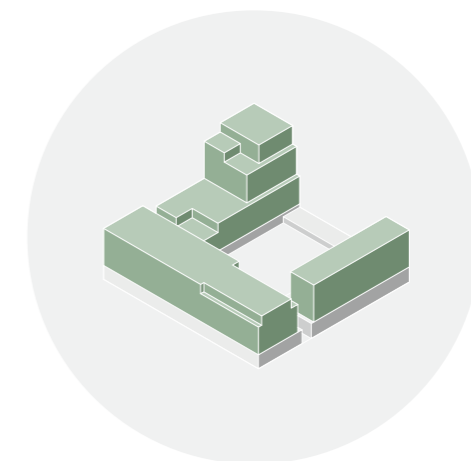


‘Tot nut van het Algemeen’  
*‘to the benefit of the common’*

A study towards housing of vulnerable target groups in the city of Amsterdam



Research & Design reflection

A reflection on the research and design process as a part of the graduation studio Dwelling: Dutch Housing

All images are self-produced unless stated otherwise. References to research results can be found in the Research Report of my graduation report.

TU DELFT  
Faculty of Architecture & Build Environment  
Master Architecture  
Dwelling Graduation Studio  
Dutch Housing Studio Stronghold Amsterdam

27 May 2018

Tutors: T.H. Kupers; P.S. van der Putt;  
F. Adema

Delegate of the  
Board of Examiners: ir. H. Plomp  
Student: C.J. van Iwaarden  
Studentnumber: 4232119

## INTRODUCTION

Because of the reform in the dutch healthcare system in 2015, more and more vulnerable people need to live independently as long as possible. With the tense housing market and raising housing prices, this group of people are having trouble finding a suitable dwelling in Amsterdam. The social housing market, their main source for housing, is stuck. The municipality of Amsterdam therefore has written a report/program (Programma Huisvesting Kwetsbare doelgroepen) that should encourage responsible parties to respond and provide more dwellings for those people. These developments result in a demand of suitable dwellings for vulnerable target groups in which they could live independently and fully participate in society. In fact this graduation project is about more then just a housing scheme for vulnerable people. It also stresses the importance of a city in which there is space for any individual, regardless their abilities, limitations, income, age: an inclusive city.

The aim of this document is to show the relation between research and design during the graduation project. During the process I used various methods to elaborate the findings of the theoretical research into a comprehensive design. In this document I will try to give an insight in this process with some examples of how different research and design methods are used and how I reflect on the used methods.

At the end of the document a reflection paper is included. In this paper I react on 5 aspect mentioned in the Graduation Manual AUBS '17-'18 Appendix 3.





Figure: General causes of vulnerability



Figure: Most common problems among vulnerable target groups

## THEORETICAL RESEARCH

In the research prior to the design process I've searched for answers on how we can stimulate aspects that help these people to fully function in our modern complex society. Further on in this paper I will elaborate the outcome of this research. During the process of research and design, I combined various methods. The preliminary research contained a literature inquiry, location analysis and plan analysis of 3 case studies. These methods were based on the prescribed methodical lines of the studio, but were also applicable on my specific research questions. This way of doing research led to an extensive amount of results and information on which I based decisions further on in the design process. The literature research, location and design research can be interpreted as the base of the design project. The results of these research methods are the pillars on which the eventual design is based. The literature research contains an extensive research towards the history and present day situation of social care, target group characteristics, contemporary housing systems for vulnerable people and social studies towards self-reliance and participation. With this literature study, I gathered a lot of information and knowledge about the social state of vulnerable target groups and how we deal with these people in our modern complex society. I also discovered various conditions on how we could stimulate self-reliance and participation of vulnerable people. Eventually, these conditions were crucial to develop an overall design concept.

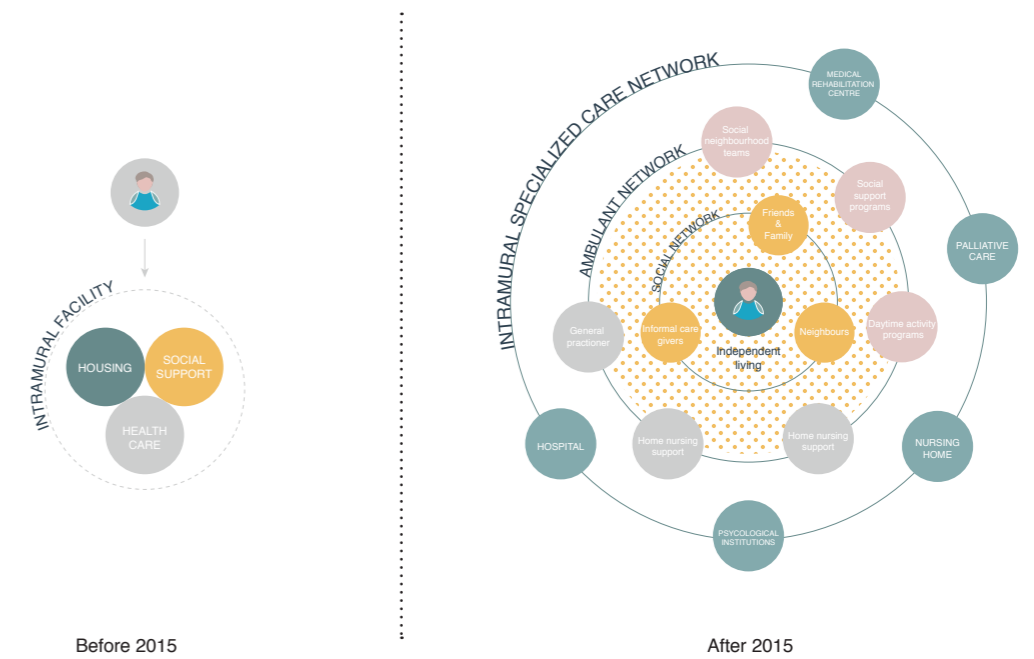


Figure: Shift in social care system: Responsibility of own network and focus on neighbourhood

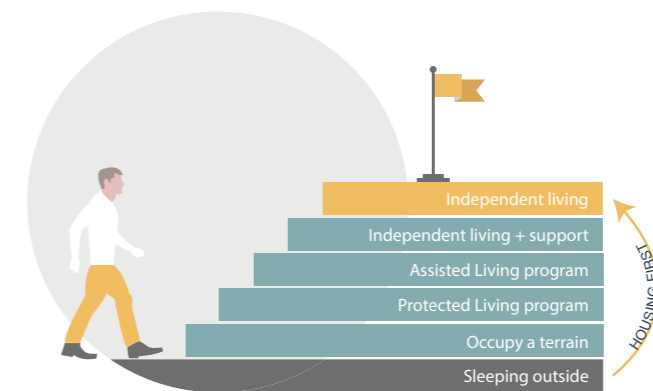
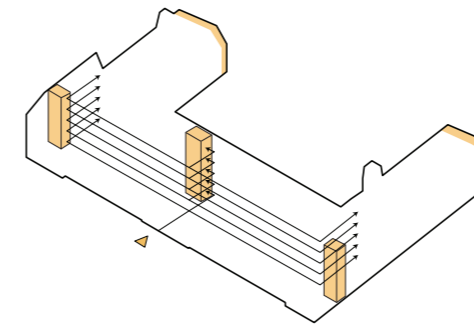
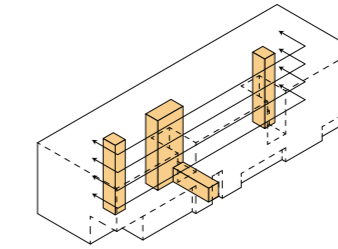


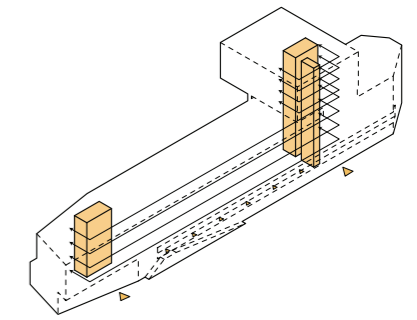
Figure: Shift in housing approach: Housing as a first step in reintegration



