questions on how these families can and want to live in the city center in a pleasant and child-friendly way. The city apartments are mostly designed for small urban households: couples or singles, which is in a sense logical as this concerns three-quarters of all households in Amsterdam. But therefore a lot of city apartments are not suitable for families: they are too small, too steep stairs, no elevator, too little storage space, too small or even no outside space and the area around the apartment often has few facilities for children. A sub question for this research report is therefore:

How can families live in a pleasant way in dense city centers?

To answer this question, I started by researching the housing desires of the new urban middle income class and what they find important in the neighborhood they (are going to) live in.

SCHOOLS

Also schools form an important aspect in the choice of neighborhoods. It depends on the family which aspect they find important. Although generally the new urban middle income family values the different cultures in the city, this group tends to choose for homogeneity as they are afraid that schools in a very multicultural neighborhood form a threat for their own norms and values and may be of less quality.

CLOSEBY FACILITIES

Next to being close of the facilities in the city center, urban families want to feel at home in the public domain around their dwelling, therefore the surrounding facilities and the quality of those also play an important aspect. Preferably, these facilities are reachable by walking or by biking.

URBAN LEE

There are a couple of aspects that families find important when choosing a location in the city center to live. According to Karsten (2013), families look for lee in the urban environment. They want to live in a quiet street or neighborhood but still be close to the crowdedness of the city. A broad pathway in front of the house is seen as a big positive aspect, as this combines a safe neighborhood for kids to play with the hustle and bustle and high standard of facilities of the city. Also Keesom (2013) emphasizes the value of the urban lee for families in the city in Nestelen in de stad.

The urge for this urban quietness comes from the development of the children. They still have to discover the world and learn how to move safely in it. Small children are vulnerable and therefore a certain lee and enclosedness is desired.

(PRIVATE) OUTDOOR SPACE

Whereas it was preferred to live on the ground floor and have a private garden, for the new urban middle income family, this is not an essential desire. It is still preferred to have a private outdoor space, but if there is a pleasant collective garden where the children can play as well, this is also very satisfactory.

SAFETY

A safe living environment is valued by families. In a safe neighborhood, parents feel more comfortable letting children play outside on their own.

18 Keesom, J. (2013) p. 65
19 Woonlab010 (2017) p. 19
20 AM (2017) p. 6
21 Keesom, J. (2013) p. 117
23 Keesom, J. (2013) p. 25
24 Woonlab010 (2017) p. 69
VISIBILITY CHILDREN
Urban orientated parents appreciate the proximity to facilities and the liveliness of the city, but don’t let their children play on the street without their supervision. The urban lee discussed earlier helps in this manner but also the possibilities of being able to watch children play from the house contributes in this manner. Children older than six can play independently, as long as they can by supervisioned from the dwelling. 25

FLEXIBLE DWELLINGS
Typical for a family is that a family is always in development. Therefore, flexibility in the dwelling plan is desired. The lack of space to accommodate the growth of the family in a smart and affordable way is often a problem. With flexibility in the design, apartments are more life-course proof, and therefore families can live longer in their apartments even when the family composition changes. 26

WORK / LIVING COMBINATION
More parents are working at home or regularly from home. During school days this mostly isn’t a problem but especially when the children are home, a place to work is desired. 27

ENOUGH SPACE FOR CHILDREN TO PLAY
Especially when children are going to the primary school, enough space for the children to play in the apartment is desired. 28

PRESENCE OF OTHER CHILDREN
Living between like-minded people forms an important condition for multiple urban families. Also, as children are playing with each other, parents exchange knowledge about parenting and other practical cases. Especially for working and single parents, the contact and surrounding of other family is valued, people can take care / babysit each others children. 29
2. MANIFESTO

The losing of the middle income class in Amsterdam

DON’T LET AMSTERDAM GET RIPPED APART

PREVENT THE MIDDLE CLASS FROM DROWNING

The middle class is forced to leave. Amsterdam is falling apart. The gap between rich and poor is increasing. The city needs to become an entity again.
Amsterdam is falling apart. The housing prices in the city are higher than ever, more and more people are leaving the city because they simply can’t afford it to stay anymore. Only the rich are able to settle. The high class is taking over Amsterdam, driving away everyone else to the outskirts of town. Gentrification is pushing the low but mostly the middle income out of the city center. The city is becoming a monotonous structure, the diversity gets lost. The rich versus the poor. The housing market is becoming a war, where two parties are standing in front of each other, facing the growing gap that tears Amsterdam apart.

The ones hitting this the hardest is the middle class. The middle class are the ones falling in the gap, drowning between the scattered islands that are being formed. The are thrown in the battle field between the rich and the poor but their is no side for them to pick. Earning too much for social housing and the high class driving up the prices too much, there is no place for them anymore. The losing of the middle class IS the gap, that makes the city fall apart. They’re drowning and we need to pull them out of the water before it is too late.

The middle class concerns our young educated people, the families with children, starters, elderly but also the singles or the divorced parents. Is their only a place for you in Amsterdam when you are in a relationship and both have a good job? Or when you earn beneath the social housing limit? There is nothing in between anymore. What happens when you are divorcing. Are you then forced to live far distanced from your children, because you just simply can’t afford to stay in the city center? The families, the children, the young educated people, but also the teachers, the nurses, the policemen. We can’t stand to lose them, we need them, in our city of tomorrow.

The increasing gap creates an unhealthy city environment. There are two parties having almost opposite needs, ideas and visions. A city needs to be a strong entity and have a straight line where it stands for. If people are too far and too different for each other. If the social interaction inequality increases. If social cohesion comes under pressure. Than Amsterdam will fall into pieces, as scattered islands, like gated communities within the city, where your bank account determines if you are able to stay or not.

There is no transition inbetween the rich and the poor. The low income is stuck, there is no possibility to climb up, they are at the bottom forever. In an ideal city there is a possibility to grow. There is no space to grow in Amsterdam without having to leave the city. The high class is forced to stay perfect. One misstep, a divorce, bankruptcy and you are forced to leave. There is no possibility to go some steps down. Either you’re in, or you’re out. Mistakes are fatal. Who wants to live in Amsterdam should be perfect, or shouldn’t have the motivation to grow, as it has no result.

We need to fill the gap inbetween. The middle class is the missing piece that can bring the bottom and the top closer to each other again. We need the middle class to be the glue for the scattered pieces, to fill the gaps and connect the city as an entity again. They need to put the two opposite parties more next to each other again. The top and the bottom that are now further apart than ever, need the middle class as a stair, that you can rise or descend with smaller steps. They are the transition zone, the natural zone, that prevents the high class from falling in the infinite deep and gives the lower classes the chance to grow, to a future, with a reachable goal. Amsterdam needs to become a healthy city again, where growth is promoted and missteps aren’t fatal.

We should connect the middle class together, as a strong entity, making it possible for them to conquer a place in the city again. A combination of private high quality dwellings and a sense of collectiveness and community are the key. It should have enough private spaces to feel like your own home, but it should also have shared facilities that creates benefits and makes living in the big city more easy and affordable. The facilities should be as great so you feel like you are part of a higher class, include everything you are dreaming of but you cannot afford on your own. The shared and the collectiveness makes you feel part of a group, strong and connected to the city of Amsterdam. The facilities should also add value to the neighbourhood and make a connection, preventing it from becoming a gated community. An apartment block with variety and flexiblity in the dwellings, making it suitable for different households and creating a lively appearance. The building is the safety net in changing times. People should be able to grow when they are in need of a bigger house or when the times aren’t right, you should be able to move to a smaller house, without falling endlessly to the bottom. Our lifes are changing constantly and the building should be able to react to that, without being forced to leave the city.

We need the middle class back in the city, filling up the gap and glueing the future diverse Amsterdam together again.
3. THE HISTORY OF COLLECTIVE HOUSING

Overview of collective housing (movements)
Other large cities respond to the need of affordable housing by collective housing, in multiple forms. What interested me the most is that collective housing focusses on the one hand on affordability but also on a high standard of living by providing high quality communal facilities and private as possible dwellings. The most examples shown in this research report are focused on the (low) middle income instead of the low income in normal social housing. It includes facilities where you dream of, but can’t afford on your own. This combination of affordability versus the high quality of living and community feeling are aspects I want to achieve with my building design for families, the second sub question is formulated as:

**Which architectural elements can be used in the design for a liveable collective building for families in the center of Amsterdam?**

### History of Collective Housing

"Collective housing combines the autonomy of private dwellings with the advantages of community living. It has private units, semi-private space and indoor and outdoor communal space."

To analyse the ways collective housing can help designing affordable but high quality living standards for the middle income families in Amsterdam, I took a deeper research into the history of collective housing. It became visible that historical tendencies were of big influence for the development of collective housing. In this chapter, I describe different historical tendencies and architectural project, beginning with the industrialisation and ending with the problem I focus on in my graduation project: the unaffordable city. A timeline summarizing and giving an overview of the history of collective housing can be found at the end of this research report as an appendix.

### Industrialisation

It was only in the enlightenment period that, combined with the industrialisation and the development of the market economy, the preconditions for the modern individual and the small family was created. The collective became less important. Hence, the impoverishment of workers and the threat to the middle class asked for alternative models for living.

### La Familistère - Connecting Workers

La Familistère, designed by Jean-Baptiste André Godin in 1859 connects workers in a complex which includes several functions such as even a swimming pool and a large closed courtyard. He believed that if the workers not only got affordable apartments but also a certain quality of life, this would have a positive effect on the productivity, emancipation and education of the people living in the complex. There was a park to relax that separated the residential buildings from the industrial. The shops and even bars and restaurants were realised to avoid high prices of the village shops, all located in the communal area of the Familistery and run by workers themselves. In 1878 Godin introduced 10-hour working days, where in the rest of France this was 14 to 16 hours.

### Cité Industrielle and Garden City: Looking for a Healthy Living Environment

During the industrialisation, a large amount of people moved from the countryside to the city to look for work. This resulted in overpopulation of the cities and unrestricted urban growth which led to the rise of slums, disease, and a lack of communal green areas in the city centers. Multiple architects and philosophers started thinking of ways to create healthy living environments for the workers.

