# RECIPROCITY

## Turning space into place to enhance wellbeing

**Research by Design Journal**
Lucca Ardesch
5898447
AR3AP100 2024-25
Public Building Graduation Studio “Public Condenser, Copenhagen”

**Tutors**
Ir. P. Kuitenbouwer
Ir. E . Karanastasi
Dr. Ir. S. Corbo

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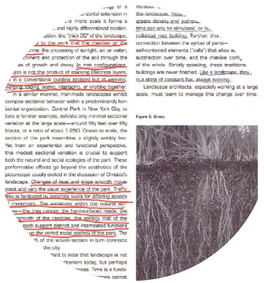
This chapter describes information about the studio, the posed problem, research questions, the methodology and the graduation plan reflection.

## 02 Research by design journal

**P. 03**

This chapter describes the research by design process that I went through in quarter 1 to quarter 4, which brought me to the final design.



## 03 Final design showcase

**P. 03**

This chapter showcases the final design, providing diagrams, floor plans, sections, elevations and 3D images to visualise the project.

## 04 Course reflection

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This chapter provides a project summary, the final reflection on the process and methods, the relation to the studio and academic relevance

## 05 Project bibliography

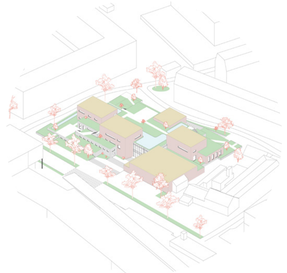
**P. 03**

This section lists all the research sources used during the design process, ranging from academic sources to online articles and images used in the document.

## 06 Course archive

**P. 03**

This chapter provides insight into additional work produced during the Public Building Graduation Studio course, such as group assignments and workshops.



# 01

# Graduation plan

## Information

### Name
Lucca Ardesch

### Student number
5898447

### Graduation project
#### Title of the graduation project
Reciprocity
*Turning space into place to enhance wellbeing*
#### Location
Nordvest, Copenhagen, Denmark

### Studio
#### Name/Theme
AR3AP100 2024-25
Public Building Graduation Studio
“Public Condenser, Copenhagen”
#### Tutor 1 Project Design
Ir. P. Kuitenbouwer
#### Tutor 2 Technical Building Design
Ir. E . Karanastasi
#### Tutor 3 Theory & Delineation
Dr. Ir. S. Corbo

### Argumentation of choice for the studio
The Public Building Graduation Studio is about the benefit of people and improving cities/ lives rather than abstract architectural
concepts. It brings architecture back to a more human level by looking at the interplay between urban environments and their social context within a neighbourhood.

*Figure 1:*
*Grønningen-Bispeparken, by SLA*
*Image from Landezine.com*

# Posed Problem

The area of Bispebjerg is a spacious district with its own identity and history. The neighbourhood is home to iconic buildings such as the Grundtvig's Church and the Dance Chapel. The area is well-connected and features creative businesses, eateries with food from all over the world, affordable housing and large stakeholders, such as the NEXT school and a mall.

The southern part of the area tells the story of an old industrial district characterized by factories and manufacturing businesses, while the northern part of the area tells a story of interwar housing developments where ordinary families could get healthy, spacious homes in green, well-planned surroundings.

Many people live, shop and work in the southern part of Bispebjerg/Nordvest, around Nørrebro Station. The NEXT school is located in the middle of this southern area, which creates a void with large open asphalt surfaces that are only used sporadically by the school's students. This is just one example of several problems in the morphological realm of the neighbourhood.

There is a desire from NEXT to densify and create an attractive, lively and open school that acts an active part of the city. These plans have already been elaborated extensively in the ADEPT development plan.

Developers, such as the NEXT school have great ambitions for their own cadastre and for the neighbourhood as a whole, and therefore have a desire to collaborate and contribute to the positive development of the city. There is now a need to zoom out and get a holistic view of the neighbourhood, and create a direction for this development. This need is further emphasized by the issues found within the social realm of the neighbourhood. These issues range from harmful lifestyle habits, such as smoking and irresponsible eating patterns, to socio-economic problems such as segregation between different groups of city dwellers, household issues breaking families apart, and low income within the area. The extent of the issues have escalated so far that the municipality of Copenhagen classified the neighbourhood of Bispebjerg as a "Ghetto"-area, despite its unique qualities.

The goal is to strengthen connections, densify the urban space, and sharpen the special identity that exists in the neighbourhood, whilst addressing these socio-economic issues. The development must benefit residents, landowners and other stakeholders.

Bispebjerg must become a diverse and attractive neighbourhood with strong communities, vibrant institutions and good conditions for flourishing, where one wants to stay, and where development goes hand in hand with the neighbourhood's history, architectural qualities and lives.

*Figure 2:*
*Grundtviks Kirke, Bispebjerg*
*Image by author*

*Figure 3:*
*NEXT School Signage*
*Image by author*

*Figure 4:*
*Articles on criminality*
*Image by Hidde Bartstra*





# Research Questions

**Main research question**

"How can architectural design strategies enhance mental, social and physical wellbeing in Bispebjerg?"

**Subquestion 1**

"What are the factors that negatively impact wellbeing in the site area in Bispebjerg/Nordvest?"

**Subquestion 2**

"How do *space* and *place* contribute to the wellbeing of city dwellers?"

**Subquestion 3**

"How can a building's architecture contribute to effectively turn *space* into *place*?"

# Research goal

The research goal is to develop a design strategy for a new public condenser in the site area within Bispebjerg that positively contributes to the wellbeing of city dwellers and the building's users by responding to the three key aspects of wellbeing: the social aspect, the hedonic aspect and the eudaimonic aspect of wellbeing.

The building should have a positive impact on the neighbourhood on both urban an socio-economic levels, and establish reciprocal relations between the local conditions, stakeholders and dwellers, stimulating sustainable urban development and catalysing the further development of the ADEPT plan.

This strategy creates socio-economically beneficial, inviting spaces, establishing more intricate connctions between the dwellers of the neighbourhood, the NEXT school, the mall and other surrounding functions. The project aims to introduce new, adaptable urban landscapes to be used by the inhabitants of Bispebjerg.

The proposal will  combine architecture and programmatic solutions into the building that will improve wellbeing and benefit city dwellers and stakeholders in the area. By looking at both missing and existing functions, conditions and infrastructures - and adding to them - this project will demonstrate how architecture can add to creating a sustainable economy, urban densification as well as the inhabitant's welfare.

# Methodology

By answering the research questions mentioned, important lessons were learned about using architectural design strategies to overcome socio-economic and physical boundaries found in Bispebjerg/Nordvest, and in turn, to improve wellbeing in the area.

The first subquestion was answered with literature studies. An analysis on the definition of wellbeing, as well as books and reports on the built environment in relation to the concept of wellbeing, and a comparative study of the findings were done to get an understanding on the contribution of the built environment to the wellbeing of people. Additionally, an interview was held about the impact of offering social working projects.

The second subquestion was answered by doing a comparative case study on several existing architectural projects that tried to positively impact the wellbeing of residents of an area. These case studies all have a hybrid, more urbanist approach, that seek to blur the lines between building and city to have a broader impact, through architecture as well as programmatic infill. The public buildings selected for the case studies are picked through the following criteria:

## Type of public building
Choosing buildings that are regarded as community centres, excluding hospitals and schools.

## Contextual factors
Choosing a geographic location in an urban environment in Europe to ensure relevance.

## Interweaving of city and building
Choosing buildings composed of architecture, landscape, transportation and mobility flows, human and non-human entities

The last subquestion was answered by extensively analysing the local conditions, such as green spaces, morphology, infrastructures, and stakeholders within the area in the form of mapping.

By comparing the findings of the sub-questions, the main research question was then explored and answered in a way that responds to the delicate interplay between different conditions and stakeholders, improving their relations and wellbeing. This leads to an adequate answer to issues found within the Bispebjerg/Nordvest-area and the 'Public Building'-studio design brief.

**Parasol Metropol**
Sevilla, Spain
J. Mayer H. & Arup

**BLOX**
Copenhagen, Denmark
OMA

**Nyma Terrain**
Nijmegen, Netherlands
Zecc Architects

**MAS Museum**
Antwerp, Belgium
Neutelings Riedijk Architects

**Centre Pompidou**
Paris, France
Renzo Piano

**Maersk Tower**
Copenhagen, Denmark
C.F. Møller

# Research by design journal



# 02

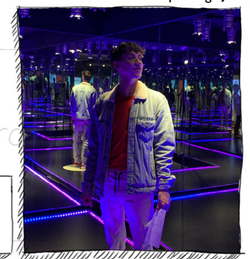
## Studio introduction

During the first quarter, groups and subgroups were formed which we would work with throughout the first quarter. During this time, an extensive study on the contexts of Copenhagen and Nordvest/Bispebjerg was done, of which the findings are presented in the first part of this chapter.

In the first week, I presented myself, my experience and my ambitions by means of a studio passport, shown on the right. This week was mostly spent doing preparatory work for the Public Graduation Studio course.



Lucca Ardesch
Nijmegen, 16-07-1998



Throughout my life I have always been extremely passionate about the built environment and architecture. I drew buildings and cities from the moment I could draw, making my study choice after high school an easy process: I always knew I wanted to become an architect. Thus, I started out by learning how buildings are put together during my previous studies (building engineering).

My path ended up at TU Delft because after these studies, I wanted to learn more about architecture (history) and design processes. Having a great university like this within reach, it was obvious where I wanted to go. My previously followed courses were: Dwellings: Fundamentals of Housing Design, Architectural Design Crossovers & a history thesis on material re-use after World War II.

I chose to follow the Public Building graduation track because the concept of a public condenser intrigues me. The concept seems to be regarding the benefiting of people and improving cities/lives rather than abstract architectural concepts that are hard to grasp for anyone other than architects. It brings architecture back to a more human level.

**Skill Indications:**
Infographics/data: 6/10 Mapping: 7/10 Diagrams: 7/10 Architectural visualization: 8/10

**Studies**

| | |
|---|---|
| 09/2018 - 07/2022 | Bachelor - Building Engineering<br>*HAN University of Applied Sciences, Arnhem* |
| 09/2024 - ??/???? | Master of Science - Architecture<br>*Delft University of Technology* |

**Jobs & Internships**

| | |
|---|---|
| 09/2019 - 11/2019 | Giesbers Wijchen<br>*Internship - Assistant Executor/Supervisor* |
| 11/2019 - 01/2020 | ECO Architecten<br>*Internship - Architecture* |
| 08/2020 - 07/2022 | Buro BUILT<br>*Creative Design, Project Management* |
| 08/2021 - 01/2022 | JCR Architecten<br>*Internship - Architecture* |

# Copenhagen

## A brief history of Copenhagen

Copenhagen, the current-day capital of Denmark, has a history dating back to at least the 11th century, when it was a modest fishing village known as "Havn." It gained prominence in the 12th century under Bishop Absalon, who fortified the town and laid the foundations for its development as a commercial and political centre.

By the 15th century, Copenhagen had become the capital city of Denmark. The city flourished during the Renaissance, but suffered significant damage from fires, plagues, and wars in the 17th and 18th centuries. Subsequently, the 19th century brought modernisation, industrialisation, and population growth, transforming Copenhagen into one of the major cities in the region of Scandinavia and Europe.

During World War II, the city was occupied by Nazi Germany, though no extensive destruction took place. Post-war reconstruction and the rise of the welfare state shaped its modern identity.

Today, Copenhagen is widely renowned for its quality of life, progressive urban planning, and commitment to sustainability and social inclusion, putting the city at the top of modern-day rankings of the world's most liveable cities time after time.

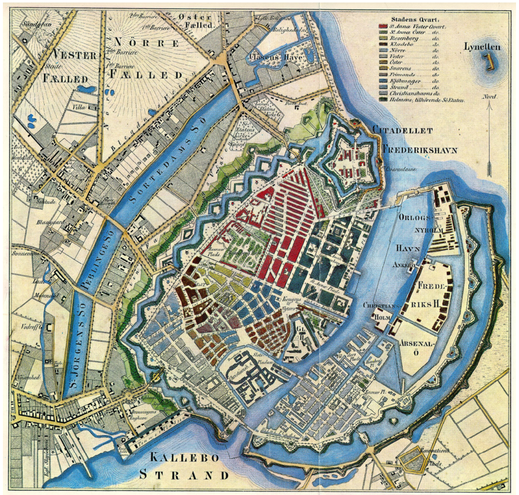



*Figure 5:*
*Map of Copenhagen, c.a. 1850.*
*Image from wikipedia.com*





# Bispebjerg

## A brief history of Bispebjerg

Bispebjerg, a neighbourhood located in north-western Copenhagen, was originally a rural area on the city's periphery. It was incorporated into Copenhagen in 1901 as part of a municipal expansion aimed at accommodating rapid population growth, and has undergone significant transformation since this time. The area developed quickly, driven by the construction public institutions, such as the Bispebjerg Cemetery (1903) and the Bispebjerg Hospital (1913).

Subsequently, forward-thinking social housing developments were developed in the 1940s under the name of Bispeparken. Bispebjerg was characterised by its working-class residents and functionalist housing blocks with their early welfare state ideals.

Starting in the post-World War II era, the area experienced industrial decline and social challenges, but also became known for its cultural diversity. The development of the Bispebjerg area has since been lagging behind in comparison to the rest of the Copenhagen area, eventually putting the neighbourhood on the controversial Ghetto-list of Copenhagen.

In recent decades, urban renewal projects have sought to address social disparities and improve infrastructure.

*Figure 6:*
*Greenery in "new" developments around Bispebjerg Hospital.*
*Image from magasinetkbh.dk*

# Excursion

The impressions Copenhagen left on me were impressions to remember for a lifetime. The quality of the urban fabric is immense. It seems like architecture throughout Denmark has taken a step up in comparison to the rest of the world.

For me it was most notable what the extra attention to a good quality of life through architecture and lifestyles seems to do for a city. The city of Copenhagen was accessible, bicycle infrastructure was available throughout, and I do not think I have had to be in public transit for longer than 30 minutes, even though I used it a lot (the weather was mostly horrible).

Architectural highlights, such as the Grundtvigskirke moved me through their subtle but impressive architecture, whilst places, such as the libraries by COBE architects we visited, moved me through their attention for the people using them. I was surprised by the amount of people using these spaces and that I could literally see some social initiatives in effect. Most notably, the image of an elderly Danish lady tutoring a very young, immigrant girl stuck by me. It just goes to show how social initiatives can benefit several different groups of a society at once, and bring people closer together.

When exploring the neighbourhood, I discovered a lot about the socio-economic challenges faced in Bispebjerg, such as gang activities and problems like gentrification due to the influx of students within the neighbourhood. I held interviews with inhabitants with Joyce, which further highlighted these issues.

It was also notable that there was a lot going on, especially in the southern part of the Bispebjerg neighbourhood, but everyone we asked pointed us to other neighbourhoods for their personal highlights in the area. None of the subjects spoken to really seemed to be excited about places within Bispebjerg itself.

*Figure XXXXXX:*
*Elder lady helping immigrant girl learn to read in the Nordvest library*
*Image by author*





## Lacking quality of the public space in Bispebjerg/Nordvest

Though I felt impressed by the quality of the infrastructures and the availability of quality spaces throughout the city of Copenhagen, this amount of quality was not seen everywhere throughout the city. Our site area within Bispebjerg/Nordvest, for example, was clearly lacking some "quality" within the public realm.

Apart from some parks and playgrounds tucked away within the area, the public space in our site area barely seemed to be used for anything other than parking cars and travelling through the area, rather than dwelling within the area. Most of the public space is dedicated towards the parking of cars and covered in pavement and asphalt. Urbanists such as Jan Gehl have documented the negative impact of such uses of space extensively, in books such as "Cities for People".

The percieved lack of "quality" of the public realm has always inspired me to try and improve buildings and areas. The impressions I got from experiencing the neighbourhood gave me the first idea of trying to improve the area in a broader sense than just adding a public building.

*Figure XXXXXXXXXX:*
*The use of space in the site area in Bispebjerg/Nordvest*
*Images from Google Street View, composed by author*

# First ideas

## Porosity of the area

At this time still building on the concept of porous design strategies, I had noticed during our site visit that the site area in Bispebjerg itself really is not permeable at all.

In the direction from south to north, only very busy traffic arteries provide options to travel. These roads are dominated by cars and traffic noise, but also create major physical boundaries for pedestrians.

From east to west, there is only one connection through the area, which has been turned into a rather dead and lifeless zone, hosting no qualities for urban dwellers within the area, and even feeling rather unsafe.

The mall to the east of the area is completely separated from its surroundings by a railway and one of the large roads. I find it rather strange that a shopping area is this connected from its surroundings.

## The good and the bad

In the map below, the areas with great potential are marked in yellow. The mall and the road on the northern side have great potential, but are now rather disconnected from the rest.

The shopping areas on the south side host nice stores and restaurants, but their potential is impacted negatively by the noisy traffic arteries marked in light blue.

The darker blue roads host no real qualities, are underutilised and feel unsafe.

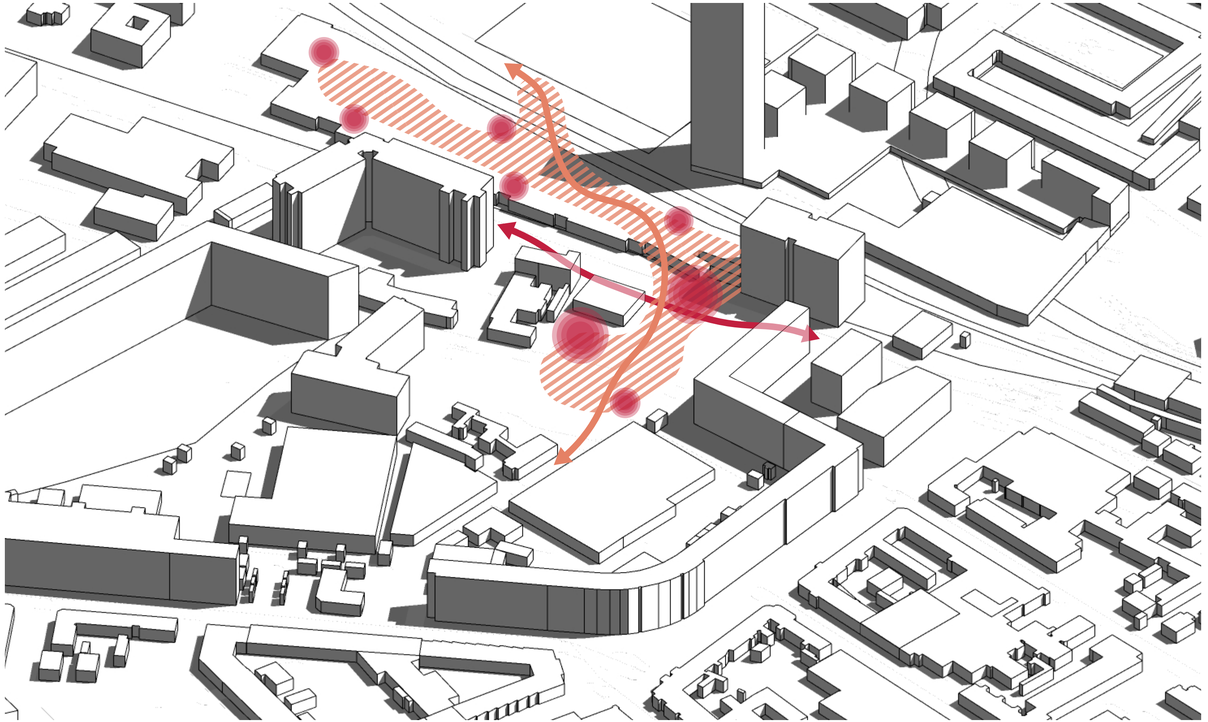
## The solution?

My first thoughts on the area were that an intervention around the mall, the empty plot next to the Bazar and the empty streets could prove to be greatly beneficial for the area. It may be a good idea to somehow bridge the large traffic artery that is here to mitigate its negative effects and benefit the stores in the mall.

Trying to rejuvinate this area will lead to a nicer district to live around this plot, and would create an influx of people in the previously dead streets, spreading people through the area.

This idea would make for a more sustainable neighbourhood and it plays into my interests and the concept of porous design strategies.

# P1 first proposal



# Exploration of functions - Sports centre

## Why?

A small sports centre will be added next to the existing sports field at Mimersparken, that will be linked directly to the condenser, urban farms and the NEXT school. It will make a good addition to the condenser and the neighbourhood, because public condensers should offer numerous benefits for physical health, mental well-being, and community cohesion.

Access to the conveniently placed sports facility encourages people to stay active, reducing the risk of chronic illnesses such as obesity, diabetes, and cardiovascular disease, actively responding to the problem of unhealthy lifestyles being maintained within Bispebjerg.

Beyond physical health, regular exercise is known to improve mental health by reducing stress, anxiety, and depression while boosting energy levels and self-esteem. A sports centre provides a structured environment where individuals can engage in activities that enhance both physical and mental well-being. These activies may be guided by experts or students from a potential new sports program at the NEXT school, since this school is looking to expand.

Additionally, the route from NEXT to the sports centre will feature outdoor sports facilities, such as a running track and outdoor fitness spaces, including one for elderly people. This leads to a strong connection between the NEXT school, the public condenser and the sports centre itself.

The sports centre will feature a calisthenics gym, dance space and yoga room. These functions are a reaction to the fact that within the direct surroundings, there are only regular gyms or a martial arts centre available.

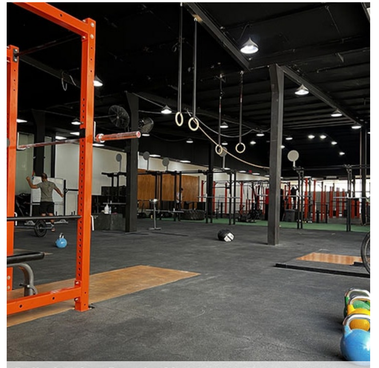
Incorporating the sports centre into the masterplan around the public condenser creates a mutualist bond between the NEXT school, the condenser and the inhabitants of Bispebjerg.

## Dedicated space

1000 m² in total is dedicated to the sports centre, excluding the fitness facilities placed on the new masterplan route.







Calisthenics Gym in Ajman

Global Dance Centre in Amsterdam

Outdoor Fitness Centre for Elderly, Singapore

Yoga Space in Somerset

# Exploration of functions - Rooftop farming

## Why?

Rooftop farming is a sustainable solution to some challenges of urban living. By utilizing underused rooftop spaces, these farms provide fresh, locally-grown produce while reducing the carbon footprint associated with transporting food from rural areas to urban centers.

In the urban context of Bispebjerg, the rooftop farm contributes to sustainable food security by offering a consistent supply of healthy fruits, vegetables, and herbs It also promotes environmental sustainability by improving air quality, reducing the urban heat island effect, and managing stormwater through the absorption of rain.

Rooftop farms create green spaces that enhance urban aesthetics and provide areas for relaxation, fostering mental well-being for residents. They can also serve an educational purpose, where individuals learn about sustainable farming practices, composting, and food systems, fostering greater community awareness and engagement.