*Kessler Stichting, the Hague*

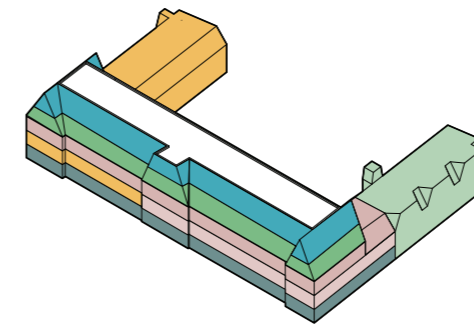


*Casa Parana, Utrecht*

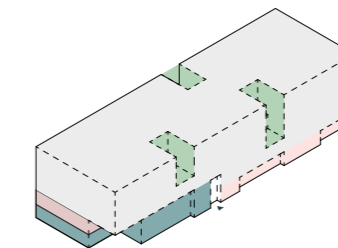


*De Olieberg, Scheveningen*

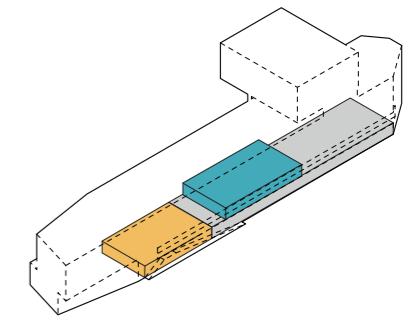
Figure: Acces type analysis



*Kessler Stichting, the Hague*



*Casa Parana, Utrecht*



*De Olieberg, Scheveningen*

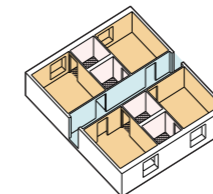
Figure: Programmatic analysis

## CASE STUDIES

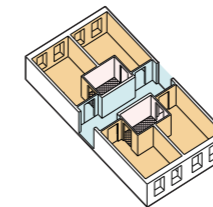
The case studies were a great asset to the research. By analyzing the case studies carefully, they gave me an insight into how other architects dealt with various topics regarding housing for vulnerable people. For example, the way how small individual rooms/dwellings could be designed efficiently and how this could be done in multiple ways, within the same access typology.

By analyzing the access systems of the chosen projects, I found out that the corridor is the conventional system in combination with the small dwellings. The system is quite efficient but also can add social value to the building (figure x.x), like in the 'Olieberg', where a communal space is designed as a part of the corridor.

As said, the case studies resulted in the understanding of particular design aspects of buildings for vulnerable target groups. The problem with doing a case study prior to the design phase is that you analyze the project quite broad or superficial. It could be more valuable when you can analyze them more specific when you are already working on the design and know where you are looking for.

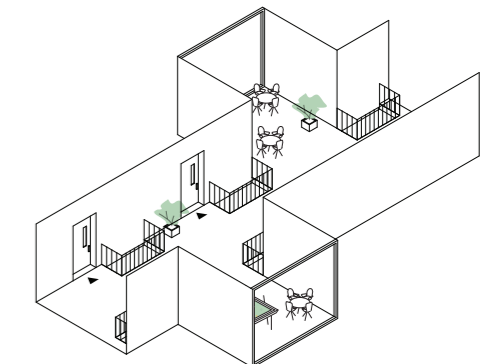
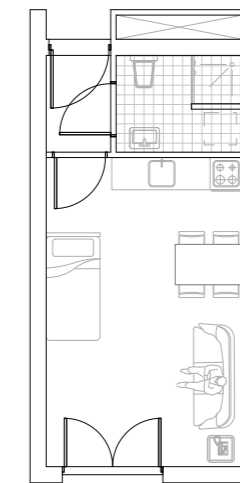


*Kessler Stichting, the Hague*



*Casa Parana, Utrecht*

Figure: Analysis of a characteristic aspect of the case studies.



*De Olieberg, Scheveningen*

## STARTING POINTS

As a result of the research prior to the design phase, I made a list of six starting points for the design on which I could base the concept of the building. All these starting points are supported by the research. Based on these starting point I developed the concept I've presented at the P2. I think that this method was a effective way to translate the research into architectural conditions on which I could elaborate my design.

Not all of the starting points are fully incorporated in the building. One of the conclusion of the literature inquiry was to combine vulnerable target groups with a socially strong type of inhabitant for the building complex. After the reflection of this conclusion with my tutors I decided not to implement this aspect into the design because it could lead to the discussion about the reason why they are living in the building. One of the reasons that it is suggested as a positive influence by the research is that a group of social strong people could be an example of 'good living' (propper/decent) to the vulnerable inhabitants. We didn't agree on this point and I decided not to work further on this topic because I didn't like the idea that the building have an judgmental character towards vulnerable people.

All the starting points that are incorporated in the design, will be elaborated in the next pages with examples of the eventual design.

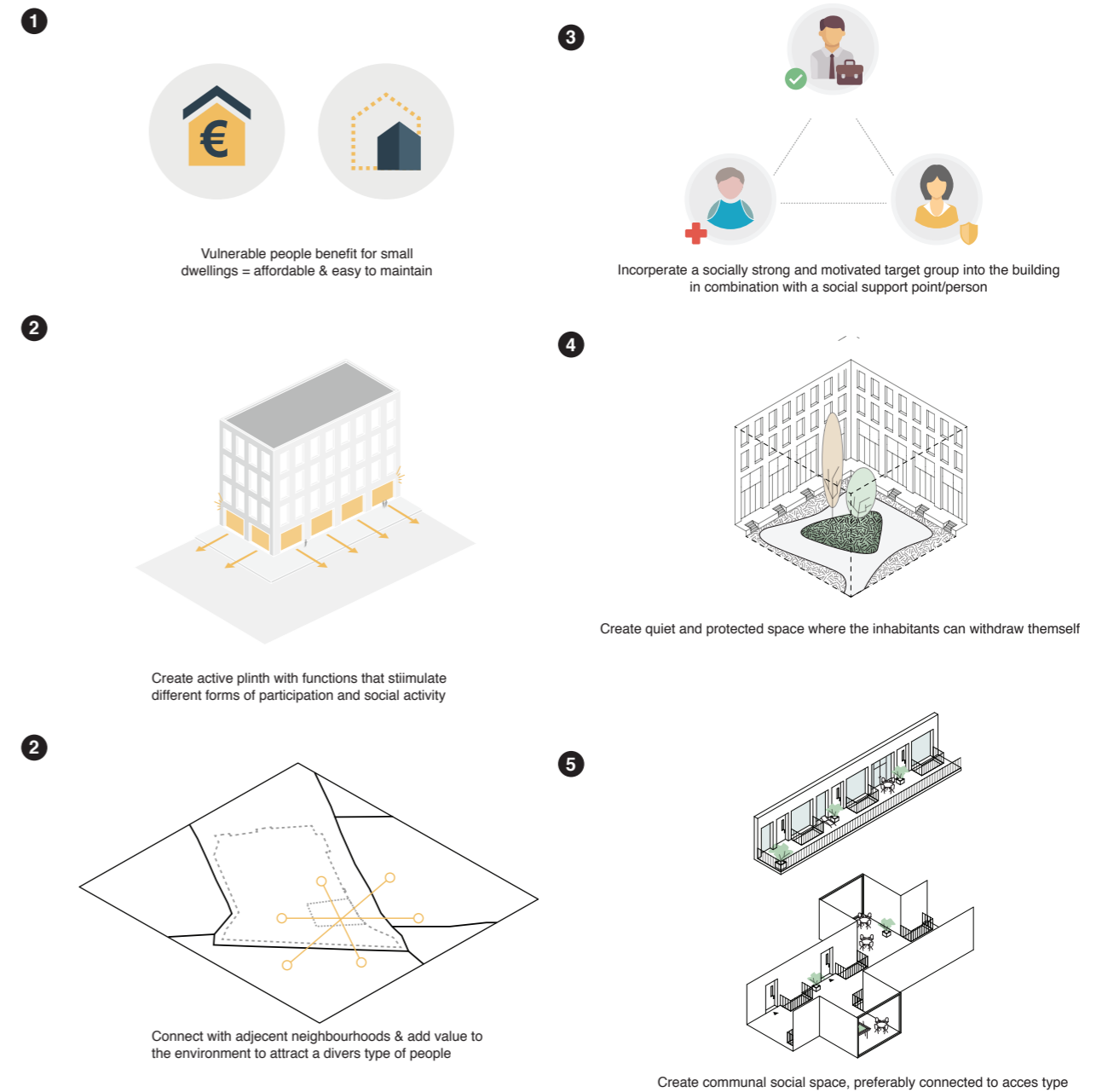
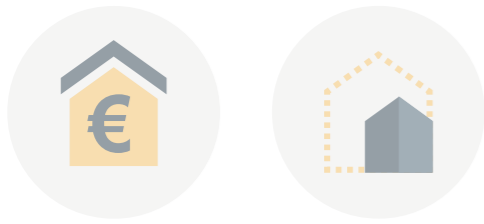


Figure: List of starting points as a result of the research outcome.



Vulnerable people benefit for small dwellings = affordable & easy to maintain

### SMALL & AFFORDABLE DWELLINGS

The first starting point that I constructed out of the research results is the fact that vulnerable people will benefit from small dwellings. Small dwellings are of course more affordable and, even more important, easy to maintain. During my visit at the Kessler Stichting at the Hague, I conclude that people that have been in a social care institution most of the time don't have a lot of household goods. Therefore I designed a compact and small dwelling which contains fixt bedroom furniture, various storage spaces incorporated in the bedroom and hallway and a fixt kitchen furniture. The only thing they have to bring themselves is a matrass, table and a sofa.

