

# HOMETOWN

A NEW APPROACH OF HOME FOR THE URBAN ENVIRONMENT

NEW KARKAS, EINDHOVEN

BY SANNE JOY VAN HAASTEREN

# CONTENT

'HomeTown' is an architectural graduation project that addresses an alternative way of arranging our living environment. A free and more flexible way.

With the current stress on the housing market, economic homelessness is on the rise. Those are people that are self-sustaining and have jobs but due to the lack of suitable living spaces have nowhere to go. 'Inbetween' focusses on those people that fall between the system.

There can be argued that the current housing regulations are outdated, as they were invented to protect people from a bad living environment. Nowadays people like to take matters more in their own hands (CPC projects, self-building and deciding how they would like to use their living space). With this said the housing regulations work against those people that look for freedom to use the space as they desire. It is needed to look into alternatives for creating an inclusive and more flexible living environment.

This volume holds a collection of research, design choices and process for the final design.

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# PROJECT INTRODUCTION



Sanne J van Haasteren

*“ I've always been inspired by different cultures, social challenges and I've always dreamt of creating an inclusive society. ”*

Every habitable spot on the earth is claimed. It has been for many centuries. But we've only come to understand recently that earth's space and resources are finite. With the modern regulations and the current stress on the housing market, economic homelessness is on the rise. More so than ever. These people are self-reliant, have work or follow a study. But due to the stress on the housing market have nowhere to go.

It could have been anyone, even you or me. Some people are more effected than others. Think of nest-flyers, singles, divorces parents, freelancers, low-income households, people that loose their temporary renting contract and people that choose to live on the road.

When loosing a place to stay, these people become couch surfers, hotel hoppers or urban wanderers. They have been forgotten.

Even if they would want to live a free and flexible life, it is almost impossible. Some people convert a van into a home. But even then, you are technically homeless. Unless you are registered on another home address. How did we ever let it get this far? To take away the possibility for people: to be, to occupy, to use space as they desire. Especially when we claim that everyone has the right for a roof over their head (constitution art.9)

This current challenge of people loosing their home and with it their main human right to occupy space, made me wonder: 'As the current ways of handling this issue (building

more affordable housing, prefab & temporary housing) seem to fall short, could there be a new way of approaching this challenge?

A new way that focusses on getting back the freedom we once had? The freedom of living where ever we want, how we want, with whom and the freedom of shaping our own environment.

As it seems especially hard to find a place to live in the big cities, I see a lot of potential. Cities are attractive because of their big urban landscapes full of experience in terms of both social and professional aspects. Within those cities there are hidden paradises. Areas that have not yet achieved their potential. Deprived neighborhoods or vacant buildings.

So for this challenge their will be focussed mainly on the urban environment.

The main research question for the project will be: How could this new approach of home for the urban environment look like?

Within this project the main method of research is design testing which will test the effects that 'architectural topics'\* have on the rearranging of our urban living environment.

\* Community, subscription housing, small private spaces, collective spaces, ownership, synergy between functions and the possibility of adding or using existing living functions.

# 1 PROJECT SPECIFICATIONS

## CHALLENGE

"Major life changes can be dangerous, even fatal..."

Probably the most dangerous life transition is when fledgling birds, transition from depending on their parents to their new life as fledglings living outside of the nest, their first few weeks of exploring the landscape and learning to fly." GrlScientist, Ecologist

### FLYING OUT

Last year I made the step from living at my parents' house to living on my own. I was ready to break free from the parental protection, and ready for the freedom to find my own way in life. I am lucky however. I found a place to live relatively quickly and I didn't have to make this step all by myself. Not everyone is as lucky as I am. The majority of young starters are struggling. I see it happening in my own circle of friends. Most of them are single and are not yet ready to tie themselves down, let alone be ready for a family life. They find themselves having to overcome a lot of obstacles:

1. Stress on the housing market (more demand than supply)
2. Unfit living spaces
3. Finance
4. Interdependency / A lot of responsibility at once

### FINDING A NEW NEST

With the current stress on the housing market, it is almost impossible to find a place to live, especially for the singles and the starter.

In theory, some starters could apply for a social renting house from a housing corporation, as some of them have an income below 39.000 a year. But in practice, it is more difficult. In many places the waiting time has increased in recent years. The average waiting time is +/- 6 years. Starters that earn more than the income-limit or that are unable to get a social rental home due to the waiting times, have two options left: buying or renting on the private market. Both of those options are financially challenging as well. On the private market, landlords drive up the prices each time they

It has never been easy leaving the warm parental nest, flying out on your own into the big open world. I see all around me how hard it can be to make the step into adulthood. I wasn't a sole fledgling ready to fly. I spread my wings and flew away, while I left most of my fellow fledglings behind.

get a new tenant. And buying a house means: needing a big bag of saved money. But first you'll have to fight off your fellow competitors. With this tight housing market, you are one of the many. (NOS, 2020)

This is not only the case in the Netherlands. There is a parallel rise in residential real-estate prices across the world. (Cherney, M & Kownsman, P, 2021)

Besides the financial aspect and stress on the housing market, social aspects play a big role as well. Young adults of the current generation (Millennials & Generation Z) have been slower to marry and move out on their own as they value their freedom. Yet they are not looking forward to living completely by themselves. This might feel isolating or it is too much responsibility at once. (TMD Studio, 2017)

And ofcourse one of the most challanging aspects at the moment is unfithousing typologies. As the singles are searching for a space that is spacially and financial fit for a one person household they can only find oversized family homes. The group of singles that have a higher income occupy those oversized houses and have a lot of space by themselves. Which results in a lack of space and the lower income singles miss out.

### CRASHING MID AIR

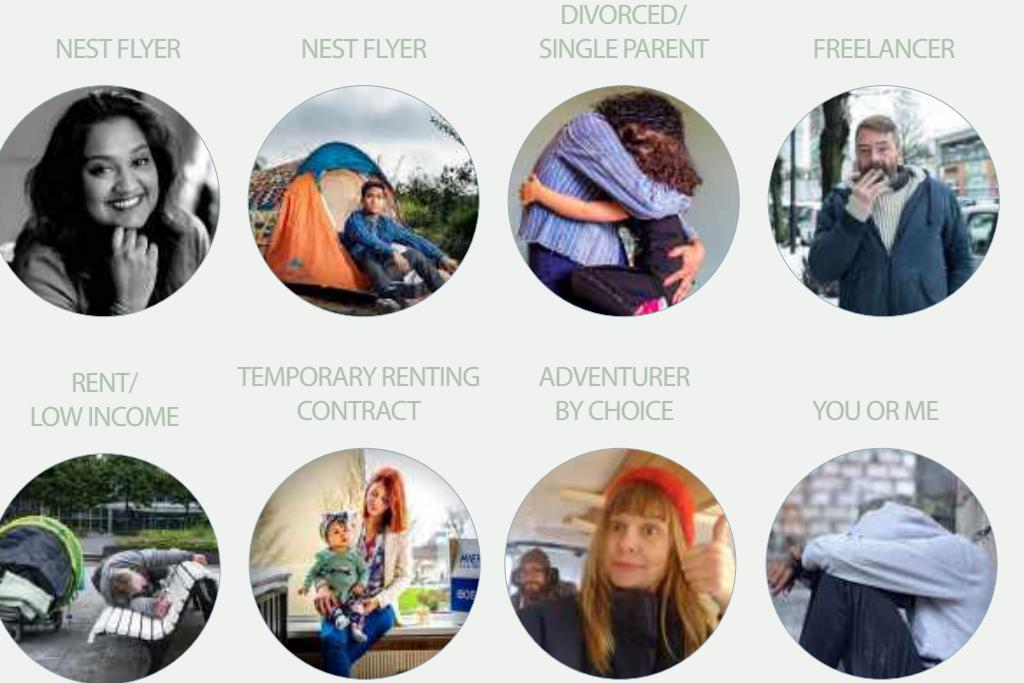
With the overheated housing market, it isn't easy to find a place to live. It is inconvenient for most of my friends, having to stay with their parents even though they long for independency and freedom. But there are however people that are hit harder. Fledglings that are pushed out of the nest way to early. This is the case for Mohini. Due to circumstances she had to leave her parental home at a young age. When being a minor, you are taken care off (youth care). But once you turn 18 (officially an adult) you are almost literally put on the streets. Mohini lived with her boyfriend for a short amount of time. He was abusive but she had no other place to go. Then she became 'economic homeless'. Which means despite being able to care for yourself, studying or having a job, you are not able to find a home. After 2 years of being on the streets, wandering around and couch surfing Mohini found a studio, which she has to leave soon because she graduated. With the overheated housing market, there is a realistic chance she will become 'economic homeless' again. "According to state secretary Blokhuis, the increase in the number of homeless people is increasingly caused by this group of 'Economic homeless'" (NOS, 2019) There are many others like Mohini that have to leave the parental nest but due to the overheated housing market become 'homeless'.



Mohini (27) Became economic homeless at 18

### A FLIGHT OF BIRDS

The singles and the starters aren't the only ones that have to deal with the overheated housing market at the moment. The target group has become way bigger. The lack of unfit living spaces results in more people falling between and missing out on fit living spaces. Elderly are occupying these family homes longer than they should. When these children fly out most of them do not settle for less and stay within these oversized homes. Singles with a higher income start occupying oversized family homes and there are more people living in a home that is unfit for their family size or their income. Some examples of people that fall inbetween:



## SAFETY-NET

It is hard finding a place to call home. For some harder than others. I see many opportunities into building a safety-net for those urban wanderers:

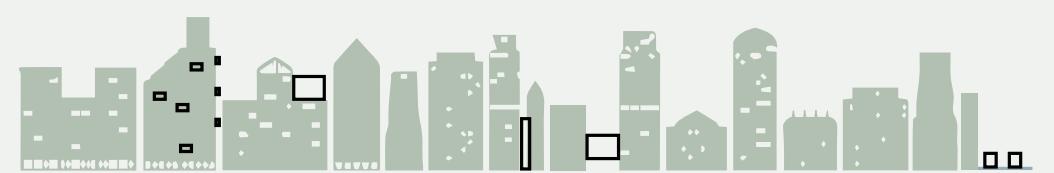
1. Claiming vacant property within the cities
2. Forgotten tactics (co-creating)
3. Making use of collectivity (Collective living)
4. Sharing functions
5. And optimizing living space

## URBAN ENVIRONMENT

Young people prefer the city. The city is a big urban landscape full of experience in terms of social, and professional aspect. (Urban gateway z.d.) While city life for (single) starters seems most challenging, I see opportunities within the metropolitan landscape!

*"Deep in the urban landscape lies a paradise. You have to search to find this place as it is masked by the unattractiveness of its neglection."*

All cities have neglected urban open spaces (NUOS). 'Those spaces are increasing, unoccupied, and purposeless, although they have many potentials in terms of location, size, and history. They are military sites, vacant plots, industrial sites, deteriorated waterfronts, leftover space, oversized streets, and socially inefficient green spaces.' As those spaces have no or low social- and economic value, I see great possibilities to look into the forgotten urban voids of the city for the realization of single starter living areas. (Abd-Elazim Ahmed, M. 2019)



Next to forgotten urban areas, there are forgotten tactics. Trying to find a home through a housing corporation is an outdated approach which leaves you in the hands of big corporations that don't care much for your urge to fly out. We can and have to take things back into our own hands. Not like the concept of squatting, but something that is legally admissible and more permanent. If us starters work together we can accomplish a great deal: financially, politically but also socially. Collectively we can reunite to plan ahead, finance, design and build our future.

1. Finding your community
2. Creating a cooperation together
3. CPO traject

## RELEVANCE

The human population has doubled in the last 70 years. With our rapid growth of population and quick technological development, society is being challenged.

"Today 55% of the world population lives in urban areas, a proportion that is expected to increase to 68% by 2050" Projections show a gradual shift in residence from rural areas towards the cities. With the overall growth of the world's population it means that this could add another 2.5 billion people to urban areas by 2050. As the world continues to urbanize, sustainable development depends increasingly on the successful management of urban growth. "To ensure that the benefits of urbanization are fully shared and inclusive, policies to manage urban growth need to ensure access to infrastructure and social services for all, focusing on the need of the urban poor and other vulnerable groups for housing, education, health, care, decent work and a safe environment." (UN -Elmijd F, 2018)

One of the effects of the rapid population growth is quick urbanization. With more demand for a place to live and not enough supply, it is necessary to start building more houses.

In order for the Netherlands to have enough housing for its growing population, 845.000 homes need to be built by 2030. By 2030, the Netherlands will have about 18.8 million inhabitants. On top of that, even more houses need to be built to deal with the current shortage. "The impact of this problem is numerous and serious. The most obvious one: rising housing prices. With rising house prices, it becomes more difficult for the first-time buyer to enter the market. The housing shortage also impacts social housing: while working-class families tend to be taken care of, single individuals have a hard time getting houses, homelessness is on the rise in the Netherlands, particularly among young people." (Lalor A, 2021)

If you are a young single individual that enters the housing market you have it particularly hard! To avoid homelessness, it is important to focus more on the fallen inbetween target group.

## ARCHITECTURAL AND URBAN THEMES

### Social and environmental experience

Experience which is an abstract term. In this project it is defined as the experience of co-creating your own environment, and the social experience that comes with it.

### Claiming space/ Ownership

Urban voids with lack of ownership can be reclaimed by the residents. Single starters can develop those spaces and give them quality.

### Parasitic architecture

The concept of attaching isolated functions to an existing architecture.

### NUOS - Vacant buildings

Neglected Urban Open Spaces; or urban voids that have a lack of ownership. In this project defined as buildings and plots with a lack of ownership.

### Co-living

Collective living which is designed for habitation by large groups of individuals of single starters.

### Co-creation

As a collective creating a living environment. As an example the case study of Caracas Tower - Urban Think Thank.

### Urbanization: densification

One of the aspects why housing is understress is urbanization. Cities need to become much more dense to provide people with housing. This project will look into this theme as densifying cities by looking into the forgotten area's. Optimizing the use of spaces. Space without ownership is a space that is often not used to its full potential.

### Communities

A group of people living in the same place and/or having a particular characteristics in common. In this case the single starter which is desperate looking for a living space. A starter that is proactive and likes to actively work on a collective living environment.

# 2 THESIS

## STARTING STATEMENT

It is hard finding a home with the current stress on the housing market. Especially within the urban environment. Current approaches of housing people fall short as economic homelessness is on the rise (especially among the less advanced target groups like starters on the housing market, singles and people with a lower income). It is important to search for alternative ways of approaching the design of the living environment, to create a more inclusive and accessible place.

## SHIFT

By looking at how people want to use their space, giving back the freedom to the user of space and developing vacant buildings into fit living environments, creates opportunities for the urban wanderer to start living within fit housing typologies, share more and use optimized and personalized space.

## EXPECTATION

By doing research on how to densify & optimized the living environment and giving back freedom to the user of space and creating a fit living environment for the urban wanderer, the urban environment becomes more inclusive. I expect that other groups that occupy oversized space will also start to move to a more fit living environment once freedom of shaping the living environment comes back.

## DREAM

A more social- and economic- inclusive living environment. Where the users of space have more freedom into deciding how they would like to live, how much money they'd like to spend and with whom they would share their living environment. I'm dreaming of an alternative living environment. One that is adjusted to people's personal preferences. And one that uses the neglected spaces within the urban environment (like vacant sites and buildings).

## END PRODUCT

A design of a new living environment that gives freedom back to the user and optimizes oversized living spaces.

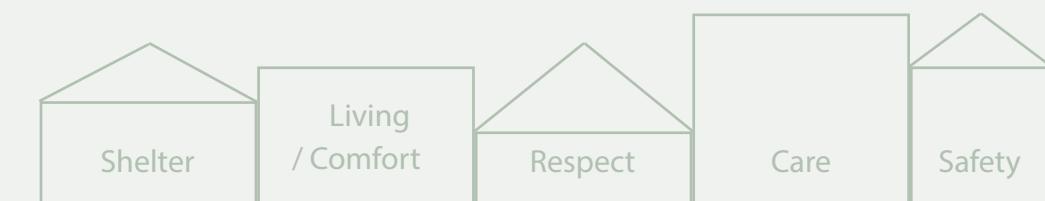
### HYPOTHESIS

By optimizing living space and developing subscription housing which you share with your neighbours, the urban living environment could be made more accessible for the urban wanderer. Rather than owning homes outright, residents could have the option of buying 'shares' of community real estate each month, progressively increasing ownership. Sharing functions means that private spaces could become smaller and shared spaces become more effective, thus the living environment could be made more dense.

## ANALYSIS OF THESIS

### WHAT IT MEANS TO HAVE A HOME

A home is defined as: 'a space used as a permanent or semi-permanent residence for an individual, group or family. It is a fully or semi sheltered space and can have both interior and exterior aspects to it.' When urban wanderers are looking for a home, but what are the essentials?



### CLAIMING FORGOTTEN VOIDS



but as claiming (squatting is illegal) this graduation project focusses on developing vacant sites and buildings. Which means the collective has to buy an existing vacant property rather than developing it.

### COLLECTIVE

Doing it together opens up a lot more opportunities both financial, political and social. As a group you have: more impact; a big network; collective knowledge; and support. The process of collective realization and investment is as interesting as the after effect: Collective living is a process on itself. You don't have to learn how to fly by yourself but can support each other through the process of learning to be a

responsible adult.

Collective living ends the urban loneliness, but there is the interesting aspect of individuality and what should be the line between private and shared.

### FINANCIAL ACCESSIBLE

Wanting to live in a city means being able to make a financial investment. When renting an underdeveloped cheap place, then (re)developing it, drives the price up. Co-investment would mean increasing the financial budget, which opens up new possibilities for buying property within the city. A single person can get an average mortgage from 90.000 to 170.000,-. Teaming up with 10 singles would mean you have a budget of around 900.000 to 1.700.000,-.

### STRATEGY

But how can you realistically manage an urban development?

- |                  |   |
|------------------|---|
| 1. Collective    | → Gatering People                                 |
| 2. Location      | → How to find one                                 |
| 3. Financial     | → How much to do you need?                        |
| 4. Politics      | → How to approach this                            |
| 5. Design        | → Which design fits the location → Design library |
| 6. Co-create     | → What can you do yourself                        |
| 7. Start living  |   |
| 8. The next step | What if someone moves out                         |

## SITE SURVEY

Forgotten urban voids are defined as places within the city with a lack of ownership. Focusing on the local urban landscapes within Eindhoven and focussing on the typologie of vacant buildings or buildings that are not optimized in space.



## GOAL

For this graduation project the focus will be on: designing a collective living environment, optimizing the living spaces, giving back freedom to the user of space and the sharing of functions.

# 3 RESEARCH & FINDINGS

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## RESEARCH QUESTIONS

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### SUB QUESTIONS TOPICS

- |                  |  |
|------------------|--|
| 1. Collective    | → Collective living, general information and its history                             |
| 2. Location      | → Urban Voids  |
| 3. Financial     | → Financial Investments  |
| 4. Politics      | → Evolution of civilization and the housing regulations                              |
| 5. Design        | (Not specifically named in the chapter research! --> See the design testing chapter) |
| 6. Co-create     | → Co-create and DIY  |
| 7. Start living  | (See final design & Final panels)  |
| 8. The next step | (See final design & Final panels)  |

### SUB QUESTIONS

- 1)a. What is collective living, the history, and where does it go to?
- 1)b. What type of collective living typologies are there and what are their characteristics (pros and cons)?
- 1)c. What are the (minimum) requirements for single starters for a collective living environment?
- 1)d. What would be the ideal collective living environment for the urban wanderer?
  
- 2)a. What are Neglected Urban Open Spaces (NUOS) and how to recognize them?
- 2)b. What are some references of (re)developed NUOS and what is their potential?
  
- 3). What to invest near the center of Eindhoven?
  
- 4)a. How did the human civilization evolve? And what are the key themes?
- 4)b. How did the housing regulations evolve? And why?
- 4)c. What are some housing typologies? And how are they evolved?
  
- 6)a. Are there any examples of diy development (CPO)?
- 6)b. What are some architectural (building) concepts that stimulate 'doing it yourself' (diy) in the form of co-creation?
- 6)c. What are some examples of self organisation?

TALKS:    3) How to finance?  
              6) How to approach the development?

## RESEARCH METHODOLOGY

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- |    |   |
|----|---|
| 1A | Literature studies: A history of collective living, by Susanne Schmid                     |
| 1B | Case studies: Different typologies of collective living                                   |
| 1C | Through a survey: To find out the requirements for the single starter                     |
| 1D | Summary: of survey and analysis of collective living typologies                           |
| 2A | Quick scan analysis: Google maps, finding forgotten voids                                 |
| 2B | Case studies: NUOS typologies, former developments  |
| 3  | Calculation: Quick calculation, what is feasible  |
| 4A | Literature studies: Yuval Noah Harari - Sapiens & Homo Deus + Other sources               |
| 4B | Literature studies: Tegenlicht + Other sources  |
| 4C | Literature studies: Multiple sources  |
| 6A | Case studies: Eindhovens woongemeenschap, Das Wohngemeinschaft Zwitserland                |
| 6B | Case studies: Different architectural (building) concepts which you can do yourself (diy) |
| 6C | Case studies  |
| 3  | Talks   |
| 6  | Talks   |

## 4.1.a. COLLECTIVE - GENERAL & HISTORY

### 4.1.a. What is collective living, the history, and where does it go to?

Over the past 150 years there have been attempts to redraw the lines between private and public, to redefine them and foster the social acceptance of publicness. In the book 'A history of collective living', aims to address the topic in both a transparent and comprehensible way. This chapter will focus on my reflection of the findings of the book.

#### A HISTORY OF COLLECTIVE LIVING SUSANNE SCHMID

##### TRANSITIONS BETWEEN PUBLIC AND PRIVATE

"The private arises from the public, because only by excluding the public from a living environment can the private prevail as a counter world. There is a paradox: If the private arises from the public, then the interior always references the exterior. Private interior space is seen as the domain of the individual, of freedom, and of distance from societal rules and public outdoor space, yet at the same time it came about because of the very public it provides distance from."

##### MOTIVES THAT DRIVE SHARED LIVING

###### Influenced by culture:

- Economic
- Political
- Social

##### 9 HOUSING MODELS:

150 years into 9 housing models according to the weighting of their motivations.

###### models since industrialization focus on economic motives:

- 1) mid-1820 Utopian socialists large housing complexes
- 2) 1900 Men's and Woman's boarding houses
- 3) 1905 Central-kitchen houses

###### models that focus on political motives:

- 4) 20th century The garden city and courtyard apartment building housing model
- 5) 1942 Community Settlements, sparse collective living spaces without residential participation.
- 6) 1968 Student movement, 68er bewegung --> cooperative living

###### model that focus on social motives:

- 7) 1980 (2010) The community households and cluster apartments

###### models with mixed motives:

- 8) newest 'Co-living': seeking community, sharing over ownership and targeting millennials. Associated with co-working and participating. (Corporations - partial owner)
- 9) today tomorrow 'Sharing economies', every person is merely a co-user  
'Self organization, sharing the process and developing new cultures'

#### KEY WORDS

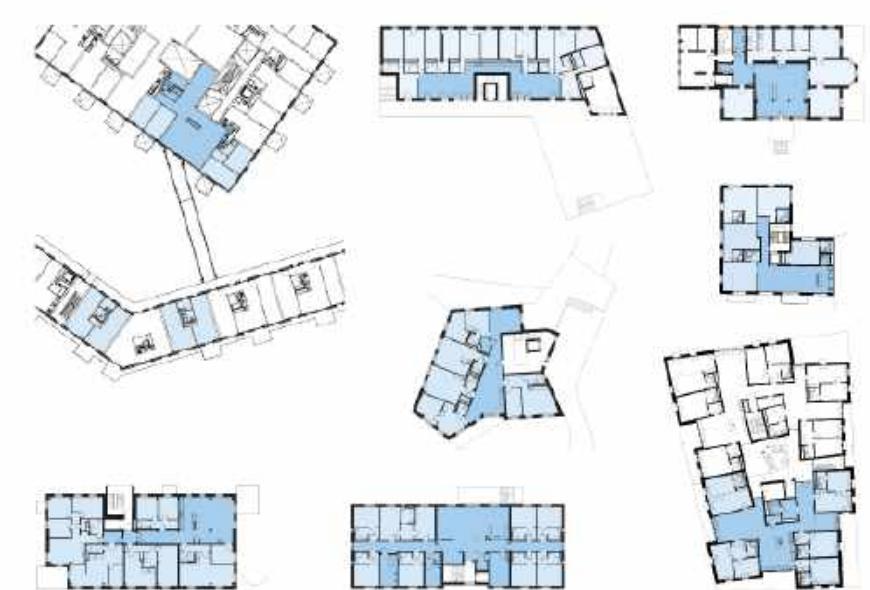
- Public & Private
- Participation
- Ownership



The Association of colonies of ambitions, 1820  
Robert Owen, utopian community new harmony Indiana

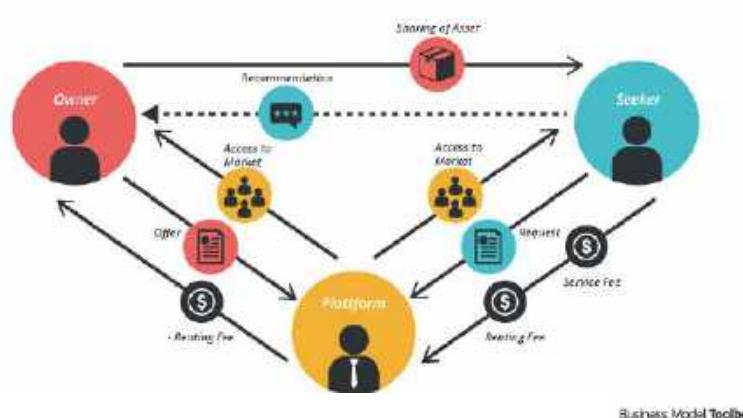


Anna Puigjaner (Kitchenless housing, communal cooking)  
<https://www.archdaily.com/934765/the-kitchenless-home-co-living-and-new-interiors>



Cluster-Living: Cluster apartments (micro apartments with shared accommodation)

#### Sharing Economy



Bofaellesskabet lange eng (Courtyard)

#### CONCLUSION OF PAGE

Throughout the history there have been many different typologies of shared living. As if today every person is merely a co-user of space. The idea of self organization isn't that common yet.

Collective living is a residential community living model that accommodates three or more biologically unrelated people (sometimes up to 100 people). The motivation for collective living can be economic, political or social.

## SOCIAL ORGANIZATIONAL STRUCTURES OF HOUSING

<b>Whole House</b> co-working co-living multiple generations, distant relatives, servants and employees	<b>Bourgeois House</b> co-working co-living multiple generations, no servants and employees
--	---

<b>Nuclear Family</b> traditional nuclear family	
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<b>Single Family</b> living in a family couples with or without children single - parent households	<b>Multi-family</b> collective living in a family group, with independent family units.
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The single starter fits within the social organization structure of housing of 'additional infrastructure' and 'non-family'.