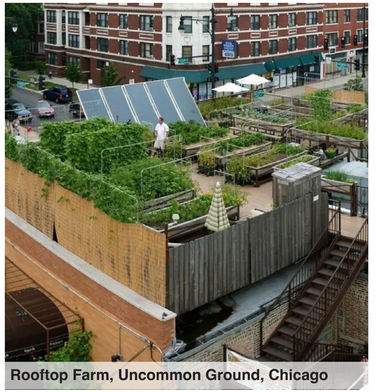
Moreover, rooftop farming supports local economies by **creating jobs and reducing dependence on imported produce**. Students from the NEXT school, as well as people looking to integrate, for example from the youth- and homeless centres, can benefit from the farms as well, through the potential of social urban farming programs.

Incorporating a rooftop farm in Bispebjerg transforms unused spaces into **productive areas that promote health, sustainability, and community cohesion,** making the neighbourhood more sustainable and enriching.

## Dedicated space

About 5500 m² in total is free on the roof spaces of the mall.

Rooftop Farm of the Chicago Botanic Garden



Rooftop Farm, Uncommon Ground, Chicago

The New Urban Farm, The Hague

Javits Centre Rooftop Farm, New York

# Exploration of functions - Bike parking

## Why?

Bicycle parking in the area is scattered all around, but parking spots are limited to a very small amount. The racks are too small to provide enough capacity for the surrounding functions.

This is further emphasized by a large amount of bicycles being parked outside of the designated parking spots.

A lot of the parking spaces for bicycles are located on sidewalks, taking away precious urban space from dwellers, turning the sidewalks to narrow, unusable spaces.

Some of the bicycle parking is obstructive in additional ways, for example, larger racks at Lygten are blocking the entrance to the Nørrebro Bycenter (the mall).

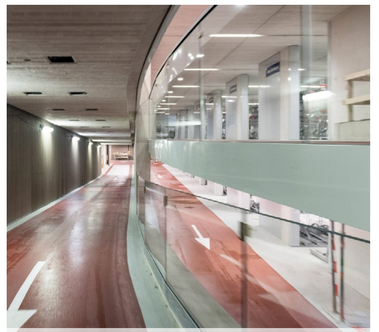
It is of utmost importance to ensure proper bicycle parking to stimulate the healthy and sustainable means of travel, and because a lack of bicycle parking spaces is a problem found throughout Copenhagen.

**Bicycle Parking Amsterdam IJboulevard**

| Parking Spots | M² |
|---|---|
| 4000 | 4270 |

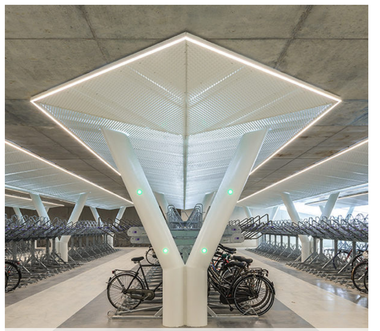
**Bicycle Parking The Hague Central**

| Parking Spots | M² |
|---|---|
| 8500 | 8100 |



**Bicycle Parking Utrecht Central Station**

| Parking Spots | M² |
|---|---|
| 12500 | 17000 |



**Bicycle Parking Amsterdam Strawinskylaan**

| Parking Spots | M² |
|---|---|
| 3750 | 4200 |

# Exploration of functions - Lygten Bazar

## Why?

The Bazar is a supermarket store that has been a long-time essential for many residents of Bispebjerg, selling a range of specialty goods common to nations in Northern Africa and Asia.

Lygten bazar is a thriving and busy business. It plays a vital role in the social fabric within the neighbourhood, giving the many immigrated residents of the area access to products they are aquainted with. The store is visited by many residents each day.

The store exists on the chosen building site, but does not feature great architectural qualities, and is rather dated. This means that the store could use rejuvenation or rebuilding: a new life can be given to this marketplace.

Because the new public condenser building is purposed to benefit all, it is of utmost importance to maintain the market for both local residents as well as the store-owners.

The upper floor of the Bazar is dedicated to housing for the homeless, which is why it is important to implement this function into the new design for the area as well.

## Dedicated space

The current-day Lygten Bazar encompasses about 500 m² on the ground floor of the building. The space for the Lygten Bazar should encompass at least the same amount of floor area.

Lygten Bazar Exterior

Lygten Bazar Interior

Lygten Bazar Bakery

Front Entrance Market Stalls

# Exploration of functions - Legal help centre

## Why?

Whilst legal help centres are already in place in the surrounding area of Bispebjerg and Copenhagen, most of these centres are small offices with a tiny capacity.

Due to the building site's proximity to the Nørrebro Transit Hub and the relatively high amounts of socio-economic issues found within the area, it is of utmost importance to ensure a well-accessible place to find legal help. In Europe, ensuring legal help is easily accessible is required by law.

Another factor making it an important function to implement is the densification that is suspected to happen within the surrounding areas. Increased amounts of households will lead to an increased demand for legal aid.

Additionally, certain challenges, such as an increased influx of immigrants within countries worldwide, will inevitably put a further strain on help centres.

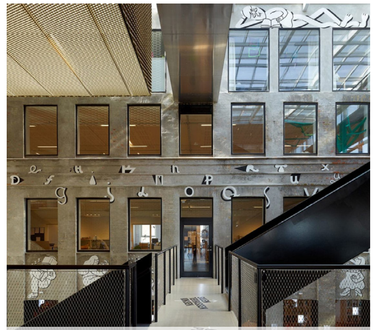
The legal help centre being located in the condenser will also be of benefit for the inhabitants of the living & reintegration centres for the youth and the homeless that will be put into the condenser, creating a mutualist relation.

## Dedicated space

The current-day Lygten Bazar encompasses about 500 m² on the ground floor of the building. The space for the Lygten Bazar should encompass at least the same amount of floor area.

**The Hague Information Centre**
Function — M²
Legal & General Information — 500

**Seattle Central Library**
Function — M²
Library, Event & Information Centre — 38300



**Nordvest Library**
Function — M²
Library & General Information — 3150

**Hammersmith & Fulham Library**
Function — M²
Library & Legal Help Centre — 1500

# Exploration of functions - Public Information Centre

## Why?

Besides the legal help centre, a "regular" public information centre will be housed in the public condenser. This centre will aid citizens in finding activities, (volunteer) jobs, and the right parties to get in touch with for their needs and desires.

Tourists within the area can make use of the public information centre to locate hotspots and interesting sights for them to visit, stimulating local economies further.

Additionally, the public information centre will serve as a mediator between national and local politics and the citizens of the neighbourhood, giving people a voice in political decisions being made within the area. The podium/auditorium that is also in the condenser will provide space to hold community meetings.

The public information serves as a hub of knowledge, fostering transparency, trust, and engagement between citizens and public institutions. By offering clear guidance on topics like healthcare, education, and local governance, the centere reduces barriers to understanding and navigating complex systems: an essential in a diverse neighbourhood like Bispebjerg

The public information centre will be strengthened further by it being paired with a media room, allowing people easy access to the internet to do their own research.

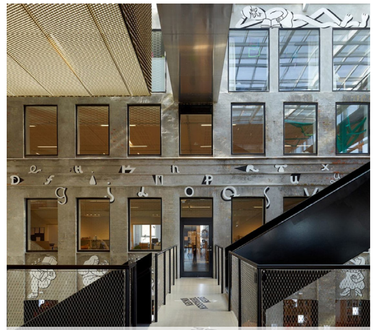
The public information centre is essential in creating an inclusive space where everyone—regardless of background or digital literacy—can seek help and advice.

## Dedicated space

The references found of legal advice centres have floor surface areas ranging between 50 and 1000 m². These sizes depend on their contexts. Usually, the centres exist within libraries or city halls. Smaller buildings may have a single office space dedicated to legal help, whilst larger ones in more urbanised contexts may have up to 500 m² of space for helping people, tourist information and for administratory purposes. Given the location's proximity to the Copenhagen City Centre and suspected densification, 200 m² is dedicated to the public information centre.

**The Hague Information Centre**
Function — M²
Legal & General Information — 500

**Seattle Central Library**
Function — M²
Library, Event & Information Centre — 38300



**Nordvest Library**
Function — M²
Library & General Information — 3150

**Stadswinkel Nijmegen**
Function — M²
Public Information & Legal Information Centre — 600

# Exploration of functions - Public Information Centre

## Why?

Adding media rooms to the public condenser significantly enhances its role as a community hub, fostering creativity, education, and digital inclusion. In today's evolving digital landscape, access to multimedia tools and spaces is essential for personal and professional growth. Media rooms will provide a dedicated environment for individuals to engage in activities such as video production, podcasting, photo editing, and virtual meetings.

The rooms serve as versatile spaces where people of all ages and backgrounds can learn, collaborate, and express themselves. Media rooms can teach valuable digital skills, such as video editing, sound engineering, and graphic design, helping bridge the digital divide and empowering individuals to thrive in a technology-driven world. Students, newly immigrated people, job seekers, and community organizations can all benefit from these resources, using them to create projects, promote initiatives, or develop new skills.

The media room will particularly be of benefit to the lesser fortunate within the Bispebjerg neighbourhood, but also create a mutualist relation within the condenser, benefiting the inhabitants of the rehabilitation centres for adolescents and homeless people.

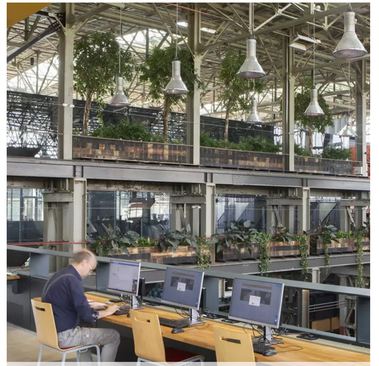
Incorporating a media room into the public condenser aligns with its mission of inclusivity and adaptability. The space enriches the condenser's offerings, creating opportunities for innovation, education, and cultural expression, while ensuring the facility remains relevant in addressing the needs of its community.

## Dedicated space

200 m² is dedicated to the creation of a media centre with a reading area, computer area and different studios for specialised work, such as a recording studio and instrument room.

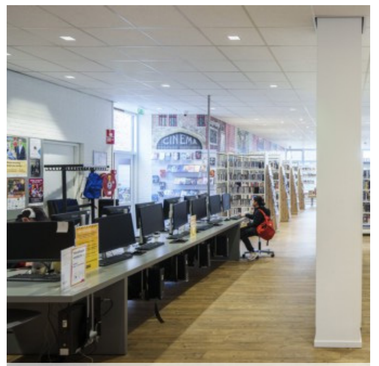






Media Space in LocHal, Tilburg

Media Studio in Halifax Central Library



Media Space in The Hague Central Library

Digital Media Lab in Carmel Clay Public Library

# Exploration of functions - Family relations centre

## Why?

The domestic relations centre within this public condenser is an essential addition to support the well-being and harmony of families in the community. Families in Bispebjerg are statistically facing domestic issues and are being broken up relatively often.

This comes with a need for solving challenges, such as conflict resolution, parenting issues, divorce proceedings, or navigating child custody arrangements. A dedicated centre provides a safe, neutral space where individuals can access vital resources, guidance, and professional support to address these sensitive matters effectively.

A domestic relations centre offers trained mediators to help resolve disputes amicably, reducing the emotional and financial strain often associated with domestic issues. It would also provide workshops on parenting strategies, communication skills, and conflict management, equipping families with the tools to foster healthy relationships and create nurturing home environments.

**Additionally, the centre will connect families to services, such as legal aid, counseling, and support groups for those experiencing domestic violence or other crises. By centralizing these**
**resources, the centre ensures that families can easily find the help they need, promoting early intervention and preventing issues from escalating.**

**The domestic relations office will pair up perfectly with the living and reintegration center for youth, giving the affected youth a safe space to rebuild healthy relations with parents.**

**Incorporating a domestic family relations centre into the public condenser aligns with the condenser's goal of addressing the**
**promotion of social cohesion and well-being.**

## Dedicated space

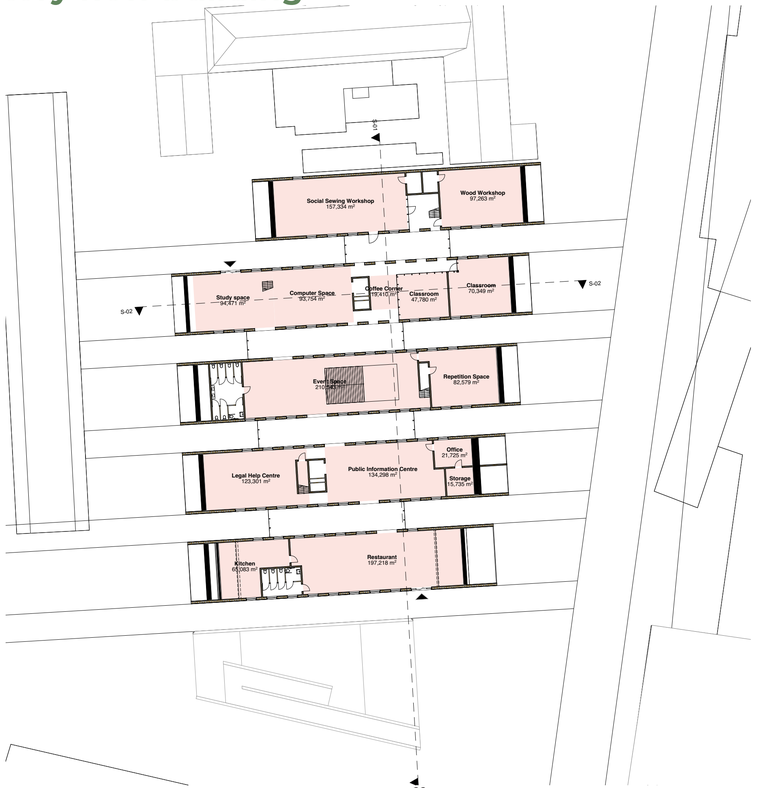
For the implementation of several offices, family meeting spaces and therapy rooms with a reception area, 250 m² have been designated.

Children's Therapy Space in a Treatment Centre

Therapy Space in Noord Youth Treatment Centre

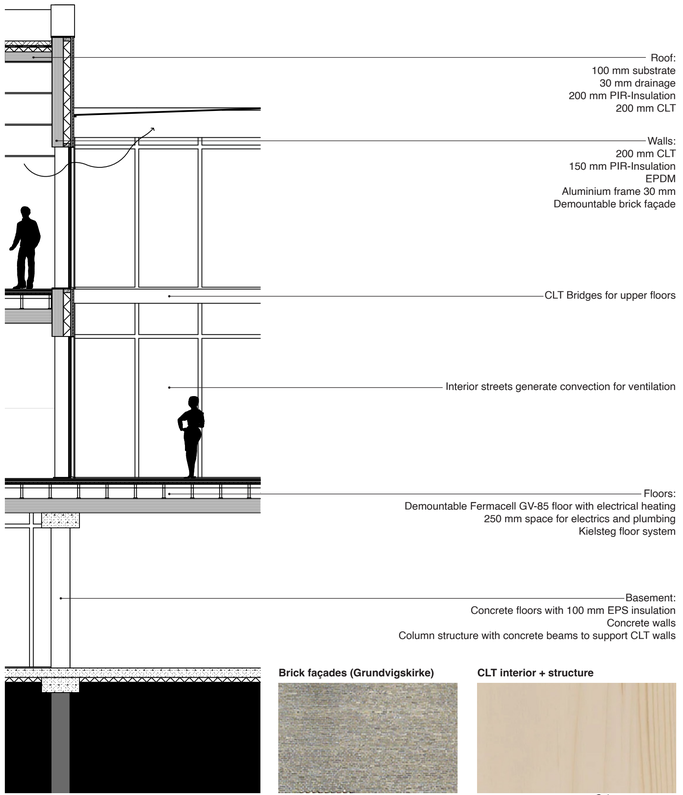
The Family Centre, Kitchener

# P3 Exploratory new building







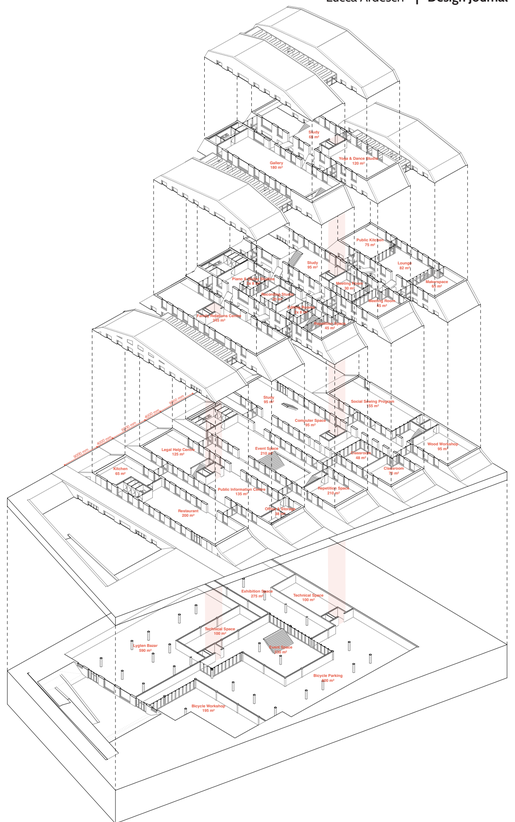




**Brick façades (Grundvigskirke)**



**CLT interior + structure**





# Mental wellbeing

## Defining wellbeing

According to the World Health Organization, Wellbeing is a state of positivity experienced by individuals and in societies. Wellbeing is determined by social, economic and environmental conditions and functions as a resource for daily life

Wellbeing encompasses not only people's quality of life, but also the capacity of individuals and societies to contribute meaningfully to the world in alignment with a sense of purpose. A focus on wellbeing facilitates the monitoring of equitable resource distribution, overall human flourishing, and long-term sustainability.

From this definition, one can gather that the term wellbeing is a broad term, consisting of both objective and subjective aspects. Objective wellbeing includes measurable indicators such as income, education, employment, health status, and access to resources. On the other hand, subjective wellbeing involves an individuals' own assessments of their lives about matters such as emotional states and cognitive evaluations of life satisfaction.

Wellbeing is based on three types of wellbeing: It relates to (i) life satisfaction, (ii) emotional wellbeing, and (iii) eudaimonic or psychological wellbeing

# Urban indicators for high mental wellbeing

Daylight

Pedestrian-orientedness

Beauty

Active places

Fitting, mixed-use functions

Public (green) spaces

Lack of noise pollution

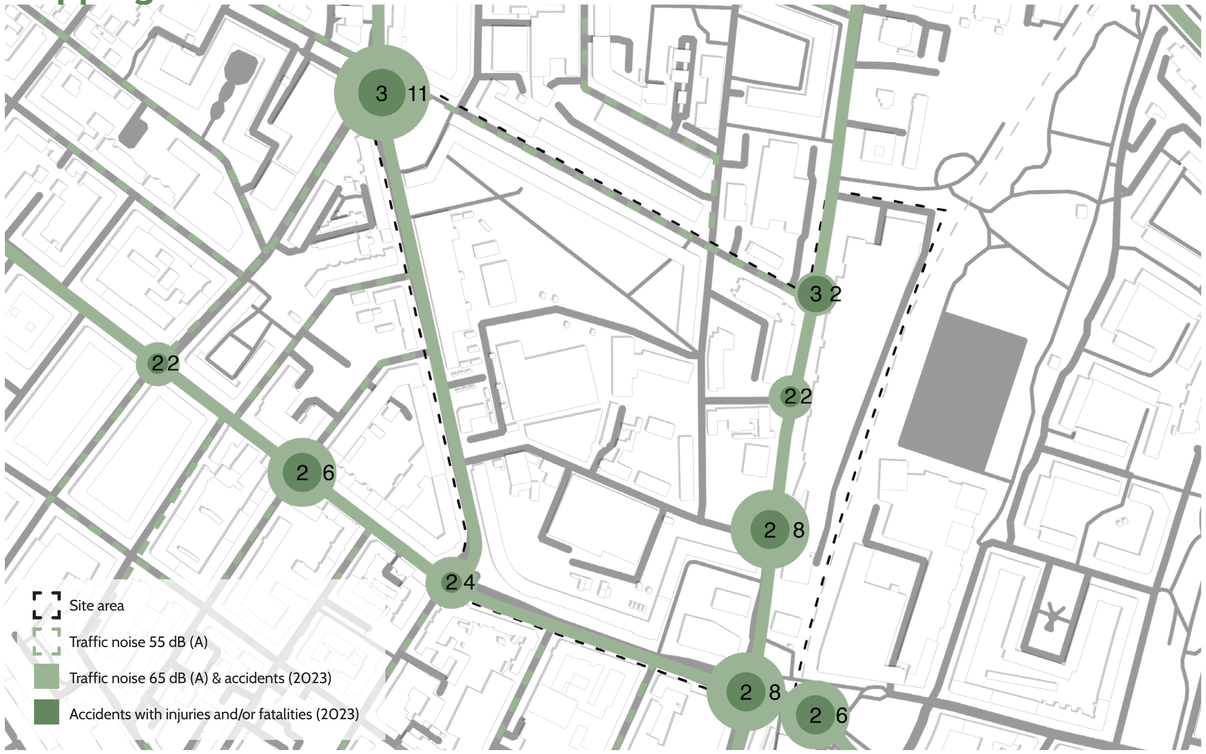
Lack of air pollution

Social support & interactions

Eyes on the street

Van Der Wal et al. 2021. *"Advancing Urban Mental Health Research: From Complexity Science To Actionable Targets For Intervention"*. The Lancet Psychiatry 8 (11): 991–1000.
Swiss Federal Office of Culture. The Davos Declaration 2018 – *Towards a High-quality Baukultur for Europe*. Swiss Confederation, 2020.
World Health Organization. *Health Promotion Glossary of Terms 2021*. World Health Organization, 2021.

