Building for the solo dweller

an antidote for urban loneliness

Mark Breman 4657039
Dutch housing graduation studio
P2 research report

'The number of single people living has increased, but many post-war homes are suitable for families. This requires other types of housing. The design of the public space also needs adaptation to promote social cohesion and to prevent or reduce loneliness.'

Alkemade, 2016.
Chief government architect

Master thesis.

A research in the role, the responsibility and ability for impact of the built environment on the issue of urban loneliness.

June 13, 2019

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Abstract

The document in front of you is a research document as first step of the graduation studio of Dwelling. The next step will be the design phase based on this study. The starting point of this research and project is the increasing and problematic urban loneliness in the city of Amsterdam. The goal of this project is to implement a dwelling complex in the newly build part of Amsterdam called 'Haven-Stad' which incorporates elements that stops loneliness prevail more than necessary.

This project takes urban loneliness as a starting point. The first part of the research is to deepen the understanding of loneliness in general. By looking in to the literature and demographics on loneliness, a target group is selected. The questions will be answered how diverse this target group is and what their needs are.

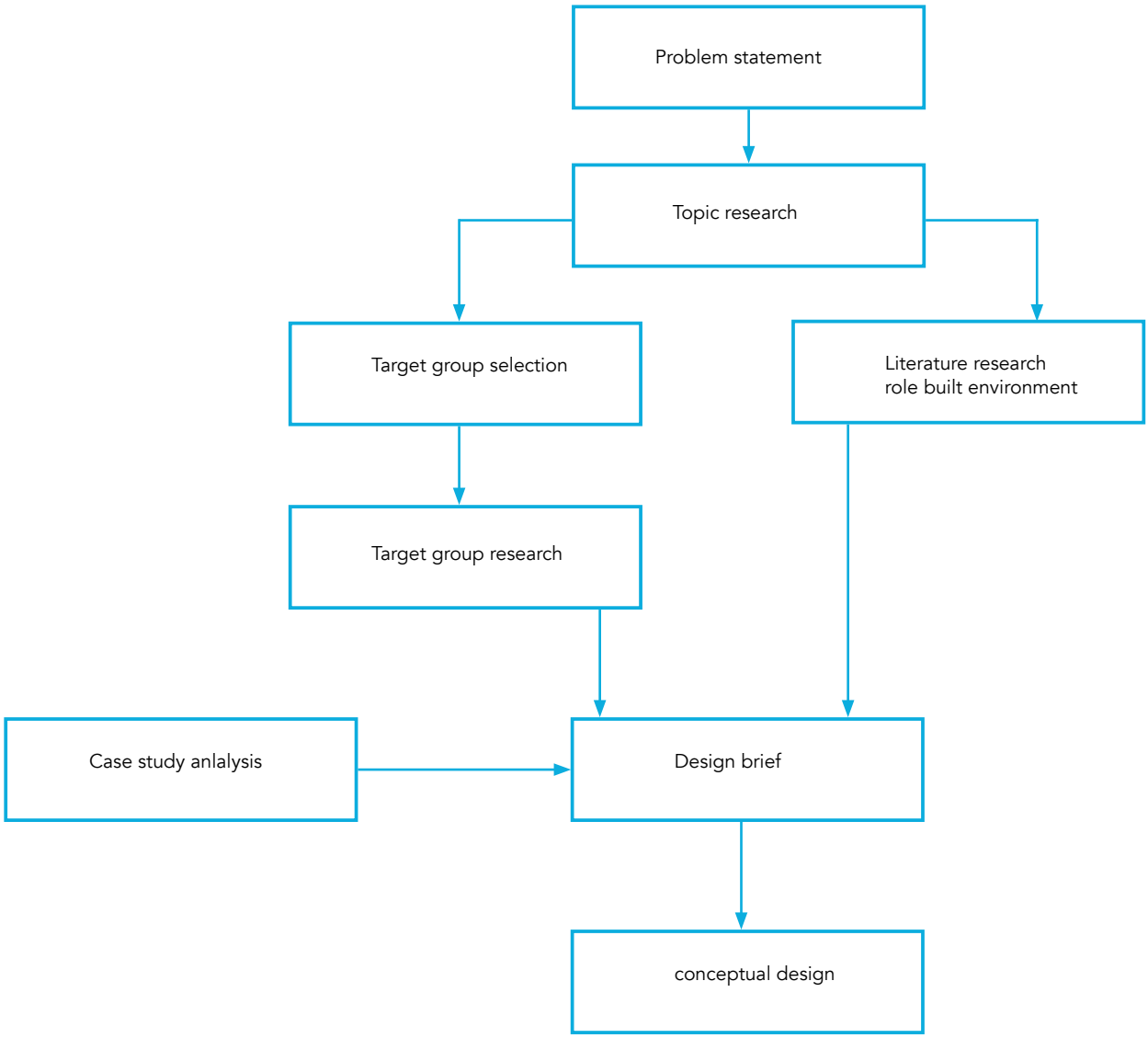
The second part of the research is to connect the term 'loneliness' with the built environment. What physical interventions can be made in the built environment to contribute to the mitigation of the urban loneliness problem. This will be done on an urban scale as on a building scale.

During the last part of the research, several case studies will be analyzed. This analysis focuses on the relation between the private and the communal. How the routing from the public to the private is arranged. And what the inhabitant of the building sees during this trip from public to private. What kind of spaces is the inhabitant passing by or going through.

The obtained information from the topic research and the case studies will be compressed into a design brief.

The final part of this document the conceptual design will be presented. This first design scheme is based on the requirements listed in the design brief.

Research method



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HOME RELIGIE EN FILOSOFIE GROEN DEMOCRATIE SAMENLEVING CULTUUR OPINIE

'Eenzaamheid, het probleem van nu'

HOME

MAAIKE VAN HOUTEN – 1:32, 25 september 2014

interview | Wat de zon is voor planten, is aandacht voo

emeritus hoogleraar Ivan Wolffers vandaag in

KENNISLINK

De eenzame Nederlander

Auteurs: Eric Schoenmakers en Noëlle Sant | 8 februari 2010

Het Parool

Vrij, Onverveerd

HOME AMSTERDAM OPINIE PS STADSGIDS

300.000 Amsterdammers voelen zich eenzaam

© ANP

Amsterdam is een magneet voor kwetsbare mensen. Uit GGD-onderzoek blijkt dat 300.00 mensen zich eenzaam voelen, 80.000 Amsterdammers voelen zich zelfs 'ernstig eenzaam'.

Het Parool

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HOME AMSTERDAM OPINIE PS STA

Amsterdamse eenzaamheid: 'Ik ben teleurgesteld in het leven'

NIEUWS SPORT ENTERTAINMENT FINANCIEEL VIDEO MEER

Meer dan miljoen ernstig eenzaam

& Opinie Video Wetenschap Mens

de Volkskra

De epidemie van eenzaamheid is net zo schadelijk als roken

Het Parool

Vrij, Onverveerd

HOME AMSTERDA

Eén op de acht Amsterdammers is erg eenzaam

Introduction

Loneliness has become a growing problem in the city of Amsterdam. It is not a new phenomenon, but due to better understanding of the topic and therefore knowing it's dangers better, the urge to do something about it grows. Nevertheless, loneliness is a complex issue. This is because feeling lonely is a subjective feeling. In Amsterdam alone 300.000 people have the feeling of being lonely. 80.000 of them have the feeling of being severely lonely. That is 13% of the whole population in Amsterdam (Couzy, 2017) . In may of 2017 the municipality of Amsterdam presented a plan of action to reduce loneliness in the city, which underlines the necessity of taking action. The chief government architect Floris Alkemade (2016) also sees this as one of the challenges of the future. He says that the fundamental changes on demographics, technology and care asks for new spatial challenges and opportunities in the residential areas. The post-war neighbourhoods do not fit in with the current society. Alkemade points to the increasing loneliness, the great reliance on informal care, which has limits, and the growing dichotomy in society. The number of single people living has increased, but many post-war homes are suitable for families. This requires other types of housing. The design of the public space also needs adaptation to promote social cohesion and to prevent or reduce loneliness.

This leads to the following research- and sub question:

How can the built environment have a positive effect on the issue of urban loneliness?

- What is loneliness exactly?
- What are the demographics on loneliness?
- What target group should we build for?
- What are the needs of this target group?
- What is the relation between loneliness and the built environment?
- Which physical elements contribute to a social environment?

What is loneliness?

Why do we feel lonely?

In an interview John T. Cacioppo, professor of psychology at the university of Chicago, says that the purpose of loneliness is like the purpose of hunger. Hunger takes care of your physical body. Loneliness takes care of your social body, which you also need to survive and prosper. We're a social species. (Khazan. 2017). Our body cares a lot about this social need and it is build deep into our system. The reason is that millions of years ago, the feeling of loneliness was a good indicator of survival (Hawkley, et al. 2010). Our ancestors where rewarded by natural selection for collaboration and for forming connection with each other. Because our brains grew, it was more and more fine tuned to understand what other thought and felt. In that way we could form and sustain social bonds. Being social became part of our biology. People where living most in there lives in the same group. This group most of the time consisted between 50-150 people. People where born in this group and people would die in this group (Dunbar, et al. 2017). During this life, the most important task was to get enough calories, staying warm and safe and caring for offspring. This all together was impossible by doing this all on your own. Therefore it became crucial to be together. Being together meant you where able to survive. Being alone meant you were most likely going to die. But by being in a group it meant that getting along with other group members was crucial. The most dangerous threat to stay alive was not getting eaten by prey animals. The most dangerous threat was not getting the social vibe of the group and being excluded. To avoid this exclusion, our body came up with social pain. Social pain is an evolutionary adaptation to rejection. It works as an early warning system to stop behaviour that would isolate you (Cacioppo, et al. 2008). Our ancestors that experienced rejection as more painful were more likely to change their behaviour when they were getting rejected. Therefore they could stay within the tribe. But those who did not adjusted their behaviour where kicked out of the tribe and were likely to die because of this exclusion. This is the reason why rejection is so painful, and also why loneliness is so painful.

Different types of loneliness

Robert Stuart Weiss (1973) is a renowned American sociologist and describes that there are two types of loneliness. The first type is 'social loneliness' and the second one is 'emotional loneliness'. Emotional loneliness arises from the subjective experience of a strong lack of an intimate relationship, an emotionally close bond with a partner or a close friend. In principle, entering into a new emotionally close bond can only solve this form of loneliness. In addition, there is social loneliness. This form of loneliness is linked to the subjectively experienced lack of meaningful relationships with a wider group of people around you, such as acquaintances, colleagues, neighbours, people with the same interest, people doing a hobby together.

This form of loneliness can occur after a recent move to a different region. An intimate partner relationship, however important in life, cannot abolish this form of loneliness. People can be both emotionally as socially lonely at the same time. This is the worst type of loneliness according to van Tilburg (2007). Next to that, he says that emotional loneliness is experienced worse by the individual than social loneliness. Van Tilburg therefore defines four types of loneliness:

- not feeling lonely
- socially lonely
- emotionally lonely
- socially lonely and emotionally lonely

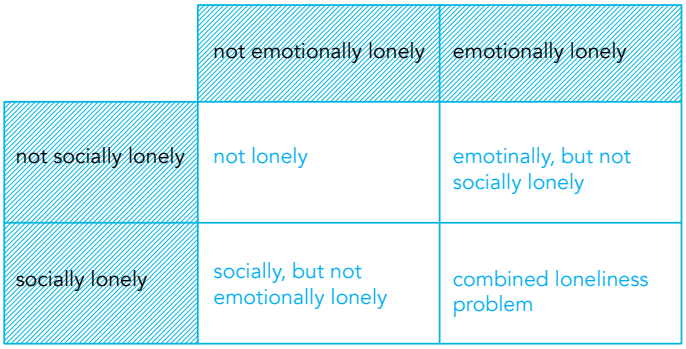

figure 1. Different types of loneliness

Demographics on Loneliness

Numbers from the CBS (central statistics bureau) show an 8% increase in loneliness in comparison with 2008 in Amsterdam. These numbers are split up in two categories. Moderately lonely and severely lonely. The group of people feeling moderately lonely has grew with 5% and people feeling severe loneliness has increased with 3%. This means that at this moment 13% of all inhabitants of Amsterdam feeling severely lonely. More men are feeling lonely than women(50% men vs. 45% women).

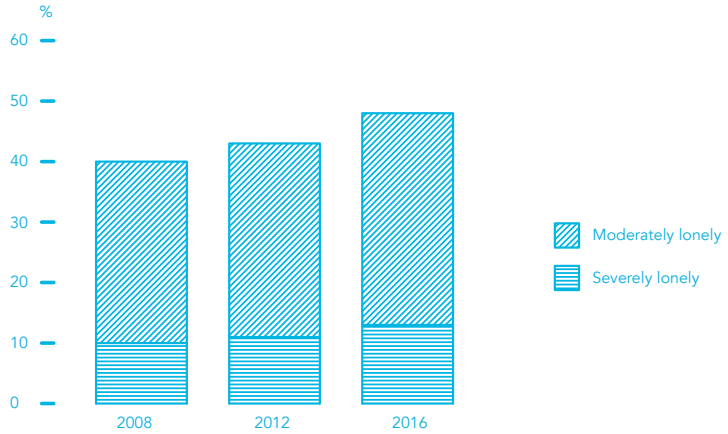

figure 2. Loneliness in Amsterdam age 19<

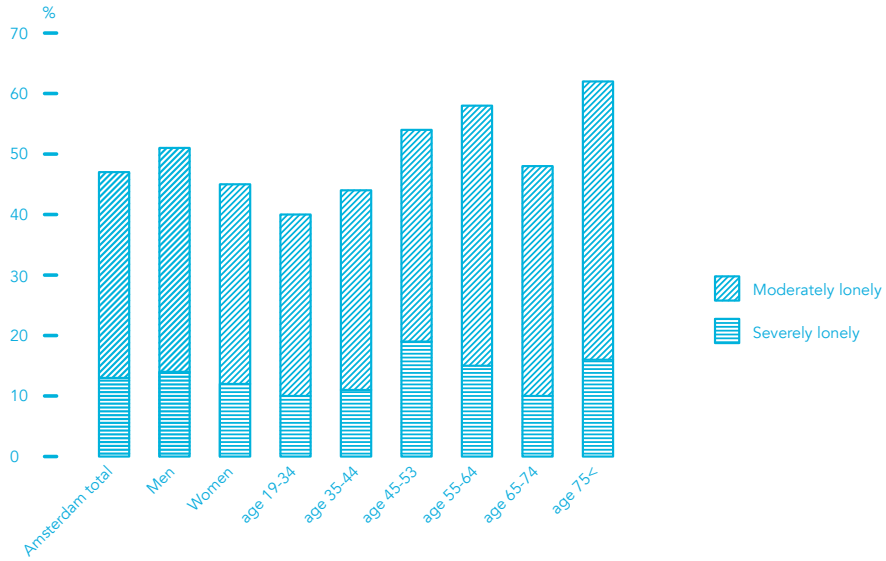

figure 3. Loneliness in Amsterdam by age and gender

But the real differences become clear when zooming into these groups. If you look at the figures that links loneliness to household differences, large differences appear. There are two groups clearly in the lead here. Those are the single parents and the singles. It is mainly people without a partner who are strongly lonely. Single parents relatively often experience strong feelings of loneliness. 19% of them are lonely. If there are no children, the chance of strong loneliness is 12%. Of the couples, with or without children, 5 to 6% experience

strong loneliness. The proportion of people who are somewhat lonely is also relatively large among single people. That is one and a half times as high as among couples. On a social level, the lack of a partner is an important factor in experiencing strong loneliness. Single people with or without children report these feelings most often. It is striking that the presence of children in the home also plays a role here. People with partner but without children are more often socially lonely in social terms than people with partner and children. People with a partner without children do not differ significantly from single people without children. Divorces have the greatest chance of being strongly lonely. The proportion of highly lonely is nearly three times as large for married, widowed and never-married persons. For social loneliness, the lack of a partner is not associated with strong loneliness for everyone. Divorces are most often highly socially lonely, widows and widowers by far the least. They are relatively often emotionally lonely. Apparently they do not need more social contacts, but they often lack a close relationship with others.

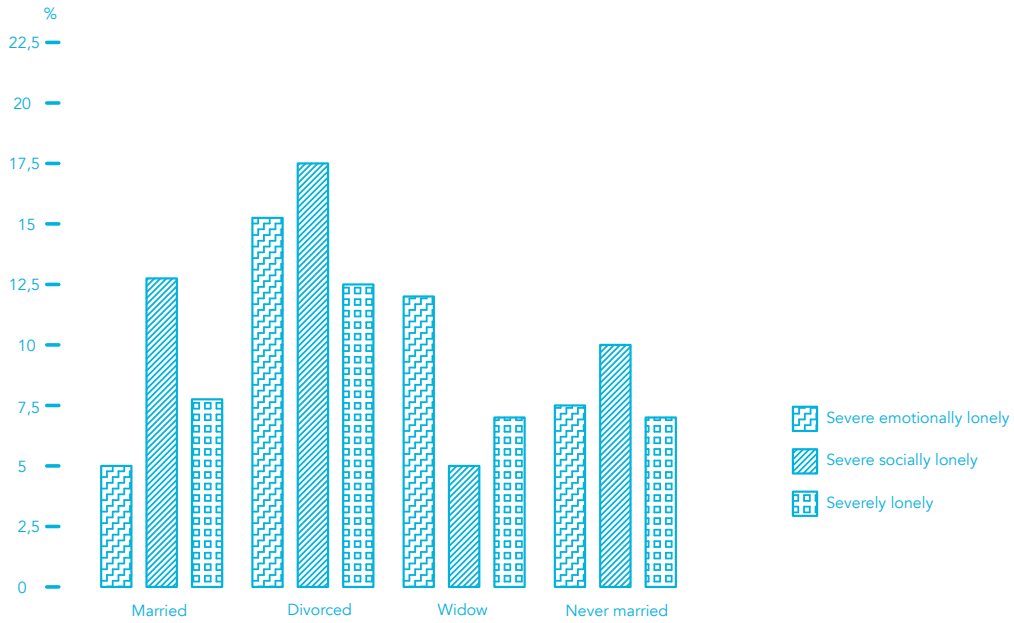

figure 4. Severe loneliness by marital status

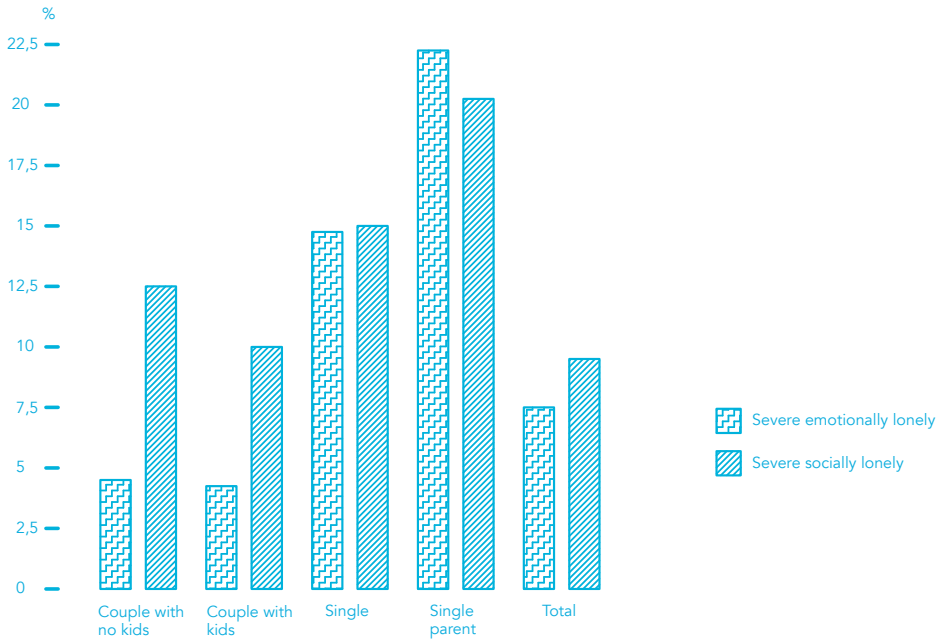

figure 5. Severe loneliness by household

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Feeling lonely is something from all ages. But especially singles and single parents (so people who live alone) seem to be over representen when it comes to feeling lonely. This is both in the categories of emtional and social loneliness

The solo dweller

In the previous chapter it became clear that especially people who are living alone are highly represented when it comes to be or become lonely. The group of solo dwellers consists of a wide range of people. This chapter will be used to explore this target group in further depth. Who are they and what are there potential needs.

Terminology

Most of the terminology is used as described by Guy Palmer (2006) in '*Single person households: Issues that JRF should be thinking about*'. Some minor alterations have been made. The discussion about 'single person households' sometimes confuses two rather different things, namely 'people who are living alone' and 'people who are single'. There is also something the confusion between the words '*single*' as opposed to '*couple*'. The word 'single' is variously used to describe:

- a *living arrangement*, whereby the person is not living with someone with whom they are the partner.
- a *social arrangement,* whereby the person does not have a partner.
- a *marital arrangement*, whereby the person is not married.

Because of these various meanings, this report tries to avoid the use of the term '*single*'. Where this is unavoidable, it uses the meaning that relates to the living arrangements, this being the focus of the paper. In other words:

- the term '*couple*' is used to describe two people who are both partners and are living together, whether married or not.
- the term '*single*' is used to describe any adult who does not have a partner with whom they are cohabiting, whether married or not.

So, for example, people who have a partner but are not living with that person count as '*single*' in this paper. This distinction between '*people living alone*' and '*people who are single*' is important because some of the statistics quoted in some papers as being for people living alone are actually statistics for people who are single. Important groups that are 'single' but not '*living alone*' include:

- *concealed households*: adults living with their older parents or parents with their adult children;
- *single parents*: single but living with their dependent children;
- *sharing households*: two-plus unrelated, non-cohabiting adults sharing accommodation.

In this document, the phrase '*one person household*', '*solo dweller*' or the phrase '*person living alone*' used to describe people where there is no one else

with whom they are sharing common housekeeping or a living room.

Note that one person households may still be living with their children on a part-time basis. For example when a couple has split up, and the children live with the other partner (most of the time the mother) but sometimes stay with the person.

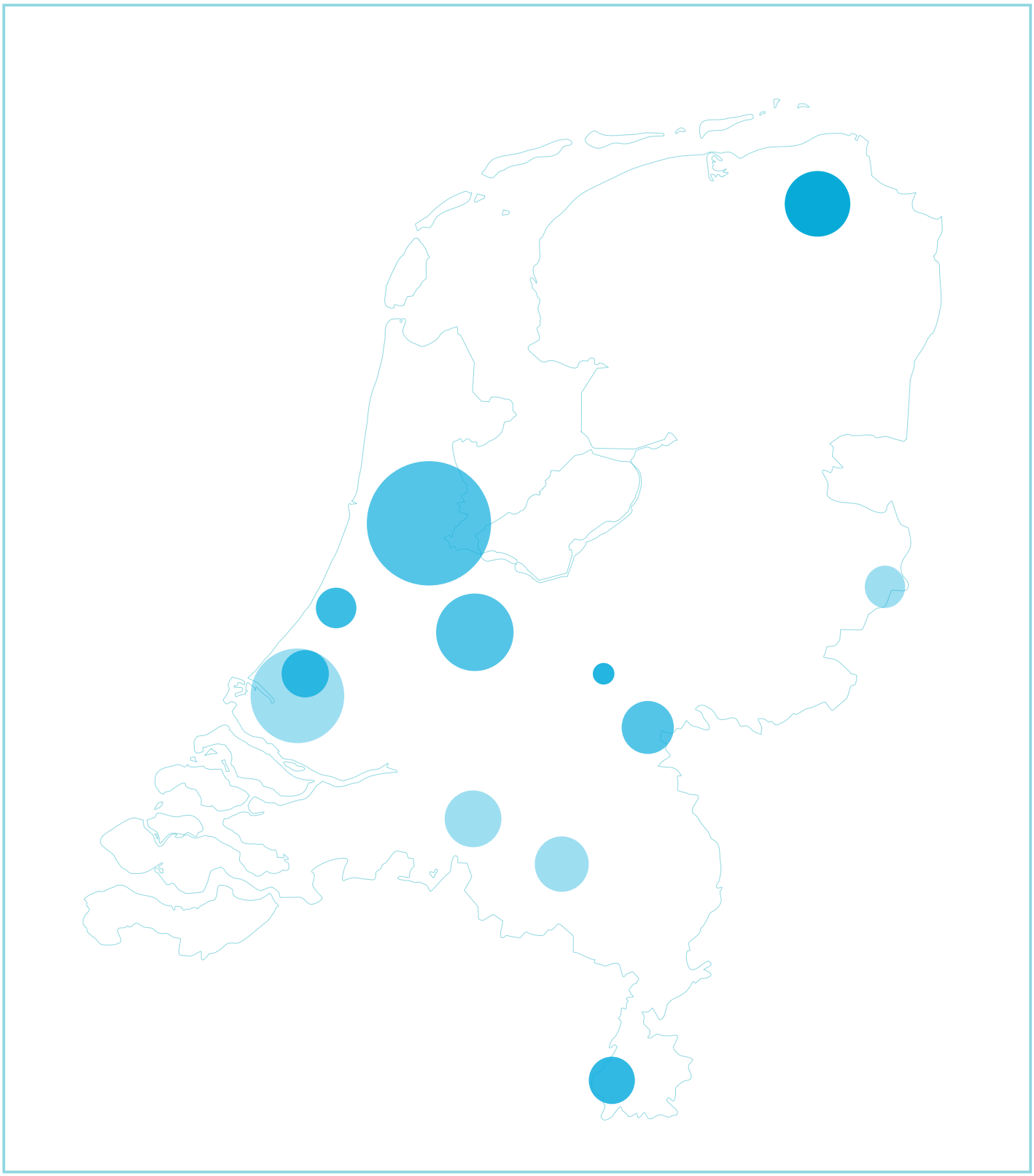
A social context

Sociologist Eric Klinenberg (2012) writes in his book '*Going Solo: The extraordinary rise and surprising appeal of living alone*' that until the late twentieth century, the traditional family was dominant in European society. Because marriage was still the norm at that time. At the same time the group of solo dwellers slowly grew and both men and women moved to the bigger cities. There were several reasons for this transition. Better job opportunities was one, but another one was to escape the surveilling eyes of their community and family. This step away from the standard and traditional life cycle started around the 1970s. Before that time, people only started to move out when they were getting married and starting a family. But it became more common to live on your own for a while before starting your own family. (Gadet, 1999; Hamsen, 2008). You can think of students that where moving into student complexes or where moving in with a landlady. Next to this, there came subsidized housing for one or two person households, initiated by the Dutch government (Huisman, 2000). Women emancipation had also an impact in this, together with the rise of individualism. Due to the fact that women where entering the work force in big numbers, they became able to support themselves. Now that women where able to support themselves they became more independent and had now also the ability to live on their own (Klinenberg, 2012). This was accompanied by the growth of wealth. The economy was booming and the welfare state's social security system made living alone affordable (Hamsen, 2008; Klinenberg, 2012). This expansion of the service economy was especially beneficial for women, as described above. Now that women also where starting careers, relationships and marriage were often postponed or avoided and relationships were broken up more easily (Gadet, 1999; Hamsen, 2008). Divorce rates substantially grew during the 70s. The well being of the individual and it's needs became more important than the more traditional measures, such as status and income (Klinenberg, 2012).