One of the most famous examples is the model Garden City of Ebenezer Howard. His main focus was to design a healthy living environment for workers and their families in a self-sufficient neighborhood for around 32,000 people in a large collective where everything would be done by each other. He wanted to create an alternative for working on farms or in unhealthy cities. He wanted to raise the standard of health and comfort of all true workers of all grades with the goal to create a healthy, natural, and economic combination of town and country life, and this on land owned by the municipality. Only a view garden

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31 Hugentobler, M., Hafer, A., & Simmendinger, P. (2016). p. 34
In 1889 in Chicago, the first settlement house was realised which started a large movement in the United states. In these settlement houses, women were helped in their struggle between working, housework and the children by offering childcare and education in cooperative day nurseries and kindergartens. Also education was offered for the unskilled, mostly immigrant, poor to become employed citizens. These classes ranged from mathematics to typing, dressmaking, domestic science, cooking, etcetera. There was also attention paid to keeping the children from the streets by offering playgrounds, gardens and clubs in subjects such as history, biology, music, dancing and reading. The facilities were also able to be used by people of the neighborhood.

**KITCHENLESS HOUSEHOLDS**

In the nineteenth century, women were thinking of ways of living that would lighten the burden of housework. One of the examples was the “single-kitchen housing-block” where there was one big communal kitchen for the whole block and the housework done by employed staff or shared by the collective. In practice, there are not many kitchenless households designed, they were originally designed for worker families where the women and men were both working but it turned out that the model was too expensive for this group. The costs of the amenities and the services where too high and therefore not a lot of kitchenless households where build and therefore the model left more traces in housing literature than in built reality.

**SETTLEMENTS HOUSES - CONNECTING WOMEN**

In 1889 in Chicago, the first settlement house was realised which started a large movement in the United states. In these settlement houses, women were helped in their struggle between working, housework and the children by offering childcare and education in cooperative day nurseries and kindergartens. Also education was offered for the unskilled, mostly immigrant, poor to become employed citizens. These classes ranged from mathematics to typing, dressmaking, domestic science, cooking, etcetera. There was also attention paid to keeping the children from the streets by offering playgrounds, gardens and clubs in subjects such as history, biology, music, dancing and reading. The facilities were also able to be used by people of the neighborhood.

**POST WORLD WAR I**

After the First World War, there was a huge housing shortage and demand for affordable housing. As there was also a lot of poverty in almost every European city, the buildings designed after the First World War were focused on finding rational engineering solutions and influenced the first wave of industrialisation and standardisation.

**NARKOMFIN**

The Narkomfin building was designed in 1930 by Moisei Ginzburg for the employees of the Soviet Commissariat of Finance. There are multiple different apartments but each apartment is two-storeys and has windows facing east and west. What is special about the project is that next to all the communal functions (an enclosed balcony, a rooftop garden, a dining space, a canteen and also a kindergarten) some apartments shared their bathroom and the galleries were made extra wide so that people could place a table and chair there and chat with their neighbors. The inhabitants were not ready for this new way of living, the big hallways were used for storage and people preferred eating in their home instead of the canteen but their private dwellings were too small resulting that around mid 1930s, the household block stopped working.

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36 Hugentobler, M., Hafer, A., & Simmendinger, P. (2016); p. 36 - 37
37 Miller Lane, B. (2006) p. 170
38 Moscow Mayor (2017)
39 Moscow Mayor (2017)
KARL MARXHOF - RED VIENNA SOCIAL HOUSING MOVEMENT

After the First World War, Vienna suffered from large amounts of poverty and unemployment. More than 250,000 workers lived in overcrowded apartment buildings with no running water or other facilities. Red Vienna was the start of a revolution in the living environment of workers, as each of the dwellings had running water and a toilet, as well as gas and electricity, which was special for that time. One of the most important examples is the Karl Marxhof, the colossal building accommodates 1,382 apartments and is over a kilometer long and included multiple collective facilities. Red Vienna, Karl Marxhof and other collective housing projects in Vienna and the impact these building had for the development of Vienna are explained more further in the next chapter of this research report.

POST WORLD WAR II

After the Second World War, there was a huge housing shortage. The community sense was strong after the war, which is also visible in the way people thought about the (re)building of the houses. A conviction arose that communities can be created. In the Netherlands, multiple neighborhoods are build and designed with a focus on the community.

PENDRECHT

An example is Pendrecht, a neighborhood in Rotterdam designed by Jaap Bakema in combination with ‘Opbouw’ (part of the CIAM). Important in the design is the gradually transition from local neighborhood to area, to city quarter and in the end to major city. All target groups are welcomed in the neighborhood, to offer a living environment ‘from cradle to the grave’ and to encourage long-term social interaction. There are community centers, churches, schools and shops promote a sense of community. The apartments are situated around centrally positioned public buildings and amenities.

UNITÉ D’HABITATION

Unité D’Habitation, designed by Le Corbusier, is a multi-family residential housing project for the people of Marseille that were dislocated after the bombings on France. It was a prototype for a new experimental type of collective housing solution to provide housing and all facilities needed for a community of 1200 people. The traditional street disappears but the design focuses on open spaces on a vertical garden city, so that activities take place directly outside people’s homes. His aim in the project was that each house has sunlight and has views on trees and green. The roof becomes a garden terrace that has a running track, a club, a kindergarden, a gym, and a shallow pool. There are also shops, medical facilities, and even a small hotel located inside the building. The Unite d’Habitation is essentially a “city within a city”.

THE COLLECTIVE MOVEMENT

Collective housing developed, especially around the collective movement in the 1960s and 1970s. A new tendency started where groups of people, mostly sharing the same ideology, grouped together to start a new form of co-living. There were many experiments with new ways of living together, with one of them being cohousing. Cohousing residents wish to live within the existing society but choose cohousing as a way to strengthen their family by creating social networks and by sharing certain daily tasks.

Cohousing started around 1960 in Denmark, mostly in towns and cities. Different problems influenced people to form urban collectives. Mostly people who had a hard time combining work, children and their household. Also

40 Vienna Direct. (n.d.)
41 LeFavre, L. (2017) p. 125
42 Nederlands Architectuur Instituut. (n.d.)
43 Nederlands Architectuur Instituut. (n.d.)
the high divorce rate, inflation, the demand of both partners working and growing isolation made people interested in trying alternative forms of housing. The motivation behind the first cohousing was therefore to create a strong social network for the nuclear family.\textsuperscript{46}

**SAETTEDAMMEN - THE START OF “COHOUSING”**

The dwellings in Saettedammen are all private and this therefore reflects a new duality: the traditional household remains and permits the creation of common areas. But to reflect community priorities the layout of the home is reshuffled. The kitchen and the eating area are moved to the front of the house, so they are visually connected with the communal areas. Therefore, when someone is working in the kitchen, they can watch their neighbors walk by or keep an eye on their child. The bedrooms and the living are located at the back of the house to provide more privacy. But to make sure that people use the common areas instead of only staying in their own home, the houses are designed smaller.\textsuperscript{47}

“Centraal Wonen” started in 1969 when Lies van Dooremaal felt overwhelmed by combining being a mother, working, housekeeping and placed an ad in the newspaper, making a plea for housing with common facilities to help and break the cycle of the overworked and isolated mother. Her idea was that other mothers would share her problem and instead of living in isolation, they could help each other. But were in Denmark mostly married couples were interested in the concept, in the Netherlands also singles, single parents and elderly were interested. In the Netherlands this concept was seen as a tool to reform society. The National Association of Centraal Wonen (LVCW) was created in 1971 as an umbrella organization for the new collective housing and they stated it was “for the emancipation of man, women and children”, they questioned the isolation of the nuclear family structure instead of only the one-family home.\textsuperscript{48}

**HILVERSUMSE MEENT - THE START OF DUTCH COHOUSING**

This resulted in the first cohousing project in the Netherlands, Hilversumse Meent. In the Netherlands it was originally conceived as a rental alternative whereas in Denmark it was originally a home ownership. This was more difficult as you therefore need to think more about the future users. The goal was to reach all levels of society through affordable housing. This raised a problem, because social housing in the Netherlands is based upon housing associations and funding by the government, but most of the housing associations weren’t interested in participating in this new form of housing. Eventually two architects in combination with a housing association (Stichting Woningcorporaties) accepted to join this experiment. The project is designed in smaller clusters that share a kitchen and laundry facilities.\textsuperscript{49}

**THE FALL OF THE BERLIN WALL**

The fall of the Berlin wall resulted in new forms of collective housing in Berlin. Self-organized communities turned vacant lands and buildings into communities of different people living together. Therefore, multiple alternative projects arose and this was of great influence on the local co-housing culture but also as an example for cohousing in other large cities. Next to this, since the nineties there came a new generation of housing cooperatives, emphasizing the idea of a community, participation and affordability.

Also “Baugruppe” (Build group) is in Germany a typical model of community housing where people group together in a cooperative in order to design, build and finance one or sometimes multiple multi-storey buildings. This model is and has been very popular in Berlin, where over the last 40 years around 1,000 buildings and cohousing groups have been developed.\textsuperscript{50}

\textsuperscript{46} Fromm, D. (1991) p. 19
\textsuperscript{47} Fromm, D. (1991) p. 9, 10
\textsuperscript{49} Fromm, D. (1991) p. 45 - 47
\textsuperscript{50} Peborde, I (2017)
THE UNAffORDABLE CITY

PERSONAL RESEARCH SUBJECT
Current day problem and my main focus point this graduation project is the tendency of the unaffordable city. In multiple big cities, the (low) middle income is driven out of the city center. This being an important group for cities, multiple cities react to this by building collective housing. In chapter 5, multiple modern collective building designs from cities such as Berlin and Zürich will be described and analysed.

OLD OAK - KEEPING THE (YOUNG) PROFESSIONALS
London wants to keep the young professionals and reacted to this by the build of the largest collective building so far, the Old Oak. Aim is, that next to providing housing for this target group, it will create a big network hub in West London. Much attention is therefore next to the standard communal facilities to working and networking spaces. Also there are regularly events planned, focused mostly on networking. The project hosts 550 bedrooms and tenants can rent the living spaces per week. As the building turned out to be a success, The Collective (owner of Old Oak) planned two new collective building designs to be constructed soon.\(^{51}\)

There a plenty of modern examples to show that concern the topic of the unaffordable city. In the chapter of Vienna I address multiple modern forms of collective housing. As I think it can be of much value for my design assignments to go deeper into modern examples in cities that are now addressing the same problem as Amsterdam, projects in the cities of Zürich, Berlin but also Rotterdam are shown and analysed in the plan analysis part of this research.

CONCLUSION
Historical tendencies resulted in multiple forms of collective housing. What becomes visible is that the historical examples concern mainly top-down approaches where mostly the working class was the main target group. After the collective movement there is a shift from top-down to more bottom-up approaches. This also results in different target groups, the projects are not only for the working class anymore which resulted in the developing of collective housing to multiple forms of groups and collective building forms.