<b>Beguinage</b> co-working co-living multiple generations, womens group; renouncement of family; no waiver of ownership	<b>Monastery</b> co-working co-living womens group; renouncement of family and ownership
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<b>Bed-renters, Lodgers</b> Living in another's home in families, due to housing shortages and lack of supply	<b>Additional Infrastructure</b> Additional infrastructure by dissolving generational living; with group-specific user such as young, old, or single
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<b>Non-Family</b> Living in a non-family based multi-person household; one-person households	
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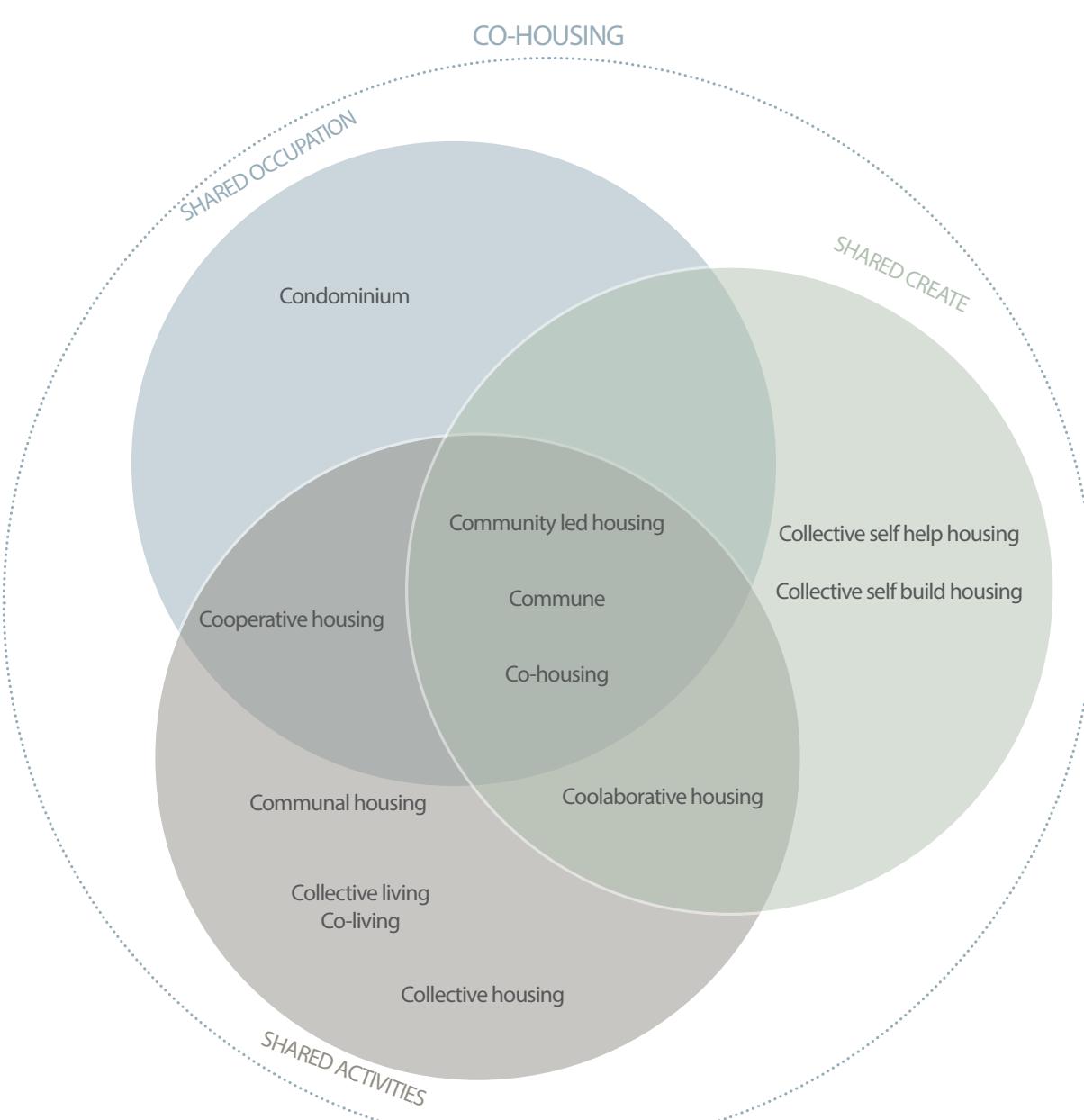
Pre-industrial working and living communities

Post-industrial outsourcing of work= radical privatization

By dissolving the nuclear family

## CO-HOUSING SUB TERMS

Shared creation, occupation and activities all come together in the single family living environment. Commune, co-housing and community led housing are the right terms for the implied housing typology.



## CONCLUSION OF PAGE

There are multiple social organizational structures for collective living and multiple different sub terms. For this graduation project I've been looking for a structure that houses multiple families within a small community. One where people have their own choice for what to share and what not. It fits somewhere in the middle of the sub term scheme.

## COMMUNAL LIVING ARRANGEMENTS

TYPE	Institutional Communal housing	Shared housing	Intentional Community Living Arrangements
APPROACH	Institutional led - top down	Resident led - bottom up	Resident led - bottom up
ARRANGEMENTS	Formal	Informal	Formal
FUNDING	External provider	Residents	Residents
RESIDENT AUTONOMY	Limited	Full	Full
RESIDENT POPULATION	10's - 100's	2-10+	5-100's
MOTIVATION	Provide need	Practical reasons	Connected living

Shared housing in an additional infrastructure or non-family related social structure. With 3-10 people.

## RESIDENT-LED CO-HOUSING

### TYPOLOGIES IN THE NETHERLANDS

Tummers (2017) mapped the diverse forms of resident-led co-housing typologies in the netherlands, beneath are the conclusions.

#### CENTRAAL WONEN

Or Cohousing following the international co-housing model  
[www.lvcw.nl](http://www.lvcw.nl)

First generation 1980: community building. 6-8 households share a kitchen and other facilities. Often in partnership with housing associations.  
Example: 'Opaalstraat - Nijmegen' and 'Wandelmeent - Hilversum'

#### ZELFBEHEER

Self-management  
Residents form an association  
Do not own the premises

Mostly renovated or reused complexes.  
Example: 'Poortgebouw - Rotterdam'

#### TWEEDE GENERATIE CO-HOUSING

Second generation co-housing  
Individual units with high sustainability ambitions

Individual newly build housing around a common garden with shared facilities. Mixed -income, house hold type and sustainability measures.  
Example: 'Het groene dak - Utrecht'

#### WOONGROEP VOOR OUDEREN

Community for seniors  
Individual units with shared space and facilities

Collectively managed without structural institutional reference after the building phase, but within standard procedures.  
Example: 'Wateringse hof - Den Haag' and 'Woongroep - Vleuterweide'.

#### ECO-DORP

Eco-village  
Large scale initiatives that aim for holistic renewal: energy transition, food-production and so on.

Movement since 1980's. CPO\_policies and availability of brownfield sites such as former airports or institutions.  
Example: 'EVA Lanxmeer - Culemborg'

#### COLLECTIEF PARTICULIER OPDRACHTGEVERSCHAP

Collective Private Commissioning  
Collective self-development, equivalent of Baugruppe (building groups)

Individual home ownership, often already during the design stage. After building the common building parts, parking, playground or such.  
Examples are 'Strijp R - Eindhoven' and 'ELTA - Amsterdam'

## CONCLUSION OF PAGE

I'm looking for a communal living arrangement that could house multiple families which is resident led-bottom up. It could be developed with a CPO traject.

## WILLINGNESS FOR SHARED LIVING

The research lab of IKEA called SPACE10, has presented a survey to 7.000 people from over 150 countries, to learn about what people think of the concept of co-living.

### FINDINGS SURVEY SPACE10

- 1) Most people prefer to live in the smallest possible community (no more than **4-10 people**.)
- 2) People prefer to live with a **different mix** of backgrounds and ages
- 3) The most popular members to live with would be couples without children or single women.
- 4) The least favorable would be babies, teenagers- and single dads
- 5) People prefer to live **in the city**, even when cars make it easier to commute
- 6) The main reason people want to co-live is to **socialize** with others
- 7) People want their **own private space** that's off limits to others
- 8) A big concern is the lack of privacy
- 9) Residents over 60+ are most concerned about other peoples mess
- 10) People are **willing to share internet, garden, kitchen, utilities, and workspaces**
- 11) People would rather share cleaning responsibilities than the groceries
- 12) **Sharing bedrooms would definitely be off limits**
- 13) Most people prefer having their own bathroom
- 14) **Democratic principles** run strong in the shared house
- 15) People would **prefer to vote on new members**, rather than have the decision taken for them
- 16) Most prefer to have **equal ownership** of the shared house
- 17) The most important qualities of housemates are cleanliness, honesty, and being considerate
- 18) The least important qualities of housemates are being handy, funny, and attractive
- 19) Most people are **willing to pay for extra services**, like having healthy food delivered
- 20) People prefer to **furnish their own space**- and let designers furnish the common areas
- 21) People disagree on many things, but pets are very welcome in a shared house

- + Is noted as a guideline for the collective living typology designs.
- ++ A guideline with some extra importance
- Does not apply
- 0 Neutral - something to check later

### REFLECTION

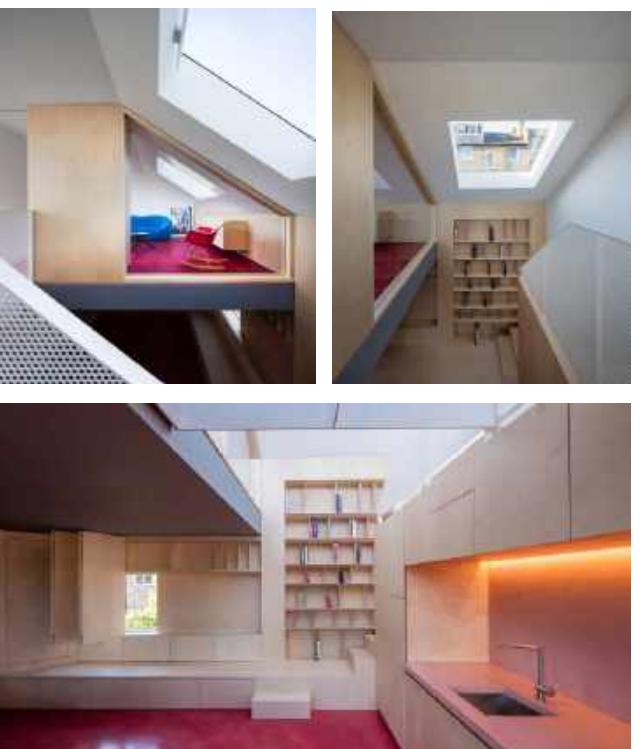
- 1) +
- 2) + Target group of single starters 18-35 (so a mix is possible within those limits)
- 3) -
- 4) -
- 5) + NUOS location focussed on the city (max 20min cycle from center)
- 6) + In this graduation project also finance
- 7) + Private space is important in one form or another (bedroom or other)
- 8) +
- 9) -
- 10) +
- 11) 0
- 12) ++
- 13) 0
- 14) 0
- 15) +
- 16) +
- 17) 0
- 18) 0 Handy is in this graduation project something that comes in handy
- 19) +
- 20) ++
- 21) 0

### CONCLUSION OF PAGE

What functions people are okay to share is very depending on the person. People become more willing to share functions and spaces when having the feeling that they have something to say about it: 'with whom, what functions and how much privacy they still have' etc. Flexibility and the power of choice are important.

## 4.1.)b. COLLECTIVE - TYPOLOGIES & PROS AND CONS

4.1)b. What type of collective living typologies are there and what are their characteristics (pros and cons)?

<p><b>RRURBAN - COSTIMIZABLE</b></p>  <p>Potential of individualism in collective urban housing.            + Participation and home ownership            + Costimizable            + Between two existing walls</p> <p>To achieve that hybrid, our strategy should combine two actions: 'fluff up' and 'costimizable'. Fluff up to generate spaces of opportunity, and costimizable to be able to increase the final price of each house and thus to compensate economically for the decrease in built area.</p>	<p><b>TYPICAL STUDENT HOUSING - EXAMPLE TALENT SQUARE TILBURG</b></p>  <p>1 Room, studio or apartment. Most people rent a private room with everything else shared.            + Private bedroom            -/+ Shared or private sanitary and kitchen            - Studio's are rarely collective living</p>	<p><b>CO-LIVING FOR MILLENNIALS</b></p>  <p>+ Research on daily rituals: sleeping, eating, washing and how to create new narratives            + Shared space yet private            + Metal bridge used as visual separation between relaxation and working zone            + Furniture as part of the landscape            + Shared kitchen and lounge</p> <p>- Focus on Millennials            - Interior only</p>
<p><b>CARE FACILITIES, THE HOGWEYK</b></p>  <p>- Focuss on social control            - Only a private bedroom            + Courtyards</p> <p>Enclosed shared outdoor space. Courtyard principle            Private bedrooms            Shared living, kitchen and bathrooms</p>	<p><b>BOARDING SCHOOL, EXAMPLE: PLC SYDNEY</b></p>  <p>+ Optimal community            + Other activities next to living            + Campus idea            - Room sharing            - Little privacy</p>	<p><b>TINY HOUSE MOVEMENT - MINITOPIA</b></p>  <p>+ Self building            + Ownership            + Shared outdoorspace            + Individual functioning tiny house            + Movable            + Durable or focussed on selfsustaining            + Participation and collectively upgrading the environment</p> <p>- Concept of nature living, so need a lot of outdoor space            - Does not fit within an urban landscape</p>

SHARE HOUSE, NARUSE INOKUMA

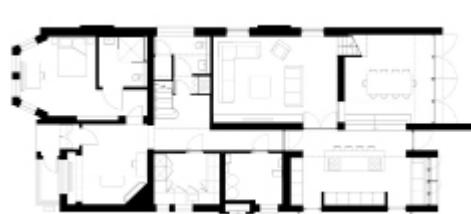


- + Shared open space connected with walking route -> Interconnected voids
- + Shared eating, cooking and relaxing
- + Complete strangers connect naturally
- + Private spaces placed 3 dimensionally within the building
- + Raw plywood
- +Private bedrooms

- Shared sanitary and kitchen

'The 13 bedrooms each have a floor area of 7.2 square metres and the total floor space for each resident equates to 23 square metres, which the architects believe compares favourably to the world's many one-room apartments.'

AFFORDABLE CO-LIVING FOR MUSIC STUDENTS



- + Split levels, overlooking shared space yet generating privacy
- + Shared collective space (+ music studio)
- + Private bedroom with sanitary
- + Shared living and kitchen

## Literature case studies:

### RRURBAN: collective living and costimization:

<https://www.archdaily.com/867888/rrurban-explores-the-potential-of-individualism-in-collective-urban-housing>

### Typical student housing Renting 1 room

### THE HOGEWYK:

collective living town  
with the challenge of care (dementia)  
<https://hogeweyk.dementiavillage.com>

### Boarding school:

<https://plcsyd.youtour.com.au>

### Co-living for millennials:

<https://www.dezeen.com/2018/04/24/noiascapes-tom-james-teatum-interior-design-garden-house-london-millennials-hammersmith-co-living/>

### Share house, Naruse Inokuma:

<https://www.dezeen.com/2013/08/29/share-house-by-naruse-inokuma-architects/>

### Minitopia:

<https://www.minitopia.eu>

### Micro apartments, Seoul:

<https://www.dezeen.com/2021/01/18/life-minimalist-micro-apartments-ian-lee-seoul/>

### Affordable co-living for music students:

<https://www.dezeen.com/2021/07/18;bravura-house-selenicky-parsons-affordable-co-living-music-students/>

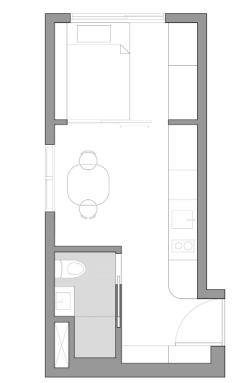
### Three Generation house, BETA:

<https://www.dezeen.com/2019/04/22/three-generation-house-amsterdam-beta-netherlands-yellow-staircase/>

## CONCLUSION OF PAGE

There are many examples of shared living typologies. For this graduation project I'm searching for typologies that could also densify the total mass. Micro apartments is a very fit example.

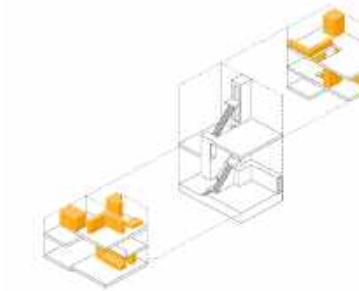
MICRO APARTMENTS - BLANK CANVAS



- +Shared living area's
- + Individual fully operative appart
- +/- Costimizable

-Not possible to 'add' a lot of value later on

THREE GENERATION HOUSE, BETA



- +Mini apartment building  
(Micro apartments?)
- + Addaptable over time

+ Private fully functioning appart with collective space around walking routes/staircase.

#### 4.1.)c. COLLECTIVE - TARGET GROUP

4.1)c. What are the (minimum) requirements for the target group for a collective living environment?

Inquisite (single) statement:	Response
1. MVO?	a. Over voorziening b. Onder c. Ondersteboven d. Ondergaang
2. Waarom?	a. Niet bij mij verantwoordbaar b. Studentenbond c. Academisch d. Niet e. Eigen opleiding f. Gewoon norm g. Andere.
3. Ben je gehoorbaar in je studie en opleiding?	a. Ja. b. Nee.
4. Wat zou je betrekken aan je eigen studie en opleiding?	
5. Ben je wel opgeleid voor een andere opleiding?	a. Nee b. Deel c. Deel d. Al gedownload
6. Als je op de universiteit van andere werking, houdt dat in dat je doet?	a. Niet pas niet bedacht dat ik welke opleiding b. Al... niet c. Niet
7. Ben je ooit meer benoemd op de R&D? Toch niet waar?	a. Nee b. Ja... c. Niet
8. Heeft jouw opleider per inspraak een voorstel kunnen maken om gewerkt te gaan worden?	
9. Heb je wel een gehoorbare opleiding? Welke opleiding daarvan?	
10. Gedownloaden is een voorstel voor opleiding. Is een normaal cultuur- of religieus opleiding voor studenten gedownload? En dat waarbij je al een eigen religieus buitenruimte heeft. Is dat voor studenten gedownload buitenruimte? Hoe meer je cultuur hoe minder en goedkooper het voorstel kan worden. Ook, wat je cultureel buitenruimte hebt, heeft daarmee een uitgangspunt. Zoals dat in de voorstel voor opleiding voor studenten, en waarom?	
11. Are we allowed to meet there without you? Can I have a look at your application?	
12. Wie onderstaat een zogenoemde voorstel, dan kan ik... Ik kan maar geen informatie die ik ook niet wil delen in de voorstel gedownload kunnen. Zodat er op de volgende voorstel je best mogelijk antwoord.	a. Staatssecretaris b. Minister c. Raad d. Staatssecretaris e. Studentenbonden f. Studentenbonden

# SUMMARY SURVEY ANSWERS

- The average age for people that filled in the survey is: 27
  - Most people rent or live with their parents
  - 56% Is not happy with the current living space, the most named wishes are:
    - More affordable
    - Bigger living area (1 time more compact)
    - More or a better quality outdoor space
    - Independancy or a place for themselves
    - Ownership/privacy
  - The average time of looking for another living space is 12 months. (Those people are still looking)
  - The average monthly expense is 695,- (which is higher than the 481 a month on the base of 150.000 mortgage)
  - Most people know what co-living is.
  - More than half would like to co-live, but it depends on the gradation of sharing (enough private space and flexibility per person), the housemates (friends or same age).
  - The people that do't like to share a house are afraid of lack of privacy or want ownership.
  - People are very keen on their privacy: private bedroom, bathroom, enough own space to feel ownership off. No obligations, freedom and choice of housemates. The hygiene of shared space is also very important. Some people still want their own kitchen
  - For extra shared funtions, most people want : a space for sport (outdoor or indoor) a work space and vegetable garden .
  - 2/3 Is open to do some work on a living space, but only wants to live in a (klushuis) non fully functioning house for a little time span.
  - There is a big variable in the time span of wanting to live in an unfinished house. If the house is liveable people are willing to stay here for more than a few years.

## CONCLUSION OF PAGE

This survey is done among the starters on the housing market. The answers of willingness to share spaces are similar to those of the Team10 survey. People are okey with sharing as long as they have the power of choice.

## 4.1.)d. COLLECTIVE - TARGET GROUP

4.1)d. What would be the ideal collective living environment for the urban wanderer?

SPACE AND STUFF	COLLECTIVE LIVING TYPOLOGIES									
	CO LIVING	IDEAL MAKER	IDEAL URBAN WANDERER	MICRO SOCIETY	MULTIGENERATION	CPC	BOARDING	STUDENT HOUSING	GARDEN CITY	CENTRAL KITCHEN
BED ROOM	□	□	□	□	□	□	□	□	□	□
BATH ROOM	□	□	□	□	□	□	□	□	□	□
KITCHEN	□	□	□	□	□	□	□	□	□	□
STUDY	□	□	□	□	□	□	□	□	□	□
LOUNDRY	□	□	□	□	□	□	□	□	□	□
GARDEN/OUTDOOR	□	□	□	□	□	□	□	□	□	□
HALLWAY	□	□	□	□	□	□	□	□	□	□
STORAGE	□	□	□	□	□	□	□	□	□	□
GARAGE	□	□	□	□	□	□	□	□	□	□
ENTRANCE	□	□	□	□	□	□	□	□	□	□
EXTRA FUNCTIONS	□	□	□	□	□	□	□	□	□	□
FURNITURE	□	□	□	□	□	□	□	□	□	□
ACTIVITIES	□	□	□	□	□	□	□	□	□	□
STUFF (clothing etc)	□	□	□	□	□	□	□	□	□	□
Building process	□	□	□	□	□	□	□	□	□	□

SHARED    □ OPTIONAL    □ PRIVATE    □

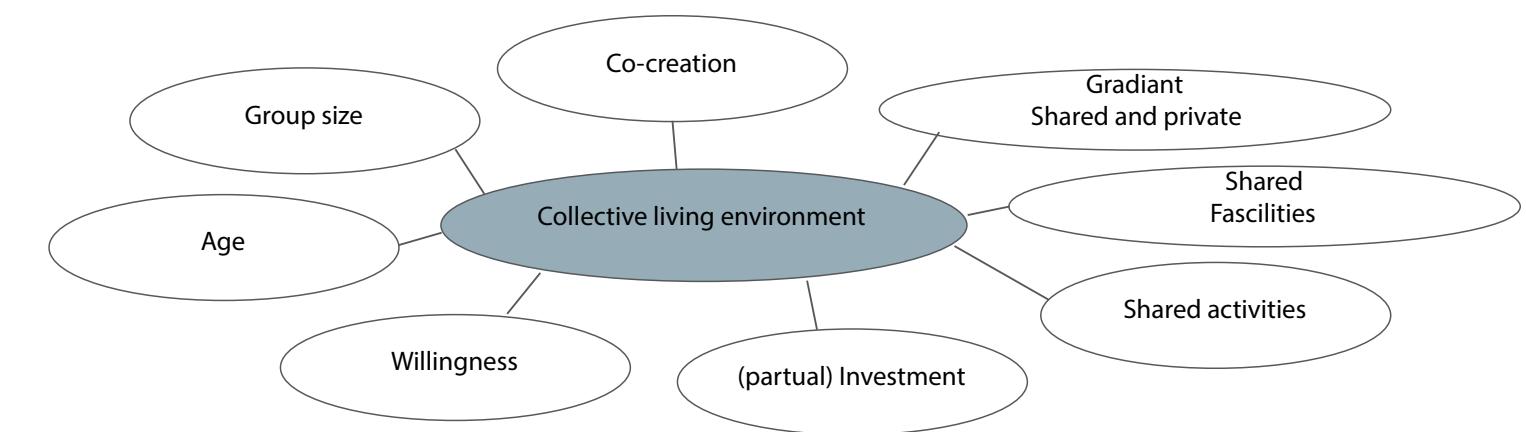
### SUMMARY

--The needed typology for the target group fits the most with the already typology of: Cluster apartments and tiny house movement.

-- Needed is more flexibility, towards choosing what to share.

### THOUGHTS

Micro apartments with a basic finish (private sanitary and bed), with space for personalization and development over years: (kitchen, storage, office etc.) and shared facilities



OTHER PARAMETERS	COLIVING		SHARED ECONOMY		CLUSTER APARTMENTS		COMMUNITY SETTLEMENT		TINY HOUSE MOVEMENT	
	AGE	GROUP SIZE	AGE	GROUP SIZE	AGE	GROUP SIZE	AGE	GROUP SIZE	AGE	GROUP SIZE
AGE	18+	ALL	MIX	MIX	MIX	18+	8-35	MIX	MIX	25+
GROUP SIZE	3-10	/	+/-100	+/-100	+/-100	+/-100	5-15	+/-20	+/-100	5-15

### GROUP SIZE

-- Standard multi-family buildings, aim for max 8 households sharing one entrance.  
-- Standard multi family housing, with sub clusters of 12 households.  
-- Co-housing exists out of clusters of 25 households. (Around 100 people)

### CO-CREATION

-- CPC (Collectief Particulier Ondernemerschap)  
-- Ownership of a place, be creative  
-- Vegetable gardening  
-- Communal activities

### SHARING

-- Shared mobility  
-- Shared responsibility (through investment system of a collective)  
-- Clothing swap & swapping items  
-- Central kitchen, shared cooking

### CONCLUSION OF PAGE

An collective living typology that is still lacking is one that is flexible. People gain that flexibility when being part of a community and having a vote on the shared spaces. While at the same time having complete control on their private spaces. By self-building the finishes for example. 3-10 households is the idea group size for sharing functions in a small community.

## 4.2.)a. WHERE TO FIND URBAN VOIDS

4.2)a. What are some Neglected Urban Open Spaces (NUOS) and how to recognize them?

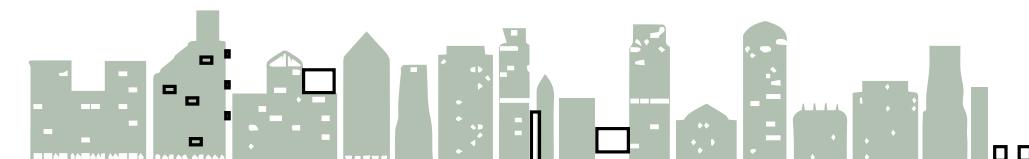
### WHAT IS A NUOS?

