

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

## Personal information

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## Studio

Name studio Advanced Housing Design  
Main mentor Theo Kupers - Teachers of Practice / A (AR3AD100 Advanced Housing Design)  
Second mentor Anne Kockelkorn - Form, Space & Type (AR3A010 Research Plan)  
Thrid mentor Ferry Adema - Building Product Innovation (AR3AD100 Advanced Housing Design)  
Argumentation of choice of the studio I am interested in designing a mixed, high quality living environment and affordable housing, combined with smart living-work solutions for various people. The research method by looking into case studies and interviewing residents both suit me well. I followed Dutch Dwelling's MSc 1 and was very enthusiastic about it. During this period I also wrote my History Thesis about the transformation of Merwe-Vierhavens and Delfshaven in Rotterdam, which is the design location for this design studio, because I find both areas very interesting.

## Goal

There is a big need for new homes in The Netherlands. This need contains of one million new homes between now and 2030 of which 54.000 are to be realized in Rotterdam (NOS, 2020). Adding new homes is an immense task in every imaginable way: logistics, policy making, financing and sheer building volume.

The one million homes challenge is a matter of quality. 'How do we, as architects, provide suitable and affordable housing for a diverse population? To answer that question we need to know more about the people who inhabit - or want to inhabit - our cities. Who are the modern households? What do they aspire to? Where do they live now and more pertinent to us, as architecture students: where and how do they want to live?

For this graduation studio, the sight is set on the Rotterdam harbour area of Merwe-Vierhavens (M4H). The goal of the municipality of Rotterdam is to create an innovative live-work environment, intended to bring creativity, innovation and making together. To this ambition, the notion of inclusiveness and equality will be added by focussing on the myriad of modern household types that have developed in recent times and for whom recognition is of paramount importance.

The composition of households has changed significantly in recent decades, the married couple with children is no longer the norm. This change is characterized, among other things, by the sharp decrease in the average number of persons per household. Households in the Netherlands are getting smaller and single is increasingly the norm (Lansbergen, 2018, p. 9).

This research report focuses on the modern household group single-person households. Who are the single-person households, what is the reason for the household decline and what is the reason for the need of less living space? Is singularization also a problem of impoverishment?

Feeling at home is the main topic of this research report and is investigated by the use of the concepts comfort, safety, social interaction and identity. I link feeling at home to the different groups within the single-person households to investigate how single-person households of all ages and income groups can feel at home. This is translated in the following research questions:

**"How to design a future-proof residential complex where single people of all ages and backgrounds will feel at home?"**

In order to provide structure, I divide this overarching question into the following sub-questions:

1. What is meant by a single-person household and which subgroups can be distinguished?
2. Single is increasingly becoming the norm, why is that and how do those singles live?

3. Why does the housing market not respond to the growing needs of solo dwellers?
4. What entails a feeling at home for different single-person households?
5. How will building with inclusive purpose help single-person households with different incomes and ages to feel at home?
6. How can the "feeling at home" be translated into design?

## Process

The first part of the research focuses on literature studies into single-person households and the housing market regarding the single-person households. First the types of single-person households are distinguished and why there is a shift in the household compositions. Afterwards, the focus is on the current housing market and what influences the housing market has on the single-person households.

The second part of the research focuses on feeling at home and what it means to feel at home for the different single-person household. I'll explain how an architect can contribute to feeling at home for the future residents regarding the topics identity, safety, social interaction and comfort. To show the view of different single-person households on feeling at home, I include interviews with residents from my case studies. I combine feeling at home with the housing requirements of single-person households.

The third and final part is about what building inclusive is and how it can be achieved. Why is it important to build with inclusive purpose? How will this help single-person households with different incomes and ages? Could building with inclusive purpose help designing a building complex for different single-person households? In this part I also compare five case studies for single-person households on the topics identity, safety, comfort and social interaction. I compare the housing wishes and feeling at home from the different single-person households and the interviews. The main goal is to find the similarities and cherish the differences between wishes, feeling at home and design interventions to create a future-proof residential complex with homes of relatively small areas where single people of all ages and backgrounds will feel at home.

## Literature and general practical preference

Primair sources (interviews, governmental surveys):

Bouwfondsontwikkeling. (2011). *Onderzoeks dossier naar stedelijke woonmilieus*.

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Hoefnagel, P. (2011). *Waarden en woonwensen van de Utrechtse starter* (Master's thesis).

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Own interviews with young professionals:

### Apartment

"The size of the apartment is just big enough, it should not be smaller."	"The cool thing is that I have a large windowsill, I usually use it as a bench when I read. It saves me a lot of space"	"The only think I don't like is that my bedroom is in my living room. I prefer it to be a separate room."	"I would like an extra room for work."	"I like that the kitchen is part of the living room."
			"I got to choose my apartment layout, which was pretty nice"	

## Circulation space

"The corridor is a bit dark sometimes. I would prefer more light."

"A friend of mine lives next to the gallery, I would prefer that more. The corridor sometimes feels like entering a hotel."

"I like that the staircase has a connection to the library and cafe. I can always see if I know people, after a long day at work and join them."