\(^{51}\) PLP Architecture (n.d.)
4. THE SUCCESS OF VIENNA: A CASE STUDY

Learning from social housing city Vienna, the current most liveable city.

As the most liveable city, Vienna is the example of how social housing and the collectivity in housing design are the success factors to keep an healthy, liveable and diverse city.
VIENNA AS A CASE STUDY

In this chapter I explain the relevance of Vienna as a further case study for collective housing by means of the book *Rebel Modernists* written by Liane Lefaivre. Vienna has a rich history of collective housing forms and the development and multiple different collective housing types will be pointed out in this chapter. There can be two important periods distinguished when looking at the history of collective housing in Vienna, this is globally after the First World War when a lot of unemployment and poverty asked for a new form of living. This forms the start of the history of collective housing in Vienna. The other important tendency is around the 1970s when Soft Planning arises. In Soft Planning, the ideals of the earlier collective housing are guaranteed, but developed into more modern examples of collective housing at the end of the 20th century till the present day.

THE MOST LIVEABLE CITY

Vienna is the example of a socially just city and this has also been recognized internationally. Vienna shows what positive effects social and collective housing can have on the development of the city. Since 2011, Vienna has been ranked the most liveable city in three surveys based on different factors such as quality of life, social equality, environmental sustainability but also infrastructure, health care, education and the political stability. But of all these factors, it is Vienna’s social housing that is internationally the most unique. At times when other European countries cut on spending on housing, Vienna and Austria as a whole, remained their fundamental postwar spending levels and even reinforced them. Social housing was not only seen as a charity but also as a counter-cyclinical investment to stimulate the economy as a whole. As a result, 60 per cent of Vienna’s inhabitants nowadays lives in social housing, which makes Vienna Europe’s largest property manager, including more than 220,000 apartments. Also, there is almost no segregation, no ghettos and almost no homelessness and the average rent is 18 per cent per household income. Vienna therefore serves as an research example, of a liveable city where social and collective housing are the fuel of this successfull city.\(^\text{52}\)

HISTORY OF VIENNA

Vienna was called ‘Ce qui reste’ - in English: the leftovers - by the French president Georges Clemenceau after the First World War. Before the War, the Habsburg Empire largest empire in Europe, including present-day Hungary, Bosnia, Croatia, Ukraine and the Czech and Slovak Republic, which were the industrial and resource-rich regions of the empire. The country had been very rich, but with the losing of these areas, a population fell from 53 million to 5, many of them living in poverty. There was one positive thing: the end of the monarchy meant the possibility for a democracy.\(^\text{53}\)

The country was split into two strongly opposed entities. On the one hand the conservative libertarians and on the other hand the social-democratics of which later became ‘Red Vienna.’ Antagonism grew and therefore so did demonstrations and battles. This period is called ‘Black Vienna’ (the fascist element) to gain total control, funded by Mussolini. The shootings of the police after a demonstration and a two-week civil war can be seen as the turning point, the social democrats were defeated and banned, Red Vienna replaced Black Vienna and this was the start of 11 years of democracy in Vienna.\(^\text{54}\)

\(^{52}\) Lefaivre, L. (2017) p. 265
\(^{53}\) Lefaivre, L. (2017) p. 104 - 105
\(^{54}\) Lefaivre, L. (2017) p. 107
Focus point of the municipal government was clear: social housing. Providing government-supported housing on a grand scale was supposed to guarantee votes for the social democrats. In 1910, over 640,000 people were homeless in Vienna, this was at that time 25 per cent of the entire population. Also during the war, 73 per cent of all the dwellings represented the smallest dwellings (one room and a kitchen). This was 90 percent of the housing stock in the working class districts. As a reaction to this, people started to plan their own vegetable gardens around the city illegally, to create new forms of living, which is referred to as Wilde Wohnen (‘Wild settlements’).\(^{55}\)

After the war, the wild settlements turned into slums and in order to prevent the city of continuing job losses and poverty, the social democratic government developed two planning policies for the common good in the field of social housing. One of them were settlement housing units, based on the ‘Siedlungen’ and referring to Ebenezer Howard’s Garden cities, realised with government funding and planning. This included single, semi-detached or terraced family houses with their own garden plots on the outskirts of the city. This model is a combination of top-down and bottom-up policies.\(^{56}\)

The second plan was the Gemeindebau (‘Municipal building’) program. In contradiction with the previous housing option, this option focuses on massive apartments blocks, linked to the typical bourgeois Viennese Ringstrasse apartment block and partly inspired by Amsterdam’s perimeter housing block. This model was a top-down approach. The model developed as a unique combination of a colossal perimeter-block configuration but inserted with the existing urban fabric. The housing type included different functions like cultural, sporting, educational and hygienic facilities which were mostly high quality social amenities. Instead of the housing units being placed in nature, nature in the form of green areas were placed inside the social housing units and often took up 80 percent of the lots. By 1934, one tenth of the population of Vienna was living in these publicly financed social housing.\(^{57}\)

The movement of the Siedlungen already halted after four years. Their wide dispersal resulted in greater expenses for schools, transport infrastructure, water and electricity supply. Also as the postwar food shortages were over around 1923, the garden city model lost a bit of its purpose. Higher densities and therefore the Gemeindebau option began to be more favorable as because of these higher density they could make more economical use of the existing facilities. Another benefit of Gemeindebau was that the Siedlungen were scattered in the outskirts without public transport links to the city center, the Gemeindebauen were either built within the urban fabric connecting to the surrounding fabric or along lines of public transportation. This was Otto Wagner’s train line which became known as the “Ringstrasse des Proletariat” because of its high concentration of workers housing estates.\(^{58}\)

Another benefit were the communal aspects. Where housing projects in Europe around that time were mainly individualistic focused, the Gemeindebauen were multi functional, focused on community-enhancing shared amenities that were sometimes so large that they became self-sufficient as if they were a small city within the city. The building brought the nature into the building and created a big garden city of its own. Because of their large scale, they were also much more cost-effective and serviceable than the Siedlungen. Shared amenities in the Gemeindebauen could range a lot of different possibilities but it typically included kindergartens, wash houses for laundry and washing, mothers’ advice centers, youth centers, libraries, post offices, health centers, dental clinics, pharmacies, and shops.\(^{59}\)

\(^{55}\) Lefaivre, L. (2017) p. 109
\(^{56}\) Lefaivre, L. (2017) p. 110
\(^{57}\) Lefaivre, L. (2017) p. 111
\(^{58}\) Lefaivre, L. (2017) p. 119 - 123

Fig. 22 Ringstrasse des Proletariat

Another benefit were the communal aspects. Where housing projects in Europe around that time were mainly individualistic focused, the Gemeindebauen were multi functional, focused on community-enhancing shared amenities that were sometimes so large that they became self-sufficient as if they were a small city within the city. The building brought the nature into the building and created a big garden city of its own. Because of their large scale, they were also much more cost-effective and serviceable than the Siedlungen. Shared amenities in the Gemeindebauen could range a lot of different possibilities but it typically included kindergartens, wash houses for laundry and washing, mothers’ advice centers, youth centers, libraries, post offices, health centers, dental clinics, pharmacies, and shops.\(^{59}\)
Hubert Gessner (1871-1943), student of Otto Wagner, was the most influential architect of the housing program and set the format for all the subsequent Gemeindebau housing projects. The idea of a huge perimeter block was the most important aspect which he carried over all the buildings. Also a planted courtyard in the center, occupying almost 60 percent of the land on which the complexes were located, was an element used in all the complexes. Nature was used as a shared social space and because of its large scale, each resident was able to enjoy a large natural environment.60

The Karl Marxhof is the most famous example of the Gemeindebauen projects. The total complex stretches over 1.5 kilometers and houses over 5000 people in 1382 apartments. It is mostly seen as the symbol of Red Vienna’s social-democratic architectural movement. It is the most formally striking example and stretches uninterrupted over its entire length with remarkable landscaped courtyards.61

**THE SPECIALITIES OF VIENNA’S GEMEINDEBAU**

The size of the individual apartments were according to the international standards but what was special about the Gemeindebau of Vienna was that despite having a small apartment, in these complexes this was counterbalanced by the large semi enclosed communal courtyards. Also the transport links were characteristic, making the complex well-connected to other parts of the city and work. Because of the large scale of the complexes, the projects always had health and education facilities and could host different programs such as festivals and sport events, in order to create a “new” working class.62

Another thing that was special of the Gemeindebau in Vienna was that the complexes were part of a broad political and cultural agenda. It distanced in that itself from housing programs in other cities such as Paris, Berlin and London as because of this sense of civic duty many major cultural and scientific figures contributed to the common good. They organised activities or even health care facilities where in some examples people from all ages and classes could be treated at no cost. This all to contribute to the well-being of the working-class.63

The Gemeindebau projects were focused on the quality of life inside the complex. This concerned multiple aspects. One of them was the liberation of the housewives by transferring household functions to the communal facilities. While women were working, the children could be brought to the Kindergarten and after work, there would be food in the central kitchen when the women would come back from work. The house’s washing service would take care of the laundry.64

There was a great focus on cultural life and activities. There were musicals, an orchestra and even a weekly cultural magazine. Also attention was paid to promote the idea of healthy life by athletics, sports and dancing. There were even the “Arbeiter Olympiaden” (Workers’ Olympic games in 1927) and a working class spa with multiple swimming pools, saunas and other facilities, which is still one of the largest spa complexes of Europe.65

As a result, the Gemeindebau was a financial success. When multiple cities where facing economic depression, Vienna did not because of the profitable publicly financed housing. Despite the design freedom the architects were given, there were only two apartment types realised and there was a strict focus on standardisation in building parts, which helped in keeping the buildings affordable.66
NEW FORMS OF COLLECTIVE HOUSING

SANFT PLANUNG (SOFT PLANNING)
The other important period for the development of collective housing in Vienna is around the 1970s when “Sanfte Planung” (Soft Planning) emerged and became an important aspect of Vienna’s social housing policy. The aim remained the sense of community, but it adopted citizen participation, advocacy planning and a small scale, interstitial approach to the traditional nineteenth-century urban fabric. Soft planning was initiated in 1974 by the area renewal office (Gebietsbetreuung), which had a neutral position in relation to all the actors involved. Also they were not allowed to carry out their own private planning business in that area which is a big difference compared to rehabilitation commissioners in many other European cities. Special about this way of planning was that it was not focused on new to build area’s, but on existing rundown neighborhoods.67