Industrial sites	Deteriorated waterfronts
Simular abandoned	
Leftover space:	Oversized streets
Like alleyways	Socially inefficient green space

### WHAT IF NUOS COULD ALSO BE NEGLECTED URBAN VOIDS (WHICH INCLUDES PROPERTY)?

Industrial sites	Deteriorated waterfronts
Simular abandoned	
Leftover space:	Oversized streets
Like alleyways	Socially inefficient green space
Bussiness premises	Neglected (unfinished) buildings
Shops	Harbors sites
	City outskirts

### EXAMPLES VOIDS



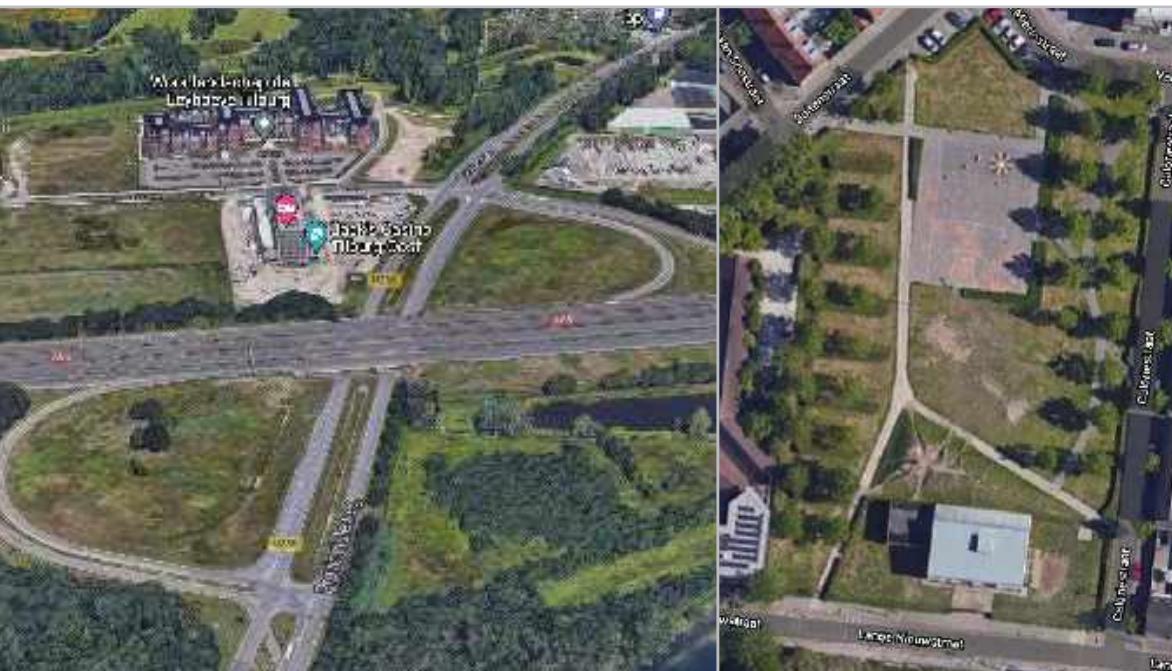
### EXAMPLES NUOS (NEGLECTED URBAN OPEN AREA'S)



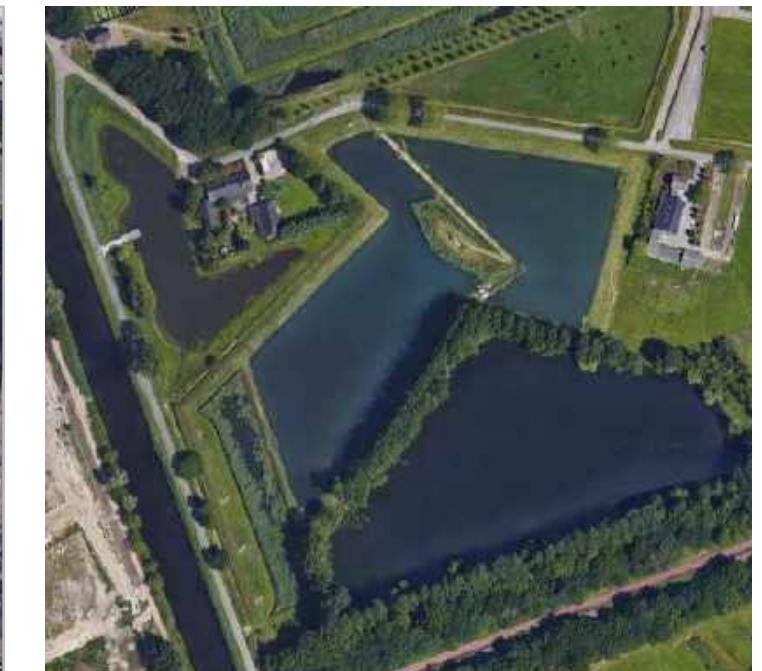
Rotterdam Expeditiestraeten, Photo by Hetwig van der Linden, Left over space



Simular to industrial sited, Abandoned prison Tilburg



Inefficient green spaces, Tilburg



Deteriorated waterfronts

## EXAMPLES URBAN VOIDS (NEGLECTED PROPERTY INCLUDED)



Shopping center Heuvel - Eindhoven



Bussiness premises, Hurkestraat 1a - Eindhoven



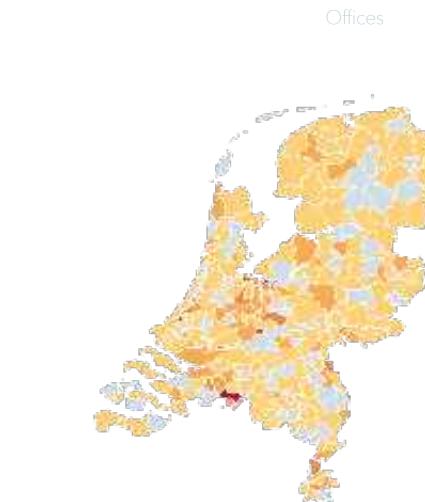
Neglected (unfinished) building - Vonderweg (Across Stadium) Eindhoven



Van Edenstraat, Eindhoven



Kanaaldijk, Eindhoven



**CONCLUSION OF PAGE**

Many different urban voids (places with lack of property) could be found. For this graduation project I'll focuss on vacant sites with an vacant building typology.

## VOIDS IN EINDHOVEN

SLIFFERT



VONDERWEG



HURKESTRAAT



CITY CENTER



HEUVEL



HET HOFKE



KANAALDIJK



## 4.2.)b. POTENTIAL OF URBAN VOIDS

4.2)b. What are some references of (re)developed NUOS and what is their potential?



PARASITIC APARTMENTS - STEPHANE MALKA ARCHITECTURE (Parasitic on existing functions)



PARASITIC PODS - IAAC GRADUATES (Creating small living typologies)



CASA PARASITO ON ROOFTOP - EL SINDICATO (Using roofspace)



LOW RISE HIGH DENSITY - AIA NEW YORK (Using the inbetween voids --> highrise could always be added on top)



NEW YORK AIR RIGHTS - BEOMKI LEE & CHANG KYU (Creating a vertical landscape)



NEW BABYLON - CONSTANT NIEUWENHUYSEN (Vertical network through plateau's)

### CONCLUSION OF PAGE

On this page are some example project of how to use the urban voids. Some good design principles could be found within those references like:

- Parasitic architecture, using existing functions and buildings.
- Use of small living typologies in high density.
- Using 'unused space'like roofspaces.
- Using alleyways and roofs to build inbetween and on top.
- High density low rise building.
- and;
- Creating a vertical network.

#### 4.3.) FINANCIAL INVESTMENT

#### 4.3) What to invest near the center of Eindhoven?

		65 m²	45 m² Adem					
		15%	5%					
Total		74,75 m²	56,95 m² Adem					
Stel gebouw	7000 m²	54 pers.	124 pers.					
Gecombineerd	913 m²							
Ophengingen	15.000 per m²							
	130.434.783,-	1325.000 pp	1245.000 pp					
Stel	woning	29 m²	52%					
	Platte zadde woning	18 m²	23%					
	gecombineerde woning	7 m²	13%					
	Gecombineerd	7 m²	13%					
		36 m²						
Stel		7000 m²						
Stel	woning en gecombineerde	m²	60	60	60	60	60	
	Woonruimte	m²	50	45	30	35	20	15
	Gemeenrookoppervlak	m²	70	12	15	30	25	30
	Kosten per m²	3000,-	250.000,-	225.000,-	750.000,-	125.000,-	700.000,-	15.000,-
	Gebouw m²	7000						
	Gemeenrookoppervlak	m²	1167	1400	1250	2300	2917	3500
	Bouw Kosten	m²	5833	5600	5250	4667	4083	3500
	Woonruimte	m²	117	124	175	181	204	135
	Betonvloer	m²	233	245	250	373	406	457
	m³	117	124	175	187	204	133	
	Ophengingen		29.166.667,-	26.000.000,-	26.250.000,-	23.333.333,-	30.416.667,-	17.500.000,-
	Woningen Bouwkosten	per m²	2.000,00	1.900,00	1.600,00	1.400,00	1.200,00	1.000,00
	Woningen projectkosten		11.666.667,-	10.000.000,-	8.400.000,-	6.500.000,-	4.500.000,-	3.500.000,-
	Gemeenrookoppervlak kosten per m²		1.000,-	550,-	300,-	550,-	800,-	750,-
	Gemeenrookoppervlak bouwkosten		1.166.667,-	1.330.000,-	1.575.000,-	1.333.333,-	2.333.333,-	2.625.000,-
	Verschil du B714; grond; areaal		10.333.333,-	18.590.000,-	18.375.000,-	14.816.667,-	13.169.333,-	11.375.000,-

Real estate price Eindhoven center 4.700,- p.m<sup>2</sup> for a fully finished housing typology with (shared) plot.

When providing only the casco the price becomes cheaper.

## **CONCLUSION OF PAGE**

Optimizing and densifying by sharing functions and spaces and using less private space the m<sup>2</sup> carried per person becomes less, so does the total cost. When going through a CPO traject and then self-building the finish could also save costs. A small unit of 13m<sup>2</sup> becomes when fully finished with a lux finish around 70.000. This could be financially carried by a single starter on the housing market.

## CONCLUSION OF PAGE

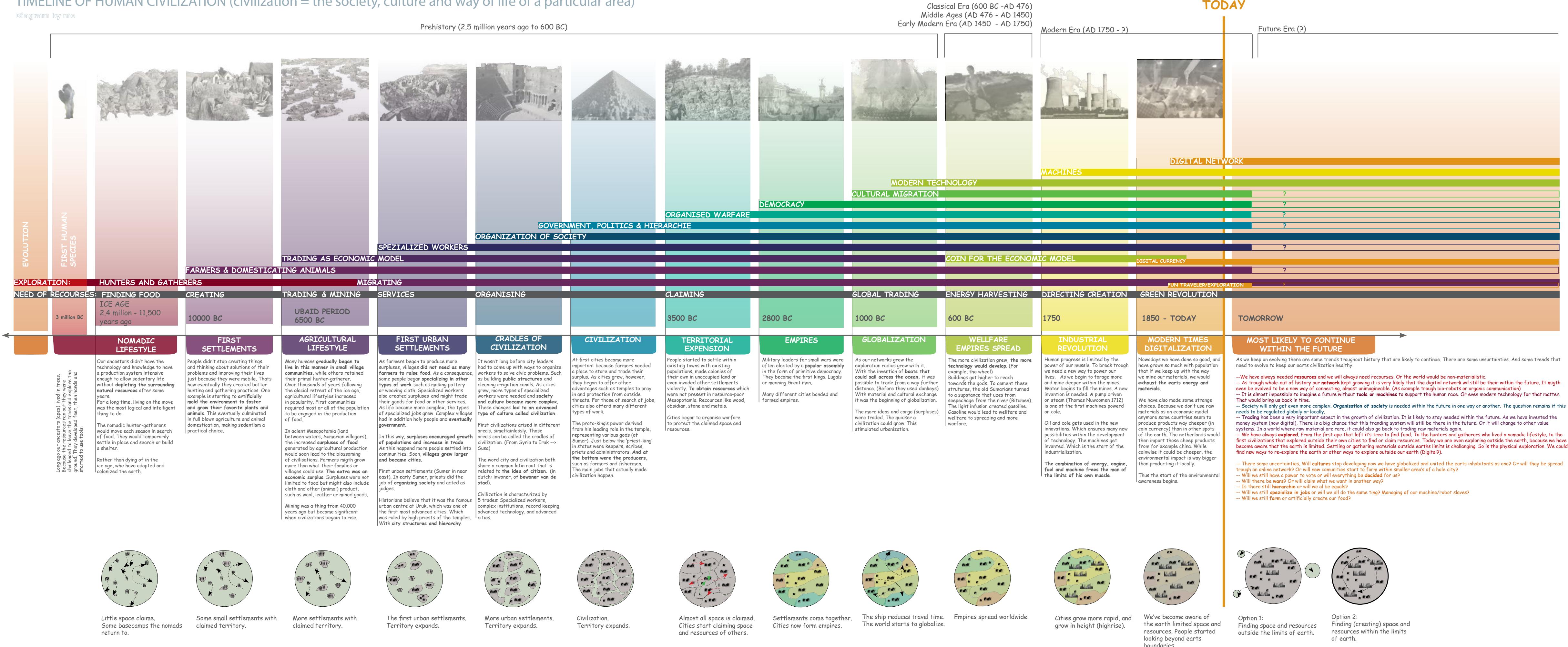
After doing this historic research I found that most of the choices of people and existence of social challenges have a logical origin. Many important themes have a clear origin and are still in existence of if today. There are 2 scenario's that could happen: Using space and materials exclusively from within our earth's boundaries, or searching for places on other planets. This project focusses on densifying our earth's space.

# 4.4.)a. HUMAN CIVILIZATION

## 4.4)a. How did the human civilization evolve? And what are the key themes?

### TIMELINE OF HUMAN CIVILIZATION (civilization = the society, culture and way of life of a particular area)

Diagram by me

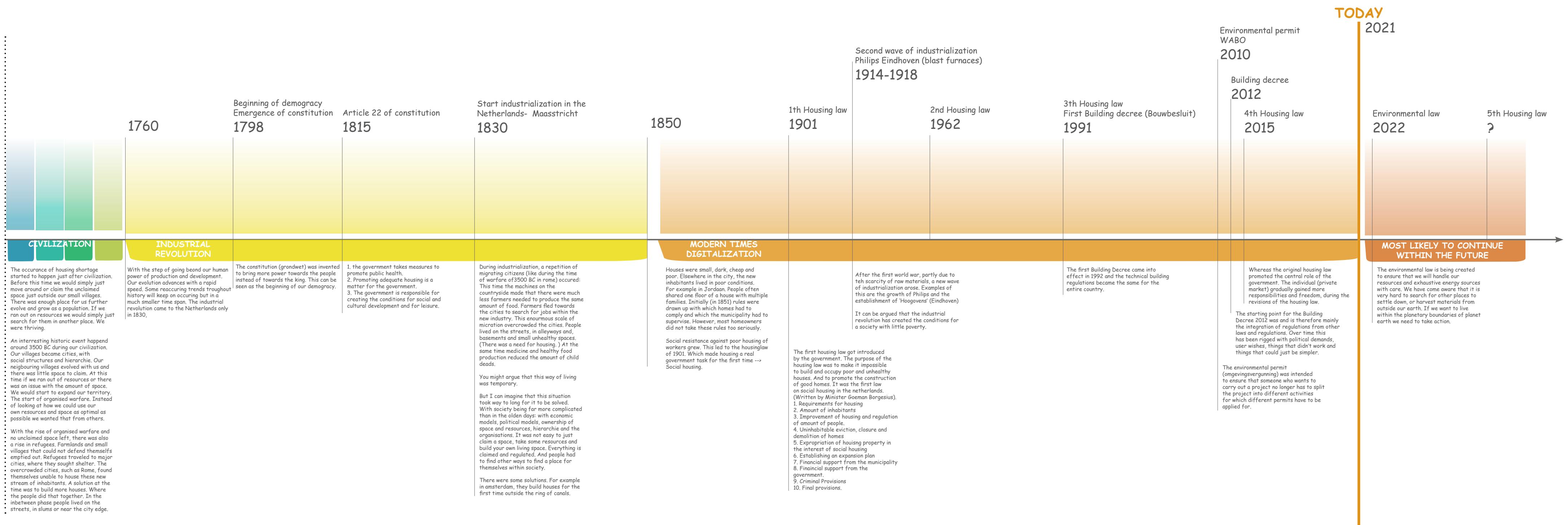


## CONCLUSION OF PAGE

Like the history of our civilization, the housing laws also have a clear origin. The housing law and building regulations came into existence to 'help', 'support' and 'protect' people from hierarchy, being taken advantage off, bad living conditions and our own demise of destroying our environment. But nowadays all those regulations could also work against us. When we look for more freedom to shape our own living environment for example.

## 4.4.)b. HOUSING REGULATIONS

### 4.4)b. How did the housing regulations evolve? And why?



## CONCLUSION OF PAGE

The typologies of housing have developed throughout the years. We used to mainly outside and use basic structures that provided a roof over our heads, to protect us from the weather conditions. Nowaydays we build structures that we reside in most of the day. Those structures have a complete artificial environment.

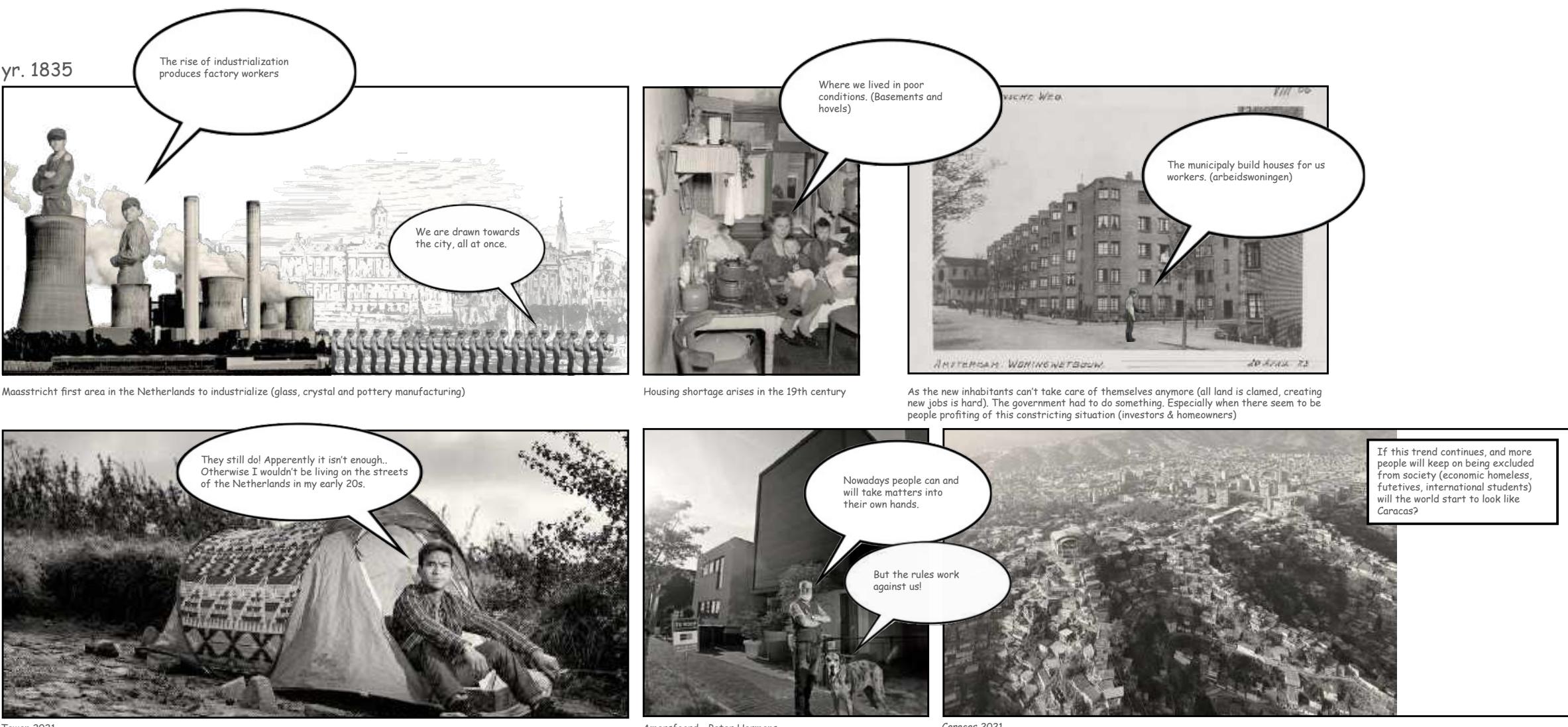
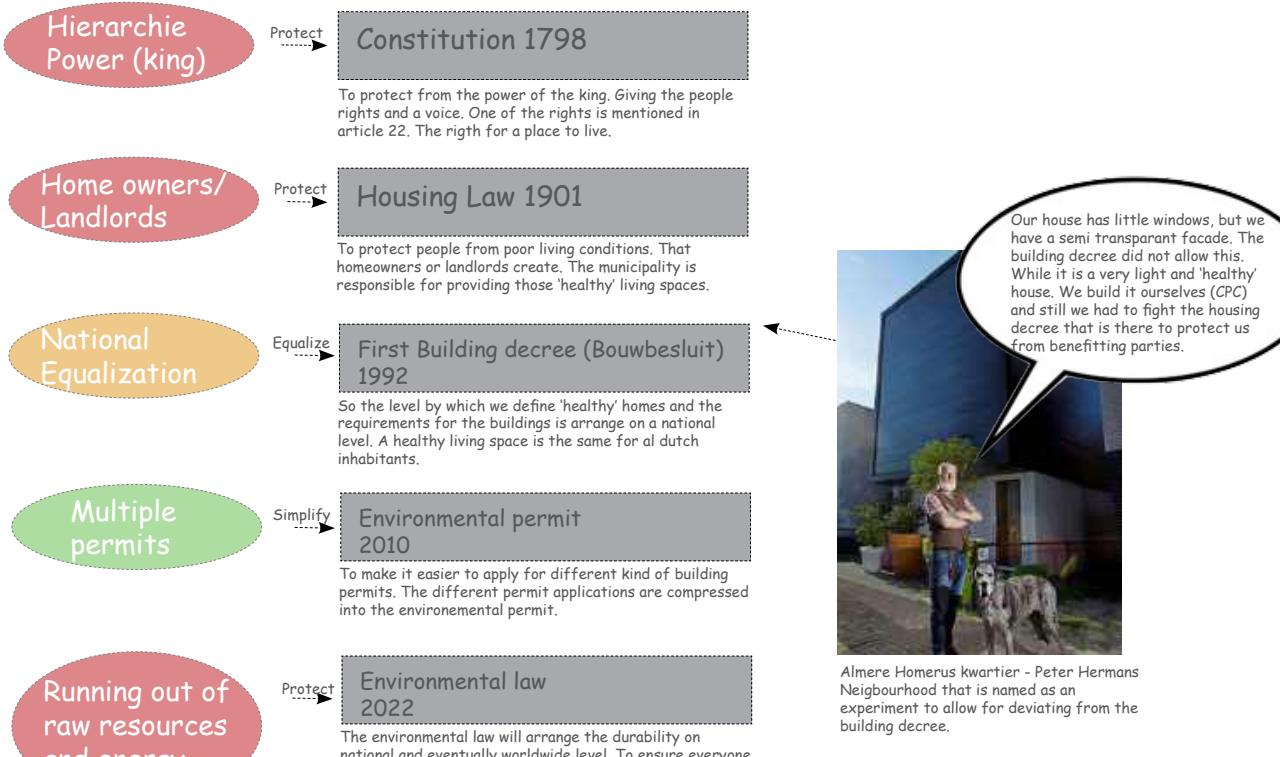
## 4.4.)c. HOUSING TYPOLOGIES

4.4)c. What are some housing typologies? And how are they evolved?

### TIMELINE OF HOUSING



### POLITICAL ASPECT

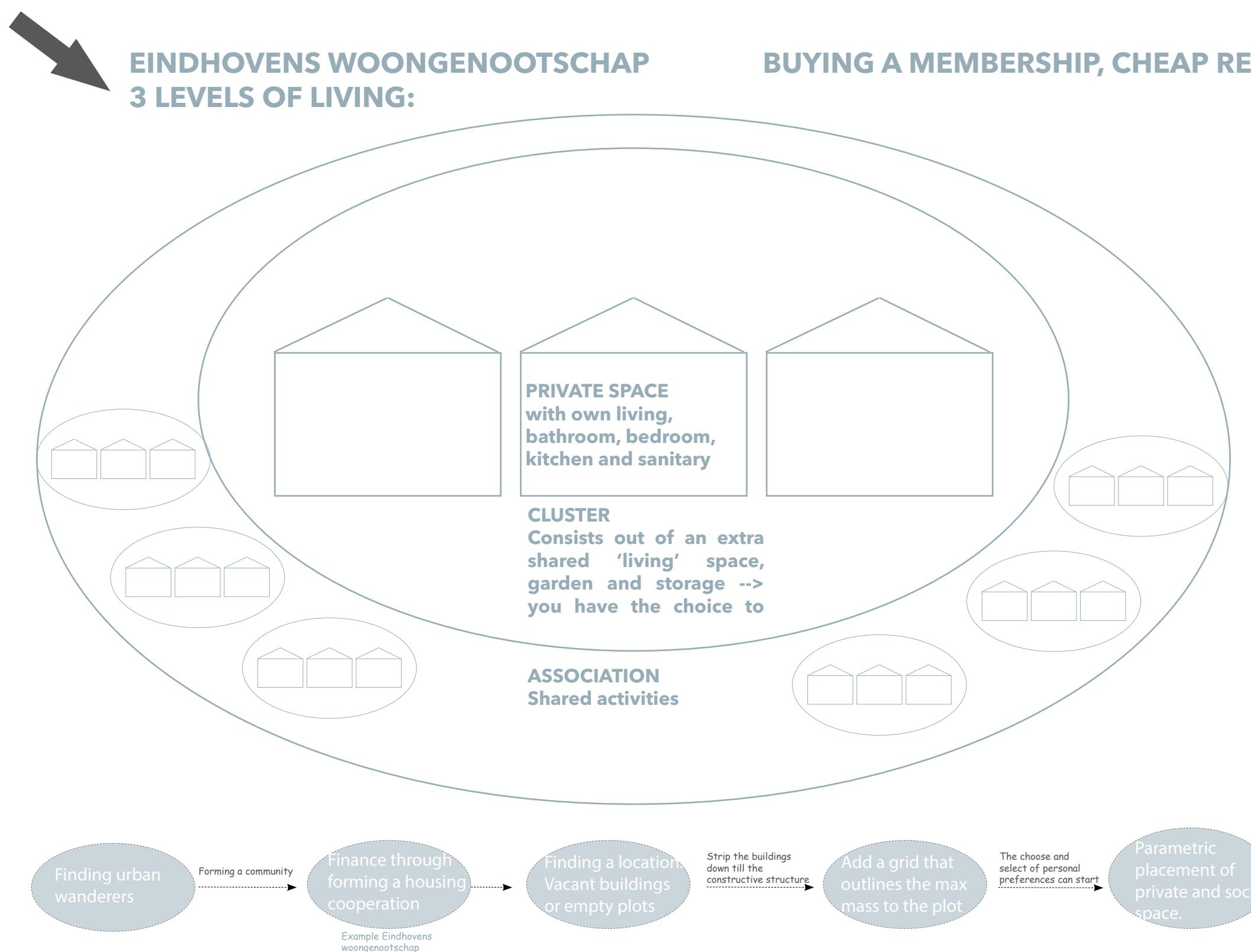


## CONCLUSION OF PAGE

Eindhovens woongenootschap is a very nice example of an CPO traject for which multiple families were involved. The clustering is housing units is also a nice example.