# Mapping - Traffic noise & accidents








# Mapping - Car parking

# Mapping - Residential space

# Mapping - Commercial activity

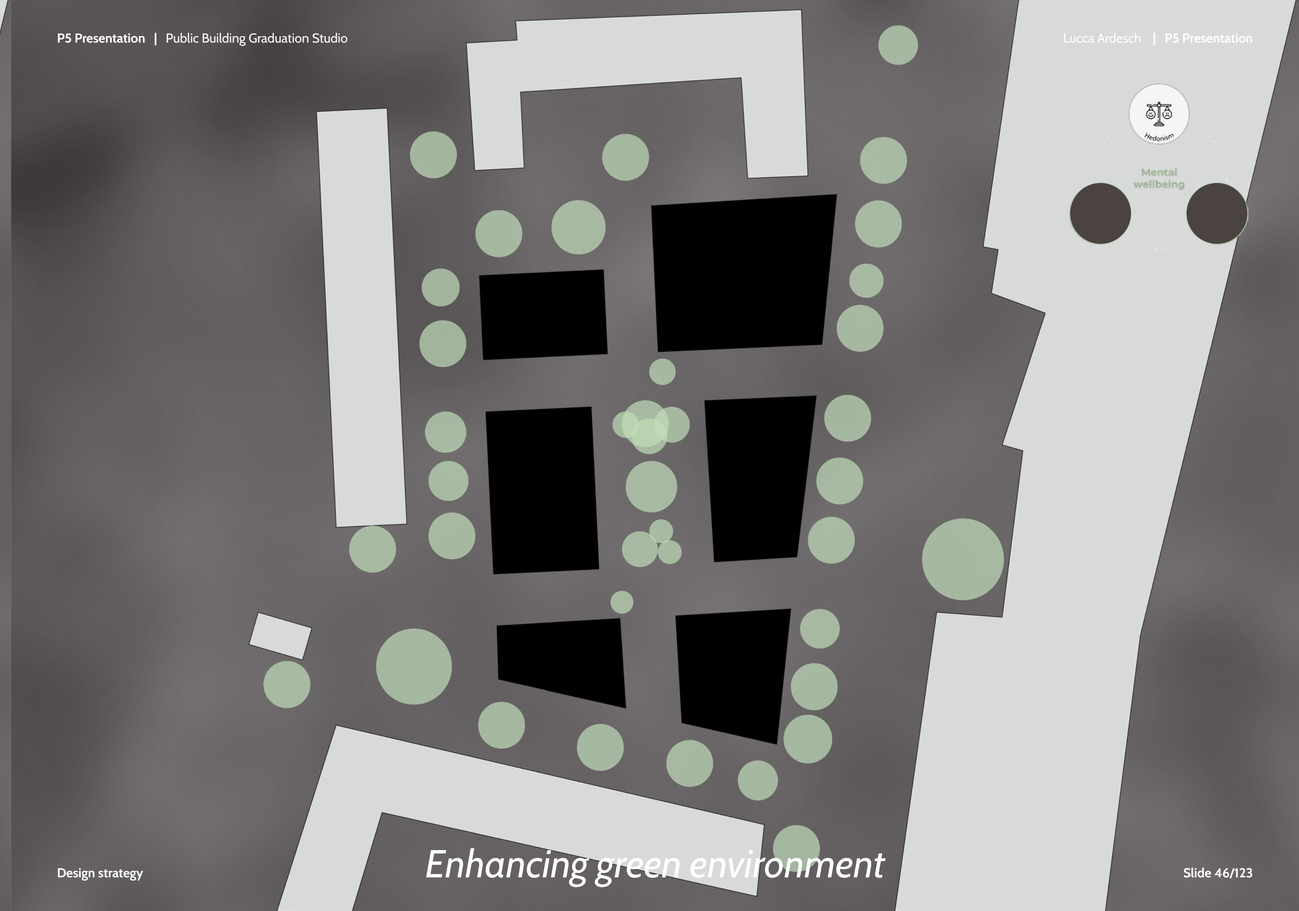
# Mapping - Office space

# Mapping - Green spaces & boundaries

# 03

# Final design showcase

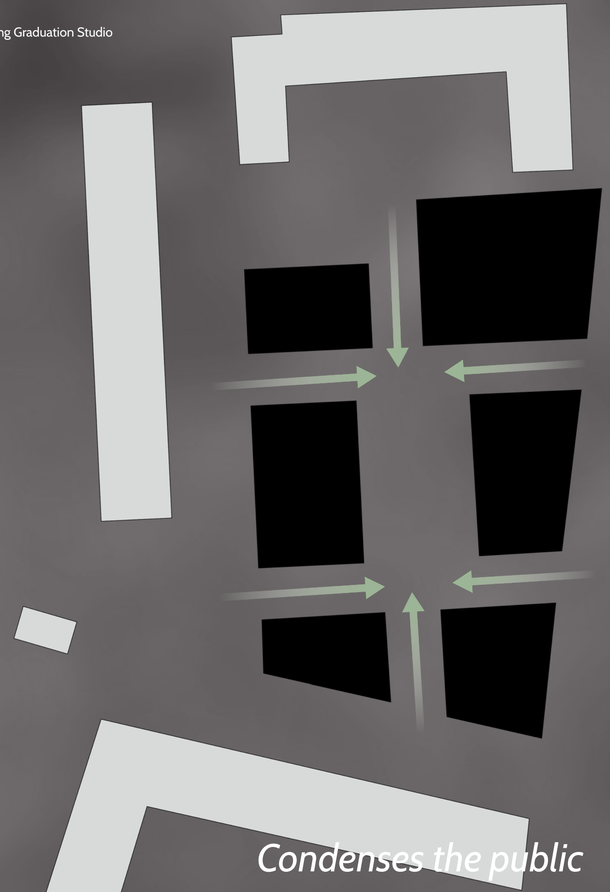
*City-like structure*




*Enhancing green environment*

# *Enhancing pedestrian-orientedness*

# *Porous extension of the city*

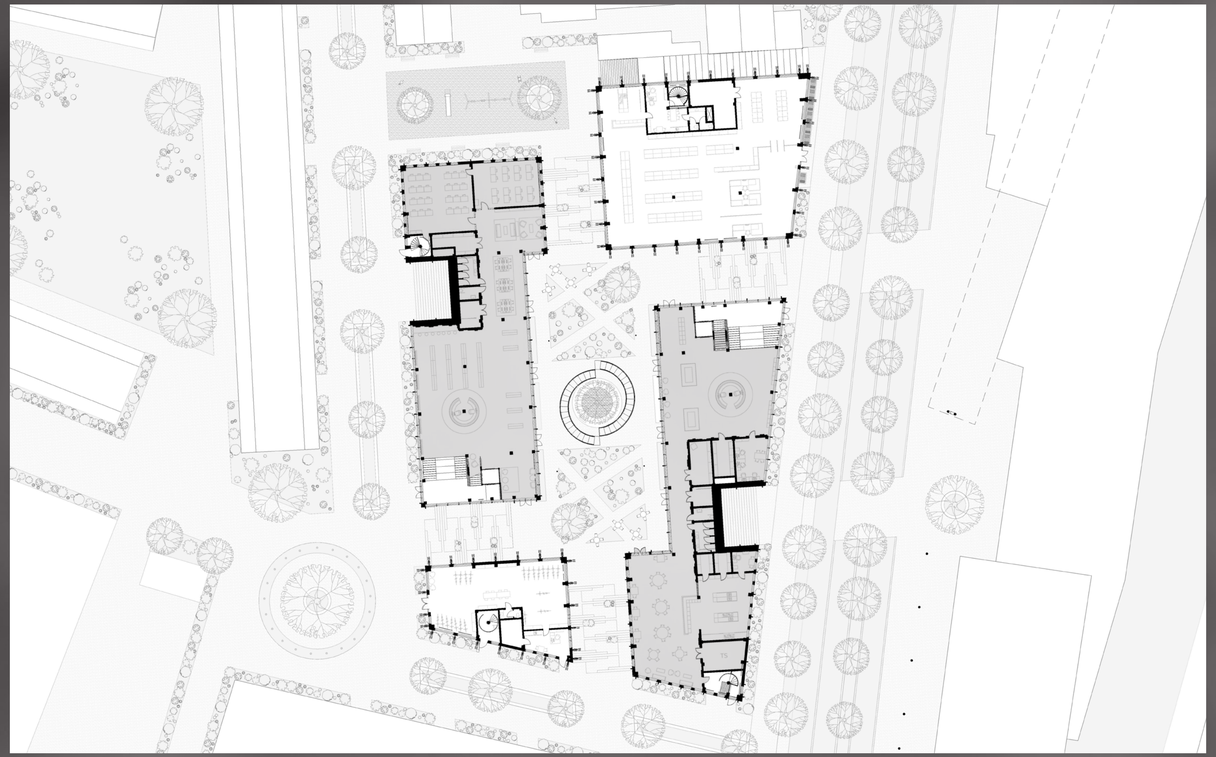


Design strategy

## *Condenses the public*

Design strategy

## *Provides fitting & flexible interior functions*





*Interventions in urban fabric*

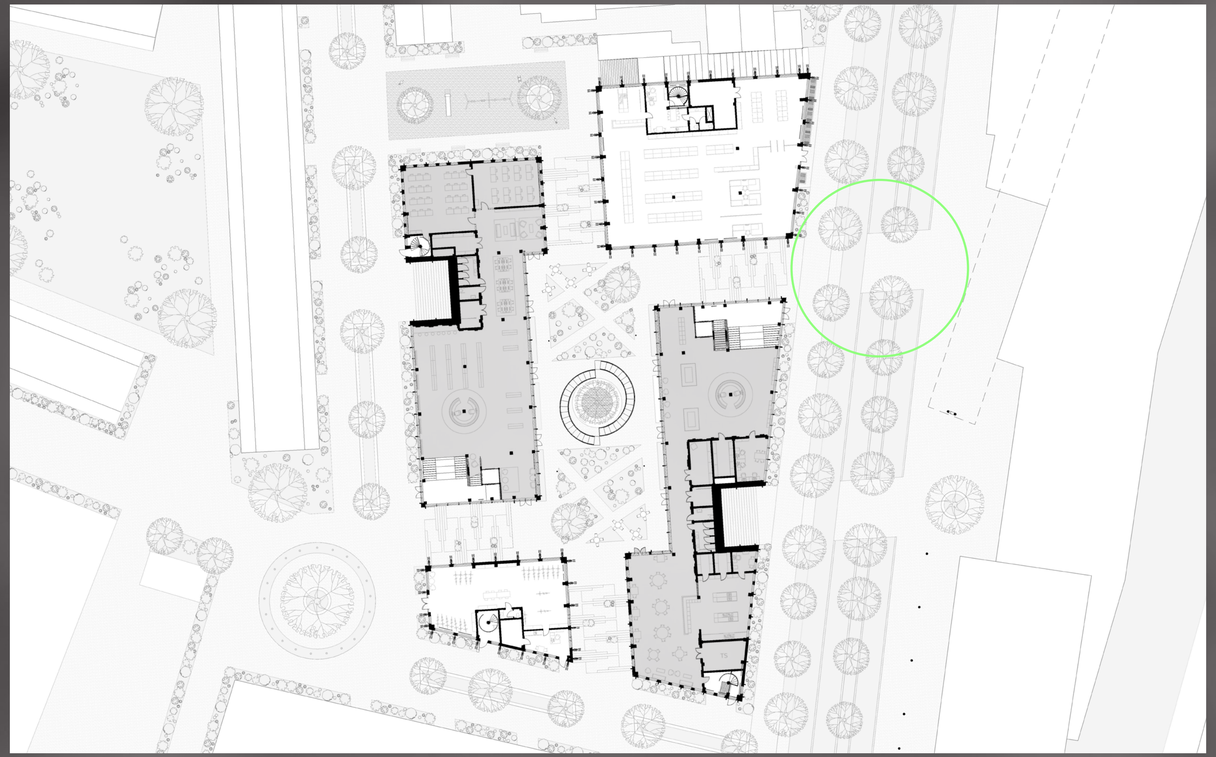
*New square / water playground*

# *New square / water playground*

# *New playground*

# *New playground*

# *Car-free small streets*

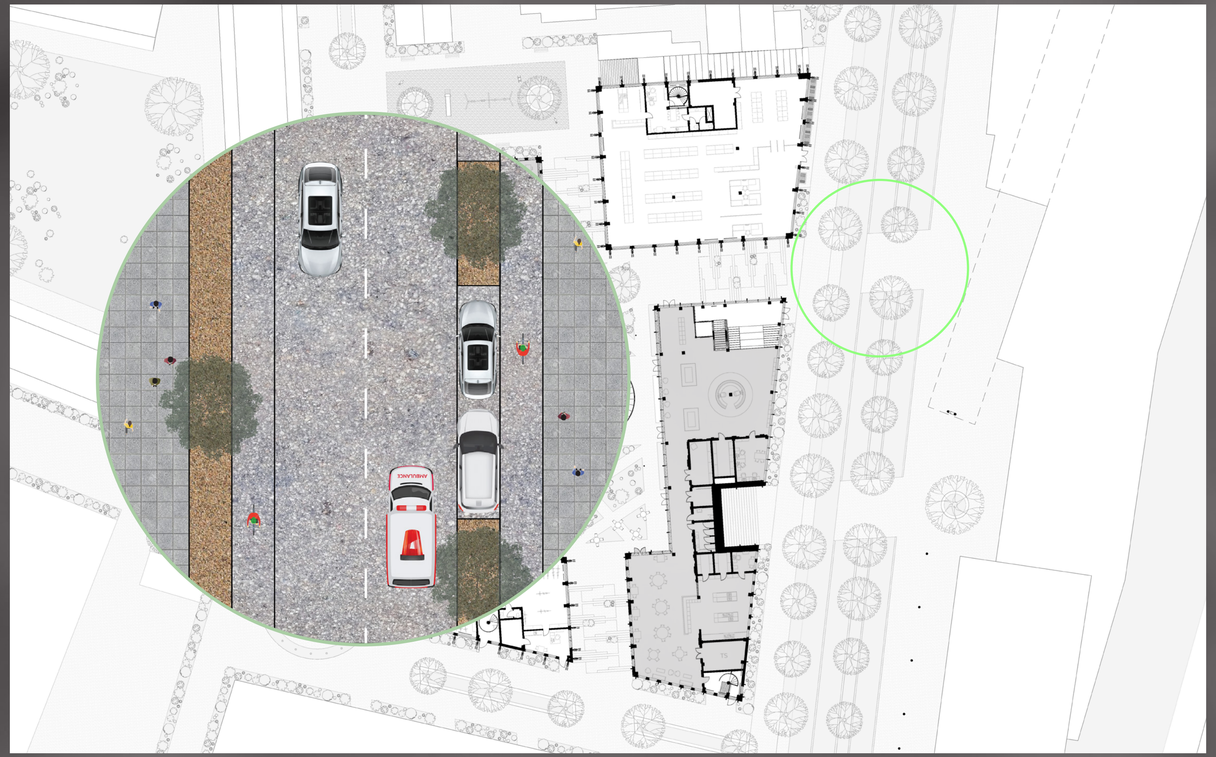




*Mitigating traffic & pedestrian-friendlyness*

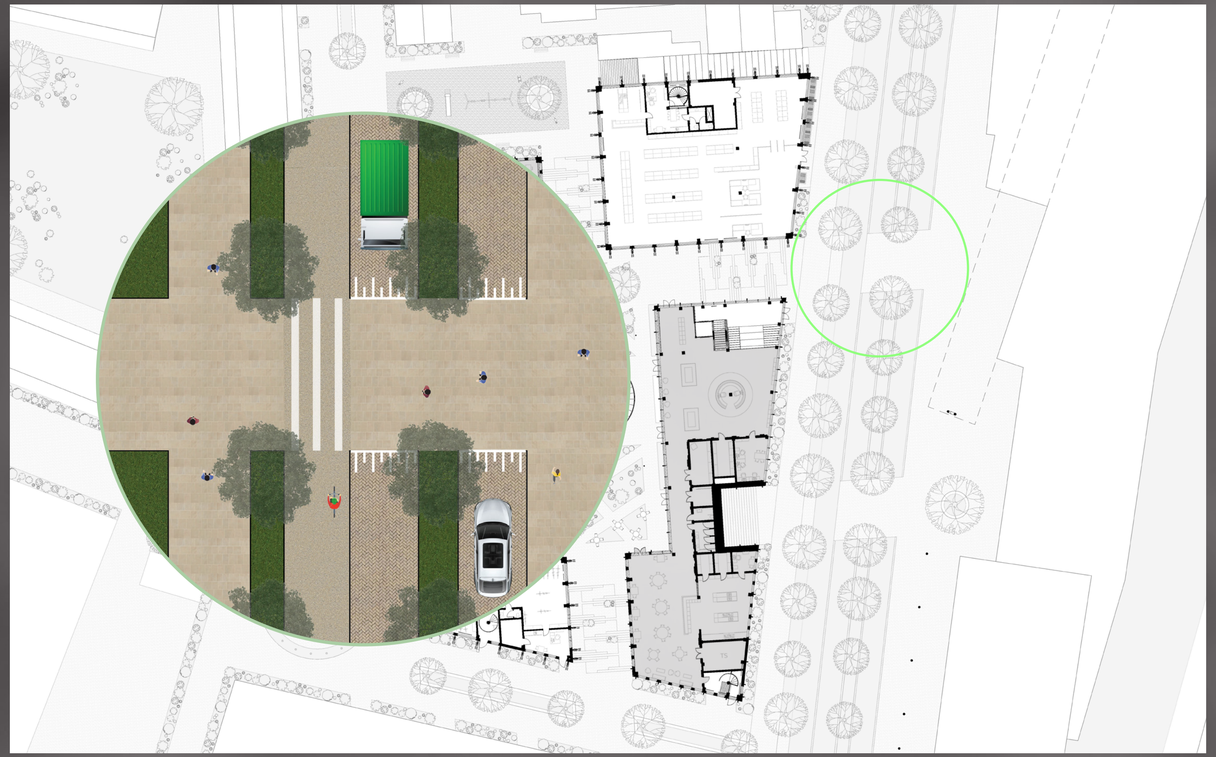









*From concrete, car-heavy streets...*





*...to natural materials and pedestrian-friendly environment*

*Clear connections in urban fabric*

*Invitation into public condenser*

*Invitations from all sides*

*Wheelchair accessible, playful stairs*

*Street access to upper levels*

*Street access to upper levels*

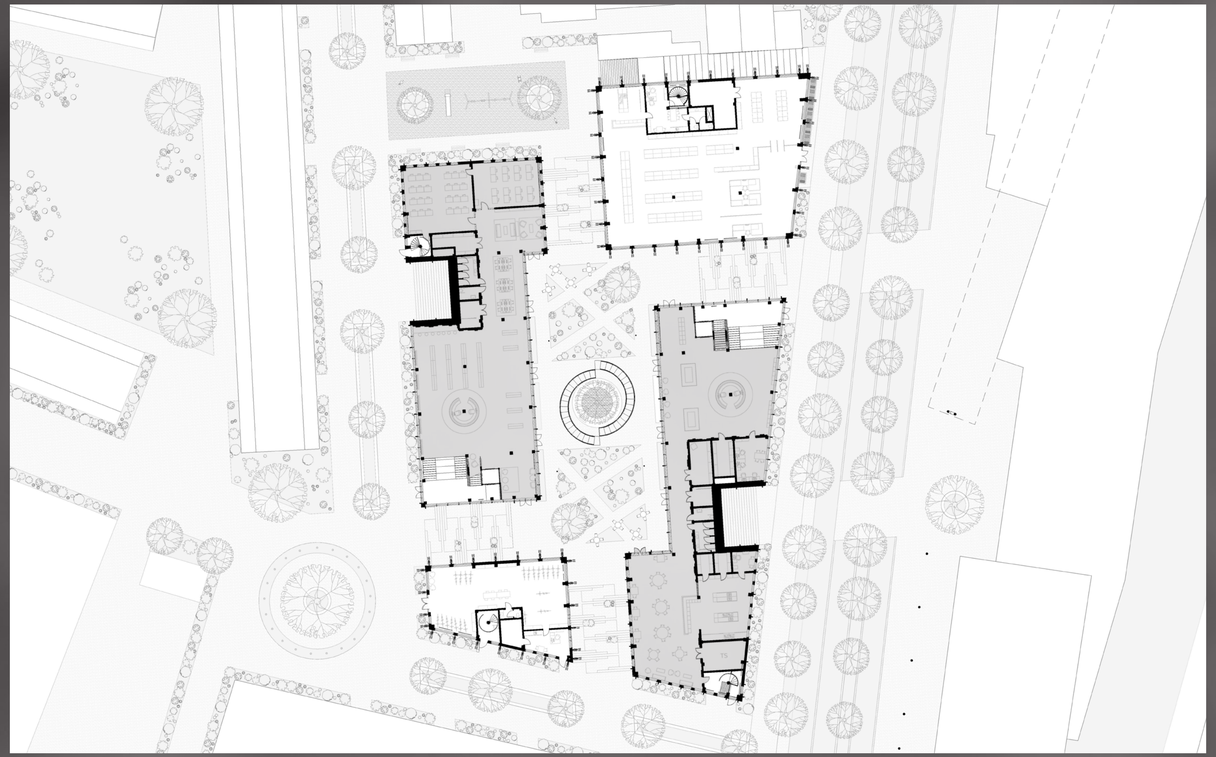
*Keeping buildings low for daylight*

*Equal access to 2/3 floors*

*Lower square*

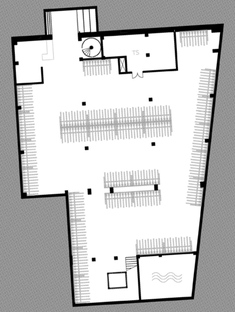
*Upper square*

*Building façades amplify natural environment*



*Area is bikeable and walkable*

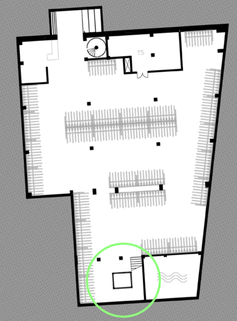