Spittelberg is one of the example of a neighborhood that was rundown, but because of soft planning it is now the thriving home of galleries and studios. Also the working class district of Ottakring was improved in this way, by integrating people and finding solutions to conflicts that are typical for a multicultural neighborhood.68

Because of Soft Planning, 80 percent of the nineteenth-century architecture that was rundown is revitalized, making the Vienna the city with the worlds largest housing regeneration program. Around average 10,000 apartments are refurbished each year, resulting in a total of around 170,000. The refurbished buildings include mostly old private rental buildings but also housing estates from the 1920s - 1970s. Also the social housing schemes from Red Vienna’s were modernized, including the Karl Marxhof and other significant projects.69

Around the 1980s, individual participational planning arose, marking Walter Stelzhammer’s renovation of the U-shaped Beidermeier house from 1780 as one of the earliest. Six families bought the decayed property and convinced the municipality to keep the building as well as to give them three grants to help them in the transformation of the building to six separate apartments. This project marks the start of individual participation planning in Vienna.70

HUNDERTWASSER
Another important high point was the Hundertwasser Haus, built between 1983 and 1985 by Friedensreich Hundertwasser, who sought for a more humane and ecological alternative to social housing. The project was funded by the municipality and is now the third most visited building in Vienna. Grass and threes grow on all floor levels of the building, including the roof and balconies, where each apartment has access to. Children can draw on the walls at the ground floor level and the facades are decorated with ceramic and mosaic tiles. After the Hundertwasser Haus, he designed more buildings for Vienna. His aim was always to design buildings that embrace a green lifestyle while enhancing community, sensuality, child-friendliness and cultural expression.71

THEMED HOUSING
The designs of Hundertwasser had a big importance on the social housing schemes of Vienna. They brought back the spirit of Red Vienna but now adding a new community enhancing component to the social housing: “themed housing” projects. In these projects, groups of people who want to share their lives with people who share the same social, gender-based, cultural or ecological concern connect together. This represents nowadays 5 percent of Vienna’s social housing but this tendency keeps developing.72

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68 Lefaivre, L. (2017) p. 271
69 Lefaivre, L. (2017) p. 271
70 Lefaivre, L. (2017) p. 271
71 Lefaivre, L. (2017) p. 272
72 Lefaivre, L. (2017) p. 273
There are multiple examples of “themed housing”. The first example arose out of Sanfte Planung, was the Sargfabrik. In this project, all the people are members of an association that makes each of them an owner, builder and landlord of the complex. Because of this arrangement, tenants don’t pay rent but instead pay off the building’s loan and maintenance fees. The tenants also participated in the design process, on the building scale but even in the design of the individual floor plans. The idea behind this active participation in the design process was that people would feel proud to live in the building and to contribute to a high standard of living. The project was such a success that already half of its apartments were rented out before the construction was completed and a follow-up project, Miss Sargfabrik, was realised in 2000.\textsuperscript{73}

The project focuses on sustainability, there are places for car-sharing, there is a green roof and a big bicycle storage. The materials used in the construction are ecologically certified and non-hazardous. In the Sargfabrik, there are no private balconies but all the balconies can be used by anyone, enhancing community in the project. To enhance this even more, communal facilities such as a kitchen, library, a media room, laundry room and a club room for young adults.\textsuperscript{74}

In Miss Sargfabrik, there are multiple different housing units as the dwellings focuses on multiple types of households: traditional families, multigenerational, same-sex, single-parent or patchwork, senior citizens, adolescents, refugees, pensioners and disabled people. Also in this project, much attention was paid to the communal facilities to enhance communal life. The facilities include a restaurant, a café bar, a concert hall, a global dance class and a spa. Also a lot of different activities are organised each year, focused on the total building but also special evenings for certain target groups of the building.\textsuperscript{75}

Other examples of themed housing are Frauen-Werk-Stadt (Women-Work-City), designed by women architects and planners. The main idea was the liberation of the women from the patriarchal family role, taking into account their economic and social needs. The project focused on single women with or without children, although women with a partner were also welcome. Later more buildings according to this principle were designed, for different target groups such as retired women or disabled women. All the buildings have a communal kitchen and office spaces for women who work at home.\textsuperscript{76}

One of the projects that gathered the most attention is In der Wiesen (In the Fields), a project that focuses on the encouraging of multicultural integration, based on mutual respect and understanding and also to make a new urban district attractive to immigrants. The complex hosts more than 20 nationalities. The communal functions of the complex include a Turkish bath, a swimming pool, loggias, terraces, gardens, tea-houses, games rooms and a banquet hall. To avoid conflicts between different nationalities, there is a full-time live-in ‘culture manager’.\textsuperscript{77}
INTERGENERATIONAL LIVING

This type of housing developed in a response to the demographic changes that are affecting the city of Vienna. It focuses on the question of how elderly with special needs can be included in intergenerational housing. In the project Generation: Wohnen am Mühlgrund (Generation: Living on the Grounds of the Mill) build between 2007 and 2014, all the designed apartments are obstacle-free and to some extent flexible. Some apartments have collapsible partition walls that enable changes to respond to different target groups that live in the apartment. In this manner, the apartment can be suitable for for example a growing teenager, an elderly family member or live-in helpers.

MULTIPLE THEMED PROJECTS COMBINED

Since the end of the 1990s, there is a new tendency where multiple themed housing projects are clustered into one big complex. Multiple different target groups are in these projects combined, resulting in a wide variety of communal function and amenities. First of this kind was Am Kabelwerk (At the cable factory) build between 1997 and 2005 where the old cable factory was preserved and renovated as much as possible. The project contains 937 apartments in eight buildings, all represented by different housing associations. The tenants participated in the design of the floor plans. The projects hosts large communal areas, such as restaurants, shops, a theater, a hotel, nightclubs but also rooftop saunas and pools, a kindergarten, a medical center, a communal garden, playgrounds and even a dementia garden. The complex is fully accessible and has its own underground public transport station.

According to Lefaivre (2017), the most ambitious multifaceted housing project till now in Vienna is Sonnwendviertel (Midsummer Solstice Neighborhood) This project will house in the end 13000 people in a total of 5000 apartments. The project is designed in an eight-acre park around a transport hub, divided in seven clusters. The aim of the project is social sustainability, where different users, uses and housing types are accommodated by diverse and flexible floor plans and communal areas. This to encourage "social mix, participation, multi-generational family life, and community building".

SMART BUILDING

During the crisis, multiple fundings for housing suffered in Vienna but instead of cutting back on the build of new housing projects, Smart Building was introduced in 2012. This type of housing focused on the design of more compact dwellings than the previous social housing standards, with a size between 40 and 70 square meters. The smart buildings are focused on target groups that look for affordable housing such as young people starting their career, single parents or elderly who are looking for a smaller and less expensive apartment. The aim is to design affordable housing while maintaining high housing standards and allowing tenants to experience high-quality social, ecological and cultural environments. Currently, the plan is that all subsidized housing in Vienna should include at least 33 per cent ‘Smart’ units.

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78 Lefaivre, L. (2017) p. 277
79 Lefaivre, L. (2017) p. 276
80 Lefaivre, L. (2017) p. 281 - 283
81 Lefaivre, L. (2017) p. 283
The pilot project for the new Smart Building policy was the Lorenz-Reiter-Strasse designed in 2012. In the project, half of the apartments are smart. In these smart apartments, the living space is clustered around a central wet wall for the kitchen and the bathroom. The rest of the floor plan is left open and gives the tenant therefore freedom to divide the rooms to their own preferences. The apartments are more compact than standard housing but despite this, all the apartments have generous balconies.\footnote{Lefaivre, L. (2017) p. 284}

Fig. 31 Lorenz-Reiter-Strasse, the standard units and variations

**CONCLUSION**

After taking a deeper research into the specific case of Vienna, several conclusions can be drawn regarding collective housing (design), from the Red Vienna period as well as of the Soft Planning period.

**RED VIENNA CONCLUSIONS**

**CONNECTION TO TRANSPORT**

The connection with public transport is in all the examples important, to connect inhabitants with the city and their work.

**STANDARDISATION**

Standardisation of dwelling types and building elements is used to keep the buildings, despite high architectural quality, affordable.

**COMPENSATE SMALL DWELLING**

Small dwellings are compensated with the large communal gardens and other facilities.

**SOFT PLANNING CONCLUSIONS**

**FLEXIBLE DWELLINGS**

Most of the complexes focus on flexibility of the dwellings to change to different target groups/changing households.

**RESIDENT PARTICIPATION**

Participation of residents in the design resulted in responsibility of the residents in regard of the building.

**COMBINING GROUPS**

There is a shift from only the working class to combining certain (like-minded) groups or individuals, in order to create benefits and facilities aimed at this certain group.
5. DESIGNING COLLECTIVE HOUSING

Design tools to encourage social interaction in collective housing design.
BENEFITS OF COLLECTIVE HOUSING

After reading literature, analysing the history of collective housing and taking a deeper research into the special case of Vienna, multiple benefits of collective housing can be pointed out.

AFFORDABILITY

Collective housing can be more affordable compared to individual housing as facilities and resources are shared. The dwelling sizes can be smaller because of the shared facilities and therefore the houses can be more affordable.

COMMUNAL VS. PRIVATE

As Fromm (1991) describes cohousing: “Cohousing combines the autonomy of private dwellings with the advantages of community living.” Effort is paid to design dwellings that are as private as possible in combination with plenty of communal facilities where people can go if they are looking for social interaction.

SUSTAINABILITY

Collective housing is seen from a sustainable point of view in many different ways. In multiple projects there is car or equipment pooling. It is according to Gram-Hanssen et al., (2009) more energy and resource efficient for more people to live together and therefore more sustainable and that cohousing communities are better able and willing to implement sustainable technologies. They can reduce energy demand, waste and consumption by supporting sustainable practices.

SOCIAL CONTACT | LESS LONELINESS

Loneliness is becoming a bigger problem in cities. In Amsterdam 1 out of 10 adults (65,000 citizens) feel very lonely and 3 out of 10 adults feel moderately lonely (200,000 citizens). According to Joris Slaets in neighborhoods we can increase the chances for people to stay in contact with others, but there has to change something as the last year, our public space has mainly been designed for privacy instead of meeting each other. Cohousing is seen as a way to reduce loneliness as it focuses on social interaction between neighbors. Social interactions within the neighbourhood help to encourage the growth of social capital.