### 4.5.)a CPO-DEVELOPMENT

4.5)a Are there any examples of diy development (CPO)?



## HOW IT WORKS:

## NOTE TO SELF

Leave the middle man (investor, developer) out.

Cooperation consists out of members

Property owned by the members (part of the investment)

Buy a membership (share) and rent according to the development price

Rental prices, based on development costs (30% below market prices)

Flexible: Moving to a bigger or smaller apartment possible when designing micro apartments?

Cooperation of members --> Members influence the (designing) choices

HEW arranges building area's, talks with the municipality, developer and cooperation members.

+2 or 3 typologies

## 4.5.)b DIY BUILDING CONCEPTS

4.5)b. What are some architectural (building) concepts that stimulate 'doing it yourself' (diy) in the form of co-creation?

There are already some existing concepts of do it yourself buildings. Some of those concepts might open up possibilities for the singe starters to do things them selves. To save cost and generate more value over time.

### SHELL HOMES / CASCO BUILDING

For buyers who don't want to deal with issues such as putting in a foundation or framing. Hiring a contractor to put up a shell can speed up the building progress while leaving an opportunity to do some work yourself.

FABRICations, superlofts programme, offers a framework for residents to work with a blanc canvas. Flexible interior:



### HOME KITS

A home delivered to your door, ready for assembly. Like an ikea building kit.



### WIKI HOUSE

It is like a combination between a building kit and a shell home. You build the shell from the wiki house kit. You can even cut the structure from a 18mm multiplex panel, using a milling machine.



### TINY HOUSE MOVEMENT

This principle is all about minimalism, living outside/in a natural environment and within a community. Tiny houses are mostly selfsustaining, durable and could be easily self build.



### CONTAINER HOMES

This principle is like shell homes. Only you are using a shipping container as a base.



### Literature (co) creation building techniques:

#### HOW TO SELF BUILD

<https://www.homebuilding.co.uk/advice/self-build>

#### SHELL HOMES/ CASCO BUILDINGS:

<https://www.designboom.com/architecture/fabrications-casco-loft-interior-design-amsterdam-the-netherlands-03-22-2019/>

#### HOME KITS:

<https://www.bobvila.com/slideshow/14-kit-homes-you-can-buy-and-build-yourself-44417>

#### WIKI HOUSE

<https://ahad.nu/wiki-house.html>

#### CONTAINER HOMES

<https://www.sulexinternational.com/how-long-container-homes-last/>

#### TINY HOUSE MOVEMENT ( MINITOPIA )

<https://mathoplywood.com/what-is-the-tiny-house-movement/>

#### TIMBER FRAME

<https://www.metsawood.com/global/news-media/references/Pages/SI-modular-wood-construction-system.aspx>

#### PREFAB MODULAR UNITS

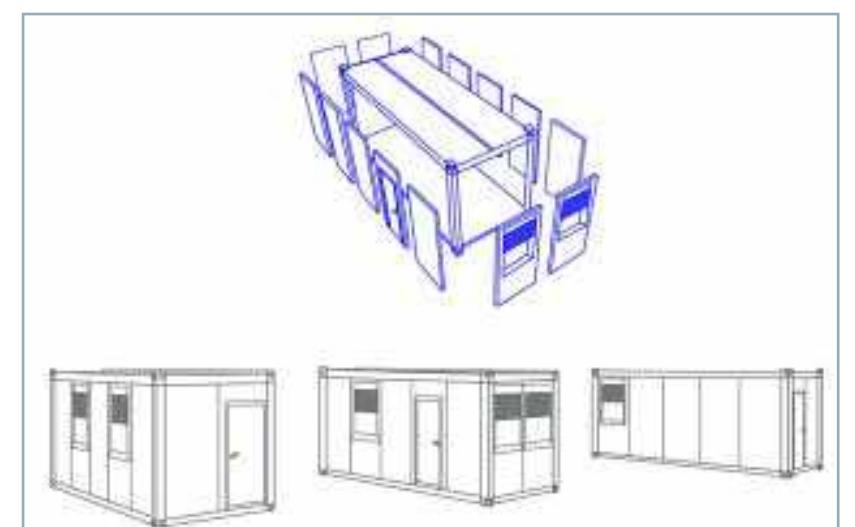
<https://prefab-building-solutions.com/modular-units/>

#### MODULAR INTERIOR

<https://www.dezeen.com/2018/01/07/shanghai-house-rigi-design-kai-liu-adaptable-modular-furniture-white-house-shaped-design-steel-staircase-plants-china/>

### PREFAB MODULAR UNITS

This is another example of a shell home. It is similar to using a shipping container only in this case you could buy a standardized unit which you can add on interior and exterior later on. Room- or building size. Quick erection & easy assembly. Flat pack buildings using semi-skilled workers without use of heavy machinery.



### MODULAR INTERIOR UNITS

As an addition to the modular structure, a modular interior or loose sanitary and kitchen units can ensure flexibility and personalization.



## 4.5.)c. SELF ORGANISATION

4.5)c. What are some examples of self organisation?

THE DAVID TOWER - CARACAS VENEZUELA



- + Unfinished building claimed by individuals.
- + Creation of micro society

KOWLOON / WALLED CITY - HONGKONG



- + Area without any rules
- + Micro society
- + Freedom in creativity
- Illegal / criminals / less safety

### CONCLUSION OF PAGE

Most of those self organisation references are chaotic. On the next page are some examples of more organised self organisation principles.

'T LANDJE (FOR URBAN NOMADS) - AMSTERDAM, DORTMUIDEN IN WESTPOORT



- Illegal claiming of wasteland
- Cleared by police
- + Place for people that are excluded from society

VRIJSTAD CHRISTIANA - KOPENHAGEN



- + Creative place for people to follow their own rules
- Drugs/Illegal practices

DE CAAI - CAMPINA TERREIN EINDHOVEN



CONSTANT NIEUWENHUYSEN - NEW BABYLON



MARC KOEHLER - SUPERLOFTS



## CONCLUSION OF PAGE

Especially the Superloft principle is a nice example of using self organisation while still creating an organised building structure. The casco is designed by the architect and the finish is executed by the user of the space.

FESTIVAL OEROL - TERSCHELLING



# 4 TALKS

## LIST OF EXPERTS:

Community manager:  
Marjolein Smeele -- Space and matter

CPO & collectief wonen:  
Mariko Kira

Stedelijk groen en BREEAM:  
Maarten grasveld – grasveld architecten □ urban jungle project

Landscape and environment management  
Mathijs Slappendel - afstudeerde

CLT:  
Gael Minet – CLT-s  
Mart Hulsen – CLT graduation project

Hout:  
Johan Verhoeven - Veteka

Financieel vastgoedmodel:  
Jos Donkers

Woningcorporatie:  
Frank Metsemakers

Project ontwikkelaar met oog voor duurzaamheid:  
Maurits van Hoogeveest – building the New

Brainstorm over concept voor nieuwe manier van wonen  
Jacob Voorthuis – Filosoof

## MORIKO KIRA - COLLECTIVE LIVING & CPO

Collectief wonen en CPC  
Interview Moriko Kira

CPC & Collectief wonen  
Moriko Kira interview  
Ik pitch kort het afstudeer project...  
1. Ik ben benieuwd naar de eerste indruk van het project. Heb je algemeen tips of dingen waar ik op kan letten gefocust op collectief wonen en CPO?

Interview vragen:

CPC en collectief (wonen) in verschillende culturen  
2. Als ik het goed begrijp ben je opgegroeid in Japan. Ik ben benieuwd of je grote verschillen ervaart tussen de Japanse en Nederlandse cultuur? Vooral op het gebied van collectiviteit/individualiteit.  
a. Wat zijn volgens jou de grootste verschillen in collectief wonen (de bereidwilligheid)?  
b. Ik ben benieuwd of je ook veel verschil ervaart tussen Nederlandse of Japanse CPO projecten?  
c. Kunnen wij nog iets leren t.o.v. Japan?

3. Hoe kijk je tegen het spanningsveld van individualiteit en collectiviteit aan?

Project 'De Linie': 18 woningen in Groningen CPO

4. Vooral het project '18 woningen in Groningen' spreekt mij op het gebied van CPO enorm aan. Hoe heb je de ontwikkeling van dit CPO project aangepakt?

5. De toekomstige bewoner heeft in dit project nog enige indelingsmogelijkheden. Wat zijn deze vrijheden? Zijn er nog verrassende ontwikkelingen geweest en wat zijn die?

6. In mijn project ben ik naast het gebruik van CPO en collectief wonen op zoek naar een model om creativiteit terug te brengen in de stad (als een reactie op industrialisatie). Nu lijkt het mij best lastig om een balans te vinden tussen wat je als ontwerper aan de gebruiker overlaat. Heb je ideeën hoe ontwerp vrijheden geoptimaliseerd kunnen worden en tegelijkertijd nog gereguleerd zijn?

Collectief wonen

7. Hoe kijk je naar collectief wonen? Zou dit een woonvorm zijn waar je jezelf ziet wonen?

8. Wat is het meest interessante project waar je aan hebt mogen werken? (Vooral op het gebied van collectiviteit of collectief wonen)

a. Hoe heb je dit project aangepakt?  
b. Waren er uitdagingen op het gebied van collectiviteit en wat waren deze?

Algemeen

9. Zijn er wellicht connecties waar je mij mee zou kunnen verbinden? (Connecties die mij verder kunnen helpen op het gebied van CPO ontwikkeling, en/of omgaan met collectief wonen)

Alvast enorme dank voor uw tijd!

# JOS DONKERS - REAL ESTATE MODELS

Economische vastgoedmodellen:  
Interview Jos Donkers  
--Pitch research presentatie

1. De grootste uitdaging lijkt mij het vinden en claimen (kopen) van de vergeten plekken. Heb je ideeën over hoe financieel haalbaar is? Of waar ik op moet letten?

De bank doet nog moeilijk over het financieren van modellen buiten het traditioneel. Wanneer je koopt moet dat altijd via 1 persoonsvorm gaan (of een hoofdverantwoordelijke of een coöperatie als persoon bv). Wanneer dit niet het geval is kan de bank namelijk zeggen bij wanbetaling van 1 persoon: 'ik leg beslag op het hele pand'. En de overige kopers hebben daar natuurlijk niks mee te maken. Een coöperatie kan een oplossing zijn alleen kan je dan geen rente aftrekken (alleen de hoofdkoper). Tenzij iedereen een eigen kavel/perceel heeft en een eigen voordeur. Dan krijg je het minitopia principe. Iedereen zou dan zijn eigen privé ruimte zelf bij de bank kunnen financieren. Maar dan loop je weer tegen hetzelfde aan bij collectieve ruimtes. Die moeten nog steeds door 1 persoonsvorm gefinancierd worden of iedereen is verantwoordelijk. Bij de coöperatie moet je dan de BA vorm toepassen (beperkt aansprakelijk), dan zijn de personen die daar onder vallen niet per persoon aansprakelijk. Alleen is de hypothek verstrekkend dan wat lastiger.

In plaats van een coöperatie oprichten zou je ook nog kunnen denken aan bestaande wooncorporaties. Dit principe van het aanbieden van casco past goed onder het principe van wooncorporaties. Jos gelooft ook dat er genoeg mensen met geld zijn die graag rendement halen uit zo'n plan. Die stoppen het liever in stenen dan in een aandeel. Dan zou zo'n investeerder bijvoorbeeld de grond of de casco kunnen betalen. En dit via een goedkope huur kunnen verhuren aan creatieeling die het verder zelf ontwikkelen. En kunnen dan afspraken gemaakt worden over de investering zodat beide partijen er een rendement uit kunnen halen. Je moet dan wel op zoek naar een investeerder die een sociale gedachtegang heeft! Iemand die niet meer huur wil opeisen dan het wettelijke minimum. Dit moet dan ook juridisch goed vastgelegd worden dat wanneer de eigenaar wisselt de huur niet ineens omhoog kan. Het is dan wel gevaarlijk in de zin dat je investeert in de afbouw en wanneer de huurprijzen bijvoorbeeld mega snel stijgen, je het niet meer kan betalen en je de investering moeilijk aan een andere koper kan verkopen. Ook is de afbouw vaak al vrij persoonlijk.

Met collectieve woonwijken kom je bijna altijd bij een huur vorm uit! Dus casco huren en zelf verder ontwikkelen lijkt geen slechte oplossing! 1 Belegger en meerwaarde is voor de koper.

Het is heel interessant een vorm waar Jos aan moet denken is Trudo Slimmer kopen. Het principe van met korting kopen en dan een deel van de verkoop meerwaarde in eigen zak stoppen. Dan zou een belegger/investeerder bijvoorbeeld een casco kunnen financieren met collectieve ruimtes en dit voor een lage huur kunnen verhuren. Juridisch kan dan vast gelegd worden dat alles wat de koper ontwikkeld in meerwaarde van hem is. Dit is dan nog steeds een model gebaseerd op ontwikkeling en investeren in een tijdsbestek. Een nadeel kan dan wel zijn dat de investeerder een vinger in de pap wil hebben wat betreft ontwerp vrijheden.

Coöperatie is 1 persoon. Die zou ik zo kunnen oprichten. Stap 1: notaris (juridisch aansprakelijkheid, ontwerp vrijheden en rendement op investering goed vast leggen!). Stap 2: KvK. Stap 3: Eigenlijk bijna altijd huren of een aandeel kopen?

2. Heb je een idee over betaalbare plekken in de stad?

Industrieterreinen (Eindhoven de hurk langs de A2). Niet alleen steden maar ook dorpen.

Wat ook nog een betaalbare en functionele oplossing is, is het opsplitsen van te grote woningen van ouderen.

Je krijgt als je in urban voids wil bouwen natuurlijk te maken met buren. Als je in bestaande panden gaat bouwen is het al snel opgelost! (industrie). Dus eerder herbestemmen? SWS niet op het groen van de stad bouwen. Er is al weinig groen!

3. De doelgroep waar ik mij op dit moment op focus is economic homeless (mensen met een baan maar die geen woonruimte kunnen vinden door de druk op de huizen markt), en dan specifiek de single starter. Heb je enig idee hoe het met de financiering zit voor jongeren? Kan ik hiervoor een aanname doen van een standaard hypothek berekening?

Bij single ouderen speelt het ook mee! Maar in principe kunnen starters wanneer ze werken en voldoen aan bv de vraag van een vast contract gewoon een hypothek krijgen. Eigen geld bezitten starters nog niet of vrij weinig. Een basis van casco goedkoop huren en dat door de jaren heen verder ontwikkelen zou daarom niet zo gek zijn. Ander moet je eventueel kijken naar hoeveel een starter gemiddeld kan sparen wanneer die nog in het ouderlijke huis woont! Kijk ook eens naar online reken tools voor hypotheken. Je zou dan eventueel de studieschuld mee kunnen berekenen. Jos gaat mij connecten met iemand van de bank!

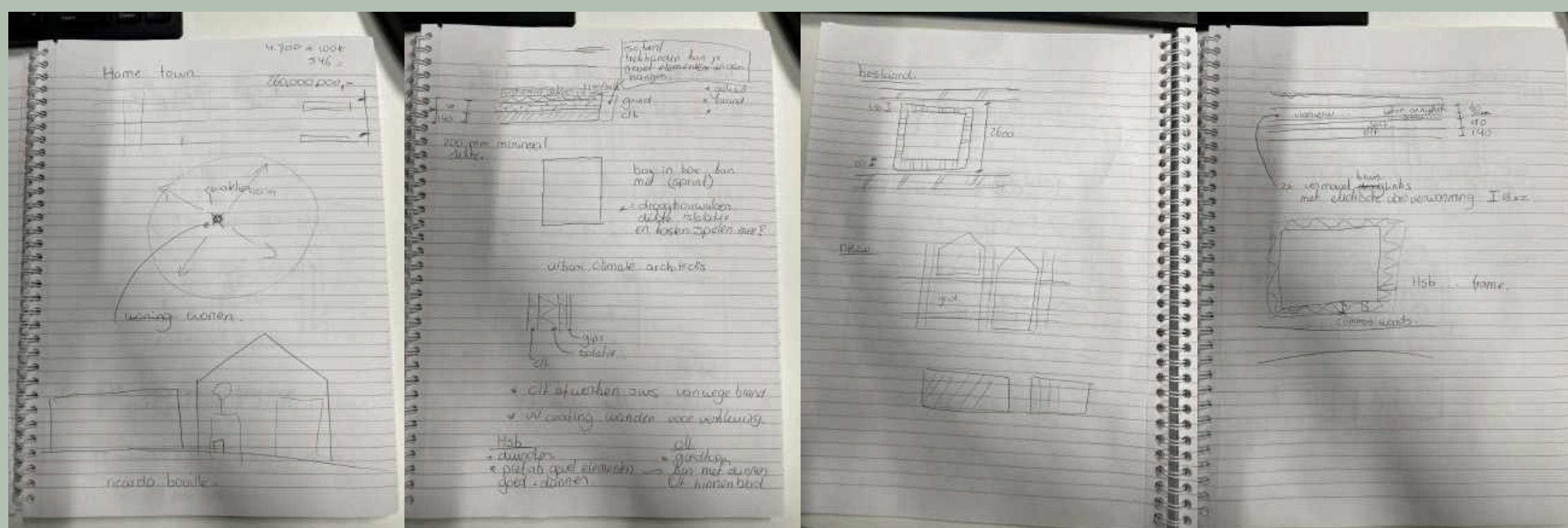
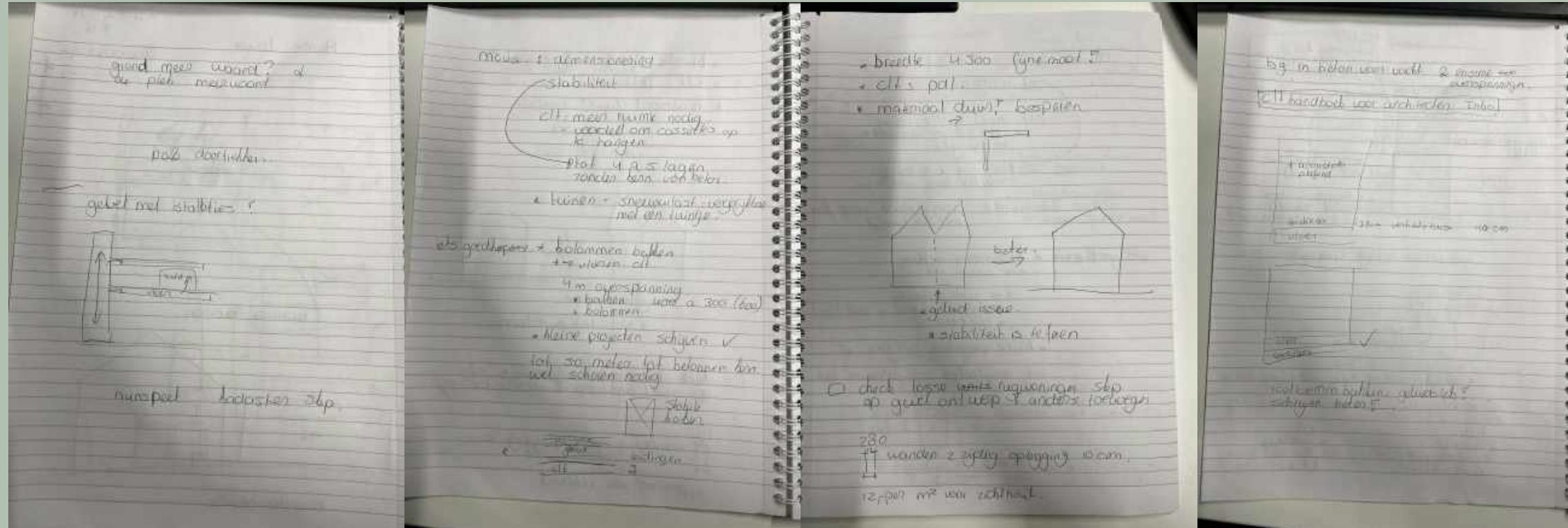
4. Ken je nog professionals die specifieke kennis hebben over dit onderwerp? Connecties bij de bank? Of eventueel referenties waar ik naar kan kijken?

Jos brengt mij in contact met 3 personen (iemand van de bank die wellicht weet of er al nagedacht wordt over nieuwe financieringen modellen. Iemand van Trudo 'Slimmer kopen' (Nicole Lavrijsen). En iemand die zijn eigen woning CPO heeft gebouwd (Martien Linnemann).