*Access to new bike parking*



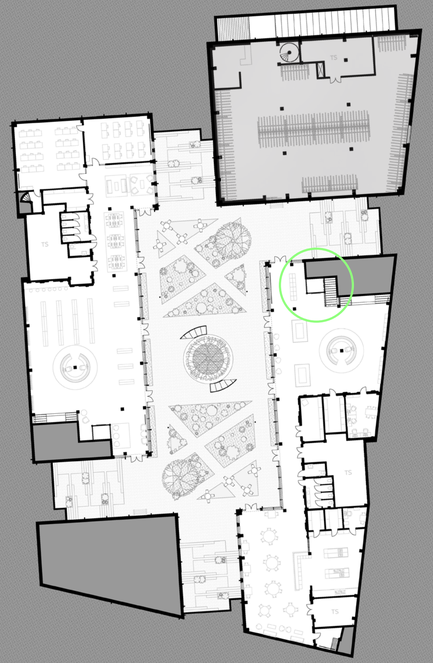
# *Bicycle parking*







# *Access into the building*





# *Access into the building*

*Access into the building*

# *Street access*

# *Street access*

## *Accessible entrance*

## *Functions with street access*

## *Bike workshop with social work program*

## *Restaurant with social work program*

1. Restaurant



## *Restaurant with social work program*

1. Computer space
2. Library
3. Reception & Public information
4. Restaurant



## *Public spaces*

# *Computer space*

1. Classroom
2. Restaurant

# *Specific functions*

1. Study lounge
2. Event space



# *Public spaces*

# *Study lounge*

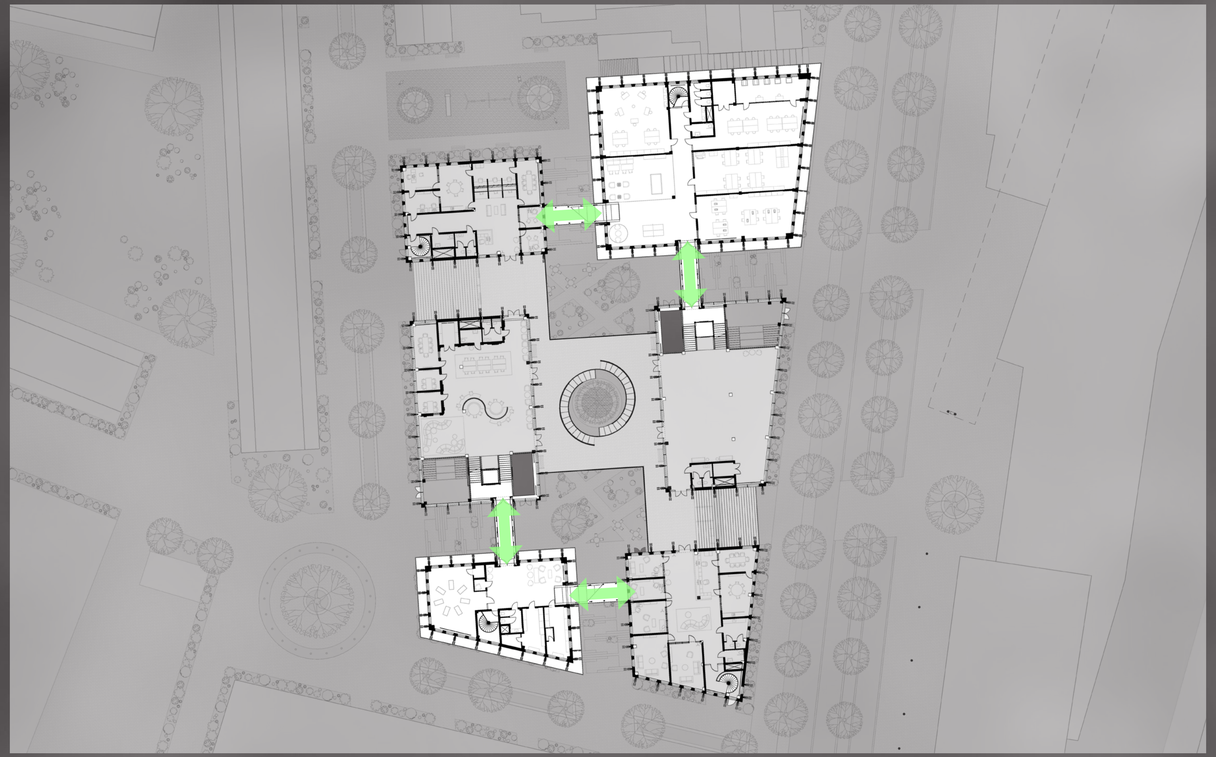
## *Specific functions*

## *Legal help centre*

# *Split-level construction*





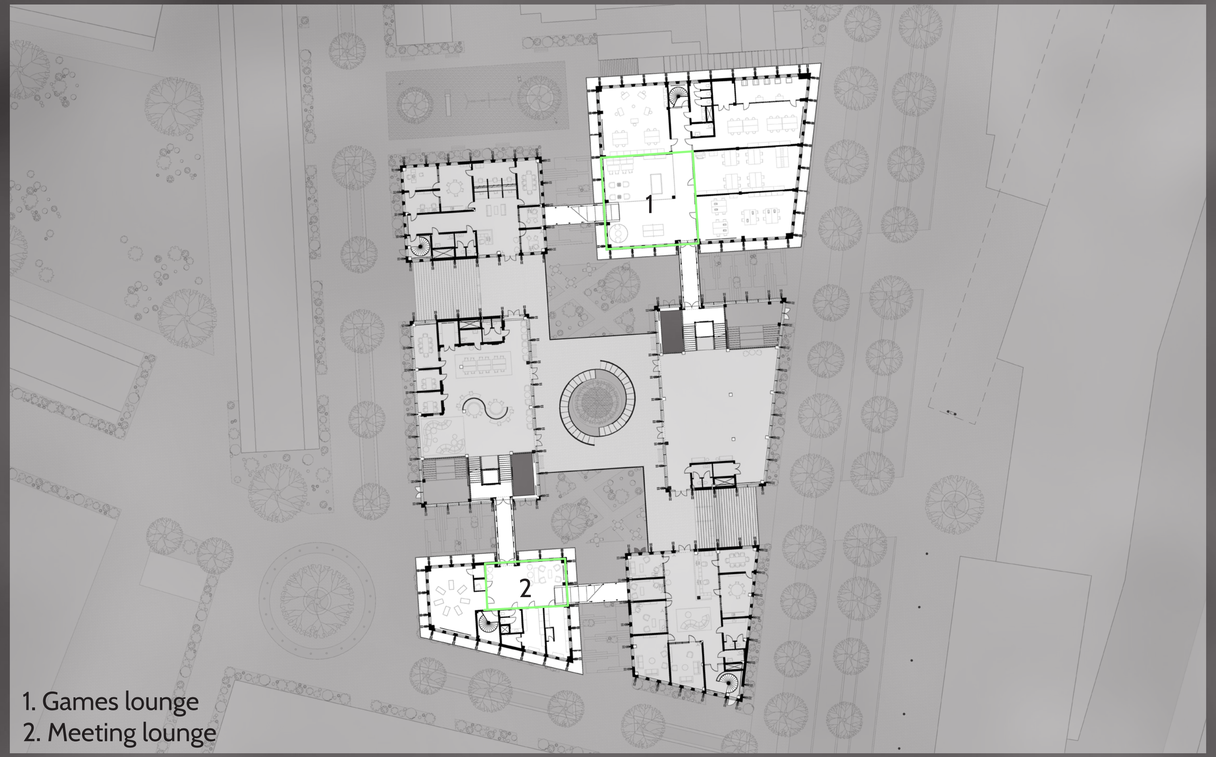


# *Skybridges*

# *Skybridges*








# *Public spaces*

# *Games lounge*

1. Painting & drawing
2. Wood & metalworking
3. Makerspace
4. Sewing
5. Yoga
6. Changing rooms

# *Specific functions*

*Yoga space*

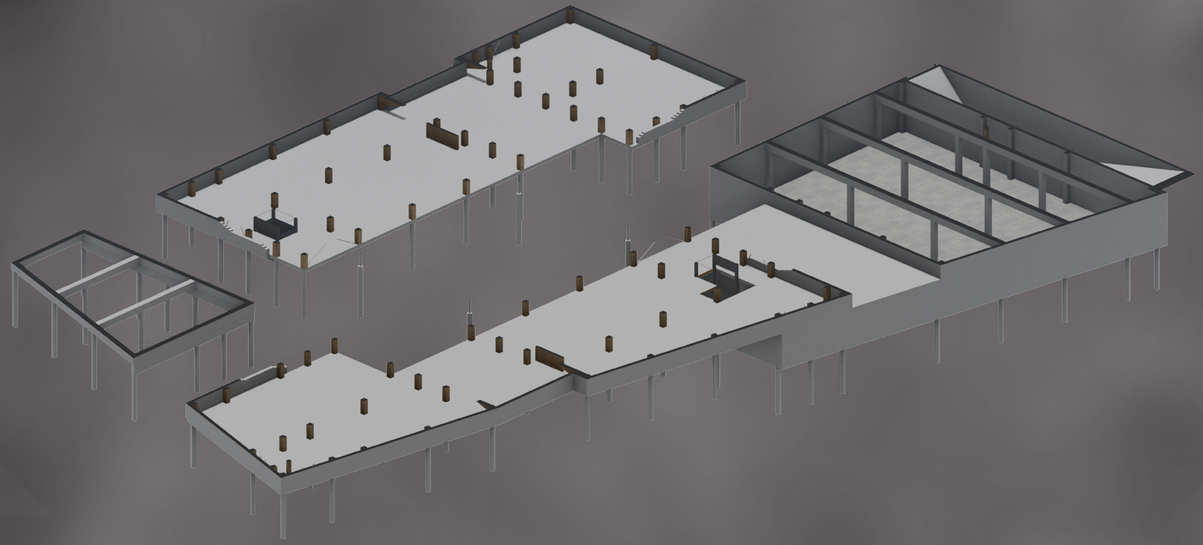
1. Piano lounge
2. Exposition space
3. Public living room
4. Lounge

# *Exhibition space*

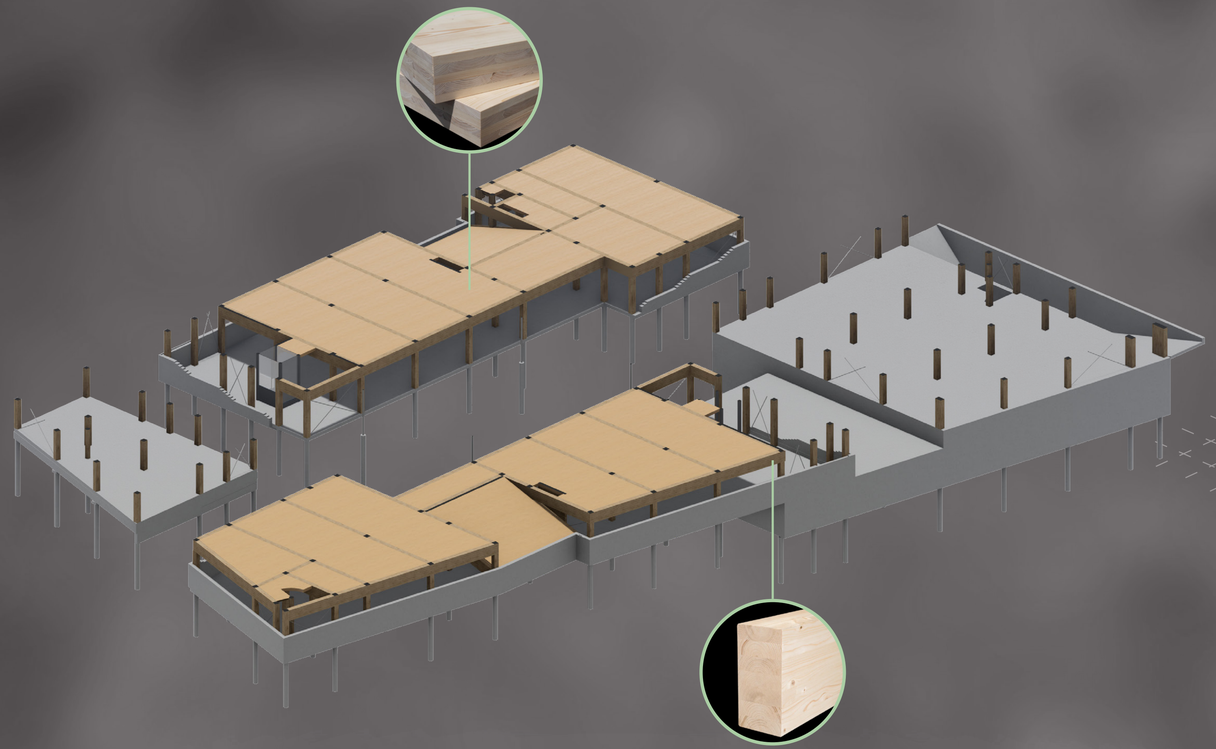
# *Exhibition space*







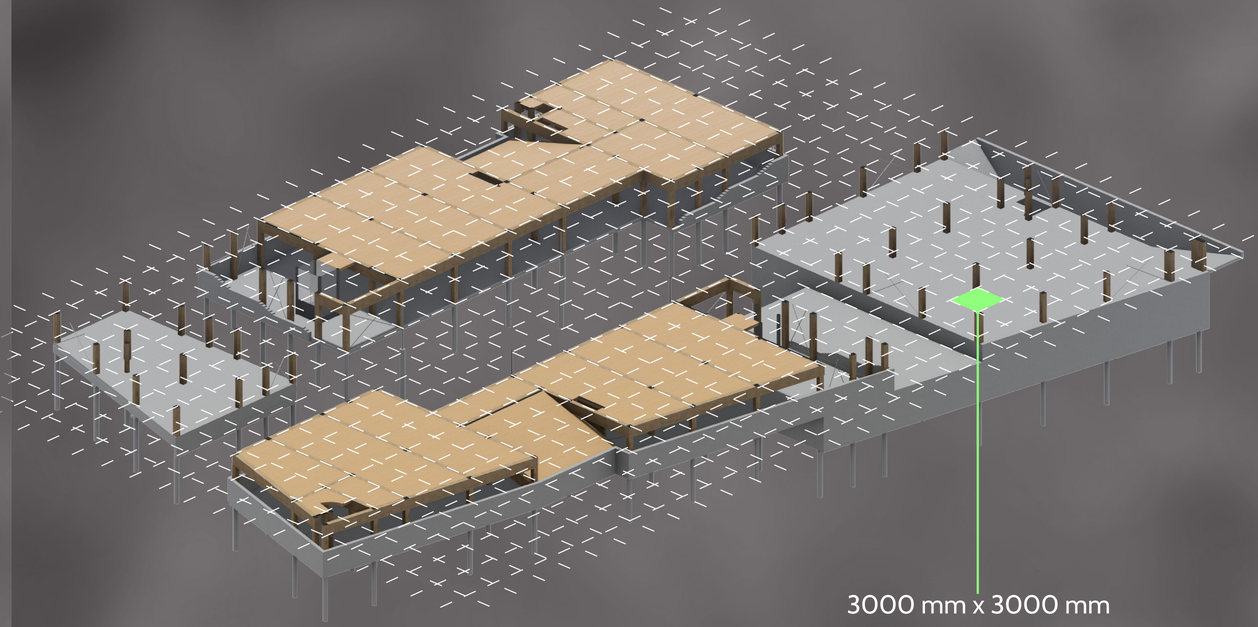
# *Concrete pile foundations & basement*



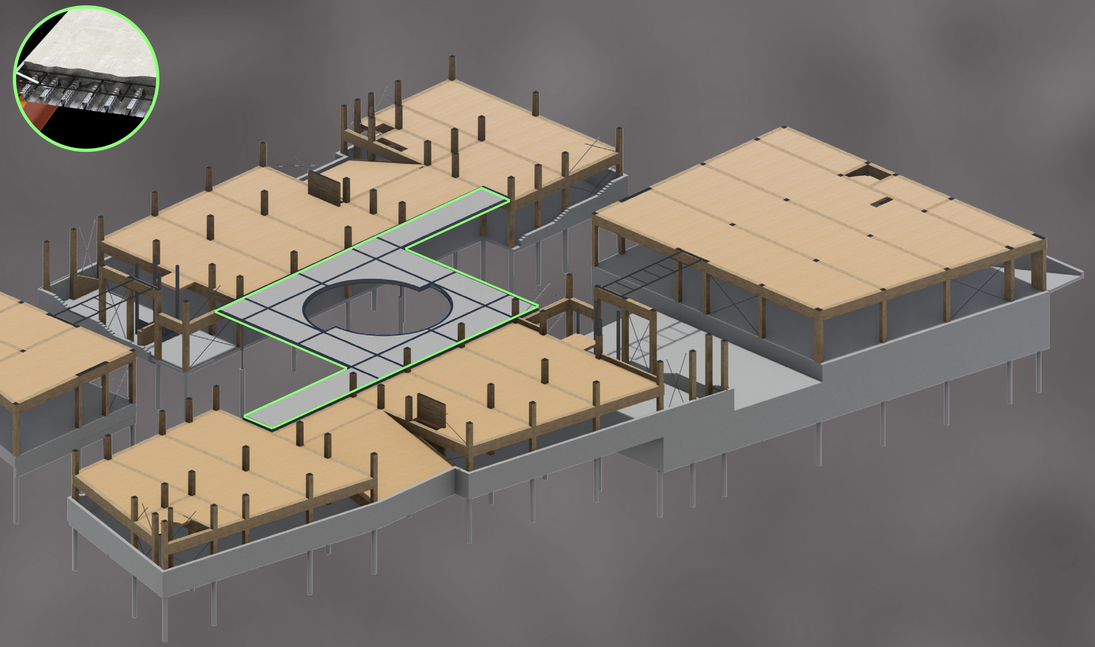
*Wooden structure of glulam beams & CLT*







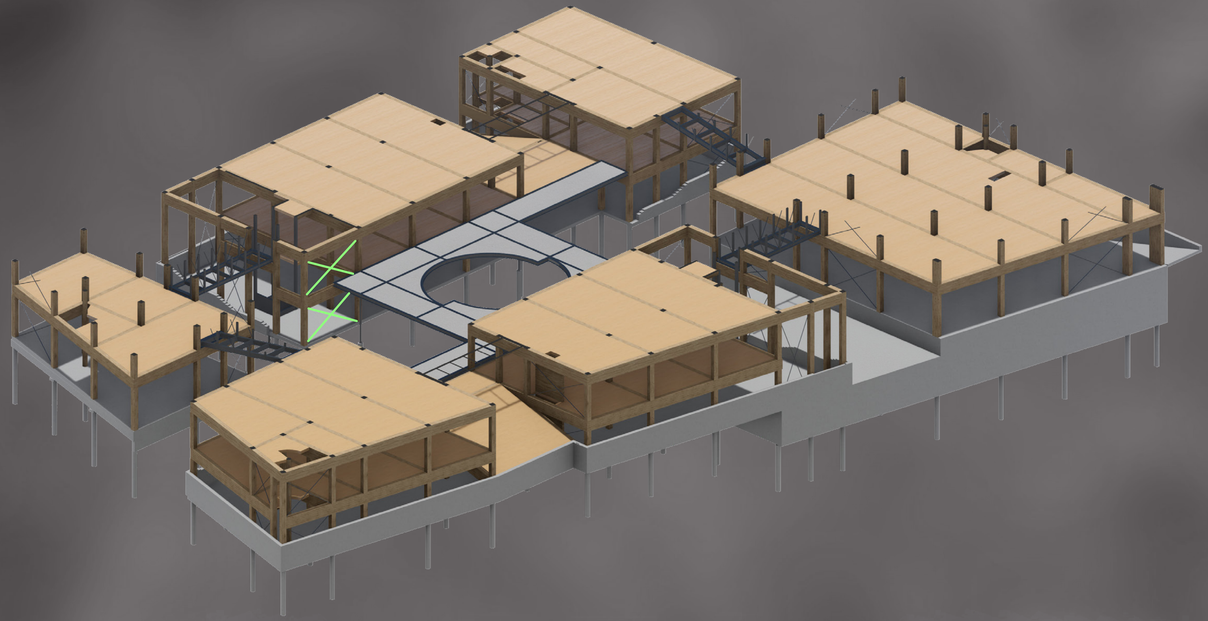

*Structural grid*



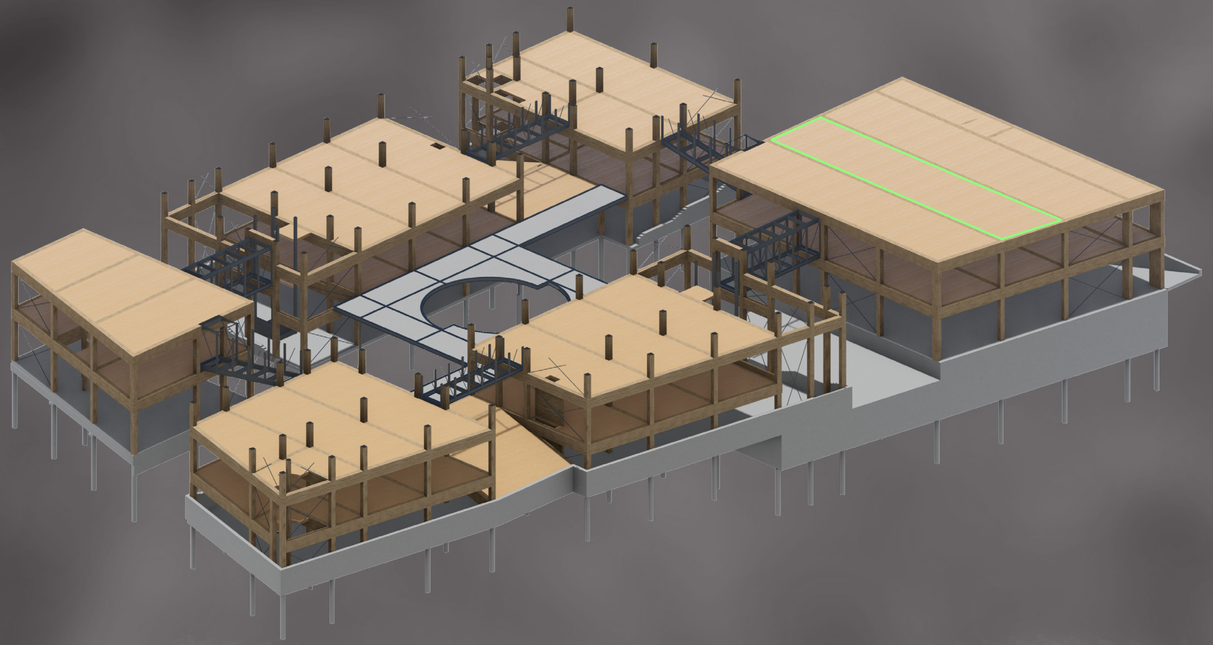
*Concrete & galvanized steel upper street*