In the present it is become common to move out and live alone. People continue to live alone for longer periods. Living alone has been considered as a new urban lifestyle (Schmidt, Devos, & Blondé, 2015). It is no longer temporary or sees as a phase in between relationships. But being alone is a cyclical condition.

So one person households tent to move more often, because when people are in a serious relationship they move in together. But when the relation ends they become single person households again (Klinenberg, 2012). This results in a high mobility of solo dwellers.

Solo dwelling takes place in different phases of life. Moreover one person households are a diverse group consisting of people with and without a relationship, rich or poor and high as well as low educated.



Share in 2030 (%)

30 40 50 60 70

Total in 2030 (thousand)

250

100

10

Amsterdam

Amount of single person households in 2015 was 247.4 thousands. This will increase to 274.2 thousand in 2030.

figure 6. Increases in single person households

They live alone for different reasons because they are divorced (when having children men often live alone while woman form a single parent family), their partner died, they haven't found the right partner yet or just because they appreciate living alone (Hamsen, 2008; Klinenberg, 2012).

A diverse group and it's needs.

The growth of solo dwellers creates an overall rise of one million households in the Netherlands by 2045 (Centraal bureau voor de statistiek, 2011). Therefore a housing demand in the future will arise since more houses are needed to accommodate the same amount of people. In Amsterdam the amount of single person households will increase from 247.400 in 2015 to 274.200 in 2030 (figure 6.).Unfortunately the current urban context does not support living solo and not all needs of solo dwellers are satisfied. Houses are often designed for other household types than the one person who is living in it (Duin, 2015). As a solo dweller you can live in smaller places and might be interested in sharing facilities like a launderette or common room (Klinenberg, 2012). Furthermore the possibilities for social interaction are more important for solo dwellers than they are for people who live with others. When you are part of a family you come home to a social entity whereas being a solo dweller you come home alone. This makes solo dwellers more likely to go out to meet others (Gadet, 1999; Klinenberg, 2012). This can happen in public space and in bars, cafés or restaurants which are present in central areas, like the city center, but less in the suburbs which tend to be designed for families. Currently some trends already show the effect of the growth of living alone. Initiatives for specific housing for solo dwellers are rare and only happen on a small scale within the Netherlands.

The bpd (2015) subtracted two groups out of the solo dweller group in the Netherlands. The first group is '*the functional adventurer*'. This group tends to choose for an urban environment and prefers a bustling center. A large part of their lives takes place outdoors. They use the city as and extension of their home and making more use of public space in the city. This means that they don't need that much space in their dwelling and the layout of the dwelling is not a breaking point for them. Sharing some spaces like a laundry room is fine as long as they get some extra space in their own dwelling to compensate (bpd, 2015). Dwellings between 30-50m2 is desired for the functional adventurer. On the other hand you have the '*solid homester*'. This group prefers suburban areas. They have way more stuff then the functional adventurer and also need more space. A classical two bedroom apartment is for this group the ideal home. This is because the extra third room is highly valued for this group. This means that their ideal home should be around 60m2 or more. The homester doesn't like to share spaces. In both groups it appears that they rather not share spaces like kitchens or bathrooms. Sharing spaces of these forms feels to them like a step back or reminds them of their student time. But other spaces can be shared (figure 7.)

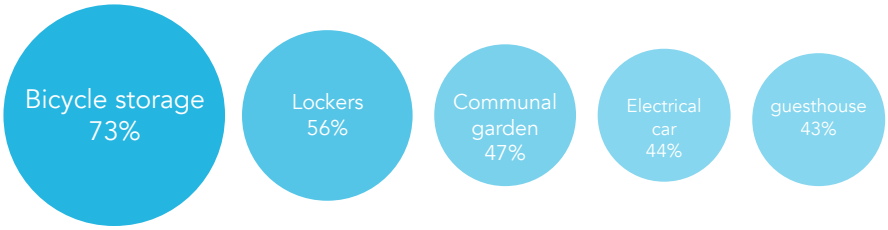


figure 7. Willingness to share spaces

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Due to the fact that solo dwellers come home alone they are more likely to go out to meet others. Out going facilities are requiered.

Sharing spaces in not desired unless it brings concrete benefits to the resident.

Solo dwellers in urban areas don't need al lot of space since they see the city as an extension of their home. 30m^2-50m^2 suffices.

Smaller living.

Solo dwellers need much less space. This demand for small living can be broken down into two groups according to Bart Dopper and Ester Geurting (2018) from the Stec group. These are the micro apartments and the Tiny houses. But both of them have a different motivation base. The demand for micro-apartmens drives on the demographic developments. This comes from a combination of factors such as urbanization, the growth in the number of one person households and changing life choices. Dopper and Geuting (2018) say that life choices emphasises more on experience, flexibility and housing identity. With a limited budget, compromises that people make are shifting from square meters to location and residential identity. On the other hand there is the tiny housing movement. This emerges also from a shift in compromise. But this shift is about a self-sufficient, independent lifestyle versus comfort (square meters). This choice is made to a lesser extent by pressure on the housing market.

Small living is almost always a compromise. The result of the trade-off between residential identity and living space is the micro-apartment. People and thus one person households have a limited budget, especially given the rising prices in the city. But the also pursue an urban lifestyle based on flexibility, diversity and a reduces focus on ownership (Dopper, et al. 2018). To meet both, they make a choice between residential identity (living in accordance with their urban identity and lifestyle) or more spacious living (cheaper, but outside the city). The trend of Micro-apartments shows that households are increasingly opting to retain residential identity instead of square meters. At Tiny Housing, a different consideration plays a role, between an ideological lifestyle (low footprint, small scale, relaxation) versus the comfort of space (living space). Here, too, residential identity wins over living space. If you match this with the one person household division made by BPD, you can assume that the ‘functional adventurer’ fits perfectly in a micro-apartment.

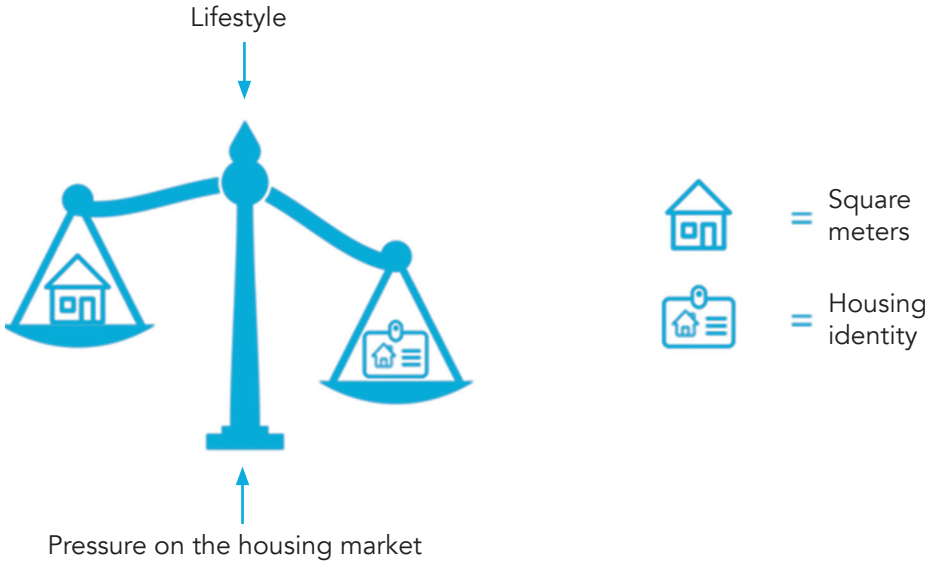

figure 8. Driving force behind mirco housing

The role of the built environment

In *The cities we need* (2010) is argued that we should ask ourselves how cities address peoples needs when evaluating them on how they work. These are both material and psychological needs. These material needs tend to be more prioritised in political and policy terms. This is partly because material needs are easier to measure and influence. But this doesn't mean that psychological needs are less important. Quite the contrary. They are of absolute importance, and cities play a role whether they are met. As van Tilburg (2007) described in the previous chapter, loneliness is a subjective feeling which has it's origins in the social structures of a persons life. But that doesn't that mean that the built environment and thus architects can't do anything about this. It is clear that loneliness result in the pain of social exclusion. And some people are more or less sensitive to this pain. This is for 52% the case. But, genes are interacting with the environment. And the environment determine the expression of basic personality aspects. Whether or not people become lonely is for 48% due to their environment (Cacioppo J, et al. 2008). It is relevant for housing policy makers precisely because housing is so intricately involved in its experience, its concentration in spatial and tenure terms, and its environmental development. (Franklin, et al. 2011).

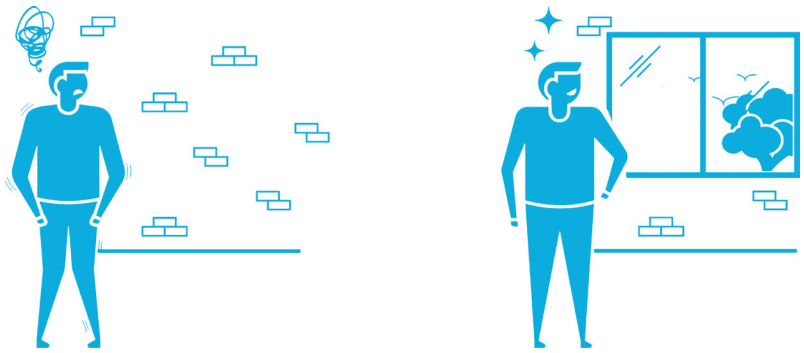

figure 9. Environmental influences on our expression of basic personality aspects

Single person household dwellings, particularly in the form of blocks or apartment buildings, rarely include any shared or communal areas. The success of much, if not all, student accommodation may prove to be useful here precisely because universities and colleges want their buildings to encourage some sharing of space and a rapid and successful integration into community life. Shared spaces, and responsibilities for them, provide exactly what is often missing from relationships: an enduring, binding common interest. Some examples from private and public developments, though not typical, might prove useful to study further, particularly those that build-in such features as common or communal gardens, barbeque areas or shared rooftop leisure spaces. Equally, housing and health agencies can combine to make sure that areas in which there are high densities of one person households have medical facilities and staff trained to identify people at risk from loneliness (Franklin, et al. 2011).

Of course many factors have an impact on social connection that are not directly linked to cities. They include individual dispositions, income, family situation, health, crime, culture and countless others. Cities are places where people come together to benefit from interacting with people in large numbers. And cities offer these large number of people places to meet. Like parks, libraries, cafes, sacred places and many other amenities. Proximity, mobility and shared spaces are important because, despite other ways of connecting, face-to-face contact remains a crucial way to develop and sustain our personal relationships. Trust, sympathy, respect, understanding, loyalty and co-operation – qualities at the core of social connection – come more easily through direct contact (Kelly, et al. 2012). Cities can help social connection, or hinder it. They can be so poorly organised that they are hard to get around – a problem not just for getting to work, but also for seeing friends and family and participating in social activities. A city that 'builds in' isolation through its housing options, transport accessibility, and other features, can have significant consequences for the strength of people's relationships and mental health. But the physical by itself does not determine what happens. Design is not destiny (Kelly, et al. 2012). People often find ways to meet despite physical obstacles. Conversely, the best-designed spaces don't guarantee connection. Over attempts to engineer social interaction can backfire as people often withdraw when they feel their privacy is under threat (Kelly, et al. 2012).

Residents should offered both the possibility to interact with other but also to avoid this interaction. They should always have the choice between private spaced and communal spaces. This is the most important aspect of stimulating interaction between residents. Forcing people in to communal and collective spaces will let the resident develop negative feelings toward those spaces. The intensity of collective areas can be increased, but should stop before people experience a lack of privacy, as the participation level will drop when this occurs (Williams, 2003).

Privacy zoning.

Controlling one's privacy (or control over social interaction) is a basic human need. The built environment places a roll in the perceived privacy of an inhabitant or visitor of a neighbourhood. The design of a neighbourhood should facilitate this privacy control. This leads to a privacy zoning.

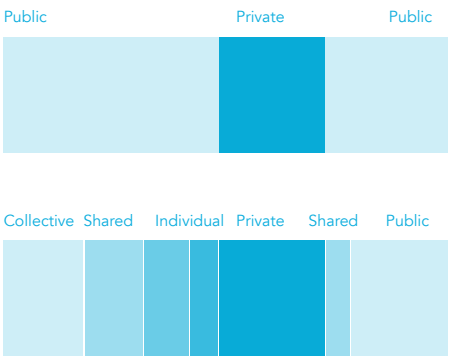

figure 10. Gradual trasition from private to public

FORA + Beth Hughes (2003) introduced the diagram (figure 10.) at the renovation of a typical 70s gallary apartment building (as we also know them here in the Netherlands). where the emphasis lies on creating more zones and have a more gradual transition from private to public space.

Privacy zoning emphasises territoriality, the living space of a small group of residents. This implies a criticism of the conventional meaning of the term 'public space'. Space that belongs to everyone and is easily accessible may help to create the anonymous character of outdoor areas. Privacy zoning underline the importance of zoning at different scales (the home, in front of the home, cluster of homes, part of the neighbourhood, etc.) and the importance of territories, the usability of communal spaces, personalisation of the neighbourhood environment and social contact with visitors and passers-by. (van Dorst, 2005) The only way that social contacts are possible is if people and residents of a building can regulate their privacy. This is a general need in every thinkable environment. But it's character is of a dynamic form. The need for social interaction varies from person to person. And it also varies over time as an individual. Therefore, privacy controls the interaction with other people. So the environment doesn't only have to offer the possibility for engaging in social contacts, it's also there to offer spaces of seclusion. If the ability to regulate privacy is insufficient then inhabitants will feel the miss of social contacts. Or they will avoid it. The consequence is loneliness, social stress of anonymity. To regulate these social interactions, the environment needs to be readable. Readable like a system of zones where numerous forms of social interactions are possible or on the other hand are impossible. Privacy zoning is a physical support to engage in social interaction or avoid it. The built environment exist of zones that belong to the residents. All of these zones are on different levels and scales. The home --> hybrid zone around the home --> cluster of homes --> street --> neighbourhood, et cetera. You can recognize every zone because they are marked by boundaries and borders, transitions and the behaviour of other users (van Dorst, 2005).

Social cohesion

Carolien Hoogland (2000) says in her study 'Semi-private zones as a Facilitator of social cohesion' that residential areas have certain spatial characteristics that will influence or even determine the content and form of interaction. There are several ways to create these spaces of social cohesion that offer the opportunity for chance meetings, and for retreat within the neighbourhood. Hoogland (2000) lists up suggestions as a rule of thumb that pop up over and over again in discussions on communicative buildings. She notes that these suggestions should be scrutinised and not be blindly applied in any situation. For creating this social cohesion, there should be a restriction in the number of dwellings within a block since population size and density influence social interaction. Large groups feed anonymity so the size of a neighbourhood should be manageable (Gehl, 1987). Dwellers lose oversight of who is occupant and who is not if a certain number of dwellings is exceeded. A factor in this is also the amount of dwellings sharing one entrance. The entrances divide the residential population into subgroups, and this is increasing clarity. Limiting the number of floor is another aspect. When living high up in a building, residents tend to lose contact with the ground floor. This notion of scale is an important aspect as Jan Gehl (et al. 2006) mentioned in '*close encounters with buildings*'. The buildings have become bigger but the people haven't (figure...). This

creates dismissive, uninspired cityscapes.

figure 11. 'Everything have become bigger, except the people'

The 'orientation' of dwellings through front, side, and back doors may be outward or inward. For example the dwelling may open to a garden or a street. Openness always has to be considered in combination with the aspect 'constellation'. Constellation of dwellings assumes that dwellings are orientated toward each other. This will make social cohesion more strongly. By using homogeneity of materials, the building will achieve a visual unity. This form of clarity will make it easier to distinguish which dwellings belong to the settlement and which are not.

Implementing this list provided by Hoogland (2000) needs a more holistic approach she says. Design of residential areas will definitely profit from combining these resources. But this depend if they can be used at the site, handling its particular constrains, and trying to find out how they may enhance each other. This all comes basically together as two key factors: 'the number of people in the group' and 'the frequency in which encounters take place'. These factors will allow residents a clear idea of the residential group they belong to. At the same time it offers them adequate opportunity to interact with each other.

☆

- Let people have the ability to regulate their privacy.
- Create different zones from public to private.
- Restrict number of dwellings in a block.
- Make multiple entrances.
- Limit floor numbers.
- Don't let scale go out of proportion.
- Orient dwellings towards eachother.
- Create spaces for spontaneous encounters.

Proximity, hybrid zone and soft edges

A great influencer on the number of encounters between residents is by proximity (Williams, 2005). Residents tend to be more isolated when they live further away in communities instead of living in the middle of it. When the proximity is increased between individuals, the number of contacts will rise. This due to the fact that they see each other more often. But there should be convenient spaces to meet. This is especially the case if it's a place where spontaneous encounters happening. Places like this should exist between the various private units and also between the private units and the communal spaces (Fromm, 2012).

The transition from the private dwelling to the public outside space is a big transition. By having 'soft edges' to residential buildings makes it more likely that interaction between people will take place. This intermediate zone will crate a more graduate transition from the private to the public. This is called a hybrid zone and prevent the direct transition between the private atmosphere inside and that of the outside public realm. A resident can feel safe in this space when closing or opening it's front door when having it back turned to the public. This can be achieved by front gardens, level differences, porches, steps, set backs in the façades or something like plants or a bench in front of the house. These semi-private areas are places where residents, neighbours and passers-by are allowed to be. It promotes passive surveillance, deterring crime and increasing the feeling of security, safety and community (Kelly, et al. 2012). This hybrid zone also has a major impact on social connections. 80% of informal social contacts start from front gardens. (Skjeaveland, et al. 1997). The residents stay in their own territory but is still easy to start talking to by others. On the other hand, these hybrid zones can also cause misunderstandings and conflict if they lack a universal readability. When it is not clear to whom or which group a certain zone belongs, people tend to behave more inappropriately and will more likely to interfere with the privacy of others. Also the more functional spaces that are further away from the private zones should be designed in attractive ways. So that people also meet each other there and walk through the community together (Hoogland, 2000). The spontaneous and accidental meetings are highly influential on the level of community feeling (Hoogland, 2000). A living environment with enough meeting spaces will establish a stronger cohesion between residents since a multitude of small meetings will possibly trigger to organise bigger ones (Hoogland, 2000).

figure 12. Large hybrid zone

figure 13. small hybrid zone

figure 14. Hybrid zones with facilities to stay

Outdoor spaces

Outdoor spaces are great to design as the heart of the community. Communal outdoor spaces are of great essence for a community due to the fact that they strengthens the feeling of belonging to the community. The outdoor collective area will blend with the (semi) private space of the dwelling if they are situated on the same level. This blend will increase the feeling of attachment of the inhabitant to the area. If the private dwellings are on higher floors, or further away from the communal outdoor area, it should have maximum visibility this outdoor space. This will more likely to motivate the resident them to join to others. Besides these zones, the biggest part of the outdoor space should be semi-public or collective, as the other residents should also be able to use the garden. When the communal outside is, partly, a shared allotment garden the interaction between residents will also increase (Hoogland, 2000).

Possibility for personalisation

Residents need to have the ability to personalize their living environment. Social interaction is important, but more important is the idea of personal control. By interfering into the physical environment residents can therefore feeling a bounding with the place. When you can create your own territory it becomes your home. That's the difference between a house and a home. People should be in control of their interaction. And the physical environment facilitates the amount of interaction. That asks for a kind of diversity in the build environment. This is important because this way the also can identify with the place. This can be done on a small scale by decorating your front door, or on the other side of the spectrum by building your own house. But there's a lot in between where de designer can leave room for adjustments in the design. van Dorst (2005) states that making the environment your own is always more important than the aesthetic quality of the total, see figure...

van Dorst (2005) mentions that the right balance flows from an interaction between physical structures and social organisation. This interaction often depends on fine details of design, which means that 'people-friendly' arrangements can sometimes be counterintuitive and difficult to achieve. For example, individual business owners might feel more secure when their shops are protected at night by roll-down shutters. However, a row of shuttered businesses creates an empty streetscape that feels unsafe and deters foot traffic, which reduces security.

A lively street might prove better at reducing crime and anti-social behaviour than physical security measures such as shutters or CCTV cameras, but this would require a significant number of business owners to agree to remove their shutters, maintain lit- window displays and perhaps continue to trade into the evening.

☆

- Create soft edges and hybrid zones.
- Make clear what space belongs to who.
- Spaces further away from the private zones should be designed in attractive ways.
- Make commiunal outdoor spaces.
- Let people adjust their environment to let it become their home.

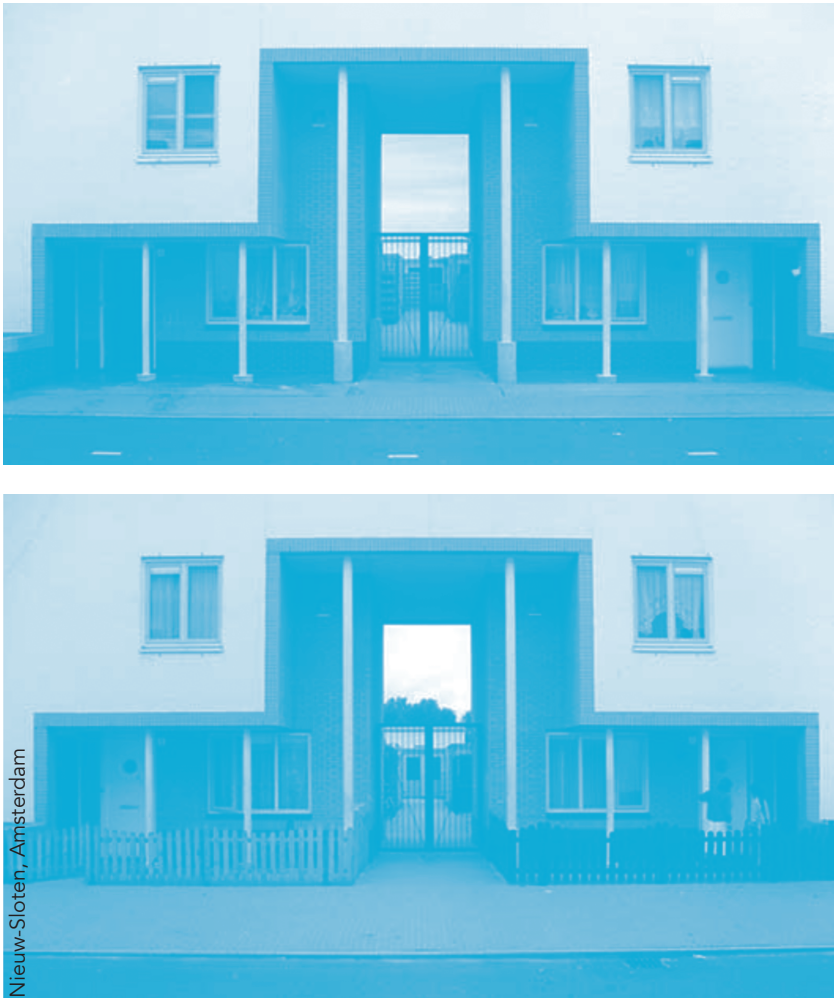

figure 15. Personalisation by inhabitants of the initial design.