I could have integrated these fixtures as well but I decided not to because I believe that own furniture can make a place your own. A totally designed dwelling with all the furniture integrated could imply a unpersonal and 'prison-like' atmosphere.

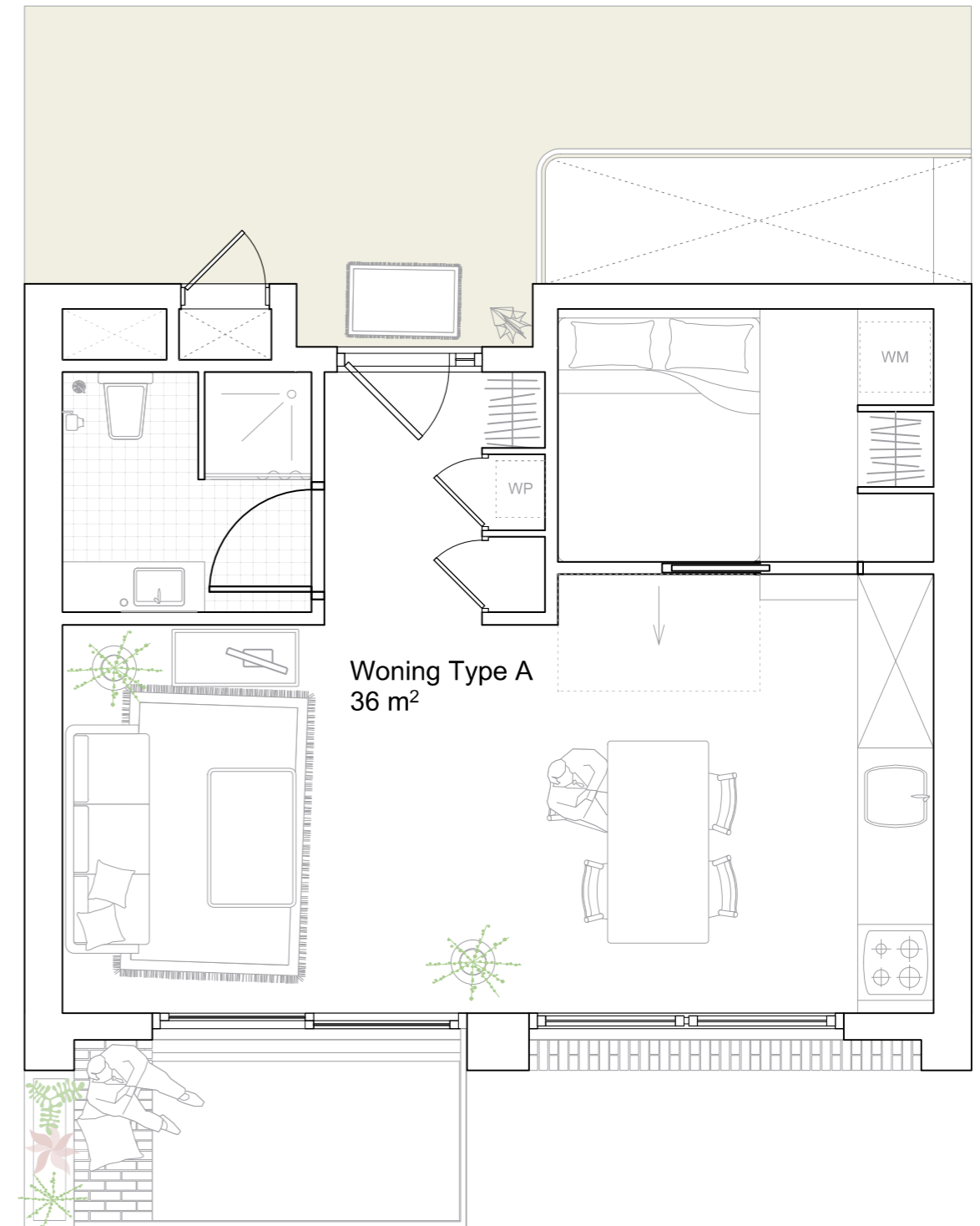
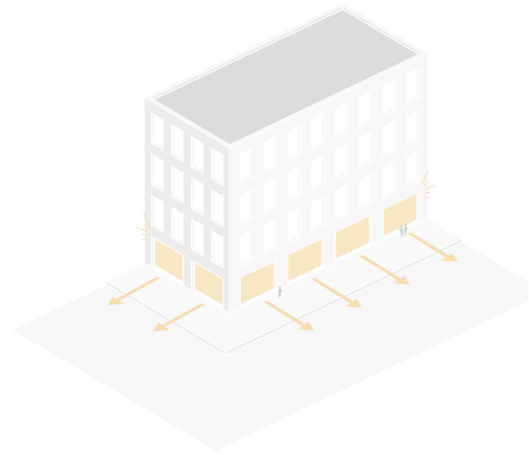


Figure: Floorplan 1:50 of a typical dwelling



Create active plinth with functions that stimulate different forms of participation and social activity

#### INCORPORATE WORK AND SOCIAL FUNCTIONS IN PLINTH

To stimulate participation of the vulnerable inhabitants research shows that integrating work or educational functions have positive influence on this matter. It also strengthen the relationship between the building and its inhabitants and the neighbourhood in which it is situated.

To intergrate this aspect in the design I created a 2-story height plinth in which social functions (social meeting point, neighbourhood livingroom) are placed in combination with educational workplaces (wood workshop, laundry service, restaurant, coffee bar etc.) for the vulnerable inhabitants. In that way the inhabitants of the building could participate in a working environment and learn social and labour skills to prepare them for a job. The idea is that the neighbourhood also can benefit from those functions.