HIGH QUALITY FACILITIES

Collective housing is seen as a possibility to create otherwise unaffordable or inaccessible services. It includes spaces that are not regularly found in affordable housing, such as swimming pools, guest rooms, music rooms, cafés etcera. Because mainly everything is done by and for the residents themselves, spaces that are usually found only in the public or commercial realm are more affordable and made semiprivate.

MORE CONNECTEDNESS / FEELING RESPONSIBILITY FOR THE BUILDING

The stronger the sense of community, the more influence the members will feel they have on their immediate environment. When tenants are participating in the design process, people feel more proud to live in the building and therefore also feel more responsible to keep the building up standard.

(Feeling of) Safety

Social interaction between neighbors provides casual unconstrained social control which contributes to a more safe neighborhood. Also when people identify with their neighborhood, they personalize their homes which contributes to the development of common symbols, a sort of territorial markers which according to Newman (1972) often deter neighborhood crime.

THE SIZE OF A COLLECTIVE LIVING

In the issue of layout (n.d.) about collective housing, the number of houses included in a collective complex are argued. Projects between 6 - 14 serve more as a “big” house and is a collective housing size that is not much used in the Netherlands. In more urban environments in the Netherlands, the projects are mostly around 20-24 dwellings, with an upper limit of around 50 dwellings.

83 Tummers, L. (2017) p. 86
84 Huisman, M. (2016) p. 2
85 Tummers, L. (2017) p. 86
86 NOS (2016)
**DESIGN TOOLS TO ENCOURAGE SOCIAL INTERACTION**

“When people feel a sense of community, they are more apt to interact with the residents in their neighborhood”  

Collective and communal spaces will play an important part in my final design, but it is hard to predict the success and the usage of communal functions on beforehand. There are always certain factors, like personal factors, social factors (formal and informal) and other factors that play a role in the success of communal spaces. Therefore the social interaction in collective building design by design interventions shouldn’t be overestimated. Nevertheless, a lot of research has been done on how to improve or promote social interaction in (collective) building design and there are multiple design interventions that encourage social interaction and the use of the communal spaces. Williams (2005) summarizes different research into communal facilities into different design interventions which I summarized into six main design interventions:

1. **SEMI PRIVATE / BUFFER ZONES**

   Semi private zones form a buffer and a gentle transition between private and communal space. They prevent overexposure to the community and add extra visibility in the form of surveillance, for parents to watch their kids for example and it increases the opportunities for potential meetings.

2. **CLUSTERS / SMALLER GROUPS**

   Smaller groups or communities tend to have a positive effect on social interaction as in large groups people feel less connected and more unknown to each other. Too small groups creates the opposite problem: a lack of privacy. Clustering can be used in larger buildings to create smaller communities.

3. **SHARED PATHWAYS**

   The potential for social interaction is increased when the communal facilities, but also parking and the private dwellings, are located on shared pathways. If there is social homogeneity along this pathway, this is increased even more.

4. **SURVEILLANCE**

   Surveillance and visibility to the communal space is important on the one hand so that parents can keep an eye on their children, on the other it gives residents the ability to see who is using the communal space and this enables them to observe with whom they would like to interact.

5. **MULTI-STOREY EFFECT**

   When designing multi-storey collective buildings, this can reduce social contact as multiple dwellings are not directly connected to the communal space. They first need to go some floors down which forms a barrier.

6. **SMALLER PRIVATE SPACE**

   Less private space also encourages social interaction as people are more likely to spend time outside their unit. But their should be enough outside and inside communal facilities to cover up with the smaller individual units when this design principle is used to still provide a pleasant form of living.

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92 Williams, J. (2005) p. 199 - 200
PLAN ANALYSIS

The historical collective housing overview I show in chapter 3 ends with modern collective housing examples from different large European cities, all facing the problem of the unaffordable city. For the plan analysis I therefore decided to analyse four projects to focus on this problem to get a better grip on how is dealt with collectivity in present day design examples.

RESEARCH QUESTIONS

A lot of research has been done on how to improve or promote social interaction in (collective) building design, which in the previous I summarized to six design interventions. Therefore in the plan analysis, I will test four collective dwelling designs on to design interventions that, according to literature, play an important part in embracing social interaction in collective building design. I will analyse the semi private buffer zones and the shared pathways.

My research question for the plan analysis is:

**How can architectural interventions contribute to the collectivity in building design?**

HYPOTHESIS

The dwellings on the ground floor level - where in most of the cases the collective spaces are placed - are the best connected to the collective spaces. They have the best transition between private and public and a relation with the collective space compared to dwellings on higher floors. As read in literature is the multi-storey effect bad for collectivity and therefore I expect that these dwellings are less well connected to the public space.

METHOD

To answer my research questions, I will draw axonometric views to see the relation between the dwellings and the way they are connected to different communal facilities in the building block. I will draw the collective functions and the shared pathways that connect the collective spaces and the dwellings. I will look at the building complex scale but also zoom in to the dwelling scale. For the dwelling scale I make use of eye height drawings, by looking at pictures that show how the residents are using the collective space, this also by looking at the elements placed in the (semi) private space and the transition between private - collective.

PLAN ANALYSIS PROJECTS

I summarized different aspects for projects as requirements to serve as plan analysis references so they will be most helpful for my design assignment. The projects should all be dense and placed in or close to the city center. The project size should be around 25 - 50 dwellings as it should concern a design in an urban environment that still feels as a collective. I chose the following projects:

**BIGyard | BERLIN**

**BABEL | ROTTERDAM**

**Hunziker Areal I | ZURICH**

**River Spreefeld | BERLIN**

BIGyard and Babel specifically focus on the design for families. Hunziker Areal and River Spreefeld are focused on different target groups but also on the design for families and therefore also of relevance for my research. BIGyard and BABEL mainly focus on the outside collective space and some central communal facilities. River Spreefeld and Hunziker Areal also have collective cluster dwellings on certain floors inside the building. Therefore for River Spreefeld and Hunziker Areal I made four axonometric drawings to show the collective inside and around the building complex.

Fig. 32, 33, 34, 35
The project was implemented as a joint venture. The 72 owners participated actively in the design and therefore the design has a lot of personal features and ideas of the group. The project consists of 12 three-storey penthouses, 10 three-storey garden houses 23 townhouses that have an entrance also on the front of the building, generating possibilities for workspaces on the ground floor.

COLLECTIVE SPACES
The collective facilities of BigYARD consist of a 1300 m² collective garden in the middle of the project, a sauna, four guestrooms and a collective roof garden with views of Berlin and cooking facilities. The project is closed off by two walls, making the garden only usable for the tenants.

SHARED PATHWAYS
The entrances to the dwellings are connected to the shared pathways, therefore enhancing the use and connection with the collective garden. Also the tenants living on the higher floors need to walk through the garden to reach the central staircases. The galleries are open and faced towards the garden, which gives more sights and interaction but there is no buffer zone on this gallery that the tenants can use as a small outdoor space.
The highered terrace is used by people to sit upon, to chat with their neighbors or watch their children playing. People placed barbeques, tables, chairs, and benches in the semi-private garden. This shows that the space is working, people make it their own, and it did not become undefined garden space. Here, social interaction is promoted, and if people want more privacy, they can use their highered terrace in between two massive walls. The height difference and the walls, covered with extra planting, provide privacy.

CONCLUSION

The entrances to the dwellings are connected to the shared pathways, therefore enhancing the use and connection with the collective garden. Also, the residents living on the higher floors walk through the shared collective garden, therefore it becomes clear that the collective garden is the heart of the project and the potential for social interaction plays an important role in the design. The project has private, semi-private, and a collective garden, and this gives a gentle transition between public and private. After the eye height analysis, I can conclude that the semi-private space is working, people use it to place garden furniture like tables or a barbeque there and make their terrace more private. The collective garden in the middle is really left for the collective use, there are no personal furniture placed here. The shared pathway forms the slight border between the semi-private and collective.
COLLECTIVE SPACES

The communal spaces are the streets that surround the dwellings. On the first floor and the roof terrace there is a larger communal outdoor space with also urban farming. The large communal space on the first floor is also connected to an indoor communal room that can be used for meetings, cooking together or can be reserved if you would like to host an event or party.

SHARED PATHWAYS

A communal street is created around the building. The living rooms of the dwellings are connected to this collective street and because the dwelling are maisonnees, the bedrooms are on another floor providing more privacy. The main entrances are connected to the central staircase, which makes it less necessary for people to use the collective street to reach there home.
CONCLUSION

In the design of Babel, the street around the building forms the most important aspect of the (collective) design. The street makes it possible for each dwelling to have a small private outdoor space along this path. The outdoor spaces are connected to the living room of the dwelling, enhancing more social interaction. Hence, the main entrances of the dwellings are not located on this central path but connected to the inner staircase. The question therefore remains how much the collective street will be used. As this project is not realised, there are no observations about the use of the collective space yet.
Hunziker Areal building A is part of the “Mehr als Wohnen” (More than living) collective housing plan, which is one masterplan focused on collective housing and the problem of the rising housing prices in the center of Zurich. The plan is built up off different buildings designed by multiple renowned architectural firms. The buildings focus on different target groups and building A has as a specialty that next to collective outdoor space, each floor is divided into two collective housing clusters with communal space in between the dwellings.
Each floor consists of two cluster apartments with 5 or 6 dwellings. In between the apartments is communal space in the form of a living room, a kitchen and a communal balcony.

The apartments are mostly located on shared pathways as communal spaces are spread around the apartments. The entrances of the dwellings are directly at the communal space, there is no semi-private buffer zone.

CONCLUSION

After analysing it becomes clear that the buildings of Hunziker Areal are build for a collective, but as the scale is so big as it concerns multiple buildings, the project has a more public than collective character. There are multiple collective facilities that can be used by people living in one of the buildings but also by people living in the neighborhood. The project is therefore not very focused on creating a smaller community feeling but more on the interaction between different buildings. There is no buffer zone between the dwellings and the public outdoor space as most of the ground floor area consists of communal facilities. When looking at the cluster apartments, the multiple different communal spaces inbetween the apartments are very characteristic. The apartments don’t have any buffer zone between private and collective but as the spaces are divided in multiple smaller spaces, this provides some more privacy.
River Spreefeld is a project in the center of Berlin, consisting of three separate buildings which multiple dwelling types and therefore target groups. The facilities on the ground floor are designed for the residents, but also for the surrounding neighborhood.