To see that cities influence social connection, we need only reflect on how badly things can go wrong. Places like Cabrini-Green in Chicago, Fountainwell Place on the Sighthill Estate in Glasgow and Broadwater Farm in London were ambitious attempts to create low-cost housing that fell into decline. (Kelly, 2012).These failures, and others like them, resulted from a combination of flawed urban design and misguided social policy. Examples like this show that understanding social connection is important, not just for decisions about existing areas of our cities, but also as we continue to build new communities on greenfield sites. Another important element of feeling connected is whether residents have a 'sense of belonging' to where they live. Knowing neighbours, feeling safe on the streets and living in an area with a distinctive character can help to create this sense of belonging. So can having spaces and activities in the city that encourage us to mix, both with those from our own networks, or of similar age groups and backgrounds and with people who are very different. Cities can and do help set the signals for engagement and interaction (Kelly, 2012).

Figure list:

Figure 14: *Hybrid zones with facilities to stay.* Retreived June 11, 2019 from: https://thecityateyelevel.com/stories/hybrid-zones-make-streets-personal/

Figure 15: *Personalisation by inhabitants of the initial design.* van Dorst, M.J. (2005). Physical conditions for social interaction in the home environment. Department of Urbanism Technical University Delft, Faculty of Architecture. TU Delft. p,299.

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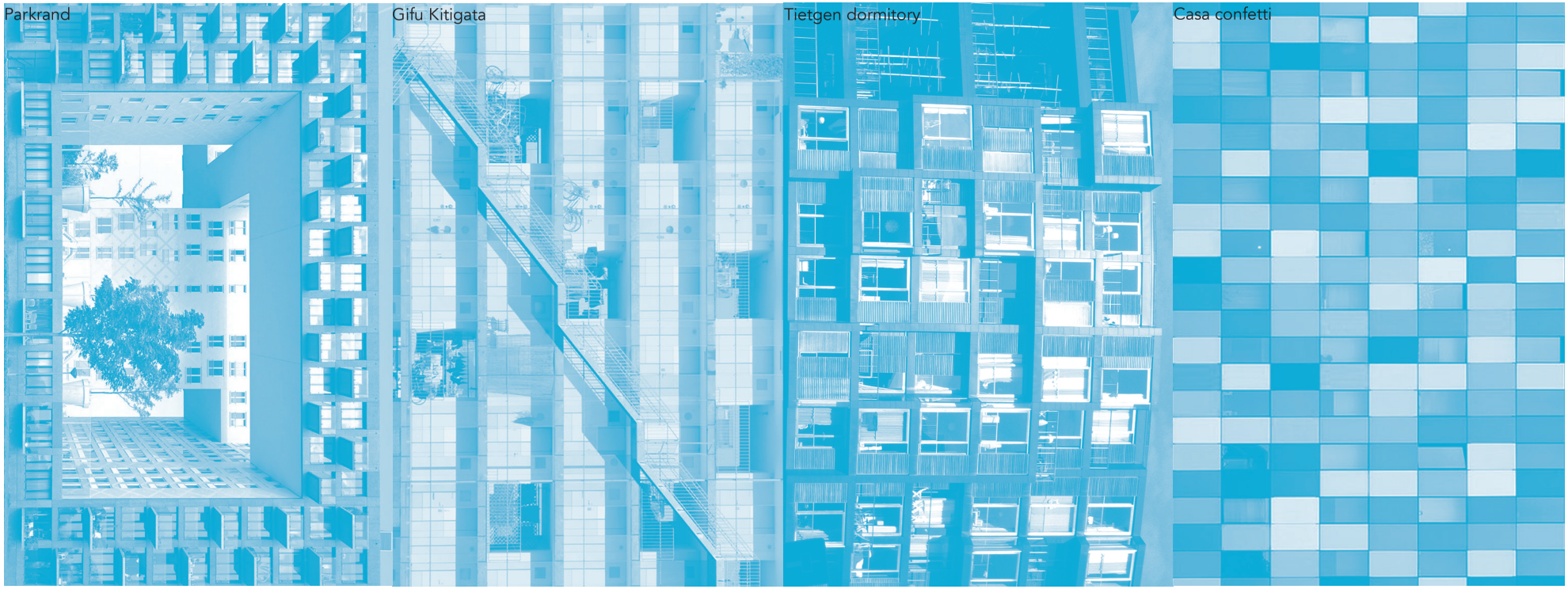

Parkrand
Gifu Kitigata
Tietgen dormitory
Casa confetti

Case studies

The chosen case study projects are selected on the following characteristics:

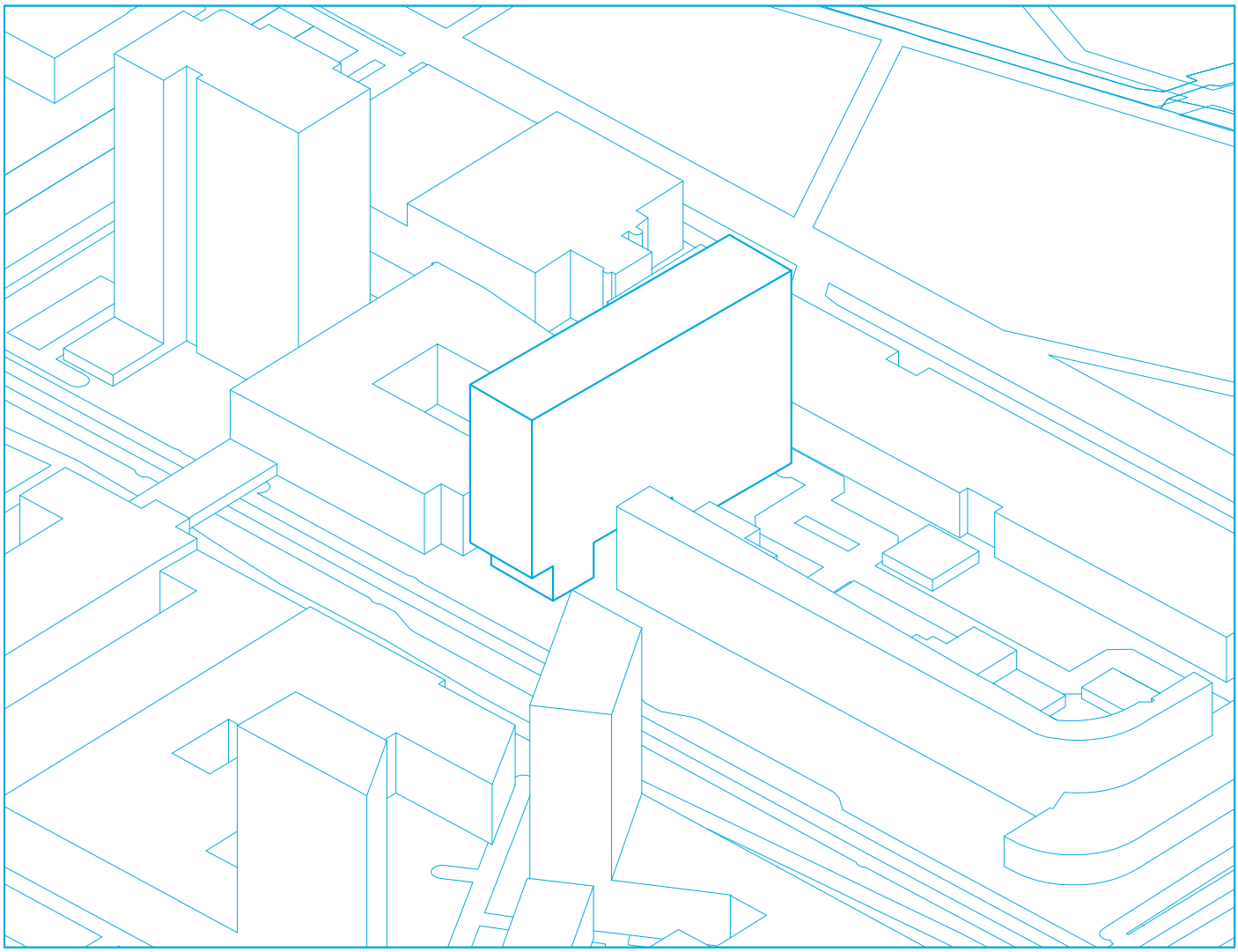
- The building provides small dwelling units.
- The concept behind the design should have a collective aspect.
- The transition between the public/collective and the private is carefully designed.

There is also chosen to include student complexes. This is done to see what exactly the overlap and the difference are residential buildings for students and residential buildings where units are for solo dwellers who aren't students. The hypothesis is that the concept of student complexes is also largely applicable for solo non student dwellers.

The focus of the first part of the analysis will be the private domain. These solo units are being studied on their floor plans. What is the size of the units and how are the different functions in the unit arranged.

The transition between the private and the public is another important part of this analysis. How the routing from the public to the private is arranged. And what the inhabitant of the building sees during this trip from public to private. What kind of spaces is the inhabitant passing by or going through. On the design of spaces this analysis will specifically focus on shared spaces, privacy zoning (as earlier discussed) and soft edges.

All the four case study projects are being analysed the same way. By doing this, the outcomes could be compared and gives an objective set of data which can be used and (partly) implemented in the future design process.

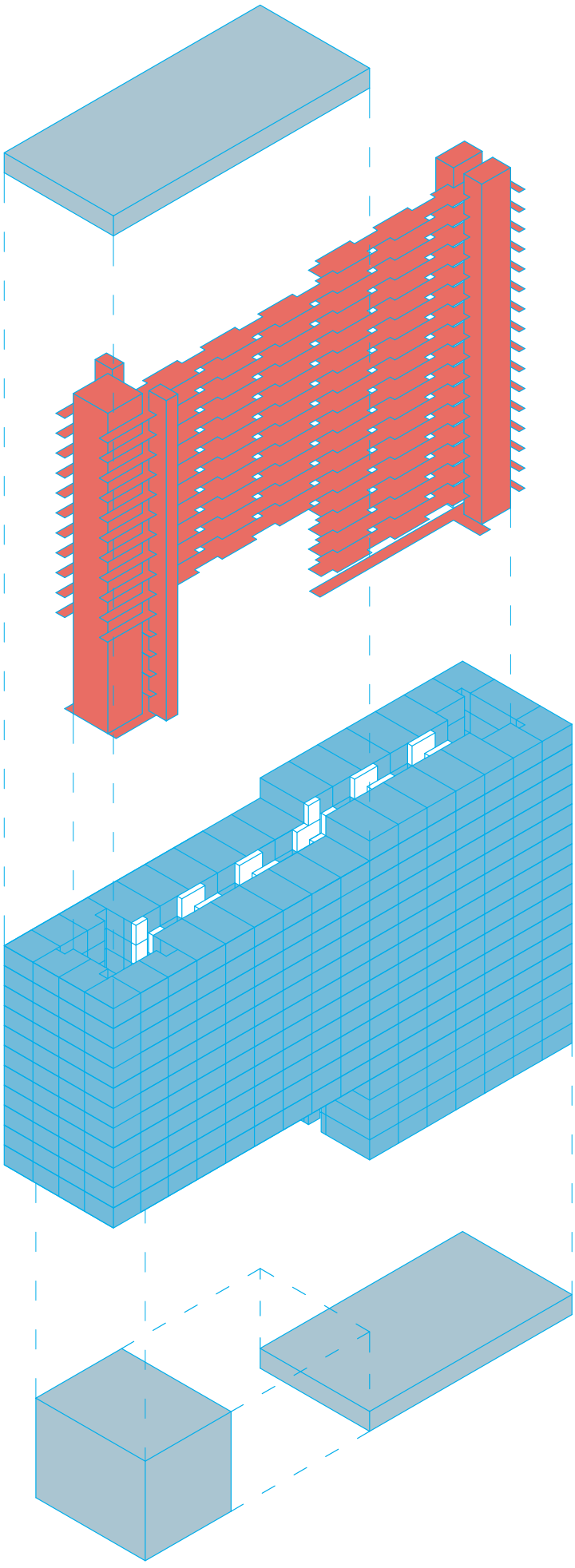


‘Casa Confetti’ dormitory Utrecht.

Year:	2009
Location:	Leuvenplein, Utrecht
Architect:	Marlies Rohmer architecten
Typologies:	Student studio’s
Amount of units:	257 single person units 20 three person units 15 four person units
Units size:	18-30m2

In the “Objectensgtrook” of the Master Plan of OMA, the complex of 380 independent and clustered rooms manifests itself as a solitary mass, 20 meters freely projecting. The spectacular concrete main supporting structure consists of four discs that together form a theatrical “table leg”. The leg with a swing set dramatizes the main entrance and creates an urban living space that sublimates the meeting and coming of all those students. The colossus resting on the main supporting structure consists of disks tunnelled in the longitudinal direction, so that the flexibility of the building and thus a sustainable expansion of the Uithof are guaranteed.

The building provides for encounters and exchanges on every scale: banquet halls, stairwells and corridors with niches form the microcosm in which the first true love blossoms and lasting friendships are born.

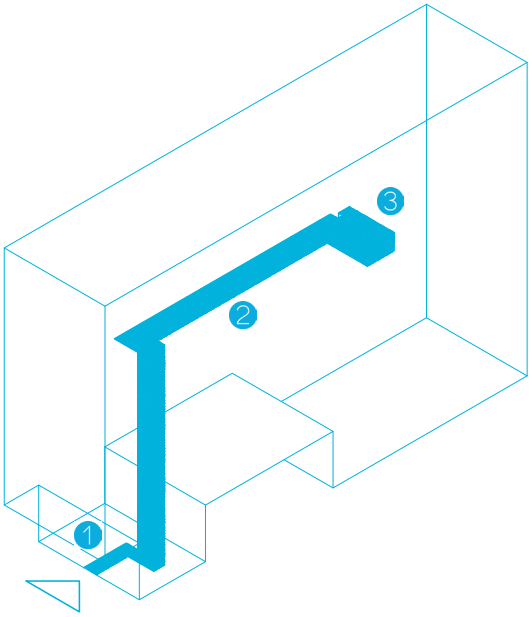


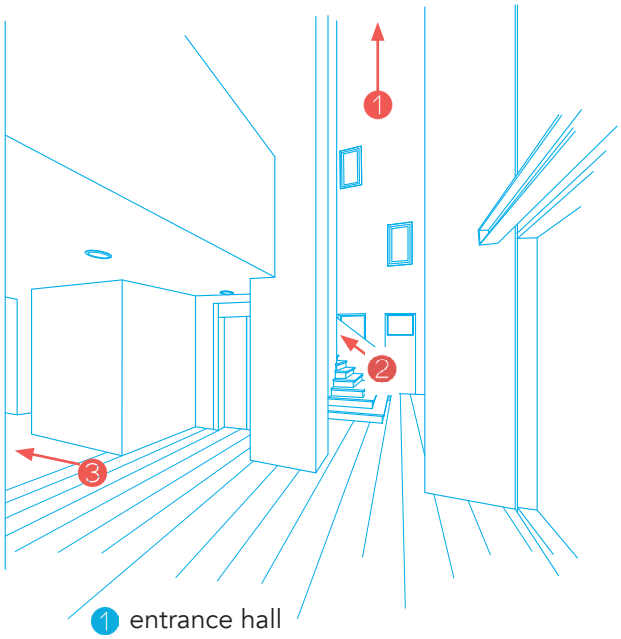
The communal roof terrace

The corridors with niches form the microcosm in which the first true love blossoms and lasting friendships are born.

300 student units are located around a central corridor. the head and tail of the building holds all the group units.

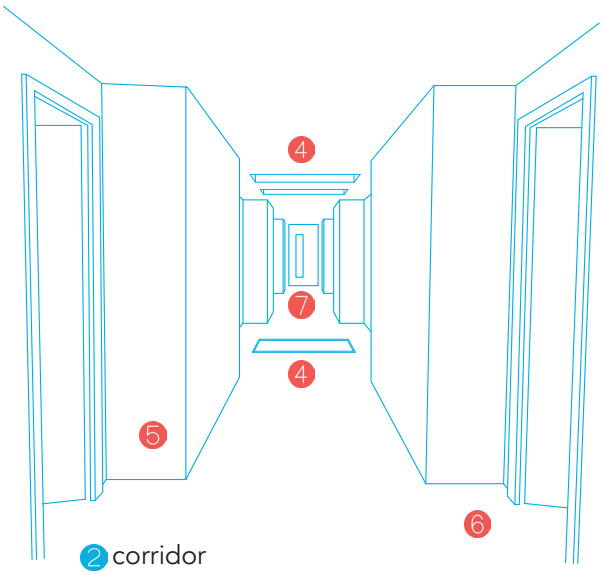
The ground floor of ‘casa confetti’ has its main entrance located to the main road. On the back of the building is a large indoor bicycle parking. The outdoor space in between (dotted line) is used a sportsfield, party- and gathering place by the students.





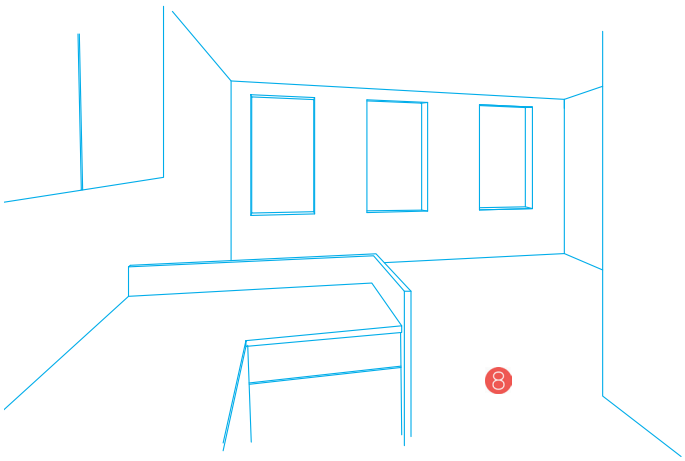
1 entrance hall

1. The entrance hall is a tall and light.
2. Stair to first floor with ameneties like a doctor.
3. Visual connection to the communal outdoor space undeneith the building
4. Voids covered with glass to, despite the corridor, feel connected with the other floors.
5. Four frontdoors clustered by narrowing the corridor every two units. This creates little squares to meet others.
6. These setbacks also create a hybrid zone between the corridor and the dwelling entrance
7. Entrance to the group units at the end of the corridor.
8. The individual unit has a kitchen and bathroom in the first part. The back of the unit is for sleeping and living.

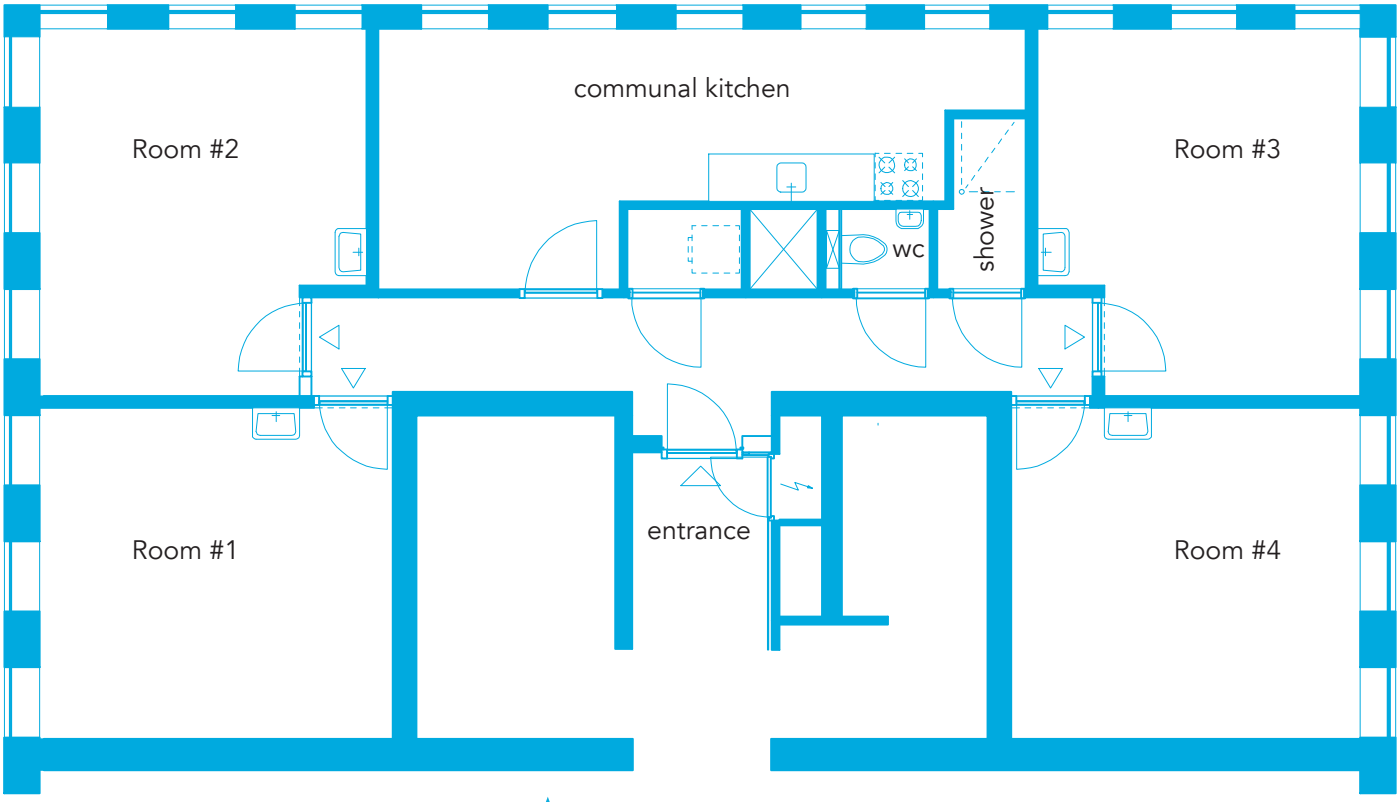


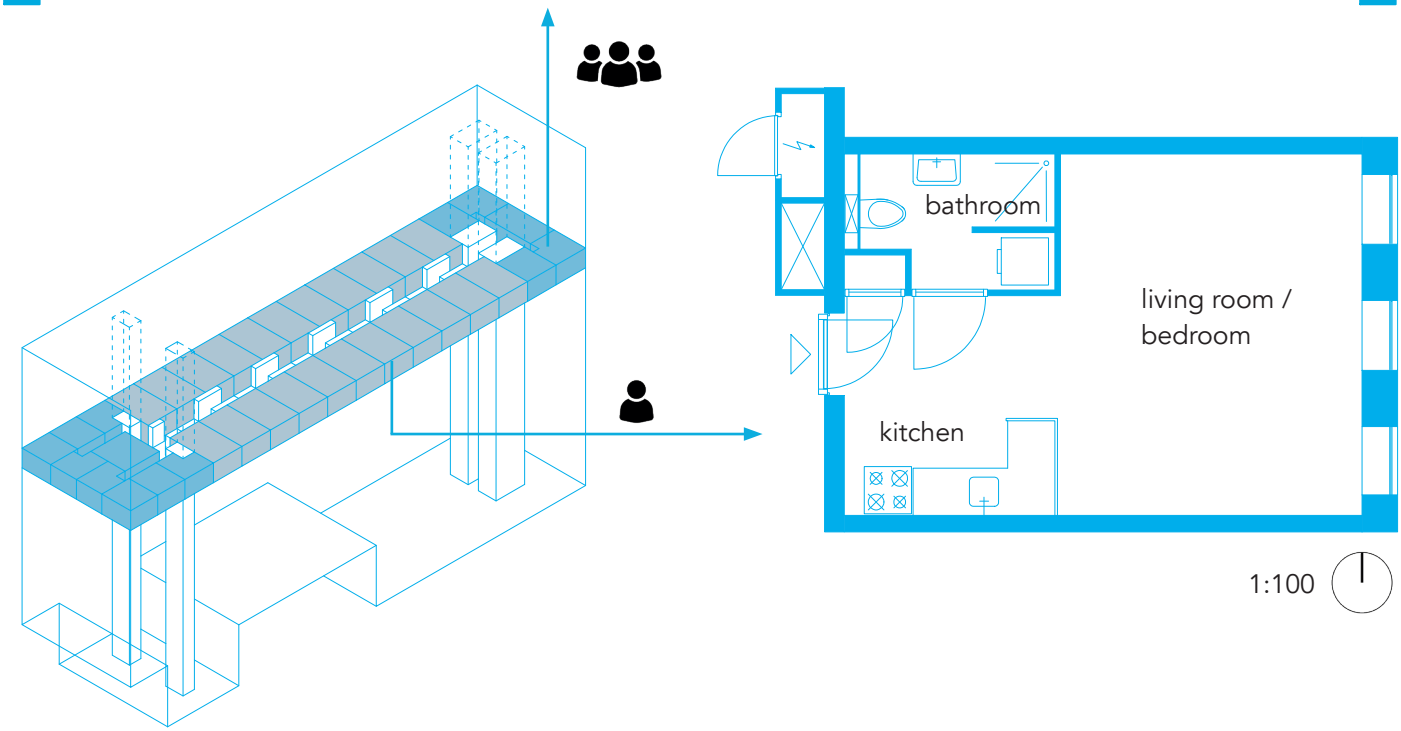
2 corridor

On the route from the entrance to one of the single units, the resident doens't cross the communal spaces in the building. Only on the ground floor it has visual connection to the common outdoor space underneith the building. The resident has to specificly follow a different route to these communal spaces. There are small inerventions done to encounter meetings like the narrowing of the corridor. And making visual connections to other floors by integrating glass voids in the floor and ceiling.