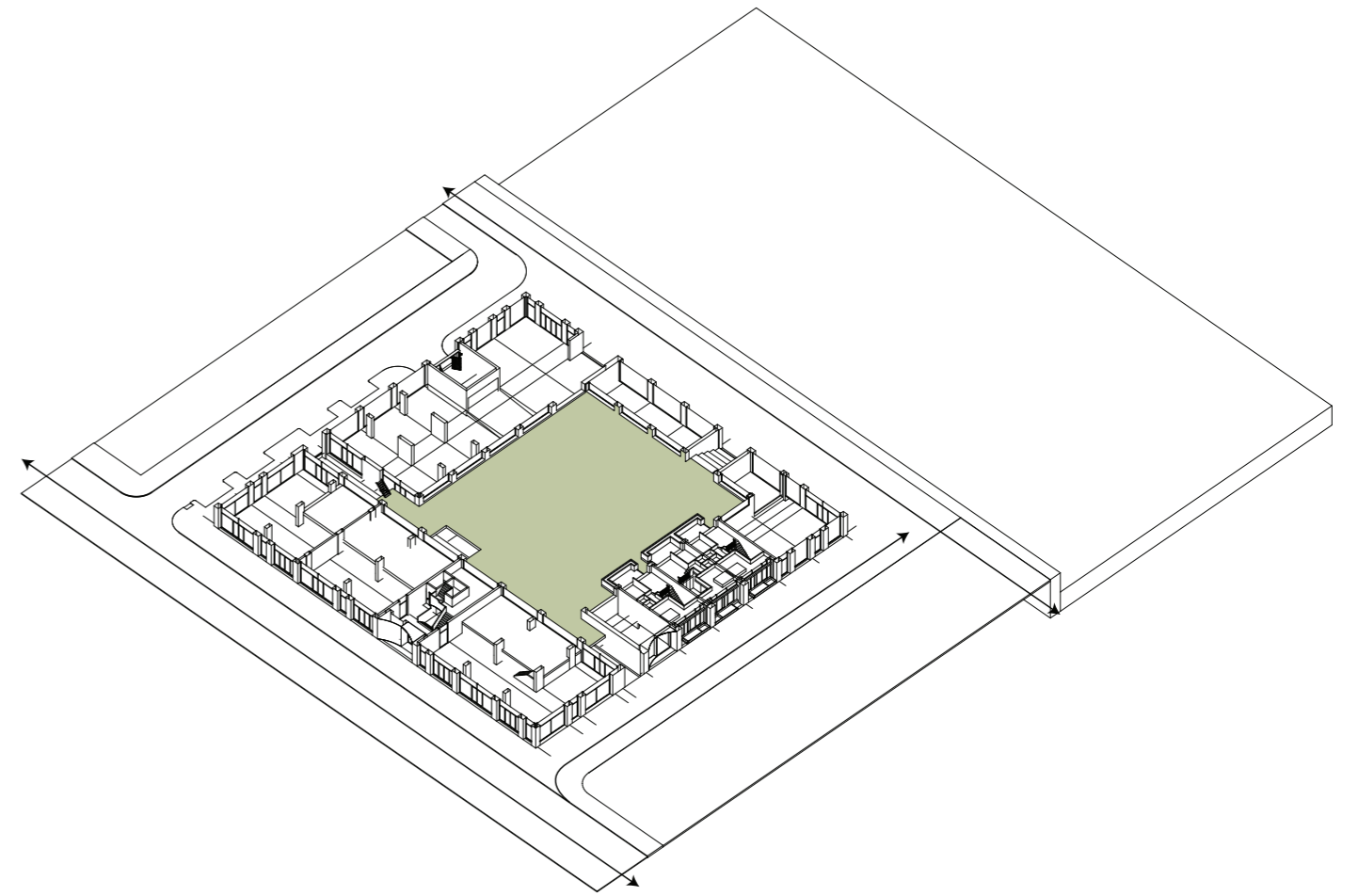
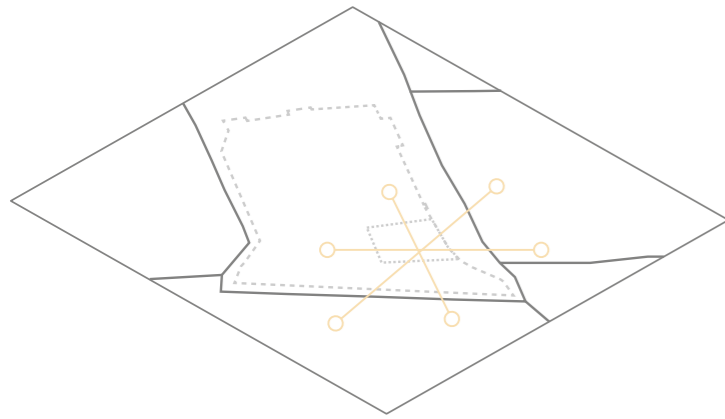
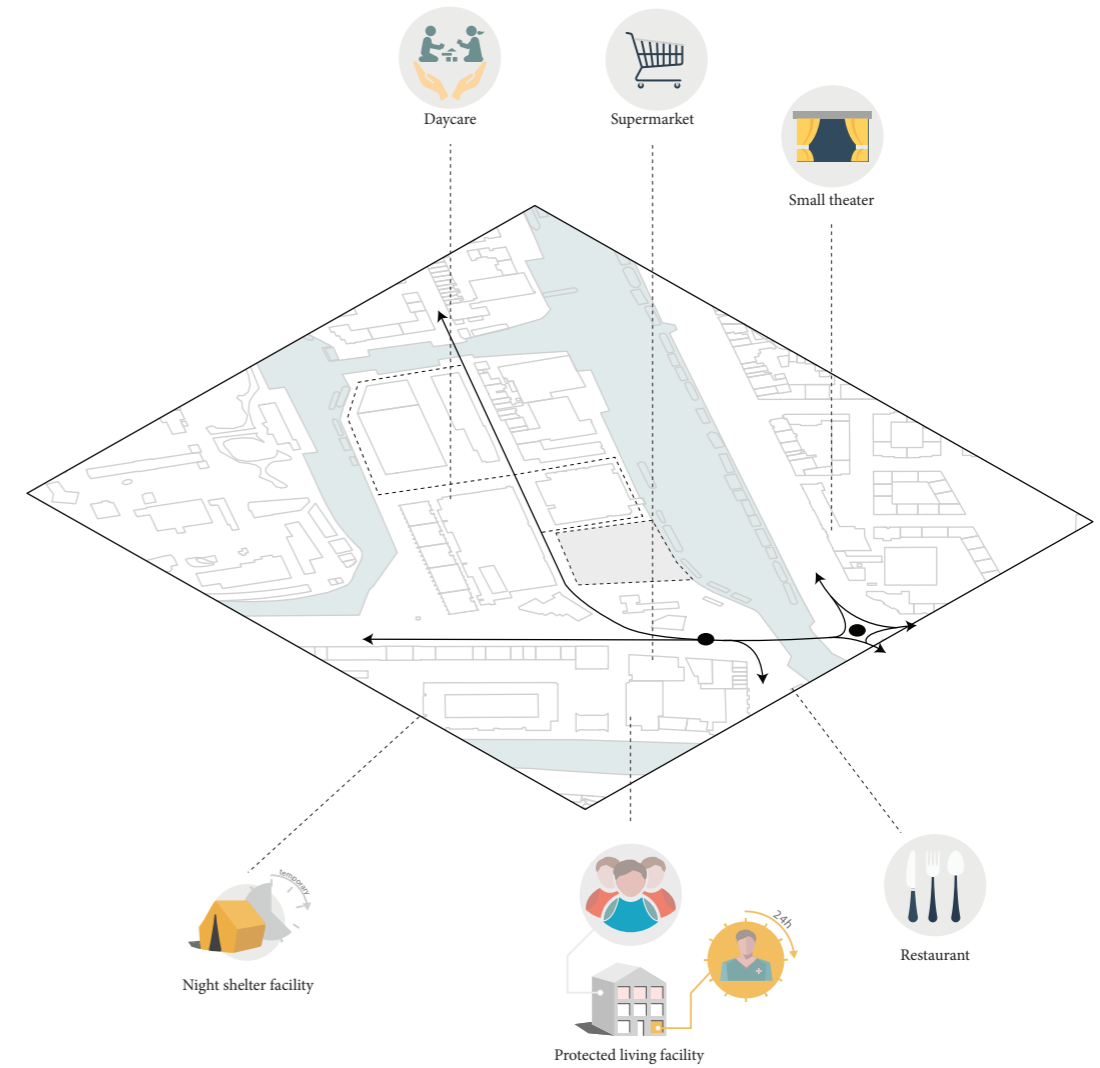


Figure: Isometric of the public plinth with integrated social amenities and educational workspaces for the inhabitants.





Connect with adjacent neighbourhoods & add value to the environment to attract a diverse type of people



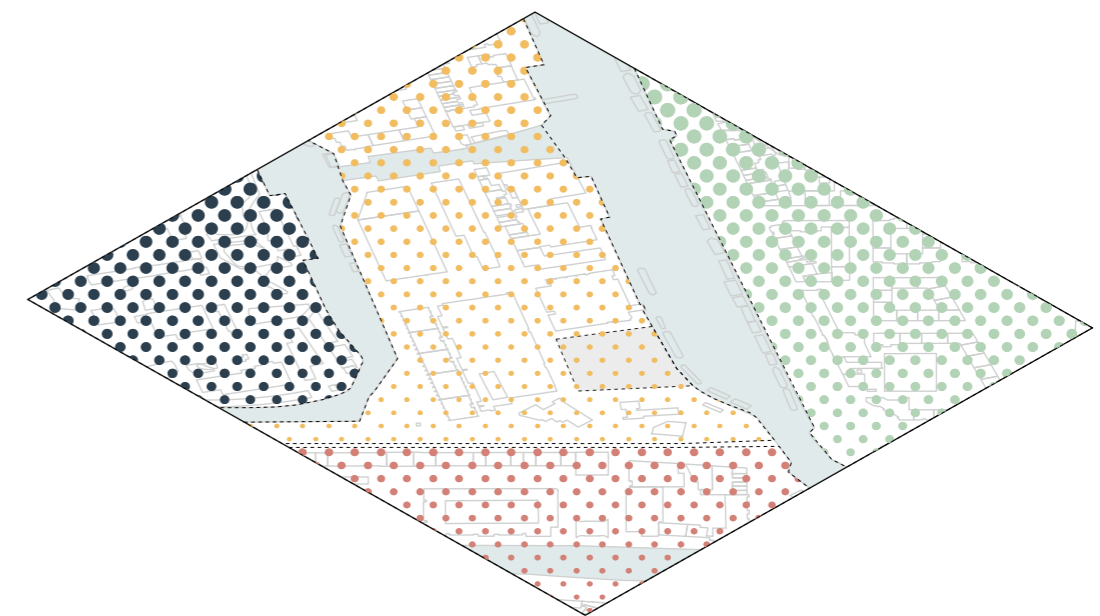
Important functions near the site

CONNECT BUILDING TO SURROUNDINGS TO CREATE VALUE TO ADJACENT NEIGHBOURHOODS

Another starting point that can be extracted from the research is the fact that the position of the building should contribute to the starting point mentioned at the previous page. By positioning the building in such a way that more people feel connected to it, it raises the social value of the building for the neighbourhood.