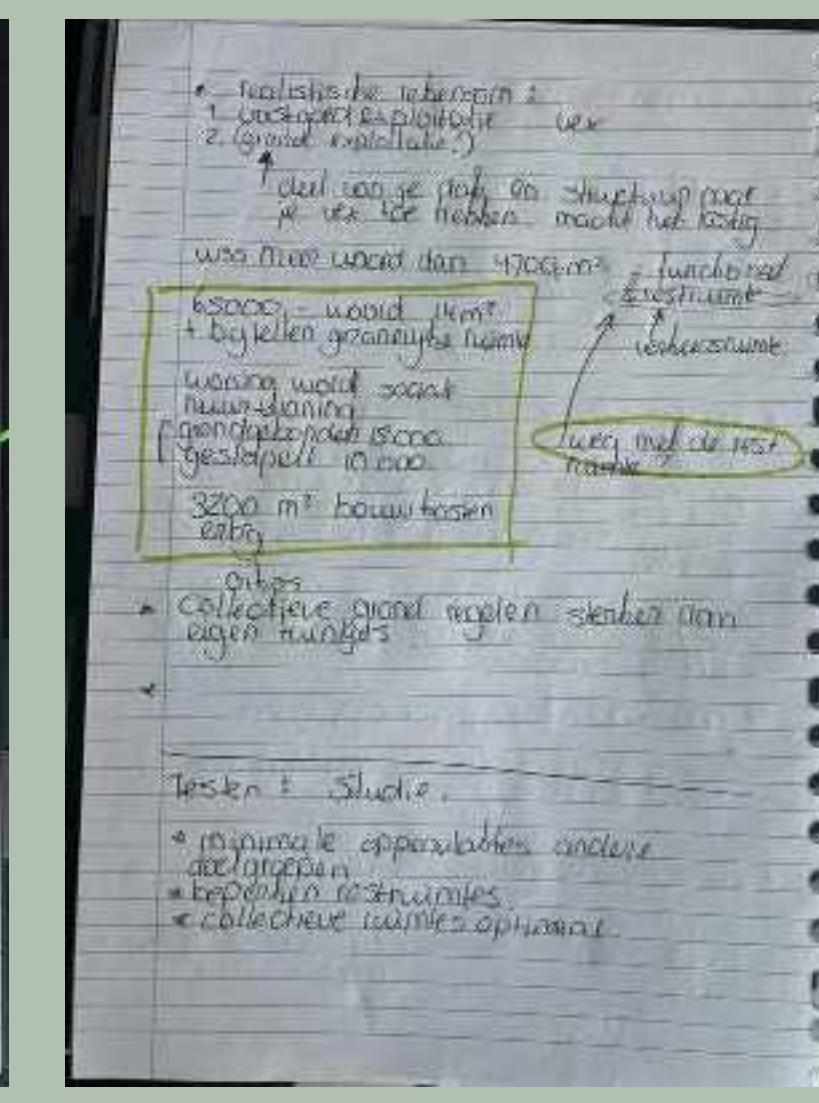
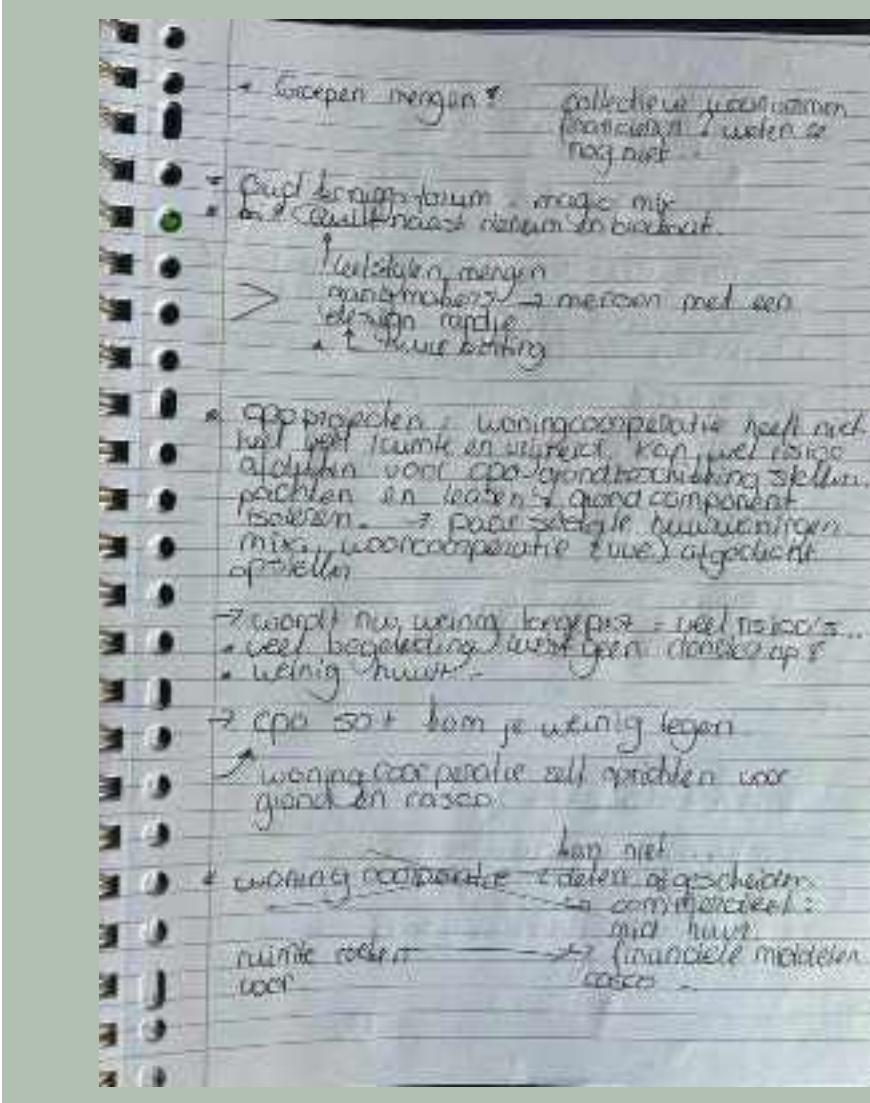
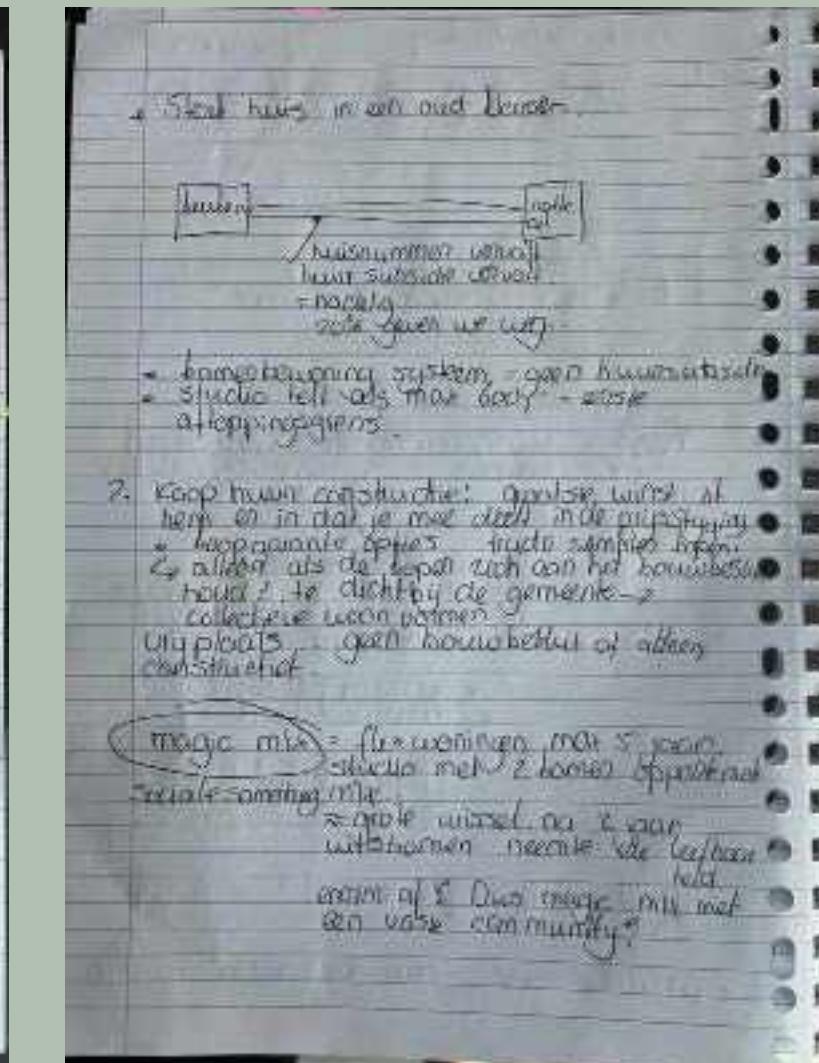
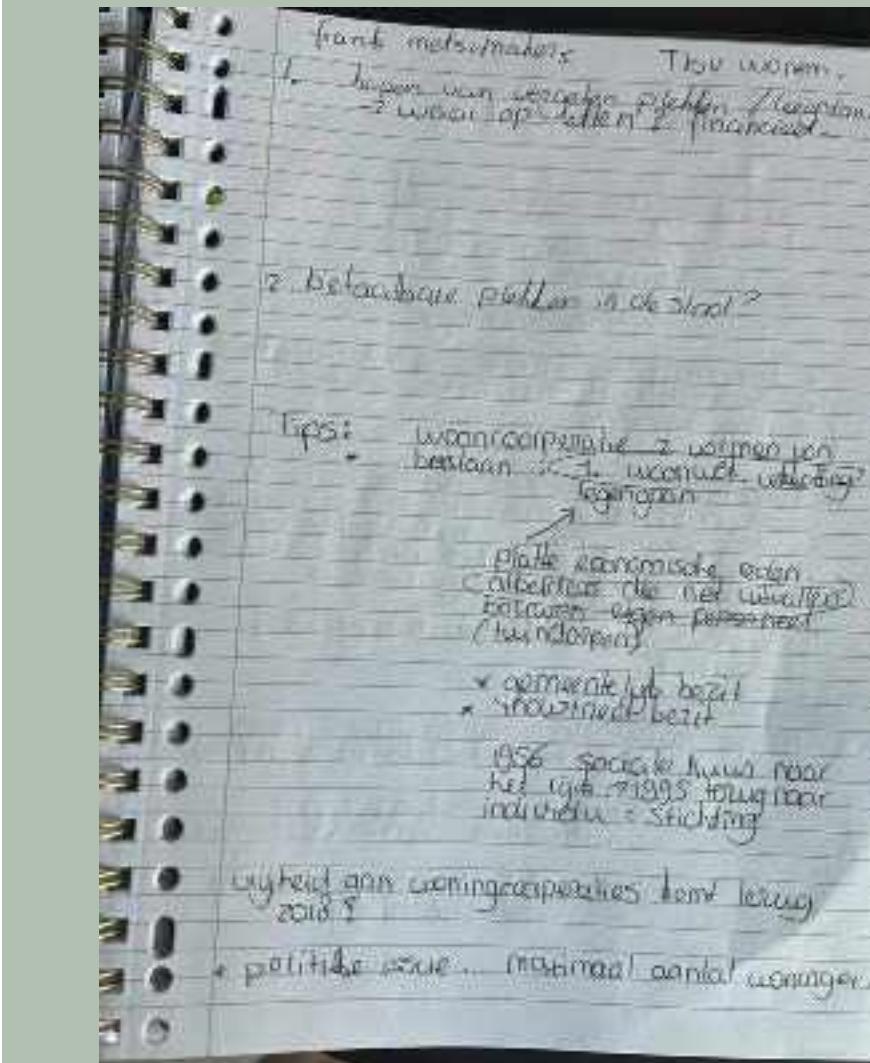
<https://www.vpro.nl/programmas/tegenlicht/kijk/afleveringen/2020-2021/wonen-buiten-de-box.html>  
Marnix Norder, Steen-vlinder Nieuwe financieringsvormen casco

Bob Goevaers, Industrieterreinen

GAEI - CLTS



# FRANK METSELMAKERS



# 5 WINTERSCHOOL



RENDERING | SANNE J. VAN HAASTEREN & MA+U



## CONCLUSION OF PAGE

Before winterschool I got stuck within the research and designing process a bit. During winterschool the fresh insights of the architecture and urbanist students help me to focuss and find my main story line again. Finding design principles of organising chaos was the main topic for winterschool. As I wanted to find a way of including the freedom of choice for the user of space in such a way that it doesn't become complete chaos.

Together with the architecture group we found that using an organising structure could be a nice way of providing optimal flexibility.

## Organized chaos - urban scale

### Problem

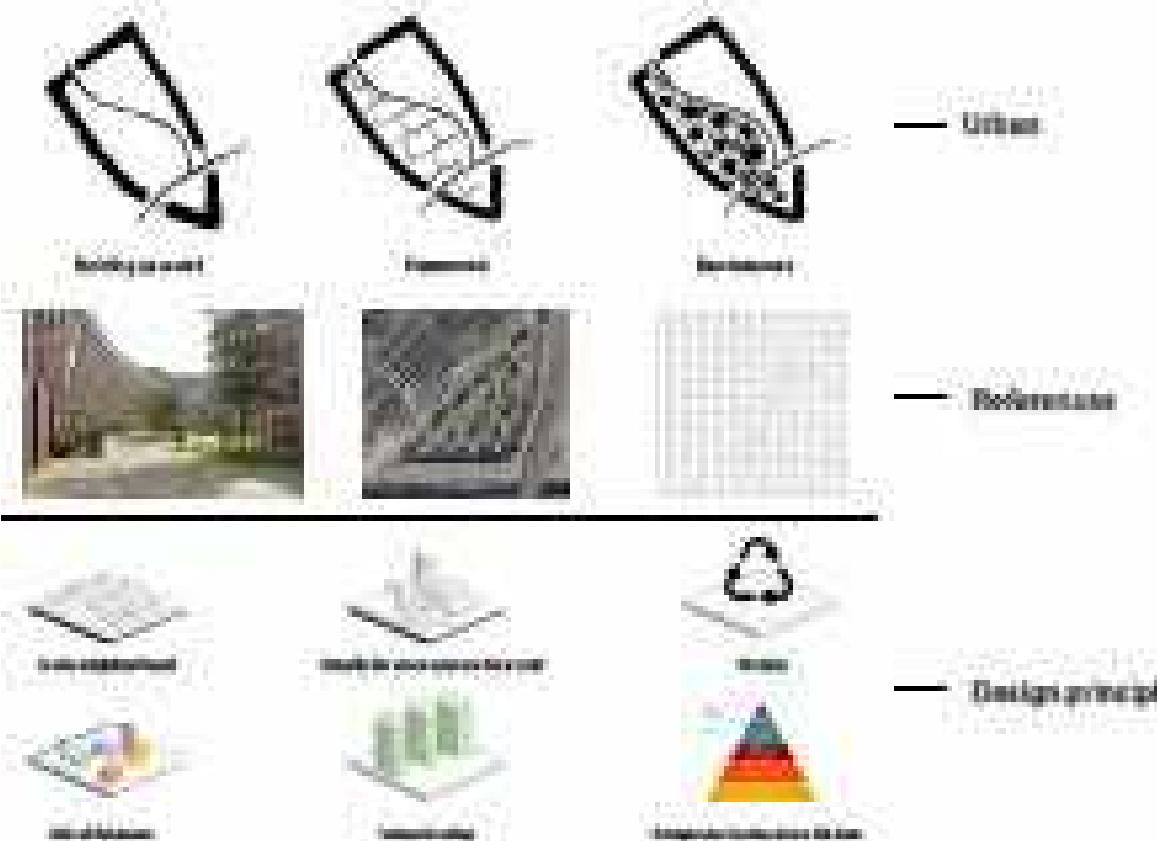


In this future, the market government will expand a lot more of land development. This will increase density and living needs. However, this increasing population would struggle in a less built environment, like this place in Scotland. There are almost no rules and anyone could build anything to add the available resources. This needs to be planned better. Rules are made in the environment to distinguish and organize the places.

### Location



### Concept



### The plan

To keep a simple order, it has got an inclusion of a multi-level of the area. This allows for developing on a road that provides a way to a place to live, work and social spaces. Residential buildings appear near these roads, so long as they stay within the grid, and it didn't build on the rural roads. There are not allowed any more buildings anywhere, so which results in the reduce building densities. Planning specific residential green spaces, buildings or infrastructure areas. Planning will be continuing on the roads and the public spaces. Mobility issues can, only the 30% traffic are per cent.

This way a simple form of organization will be organized.



### CONCLUSION OF PAGE

For the urbanist group I found that there were also other ways of organising chaos. Like providing the users of space with a plot plan in which they have complete freedom to develop their own living environment. And by instead of using a column beam principle, using an organising floor structure.

As I was also looking into a way of optimizing and densifying spaces I eventually followed up with the principle of using an organising grid structure as base.

# 6 ESSAY

## ESSAY ON ARCHITECTURAL DESIGN PRINCIPLES TO CREATE A MORE SOCIAL- AND ECONOMIC- INCLUSIVE LIVING ENVIRONMENT

### ABSTRACT

'Inbetween' is an architectural graduation project that addresses an alternative way of arranging our urban living environment to enhance the social- and economic- inclusivity.

With the current stress on the housing market, economic homelessness is on the rise. Those are people that are self-sustaining and have jobs but due to the lack of suitable living spaces have nowhere to go. Housing prices are skyrocketing and less living spaces are available for the less advantaged target groups, especially within the urban environment. Think of starters, singles, divorced people, lower income households, single parents and freelancers or even you or me.

In this essay the main question will be answered:

'What kind of architectural design principles could contribute to designing a more social- and economic- inclusive way of arranging our living environment?

The main question is divided in the topics:

1. Current approach of housing
2. Possible design principles to enhance the social inclusivity
3. Possible design principles to enhance the economic inclusivity

The methodologies used for this essay are: 'map analyzation', 'location visit', 'one on one interviews', 'literature studies' and 'design testing'.

There can be concluded that there are multiple possible design principles that enhance the social- and economic-inclusivity of the urban living environment. Most of those design principles could be used simultaneously. Which when combined, could result into a high density building, fragmented in smaller communities.

Body = 2300 words  
(+15% marge)

### CONTENT ESSAY

Introduction	P.00
Problem statement	P.00
Research question and sub questions	P.00
Methodology	P.00
Current approach of housing	P.00
Design aspects for social inclusivity	P.00
Design aspects for economic inclusivity	P.00
Discussion	P.00
Literature list	P.00

## INTRODUCTION

The past 3 years the stress on the housing market has rapidly increased. Housing prices are skyrocketing and new housing stocks are gone before you even knew they were there.

With the current stress on the housing market, economic homelessness is on the rise. More so than ever. These people are self-reliant, have work or follow a study. But due to the stress on the housing market have nowhere to go. Some people are more affected than others. Think of starters, singles, divorced people, lower income households, single parents and freelancers or even you or me.

When losing a place to stay, these people become couch surfers, hotel hoppers or urban wanderers. Even if they would want to live a free and flexible life, it is almost impossible. The tight housing regulations make sure of that. Some people convert a van into a home. But even then, you are technically homeless. Unless you are registered on another home address. How did we ever let it get this far? To take away the possibility for people: to be, to occupy, to use space as they desire. Especially when we claim that everyone has the right for a roof over their head (constitution art.9)

This current challenge of people losing their home and with it their main human right to occupy space, made me wonder: 'As the current ways of housing people seem to fall short, could there be a new alternative way of approaching the design of the urban living environment?

A new way that focusses on creating a social- economic inclusive living environment by giving back the freedom to the user of the space. While at the same time looking into ways of densifying the urban living environment.

This resulted in the main question for this essay:

'What kind of architectural design principles could contribute to designing a more social- and economic- inclusive way of arranging our living environment?

This essay is part of the architectural graduation project 'Inbetween' by Sanne van Haasteren. This essay is a side product that helps to substantiate the design choices for the final design. The essay will therefore merely focus on the possible designing principles for designing a more social- and economic- inclusive living environment.

This graduation project is a hypothetical project on an example location near the city centre of Eindhoven -> On the plot of the former vacant building: 'Het Karkas'.

The project could be used as an example on how to approach the design of an urban living environment in an alternative way, so that the living environment becomes more socially and economically- inclusive for the less advantaged target groups.

## PROBLEM STATEMENT

Since the past 3 years housing prices have been skyrocketing. There is a few factors behind it. The price of a house is tied to the supply and demand for housing. When fewer people are looking to buy a home, the prices will drop. During Covid-19, people are taking advantage of plummeting mortgage rates that make the cost of buying a home much cheaper. Which results in a worldwide booming demand for homes and thus booming prices. Another factor is the first time home owners. They contribute to the demand for homes, but have no home to sell. While at the same time, elderly people hold on to their homes much longer. Which results in a rising demand and a diminishing home stock. There is a shortage for homes on sale! "Homeownership is becoming something akin to an exclusive club that forces patrons to pay an enormous cover charge to enter, while tens of millions are left out in the cold." Demsas, J. (2021, 5 februari)

With the current stress on the housing market, it is almost impossible to find a place to live, especially for the less advantaged target groups. Think of starters, singles, divorced people, lower income households, single parents and freelancers or even you or me.

In theory, most of those people could apply for a social renting house from a housing corporation, as some of them have an income below 39.000 a year. But in practice, it is more difficult. In many places the waiting time have increased in recent years. The average waiting time is +/- 6 years. People that earn more than the income-limit or that are unable to get a social rental home due to the waiting times, have two options left: buying or renting on the private market. Both of those options are financially challenging as well. On the private market, landlords drive up the prices each time they get a new tenant. And buying a house means: needing a big bag of saved money. But first you'll have to fight off your fellow competitors. With this tight housing market, you are one of the many. (NOS, 2020)

This is not only the case in the Netherlands. There is a parallel rise in residential real-estate prices across the world. (Cherney, M & Kownsmann, P, 2021)

Besides the financial aspect and rising demand for housing, the social aspects play a big role as well. People tend to be very keen on 'ownership' and want to keep everything for themselves. This gives them the freedom of choice. They get to make decisions without taking others into account. People want to have a say in how they could live and how they use their space. It is mostly a mindset of the western world where we are raised in a very individualistic society.

Most people are open for shared living concepts when they get a say in what they could share and with whom. (interview, 2022) The shared living concepts and creating small communities is a rising typology, as people begin to understand that with sharing space; more social interactions immerge, cost could be reduced, and more people could be housed.

With this research I hope to suggest some possible design principles that generate a bigger supply of housing while at the same time keeping the home owners wishes (of ownership and choosing how to live) in account. Those architectural design principles could then contribute to an more inclusive urban living environment.

## RESEARCH QUESTION AND SUB QUESTIONS

The main research question for this essay is:

'What kind of architectural design principles could contribute to designing a more social- and economic- inclusive way of arranging our living environment?

The main question is divided in the sub questions:

1. What is the current approach of housing?
2. What are some architectural design principles that could enhance the social inclusivity of the urban living environment?
3. What are some architectural design principles that could enhance the economic inclusivity of the urban living environment?

## METHODOLOGY

The chosen research methodology is based on the Architectural Research Methods, second edition, by Linda N. Groat & David Wang.

- 1) This research methodology answers sub question 1.
- 2) This research methodology answers sub question 2.
- 3) This research methodology answers sub question 3.
  - 1,2,3) Historical Research -- Literature studies on the current approach of housing people
  - 1) Qualitative Research -- Case studies, focus groups, Ethnographic research & One on One interview; to understand the current situation and to find out what could be improved
  - 2,3) Experimental and Quasi-Experimental Research -- Sketching and brainstorming & design testing with models.
  - 1) Case Studies and Combined Strategies--Literature studies and references; to have an idea of possible improvements.

3D

## CURRENT APPROACH OF HOUSING

1. What is the current approach of housing?

'Housing development' is a wide-ranging, sprawling concept that can be studied at different levels, in different phases, and can be viewed from a multitude of perspectives. (Blake, R., & Golland, A. 2003)  
This chapter will mainly go into the currently most used approaches of developing housing within the Netherlands and what the most commonly developed housing typologies are.

- a.) The first example starts with a project developer. Developers have the motive to develop from a market 'demand' and 'supply' perspective. They try to distinguish themselves from their competition and are mainly focussed on making money on a project. They mostly develop most of the times standard housing typologies. The social need of housing is a lesser priority. Which brings us to the second example:
  - b.) Social housing through housing corporation. The difference with project developers and housing corporation is that corporations choose a differentiation strategy based on their inner and social drive. A very important aspect of housing corporations is that they focuses on developing affordable housing typologies like social renting houses. Those typologies are designed to the minimal necessities according to housing regulations. The corporations are most of the times closely linked with the municipality. (Rijksuniversiteit Groningen.2009)
  - c.) Then there is also the possibility to develop your own project by self-building. This principle gives a lot of flexibility and freedom as you are free to choose your own project location and design. This results in more unique housing typologies. They still have to meet the housing regulations. (unless the project locations is named an experiment location). Self-building isn't for everyone as it is most of the times more expensive than buying an 'standard house' or you have do a lot by yourself. Which asks for technical knowledge or being handy.
  - d.) Then there is also some hybrid examples. Like project developers that develop casco housing. Which leaves the buyer with doing the finish themselves. This gives them a more economic feasible perspective and still some flexibility to choose the interior layout. The inhabitant doesn't have to comply with all the housing law regulations as most of them are already met within the casco building (daylight, structure etc).
  - e.) CPO (Collectief particulier ondernemerschap) is another great example of a more and more common development typology. This principle is initiated by the people themselves. It is like self-building but then as a collective. People will find a community of people that are somewhat looking for the same living environment. They will then act as an project developer and take the matters in their own hands. This provides the people with freedom of choice and a more economic feasible plan than when you would built completely by yourself. Living spaces are personalized but must still comply with the housing regulations.
- Of course there are several examples more. For this essay we will keep it with the most common ones.

## DESIGN ASPECTS FOR SOCIAL INCLUSIVITY

2. What are some architectural design principles that could enhance the social inclusivity of the urban living environment?

Social inclusion is the process of improving the terms on which individuals and groups take part of society. Which means: improving the ability, opportunity, and dignity of those disadvantaged on the base of their identity, context and strategy. (Social Inclusion. (n.d.))

For this graduation project it means finding a way to include the less advantaged target groups within the alternative approach of arranging the living environment. The less advantaged target group are forgotten in the current housing strategy because of multiple factors, some are named below:

- a.) They have a slightly lower disposable income per person per household
- b.) There are not enough (fitting) housing typologies on the current housing market (as an example single typologies)
- c.) Most current housing typologies are designed for one household: Some family compositions are smaller, therefore the bathrooms, living rooms and kitchens aren't optimally used.

There are some logical ways of enlarging the social inclusivity, based on the factors named above.

1.) The first one is already cited in the previous chapter □ CPO development: By using this way of developing a project, the people are involved from the beginning onwards. Which means that housing is designed to be custom made for the user of the space. This way more 'fitting' housing typologies could be developed.

2.) Sharing facilities and spaces ensures that even one person households don't need to have a full bathroom, kitchen or living room by themselves. This is both cost effective as it provides the single households with more social interaction. It also makes it possible to look into less usual spaces that enhance the social- interactions and social- activities like for example a music-, sport- or gaming- room.

3.) This is maybe the most important aspect for enlarging the social inclusivity: by finding your community before you even start the CPO trajectory, before you start sharing spaces with other people, you should get to know them in order to be more forgiving and emotionally open towards each other. When people 'find' a group they choose to be a part of (for example people with similar values or interests), those people more easily become your friends or family. (Housing Action Lab. (2018).)

## DESIGN ASPECTS FOR ECONOMIC INCLUSIVITY

3. What are some architectural design principles that could enhance the economic inclusivity of the urban living environment?

Economic inclusion means that all 'costumers' have access to save, affordable financial products and services. Ownership of a transaction account is a first step towards economic inclusion. (What is Economic Inclusion? (n.d.))

In the case of the graduation project it means that all people have the right to buy or rent affordable housing.

For this case the focus lays on the economically less fortunate target group:

- Singles, that have to carry the finance all by themselves;
- Single parents; that have to carry the finance all by themselves for more than one person;
- Freelancers, that have a hard time getting a mortgage;
- Elderly, that are retired and therefor have a less spendable income;
- Families with an overall lower income or less steady income (freelancers/own company);
- Starters, that have little savings and no former home to sell.

There are some ways of enlarging the economic inclusivity, of the target groups named above:

1.) Densifying living spaces: Generating more housing units on a smaller plot size will result over time in less demand and more supply and therefore lower housing prices.

2.) Sharing spaces: Sharing spaces means also sharing the cost over those spaces. When for example sharing a bathroom with 2 people, the cost will be reduced by 50%.

3.) By optimizing living spaces (giving multiple uses to a space or making it smaller) the overall floorplan size could be reduced. And thus the overall housing cost.

4.) Focussing on creating more flexible housing typologies. By for example creating a casco grid and providing flexible finishes, the space could be adapted over time according to the users (financial and special) needs. This also means using flexible building principles like computer flooring, light division walls or lowered ceilings.

5.) By self-building (if only for the interior finish) the user of the space could take matters in their own hands, which reduces cost. They could place a light interior wall themselves for example or they could search for their own contractor (or handy family friend).

6.) Using more affordable materials

## DISCUSSION

'What kind of architectural design principles could contribute to designing a more social- and economic- inclusive way of arranging our living environment?

Possible social inclusive architectural design principles:

- 1.) CPO development
- 2.) Sharing facilities and spaces
- 3.) Being part of a community

Possible economic inclusive architectural design principles:

- 1.) Densifying
- 2.) Sharing spaces
- 3.) Optimizing
- 4.) Flexible housing (adaption overtime)
- 5.) Self-building
- 6.) Affordable materials

The above named design principles are just a few examples of what is possible. They serve as a base for making choices in the final graduation design. The design testing of the possible design choices can be found within the dummy, which is added as an attachment to this essay.

It is possible that there are more design principles than named above. They are not included within this essay and dummy. They could be added within a follow up research.

In the final design multiple design principles are combined: community, CPO, self-building, sharing, densifying and optimizing and flexible building techniques. Combining the different designing techniques resulted in a high density building, fragmented in smaller communities. The final design could be summarized as a neighbourhood compressed into a middle high building block with variable housing typologies, which are fragmented in small communities with each their own identity.