The collective areas of the project consist mainly of a collective garden in the center of the three buildings, roof gardens and collective facilities on the ground floor of all the three buildings. Along the water there is a collective boat house. Next to the boat house is a public beach.

The buildings are focused on connecting the neighborhood to the project, therefore one of the routing goes through the building. For the tenants of the buildings, it is not necessary to walk past the collective garden to reach the central staircases, therefore not enhancing social interaction.
In each building, the middle part consists of cluster living: different apartments connected to communal facilities. There is a living area, kitchen, bathroom and a communal roof terrace, connected to the “private” terraces.

The communal kitchen and living room are connected to the entrances of the dwelling. Also the private terraces are connected to the communal terrace. Hence, there is no semi-private / buffer zone between the dwellings and the collective space. Also the “private” terraces don’t have any separation from each other, resulting in less privacy.

CONCLUSION

Looking on the urban scale of the project, the buildings are not really focused on a relation with each other. The shared pathways only reaches two of the buildings, and all the building entrances are also reachable from the back of the building, resulting in less social interaction. If we look to the cluster dwellings, the collective spaces are connected to the entrances of the dwelling and each dwelling has a window to see the collective space, hence there are no semi-private buffer zones. When looking at the eye-height drawing, it is clear that the collective garden on the ground floor is hardly used. The grass is left to grow high and therefore the garden isn’t used. There is no transition between private and collective. The missing of the buffer zone could be the reason the collective green isn’t really used, it is now undefined area which results in less use of the space.
CONCLUSION

After the plan analysis, I discovered that two of the four projects have their main focus on the collective: the projects are more private and more focused on the group of people living on the complex. The other two projects focus on the one hand on the collective but have their main focus in adding also value for the surrounding neighborhood and are therefore more public. This is also visible in the building forms used.

COMPLEX FOCUSED ON THE COLLECTIVE

In BIGyard, the buildings are closed off from the neighborhood. There the project is more intimate and mainly focused on the tenants of the complex. The complexes that focus more on the collective, the projects are more distanced from the public. In BABEL this is done by an increased ground floor level.

COMPLEX FOCUSED ON THE PUBLIC

The more public oriented complexes consist of multiple separated buildings, which makes it more open and gives opportunities for people of the surrounding neighborhood to walk through the complex. The communal functions are situated at the ground floor.

A pitfall in this design is that in River Spreefeld and in Hunziker Areal, there are no dwellings at the ground floor level and therefore there is no buffer zone. Also, entrances of the building blocks are not always connected to shared pathways along collective space.

Therefore people can walk to their homes without passing collective space. As a result, in the eye-height drawings it became visible that the collective space is more unpersonal. It is more focused on a larger public, creating less a collective / communal feeling.
COMMUNAL FACILITIES

After looking at multiple historical and present day collective housing design examples, there are multiple possible collective functions and it is very diverse. Despite of their function, communal spaces need to be of good quality, suitable for their use but at the same time flexible, as this adds in maximizing there use and therefore the potential for social interaction. The communal functions also need to be central and accessible.

Fromm (1991) describes the common kitchen as the most important function for a sense of community. Cooking and eating together is one of the fundamental ways how individual households retain a sense of community. Also in all the analysed projects there is a communal kitchen. Next to the common kitchen, there are more communal functions that can be found in almost all collective housing designs:

- Shared Kitchen
- Living Room
- (Roof) Garden
- Bike Shed
- Laundry
- Parking
- Playground
- Workspace
- Restaurant / Bar
- Workshop
- Shared Bikes / Cars
- Swimming Pool
- Urban Farm
- Daycare
- Guest Room
- Sports
6. LOCATION ANALYSIS

Information about the Groenmarkt
THE JORDAAN

Originally, the Jordaan was built for the working middle class, but due to gentrification, the (low) middle class is also driven out of the Jordaan. Having a character of a family neighborhood and being close to the city center, I decided to choose a location on the Singelgracht within the Jordaan, to keep and maintain the middle income families that are now being driven out.

HISTORY OF THE JORDAAN

The Jordaan was originally a typical working-class district for the (low) middle income where also businesses where situated. The first part was built in the 17th century during one of the expandings of Amsterdam, which is called "de Derde Uitleg". During the 19th century, because of the high birthrate and the demolition of decayed buildings in the 19th century, a shortage of affordable housing for poor people arose. The Jordaan became overpopulated and wasted.\(^9\)

During the 20th century the damming of canals, better hygiene and health care, better housing, community work, education and the construction of drinking water pipes and sewerage gradually improved the living conditions in the Jordaan, but it remained a neighborhood with a lot of poverty, unemployment and social problems. After the second world war, a lot of the Jordaan was in decayed state. Much has been restored since the 1960s. Monuments have been restored to their former state and irreparable ‘uninhabitable’ homes have been demolished. The resulting holes have been sealed with new construction.\(^9\)

From the seventies onwards, the places left behind by the families that had been withdrawn were increasingly taken by young people, students and singles. Most craft businesses, factories and workshops have been replaced by homes and shops in the 20th century. At the end of the 20th century it became hip to live in the Jordaan which resulted in gentrification of the neighborhood. Now, around 63% of the people living in the Jordaan is middle or high income, resulting in only 1 out of 4 housing available for social housing.\(^9\)

PROJECT LOCATION: THE GROENMARKT

I choose the Groenmarkt as a project location within the Jordaan because of several reasons. The location is close to the city center, but still feels open and shielded from the busyness, which makes the places suitable for parents who want to live close to the city center, but also want their children to be able to play outside safely. Also the location is surrounded by many monuments and has a rich history over time.

In this location analysis I will show general information about the location, shown in 2D maps. With eye-height pictures and a 3D illustration, I will show characteristics of the location that are in my opinion important aspects of the location for further design decisions.

Fig. 36 The project location and area around the Groenmarkt

\(^{93}\) Wikipedia
\(^{94}\) Wikipedia
\(^{95}\) Wikipedia
**HISTORY**

Between 1895 and 1934 the Groenmarkt was a fruit and vegetable market. At this time, there were docking ports for the transportation of the fruit and vegetables from the boats to the market and the storage. At the side of the Marnixstraat, housing developments were build to shield the market. The large openings between the buildings were designed to provide transparency and give passages to the market.⁹⁶

Because of growth of the market, hygiene and the increase of traffic, the market moved around 1934 to the Centrale Markthallen. After the second world war the docking ports where closed and filled up as they no longer had a function. The area served then as a parking place for a while till the build of the playground. In 2012 there was a temporary building to house elderly which has already been demolished to the current state: empty wasteland.⁹⁷

The 7th century canals are listed as UNESCO world heritage since 2010. This part forms the main zone of the cultural heritage but the area of the Singelgracht where the project location is part of, is part of the bufferzone which serves as extra protection of the main zone. The main and the bufferzone are both part of the protected cityscape. Therefore on the location, there are more regulations in regard to new construction as it should fit in the protected cityscape.⁹⁸

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⁹⁶ Gemeente Amsterdam (2013) p. 18
⁹⁷ Gemeente Amsterdam (2013) p. 18
⁹⁸ Gemeente Amsterdam (2013) p. 11
The ground floor level is still mostly closed, hence of the two smaller buildings the ground floors are being opened up. The closed doors are replaced by windows and doors with windows and therefore the ground floor at the Groenmarkt is more activated.

When the Groenmarkt was still used as a market, the ground floor levels of the buildings where used to as storage space for the fruits and vegetables. This is still visible as the ground floor level consists mostly of closed garage doors. At the Marnixstraat and Rozengracht, the ground floor level is very open as it hosts different kinds of facilities.

**CLOSED GARAGE DOORS AS REMAINDERS FROM THE MARKET**

Fig. 41, 42, 43, 44

Fig. 45, 46 current situation ground floor facades around project location
GENERAL

DIMENSIONS OF THE LOCATION
The project location forms a rectangular plot along the Singelgracht from approximately 53 by 43 meters.

NUMBER OF FLOORS
Despite a slight difference in the number of floors, because of difference in floor height, the buildings around the project location are all around 15 - 17 meters high. The substation is a bit lower, with one building of 13 meters and the other two of 11 meter high.
source: https://ahn.arcgisonline.nl/ahnviewer/

BUILDING MORPHOLOGY
Typical for the city center of Amsterdam are the enclosed building blocks. When looking at the project location, it is remarkable that this part along the Singelgracht, instead of the continuously enclosed buildings, forms a mixture of building rows and free standing building blocks. The project location therefore deviates from the characteristic building form which gives a certain freedom for my own design assignment, multiple building forms are possible.

SUN DIAGRAM
The location next to the canal and the lack of trees results in almost no buildings blocking the sun from the project location. Only the substation blocks some of the morning till mid-day sun, as the sun in then on its lowest and the buildings of the substation vary between 11 - 13 meters high.
MATERIALISATION

Multiple colors of brick are used around the project location. The bricks used for the main facade color are varying from brown to red, bricks used for patterns and details are mostly more yellow. Typical for the location is the mixture of different brick colors. The substation forms an exception with a combination of brick and concrete. The roof cladding is grey.

URBAN PLAN OF REQUIREMENTS BY THE MUNICIPALITY

The municipality of Amsterdam (2013) formulated an urban plan of requirements for the transformation and development of the Groenmarkt, which gives information about the possibilities of the Groenmarkt location.

MUNICIPAL ZONING PLAN

Till 2016, the Groenmarkt was still part of the zoning plan of the Jordaan from 1972 with “public green” as destination. Since 2016 the zoning plan changed so that now “Gemengd-1, Gemengd-2, Groen en Verkeer” resulting in multiple possibilities for the development of the Groenmarkt.

SPATIAL

The openness and views that the location has form a characteristic aspect of the location and should therefore be guaranteed. This involves the openness through the Singelgracht but also because of the small buildings that “enclose” the Groenmarkt at the along the Marnixstraat.

GREEN & PUBLIC SPACE

There is too less green on the Groenmarkt, especially along the waterside, the preferable quality level is not reached, aim is to contribute to the city ecology. A pedestrian route along the Singelgracht is desired as well as urban farming for the surrounding neighborhood. A playground should be brought back to the location.

SUSTAINABILITY

Sustainability is important in the new to build construction. The dwellings should strive for energy-neutral design. Green roofs, vertical green, WKO and the choice for sustainable materials are aspect that are named in the urban plan of requirements.