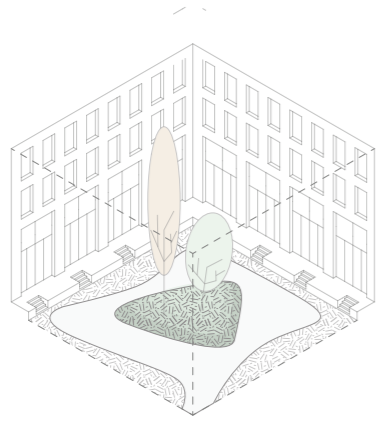
In combination with the location analysis I decided to position the building on the chosen site. The site lies on the border of 3 different neighbourhoods and is clearly visible from the busy road along the bridge and waterside.

I also chose this location because the direct surroundings lacked the functions I had in mind (neighbourhood livingroom, restaurant, workshop, second hand clothing store etc.) as educational working functions for the vulnerable inhabitants.



Site on the crossing of 3 neighbourhoods

Figure: Drawings of the location functioned as a base to choose the location for the design.



Create quiet and protected space where the inhabitants can withdraw themselves

#### CREATE QUIET AND PROTECTED SPACE FOR INHABITANTS

To stimulate social interaction between the inhabitants of the building research shows that a communal outdoorspace can have positive effects on this matter. Therefore I created an enclosed inner garden in which the inhabitants can meet. The garden is raised by the parking garage underneath and is not directly connected to the streets around the building. I've decided to do so to emphasize that this is a communal private space. The garden is visually connected to the surroundings by the plinth but not publicly accessible.

The garden contains a pavillion in the middle to stimulate collective activities. In front of the garden a little square connects different walking routes from the access points in the plinth. This is done so the inhabitants always can see the garden when they are on their way to or from their individual dwelling.

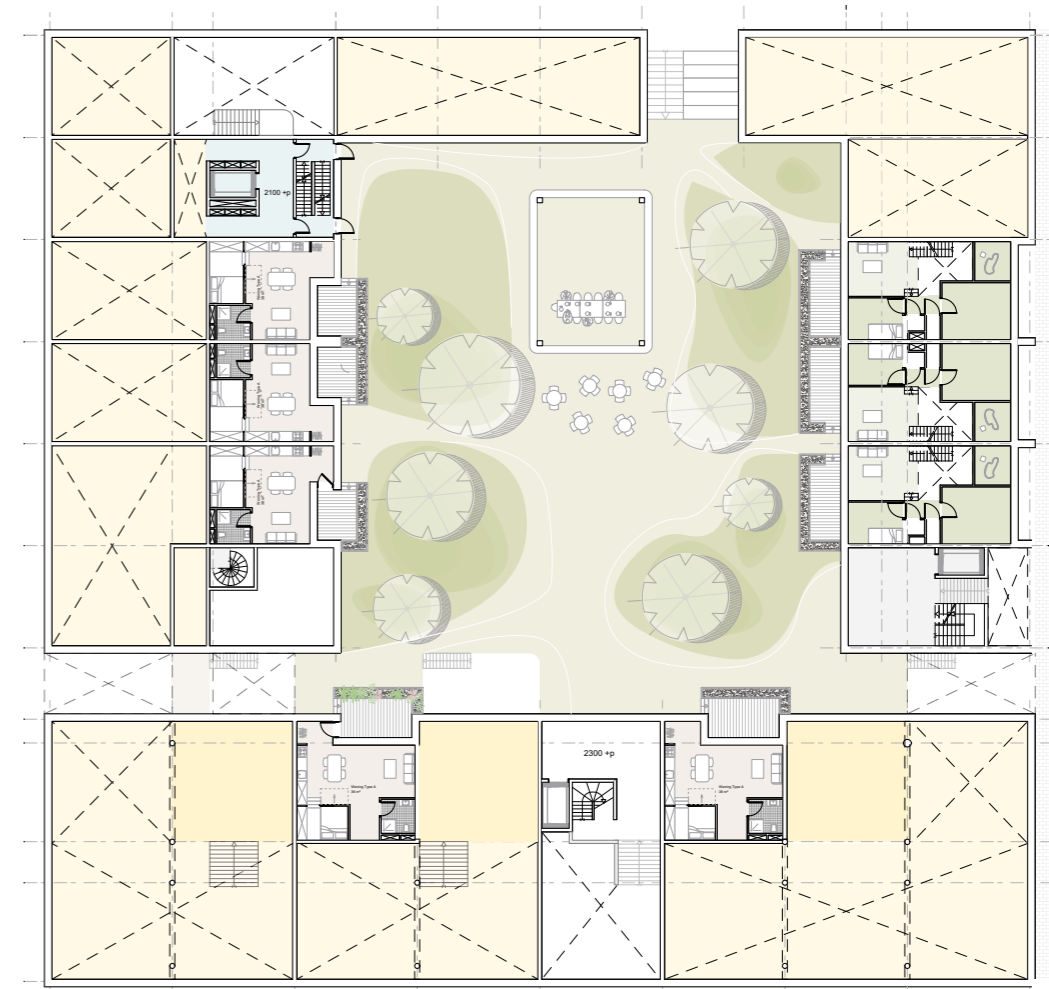
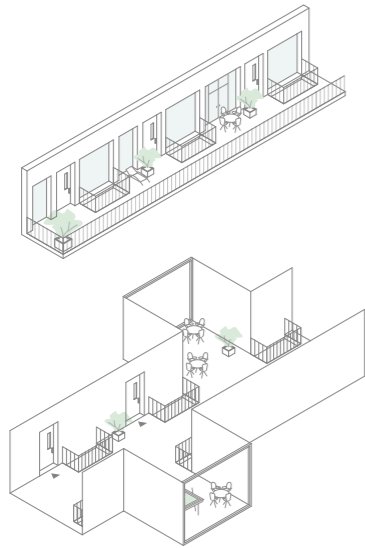


Figure: Floorplan of the enclosed garden.



Create communal social space, preferably connected to access type

#### CREATE SOCIAL SPACE IN BETWEEN DWELLINGS

One of the main starting points that has been extracted from the casestudies is to create social space between the individual dwellings. This can stimulate social interaction between the inhabitants and is important for vulnerable people so they can build up a solid social network, one of the key requirements for independent living.

The social communal space is designed as a void that connects 3 elevations to maximize the spatial quality and the visible connection with the corridor that is running along this void. In this communal space the inhabitants could meet, eat together, play games or read a book.