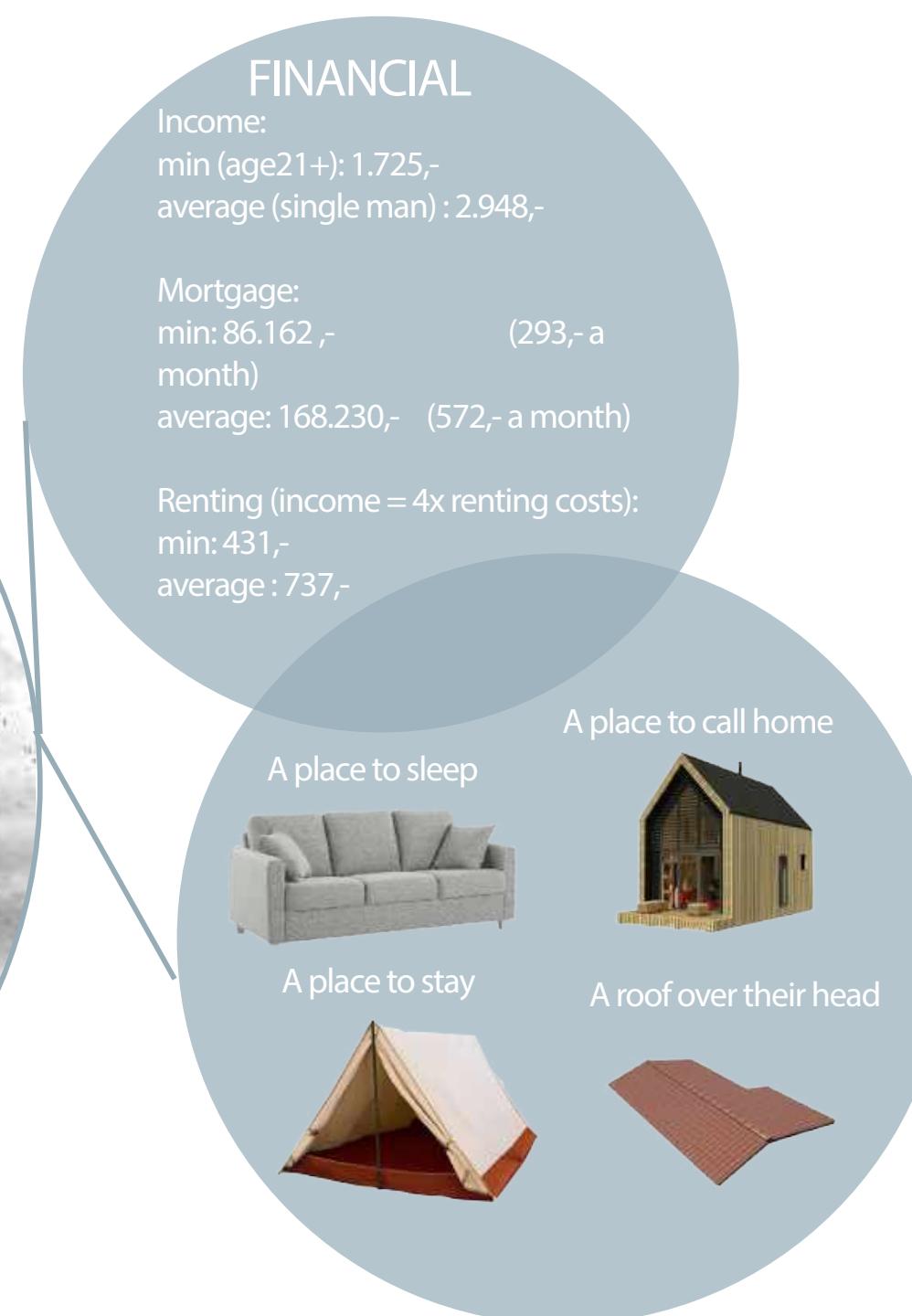
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# 7 DESIGN ASPECTS

## PROFILE OF THE URBAN WANDERER

Economic homeless because of lack of living space  
Age: 18+ (Focus on post graduates up 21+)



## REQUEST OF THE URBAN WANDERER

-Social meeting spaces  
-Collective living (similar age group): sharing spaces with small private areas  
-Choice of what to share and what to have private  
-Freedom/Flexibility, self organisation & self building  
-Enjoying the urban environment:



## MAGIC MIX OF DIVERSE TARGET GROUPS

For creating a balanced living environment it is important to use the principle of 'magic mix' according to Frank Metsemakers a project developer. The magic mix means combining different target groups with different ages, interests and financial status. Below are the target groups that are eventually included within the New Karkas plan. Those target groups provide for a magic mix while at the same time all being sufferers of the tight housing market (the urban wanderers).

### THE WANDERERS



**Single starter**  
Min income: 1.725,-  
Min mortgage: 86.162,-  
Area tiny house: 13-30m<sup>2</sup>



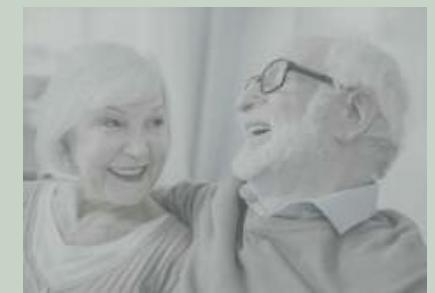
**Couple starters**  
Min income: 3.450,-  
Min mortgage: 172.324,-  
Area tiny house: 26m<sup>2</sup>+



**Single parent**  
Min income: 1.725,-/4.000,-  
Min mortgage: 86.000,-/200.000,-  
Area tiny house: 60m<sup>2</sup>+



**Single adult**  
Min income: 1.725,-/4.000,-  
Min mortgage: 86.000,-/200.000,-  
Area tiny house: 50m<sup>2</sup>+



**Couple elderly**  
Min income: 3.450,-  
Min mortgage: 172.324,-  
Area tiny house: 60m<sup>2</sup>



**Family**  
Min income: 3.450,-  
Min mortgage: 172.324,-  
Area tiny house: 75m<sup>2</sup>+



**Explorer**  
Min income: (1.725,-) flexible  
Min mortgage: 0,-/86.000,-  
Area tiny house: 2m<sup>2</sup>+



**Expat**  
Min income: +/- 4.000,-  
Min mortgage: 200.000,-  
Area tiny house: 50-200m<sup>2</sup>

## REAL REQUIREMENTS/PVE

### PROGRAM

Existing structure, New Structure & Park

Existing and new structure:

- Micro apartment built-ins +/-1200 6m<sup>2</sup>-200m<sup>2</sup>
- Collective shared toilets/bathroom CPO
- Collective living room (outdoor) Unclaimed roof space + CPO
- Collective functions lacking within city CPO
  - ex. -Open kitchen
  - ex. -Crafting space
  - ex. -Multi-use space (music, storytelling etc.)

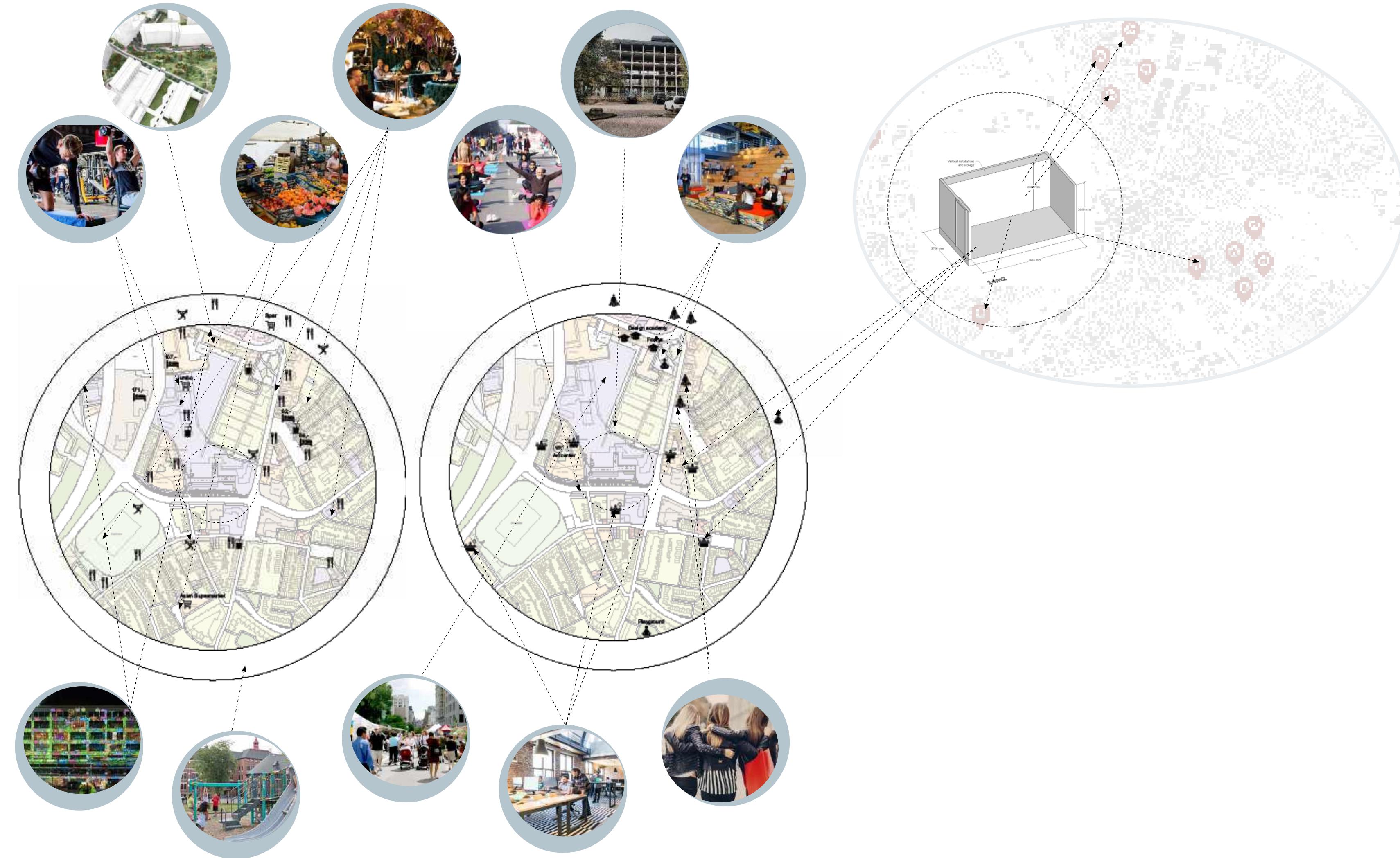
Park:

- Public greenery
- Vegetable gardens
- Public functions as extention to multi-use atelier
- Pavilions

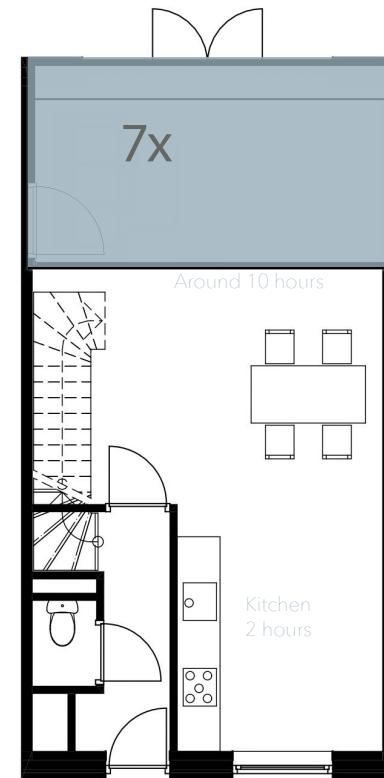


**KARKAS**  
Vonderweg Eindhoven  
History of squatters

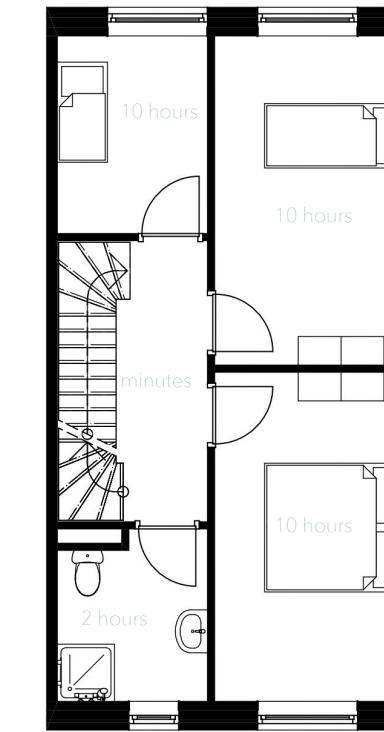
## USING FUNCTIONS WITHIN 10 MIN WALKING DISTANCE



## TYPICAL HOMES (M<sup>2</sup>) --> OVERSIZED



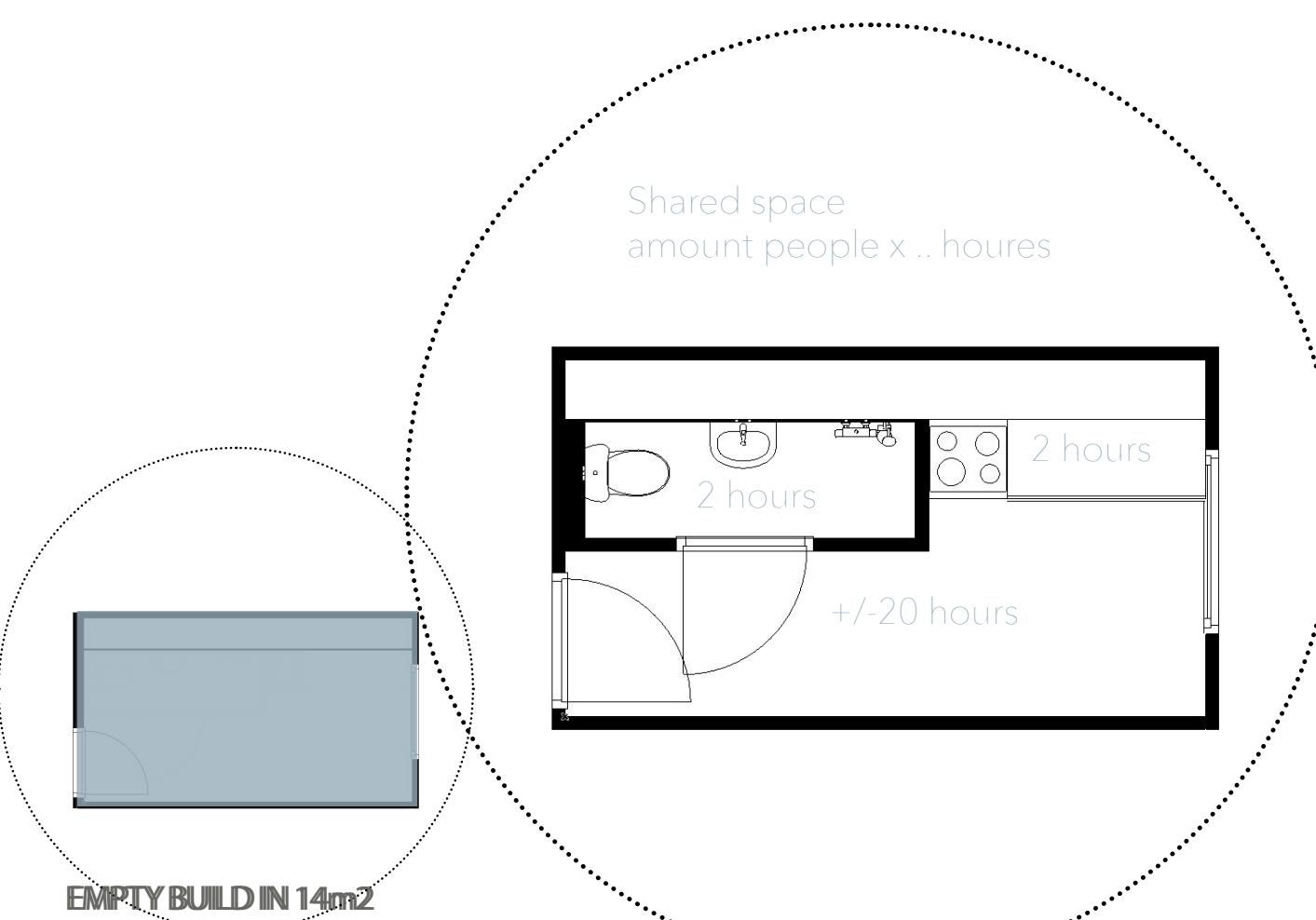
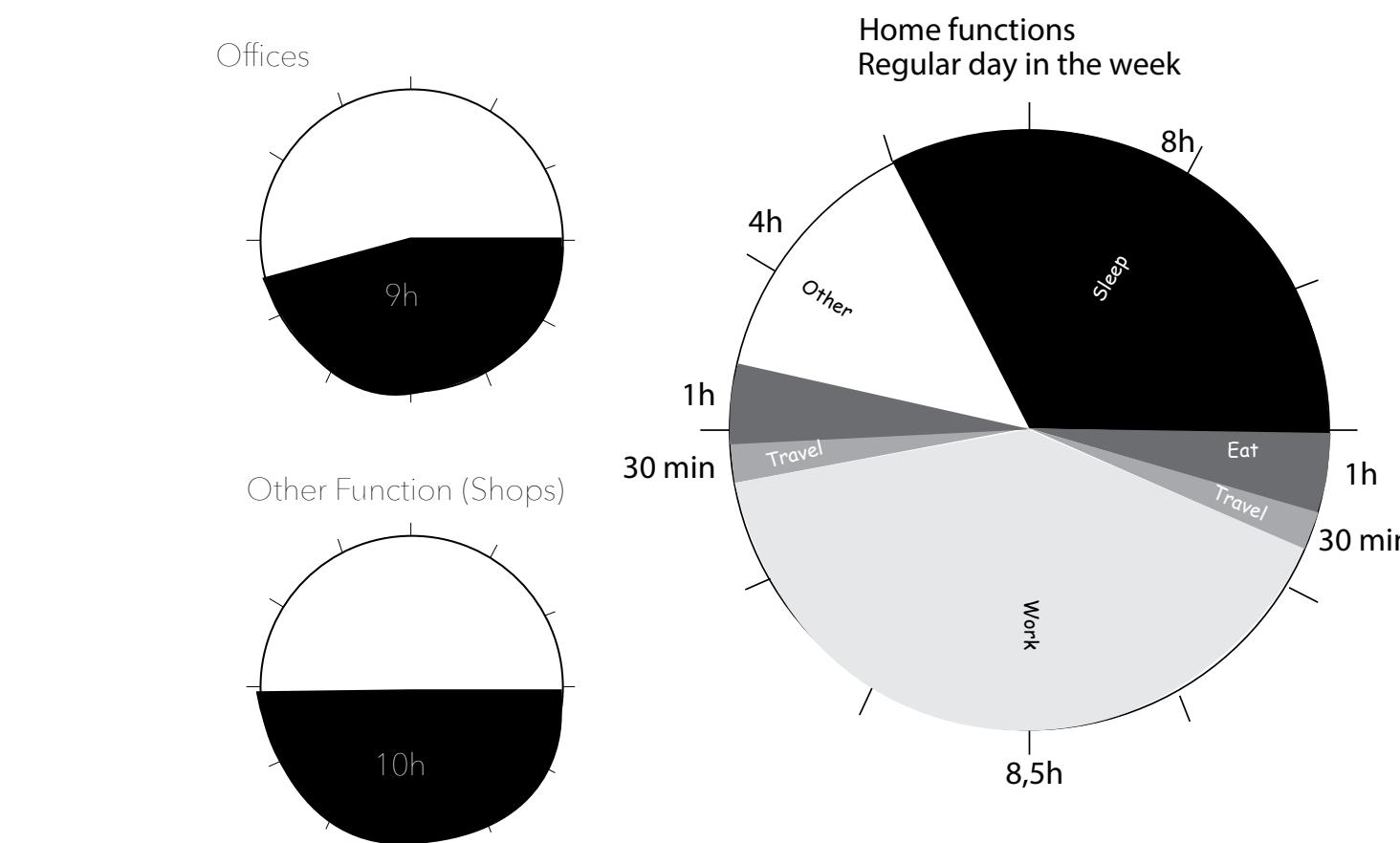
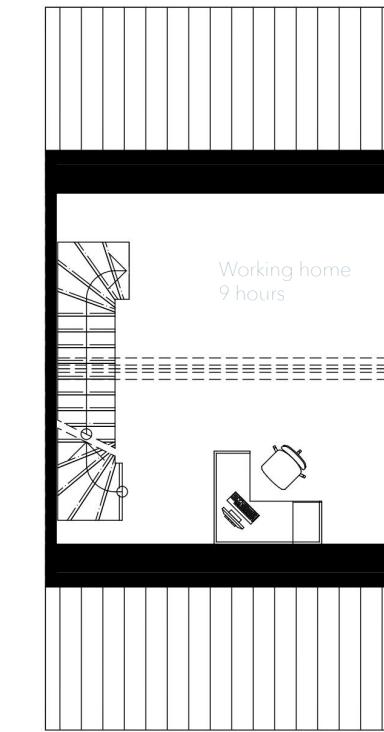
TYPICAL ROW HOME 100m<sup>2</sup>



TYPICAL APARTMENT 75m<sup>2</sup>



TYPICAL STUDIO 24m<sup>2</sup> +



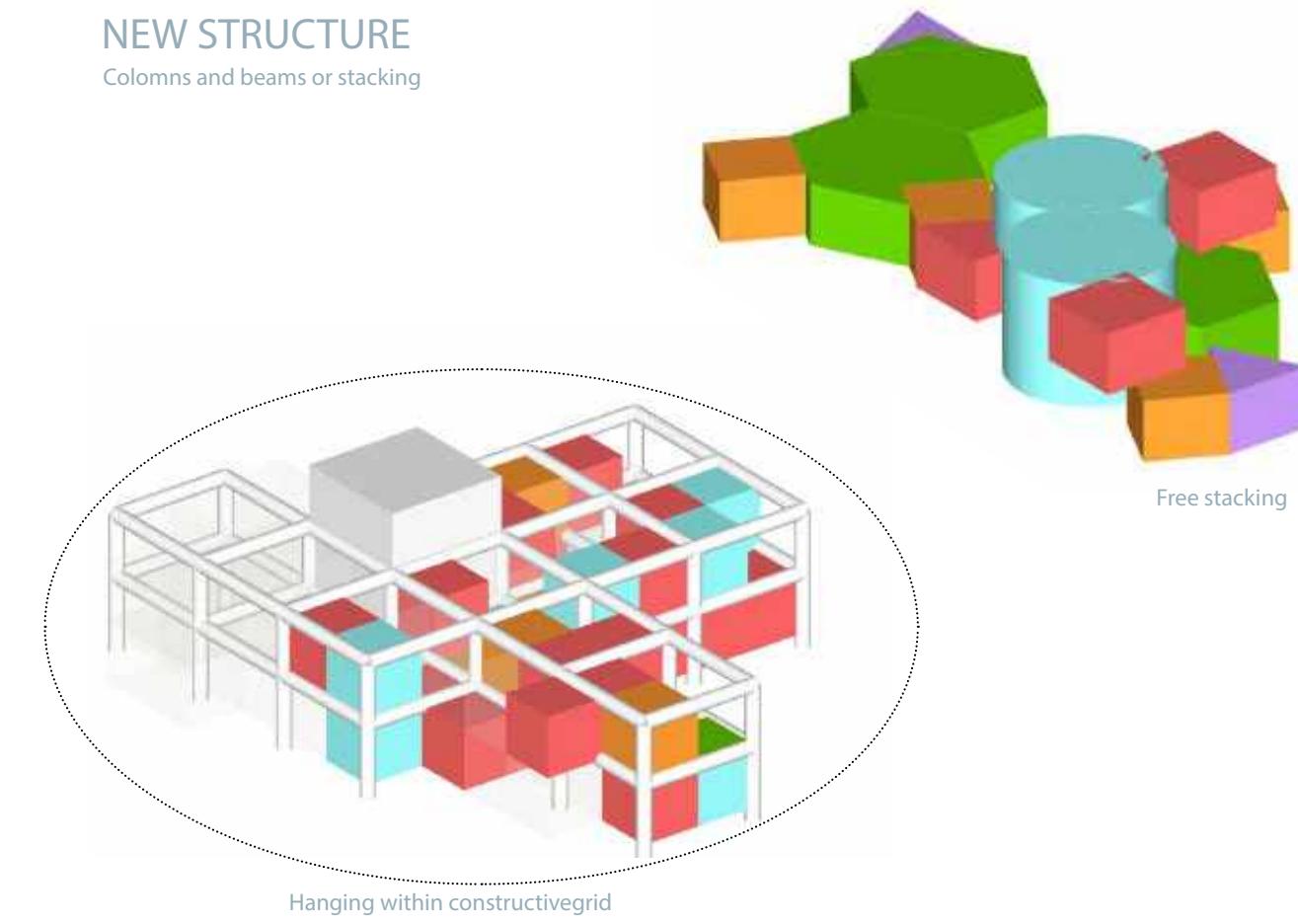
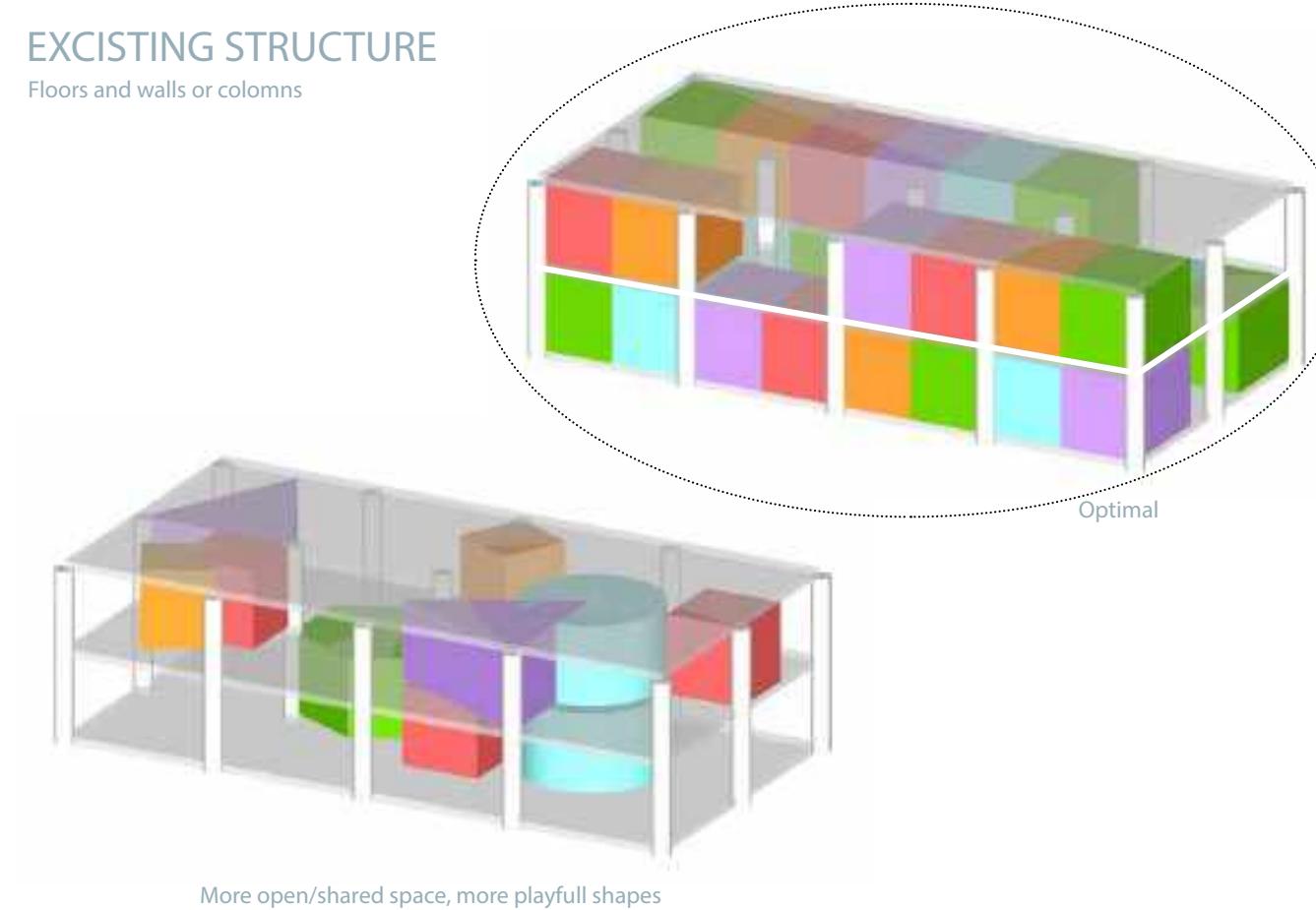
## STRIP DOWN VACANT BUILDINGS AND OPTIMIZE