*Steel bracing for stability*

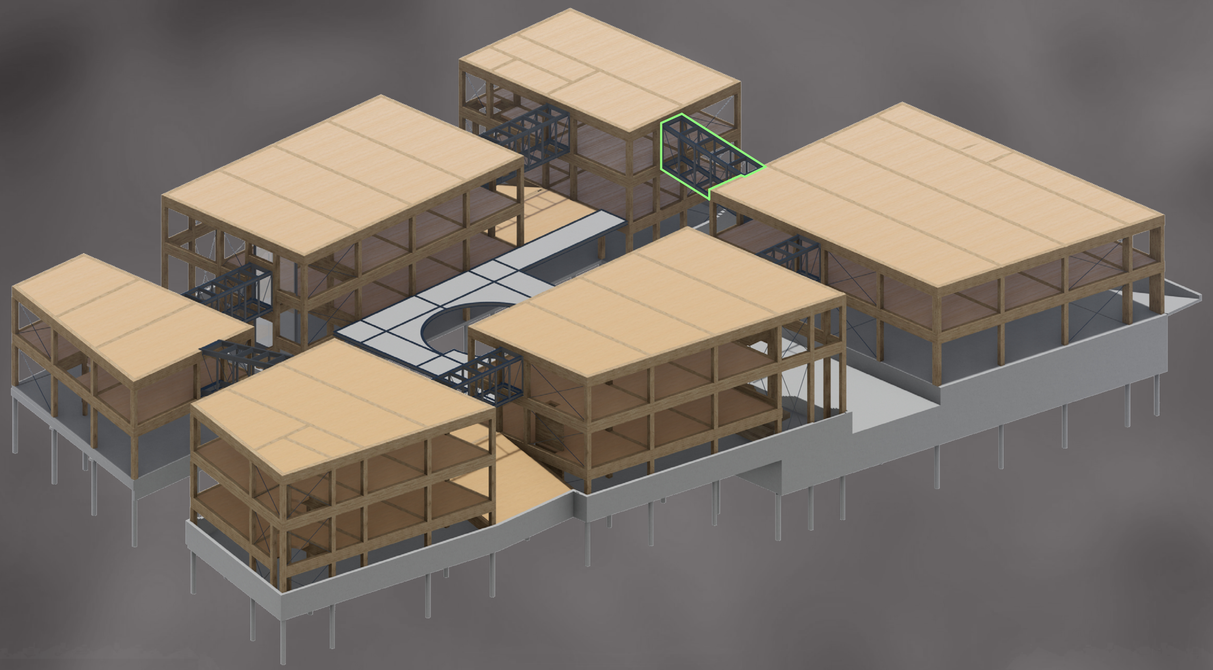




*CLT between beams prevents twisting & transfers horizontal loads*









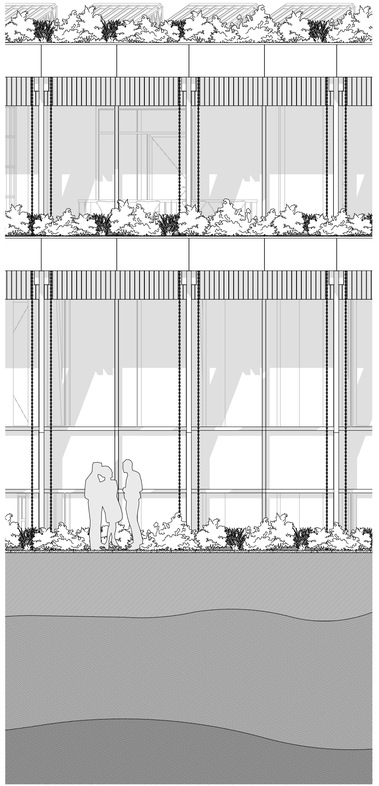
*Steel skybridges*

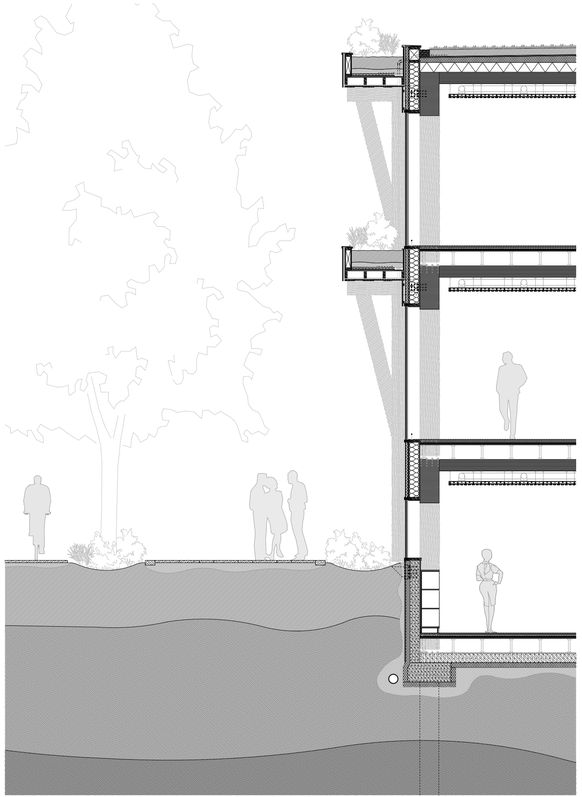
# *Steel skybridges*

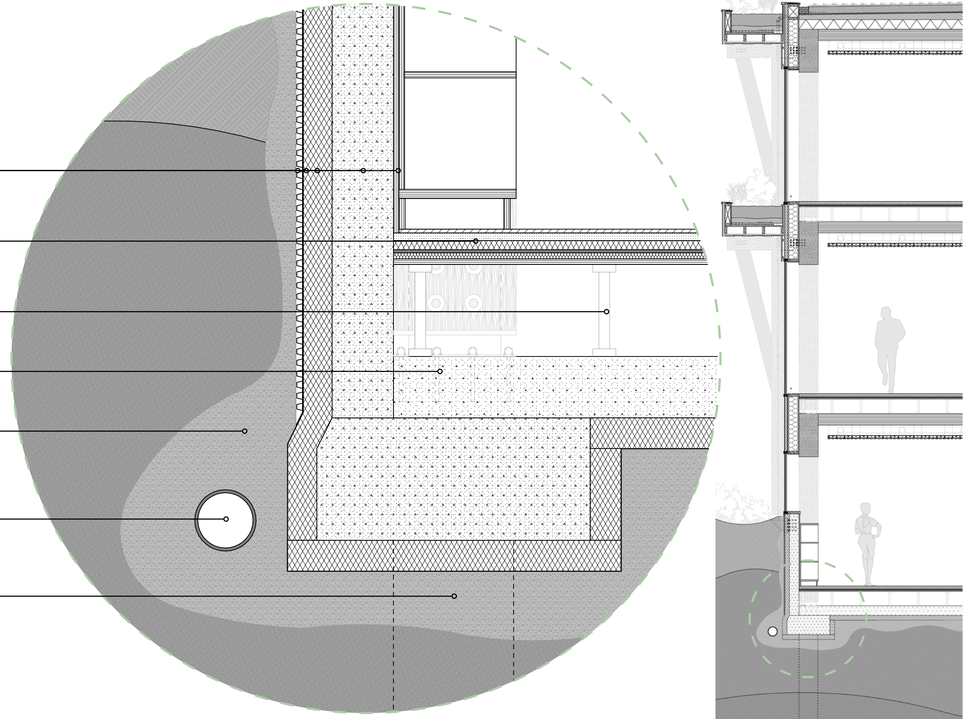






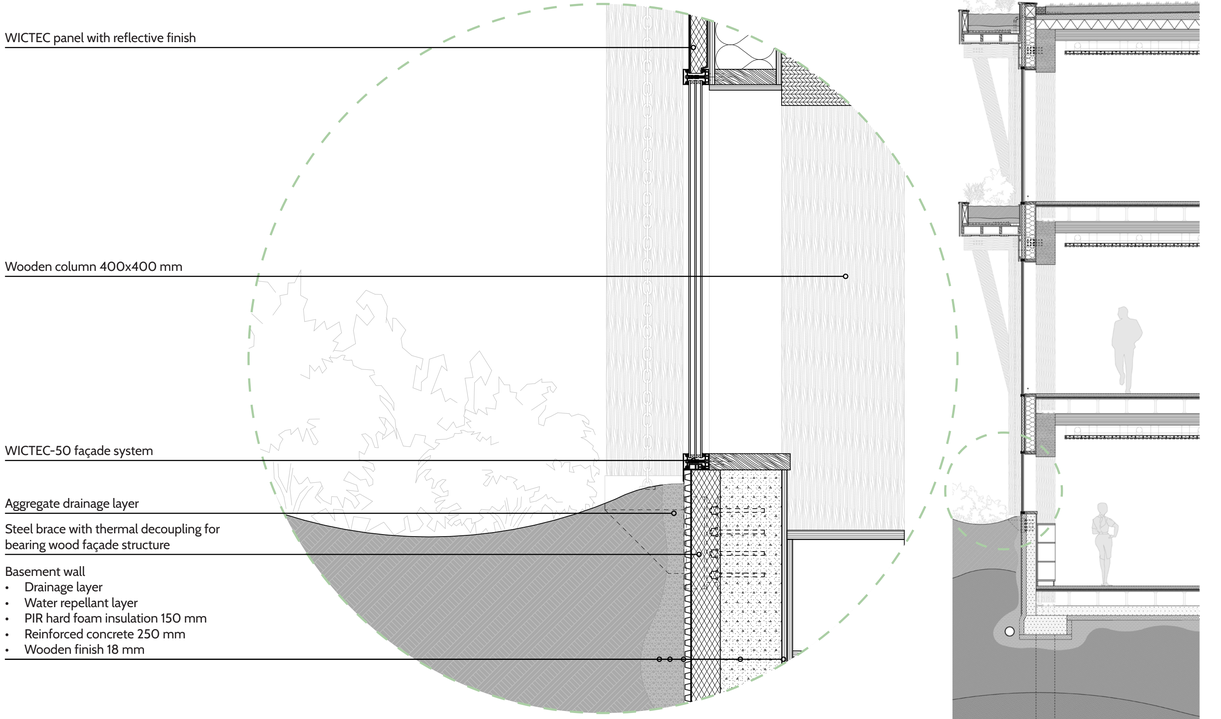


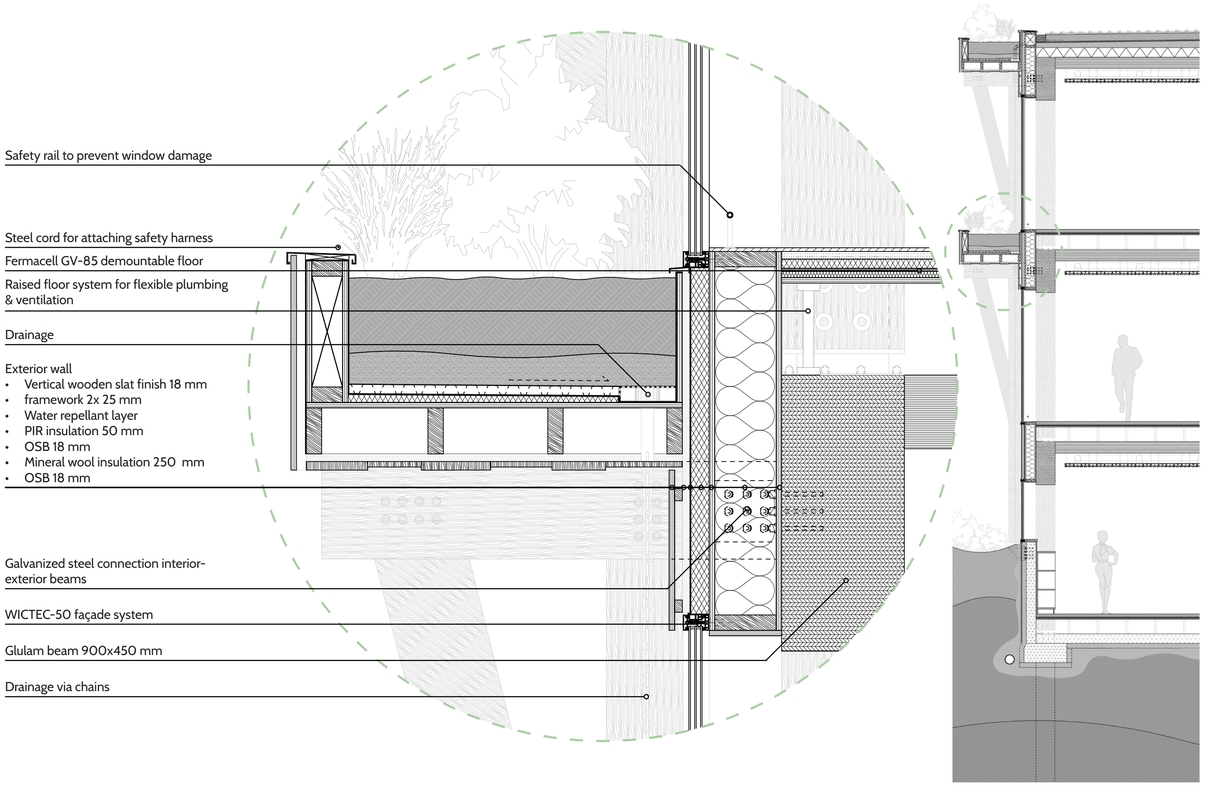



Basement wall
• Drainage layer
• Water repellant layer
• PIR hard foam insulation 150 mm
• Reinforced concrete 250 mm
• Wooden finish 18 mm
Fermacell GV-85 demountable floor system
Raised flooring for flexible electrics and plumbing
Connection piece concrete-wood column
Aggregate drainage layer
Drainage pipe to water storage
Foundation pile



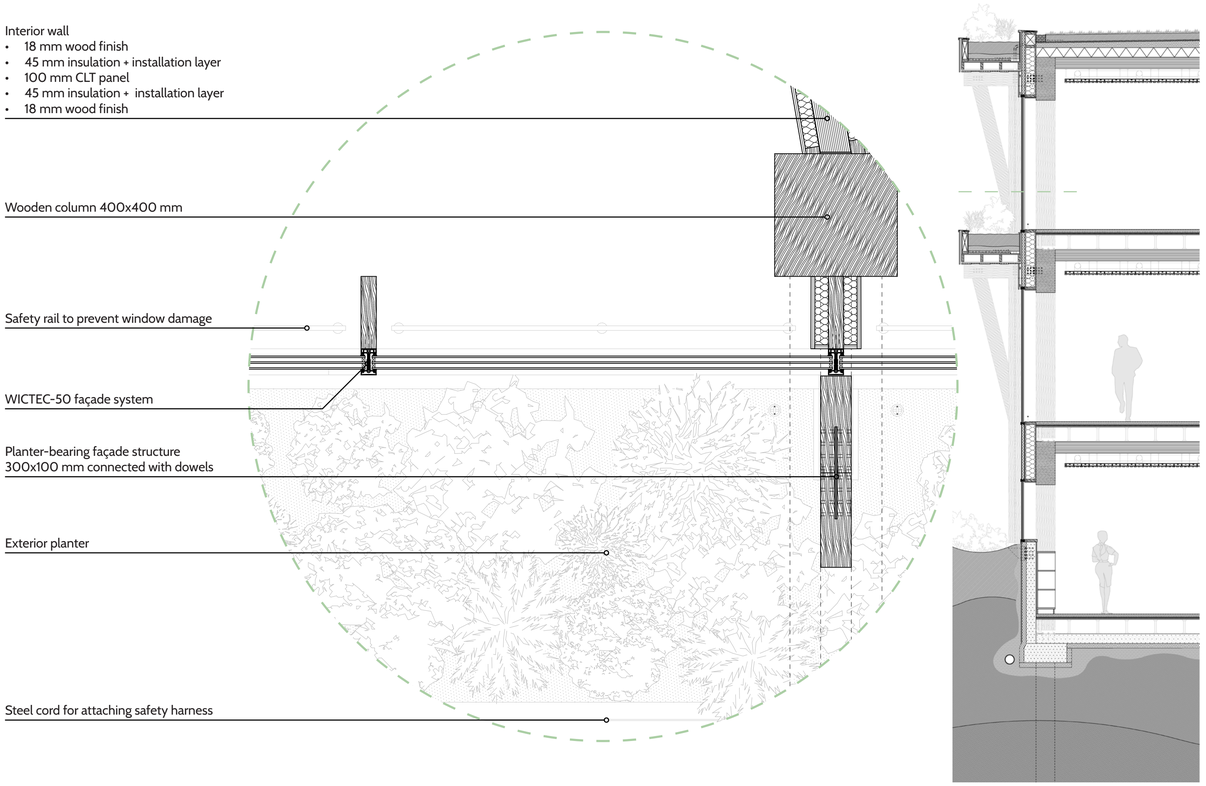


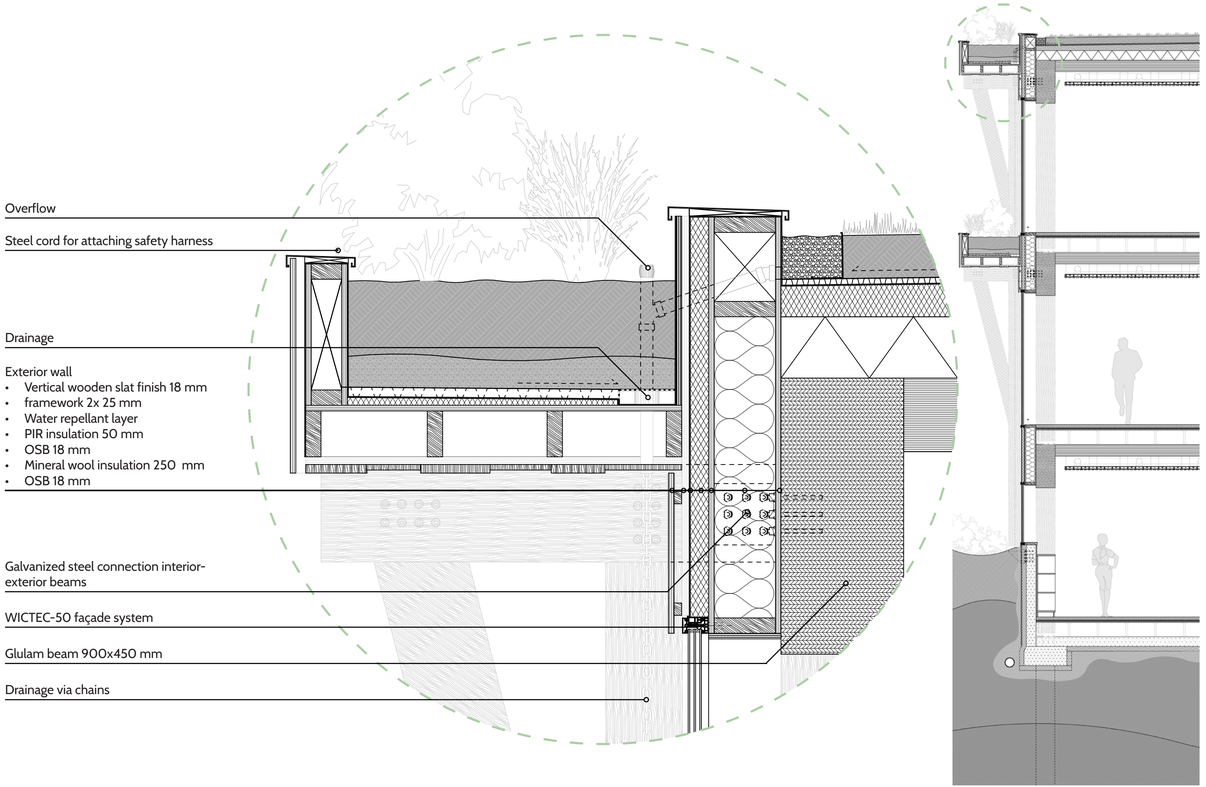

WICTEC panel with reflective finish
Wooden column 400x400 mm
WICTEC-50 façade system
Aggregate drainage layer
Steel brace with thermal decoupling for bearing wood façade structure
Basement wall
• Drainage layer
• Water repellant layer
• PIR hard foam insulation 150 mm
• Reinforced concrete 250 mm
• Wooden finish 18 mm

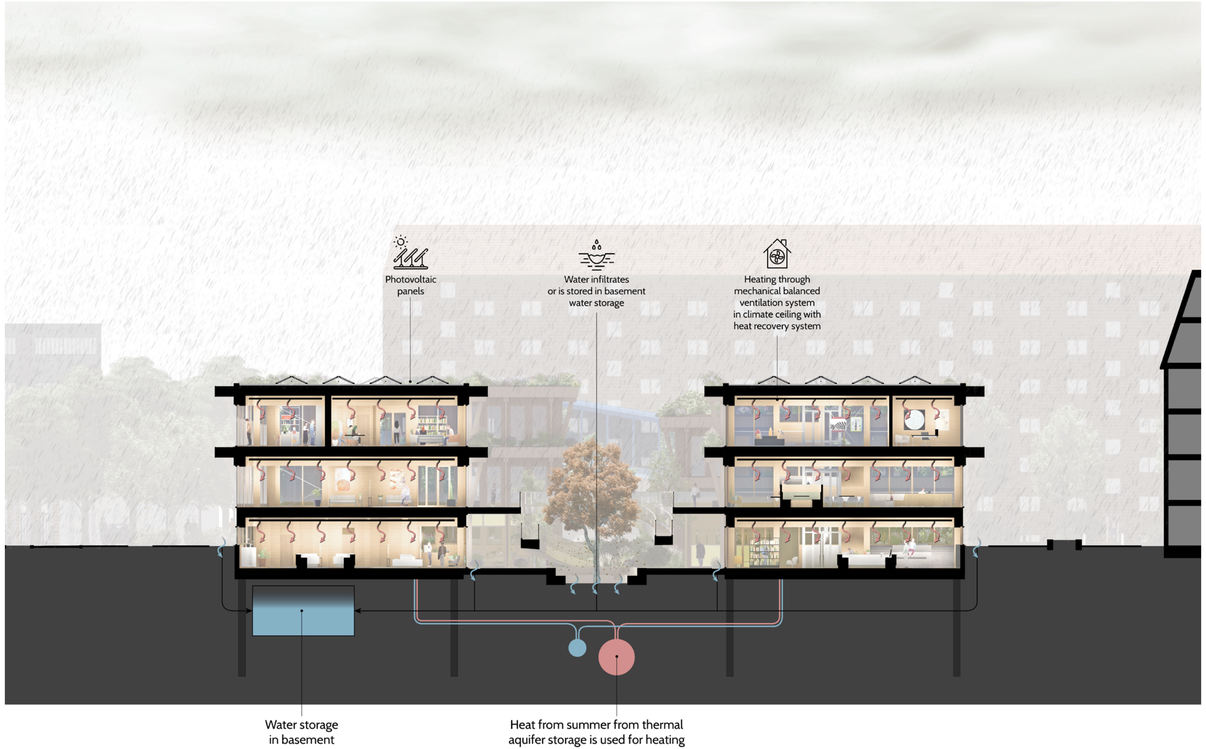

Safety rail to prevent window damage
Steel cord for attaching safety harness
Fermacell GV-85 demountable floor
Raised floor system for flexible plumbing & ventilation
Drainage
Exterior wall
• Vertical wooden slat finish 18 mm
• framework 2x 25 mm
• Water repellant layer
• PIR insulation 50 mm
• OSB 18 mm
• Mineral wool insulation 250 mm
• OSB 18 mm
Galvanized steel connection interior-exterior beams
WICTEC-50 façade system
Glulam beam 900x450 mm
Drainage via chains





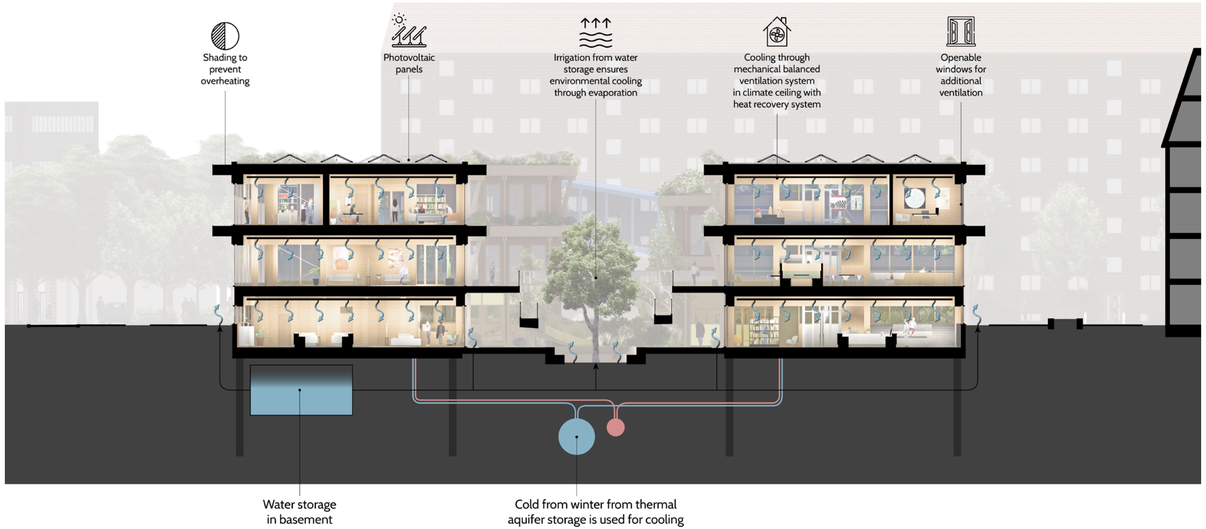

Interior wall
• 18 mm wood finish
• 45 mm insulation + installation layer
• 100 mm CLT panel
• 45 mm insulation + installation layer
• 18 mm wood finish
Wooden column 400x400 mm
Safety rail to prevent window damage
WICTEC-50 façade system
Planter-bearing façade structure 300x100 mm connected with dowels
Exterior planter
Steel cord for attaching safety harness


Overflow
Steel cord for attaching safety harness
Drainage
Exterior wall
• Vertical wooden slat finish 18 mm
• framework 2x 25 mm
• Water repellant layer
• PIR insulation 50 mm
• OSB 18 mm
• Mineral wool insulation 250 mm
• OSB 18 mm
Galvanized steel connection interior-exterior beams
WICTEC-50 façade system
Glulam beam 900x450 mm
Drainage via chains


Photovoltaic panels
Water infiltrates or is stored in basement water storage
Heating through mechanical balanced ventilation system in climate ceiling with heat recovery system
Water storage in basement
Heat from summer from thermal aquifer storage is used for heating






Shading to prevent overheating
Photovoltaic panels
Irrigation from water storage ensures environmental cooling through evaporation
Cooling through mechanical balanced ventilation system in climate ceiling with heat recovery system
Openable windows for additional ventilation
Water storage in basement
Cold from winter from thermal aquifer storage is used for cooling

# Building model

# Building model

# 04

# Reflection

## Course Reflection

### What is the relation between your graduation project topic, the studio topic, your master track (Architecture) and your master programme?