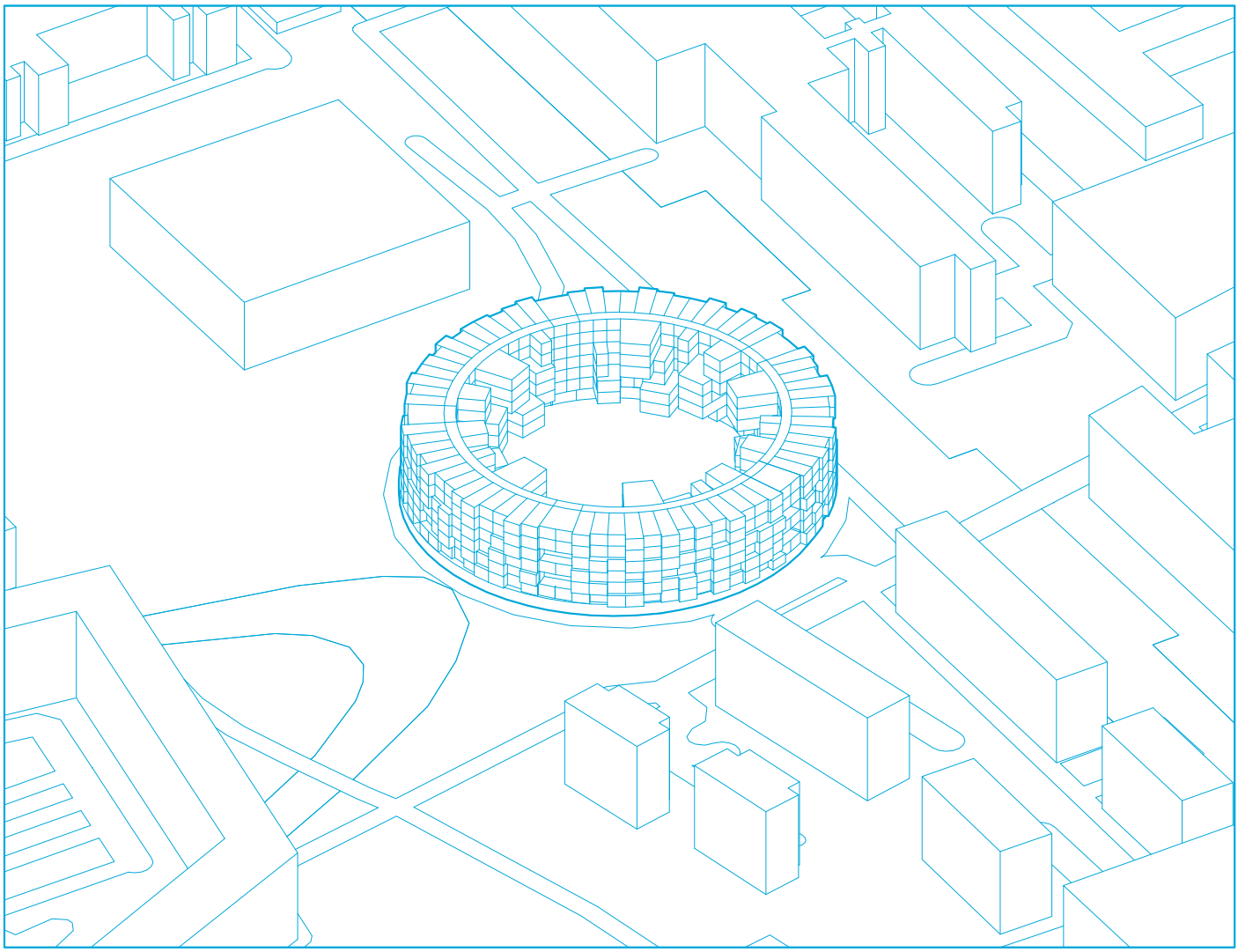


3 private dwelling





Casa confetti consists of different student dwelling types. from the third floor each level has 22 single sutdio's. The edges of the building are designed as co living group dwelling clusters. These group dwellings have their own entrace at the end of the corridor.
The rooms are centered around a shared room which includes a toilet, shower, laundry room and communal kitchen.

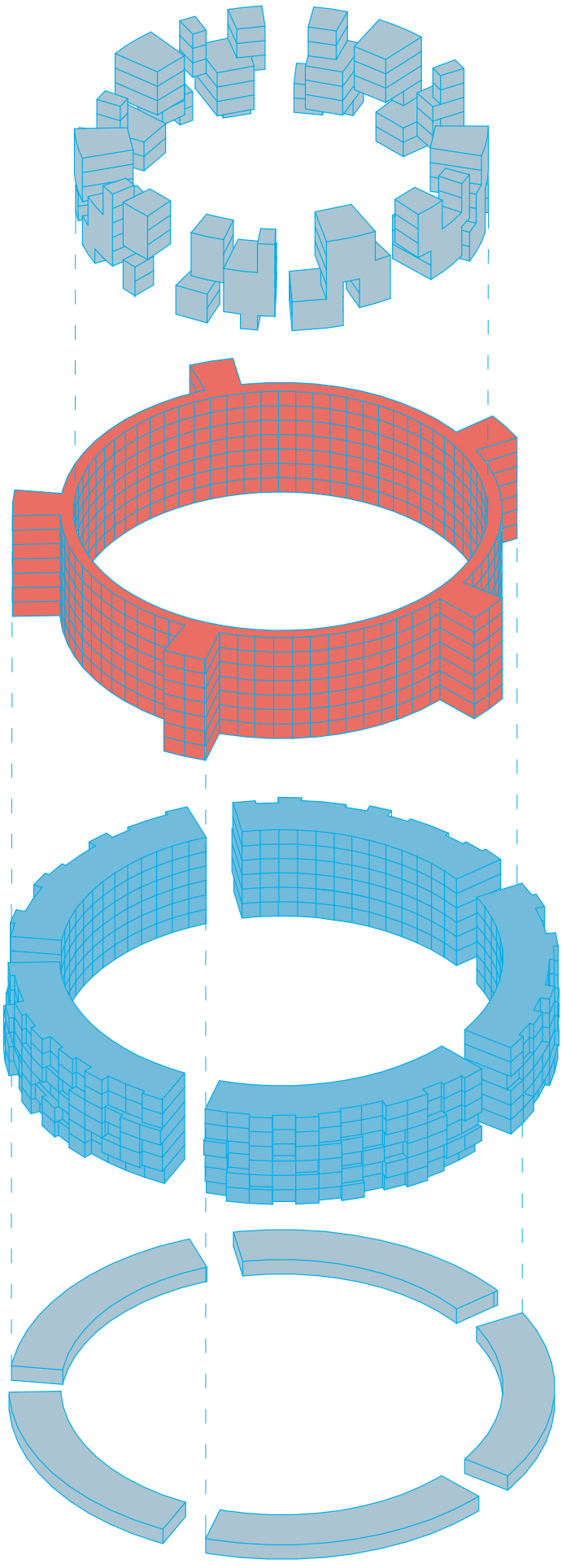


Tietgen dormitory

Year:	2005
Location:	Rued Langgaards Vej, Copenhagen
Architect:	Lundgaard & Tranberg Architects
Typologies:	Student studio's
Amount of units:	360 units
Units size:	29m2, 33m2, 42m2

The round building is seven stories high. Five vertical lines divide the building both visually and functionally into sections and also serve as continuous passages that provide access from outside to the central courtyard and to the different stories. The ground floor has common facilities: a café, auditorium, study and computer rooms, workshops, laundry, music and meeting rooms, and bicycle parking. The apartments are located on the other stories, 12 in each segment. All rooms face the façade and have a view of the surroundings. The common kitchens/auxiliary rooms, lounges, and terraces are located on the central court, bringing residents together.

Its concept focuses on how the accommodation can help encourage the personal and social development of the students. The courtyard, around which all common areas are located, reinforces the idea of community. It also enables the often monotonous student corridor to become not only spatially interesting but unending, linking all student 'houses' on each floor.

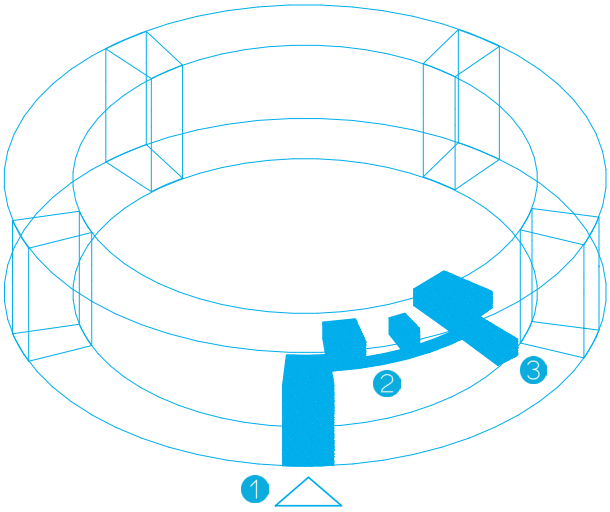


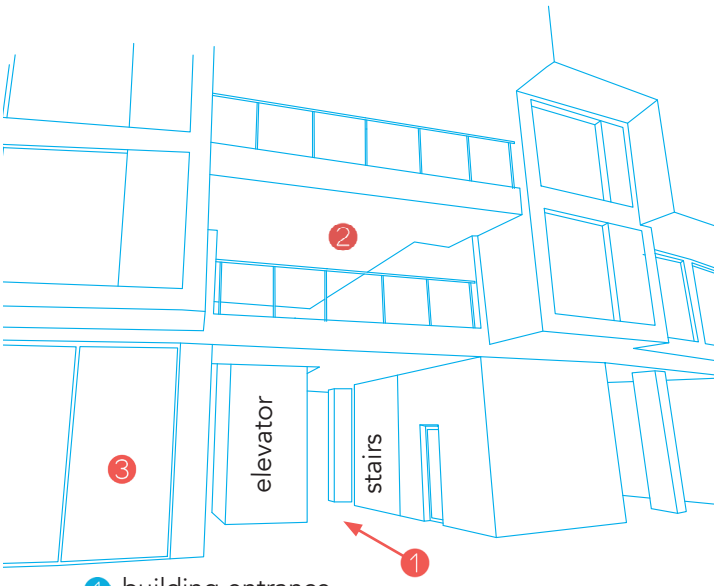
The communal room which you can enter from the galery have multiple functions. The bigger ones are the shared kitchens. The middle ones are shared living rooms and the small ones are auxiliary rooms. On some of these communal units are roof terraces.

There are five entrances which give acces to the communal courtyard and from which you can take the stairs or elevator to the galeries. The galeries are located on the inmer circe.

The apartmenst are located on the floor 1 till seven. There are twelve apartments per segment, which means 60 units per floor.

The ground floor has common facilities: a café, auditorium, study and computer rooms, workshops, laundry, music and meeting rooms, and bicycle parking.

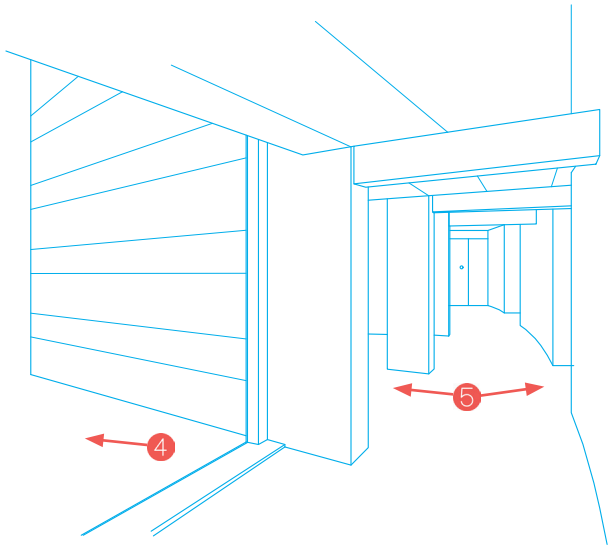




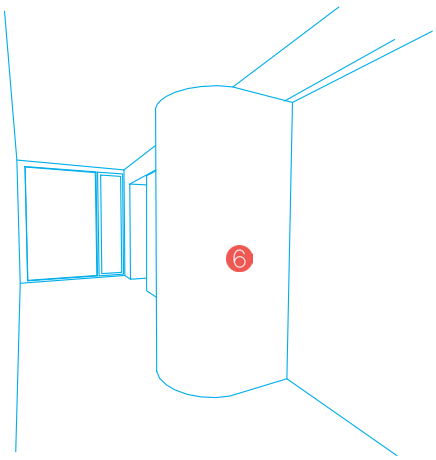
1 building entrance

1. Walking towards the staircase and elevator, the inner communal courtyard is visible.
2. The levels above the entrance are kept as outdoor spaces as well.
3. the ground floor hosts public and collective amenities.
4. The gallery is placed on the inner circle, from where you can always look into the courtyard.
5. On one side of the gallery are the dwelling units situated, on the other side shared spaces like kitchens and living rooms.
6. the dorm units are euquiped with a bathroom unit and closets.

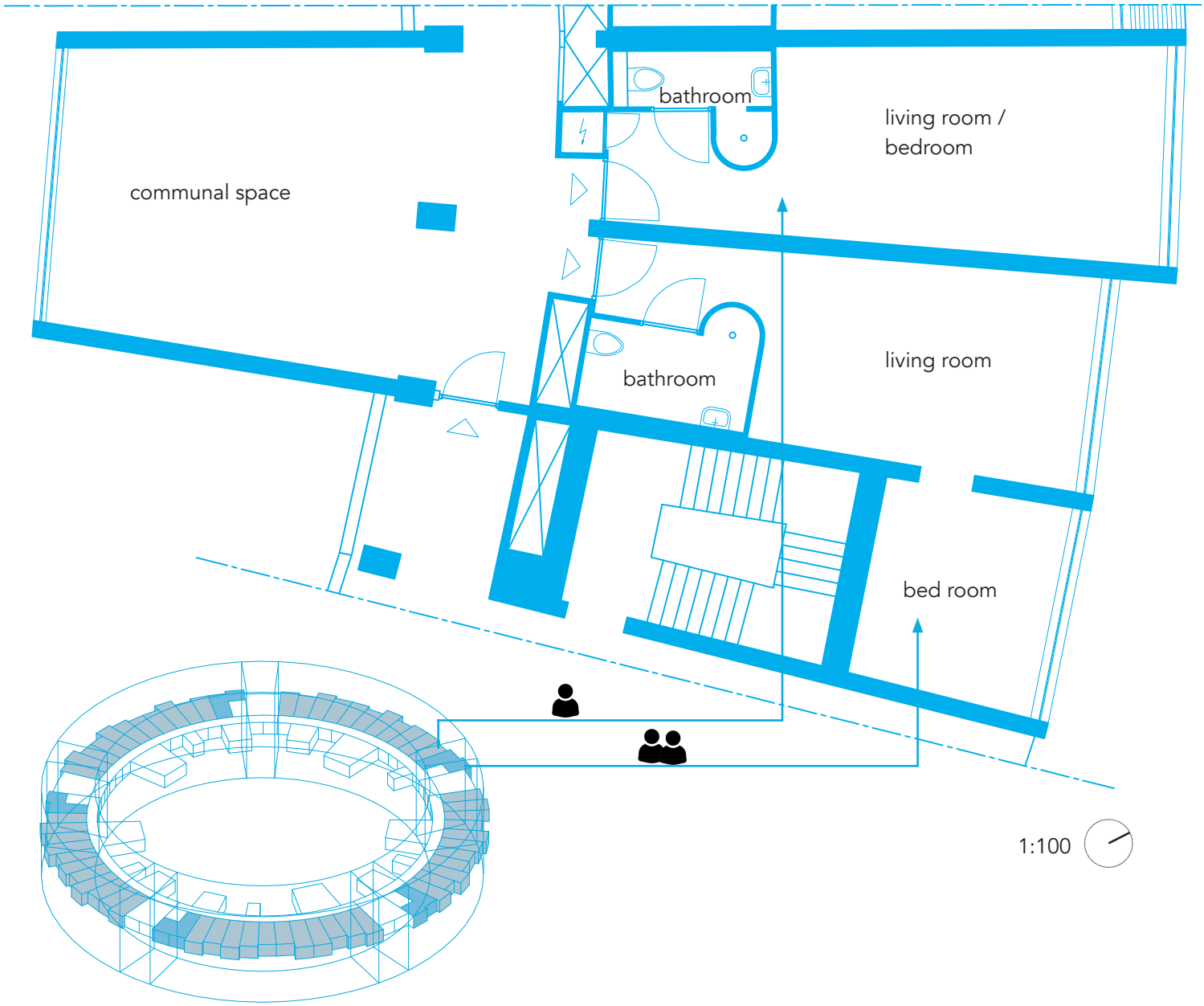
When going from outside of the building to the individual unit, the resident crosses many shared and communal spaces. On the ground floor before going up they cross the communal courtyard where most of the time people are studying or doing other things together. In the hallways the resident always crosses on or more communal units facing the courtyard. This gives a lively feeling to the building where a lot of things happen. Since there is no kitchen in the private unit, resident have to cook alone or together in on of the many shared kitchens. And when you don't feel like being alone in your room, the student can hang out in on of the many shared living rooms.



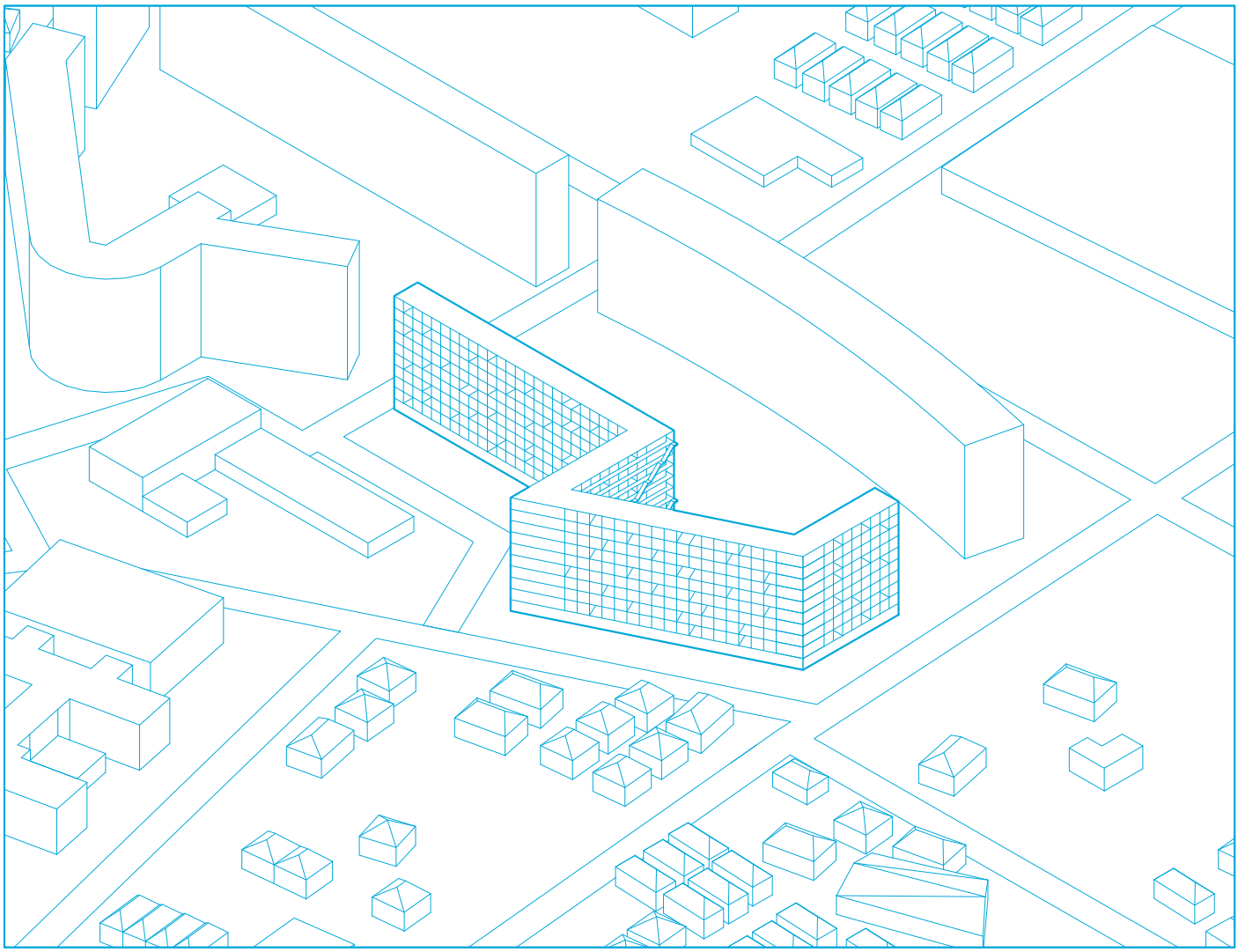
2 galery



3 private dwelling



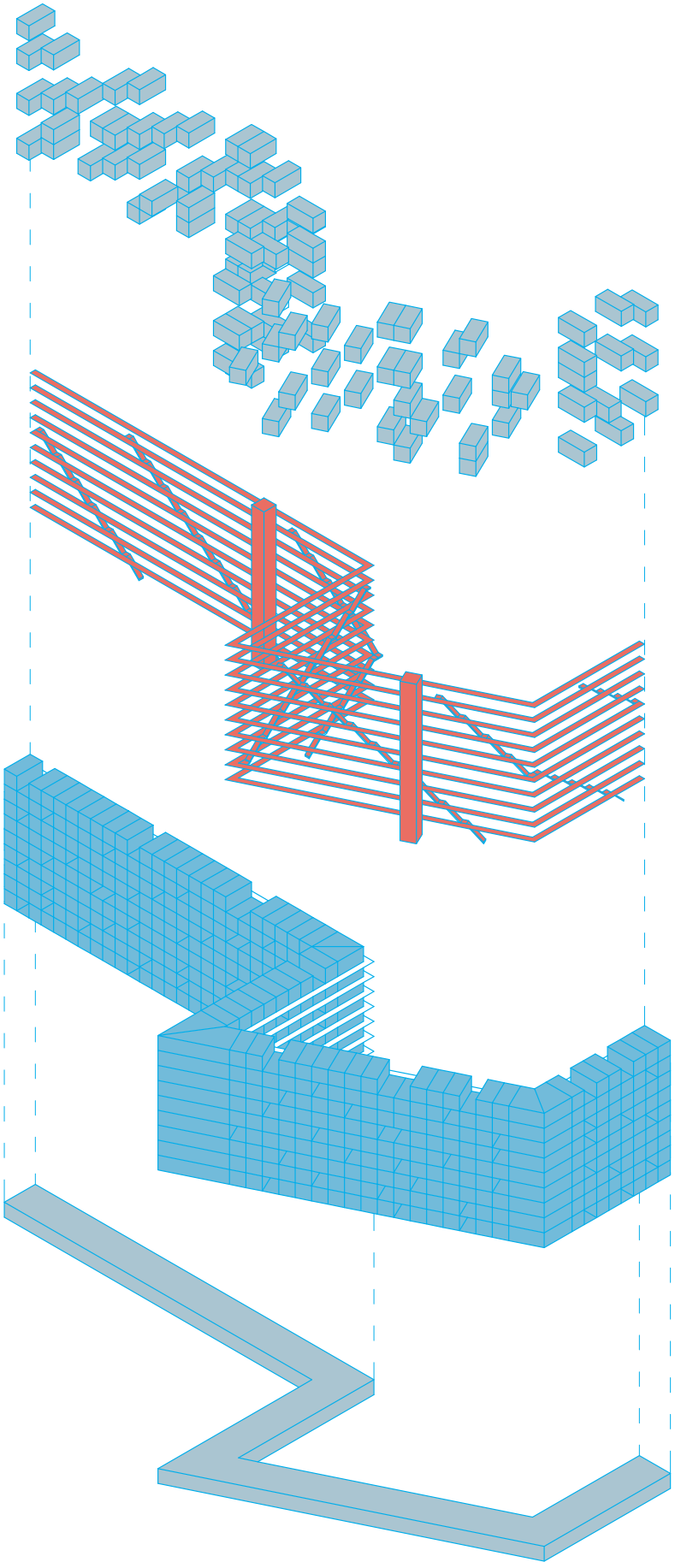
The student has it's own living room and bathroom. Al the other spaces are shared. There are five large shared kitchens per floor. The inhabitant can retread to their private unit to sleep and study, and go to one of the many shared living rooms to hang out with others.



Gifu Kitagata.

Year:	2006
Location:	Kitagata, Japan
Architect:	SAANA
Typologies:	Apartments
Amount of units:	107 apartments
Units size:	47-80m2

This housing development bent along the contour of the lot is part of a large housing scheme in Gifu, Japan. The structure is raised on pilotis, providing space at the ground level for parking and allowing acces to the complex from all sides. Each apartment consists of a combination of eat-in kitchen and living room, loggia and varying number of rooms on one or two levels. Open spaces are perforating the facade creating collective outdoor spaces. The variation in plan and section create a stimulating facade image on both sides of the building. The acces side with its diagonal stiars, the mesh wire skin and the glazed side facing the sun also make the movement of the inhabitants perceptible from the outside. This brings even more movement into the facade.