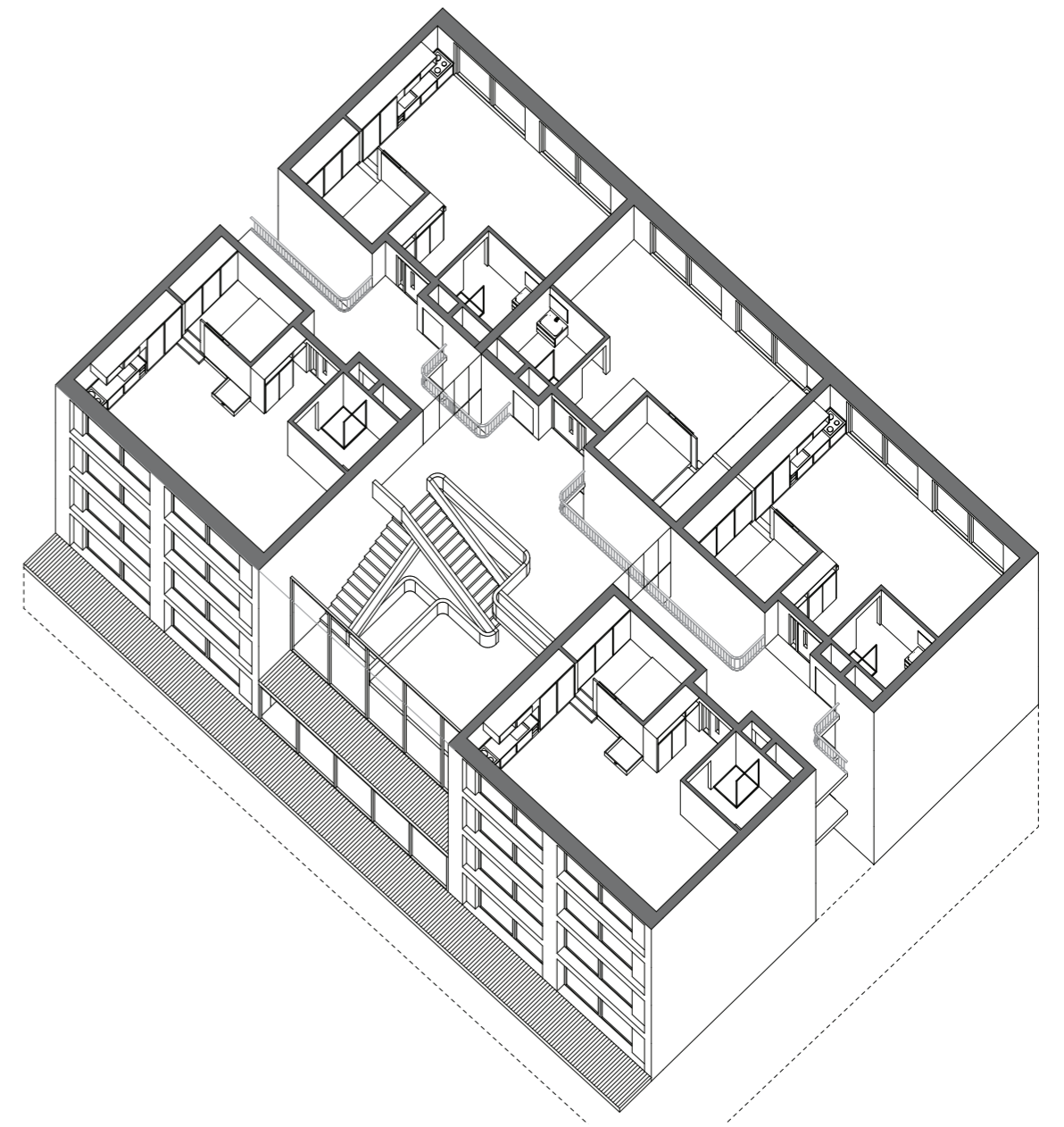


Figure: Isometric drawing of social common space enclosed by the individual dwellings.



## DESIGN METHODS

During the design phase, research gets an other character. While the preliminary research has a more scientific approach, research by design can be described as a more creative process and is more based on intuition, individual preferences and gained experience. Drawing and visualising plays an important role in this process. By drawing the design options as detailed and clear as possible, you can make an thought-out decision based on what you see. In the follow pages I will show examples of certain methods i've used during the design process and I will explain how I interpreted this as research.

#### DRAWING VARIATIONS AS A RESEARCH METHOD

During the design process various decisions had to be made. Most of the time multiple options would be appropriate and would fit the overall concept. In that case I would base my decision on personal preferences by lining multiple options and see how the options relate to each other. If you see all your possibilities in the same way you could base your decision on which you like the most and your underlying ambitions.

At the next page an example is made to illustrate this method. At a certain point in the design phase I had to decide how I could construct the 'tower' of the building. By lining up different options by mass and construction I could decide which one would fit best in the overall mass. Eventually I've chosen the second from left, which I thought was the most exciting and would fit my ambitions best.

You can argue if the stated conditions (personal favour and ambitions) are a solid base on which you can base decisions. I think that in this specific case all options would have been appropriate and by drawing the options in this way a decision based on personal preference can be justified. In my opinion designing is a personal process in which prejudiced decisions should have a place. This makes architecture an versatile discipline, which I think is an asset to the build environment.

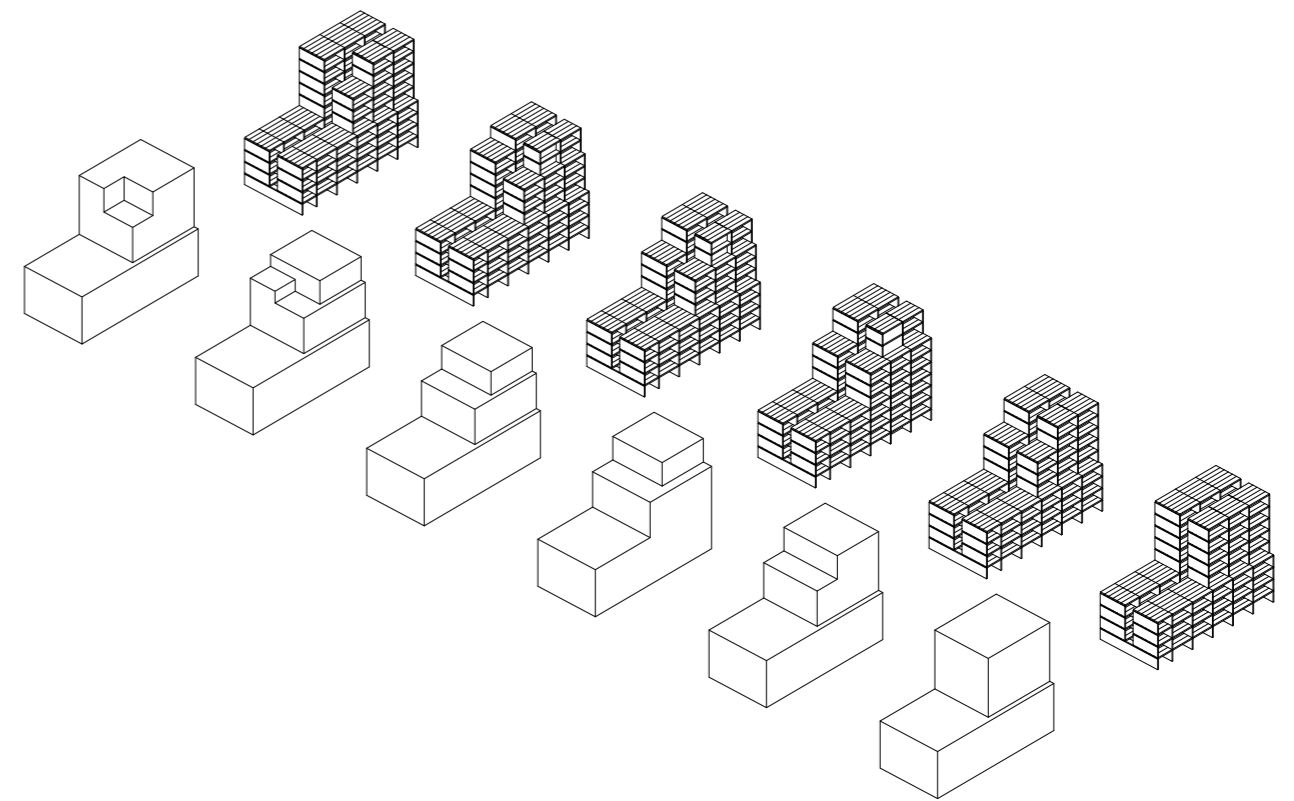


Figure: Study towards relation between mass and construction

## VISUAL RESEARCH

A more visual form of research also played a role in my design process. At the P2 I already tried to produce an image which clearly show the ambition and appearance I had in mind for my building. With this image always in the back of my mind, I tried to come as close as possible when I had to make certain decisions during the design process. If a decision would mean that the image I had in mind would fundamentally change I would search for another option.

I think this type of design and research is in a way valuable, but also a bit dangerous. The danger is in the fact that you would stick to the image you had in mind while changing your image would make the design better. On the other hand, sticking to the image could lead to a very pure and solid design as well. I think this way of designing is appropriate if the image you have in mind is constructed when you already made certain decisions about fundamental design questions like access type, dwelling size/form, urban plan and so on.

I constructed the image just before the P2, but I already made a lot of those above mentioned decisions on forehand, based on the outcome of my research and case studies.