The research done determines the indicators in the urban environment for wellbeing, design strategies to enhance wellbeing through architecture, and proposes an urban-like injection to enhance wellbeing in people in Bispebjerg – This strategy broadens the scope from the building's users to a broader one: city dwellers, having a wider impact. The design strategies lead to a better-functioning and more sustainable socio-economic city.

This strategy directly and adequately responds to the Public Building Graduation studio brief, because the Public Building Design Studio has set a goal to strengthen connections, densify the urban space, and sharpen the special identity and cultural heritage that exists in our given site areas.

This is relevant to the master programme, because architecture should be more impactful than just having an impressive aesthetic. Architectural interventions have a broad and direct impact to their environments: firstly, they can lead to a more vibrant and inclusive community life. Secondly, they can lead to sustainable urban development by reducing urban sprawl and promoting compact and walkable cities. Thirdly, they can reflect local traditions, history, and values, contributing to a sense of pride and continuity within communities. Additionally, they can attract tourists, businesses, and investment, boosting the local economy.

### What is the relevance of your graduation work in the larger social, professional and scientific framework?

The project embraces local stakeholders to a further extent than usual, determining ways in which an architectural intervention can benefit a larger range of stakeholders, and contribute to a more sustainable and flexible city, rather than being a static building that is meant to function independently, only serving the people who actually enter its interior structure.

The research stimulates design that takes into account a range of urban factors and social needs, improving the quality and sustainability of the urban fabric, and enhancing the three key aspects of wellbeing in the neighbourhood: the eudaimonic aspect, hedonic aspect and the social aspect.

The drawn conclusions can provide useful guidelines for architects who are looking to improve wellbeing, architecture, the urban realm and sustainability in several fields at once, adding more quality public space in a dense urban environment and shielding marginalised groups from harm being done by their interventions.

05

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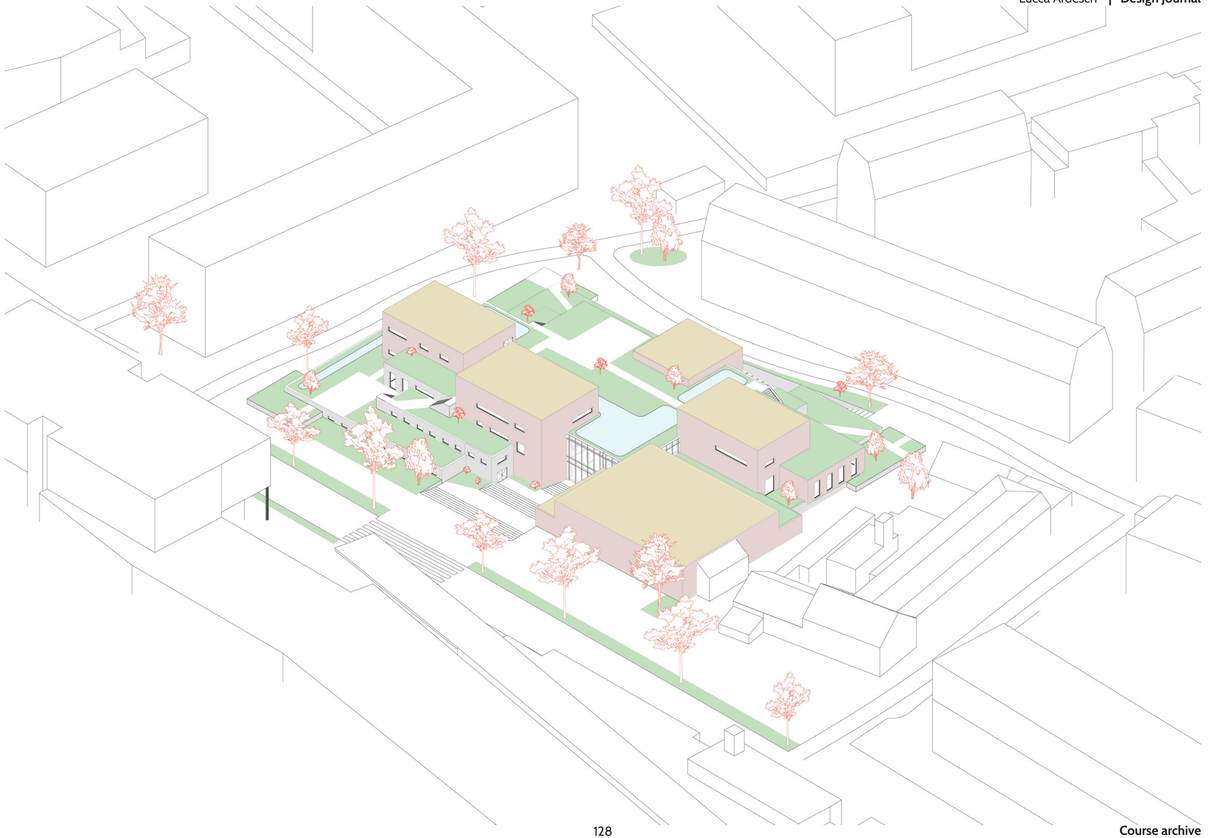
# 06

# Course archive



# Group assignment 1

Thoughts on the readings:

## Reading 1

People need an egoistic incentive to take care of urban commons..!? People need to be made aware of their personal benefits!

## Reading 2

"The free flow of communications gradually breeds awareness of the interests of others" would be true and all if it were actually free, unlike today's algorithm-driven media.

What does "rising above personal circumstances" even mean? Does it mean abolishing one's personal cultural influences?

The reading calls decorative elements "theatrical" whilst I would argue that when applied correctly, these theatrical elements actually speak to people (thinking of, for example, the Singer Building in New York, of which a lot of people call the demolition a most tragic event).

Encouraging people to join specific groups seems like it may only strengthen differences among certain groups.

## Text written on the readings

"Sennett describes how the mixture of difference and indifference within a city leads to social fragments living beside each other, instead of with each other. This anonymity allows people to experience a certain form of freedom which is oftentimes appreciated. However, this leads to people no longer using the urban commons provided in the public realm: people no longer dwell in it and use it merely as a means of transporting oneself whilst avoiding potentially encountered unpleasantries by simply walking away from situations that are outside of one's sphere of relatability.
This leads to the public realm virtually dissapearing from one's experiences."

*Figure XXXXXX:*
*The first two readings and preliminary version of the depiction of our findings*
*Image composed by author*

*Figure XXXXXX:*
*The final image depicting our findings on the readings*
*Image by author*

# Mapping infrastructures



## Contribution to group work on “connections”.

Yanal, Richard, Maarten and I described both social and physical connections for our part of the “C-group”. Maarten and I investigated the physical connections in Copenhagen and our site area.

I looked into the physical connections on an international and regional scale. This gave us an idea of several aspects in the area:

Public transport, e.g.
- Waterways
- Bus
- Metro
- Trains
- Bicycle & Pedestrian network
- Transit hubs

Density of road infrastructure, e.g.
- Roads
- Cycling “highways”

Copenhagen is well-known for its biking culture and quality infrastructures. To get an understanding of how different types of networks combine and work together, I also analyzed an intersection in the Bispebjerg-area that sees several types of mobility flows come toghether, and that is typical for the Copenhagen area.

## Waterways

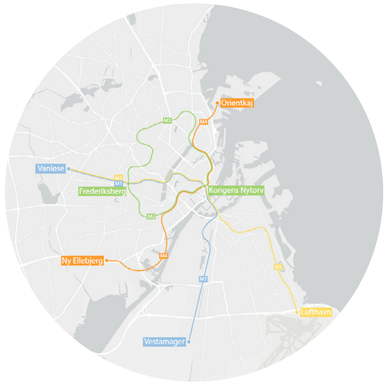
Copenhagen hosts connections to their surrounding neighbours, such as Oslo, over waterways. Within the city, Copenhagen also provides a network of water “buses”, that can be used in the same fashion as the other public transit that is available in the city.

## Overground railways

In Copenhagen, an extensive network of overground exists that is intrinsically connected to the metro and bus networks within the area. Other railways, shown in gray, link this network to other cities and countries, such as Sweden.

## Metro lines

A combination of underground and overground metro lines also exists within the city. These are part of more modern developments, are well-maintained and connect most of the newer districts to the Copenhagen inner city. The metro line shown in green makes a ring-road, relieving the inner city of Copenhagen of a lot of through-traffic.

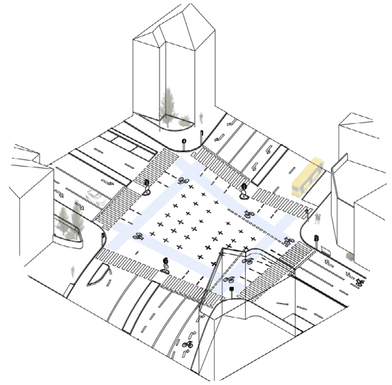



## Cycling paths

Known for its cycling infrastructure, Copenhagen hosts a vast network of cycling paths. Almost every road within the city is safely accessible for cyclists, as shown in green. Additionally, the city of Copenhagen has also implemented a vast network of cycling highways, shown in blue. These highways provide citizens in the city with extra efficient cycling routes, and minimize obstacles.

## Intersections

A typical intersection of Copenhagen is shown below. Clearly visible are the wide cycling paths that are marked in blue to improve visibility and safety for cyclists. Notable, however, is that a lot of streets in Copenhagen still seem to prioritize cars over cyclists. A lack of separated cycling infrastructure decreases safety. The same can be said about the bus network. Oftentimes, bus stops are right next to cycling paths, making collisions between road users more likely.



# Group assignment 2

## Psychogeographical mapping

For the second assignment, a psychogeographical map had to be made about the Copenhagen area.

Generally, people see Copenhagen as a city that is very human-centered. This is something that spoke to us for our mapping assignment. We wanted to compare our visit to the area with our expectations, so we decided to map the extent of human-centered design in the area.

Our group seemed to remain very stuck on this assignment, but we did collage some of the human-centered aspects we found in Copenhagen already. Because no one seemed to be making any choices on what to do, I made a draft poster with my proposal, which is shown below. I wanted to show small and large interventions on a map, giving examples in the middle, with their respective explanations at the bottom.

Sadly, the rest of our group seemed to have misinterpreted the top and bottom part, leading to a final poster of which the meaning of the top and bottom part got lost on me, but on which the other group mates agreed.

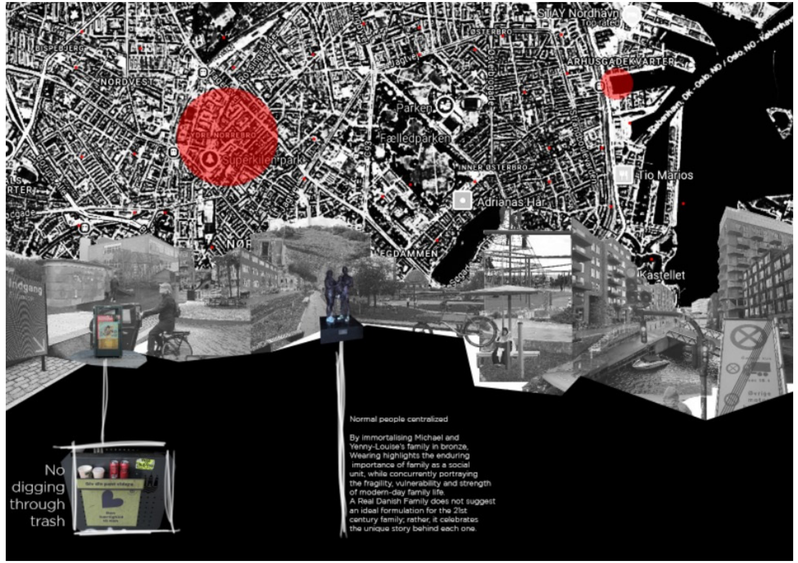



*Figure XXXXXX:*
*The first two readings and preliminary version of the depiction of our findings*
*Image composed by author*





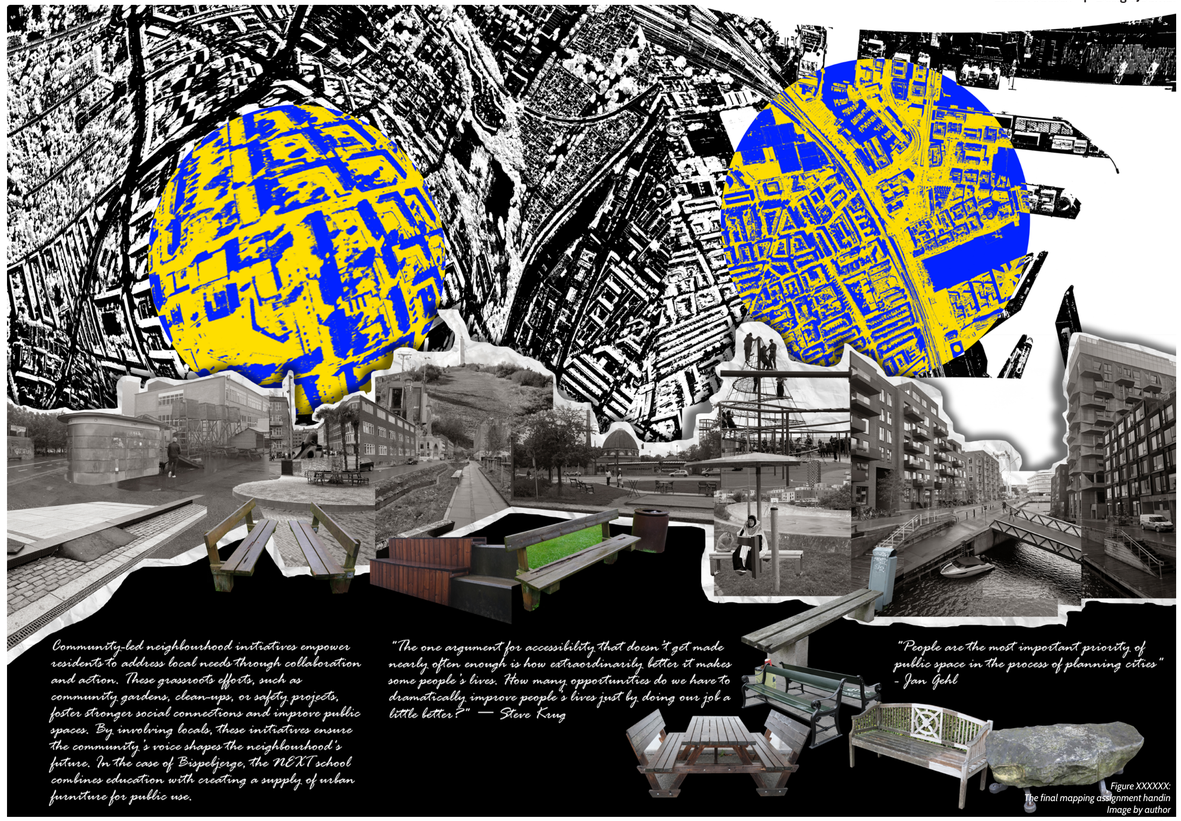



*Figure XXXXXX:*
*The final mapping assignment handin*
*Image by author*

# Group assignment 3

## 3D mapping assignment

During this week, we also had to do another mapping assignment, this time in 3D. For this assignment, our group decided to make 4 different 3D-psychogeographic analyses, each covering a different aspect of our interests. The four 40x40 centimeter boxes are shown side-by side at the bottom left of these pages.

## Porosity mapping

My own box shows the porosity of the neighbourhood in an abstract way, to further analyse a topic relevant to my research. Obstructions are shown with their relative locations and heights, showing clearly how much lack of porosity the building block has.

## Character mapping

All the different building façades are shown to show the relative sizes of different buildings, which are also depictd with their respective façades and character. The last image shows the only direct path one can take through the building block.

# P2 Presentation

How can a **hybrid building** in Bispebjerg contribute to improving the **adaptability, social engagement,** and **environmental integration** within the neighbourhood?

13-02-2025

LUCCA ARDESCH I 5898447 I PUBLIC BUILDING GRADUATION STUDIO

# Introduction: Pre-Industrial Era

- Compact & dense cities
- No mass-scale transport systems

*Figure 1: Map of Copenhagen, c.a. 1850. Image: Wikipedia.com*





# Introduction: Pre-Industrial Era

- Efficient cities
- Walkable
- Mixed-use
- Re-use of buildings & materials

*Figure 2: Copenhagen streetscape,1865. Image: Russianhistoryindenmark.info*

# Introduction: Industrial Era

- Separated neighbourhoods for the working class
- Health reasons

*Figure 3: Working class neighbourhood in Bispebjerg from the early 20th century*
*Image by author*





# Introduction: Post-World War II

- The car: a luxury
- Car dependency
- Monofunctional zoning policies

*Figure 4: Suburbia in Copenhagen, Denmark*
*Image by Nicolas Cosedis*

# Introduction: Post-World War II

- Monofunctionality on a building scale
- Static functionality
- Unadaptable
- Physical boundaries

*Figure 5: Robert C. Weaver Federal Building, Washington*
*Image by Carol M. Highsmith*





# Introduction: Problems

- Short life-cycles
- Negative climate impact

*Figure 6: A traffic jam in Copenhagen*
*Image from Phys.org*

# | Introduction: Problems

- Cities come to a standstill
- Large amount of urban space dedicated to asphalt & parking lots
- Lost touch with human scale

*Figure 7: A traffic jam in Copenhagen*
*Image from Phys.org*





# | Introduction: Problems

- Lack of urban quality in neighbourhoods
- Sustainability issues
- Loneliness
- Health risks
- Lower life satisfaction

ScienceAdvances

Higher depression risks in medium- than in high-density urban form across Denmark

Abstract

Urban areas are associated with higher depression risks than rural areas. However, less is known about how different types of urban environments relate to depression risk. Here, we use satellite imagery and machine learning to quantify three-dimensional (3D) urban form (i.e., building density and height) over time. Combining satellite-derived urban form data and individual-level residential addresses, health, and socioeconomic registers, we conduct a case control study ($n$ = 75,650

High Blood Pressure and Long-Term Exposure to Indoor Noise and Air Pollution from Road Traffic

Abstract

Wellbeing, Space and Society

Volume 5, December 2023, 100172

Review

The urban heat island effect, its causes, and mitigation, with reference to the thermal properties of asphalt concrete

Abbas Mohajerani, Jason Bakaric, Tristan Jeffrey-Bailey

Article

How a Lack of Green in the Residential Environment Lowers the Life Satisfaction of City Dwellers and Increases Their Willingness to Relocate

Stefanie Kley and Tetiana Dovbishchuk

Wellbeing in the city: Young adults' sense of loneliness and social connection in deprived urban neighbourhoods

Highlights

- Social and physical neighbourhood features aid/hinder social ties in young adults.
- Greater number of social ties can diminish loneliness.
- Dichotomies structure young adults' conceptualisations of their neighbourhood.
- Places that foster a sense of disconnection, boredom and unfamiliarity bring loneliness.
- Places that promote a sense of community and shared purpose foster social connection.

*Figure 8: Problems caused by monofunctional, car centric urbanism & architecture*
*Image composed by author*

# Copenhagen

The Copenhagen Post
YOUR DANISH CONNECTION

News Business Life in Denmark Guide Career Art & Culture Opinion

Copenhagen ranked second most liveable city in the world 2024

The Telegraph News Sport Business Money Opinion Ukraine Travel Health Lifestyle Culture Puzzles Podcasts

Visit Denmark | Copenhagen neighbourhoods | Foodie guide to Copenhagen | World Capital of Architecture | Sustainable Co

› Sustainable Copenhagen

Why Copenhagen may be the most sustainable city on earth – and why you should visit, now

All things green are embedded in Copenhagen's culture, so you can experience what it's like to live in a future-focused city

POLITICO

German election War in Ukraine Munich Security Conference Newsletters Podcasts Poll of Polls Policy new

NEWS > POLITICS

Playful urbanism: How Copenhagen is reinventing public spaces

From rock climbing walls to ski slopes, the Danish capital is reimagining its urban infrastructure.

TRAVEL

Copenhagen: The World's Happiest City?

The people of Copenhagen are famously happy, but what does this look like in practice? Is there anything we could learn from them too?

By Layla Mann Published September 15, 2023

Public space for all: what makes Copenhagen the city for the people?