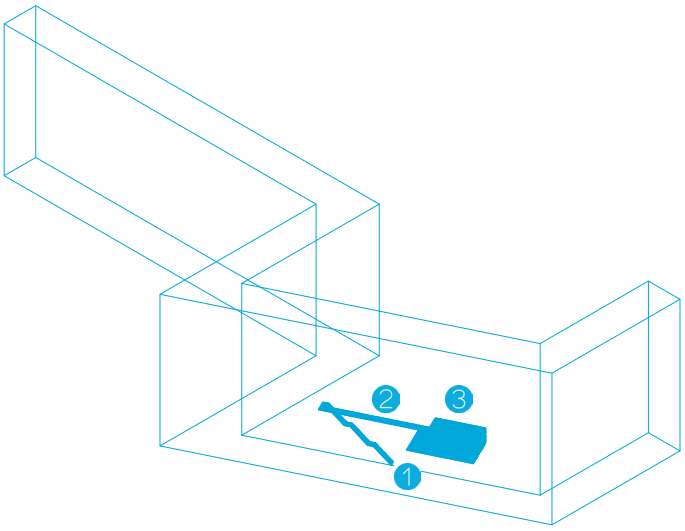


Communal outdoor spaces are located across the whole building. In fact, each dwelling is located next to one of those outdoor spaces. They help characterising the facade and give a lively touch to the building.

From the ground floor the inhabitant can go up vertically two ways: The first way is by elevator. There are two of them. The other option is by the diagonal staircases. These are located outside of the building. They both lead the inhabitant to the gallery located on the shadow side of the building form which they can enter there dwelling.

The wide range of different housing units combined with the perforation of the building with the outdoor spaces, gives the building a fibrant facade.

The structure is raised on pilotis, providing space at the ground level for parking and allowing acces to the complex from all sides.



1 From the open parking spaces underneath the building on the ground floor the resident can enter on of the many stair cases or one of the two elevators.

2 The staircase is outside of the building. This can you make look at the building while climbing it.

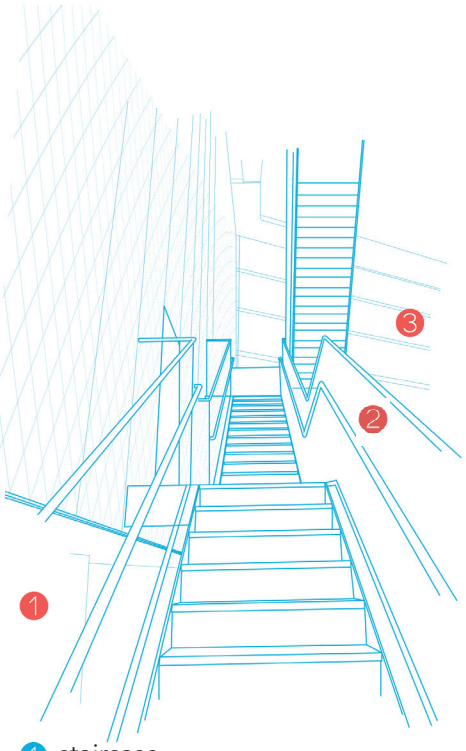
3 Because the facade is made of steel mesh, you can look through the facade into the gallery from the stairs. Where you have an overview on al the communal perforations in the building.

4 Walking through the gallery, you pass these communal/collective spaces and you can also see the other outdoor spaces on the other facades due to the mesh facade.

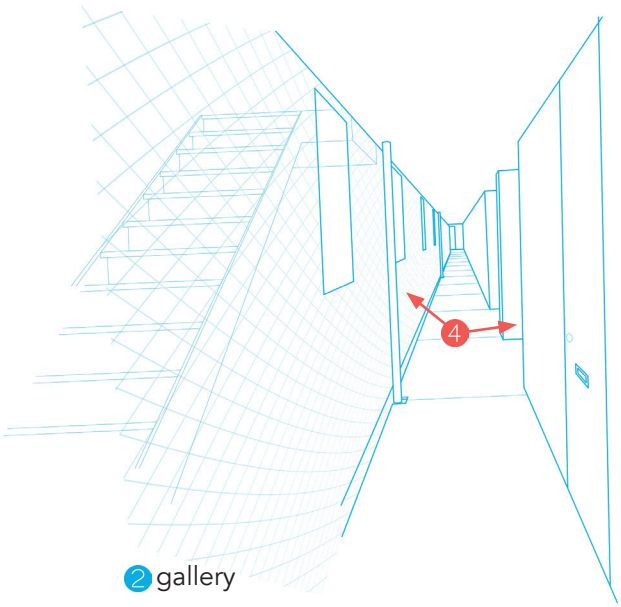
5 The individual dwelling has windows across the whole north side. On the south side there are only very small windows. This gives the dwelling a strong one side orientation.

6 These outdoor communal spaces are used both privately by the residents and also collectively by different residents together.

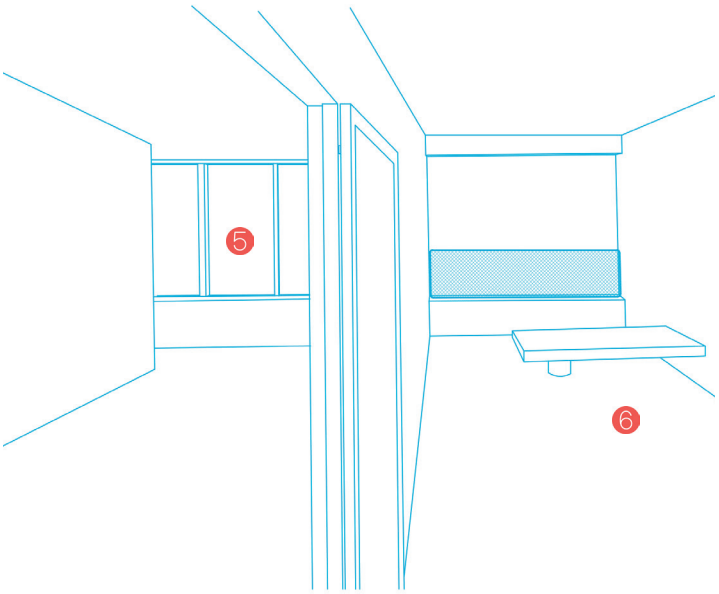
The routing of Gifu Kitagata is clearly visible on the outside. Because most of the routing is outside of the building and is also transparent, the resident gets a clear overview of what is happening within the building wile walking towards their dwelling. The outdoor space perforations in the building gives it it's lifeliness. Even on their own gallery the resident passes these open communal spaces. These are used not only for the dwelling they're next to, but also for other residents to stay.



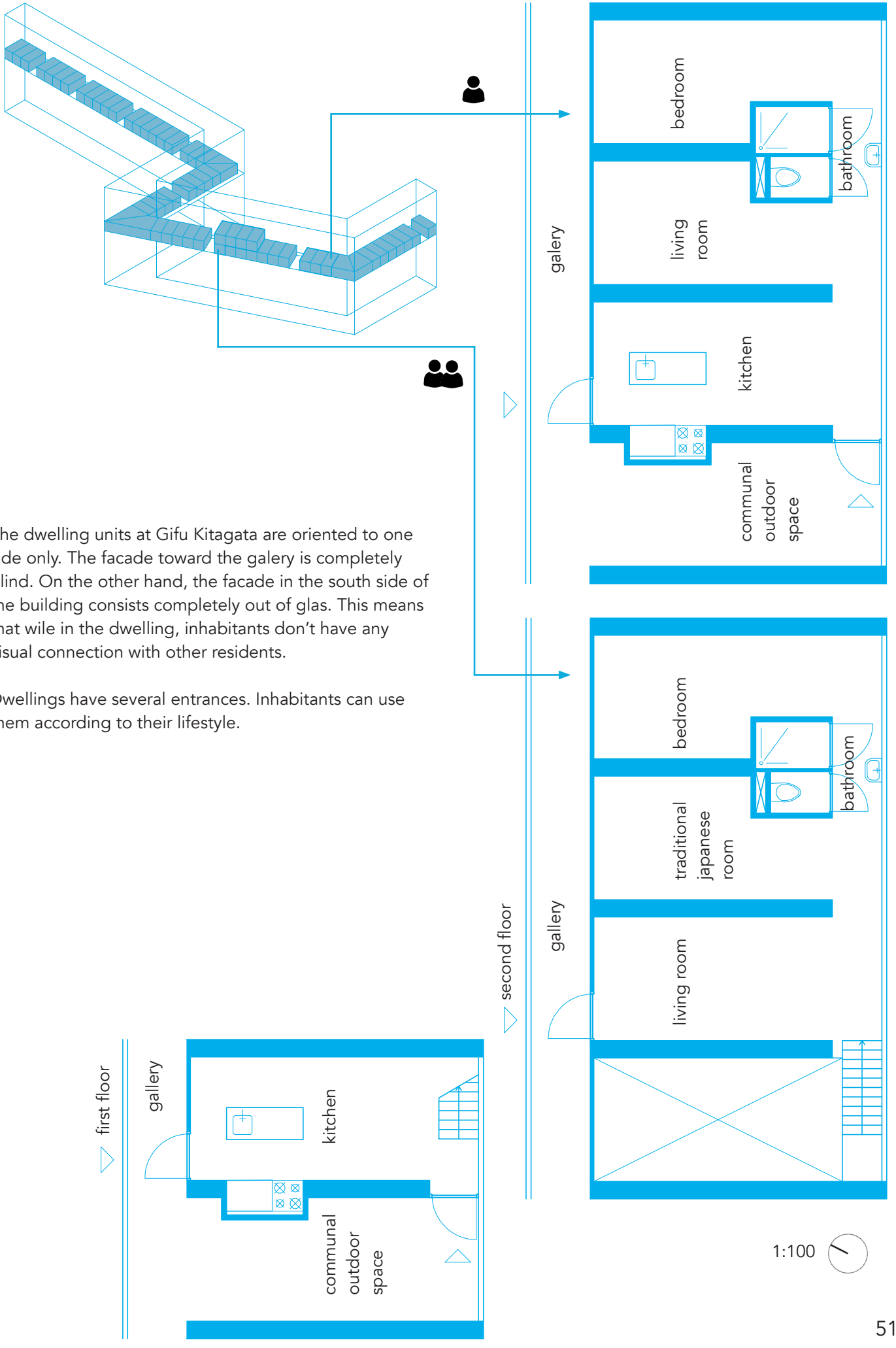
1 staircase



2 gallery

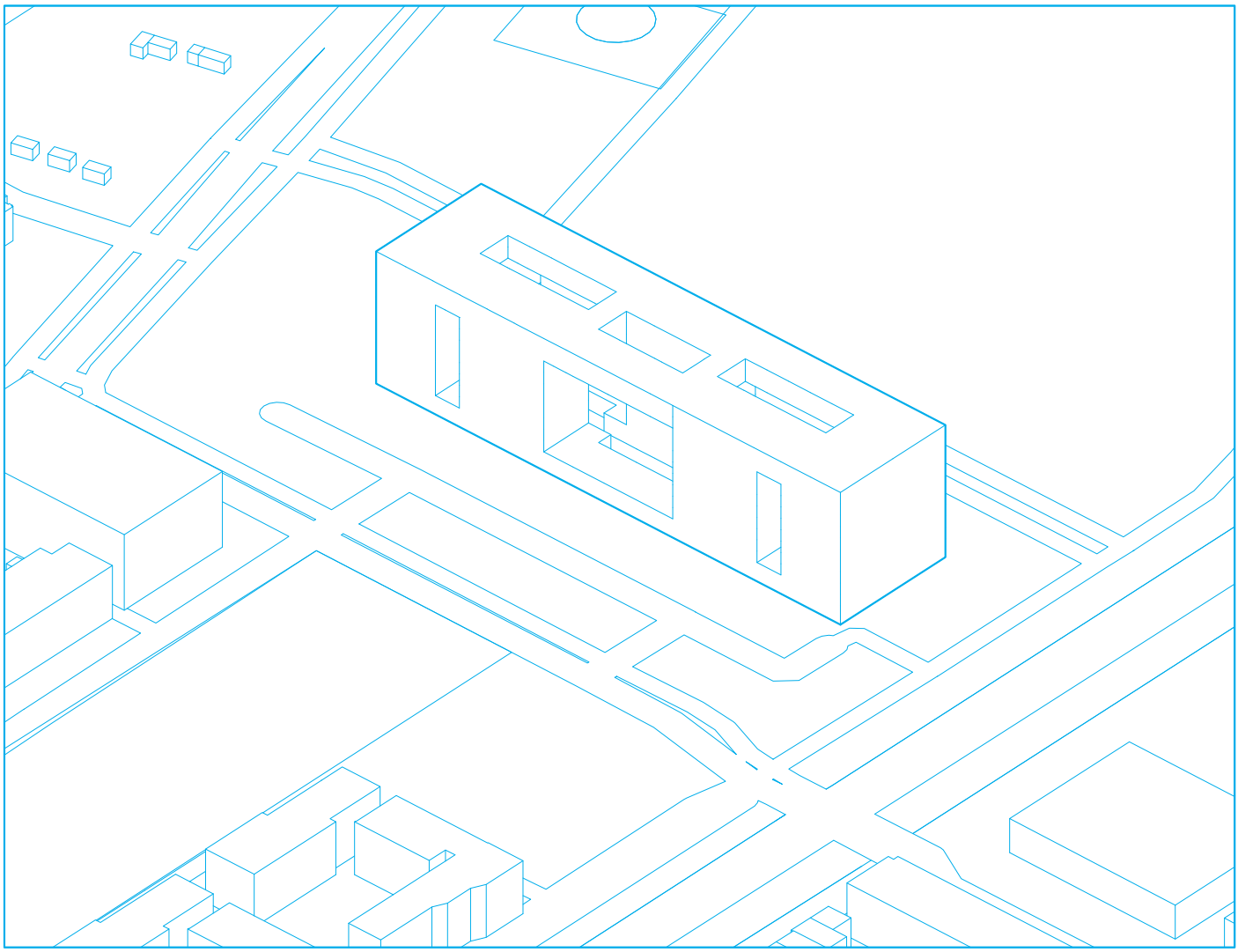


3 private dwelling and communal outdoor space



The dwelling units at Gifu Kitagata are oriented to one side only. The facade toward the galery is completely blind. On the other hand, the facade in the south side of the building consists completely out of glas. This means that wile in the dwelling, inhabitants don't have any visual connection with other residents.

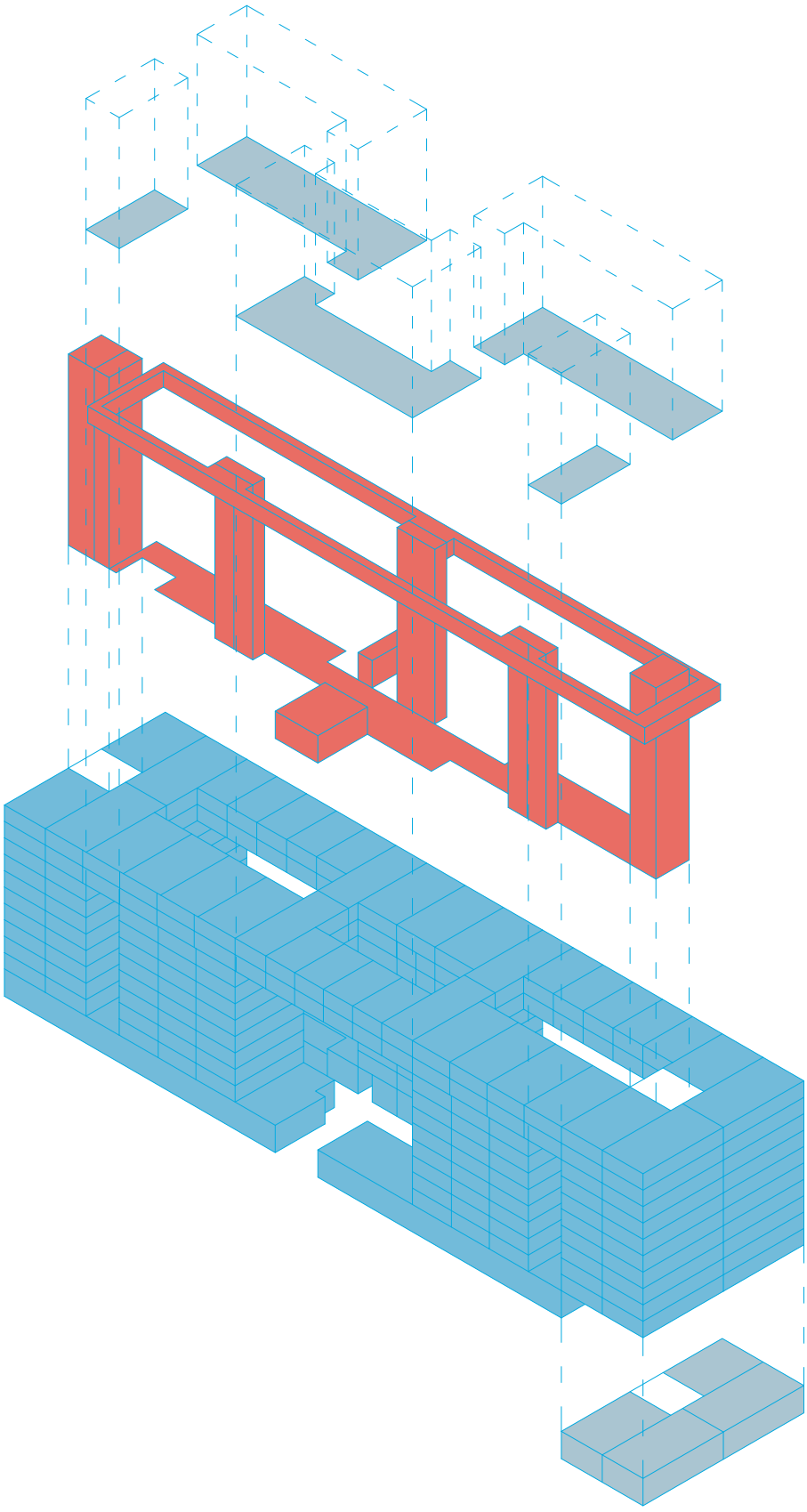
Dwellings have several entrances. Inhabitants can use them according to their lifestyle.



Parkrand.

Year:	2006
Location:	Geuzenveld, Amsterdam
Architect:	MVRDV
Typologies:	Apartments
Amount of units:	174 small housing units
Units size:	18-30m2

Parkrand froms part of the garden cities west of Amsterdam. It consists of 174 standard small housing units, located in three L-shaped buildings and is positioned next to a small park. The design relocates the housing into one compact volume and regains more space for the park. The program includes five towers that are sandwiched between a deck and a series of rooftop penthouses. This creates an open and airy block, and offers different views, from all directions. The semi-public park is raised: a semi-public balcony that overlooks the park. This area becomes a central space for the inhabitants, an outdoor 'living room'. This idea is accentuated by the use of soft furniture, decorative walls, ceiling and floor finishes, plants and chandeliers.

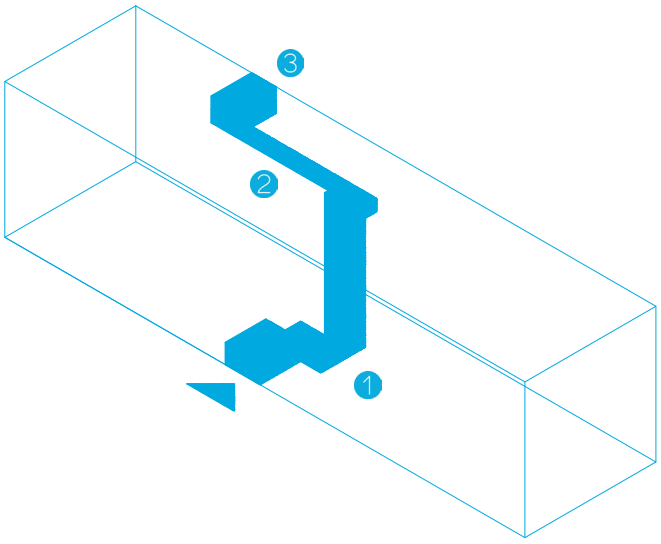


There are five outdoor communal spaces. Or as the architects calls them outdoor ‘living rooms’. These spots are lifted up from the ground floor and have a look out over the park.

The dwelling units in the towers are reachable through five central cores. Inhabitants can get acces to their dwelling on the upper level by a corridor. They can get to this corridor also by one of the five cores.

174 small dwelling units devided in five towers and tow more closed top levels. this gives the building a compact character and encloses the open communan spaces.

The groundfloor some commercial spaces like a day care centre for children.



1 entrance inner aquare

1 The small entrance on the inner square of the building leads the inhabitant to one of the five cores.

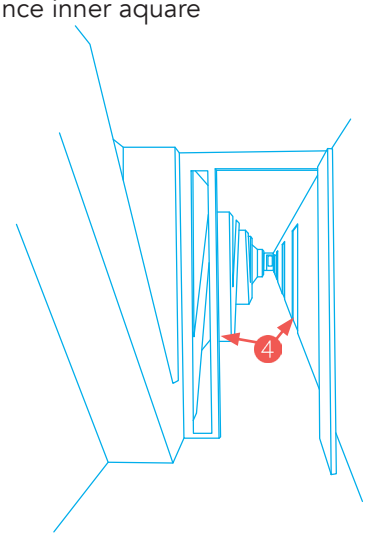
2 From the this inner square people can enter the outdoor 'living rooms'

3 inhabitants have access to the communal outdoor areas also from the first floor, by connecting the tower with bridges to these outdoor spaces.

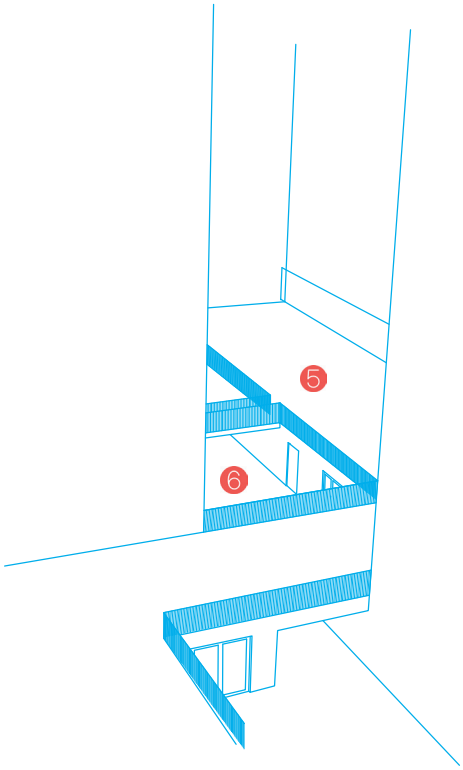
4 The corridor gives access to the dwellings on the upper floors on one side. On the other side it gives a perfect view in the communal outdoor areas.

5 From the individual dwelling, inhabitants have a clear view on outdoor activity. Both activity outside of the building as activity by other inhabitants in on of the communal spaces.