WATER

The most important spearhead regarding water for the Groenmarkt is to enhance the experience of water by making the spatial relationship between water and shore visible again. General spearheads regarding water for the whole center of Amsterdam where the Groenmarkt is part of includes more sights to the characteristic historic parts, restoration of the transport function of the water and the increase of liveability, safety and the water quality.

NEW CONSTRUCTION

According to the assumptions of the urban plan of the municipality. The new construction should connect to the surrounding buildings in terms of building height and the building lines, along the Marnixstraat this is 5 floors, along the Singelgracht 4. Maximum to build footprint is 50 - 70% of the project location.

PARKING

Parking should be served underground / “Witte Vlekbesluit”: no parking permits for the ground level.
The project location is surrounded by multiple buildings, which gives the location a more enclosed character and a bit separated from the busy streets that surround the location.

**CHARACTERISTIC OPEN SIGHTS**

Characteristic for the location is that where in the city there are mostly closed building blocks, this location is enclosed by smaller buildings with some distance inbetween. This distance between the buildings provide great sights to both other sides of the canals. Despite being enclosed by the surrounding buildings, because of these sights the project location still has an open character and also because of the location at the canal which provides 180 degrees sights to the other sides of the canal.
The Rozengracht and the Marnixstraat form two big traffic roads that surround the area of the Groenmarkt. The project location itself is surrounded by a more quiet road, the Groenmarktkade, where only destination traffic goes to. The location itself is therefore very quiet despite being surrounded by multiple bigger traffic roads.

Fig. 50 Traffic junction Rozengracht where cars, trams, buses, bicycles and pedestrians come together.

Fig. 51 The quiet street that surrounds the project location where some cars and bicycles are parked.

There are multiple bicycles routes going past the project location as it is part of the “Hoofdnet Fiets” (Mainplan Bikes), which is focused on stimulating the daily use of bikes and guaranteeing good reachability to other parts of the city.

The project location is surrounded by big traffic roads and also tram tracks, with multiple tram stops closeby, making the location well connected to other parts of Amsterdam as it is part of “Hoofdnet Openbaar Vervoer” (Main plan public transport).

Fig. 51 The quiet street that surrounds the project location where some cars and bicycles are parked.
There is not a lot of green or parks close to the project locations. There are some small parks when walking 10 minutes but overall the area is urban with not a lot of green.

**Types of Trees**

On the project location, there are hardly any trees. There are some trees next to the river but mainly the project location is not very green. On the opposite side of the river, there are multiple trees, the view therefore from the project location to the opposite side of the river is very green.

- = platan
- = maple
- = Japanese ornamental cherry
- = cypress
- = American linden

**Private Gardens**

Along the water, there are housing boats with small green gardens. This prevents the use of the waterside from the Rozengracht to the project location for public use but forms one of the only green parts of the location.
On the project location, there are hardly any trees. There are some trees next to the river but mainly the project location is not very green. On the opposite side of the river, there are multiple trees, the view therefore from the project location on the opposite side of the river is very green.

Contaminated Soil

Till the end of the 19th century, the Groenmarkt was the location of a gas factory, used for the gasification of coal. In this time, the soil got heavily polluted.

Surrounding green and parks

Fig. 52, 53 Sights from and to the other side of the canal
There are multiple primary schools around the location, reachable between 5 - 10 minutes walking. High school are a bit further but the two closest ones are still reachable within 5 minutes cycling.
Goals and aims of my graduation project

Overview of design goals and aims, the design concept and a brief of the numbers, sizes and types of the dwellings that will be realised.
**DESIGN BRIEF**

For the design brief, I divided my research conclusions and design goals in three different topics: collective, public and new urban middle income families. Collective focuses on design strategies to enhance social interaction at the communal facilities and spaces. Public focuses on the way the building and the facilities can add something for the surrounding neighborhood and new urban middle income family focuses on ways of designing pleasant homes for families in dense city centers. I summarized the most important aspect for each of the three categories:

1. **COLLECTIVE BUILDING DESIGN**
   - ENCOURAGING SOCIAL INTERACTION
   - ENCLOSURE
   - DISTANCED FROM PUBLIC
   - FACILITIES CENTRAL
   - FACILITIES ON SHARED PATHWAY
   - VISIBILITY
   - SMALLER DWELLINGS

2. **NEW URBAN MIDDLE INCOME FAMILY**
   - PLEASANT HOUSING FOR FAMILIES IN DENSE CITY CENTERS
   - PRIVATE OUTDOOR SPACE
   - VISIBILITY CHILDREN
   - FLEXIBILITY
   - URBAN LEE
   - WORK / LIVING
   - ENOUGH SPACE TO PLAY

3. **PUBLIC**
   - CONNECTING WITH THE SURROUNDING NEIGHBORHOOD
   - OPENNESS
   - FACILITIES ON GROUND FLOOR
   - PUBLIC OUTDOOR SPACE / GREEN
   - WORKSPACES

**FACILITIES**

For the residents of the complex I want to realise different facilities. There will be a shared kitchen / living room, where the residents can eat with each other, but which can also be used when someone gives a party or when there is an event. This communal room will be connected to a communal outside space, preferably with possibilities for children to play and urban farming. There will be flexible rooms, as described in River Spreefeld: option rooms, which can be used for (flex)working, or can serve as workshop. The general facilities that I will add are shared laundry and a bike and car shed with shared cars. I would also like to add guest rooms, that can also be used when children moved out of the house but want to visit their parents.

The building and especially the outdoor space should add value for the surrounding neighborhood. Where in history the Groenmarkt was a gathering space, first as a market, later with a large playground, this value should be brought back. Functions I want to realise in my design that also focus on the surrounding neighborhood are: green area, a playground, a restaurant along the water, flex work spaces, a boat dock and maybe a kindergarten as the complex focuses on families with both the parents working and there are not many kindergartens around the complex.

**DIFFERENT DWELLING TYPES**

In the complex, around 30 - 35 dwelling will be realised. The complex will be 5 floors high to connect to the surrounding buildings. All the dwellings will be oriented towards the collective garden as well as the sun. Each dwelling has a small private outdoor space along the collective street. In the design, I will design different types of housing that connect to different housing desires of the new urban middle income family, in total three different types fitting in a grid of around 4 by 8,5 meters:
**DESIGN CONCEPT**

**URBAN LEE**
The building form creates an urban lee, inside the complex a semi enclosed feeling is created and outside connects to the surroundings.

**CONNECT TO SURROUNDINGS**
The building heights and alignment of the surrounding buildings are respected and used in the design.

**URBAN AND GREEN SIDE**
The complex will have two sides, an urban and a more green side.

**URBAN SIDE: OFFICES ON GROUND FLOOR: EXPOSURE**
The possibilities for offices will be located at the public street and square for more exposure.

**GREEN SIDE: SUN ORIENTED PARK ALONG WATER**
The building is orientated so that the dwellings but also the green area is orientated towards the sun, the trees on the other side of the canal and the canal itself.

**ACTIVATE WATERSIDE**
The waterside will be activated by a pedestrian and bicycle route and recreational functions such as boat docks.

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**LIVE & WORK COMBINATION ±90 m²**
This type of dwelling is a maisonette with on the ground floor a possibility for a workspace/office with exposure to the street or square. The living part of the dwelling is situated on the first floor and therefore more private. There will be around 10 of these dwellings.

**MAISONETTE ± 75 m²**
The middle floor of the building will consist of maisonettes, fitting within the approximately 4 meters width of the grid. The dwellings are therefore small but the two floors make it possible to design a vide with views on the water and the garden. There will be around 12 of these dwellings.

**FLEXIBLE SMART APARTMENT ± 75 m² or ± 55 m²**
The smart apartment will be situated on the highest floor of the complex and will be small but flexible. This will be an affordable small housing solution that can change according to changing family situations over time. There can be two different types from 1,5 or 2 times the grid size. Using only the 75 m² version, there will be around 8 of these dwellings, but if mainly the 55m² is used, there can be around 12 dwellings. This will be further analysed in the design process.

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**AFFORDABILITY**
Affordability plays an important part of the design as the dwellings should be affordable for the middle income class. Hence, the building should be of high quality and with an interesting architectural design that shows the qualities and high standard of living that is aimed for. To achieve this and still realise an affordable design, standardisation of building elements will be important in the design. Also sustainability will form an important focus point in order to reach the sustainability goals of Amsterdam for new construction but also as a way to save money in energy and electricity costs.
**TERRACED BUILDING**

The building will be terraced shaped and host different dwelling types.

**COLLECTIVE OUTDOOR SPACE**

Because of the terraced shape, each dwelling has a small private outdoor space which is connected to the collective outdoor space/street in front of the dwellings.

**VISIBILITY**

Parents can keep an eye on their playing children, whether they are playing on the collective street in front of the dwelling or in the collective garden.

**COMMUNAL CENTER & FACILITIES**

The facilities will be situated on the ground floor around the collective garden. The communal spaces mainly for the residents will be placed central in the building.

**SHARED PATHWAY**

The collective street will be a route that connects the collective garden, the communal facilities and the dwellings.

**Dwelling Scale**

**THREE DWELLING TYPES**

There will be three dwelling types: work-living combination, maisons-terres and smart housing.

**PRIVATE OUTDOOR SPACE**

All the dwellings have private outdoor space oriented towards the collective, the sun, and the water.

**COLLECTIVE OUTDOOR SPACE**

On the collective space in front of the dwellings, there is space for example for children to play.

**PRIVATE VS. PUBLIC**

The living areas are orientated towards the collective space. The bedrooms will be situated at the back of the houses.
8. SUMMARY

Summary of the total research report

Summary of the aims of this research report, answers to the research question and the translation of the findings to use in my own graduation design.
Amsterdam is becoming a more exclusive city as housing prices are rising because of the overpopulation. As a result, the middle class has a hard time staying in the city. Earning too much for social housing but too little for free sector, the gap between social housing and high income dwellings is growing, driving the middle class out of Amsterdam.

There are multiple reasons why the middle income group has a hard time finding a house in Amsterdam. The flexibilisation of the job market results in fewer households being able to buy a house. But also the high price rises and unavailability of the social housing stock contribute to the middle income group having a hard time finding a suitable house in the city.

From the middle-income group, only 23% lives in a mid-priced private property, and only 11.8% of the total housing stock consists of mid-priced private property. In Amsterdam, we see that mainly the rental price of apartments between 50 and 75 square meters are rising (+ 5.8%), which are mainly the mid-priced apartments. Because of the fast rise of the apartments, mid-priced rental houses shift to the expensive segment which results in the decline of mid-priced houses. Another problem is that high income households also live in middle segment housing, the same goes for low income groups living in middle segment housing (14%). This affects the low and middle incomes the most, as they can not shift to a higher segment.