June 28, 2019 por María Camila Ariza - María Camila Quintero - Keisgner E. Alfaro — Leave a Comment

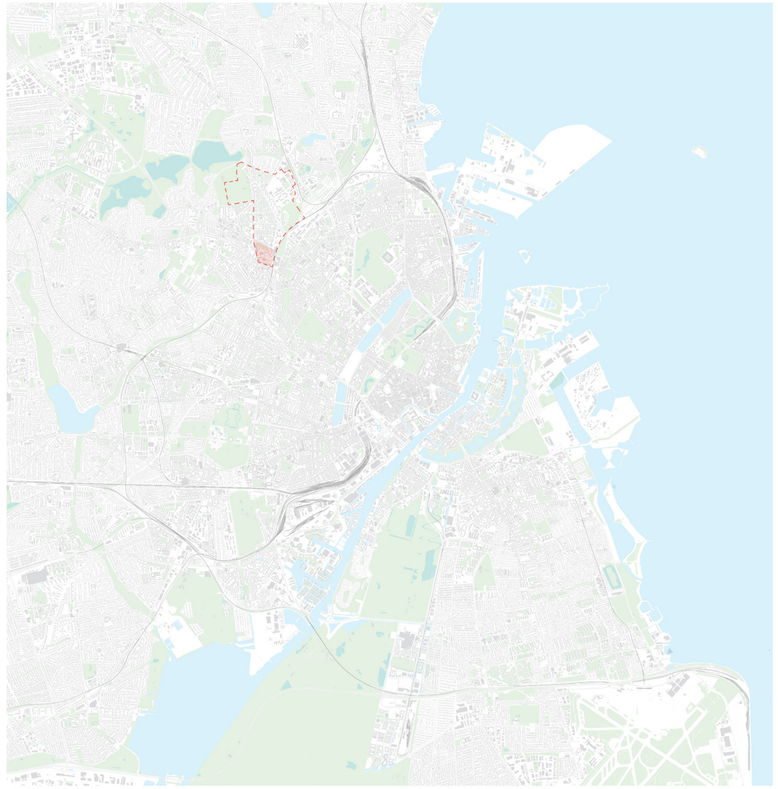


*Figure 10: Current-day map of Copenhagen with the Bispebjerg area highlighted*
*Image composed by author*





# Copenhagen

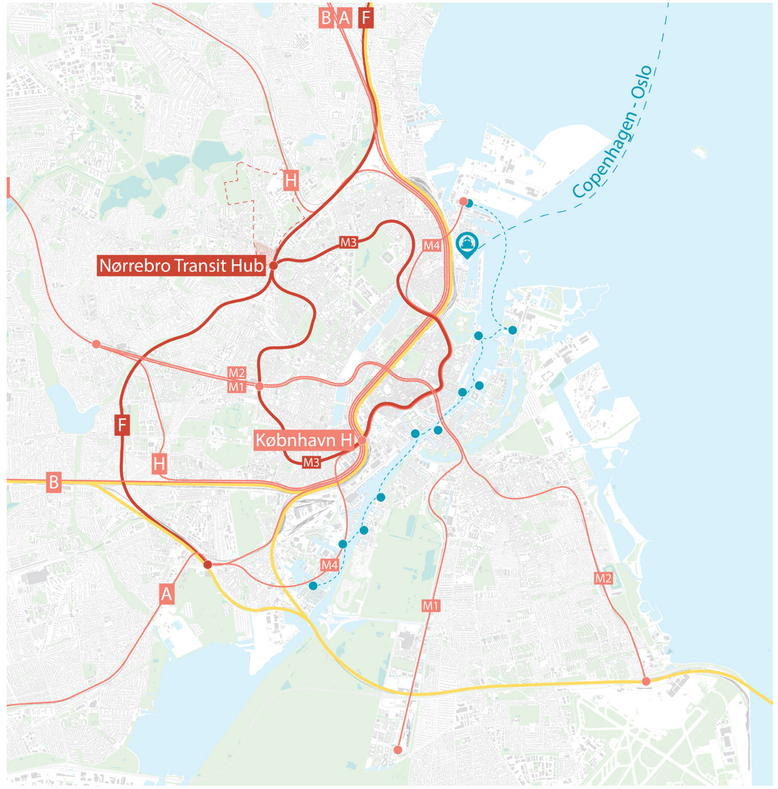



*Figure 11: The Copenhagen public transit network*
*Image composed by author*

# Research
## Quality of Space

Site Area

Quality Paved Public Square

Quality Green Public Park

*Figure 12: Quality Public Spaces*
*Image composed by author*





# Research
## Quality of Space

Site Area

Quality Paved Public Square

Quality Green Public Park

Paved Publicly Accessible Space

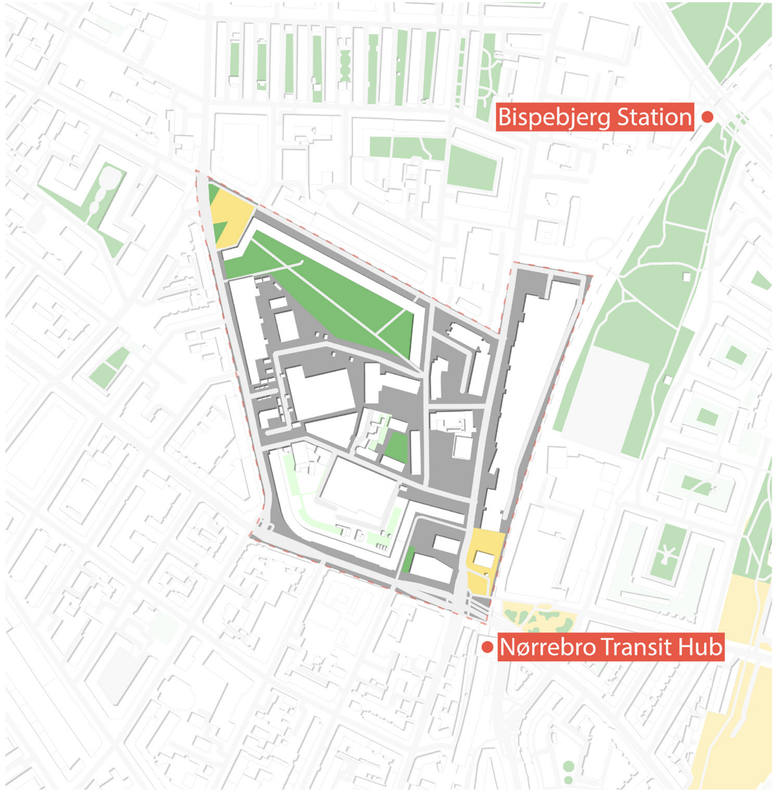



*Figure 13: Publicly Accessible Space*
*Image composed by author*

# Research
## Quality of Space

- Site Area
- Quality Paved Public Square
- Quality Green Public Park
- Paved Publicly Accessible Space
- Car Parking

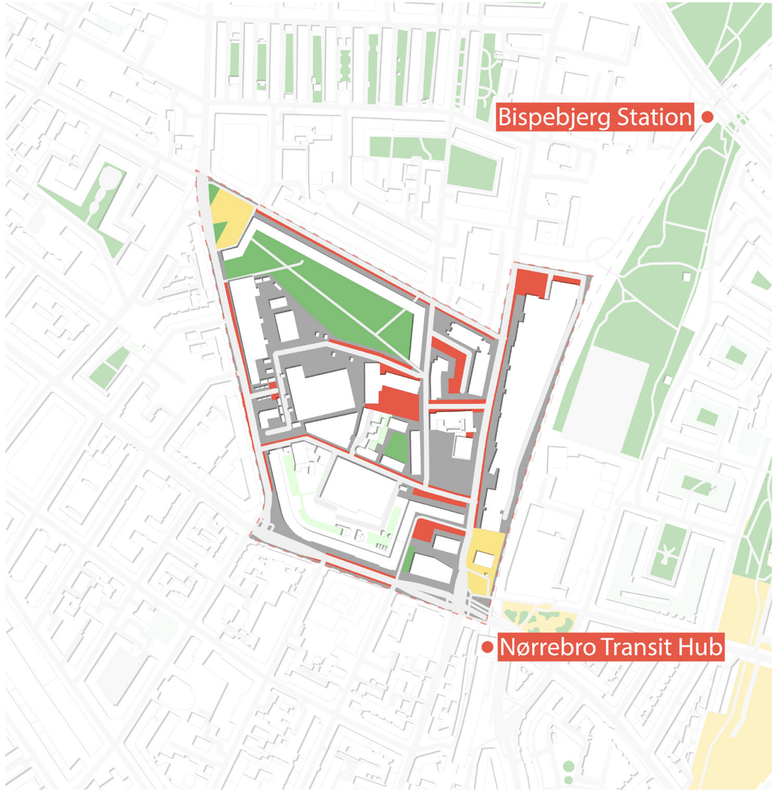



*Figure 14: Publicly Accessible Space with parking included*
*Image composed by author*





# Research
## Quality of Space

- Site Area
- Road Accidents
- Accidents with Injuries/Fatalities
- Traffic Noise: 55 dB(A)
- Traffic Noise: 65 dB(A)

*Figure 15: Road Noise and Traffic Accidents, figures from 2021*
*Image composed by author*

# Research
## Quality of Space

- Site Area
- Multiple functions - Inaccessible
- Mixed-Use
- Shopping
- Office
- Residential
- NEXT School
- Shopping Centre
- Bar
- Centre for the Addicted
- Homeless Shelter
- Martial Arts Centre

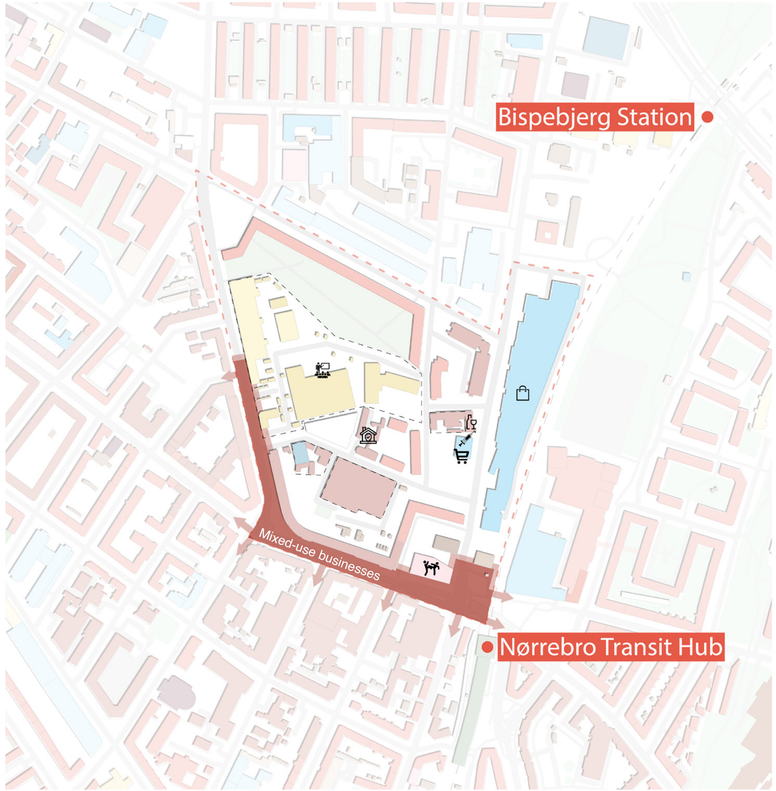



*Figure 16: Functions within the site area*
*Image composed by author*





# Research
## Quality of Space

- Site Area
- Area of Bad Quality
- Area of Good Quality

*Figure 17: Quality Areas Pre-ADEPT*
*Image composed by author*

# Research
## Quality of Space

**Subject 01**
*Young, native, male, young professional*

"I would not recommend anything in this neighbourhood, but there are two very cool cafés in Norrebro"

**Subject 02**
*Young, native, female, student*

"I go to the gardens around the hospital. The cherry blossoms there are very pretty!"

**Subject 03**
*Middle aged, non-native, male, worker*

"Go to Norreport! There, it is much nicer."





# Research
## Quality of Space

Site Area

Low Activity During Work Hours

High Activity During Work Hours

*Figure 18: Activity during work hours*
*Image composed by author*

# Research
## Quality of Space

Site Area

Low Activity in the Evening

High Activity in the Evening

*Figure 19: Activity in the evening*
*Image composed by author*





# Research
## Quality of Space

Site Area

Low Activity in the Weekend

High Activity in the Weekend

*Figure 20: Activity in the weekend*
*Image composed by author*

# Research
# Quality of Space

**PRE-ADEPT**

Site Area

Area of Bad Quality

Area of Good Quality

NEXT School

*Figure 21: Quality Areas Pre-ADEPT*
*Image composed by author*





# Research
# Quality of Space

**POST-ADEPT**

Site Area

Area of Bad Quality

Area of Good Quality

NEXT School

*Figure 22: Quality Areas Post-ADEPT*
*Image composed by author*

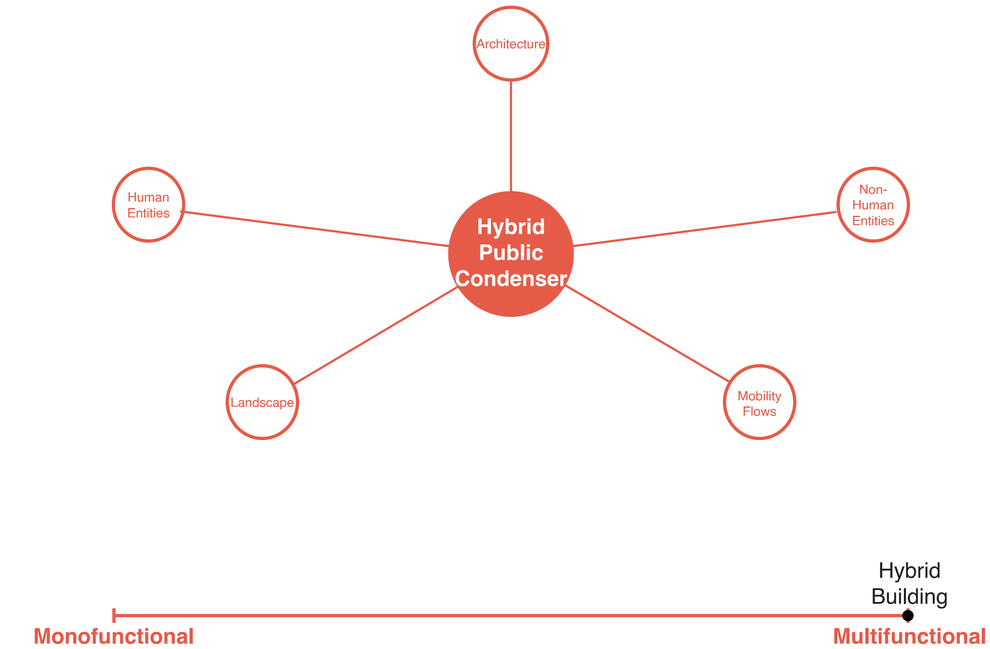
# Location
# Public Condenser

*Figure 23: Quality Areas Post-ADEPT with Condenser*
*Image composed by author*





# What?
# Merging City Life



# Research Question

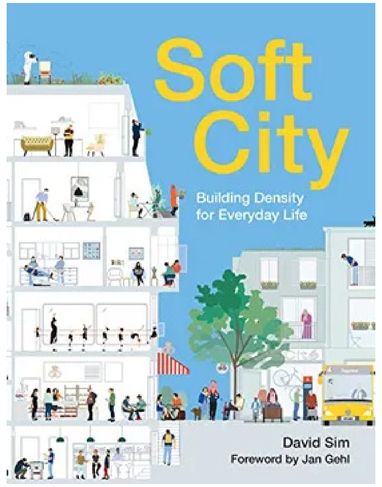
How can a **hybrid building** in Bispebjerg contribute to improving the **adaptability, social engagement,** and **environmental integration** within the neighbourhood?

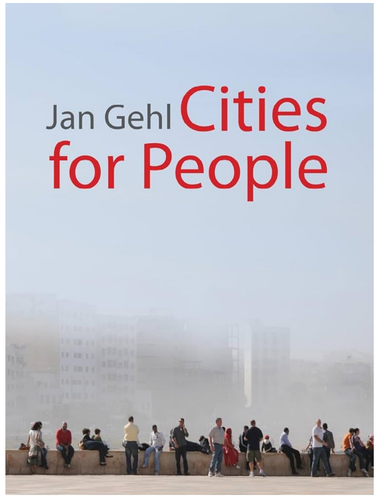




# Literature: New Urbanism

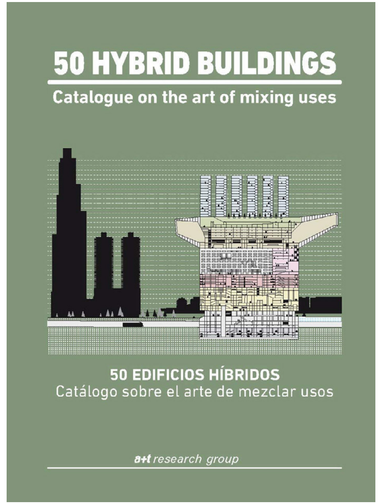
- Human-centred urbanism
- Building density without being at the expense of quality of life
- Public spaces for community building
- Facilitating fluid movement and interaction

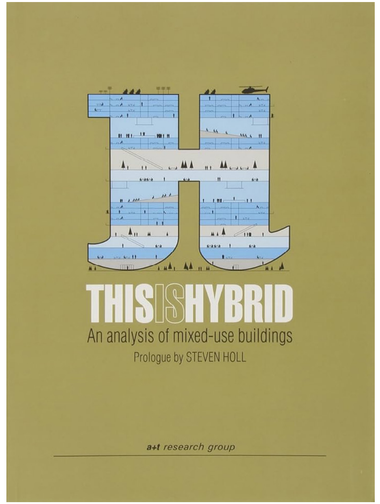


# Literature: Hybridity

- Different ways of creating hybrid structures
- Flows and routing
- Socio-economic implications



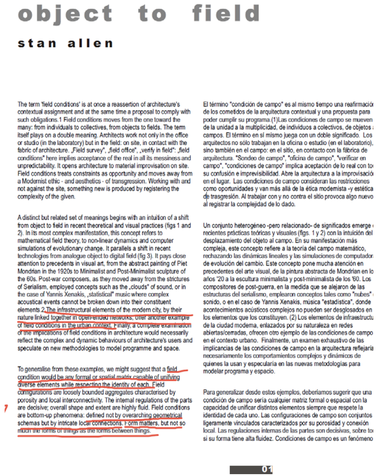








# Literature: Field Conditions Mat-Building

- Buildings in their urban context
- Weaving, interknotting functions, building & city
- Relational dynamics
- Evolving structures


object to field

stan allen

The term 'field conditions' is at once a reassertion of architecture's contextual assignment and at the same time a proposal to comply with such obligations. 1 Field conditions moves from the one toward the many: from individuals to collectives, from objects to fields. The term itself plays on a double meaning. Architects work not only in the office or studio (in the laboratory) but in the field: on site, in contact with the fabric of architecture. _Field survey", _field office", _verify in field" _field conditions" here implies acceptance of the real in all its messiness and unpredictability. It opens architecture to material improvisation on site. Field conditions treats constraints as opportunity and moves away from a Modernist ethic - and aesthetics - of transgression. Working with and not against the site, something new is produced by registering the complexity of the given.

A distinct but related set of meanings begins with an intuition of a shift from object to field in recent theoretical and visual practices (figs 1 and 2). In its most complex manifestation, this concept refers to mathematical field theory, to non-linear dynamics and computer simulations of evolutionary change. It parallels a shift in recent technologies from analogue object to digital field (fig 3). It pays close attention to precedents in visual art, from the abstract painting of Piet Mondrian in the 1920s to Minimalist and Post-Minimalist sculpture of the 60s. Post-war composers, as they moved away from the strictures of Serialism, employed concepts such as the „clouds" of sound, or in the case of Yannis Xenakis, „statistical" music where complex acoustical events cannot be broken down into their constituent elements 2.The infrastructural elements of the modern city, by their nature linked together in open-ended networks, offer another example of field conditions in the urban context. Finally, a complete examination of the implications of field conditions in architecture would necessarily reflect the complex and dynamic behaviours of architecture's users and speculate on new methodologies to model programme and space.

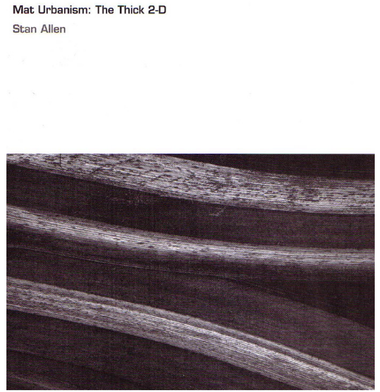
To generalize from these examples, we might suggest that a field condition would be any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each. Field configurations are loosely bounded aggregates characterized by porosity and local interconnectivity. The internal regulations of the parts are decisive; overall shape and extent are highly fluid. Field conditions are bottom-up phenomena: defined not by overarching geometrical schemas but by intricate local connections. Form matters, but not so much the forms of things as the forms between things.

El término "condición de campo" es al mismo tiempo una reafirmación de los cometidos de la arquitectura contextual y una propuesta para poder cumplir su programa (1).Las condiciones de campo se mueven de la unidad a la multiplicidad, de individuos a colectivos, de objetos a campos. El término en sí mismo juega con un doble significado. Los arquitectos no sólo trabajan en la oficina o estudio (en el laboratorio), sino también en el campo: en el sitio, en contacto con la fábrica de arquitectura. "Sondeo de campo", "oficina de campo", "verificar en campo", "condiciones de campo" implica aceptación de lo real con toda su confusión e imprevisibilidad. Abre la arquitectura a la improvisación en el lugar. Las condiciones de campo consideran las restricciones como oportunidades y van más allá de la ética modernista -y estética de trasgresión. Al trabajar con y no contra el sitio provoca algo nuevo al registrar la complejidad de lo dado.

Un conjunto heterogéneo -pero relacionado- de significados emerge en recientes prácticas teóricas y visuales (figs. 1 y 2) con la intuición del desplazamiento del objeto al campo. En su manifestación más compleja, este concepto refiere a la teoría del campo matemático, rechazando las dinámicas lineales y las simulaciones de computador de evolución del cambio. Este concepto pone mucha atención en precedentes del arte visual, de la pintura abstracta de Mondrian en los años '20 a la escultura minimalista y post-minimalista de los '60. Los compositores de post-guerra, en la medida que se alejaron de las estructuras del serialismo, emplearon conceptos tales como "nubes" sonido, o en el caso de Yannis Xenakis, música "estadística", donde acontecimientos acústicos complejos no pueden ser desglosados en los elementos que los constituyen. (2) Los elementos de infraestructura de la ciudad moderna, enlazados por su naturaleza en redes abiertas/cerradas, ofrecen otro ejemplo de las condiciones de campo en el contexto urbano. Finalmente, un examen exhaustivo de las implicancias de las condiciones de campo en la arquitectura reflejaría necesariamente los comportamientos complejos y dinámicos de quienes la usan y especularía en las nuevas metodologías para modelar programa y espacio.