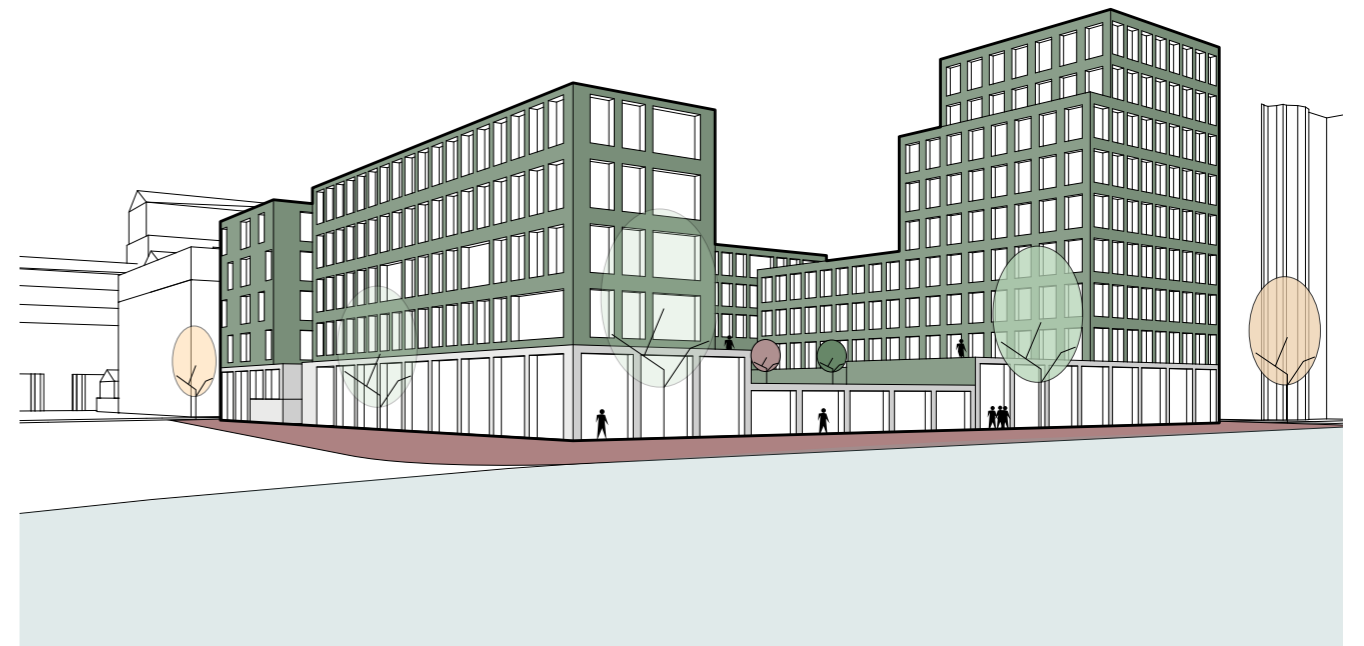


Figure: Perspective drawing constructed as part of the P2



Figure: Perspective drawing constructed as after P3

## RESEARCH TROUGH DIFFERENT SCALES

A design decision sometimes has consequences on various scales. At one point during the design process I had to make a decision about the materialisation of the dwellings. At first I've made the decision to use concrete as construction material for the main structure, but by researching the materialisation options for the dwelling I decided to change my decision about the structural concept of the building. To give the individual dwellings a more softer and domestic appearance I decided to construct the dwellings out of a CLT (cross laminated timber) construction. By visualise the effects of this decision I researched the impact on the atmosphere of the individual dwellings.

I think that this type of research gives a design more depth. It makes the different scales of the building interconnect in a refined way and highers the level of integrations of the multiple aspects of the building (structural concept and atmosphere)



Figure: Study towards materialization of individual dwelling



Figure: Study towards materialization of the corridor

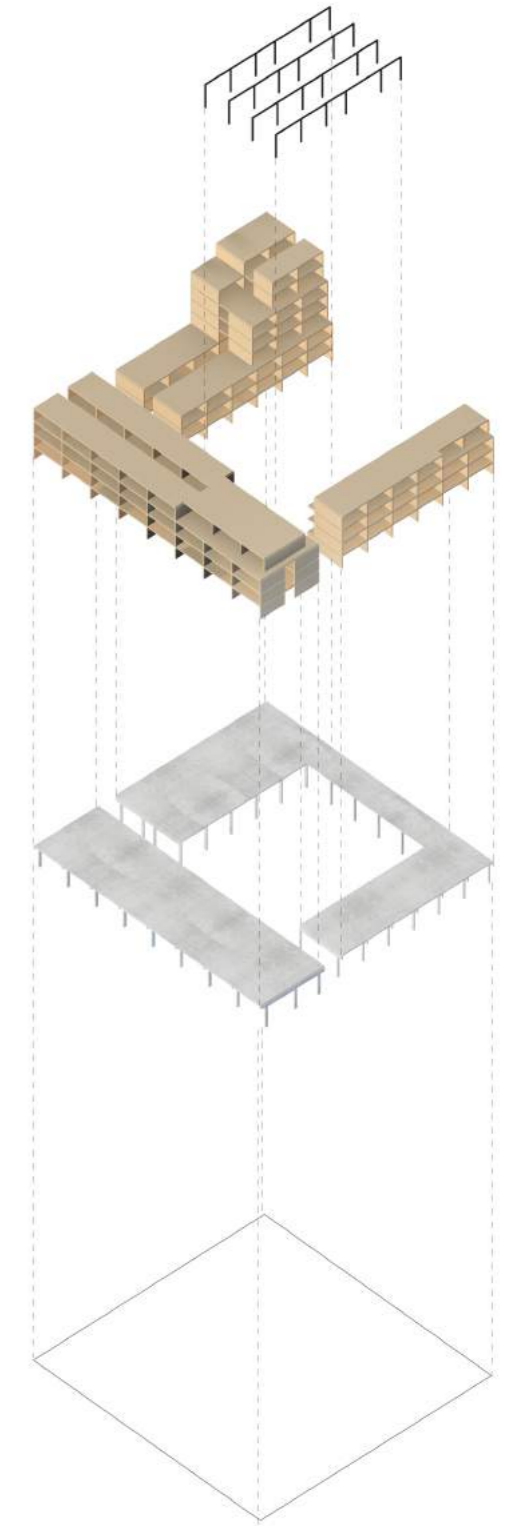


Figure: Study towards materialization of structural system

## PRECEDENTS AS A RESEARCH METHOD

Reference projects can be an asset to the design process. They can give you an insight in how certain things work out which you have in mind. When I worked on the design of the individual dwellings I used a precedent of a small dwelling by Studio Plus. The dwelling was a good reference because it showed how you could integrate fixed furniture into a small dwelling in a refined way. It provided me with solutions on how to integrate a bedroom and bathroom into a small dwelling without losing a lot of free space in which the user could live.

Also in designing the corridor, multiple references provided a clear image of how this could be done. My aim was to design a light and open corridor, to prevent that it would be a dark and uncomfortable access space, but also that it would stimulate visual interaction across multiple floors. A social housing project by TAC Architects showed how this could be done.

Reference projects can be valuable during a design process, but could also be used in a wrong way. If you rely on these images too much you could lose the essence of your own design. You have to keep in mind that a reference project might be based on other starting points and aims. You also have to keep in mind that certain features of a project are integrated with other aspects of the design, so you can't just copy certain solutions one on one, but you have to keep in mind your own design aims.

1 [www.archdaily.com/485697/social-housing-in-terrasa-tac-architectes/5316850ec07a80f19a000087-social-housing-in-terrasa-tac-architectes-photo](http://www.archdaily.com/485697/social-housing-in-terrasa-tac-architectes/5316850ec07a80f19a000087-social-housing-in-terrasa-tac-architectes-photo)

2 [www.hb-a.nl/project/90-beethovenlaan/](http://www.hb-a.nl/project/90-beethovenlaan/)

3 [www.divisare.com/projects/380718-plus-ultra-studio-marco-di-nallo-chiara-girolami-giuseppe-carlo-tagliabue-alessandra-castelbarco-albani-alberto-canepa-chs-urban-nest](http://www.divisare.com/projects/380718-plus-ultra-studio-marco-di-nallo-chiara-girolami-giuseppe-carlo-tagliabue-alessandra-castelbarco-albani-alberto-canepa-chs-urban-nest)

4 [www.dezwartehond.nl/projecten/de-villa-dagopvang-met-woningen](http://www.dezwartehond.nl/projecten/de-villa-dagopvang-met-woningen)

5 [www.archilovers.com/projects/53536/gallery?366581](http://www.archilovers.com/projects/53536/gallery?366581)

6 [www.archdaily.com/455806/b05-nl-architects/52a2a543e8e44e-c623000a6-b05-nl-architects-image](http://www.archdaily.com/455806/b05-nl-architects/52a2a543e8e44e-c623000a6-b05-nl-architects-image) © Luuk Kramer