6 The 'inner square' where we started the routing at point number 1.

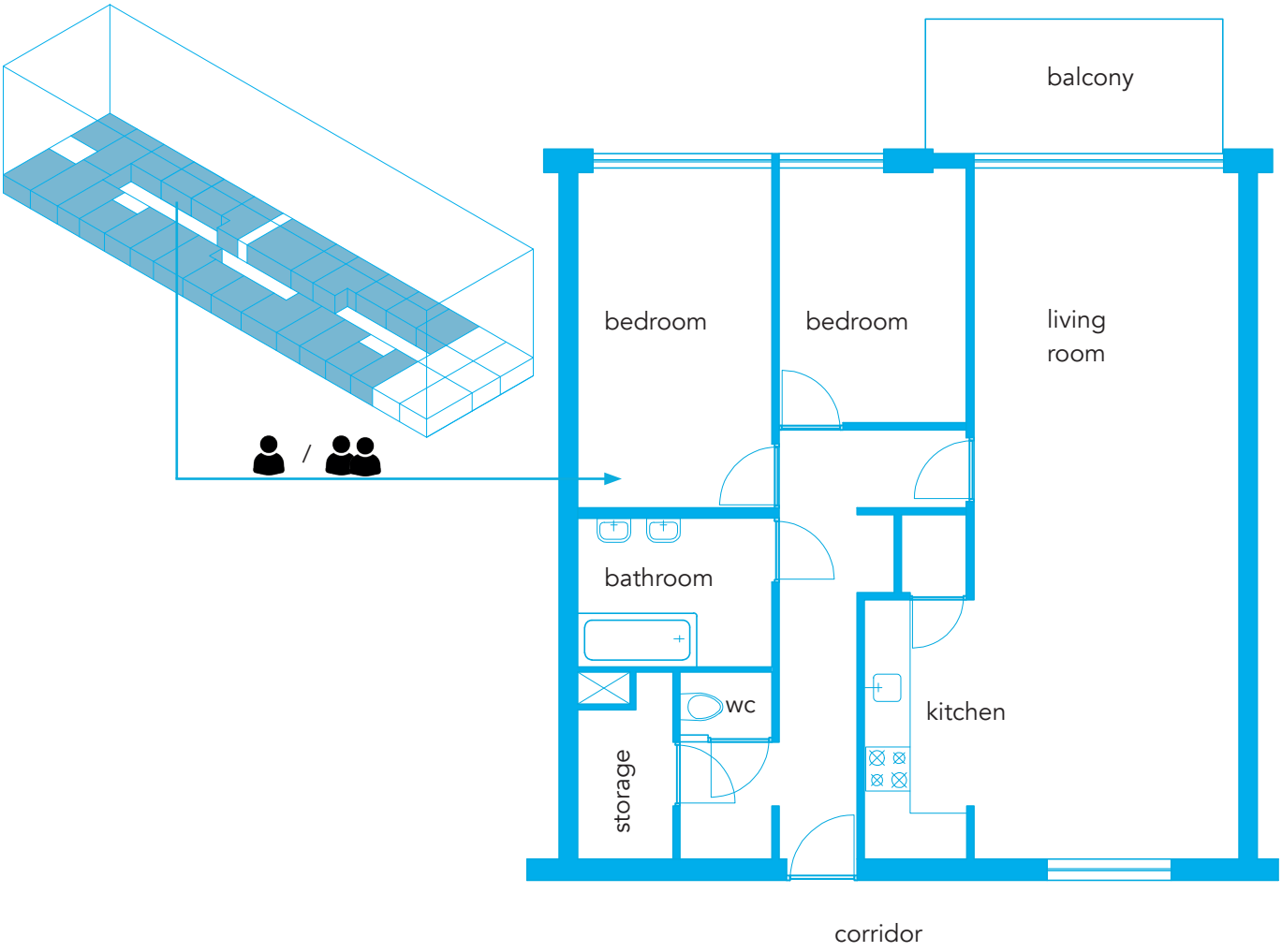


2 corridor



3 view from private dwelling on the communal courtyards

At first sight Parkrand has a rather complicated routing system. But it all starts at the ground level were inhabitant are lead to an inner square. This enclosed space has connection to the circulation system as to the communal spaces. From this point walking to the inhabitants dwelling they have constant visual connections to one or more of the outdoor 'living rooms'.

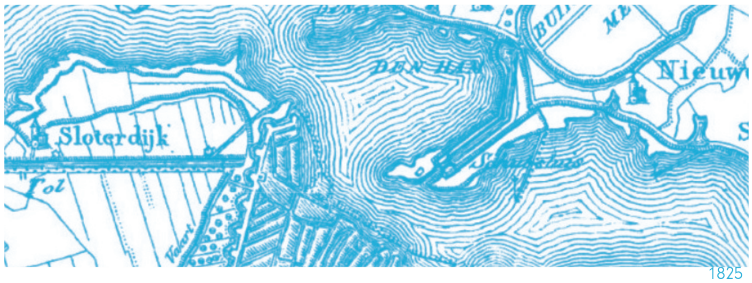


The smaller dwelling in Parkrand is bigger than the dwelling floor plans in the other case studies. The positive aspect of this floor plan is that the living room has a connection with both the park side on the east as with the inner collective courtyard on the west side.

Haven-stad and urban masterplan

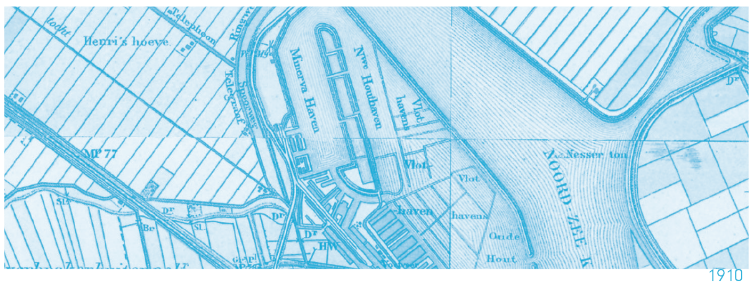
Minervahaven, located in the North-West of Amsterdam, is a former wood transhipment harbour. Since a few years, this former harbour is marked by the municipality of Amsterdam as a place for transformation. According to the municipality, the Minervahaven is a possible future location for various kind of functions, such as housing, retail, leisure and offices. It will be a part of the transformation plan Harbour City in Amsterdam, 'Haven-stad'. There is a great need for living and working space. Twelve sub-areas to the west and gates of the center, including old harbor regions, are the most logical place to meet this obligation in terms of location and size. With 'Haven-stad', the municipality offers a solution: a new neighborhood with 40,000 to 70,000 homes and 45,000 to 58,000 jobs in the Amsterdam metropolitan area.The 'Haven-stad' program includes part of Sloterdijk, Westerpark, Coen- and Vlothaven and a part of the Northern IJ bank. The transformation of these areas is done in phases.

Haven-stad and Minervahaven



1825

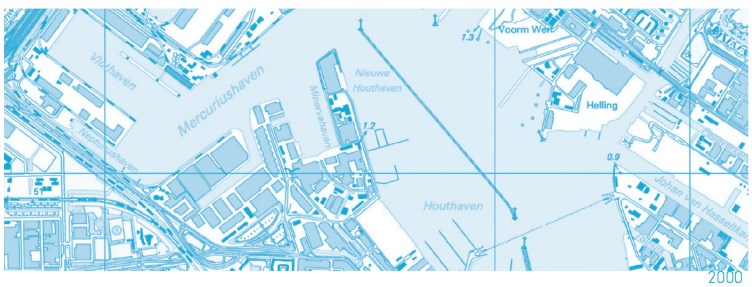
1880



1910

1945

1965



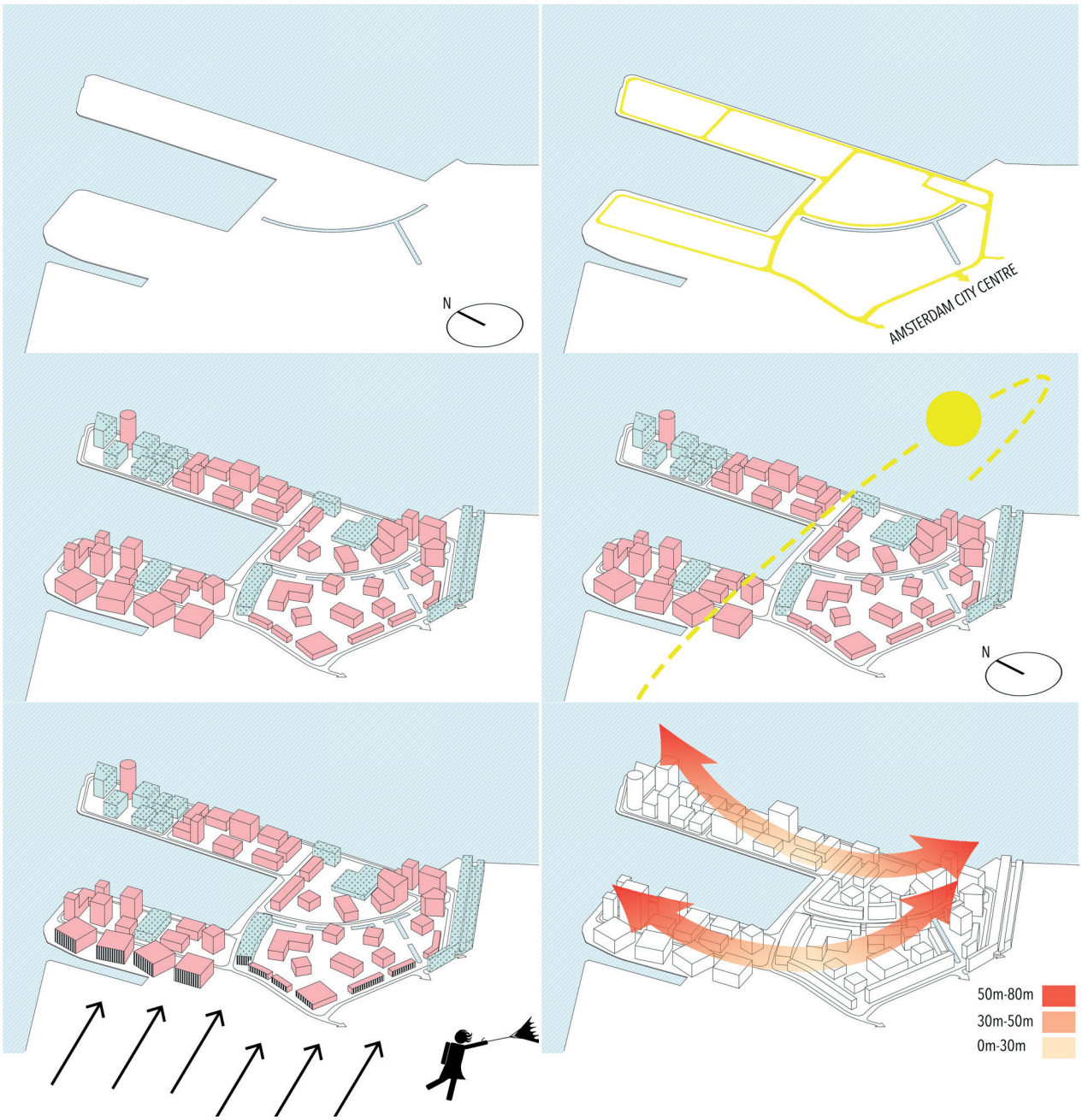
2000

2018

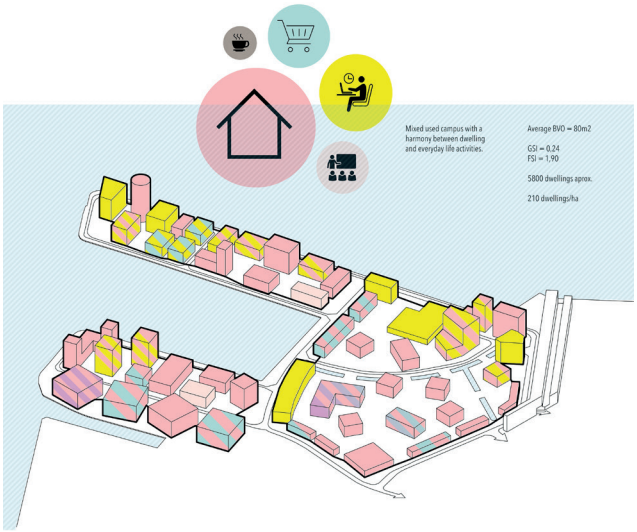
The Minervacampus is a new urban scheme in the former industrial area of the Minervahaven. A place close to the city centre of Amsterdam and will be a new centre when the whole of Haven-stad is realised. This place in unique due to it's surroundings by water and it's position to the city centre.

The 'Minervacampus' is designed according to the campus model. The definition of a campus is that of an open field. There are no clear set of rules for the design of an urban campus model other than buildings scattered on an open field which are four-sided. This means the buildings don't really have a front or a backside. Buildings are also not placed following a strict grid. This exaggerates the 'random' feeling of the plan. The building blocks and building masses the Minervacampus is designed with originate from the buildings of the Mullerpier in Rotterdam, building blocks from BIG (such as 'the mountain') and that from Sorenga in Norway.

Three ring roads facilitate the access to the buildings by car. Cars can park in the underground parking spaces located under several building on the plot. In the southern part of the plan slow local traffic is allowed.
This urban masterplan provides a mixed used campus with a harmony between dwelling and everyday life activities. The variety in buildings and dwelling sizes creates a diverse range of typologies. Due to this diverse typology range, the Minervacampus provides dwellings for many target groups This combined with the green element of the campus model, this masterplan is in our vision the best way to extend the city of Amsterdam.

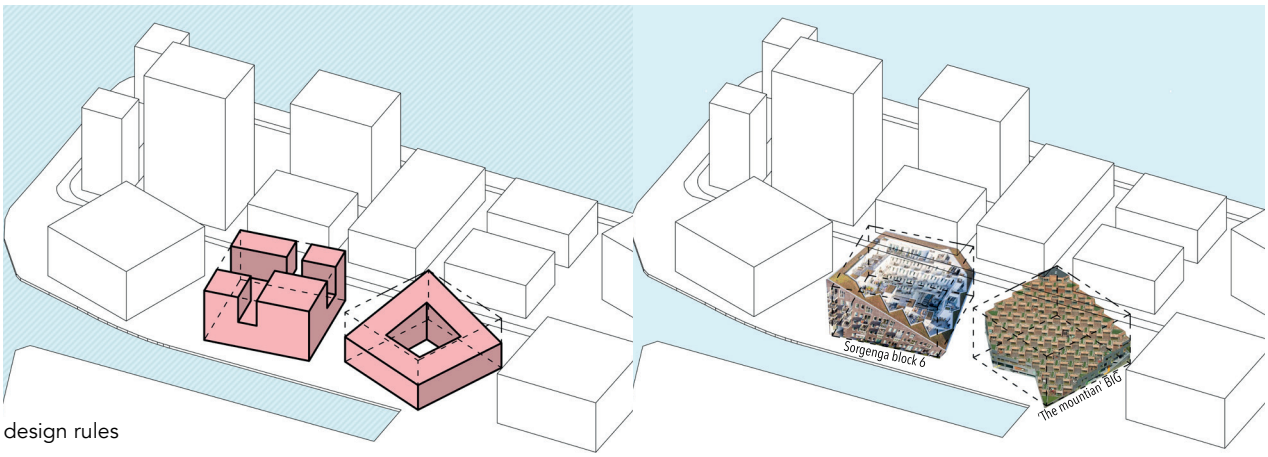


Urban masterplan creation. (red building are new buildings, green building are existing buildings)



Program urban masterplan

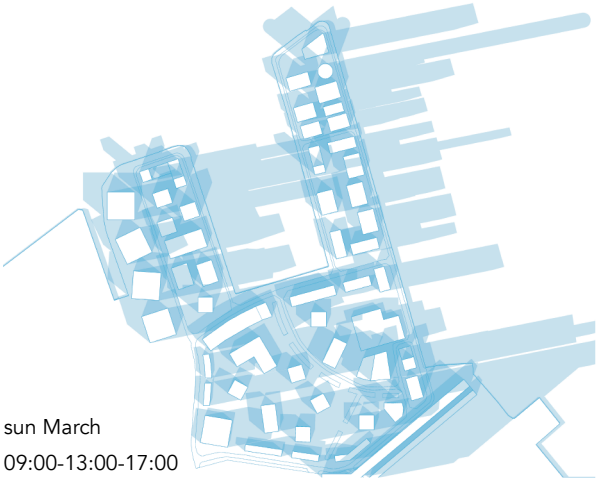
Urban masterplan and chosen building mass

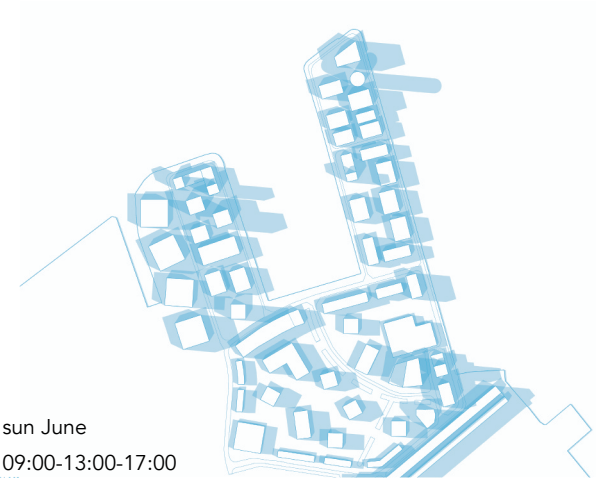


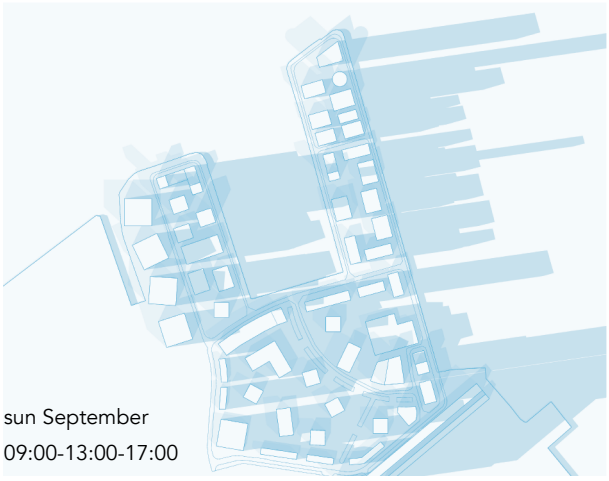
design rules

Design Rules:

- Minimum use of 60 - 80% of the building mass
- Maximum height of 30 meters
- Maximum extension building height of two levels, except the take into account the sun - No extension outside the boundaries of the building mass
- Free choice of materials (structure and cladding)


sun March
09:00-13:00-17:00


sun June
09:00-13:00-17:00


sun September
09:00-13:00-17:00

Design Brief

The design brief lists the requirements for the to be designed residential building. These requirements are based on the conclusions of the topic research and the case study analysis. This brief, together with the first conceptual design, is going to be used as starting point for the design phase in the msc4 semester.

Design guidelines

Design guidelines that will be taken into account for the design of a building where loneliness can not prevail:

- Design clusters to break up the large building mass.
- Design in a way that will boost the social cohesion and a community feeling.
- Design spaces that encourage social interaction between residents.
- Design spaces that let resident have control over their own privacy and social interactions.
- Design connections between dwellings, and also between dwellings and communal spaces.

Design guidelines that addresses the solo dwellers needs:

- Design enough facilities and spaces for the inhabitants to go to, since they see the city as an extension of their home.
- Design small dwelling units that have connections with the communal spaces but don't interfere with ones privacy

Design guidelines drawn from the case study analysis:

- Design routing that will pass or cross communal spaces.
- Make a clear distinction between spaces to optimize readability.

Program

Program in the public realm:

- Facilities on the ground floor that will be used by the inhabitants of the building as well by people from outside.
- Ground floor with public facilities in the plinth.
- Ground floor with commercial facilities in the plinth.
- Different functions in the plinth so that there is activity during most of the day and evenening.

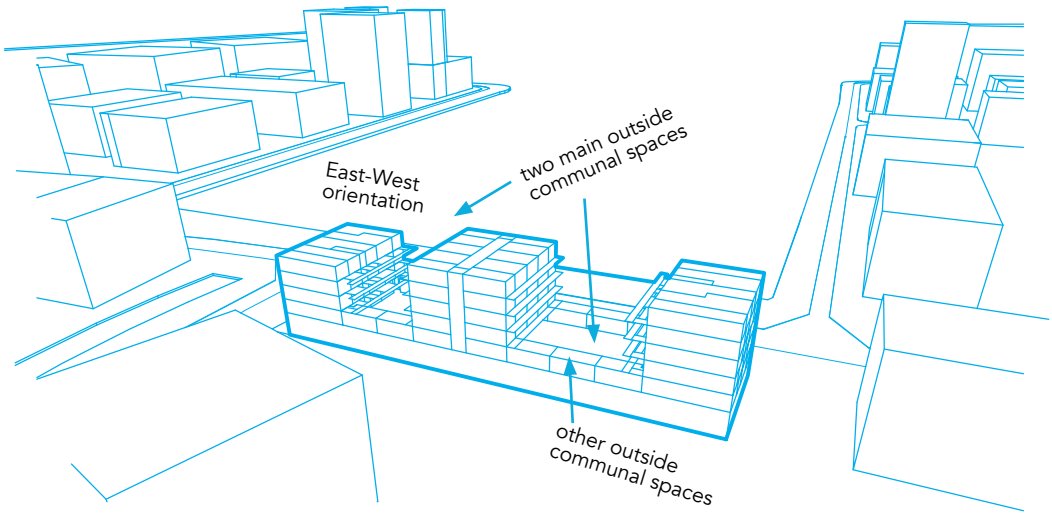
Program in the collective realm:

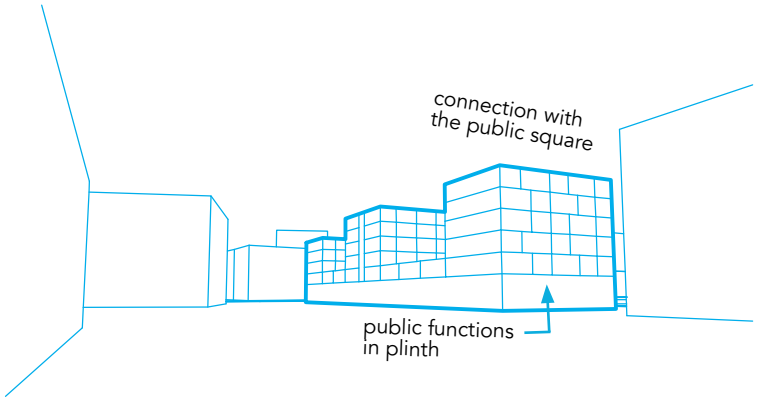
- Routing that leads inhabitants pass or through communal spaces.
- Routing that encourages inhabitants to unforced social interaction.
- Communal outdoor space(s).
- Connection with the surrounding park and nearby public square.
- Bike storage.
- Implementing nature.

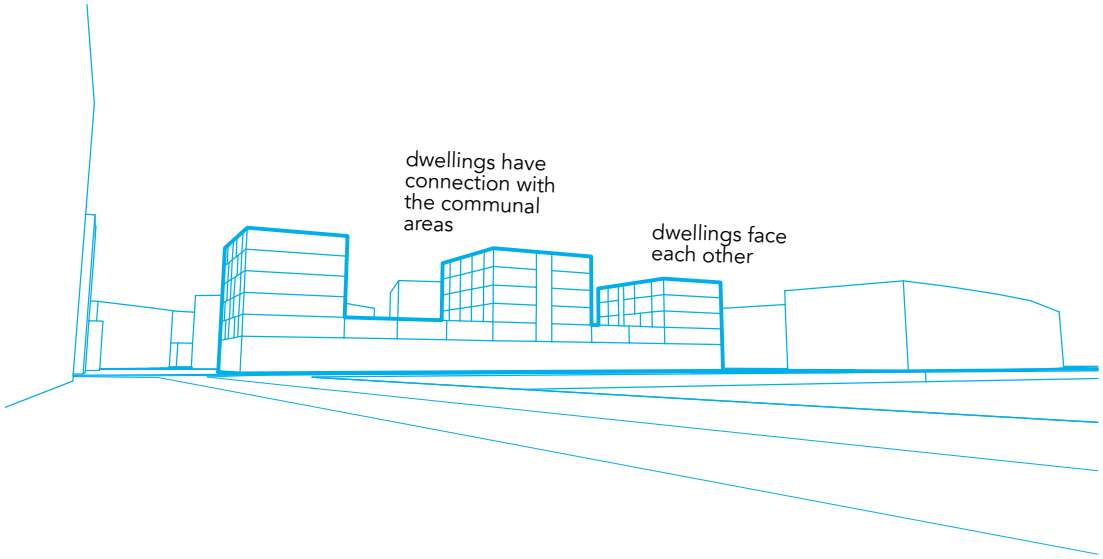
Program in the private realm:

- Solo dweller apartments / studio's with a range of 30m^2 - 60m^2.
- Visual connection with other dwellings.
- Dwellings should have a seperate bedroom.
- Visual connection with communal spaces.
- Connection with the surrounding park and nearby public square.
- Desirable sun orientation.
- Transition zones between collective and private.
- Maintain privacy of the inhabitant.
- Create the ability for personalizing of the private environment.

Conceptual design







This conceptual design is a result of the implementation of the design brief. This design brief was formed by the conclusion of the topic research and the case study analysis.

The ground floor level is reserved for commercial and public facilities. These facilities will have different functions so that the plinth will be active during the day but also during the evening, such as cafe's, workplaces. The 5m high plinth gives plenty of opportunity for all kinds of facilities. Part of the ground flour is reserved for a indoor bicycle parking space for residents of the building.

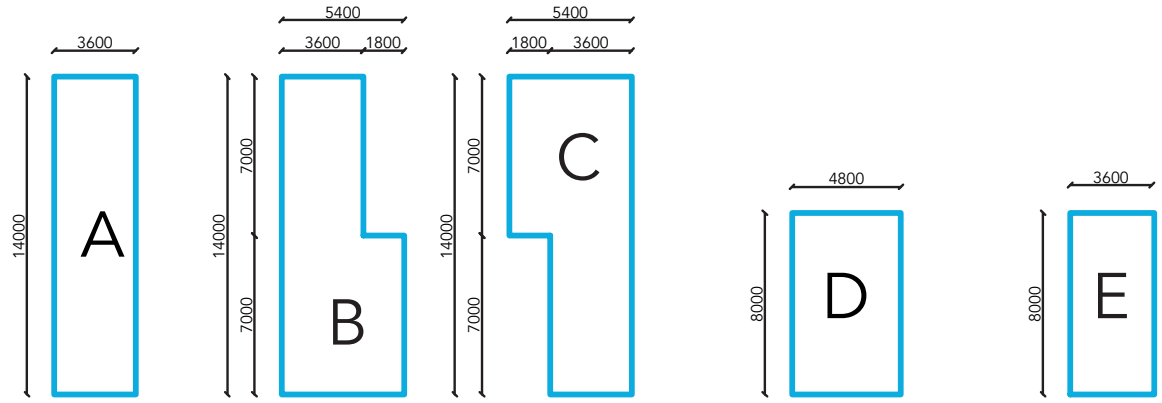
The residential part of the building starts at the first floor. From this floor on, the building block is divided in to three separate building blocks, with their own character. The blocks are oriented east west to provide all dwelling with optimal sunlight.