## Communal spaces

### Communal spaces

"It's not always busy, the roof terrace however is used quiet often when the weather is nice."

"I really like the communal spaces, especially since covid. I used to work in office or in my apartment, but now that I have to work from home, I like to sit in the library with some people I know in the building."

"The bar and library are great places to meet people, the first week I immediately knew some people from the building"

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## Public space/plinth

"Sometimes it gets busy, so I like looking outside my window, while I read. I like there to be some commotion."

"There are not really functions I use, but I know some people who do. I think it's primarily for people who aren't living here."

"There isn't much green around, that is the only thing I'm missing. The rest is fine, we live next to the metro station."

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To assure the validity and reliability of the data, I use triangulation. "Triangulation is a method used to increase the credibility and validity of research findings. Credibility refers to trustworthiness and how believable a study is; validity is concerned with the extent to which a study accurately reflects or evaluates the concept or ideas being investigated. Triangulation, by combining theories, methods or observers in a research study, can help ensure that fundamental biases arising from the use of a single method or a single observer are overcome (Noble & Heale, 2019, p. 1)." I'll explain how I used triangulation in my literature research, fieldwork and case studies.

### *Literature research*

The literature research is the base of my research report and is the most important source of information in my research. The literature research is apparent in the whole research rapport. To answer the research question "How to design a future-proof residential complex where single people of all ages and backgrounds will feel at home?" I did an elaborate literature research with multiple scientific sources. Six subquestions are drawn up with each its own theme. I applied triangulation in each part of the research by using multiple scientific sources to establish validity and reliability. The use of multiple sources to approach these topics from different perspectives gives me a broader and more elaborate research.

### *Fieldwork*

The main goal of the research is how single-person households live and want to live and how they can feel at home. This relates to the observation of human action which can be described as praxeology. To design truly to the wishes of the future users, an in depth research is needed, which also involves fieldwork. The fieldwork is apparent in the second part of the research in the form of interviews and ethnographic drawings. This is valuable information for being able to design more accurately to the wishes and needs of the single-person households and can confirm or debunk the literature research, hence it is the second most important source of information for my research rapport.

During the research, I visited Knarrenhof in Zwolle and Lofts in Amsterdam. The residents from Knarrenhof are single-person households consisting of independent elderly. The residents from the Lofts in Amsterdam are single-person households consisting of young professionals. On both locations I held interviews with residents about their apartment, circulation space, communal spaces, public spaces/plinth and their feeling of home. These type of questions belong to phenomenology. How do they experience and see things from their perspective?

Besides the interviews, I also made drawings of noticeable things on location, like their transition zones, to capture how they transferred their identity into their own spaces. By the use of praxeology and semiology, I looked at how the residents decorated their apartment or shaped their private gardens. I wanted to see how the residents used the space around their homes. I transferred this information into ethnographic graphics.

I did interviews with the architect from the locations to compare the three different types of observations/collected data. I did these interviews to see if their original ideas for the residents were realized.

During the research, I interviewed three students, who are living alone, so most future



residents are represented in the eventual design for Merwehaven.

To finalize the fieldwork triangulation, all interviews and observations are compared to see which final guidelines could be drawn up for the eventual design for Merwehaven.

### *Case studies*

I used the case studies in the final part of the research. The case studies are used to look at existing housing projects for single-person households. I used the literature research and fieldwork to see if the aspects of feeling at home and housing requirements of different single-person households are apparent in the case studies. I used this information to look at how the wishes were translated into an architectural design. This information is the third most important source of information for my research report.

For every case study, the morphology is important. What is the organization and what makes it characteristic. By looking at the morphology of the build structures the layout of the building plot can be seen. Architects most of the time look first at the building which is shown by the morphology. But equally important are the surroundings.

Another methodology used during the case study analysis is to capture the characteristics of the typologies. What type of dwellings are in the building? How are they used and what is the circulation?

Finally the methodology topology is used to see the dimensions of the spaces within the building.

### **Reflection**

Most design assignments for architects (and in my previous master and bachelor courses) about single-person households are about a particular group, like students, starters or elderly. To create inclusiveness within the single-person households, it is important to keep in mind that everyone is different. There is not a 'consumer'. From the architectural perspective, the focus is on the wishes and housing requirements of different groups within the single-person household segment, creating a building complex. As the group of singles grows, there is a need for forms of housing that suit their living situation, budget and housing requirements. In the light of the inclusive society, housing concepts in which residents can mean something for each other are in the spotlight. I want to design a complex where young and old can help and meet each other, exchange knowledge or even something simple as taking the dog for a walk or having social control over each other.

In support of this goal, worldwide attention has been increasingly focused on the added value of bringing generations together and mutual solidarity. The European Union put the subject on the map with the launch of 'the European year of active aging and intergenerational solidarity' in 2012 (European Parliament, 2011), and in the Netherlands, too, attention is being paid to initiatives that connect the generations (Aedes-Actiz, 2016). A residential complex that is suitable for young and old, with a focus on mutual interaction and participation, can offer a helpful solution for social and housing issues to counter loneliness and the need to move. For example, younger solo's can help elderly with moving stuff around their home, while elderly can help with watering the plants, when the younger solo's are on holiday.