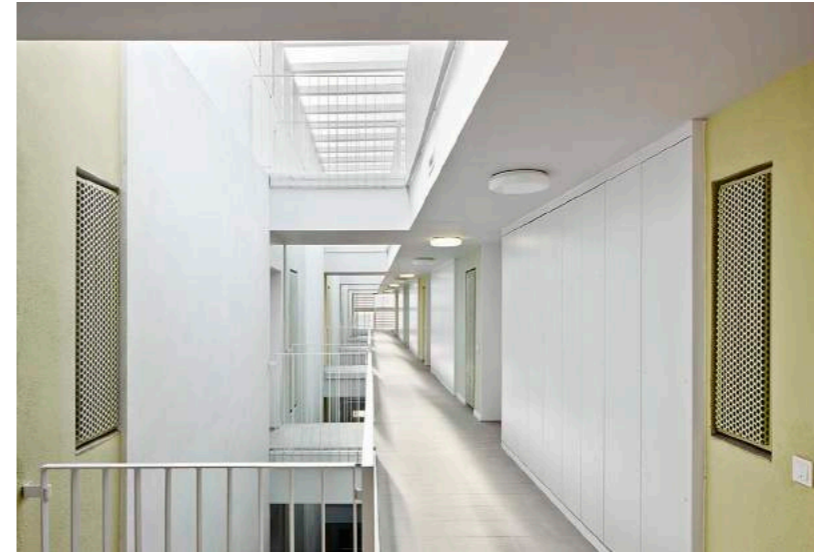


Image: Social Housing Terrassa, TAC Architectes <sup>1</sup>



Image: De Villa, De Zwarte Hond <sup>4</sup>



Image: Zorgtuin, Hilberink Bosch Architecten <sup>2</sup>



Image: Urban Park, Turenscape <sup>5</sup>



Image: Urban Nest, Studio Plus <sup>3</sup>

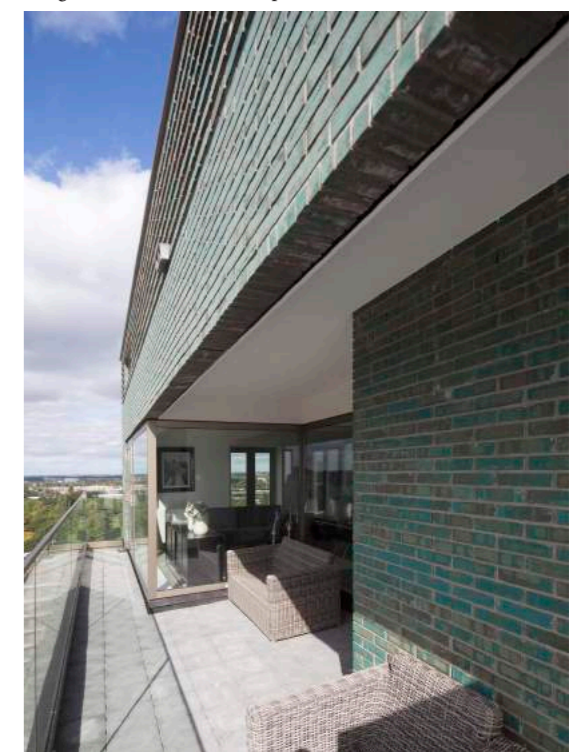


Image: B05, NL Architects <sup>6</sup>



## Reflection paper

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Tutors: P.S. van der Putt, T.W. Kupers, F. Adema  
Delegate of the Board of Examiners: ir. H. Plomp

TU Delft, Faculty of Architecture  
Dwelling Graduation Studio: Dutch Housing  
25 May 2018

### Introduction of the research topic

Because of the reform in the dutch healthcare system in 2015, more and more vulnerable people need to live independently as long as possible. With the tense housing market and raising housing prices, this group of people are having trouble finding a suitable dwelling in Amsterdam. The social housing market, their main source for housing, is stuck. The municipality of Amsterdam therefore has written a report/program (Programma Huisvesting Kwetsbare doelgroepen) that should encourage responsible parties to respond and provide more dwellings for those people. These developments result in a demand of suitable dwellings for vulnerable target groups in which they could live independently and fully participate in society. In fact this graduation project is about more than just a housing scheme for vulnerable people. It also stresses the importance of a city in which there is space for any individual, regardless their abilities, limitations, income, age: an inclusive city.

### Aspect 1: the relationship between research and design.

When I reflect on the research of my graduation project I can clearly see a dichotomy between the research prior to the design phase of the project and research as a part of the design process. Both can be marked as very valuable, but are not really comparable. The research part prior to the design phase had a more official and scientific character and provided me with valuable scientific conditions which I could develop to cornerstones of my architectural design concept. This research contained three parts: a literature inquiry, location analysis and case studies. The literature research for example gave me insight in causes of vulnerability<sup>1</sup>, characteristics of vulnerable target groups<sup>2</sup> and the history and present situation in the social healthcare system and its housing policies<sup>3</sup>. This information led to a better understanding of the topic and direction in which I should search for starting points to develop an architectural concept.

Eventually I've found those starting points in multiple researches about independent living for vulnerable target groups and researches on the topic of participation. For example a list of requirements for independent living for people with a demand for social care (Den Draak et al., 2016)<sup>4</sup>, but also a architectural study about the incorporation of a live/work dwelling complex for people with a demand for care<sup>5</sup>. These results gave me enough support to start formulate an aim for my de-

sign, namely a housing scheme that will help the inhabitants meet these requirements for independent living and stimulate participation by work or education.

The other part of the preliminary research, the case studies, gave me insight in how I could translate these starting points in a specific design. The chosen case studies not answered all these starting points, but on certain aspects (circulation, small individual dwellings, outdoor space etc.) the projects showed a way of how things could be done.

The research that has been done during the design process has a very different character. This research is less scientific, more personal and practical. It more or less is part of how I've learned to design in practice. This form of research is more based on gained knowledge and logic then it is based on proper documented research and analysis. The literature inquiry and case studies handed me solid requirements and conditions on which I could base my design concept, but couldn't answer esthetical questions like brick colour or window frame measurements. The research carried out during the design process contained more practical studies towards the circulation system or the measurements of a compact bathroom. I see this type of research more as a part of designing than as actual research. On the other hand this process also can be called research as a part of the design process and resulted in very useful insights on how to design certain aspects of the building.

### Aspect 2: the relationship between your graduation (project) topic and the studio topic.

The graduation studio focusses on city living and densification. Besides those themes, the studio is about how cities can stay relevant by the ability to change. The eventual task of the student is to provide a design that answers questions about how we want to live in the city and how our cities behave in the future. My graduation project answers the question how we can incorporate vulnerable groups of people in our cities and how we, by architecture, can contribute to the present developments in social care and the participation policies of the government. The research prior to the design process already provided certain conditions about how we could stimulate self-reliance and participation. The architectural design process following the preliminary research builds further on these conditions architecturally.

### Aspect 3: Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

In the research prior to the design process I've searched for answers on how we can stimulate aspects that help these people to fully function in our modern complex society. Further on in this paper I will elaborate the outcome of this research. During the process of research and design, I combined various methods. The preliminary research contained a literature inquiry, location analysis and plan analysis of 3 case studies. These methods were based on the prescribed methodical lines of the studio, but were also applicable on my specific research questions. This way of doing research led to an extensive amount of results and information on which I based decisions further on in the design process. The literature research, location and design research can be interpreted as the base of the design project. The results of these research methods are the pillars on which the eventual design is based. The literature research contains an extensive research towards the history and present day situation of social care, target group characteristics, contemporary housing systems for vulnerable people and social studies towards self-reliance and participation. With this literature study, I gathered a lot of information and knowledge about the social state of vulnerable target groups and how we deal with these people in our modern complex society. I also discovered various conditions on how we could stimulate self-reliance and participation of vulnerable people. Eventually, these conditions were crucial to develop an overall design concept.

It is hard to say how scientifically valuable the research that has been done in the studio is. The eventual aim of the whole research process is to come up with a specific design brief for your graduation project. Personally I think that the results of the research eventually can contribute to the knowledge and awareness of how we should design for vulnerable target groups and which aspects should be taken into account. Some conclusions, for example the fact that vulnerable people benefit from a housing situation in which small, affordable dwellings are available and where the communal space is designed in a way to stimulate social interaction can be a valuable asset to the knowledge about housing for vulnerable people.

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

The motive of the chosen topic is twofold. The first motive is the document of the municipality of Amsterdam in which they describe the scarcity of housing for vulnerable target groups and the call for a solution of this problem. The other motive lies in the fact that Amsterdam (this is applicable for almost every other city) wants to be an inclusive city. A city in which there is room for anybody. Reality shows otherwise; less affordable housing, long waiting lists for social housing and increasing rent plague our cities nowadays and leave no space for the vulnerable people in our society. With my graduation project I've researched how we can design housing for vulnerable target groups in which they are stimulated to fully participate and in which they can build up a solid social network, two of the most important aspects of the requirements for independent living for social vulnerable people.

### Aspect 5: Discuss the ethical issues and dilemmas you may have encountered in doing the research, elaborating the design and potential applications of the results in practice.

Doing research about and designing for a specific type of people, whether it is about age, class or lifestyle, you always have to deal with ethics. The fact that you have to characterize people by their, in my case, abilities or social class felt a little bit arbitrary. During the research and design process I really stayed away from stigmatizing arguments or statements.

One of the conclusions of the literature inquiry was to combine vulnerable target groups with a socially strong type of inhabitant for the building complex. After the reflection of this conclusion with my tutors I decided not to implement this aspect into the design because it could lead to the discussion about the reason why they are living in the building. One of the reasons that it is suggested as a positive influence by the research is that a group of social strong people could be an example of 'good living' (proper/decent) to the vulnerable inhabitants. I didn't like the idea that my project would suggest any stigmatizing or patronizing ideas. The research on the other showed that combining strong and vulnerable people could have positive influences on the vulnerable group.

1 Research Report, 2017, p. 12-13

2 Research Report, 2017, p. 22-25

3 Research Report, 2017, p. 28-43

4 Den Draak et al., 2016

5 Buro Maan, Studio Stix, Jetske van Oosten, 2016

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