By splitting up de building into three separate blocks, two communal courtyards are created. Each dwelling has a visual connection with these spaces. The dwellings also have a visual connection with each other due to their orientation in the block.

The outer two blocks have two side-oriented dwellings with a range of 50m2-60m2. A gallery on the inner side of the building leads to the entrance of the dwellings.

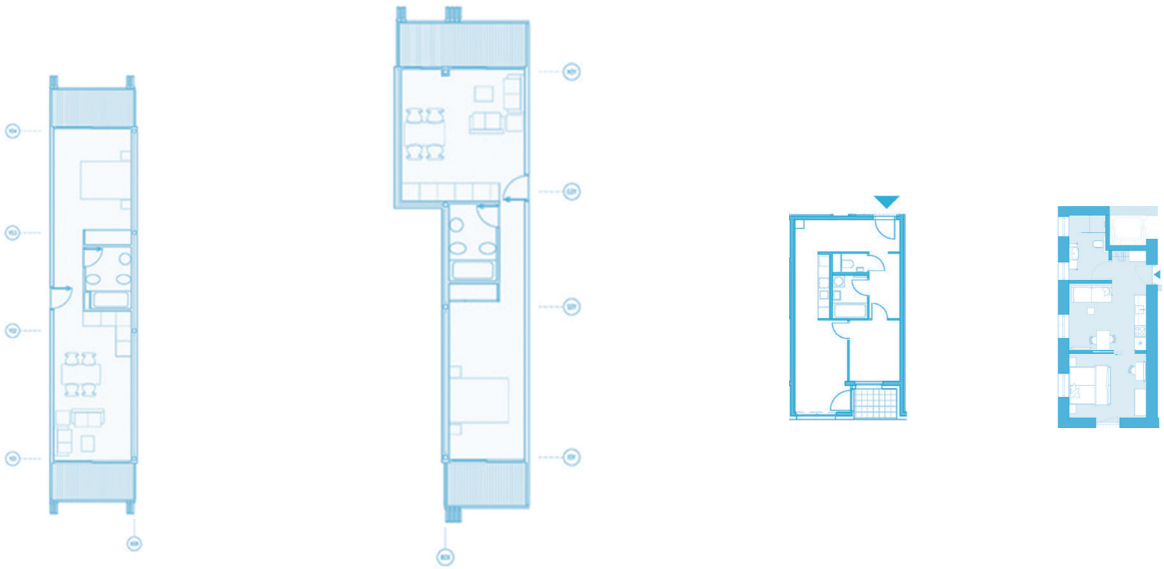
The inner building block hosts the smaller units. These units have a range of 30m2-40m2. A central corridor gives access to these dwellings.

At the sides of the communal courtyards, there are also 30m2 dwelling units. On top of these units an extension of communal spaces in created. This gives a differentiation in levels, which is conductive to the social cohesion in the building. From these levels, resident gain a connection with the public square in front on the building on one side. On the other side residents can enjoy the water. During the whole day, there is optimal sunlight on at leas one of the communal spaces.

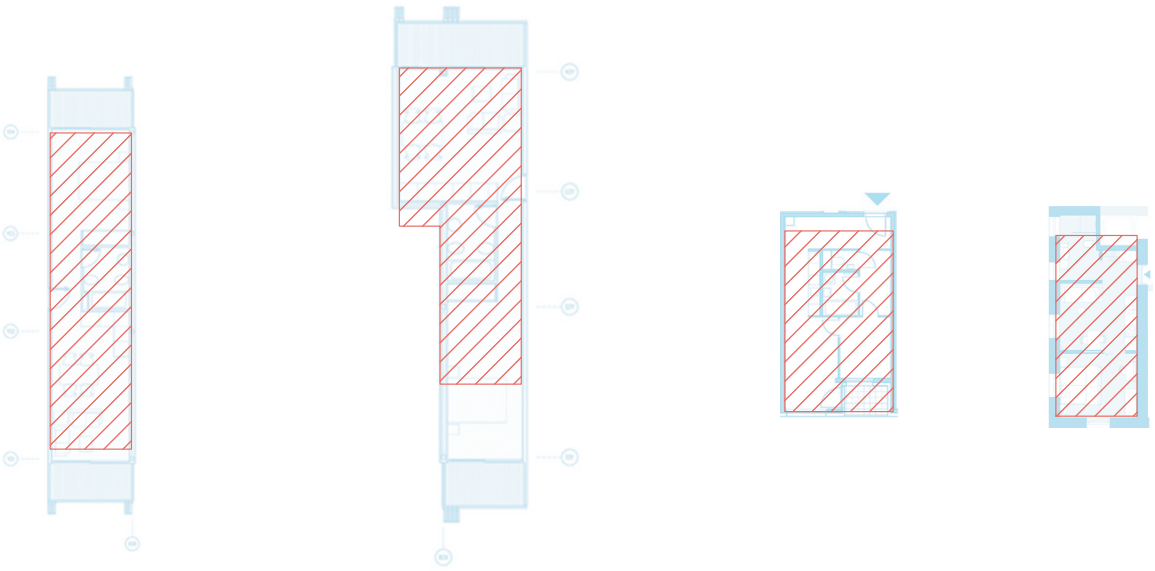


50m2 60m2 60m2 38m2 33m2

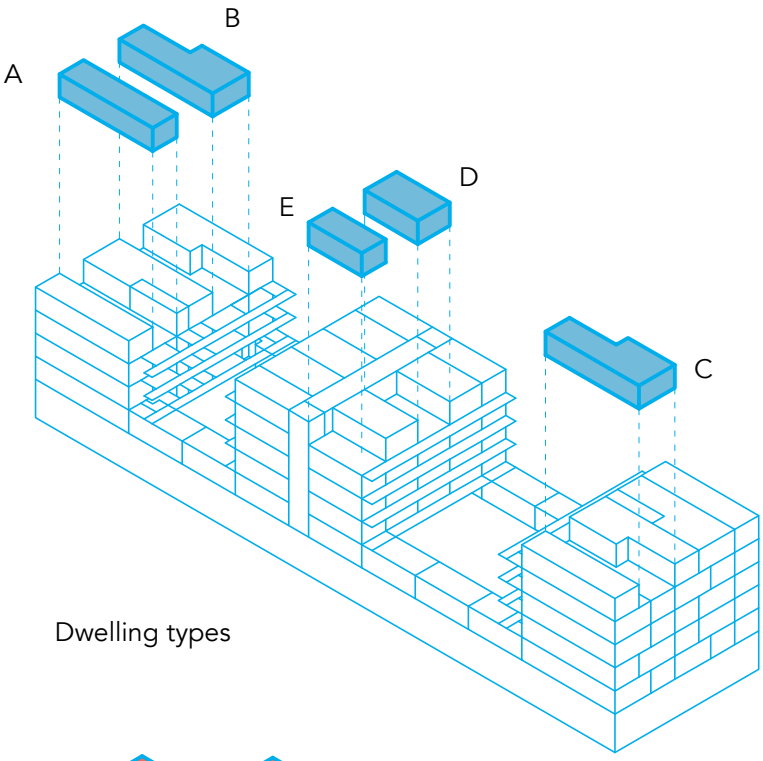
Dwelling types



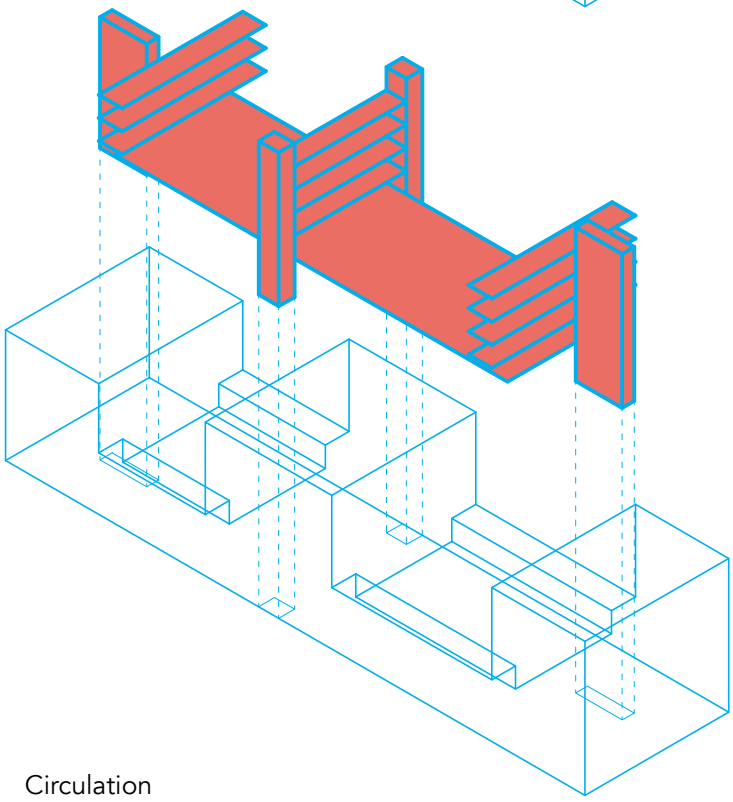
Existing floorplan examples



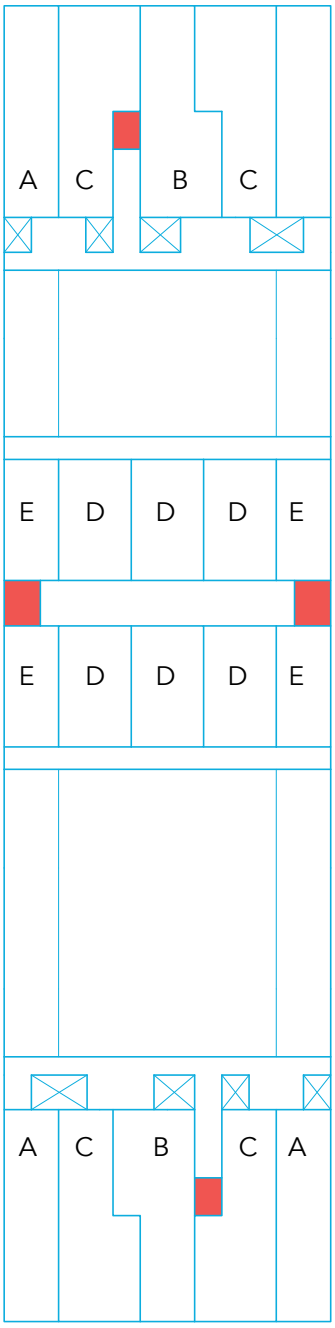
Overlay



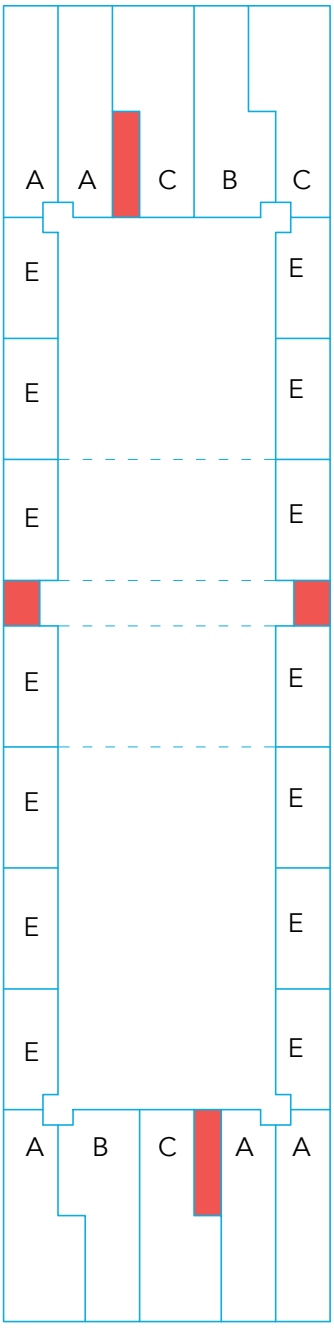
Dwelling types



Circulation



Floorplan +1



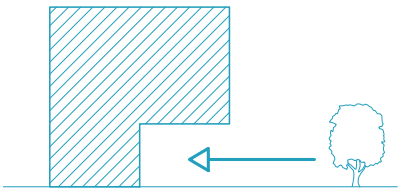
Floorplan
upper levels

1:500

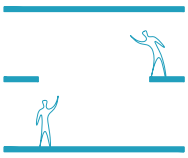
Crash course + VR

Crash course

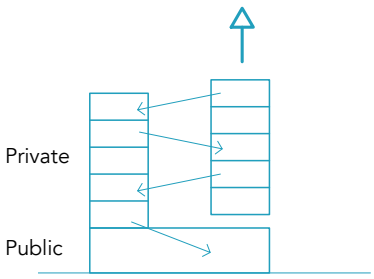
The Crash course or 'quick start' was set up to design within one week a quick-and-dirty building design that serves as the starting point of further building design. This intensive desing workshop we develloped the first design of the building, including dwelling plans, acces and circulation system. This was done within the building volume that was chosen from the designed master plan (campus model). This all gave us the first feeling with the size of the plot we chose and of the mass of our chosen building.



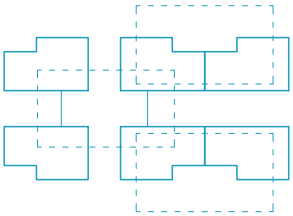
Ground floor as extension of public park



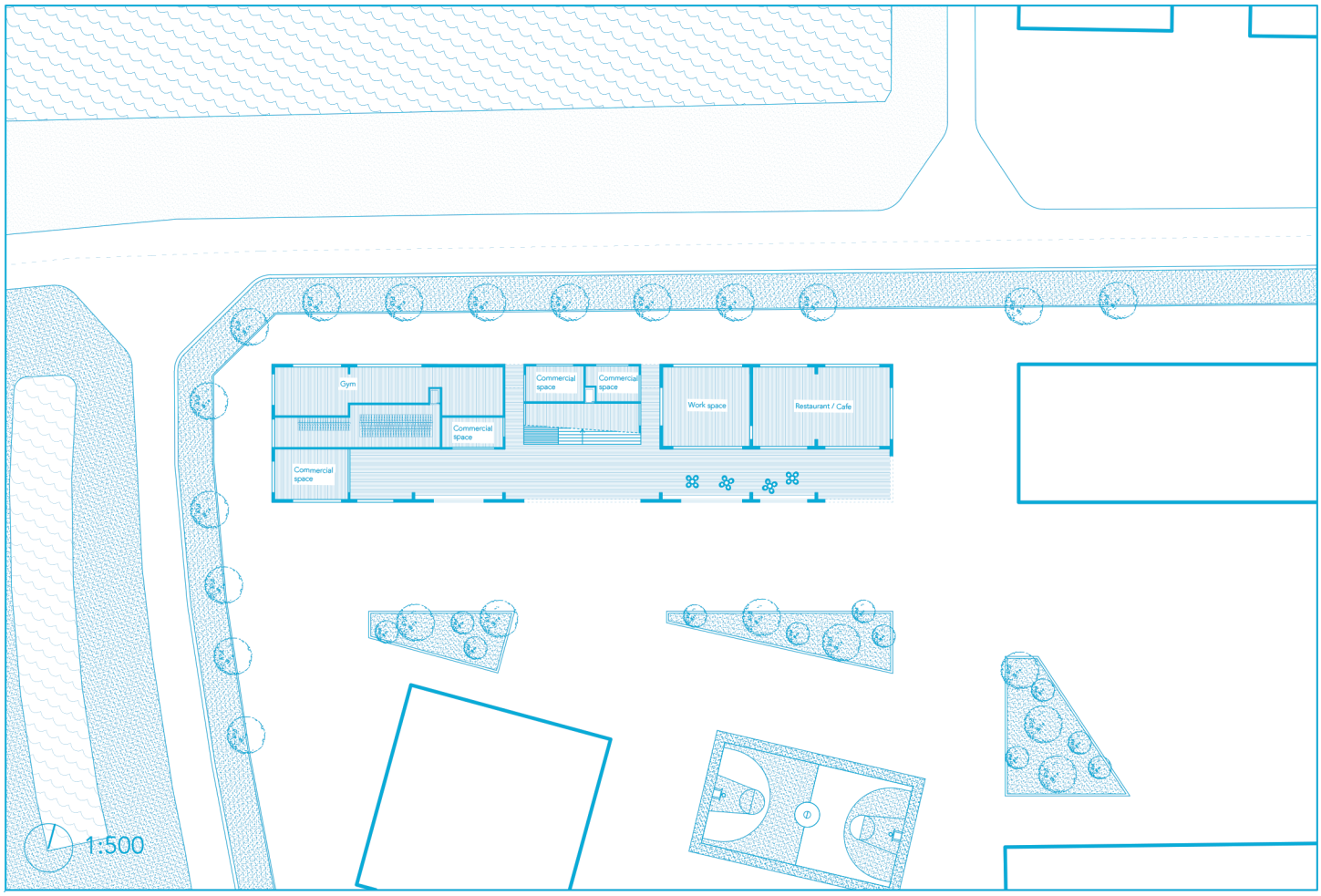
Voids for visual connection (Sennett's porosity)

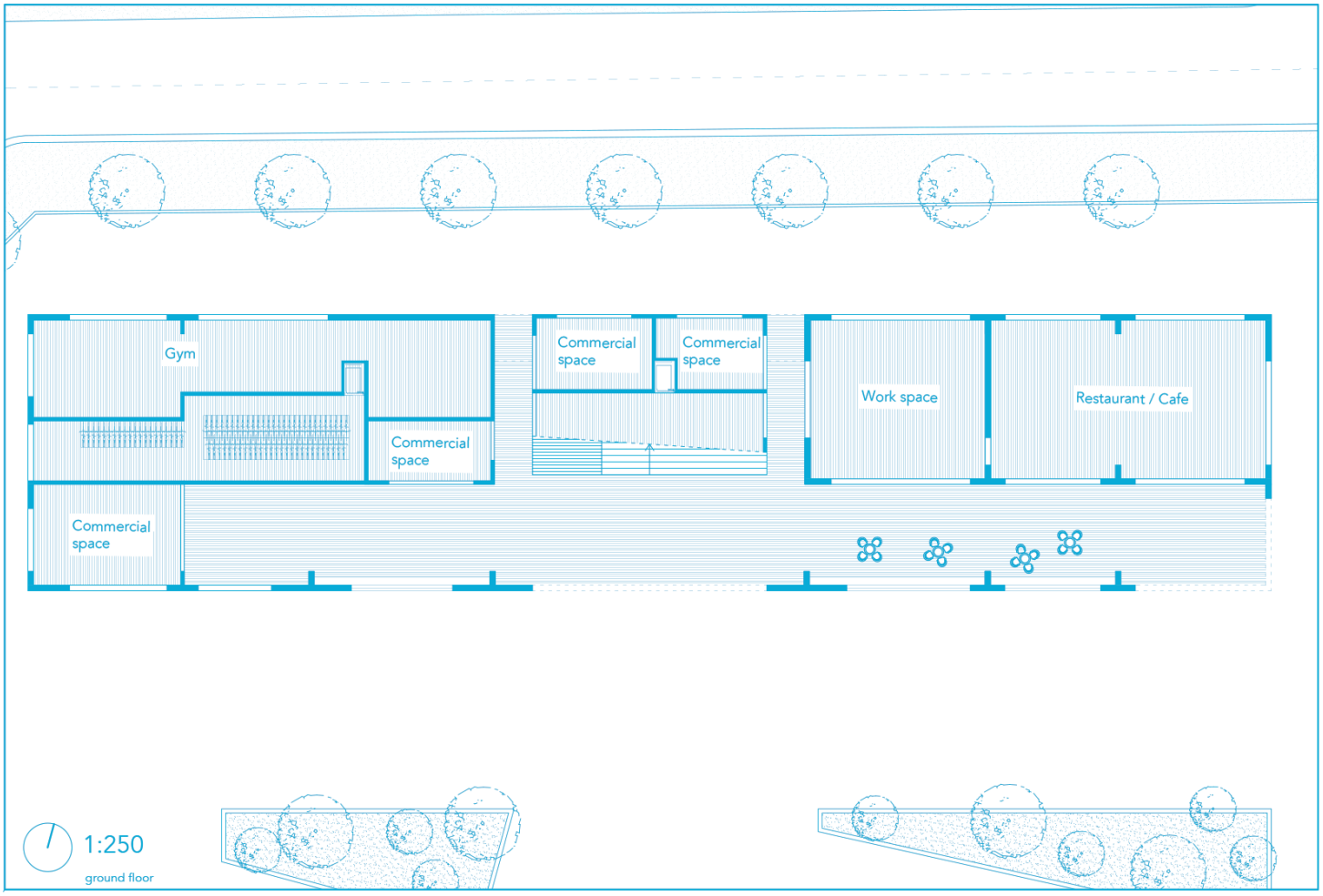


Shift in section to increase personal connection.

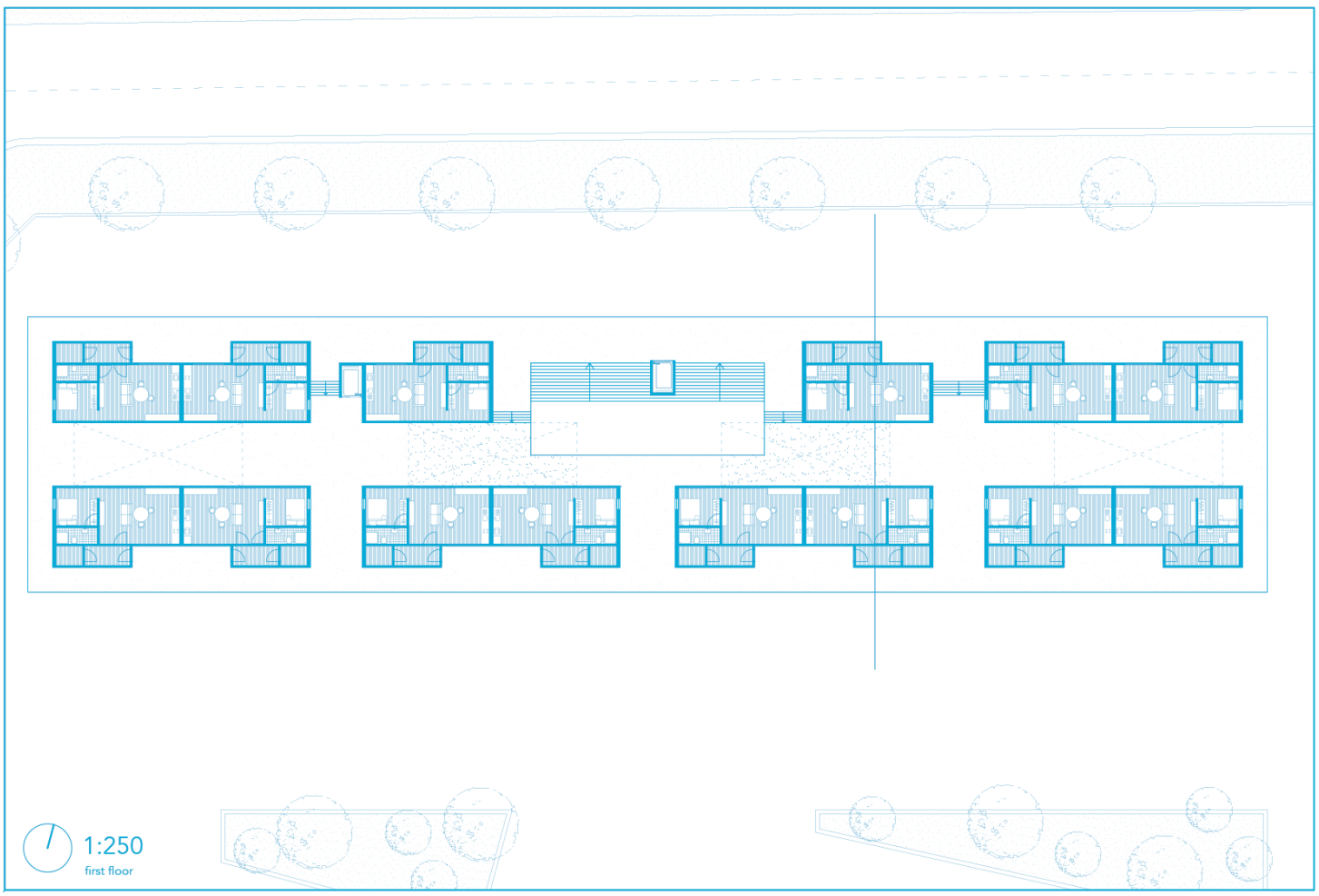


Interloking clusters

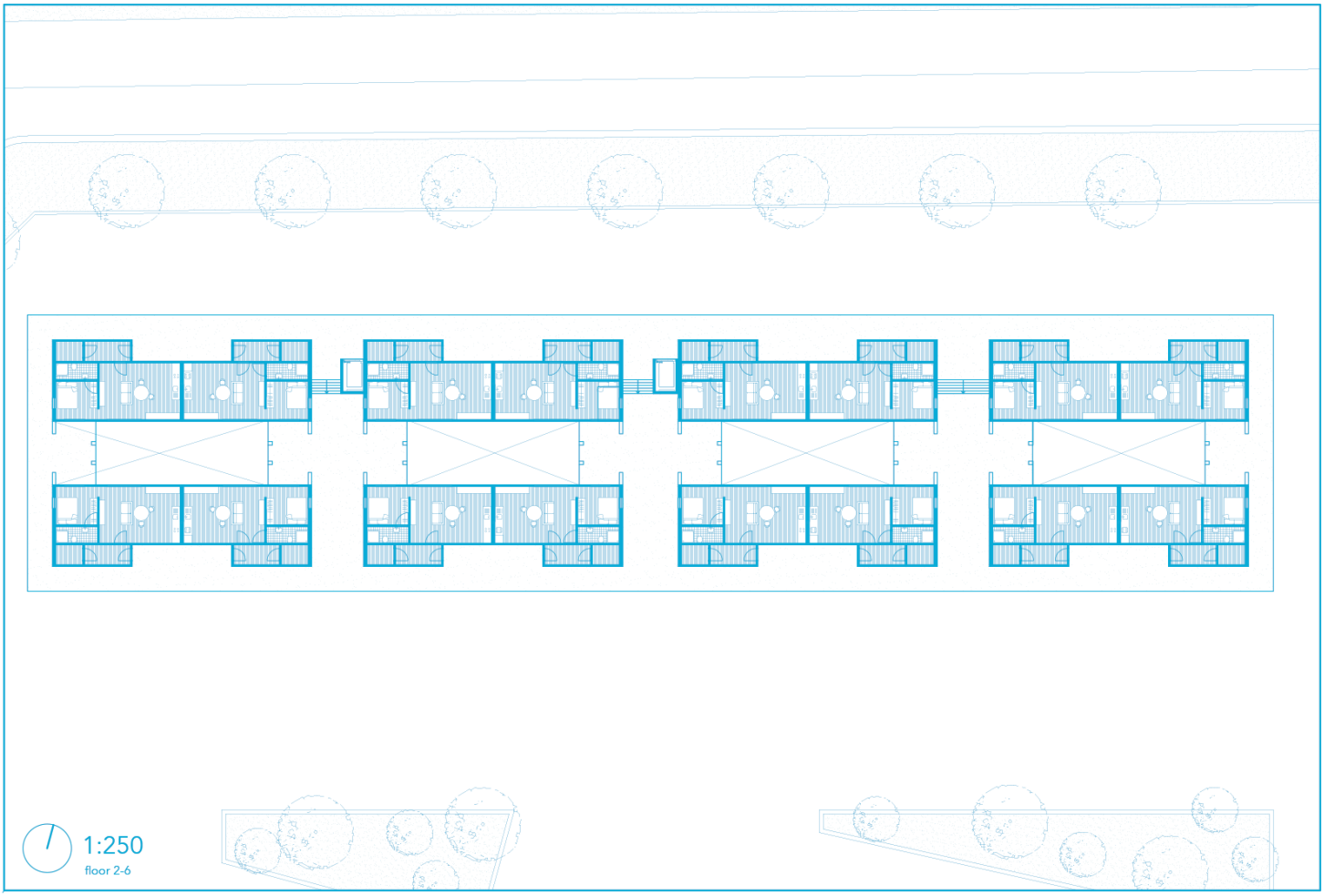

Gym
Commercial space
Commercial space
Commercial space
Commercial space
Work space
Restaurant / Cafe
1:500