The middle income family leaving the city is an unwanted tendency, both socially and economically as the middle income concern our teachers, policemen, nurses. For this job it is preferable to live in the proximity of their work, therefore it is important that this group maintains a place in the city. Families are also important for cities in the sense that children are small connectors that because of going to schools and sport clubs, they connect parents from all different classes. Also families mostly feel great solidarity with the neighborhood and feel therefore more responsible for keeping the neighborhood viable. And because of their active use of facilities, they keep the range and quality up to standard. Therefore the main research question I formulated is:

**How can suitable and affordable housing for the middle income families in the city center of Amsterdam be realised?**

**The New Urban Middle Income Family**

Despite that more middle income families are forced to leave the city, living in the city becomes more and more popular. Where traditionally families moved away from the city after the birth of their first child for more (outdoor) space, more families are interested in staying in the city center. Especially middle income families are interested in staying longer in the city. For young working families with mostly both parents working, living close to work is becoming more important again. To combine the working life with taking care for the children and also to save money, a strategic location in the city located closely to work and other facilities is more valued to combine all activities in an efficient way.

AM describes this group as the new urban middle income family. The urban middle class family is according to the AM research a group that lives according to an urban lifestyle: living in the city is a way for them to distinguish themselves socially. This can, according to Karsten (2014), be explained by the fact that young professionals are economically and socially bonded to the city and therefore it is not matter of course anymore to leave the city when children are born. Also they see the life in the city as part of their own identity.

The city apartments are mostly designed for small urban households: couples or singles, which is in a sense logical as this concerns three-quarters of all households in Amsterdam. (nestelen p. 65) But therefore a lot of city apartments are not suitable for families. The new urban middle income family has different desires according to their
HISTORY OF COLLECTIVE HOUSING

"Collective housing combines the autonomy of private dwellings with the advantages of community living. It has private units, semi-private space and indoor and outdoor communal space." (bron: de case of cohousing)

After research into the history of collective housing it became visible that historical tendencies were of big influence for the development of collective housing. It was only in the enlightenment period that, combined with the industrialisation and the development of the market economy, the preconditions for the modern individual and the small family was created. The collective became less important. Hence, the impoverishment of workers and the threat to the middle class asked for alternative models for living. An example is la Familistère, a collective building for workers to provide better life conditions for workers with the aim that this would have a positive effect on their productivity, emancipation and education of the people living in the complex.

Also the First and the Second World War had a great influence on collective housing design. After the First World War, the social housing movement Red Vienna started in Vienna as a reaction on the high amount of poverty and unemployment. Also after the Second World War, there as a huge housing shortage. The community sense after the war was strong, which is also visible in the way people thought about the (re)building of the houses. A conviction arose that communities could be created. In the Netherlands, multiple neighborhoods were built and designed with a focus on the community, an example is Pendrecht, which had the aim to provide housing and communal facilities for all different ages.

Around the 1960s and 1970s, the collective movement resulted in a tendency where groups of people, mostly sharing the same ideology, grouped together to start a new form of co-living. There were many experiments with new ways of living together, with one of them being cohousing. Cohousing residents wish to live within the existing society but choose cohousing as a way to strengthen their family by creating social networks and by sharing certain daily tasks. The fall of the Berlin wall resulted in new forms of collective housing in Berlin. Self-organized communities turned vacant lands and buildings into communities of different people living together. Therefore, multiple alternative projects arose and this was of great influence on the local co-housing culture but also as an example for cohousing in other large cities.

Current day problem and the main focus point for my graduation project is the tendency of the unaffordable city. In multiple big cities, the (low) middle income is driven out of the city center and cities such as London, Berlin and Zurich respond to this with collective dwelling design. I will discuss some examples of projects further on in the plan analysis.

THE SUCCES OF VIENNA: A CASE STUDY

Vienna is at present the most liveable city, which is mainly because of their social housing policy that started after the First World War. Vienna has a rich history of different forms of collective housing from the 1930s till now which
can be distinguished in two movements. This is globally after the First World War when a lot of unemployment and poverty asked for a new form of living. This forms the start of the history of collective housing. Much attention was paid to providing a high quality of life. Small apartments were compensated by large outdoor communal gardens. The complexes have their own facilities, from schools to medical care and important is the connection to public transport.

The other important tendency is around the 1970s when Soft Planning arises, this continues the ideals of the earlier collective housing, but develops into more modern examples of collective housing and combination of different target groups, at the end of the 20th century till the present day. Participation and flexibility in dwelling design become important in these modern day examples. In the modern examples, instead of the focus on the workers, the focus lies on combining groups or individuals to create certain benefits, such as combining different generations so the younger people can help the older people, or combining single parents so they can take care of each others children.

**DESIGNING COLLECTIVE HOUSING**

Collective and communal spaces will play an important part in my final design, but it is hard to predict the success and the usage of communal functions on beforehand. Therefore in the plan analysis I focus on the question:

**How can architectural interventions contribute to the collectivity in building design?**

A lot of research has been done on how to improve or promote social interaction in (collective) building design. and there are multiple design interventions that encourage social interaction and the use of the communal spaces, which I summarized into six main design interventions:

For the plan analysis, I analysed four buildings on two of these design interventions: semi private buffer zone and the shared pathway. All the projects are collective building designs in large European cities. I concluded that there was a distinction between two buildings that focused on the collective and two are more focused on a larger urban plan or adding values for the surrounding neighborhood, which was visible in the way that was dealt with the communal spaces and the encouraging of social interaction.

**FOCUSED ON THE COLLECTIVE**

The complexes are distanced from the public by a higher ground floor level or closed of by walls. The shared pathways are important and the use of buffer zones seems to have a positive effect on the use of the collective garden.

**FOCUSED ON THE PUBLIC**

There are separate buildings so that people can walk freely through the complex. Entrances are not always on shared pathways. There is no buffer zone from private to collective, and therefore the collective garden is less used than in the complexes focused on the collective.

**GROENMARKT: KEEPING THE MIDDLE CLASS IN THE JORDAAN**

Originally, the Jordaan was built for the working middle class, but due to gentrification, the (low) middle class is also driven out of the Jordaan and therefore I choose this neighborhood for my graduation. I choose the Groenmarkt location as it gives the urban lee that the new urban middle income family prefers: shielded by the buildings of the Marnixstraat but close to the center and the public transport, it has the potential for quiet family dwellings with all the city has to offer just around the corner.

The site is surrounded by several monuments and the open sights between the buildings are very characteristic, hence there are multiple different building forms surrounding the location as well as more modern buildings, giving a certain freedom and possibilities to the graduation assignment.
9. APPENDIX


**WEBSITES**


**IMAGES**

1. Own image, made in collaboration with Josien Gankema (2018) Mental map of the project location
2. Own image (2018) Project location along the Singelgracht
5. Gemeente Amsterdam (2017) Division of income groups across the housing market segments 2015, p. 16
6. Gemeente Amsterdam (2011) Income groups and housing market segments p. 91
7. AM (2017) Prognosis development amount of families in Amsterdam according to income class 2017-2030, p. 8
8. AM (2017) Difference between the traditional and the new urban middle income family, p. 19
9. AM (2017) Number of families and available dwellings, p. 10, 13
13. Hull House, retrieved from: https://uicarchives.library.uic.edu/history-of-uic/hull-house/
de-habitacao-social/
18. Saattedammen, retrieved from: https://marshcousins.wordpress.com/2009/03/05/other-layouts/
20. Old Oak, retrieved from: https://lucasuk.com/projects/the-collective-old-oak
22. Ringstrasse der Proletariats, retrieved from: http://lifestyleundreisen.at/ringstrasse-des-proletariats/
23. Karl Marxhof, retrieved from: http://nutritionandhealthcare.info/famous/karl-marx-hof/01/default.html
24. Hundertwasser Haus, retrieved from: https://pretend.com/hundertwasser-differentodd/
nell/
27. Frauen-Werk-Stadt, retrieved from: http://urbanizehub.com/vienna-urban-planning-women/frauen-werk-stadt-vienna/
28. Wohnen am Mühlgrund, retrieved from: https://www.e-architect.co.uk/images/jpgs/austria/living-different-generations/m310113-k2.jpg
31. Lorenz-Reiter-Strasse, the standard units and variations, retrieved from: http://trans-city.at/at/portfolio/lorenz-reiter-strasse/
32. BIGYard, retrieved from: https://www.archdaily.com/793287/bigyard-zanderroth-architekten
33. BABEL, retrieved from: https://www.woneninbabel.nl/
34. Hunziker Areal, retrieved from: http://www.citiesconnectionproject.com/project/house-a-mehralswoh
nen-zurich-oerlikon/
36. The project location and area around the Groenmarkt, retrieved from maps.google.com
37. Gemeente Amsterdam (2011), In yellow the Groenmarkt is highlighted, showing the docking ports
38. Gemeente Amsterdam (2011), 1934, market function
39. Beeldbank Stadsarchief Amsterdam (2-04-1971) 1971, parking places
40. Beeldbank Stadsarchief Amsterdam (22-08-1978) 1978, playground
41. Rozengracht 226, retrieved from https://020apps.nl/1850-1940/Rozengracht/226
42. Rozengracht 229 - 233, retrieved from https://020apps.nl/1850-1940/Rozengracht/229-233
43. Rozengracht 238, retrieved from https://020apps.nl/1850-1940/Rozengracht/238
44. Marnixstraat 200 - 220, retrieved from https://www.aurelio.nl/aurelio-nieuwe-eigenaar-marnixstraat-200-210-amsterdam/
45. Own image (2018), current situation ground floor facades around project location
46. Own image (2018), current situation ground floor facades around project location
47. Own image (2018), overview of materials used around project location
48. Beeldbank Stadsarchief Amsterdam (1-10-1959), characteristic sights
49. Own image (2018), characteristic sights
50. Own image (2018), traffic junction Rozengracht where cars, trams, busses, bicycles and pedestrians come together
51. Own image (2018), the quiet street that surrounds the project location where some cars and bicycles are parked
52. Own image (2018), sights from the other side of the canal
53. Own image (2018), sight to other side of the canal

Other drawings and illustrations are made by myself (2018).

For the plan analysis information and drawings, pictures, plans and section are used, retrieved from the websites of the architectural firms or from https://www.archdaily.com/

Icons retrieved from https://www.flaticon.com/