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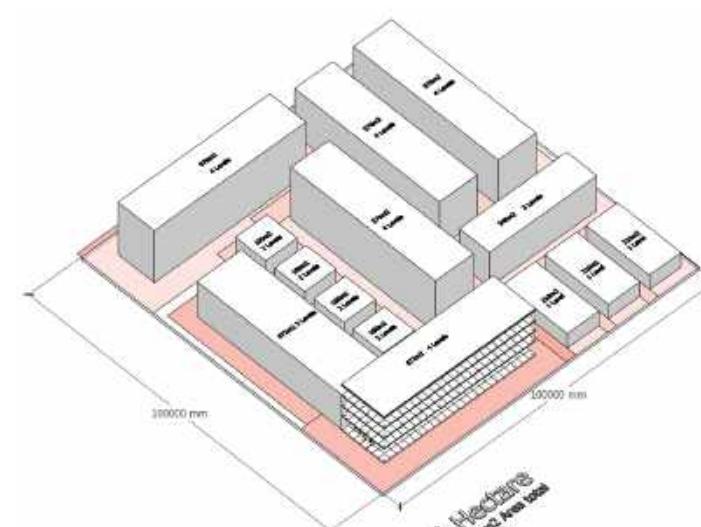
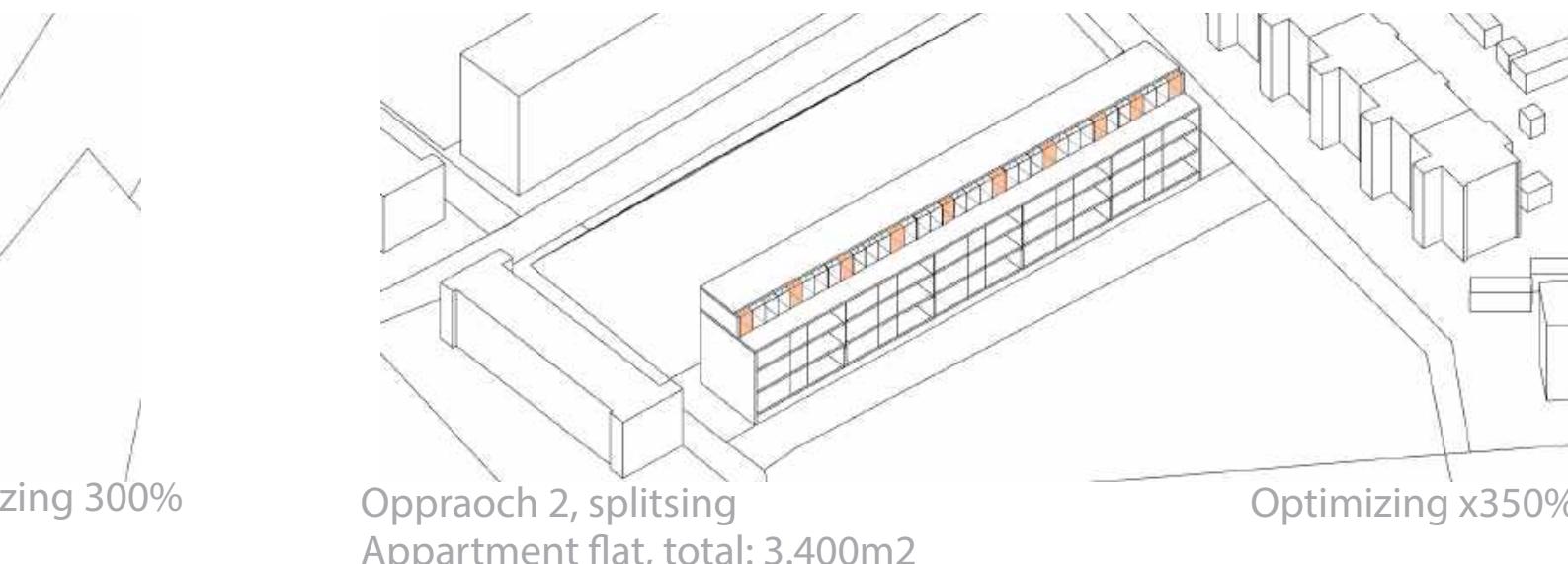
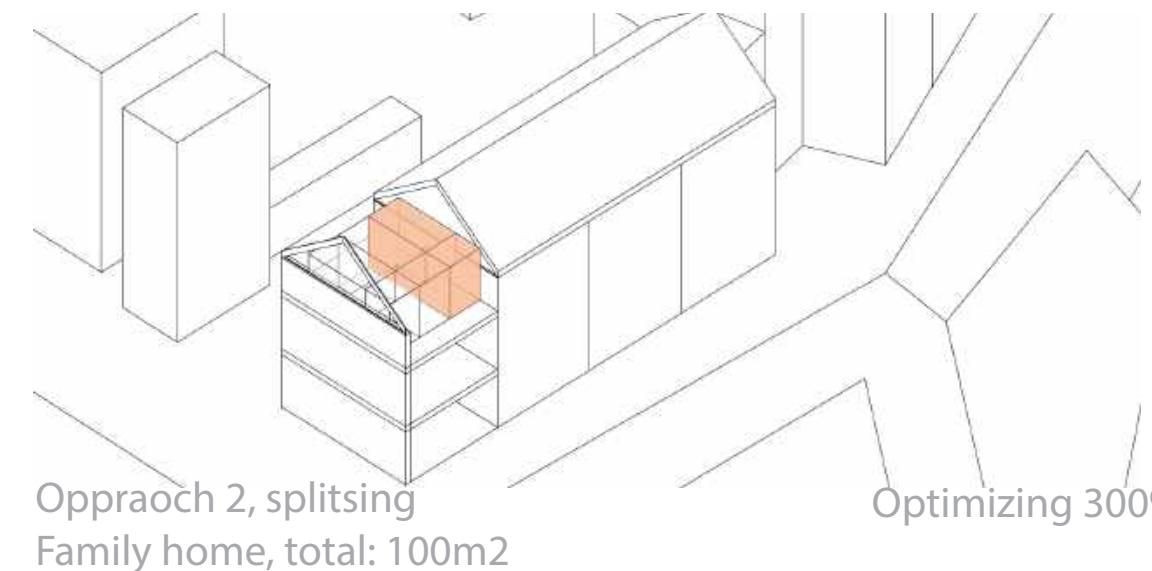
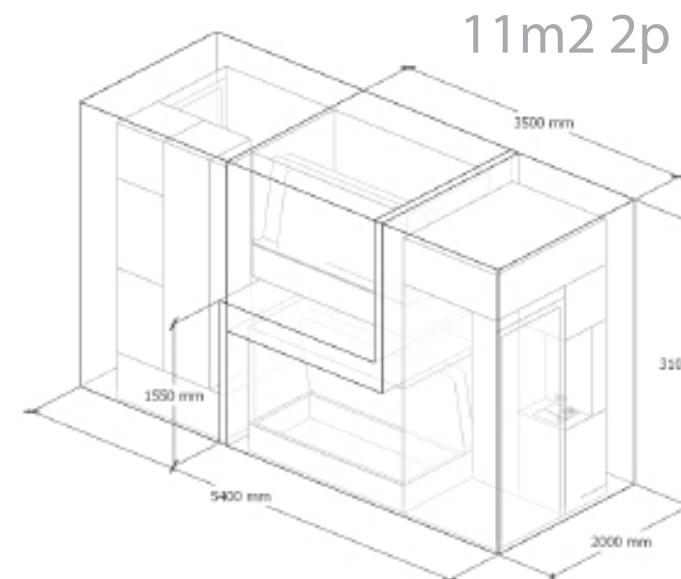
### STRIP DOWN AND OPTIMIZE



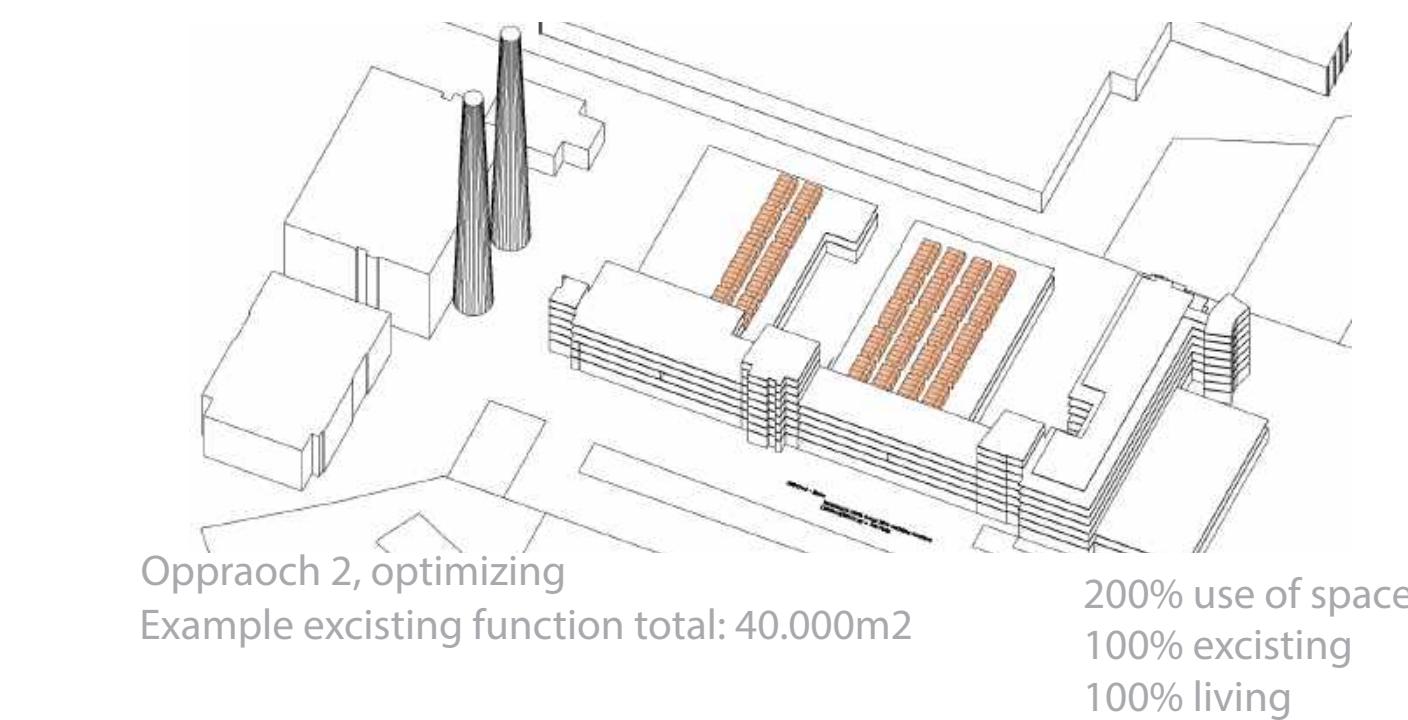
BY USING A BUILT IN SYSTEM



## SPACES COULD BE DENSIFIED - FIRST TESTS (PODS)



Adding 327 people per Hectare

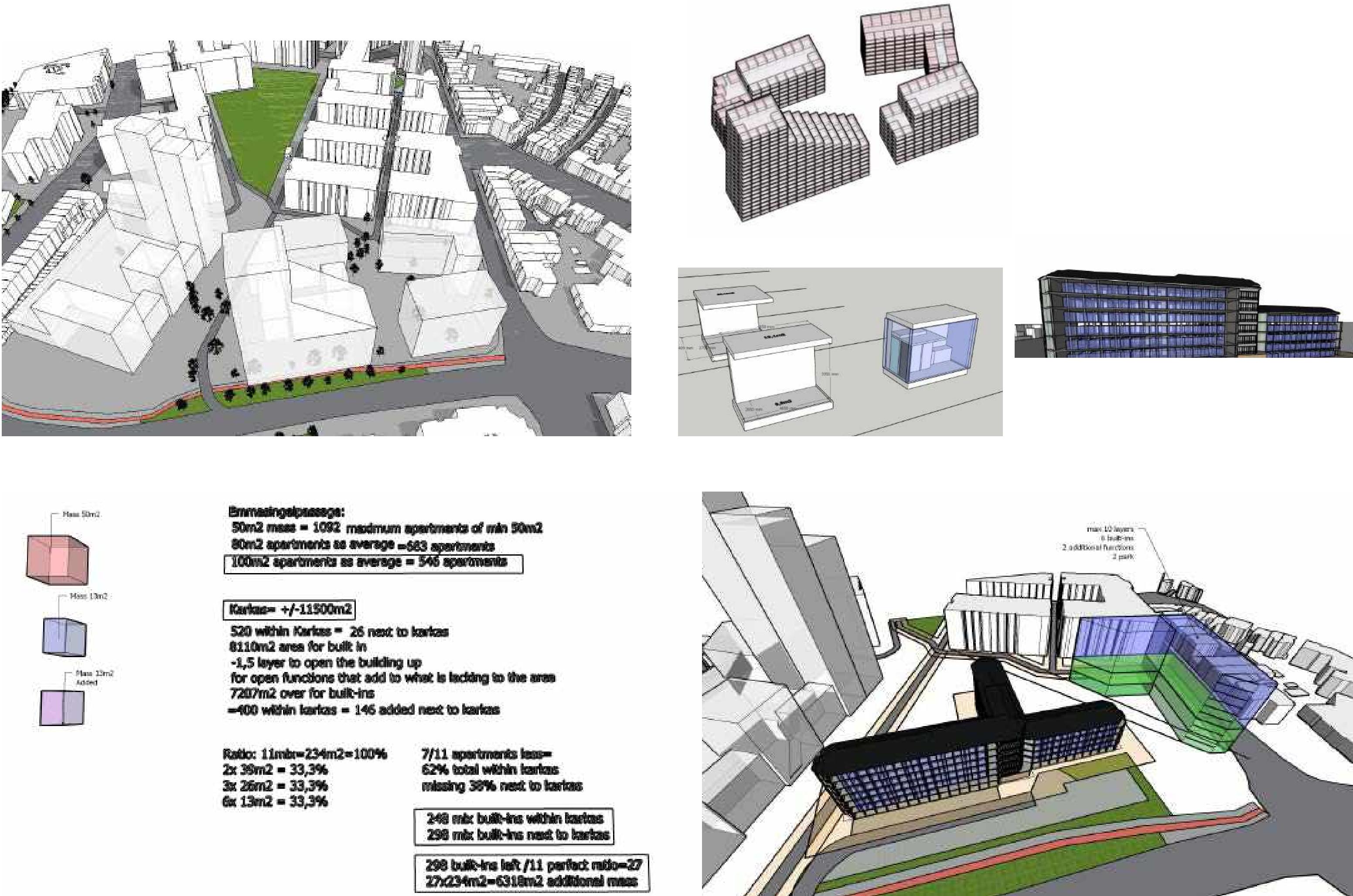


TESTING MODEL (Private PODS and open shared space)

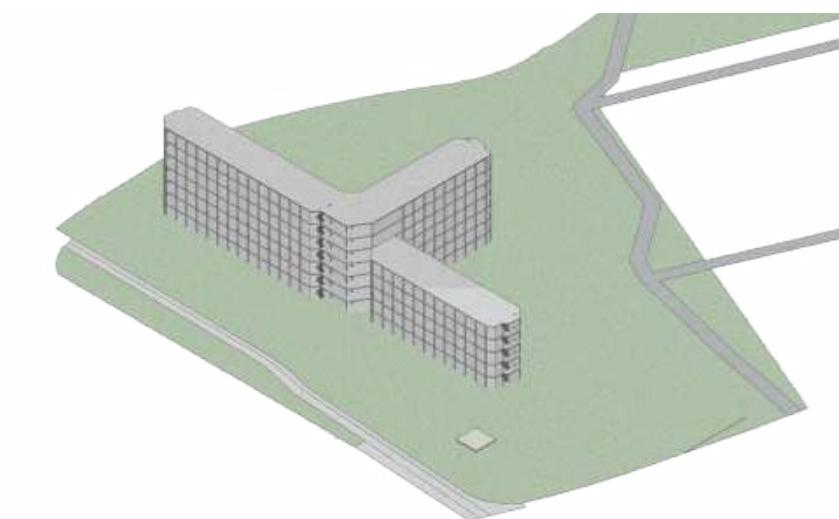


Ronald McDonald livingroom - EGM Architecten

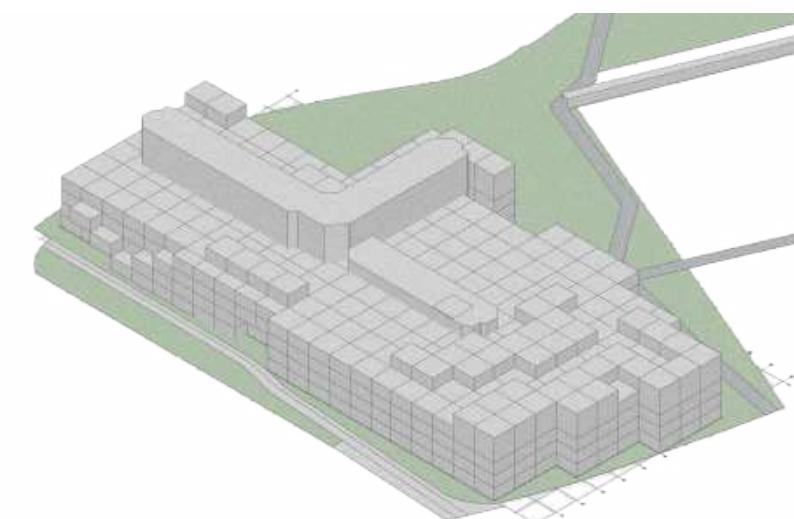
# TESTING DENSIFICATION



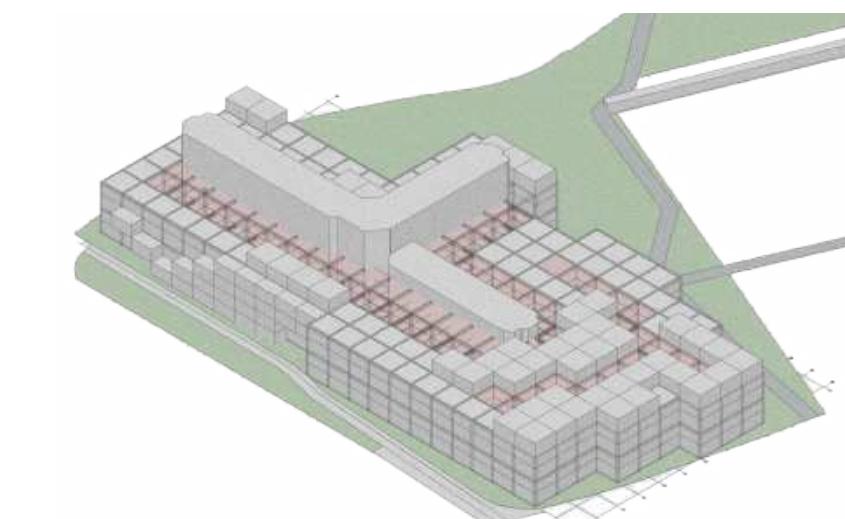
## DESIGN STEPS FOR OPTIMAL DENSIFICATION OF A PLOT



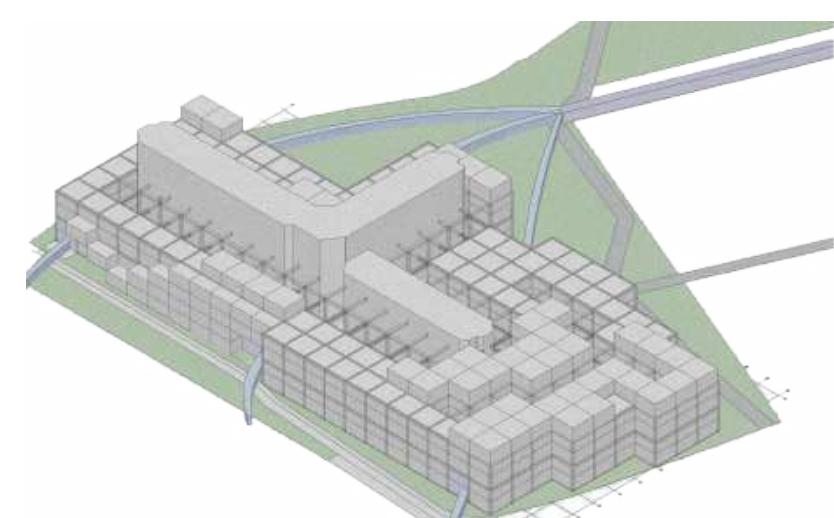
1. You start off with an existing plot which might or might not house a vacant building. Strip that building down to the structural base.



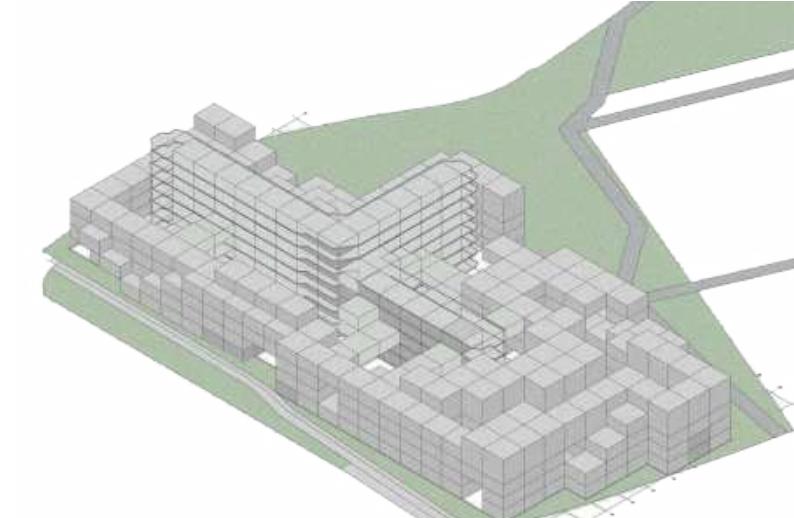
2. Lay a standard grid on top of the plot. Fill the plot fully with mass. In this studie the max height for the highest front door is 4 layers (12,5m)



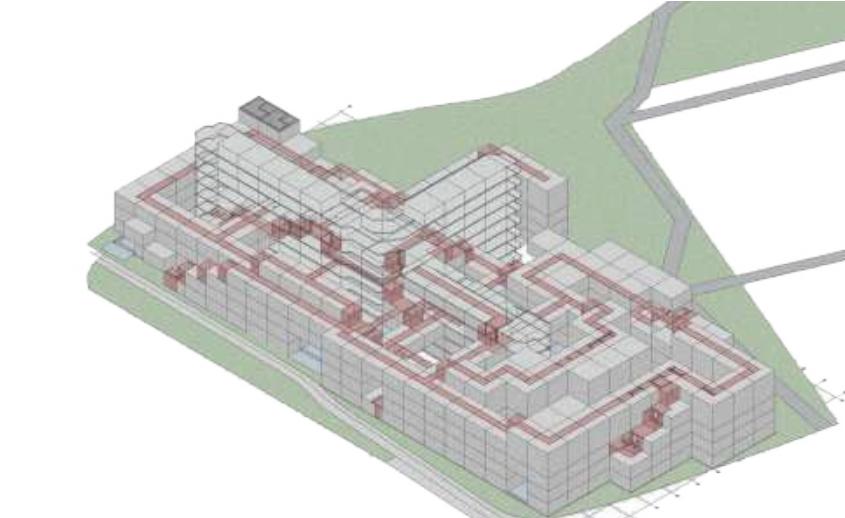
3. Extrude the masses that block daylight. After the extrusion all the left over masses should get enough daylight. (back to back housing dept till +/- 7m.)



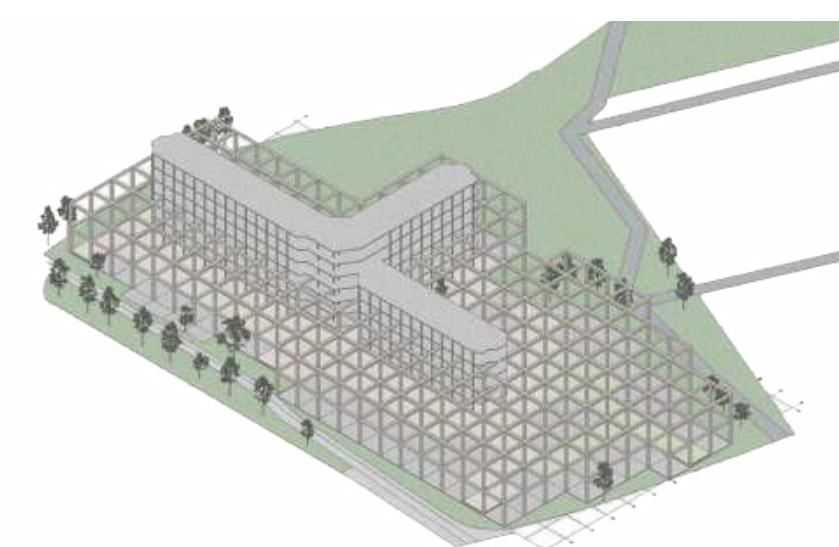
4. Extrude the masses that block the main walking routes, sightlines and possible walking routes to the roofscape exc.



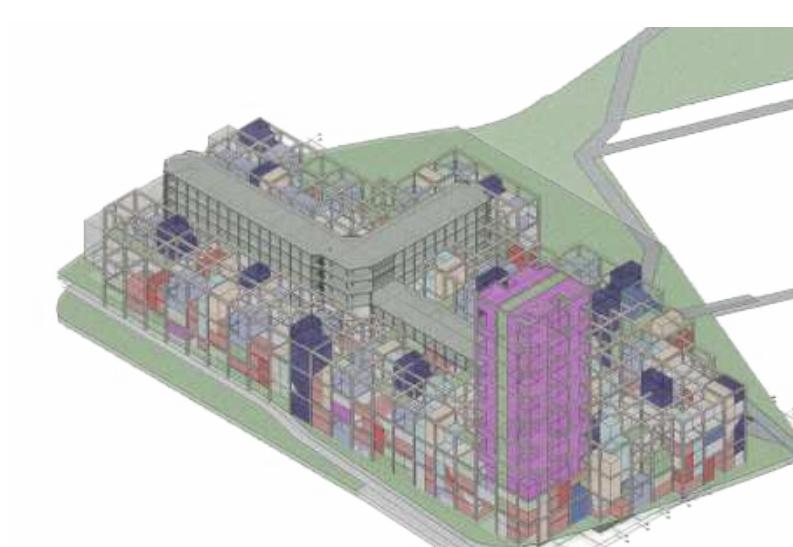
5. Connect the mass to the existing building.