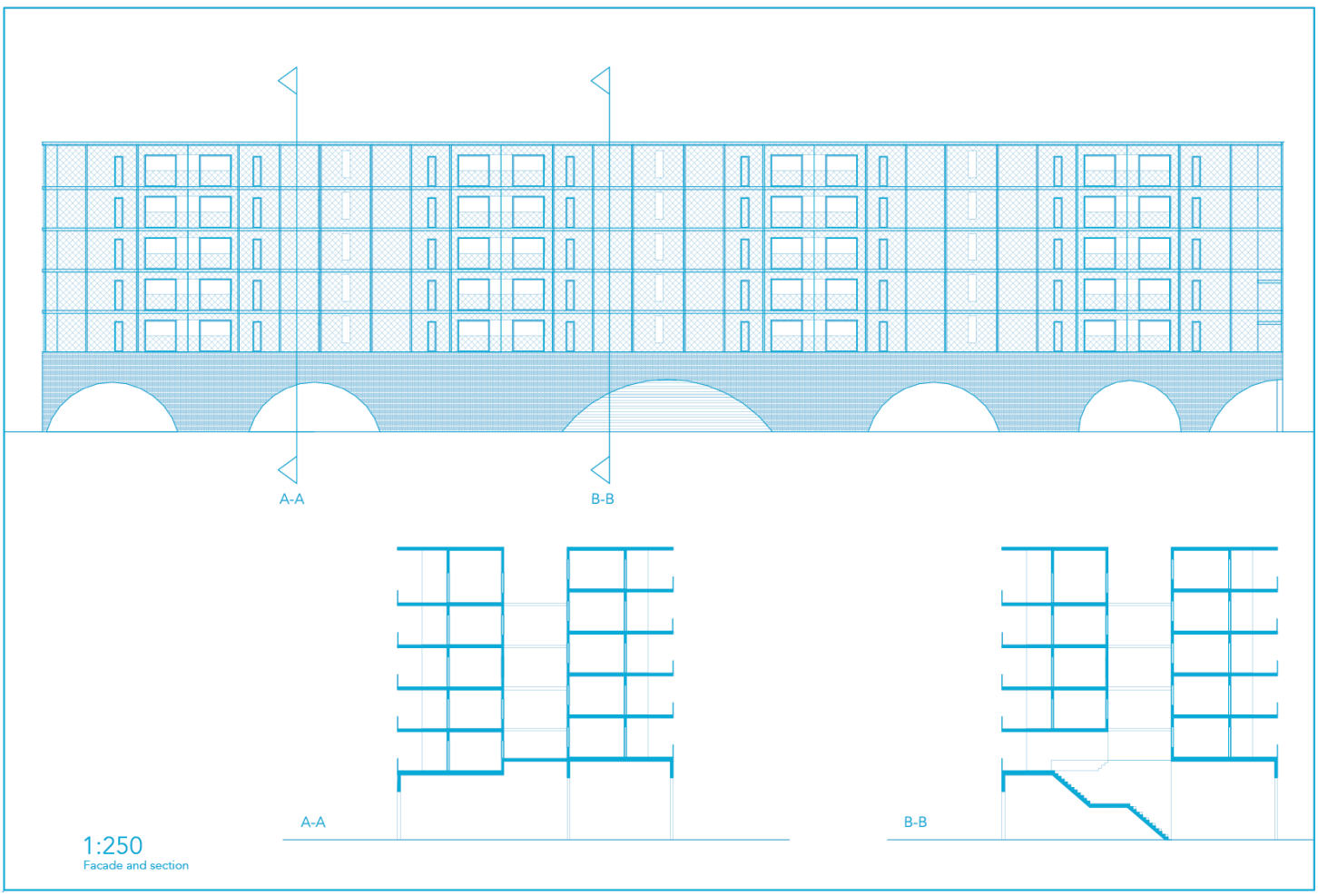
1:250
ground floor



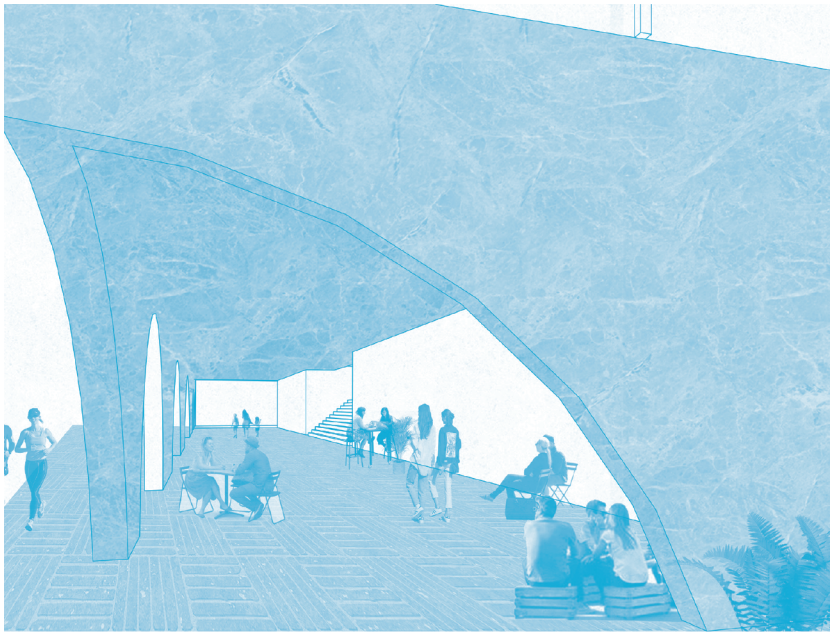
1:250
first floor

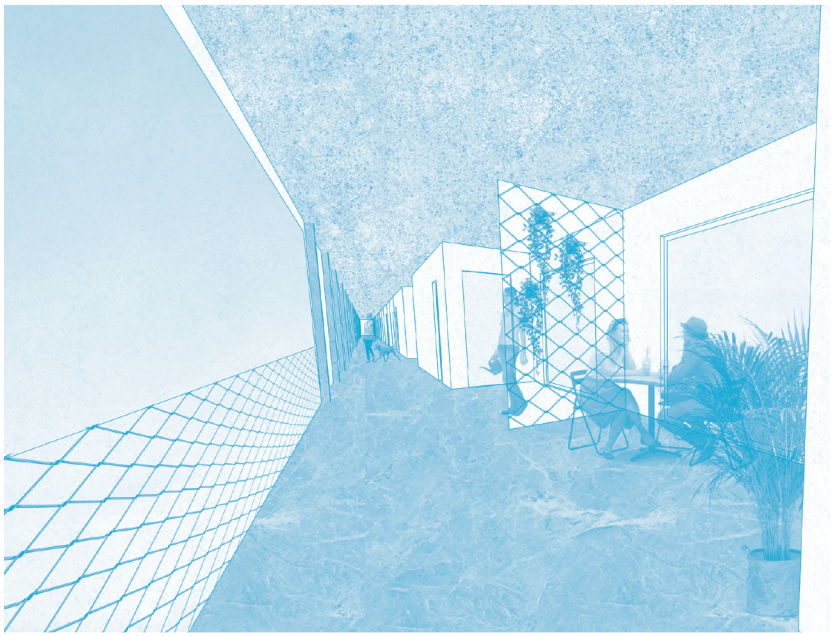


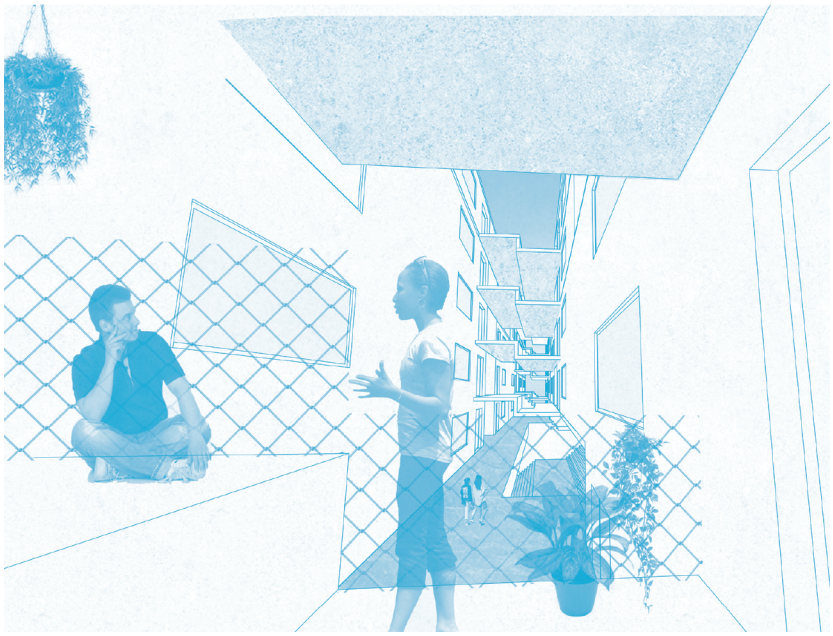
1:250
floor 2-6



1:250
Facade and section







VR

The city at eye level.

Dutch housing research tutorial reflection paper.

Mark Breman 4657039

May 14th 2019,

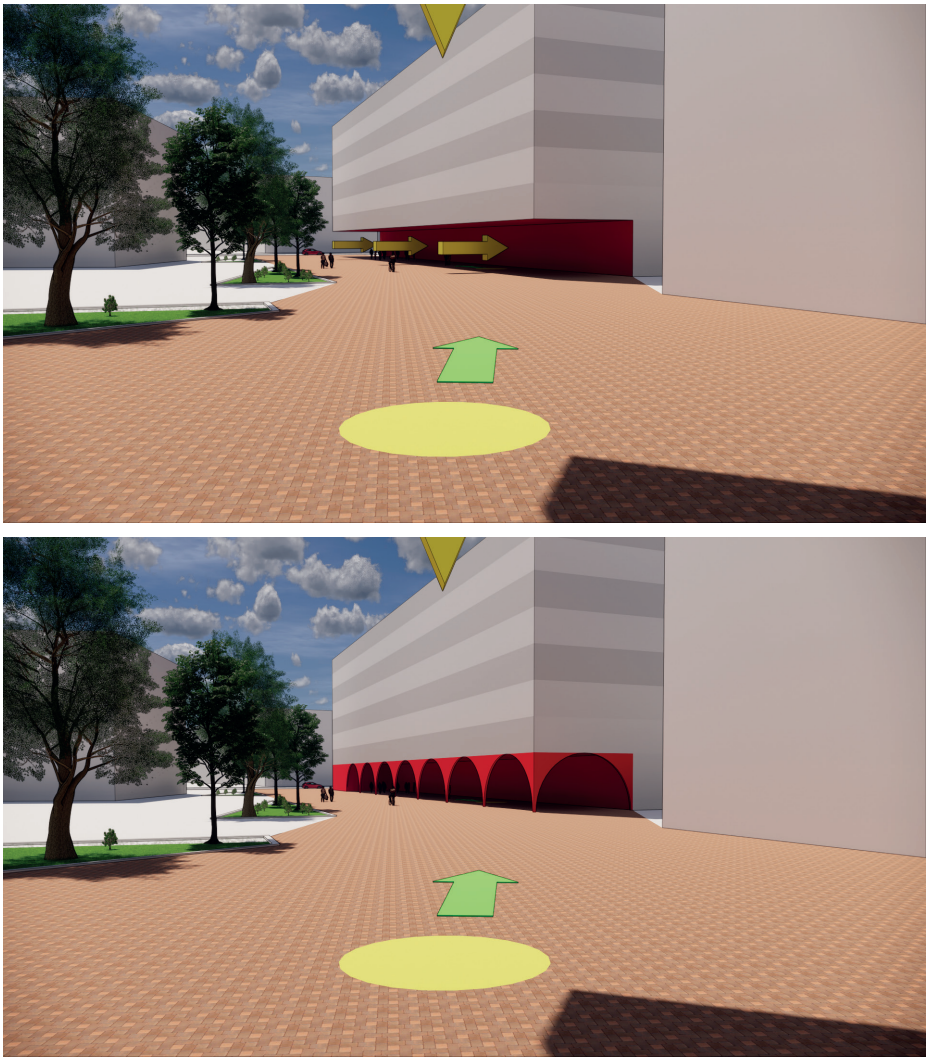
The introduction lecture of the course made me, and I can say all of us, really enthusiastic. The fact that we got to use this technology and have access to the VR lab. But in the two week after the introduction course not a lot of process was made. Two weeks prior to the final meeting I came up with a story. I took the reason why I chose this building block in the urban mass. I spend one day in the VR lab to work with enscape and to put the VR glasses on once again. The reason was that my target group (the single person households) we close to a lot of amenities and close to the new metro station. This all clusters around a centre square. During the crash course the first scheme of my design was made. In this design the ground floor has a big public street that needs to accommodate possibilities for social connection between residents and between residents and others. During the final meeting, it became clear that I had two story lines intertwined. I wanted to show the relation between the 'public street' and the park, but also the transition from the individual dwelling to the 'public street'. Together with the Tutor I decided that it was better to focus only on the relation between the building and the square. And only then, during that meeting and that day in the VR lab, it became clear to me how I could show my story line in VR. The final week before the presentation I worked on setting up the story line in VR. I spend one half a day on Friday and a full day on Monday in the VR lab testing.

The emphasis of this mass study in VR lies on the relation of the corner of the building to the main public square in the urban model. This relation has been tested by various steps. The steps described underneath are the outcome of the study.

Step 1: The long stretched building mass is getting a 5m high plinth. This together with the colouring of the different building levels gives the mass a readable appearance.
Step 2: Since I wanted the ground floor to be an extension of the park, and thus become a space for the public as well for the inhabitants of the building, half of the plinth got extruded inside. This leaves a public space that belongs to the building but also to the park. You can see (when standing in VR) that lowering the ground floor levels loses the connection with the outside space. Therefore the height of 5m is applied.
Step 3: To have the feeling that the created public space still has a border, columns have been placed so that you feel making a transition from the park to the building.
Step 4: In order to give any direction to the route people take, a sense of hierarchy is been added to the arches. Also the corner of the building on the side of the square has been opened.

This corner opening, together with the arch hierarchies creates a clear connection with the square and makes people walk from the square through the corner of the building into the building and back.

The course made it clear that there is an benefit in using VR as an addition to your design tool set. Wearing the VR headset and walk through your design definitely makes you look different at your design. But if feel that I didn't took everything out of the course as I would have liked. The fact that a couple of meetings where moved, the interruption of a full week crash course for studio and an important meeting for studio the week after that didn't do the process of this course any good. It was also a pity that enscape is not available on mac. This all together gave the course a chaotic feeling, and this is something I find disappointing. During the introduction of the course I really looked forward to start using this new type of technology in the design process of the graduation studio. And if the design progresses during the msc4 period, I can see how VR can help me to clarify my design ideas to others and walk them through the several design options. This would be especially be the case in the first period of msc4. By that time I already have a concept scheme of my design. And the next phase would be making the first more detailed design choices. To weigh these design choices, VR would be perfect to test them on eye level view. All in all it was really interesting to get to know the first possibilities VR has to offer in relationship to architecture in this course.



Impression of the used 'enscape' software

Graduation Plan

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Mark Julian Breman
Student number	4657039
Telephone number	0640776462
Private e-mail address	markbreman@hotmail.com

Studio	
Name / Theme	Dutch housing / Between standard and ideals
Teachers / tutors	T.W. Kupers. P.S van der Putt
Argumentation of choice of the studio	In his graduation studio you grapple with real problems that live in society at the moment. Weather it is the shortage of housing in the bigger cities or starters for which it's almost impossible to buy their first house for example. This together with the concrete approach of the studio made me chose this graduation path.

Graduation project	
Title of the graduation project	Building for the solo dweller: an antidote for urban loneliness.
Goal	
Location:	Minervahaven, Amsterdam
The posed problem,	Loneliness has become a growing problem in the city of Amsterdam. It is not a new phenomenon, but due to better understanding of the topic and therefore knowing it's dangers better, the urge to do something about it grows. Nevertheless, loneliness is a complex issue. This is because feeling lonely is a subjective feeling. In Amsterdam alone 300.000 people have the feeling of being lonely. 80.000 of them have the feeling of being severely lonely. That is 13% of the whole population in Amsterdam. In may of 2017 the municipality of Amsterdam presented a plan of action to reduce loneliness in the city, which underlines the necessity of taking action. The chief government architect Floris Alkemade also sees this as one of the challenges of the future. He says that the fundamental changes on

	demographics, technology and care asks for new spatial challenges and opportunities in the residential areas. The post-war neighbourhoods do not fit in with the current society. Alkemade points to the increasing loneliness, the great reliance on informal care, which has limits, and the growing dichotomy in society. The number of single people living has increased, but many post-war homes are suitable for families. This requires other types of housing. The design of the public space also needs adaptation to promote social cohesion and to prevent or reduce loneliness.
research questions and	**How can the built environment have a positive effect on the issue of urban loneliness?** - What is loneliness exactly? - What are the demographics on loneliness? - What target group should we build for? - What are the needs of this target group? - What is the relation between loneliness and the built environment? - Which physical elements contribute to a social environment?
design assignment in which these result.	Design a residential building for the solo dweller that has incorporated design measures that minimizes the possibility of the emergence of loneliness.

Process

Method description

This project takes urban loneliness as a starting point. The first part of the research is to deepen the understanding of loneliness in general. By looking in to the literature and demographics on loneliness, a target group is selected. The questions will be answered how diverse this target group is and what their needs are.

The second part of the research is to connect the term 'loneliness' with the built environment. What physical interventions can be made in the built environment to contribute to the mitigation of the urban loneliness problem. This will be done on an urban scale as on a building scale.

During the last part of the research, several case studies will be analyzed. This analysis focuses on the relation between the private and the communal. How the routing from the public to the private is arranged. And what the inhabitant of the building sees during this

trip from public to private. What kind of spaces is the inhabitant passing by or going through. The obtianed information from the topic research and the case studies will be compressed into a design brief.

The final part is to make a conceptual design. This first design scheme is based on the requirements listed in the design brief.

Literature and general practical preference

Cacioppo, J. T., & Patrick, W. (2008). Loneliness: Human nature and the need for social connection. W.W. Norton & Co, New York

van Dorst, M.J. (2005). Physical conditions for social interaction in the home environment. Department of Urbanism Technical University Delft, Faculty of Architecture. TU Delft.

Hoogland, C. (2000). Semi-private Zones as a Facilitator of Social Cohesion. Nijmegen: Katholieke Universiteit Nijmegen.

Franklin, A., Tranter, B. (2011) Housing, loneliness and health, AHURI Final Report No.164. Melbourne: Australian Housing and Urban Research Institute.

Gehl, J. (1987) Life Between Buildings: using public space. New York: Van Nostrand Reinhold Co.

Palmer, G. (2006). Single person households: Issues that JRF should be thinking about. Joseph Rowntree Foundation. York

Klinenberg, E. (2012). Going solo: the extraordinary rise and surprising appeal of living alone. New York: Penguin Press.

Reflection

Relevance

You just have to put on the tv and on a weekly basis and loneliness is one of the news topics. Due to the substantial growth of people who are feeling lonely, it has become a collective problem as well. And just like our chief government architect pointed out this growing problem is something we should work on. By limiting the negative effect the built environment has on loneliness, this project can show that architecture can make a difference in societal problems.

Time planning

TIME PLANNING			
DATE		**DEADLINE/TASK**	**SCHEDULE**
13	JUN	GRADUATION PLAN DEADLINE	
20	JUN	13:45-14:45 P2 PRESENTATION	
24-29	JUN		Reflection on P2 – Typologies, circulation, urban setting and target group
1--5	JUL		Reflection on P2 - Typologies, circulation, urban setting and target group, start/further develop structure and construction
2--6	SEPT		Continue Research and start thesis report – Social interaction, Typologies, public and private space
9--13	SEPT		Design by Research – Continue to develop the urban and building with outcome research Start assignment Architectural Reflections
16--20	SEPT		Research by Design – Continue to develop the typologies, circulation and public space
23--27	SEPT		Continue Research and thesis report / case studies – Simultaneously incorporate design by research and research by design
30--04	OKT		Case-studies and thesis report
7--11	OKT		Prepare draft thesis report and First draft for guidance – Typologies, floorplans, circulation, interaction, façades, urban setting, functions, structure, construction etc.
14--18	OKT		Prepare draft thesis report and Second draft for guidance - Typologies, floorplans, circulation, interaction, façades, urban setting, functions, structure, construction etc.
21--25	OKT		Preparations P3
28--1	NOV	2 NOV: Final application dates for P4: go / no-go	
4--8	NOV		Reflection P3 presentation and arrange with mentors and delegate of the Board of Examiners a preferred date and half-day within the defined P4 period with all involved
11--16	NOV		Start final draft thesis report and Final draft for guidance - make and incorporate conclusions and final variants in design.
18--23	NOV		Preparation P4

25--30	NOV	18 – 30 NOV: Send P4 products to mentors and delegate of the Board of Examiners	Preparation P4 / Final model making in the week after submitting P4 files to mentors and delegate of the Board of Examiners
3--7	DEC	3 - 14 DEC: P4 Presentations	Preparation P4 / Reflection P4 presentation
9--14	DEC	14 DEC: Final application dates for P5: Public Final Presentations	Reflection P4 presentation
16--21	DEC		Final adjustments and perfecting Final thesis report and Final design studio.
23---28	DEC		Preparation P5 - Final adjustments and perfecting Final thesis report and Final design studio.
30--4	JAN		Preparation P5 - Final adjustments and perfecting Final thesis report and Final design studio.
6--11	JAN		Preparation P5 – Finishing Final models P5
13--18	JAN	18 JAN: Handing in digital graduation work (3 days before P5 presentation)	Preparation P5 – Finishing Final models P5
20--25	JAN	23 – 1 FEB: P5: Dates final public presentations:	
27--1	FEB	23 – 1 FEB: P5: Dates final public presentations:	