6. Create a network of walking routes so every space could be used optimally.



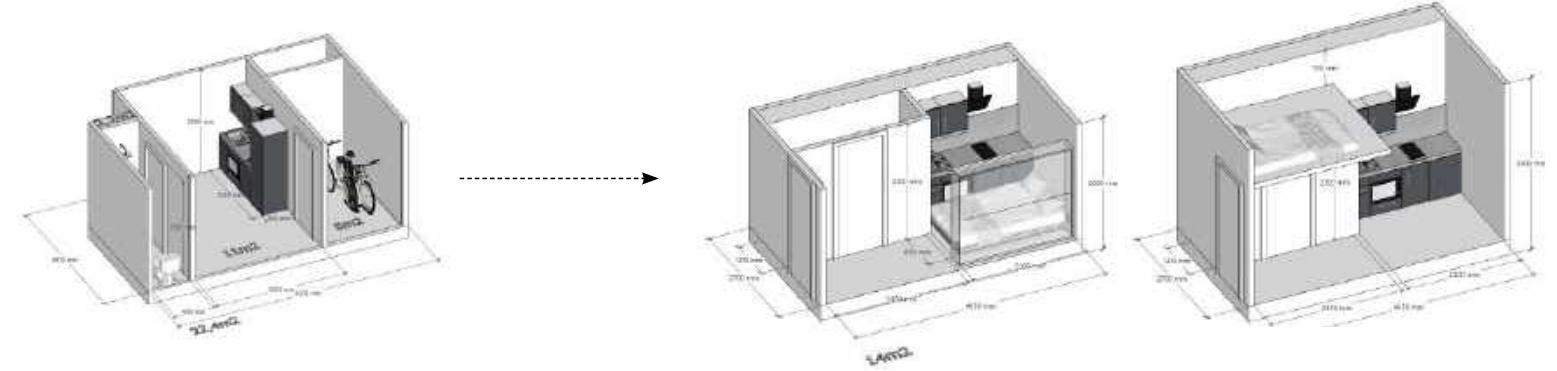
7. Place a wooden beam structure near over the maximum mass. This is the ordering principle for the CPO project.



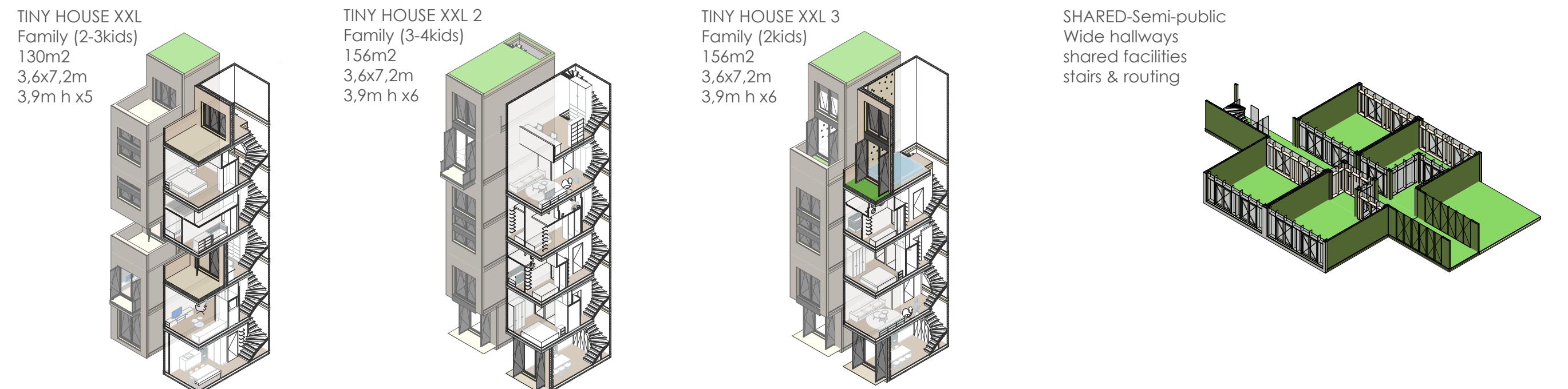
8. Finally use a parametric programm that places the wished housing units and shared space within the new and existing grid.

# OPTIMIZING LIVING SPACES

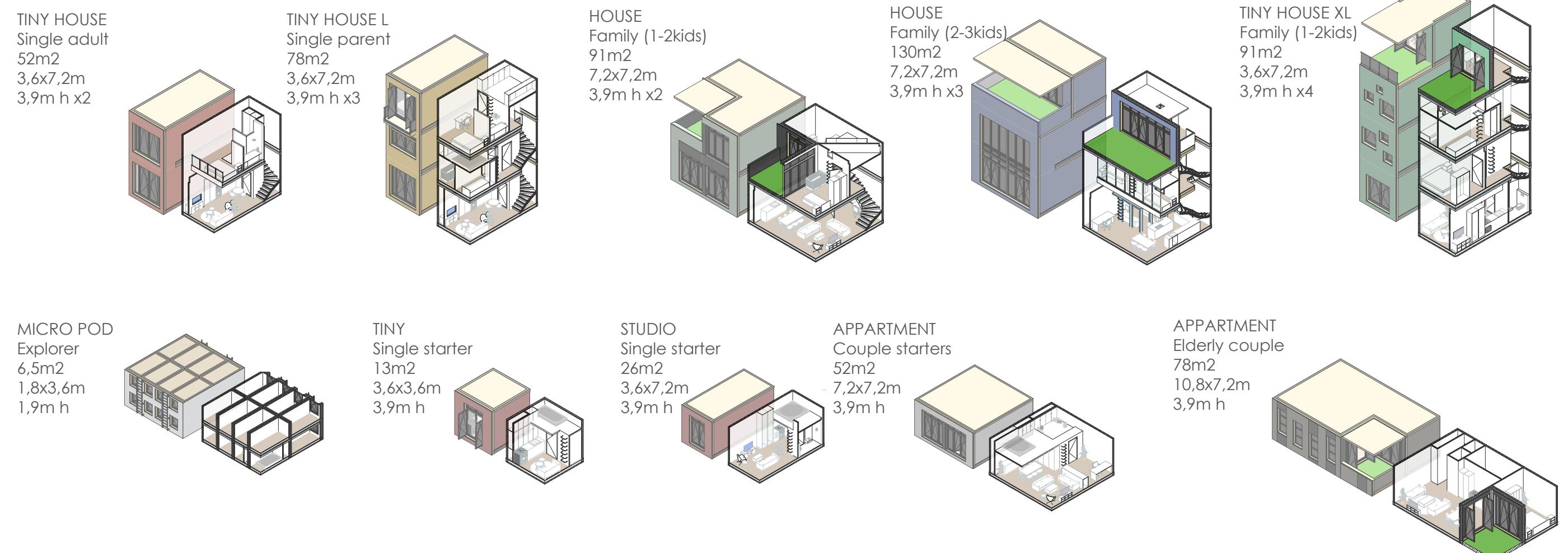
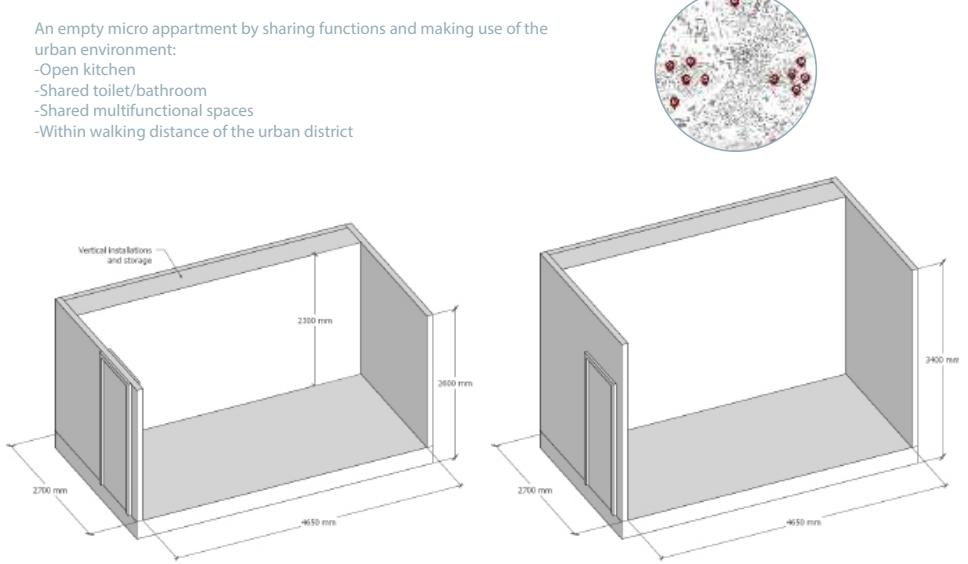
## TINY HOUSE PRINCIPLES



## EXAMPLE OPTIMIZED TYPOLOGIES



## AND WHAT IF IT IS OPEN FOR PERSONALIZATION?



# ARCHITECTURAL ASPECTS FOR OPTIMIZATION



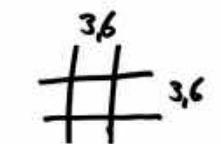
Back to back housing



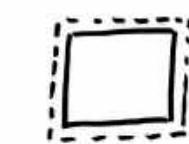
Flat roofs with functions on top or buy air rights



Heightened ceilings to add loft space



Standard grid to give built-ins a uniform fit

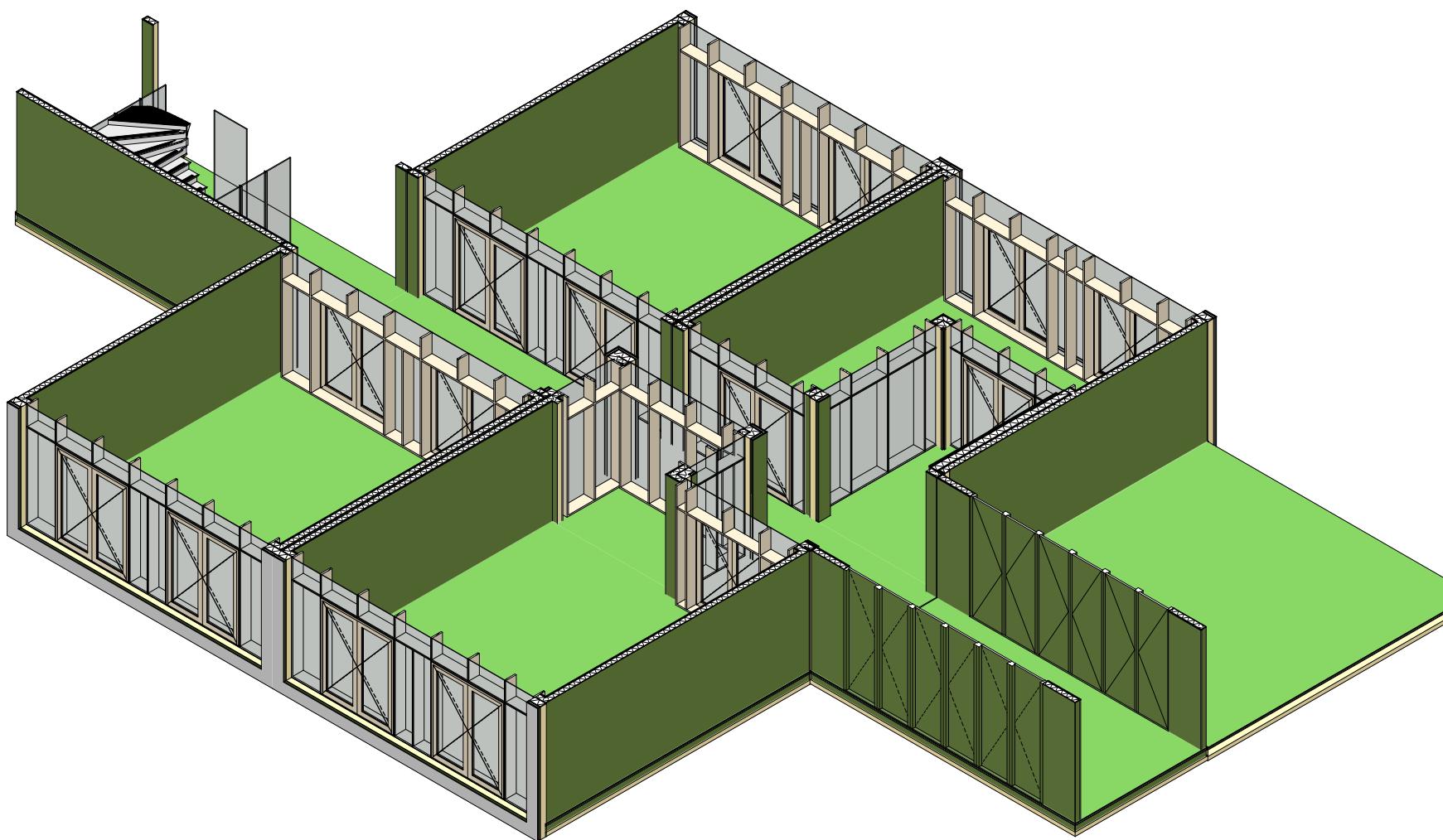


Optimize the mass on the plot

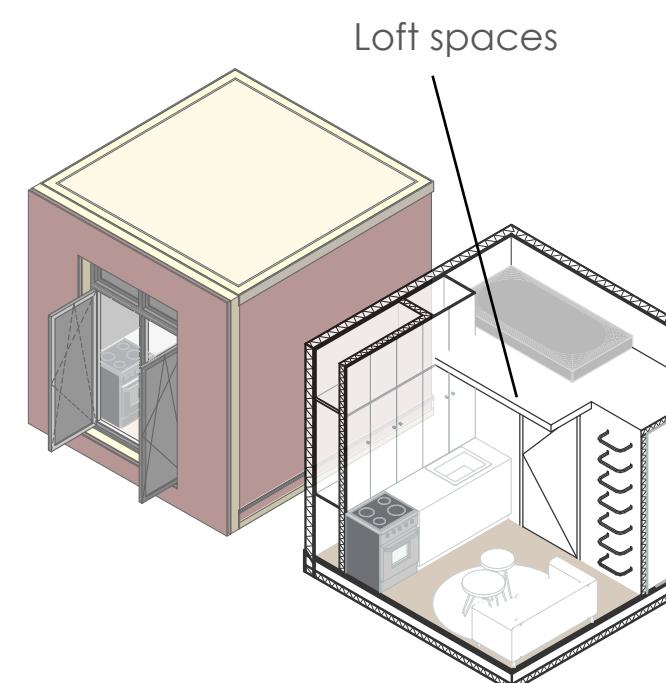
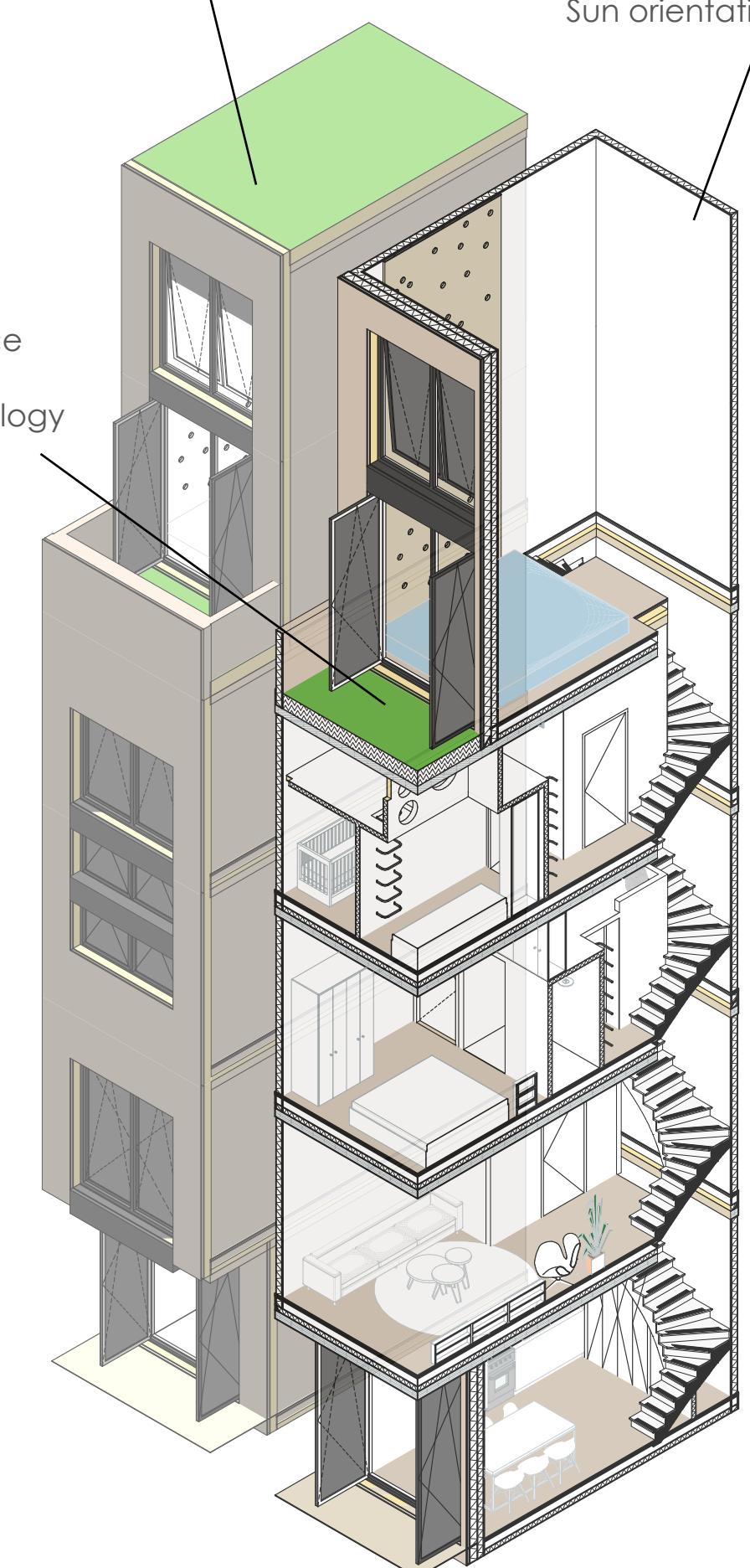


Flexible finish building systems like computer flooring, lowered ceilings, thin partition walls etc. as most oftenly seen within office buildings.

Wide corodors with multi use:  
 -shaft space  
 -vertical transport (stairs & elevators)  
 -For expanding the social & livign functions  
 -For creating social meeting spaces  
 -Outdoorspaces when facing the facade



Flat roofs with function on top  
 Vertical organization  
 Sun orientation one sided  
 Private outdoorspace included in housing typology

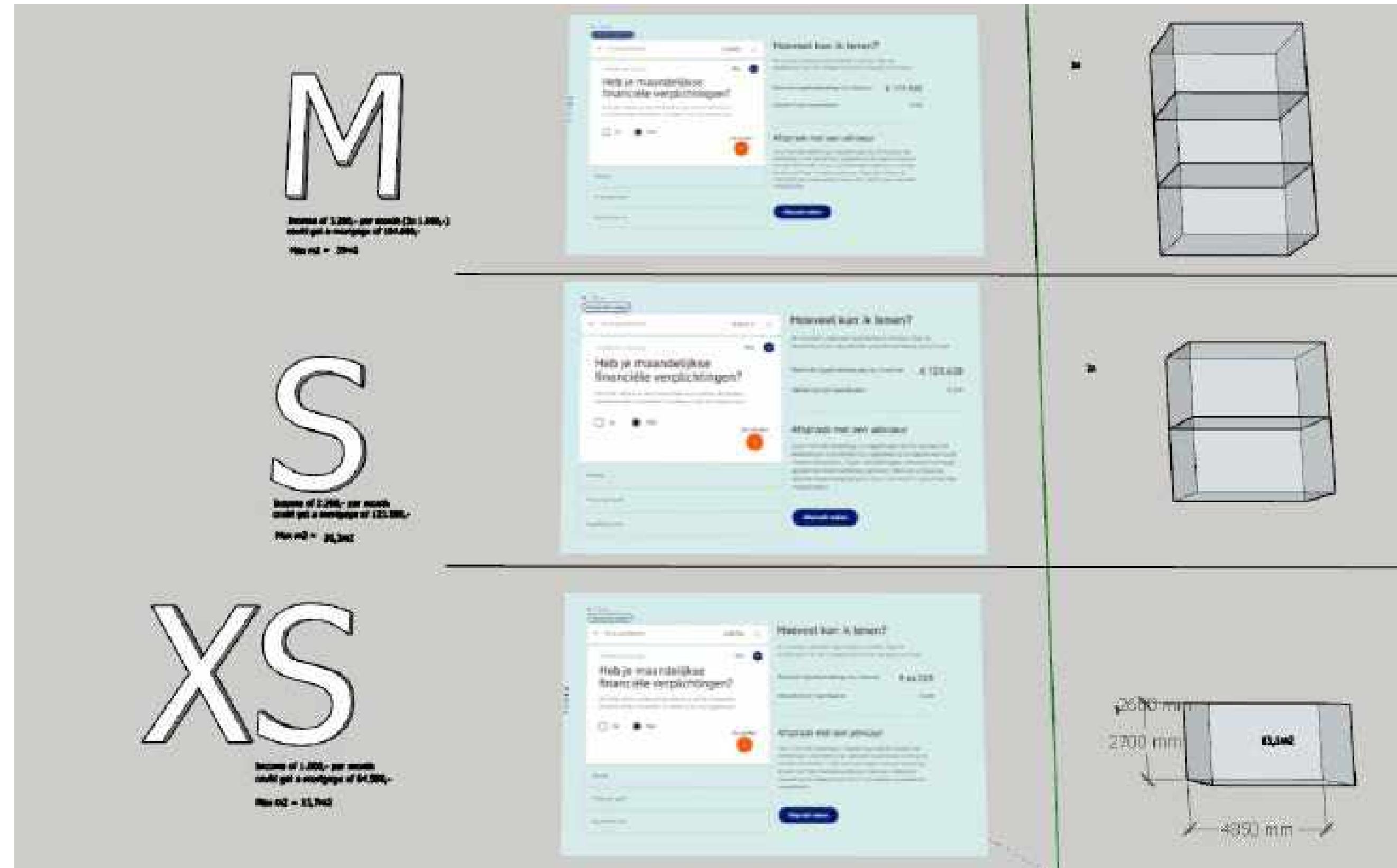


Loft spaces  
 Flexibility to choose private and shared functions

Flexible finish building systems for flexibility over time

## COST FOR THE OPTIMIZED SPACE

4.700,- p m<sup>2</sup> average housing cost, for complete house in eindhoven center (broadly taken)  
14m<sup>2</sup> minimum space to fit all functions =  $14 \times 4.700,- = 65.800$  --> it wil cost less when it is just casco, althought the collective spaces add up. A person with 1600 income could get 65.000 mortgage! (Min income from 21+ = 1750,-)



## 8 CONCLUSION

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During the process of this graduation project I've had many times that I found myself getting stuck. In the beginning of the project I focussed on just one target group. The single starters. While the eventual target group of people that become economic homeless is much bigger. It counts for all the less advanced target groups that can't find a fit place to live. In the beginning I focussed a lot on collective living typologies and self building. But if you let all the people build their whole environment without a lot of knowledge about the building process you get total chaos. Then there could be discussed if total chaos doesn't make a good base for creating new cultures. Choosing this direction was one of my first pitfalls. What is there left to design if the people themselves get to design everything. Luckily winterschool helped me see the wider picture. Giving the freedom back to the user of space could still be organised in different ways. 'How to organise chaos?' By providing an organising base structure like a structural grid.

After choosing the principle of using an organising grid I started focussing on how to densify and optimize an living environment. Limiting myself to a maximum height of 4 layers (low rise density) helped me to structure the designing process. I found that when densifying a plot there were clear systematic steps that could be followed. First stripping down a vacant building to the structural grid, then fully filling the plot with masses and then selecting where there need to be voids to get enough daylight and create routing. Optimizing the plot wasn't the only step. Optimizing the living spaces was also very important. The principle of using back to back housing and a vertical orientation gives the maximum mass on the plot other dimensions than when using standard housing typologies.

After the design testing I found that the final design proposes in technical terms: 'A neighbourhood compressed into a low rise dense building, with multiple small communities that form the streets.'

# 9 LOGBOOK

## LOGBOOK SANNE VAN HAASTEREN

WEEK	THEME	WHAT
09.09.2021	Start grad studio	Introduction
10.09.2021	Prep session 1	Project specs: housing market?
17.09.2021	Prep session 2	Project specs: Focus single starter. → GO
24.09.2021	Work meeting J.Wrk	Research: Collective living & target group
01.10.2021	Working @ home	Research: CPO & Urban voids
08.10.2021	Work meeting J.Wrk & PF	Research: Collective living, CPO & NUOS locations
15.10.2021	Research presentation	Went well → Follow up research on Vacant buildings
22.10.2021	Feedback on research	Follow up research on feedback points
29.10.2021	Autumn break	
05.11.2021	Work meeting PF	First idea's for possible concepts
12.11.2021	Work meeting J.Wrk	Very conceptual ideas concept design (home town) & Winterschool idea's
19.11.2021	Working @ home	On concept pods & multi use
26.11.2021	Work meeting J.Wrk	3 concepts → could present 2 concepts: home town & pods
03.12.2021	Concept presentation	Presentation didn't go well. Presented just the conclusions and not the concepts so the design aren't understood well. While there was done design testing in 3D aswell. Resulted in a major block within the process.
10.12.2021	Workshop	Working on feedback
17.12.2021	Working @ home	Checking what could be improved. Rethinking concepts or combining the concepts.
21.12.2021	Working @ home	Combining the concepts into the home town → using existing functions idea
	Research day	Testing the idea's with professionals
28.01.2022	Working @ home	Follow up research on history of civilization, housing law etc. Working on the design of optimized housing units.
04.02.2022	Work meeting J.Wrk	Follow up research and adjusting the concept idea on the found research. Working on the design of optimized housing units.
11.02.2022	Pre design	Presentation went way better than concept presentation. The target group when optimized makes for a boring plan. The magic mix is also important. Adjusting the design to make it more dynamic.
18.02.2022	Studio day	Working on the feedback of the design
25.02.2022	Working @ home	Starting on densifying the plot with design testing
03.03.2022	Spring break	Designing an optimized plot
11.03.2022	Work meeting PF	Testing the optimized design principles
18.03.2022	Studio day	Showing the optimized plot → Feedback on housing typologies. After this week I finally found a more structured process of design.
25.03.2022	Working @ home	Designing housing typologies
01.04.2022	Work meeting PF	Discussing and following up on the housing typologies. Start designing the principles of the shared spaces.
08.04.2022	Working @ home	Working on the def design, starting making the schemes and images.

15.04.2022	Easter break	Working on the presentation of the Def design
22.04.2022	Def design presentation	Presentation went well. Follow up on 'my architecture' And how this full structure could be built.
29.04.2022	Practice portfolio	Focusing on practice portfolio
06.05.2022	Spring break	-
13.05.2022	Studio day	Discussing what next. Working on a way to clearly present the final plan.
20.05.2022	Working @ home	On volume & final design
22.05.2022		Final volume upload
		Next...

# 10 REFERENCES AND LITERATURE

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