Para generalizar desde estos ejemplos, deberíamos sugerir que una condición de campo sería cualquier matriz formal o espacial con la capacidad de unificar distintos elementos siempre que respete la identidad de cada uno. Las configuraciones de campo son conjuntos ligeramente vinculados caracterizados por su porosidad y conexión local. Las regulaciones internas de las partes son decisivas, sobre todo si su forma tiene alta fluidez. Condiciones de campo es un fenómeno

01


Mat Urbanism: The Thick 2-D

Stan Allen

# Case Studies

## Adaptability

**Patch 22 | Tom Frantzen**
*Adaptable Building systems*

**Het EPOS | SeARCH**
*Modular, reusable structure*

**Ørestad Gymnasium | 3XN Architects**
*Moveable walls, flexible spaces*

## Social Engagement

**Seattle Public Library | OMA**
*Integration of public services*

**Centre Pompidou | Renzo Piano**
*Encouraging social interactions*

**Villa VPRO | MVRDV**
*Social engagement through open fields*

## Environmental Integration

**Parasol Metropol | J. Mayer H. & Arup**
*Merging public space and architecture*

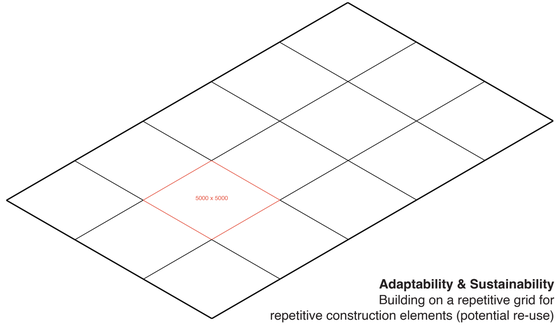
**Maersk Tower | C.F. Møller**
*Routing & connection to environment*

**BLOX | OMA**
*Merging mobility and building*

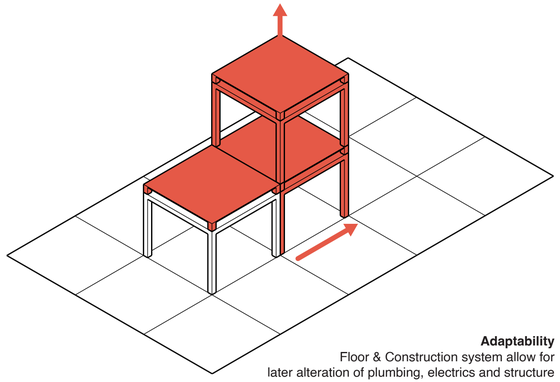




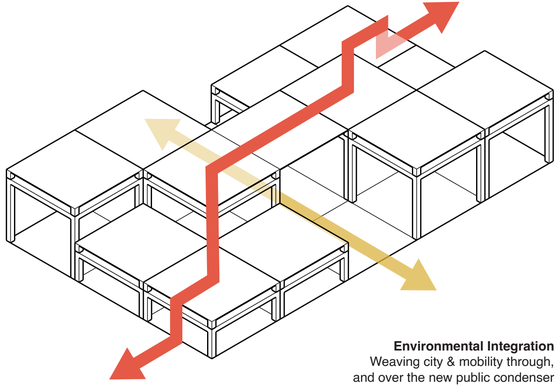
# Design Principles



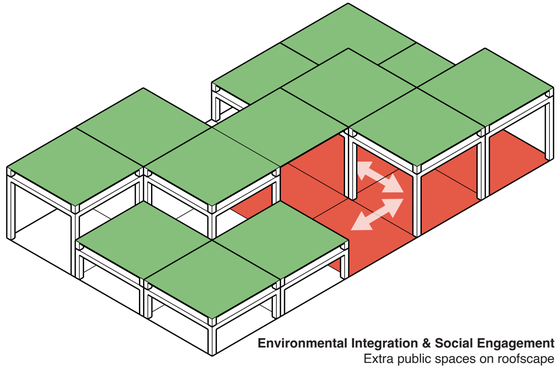

**Adaptability & Sustainability**
Building on a repetitive grid for
repetitive construction elements (potential re-use)



**Adaptability**
Floor & Construction system allow for
later alteration of plumbing, electrics and structure



**Environmental Integration**
Weaving city & mobility through,
and over the new public condenser



**Environmental Integration & Social Engagement**
Extra public spaces on roofscape
Open, porous & transparent fields for social engagement

# For Whom? Housing

Site Area

Detached Housing

Mixed-Use City Blocks

Residential Blocks

Social Housing Blocks

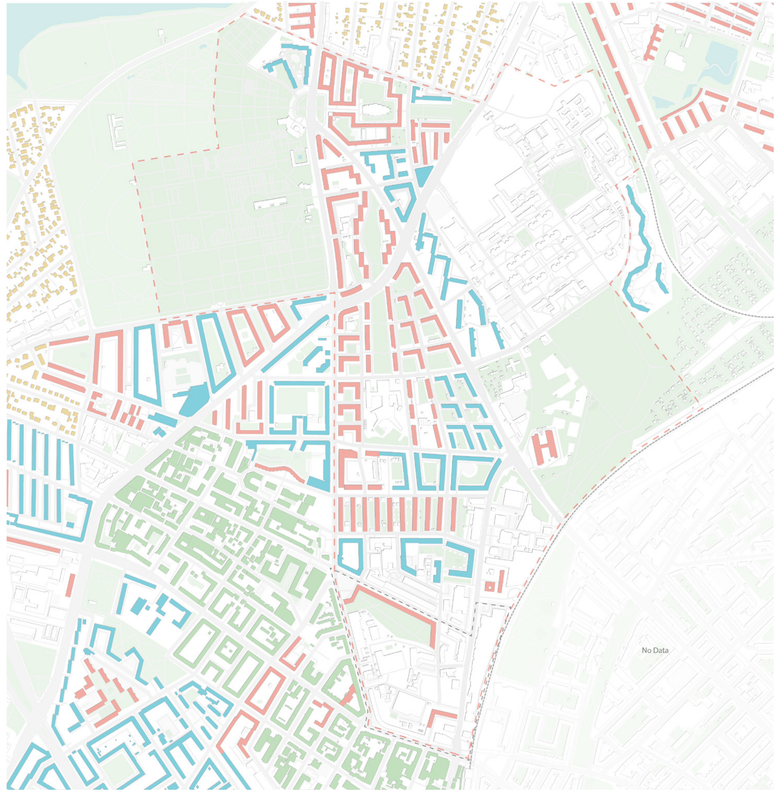
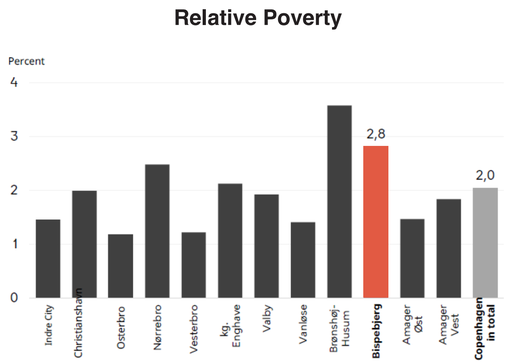



*Figure 24: Housing Types in Bispebjerg*
*Image composed by author*





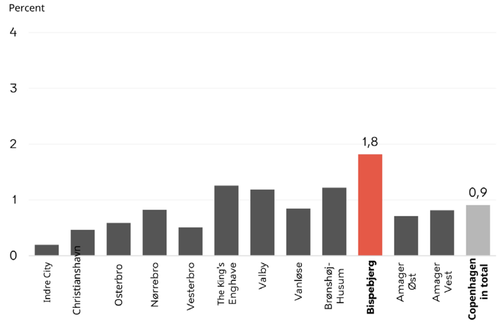
# For Whom? Issues



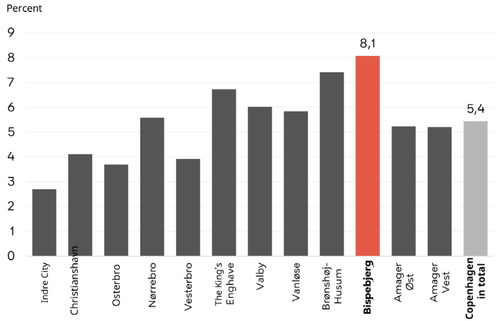

Need for Social Work Programs

# | For Whom?
# Issues

### Children and adolescents displaced from households




### Parents of children and young people with preventative measures



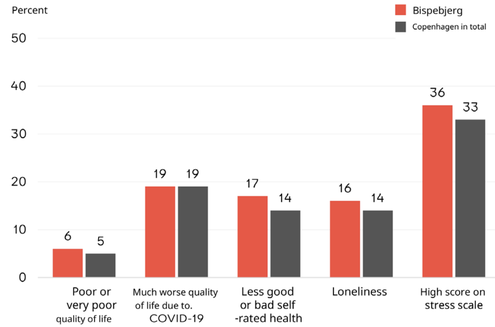

Need for Family Relations Centre





# | For Whom?
# Issues

### Heightened Stress & Loneliness




Need for
Public Condenser Stimulating Social Engagement

# For Whom?

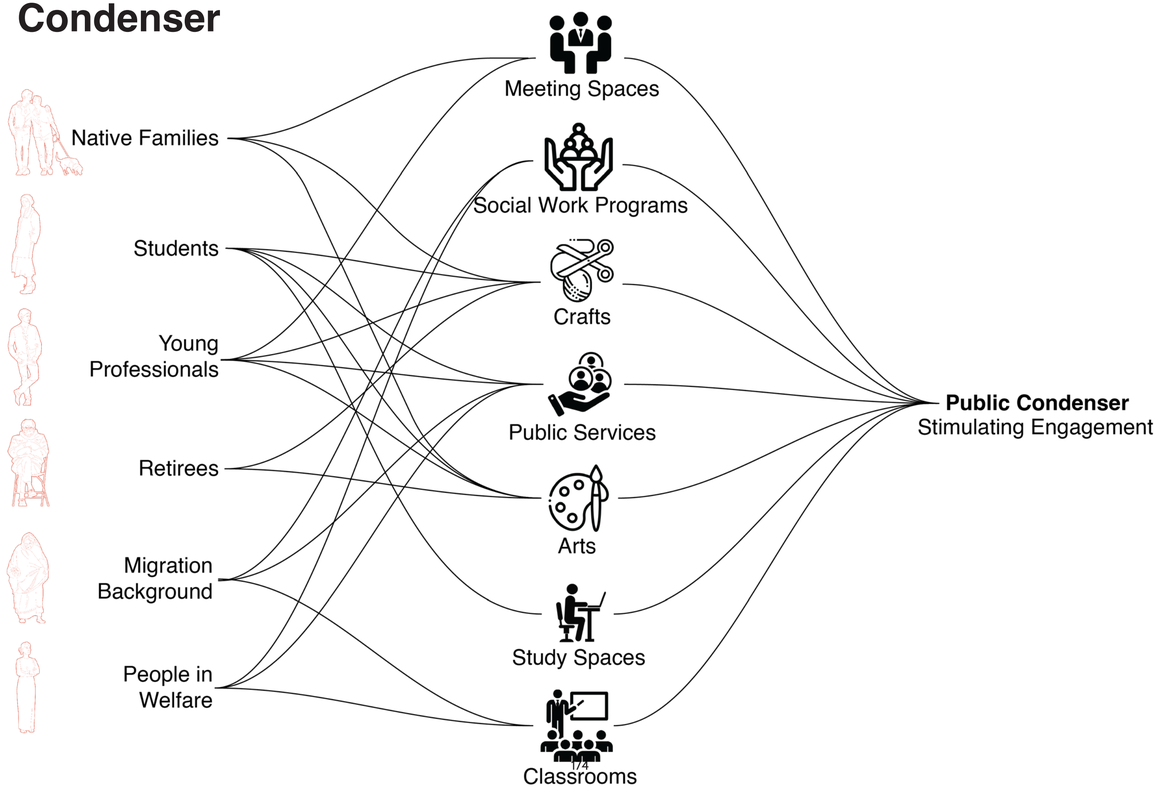
## Demands

| Population Group | Extra Education | Meeting Space | Arts | Crafts | Study Spaces | Public Service | Social Work Programs |
|---|---|---|---|---|---|---|---|
| Native Families | ■ | ■■ | ■■ | ■■ | | ■ | |
| Students | ■ | ■ | ■■ | ■■ | ■■■ | ■■ | |
| Young Professionals | ■ | ■■■ | ■■ | ■■ | ■ | ■■ | |
| Retirees | | | ■■■ | ■■■ | | ■ | |
| Migration Background | ■■ | ■ | ■ | ■ | ■ | ■■■ | ■■■ |
| People in Welfare | ■■ | | | | ■ | ■■■ | ■■■ |

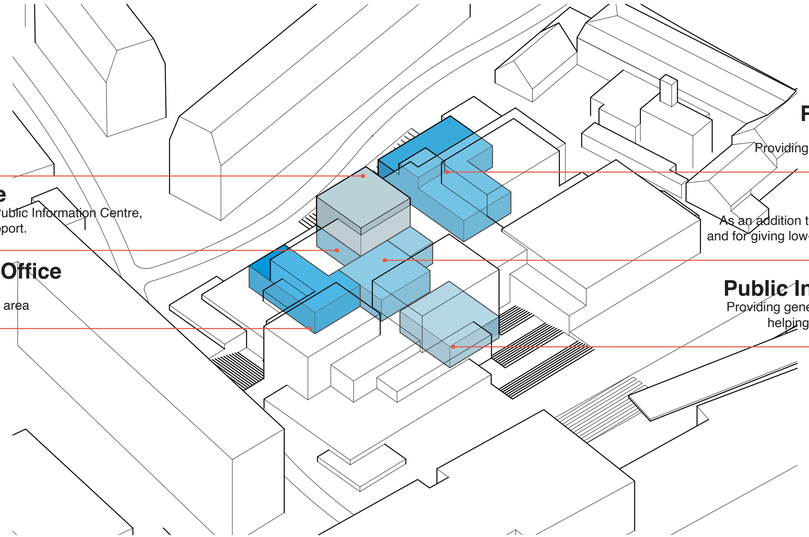




# Public Condenser



# Functions
## Public



**Event Space**
For public gatherings
100 m²

**Legal Help Centre**
Teams up powerfully with the Public Information Centre, Providing people with legal support.
125 m²

**Family Relations Office**
As a response to the high amount of familial issues in the area
125 m²

**Restaurant & Café**
Part of Social Work Program, Providing food to visitors and employees
250 m²

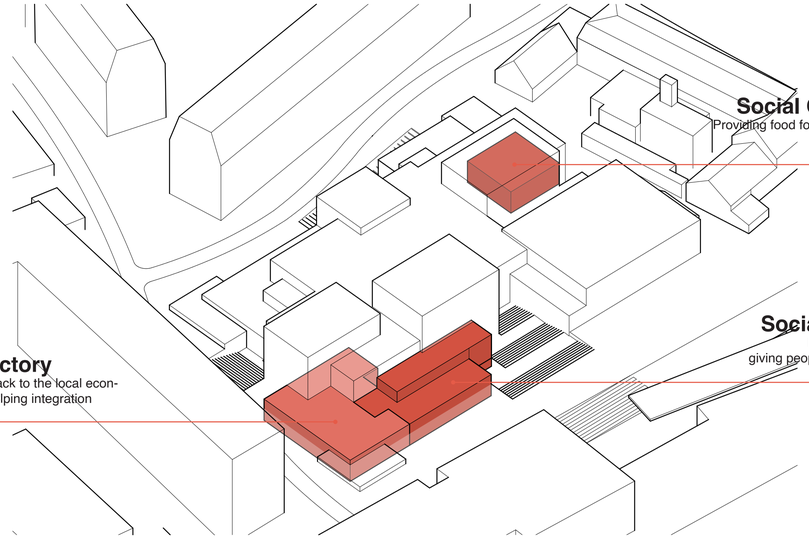
**Computer Space**
As an addition to the Public Information Centre and for giving low-income people internet access
100 m²

**Public Information Centre**
Providing general public & tourist information, helping people find the right resources
120 m²





# Functions
## Social Work Programs

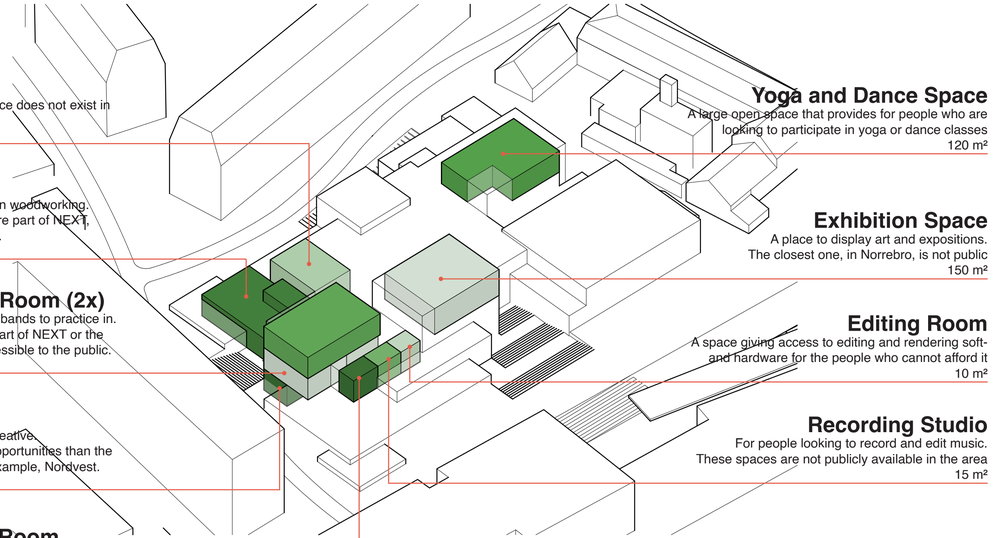


**Social Cooking Program**
Providing food for restaurant, giving people jobs and helping integration
70 m²

**Social Bike Workshop**
Providing cheaper bike repairs, giving people jobs and helping integration
165 m²

**Social Sewing Factory**
Recycling old textiles, giving back to the local economy, giving people jobs and helping integration
250 m²

# Functions
## Arts & Crafts



### Public Kitchen
A kitchen space that can be used by the public. Such a space does not exist in Bispebjerg.
75 m²

### Wood Workshop
For people looking to practice in woodworking. Wood workshops in the area are part of NEXT, thus, inaccessible to the public.
150 m²

### Large Repetition Room (2x)
For choirs, small orchestras or bands to practice in. Music spaces in the area are part of NEXT or the convention centre, thus, inaccessible to the public.
2x 65 m²

### Makerspace
A roomy makerspace for the creative.
This makespace gives more opportunities than the very small ones found in, for example, Nordvest.
65 m²

### Small Repetition Room
For musicians to practice alone.
Music spaces in the area are part of NEXT or the convention centre, thus, inaccessible to the public.

### Yoga and Dance Space
A large open space that provides for people who are looking to participate in yoga or dance classes
120 m²

### Exhibition Space
A place to display art and expositions.
The closest one, in Norrebro, is not public
150 m²

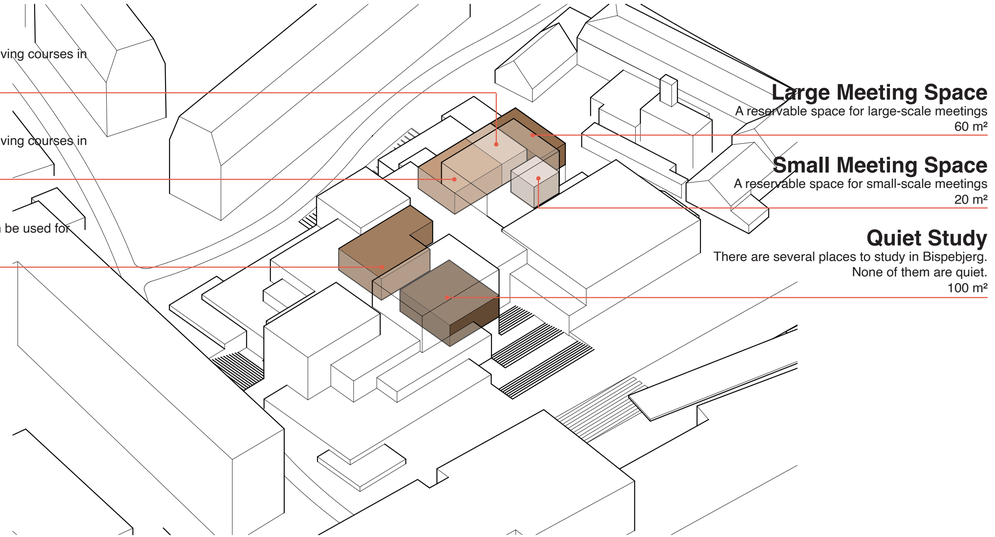
### Editing Room
A space giving access to editing and rendering soft- and hardware for the people who cannot afford it
10 m²

### Recording Studio
For people looking to record and edit music.
These spaces are not publicly available in the area
15 m²





# Functions
## Studying & Meeting



### Small Classroom
A space that can be used for giving courses in things such as languages.
40 m²

### Large Classroom
A space that can be used for giving courses in things such as languages.
85 m²

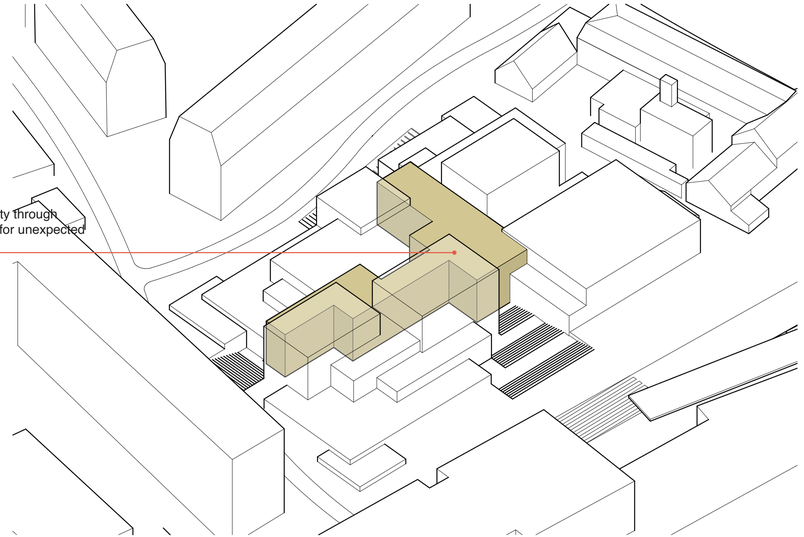
### Study Lounge
An open lounge space that can be used for relaxation and studying
125 m²

### Large Meeting Space
A reservable space for large-scale meetings
60 m²

### Small Meeting Space
A reservable space for small-scale meetings
20 m²

### Quiet Study
There are several places to study in Bispebjerg. None of them are quiet.
100 m²

# Functions
# Interior Street



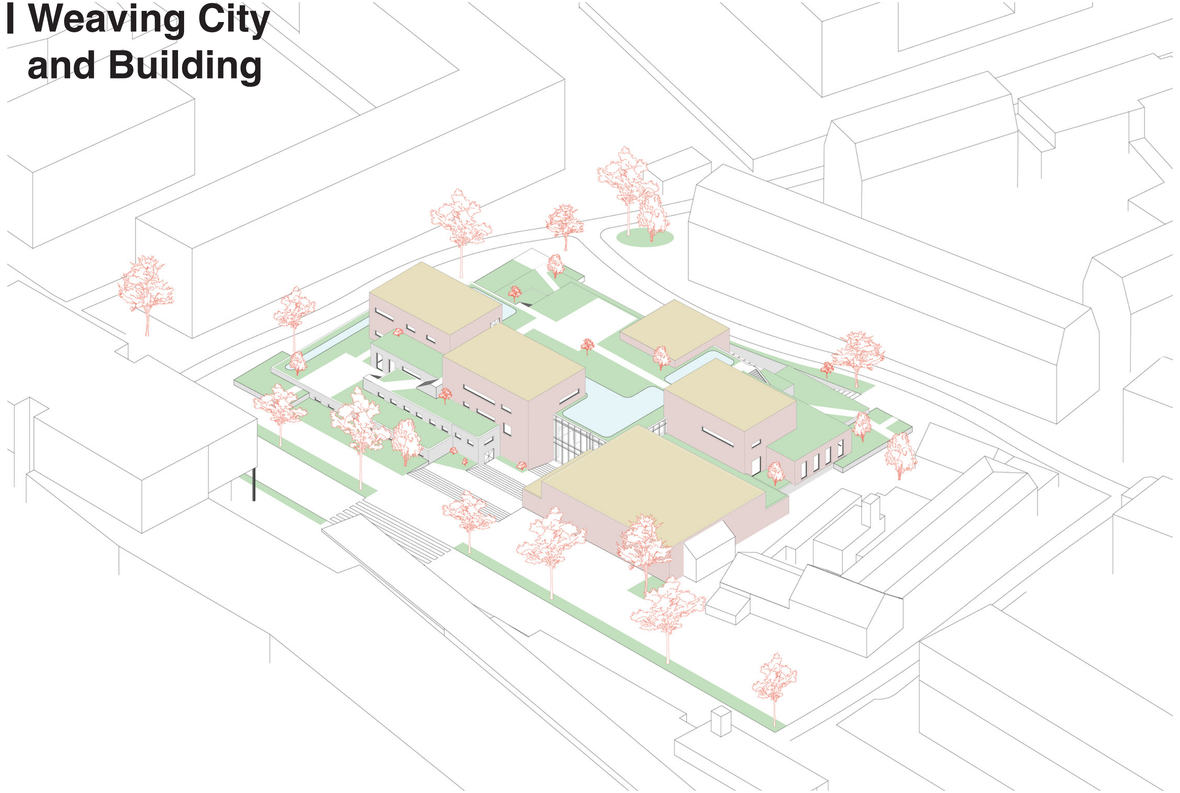
**Streets**
An interior street weaves the city through the public condenser, allowing for unexpected encounters

**Total 3500 m²**

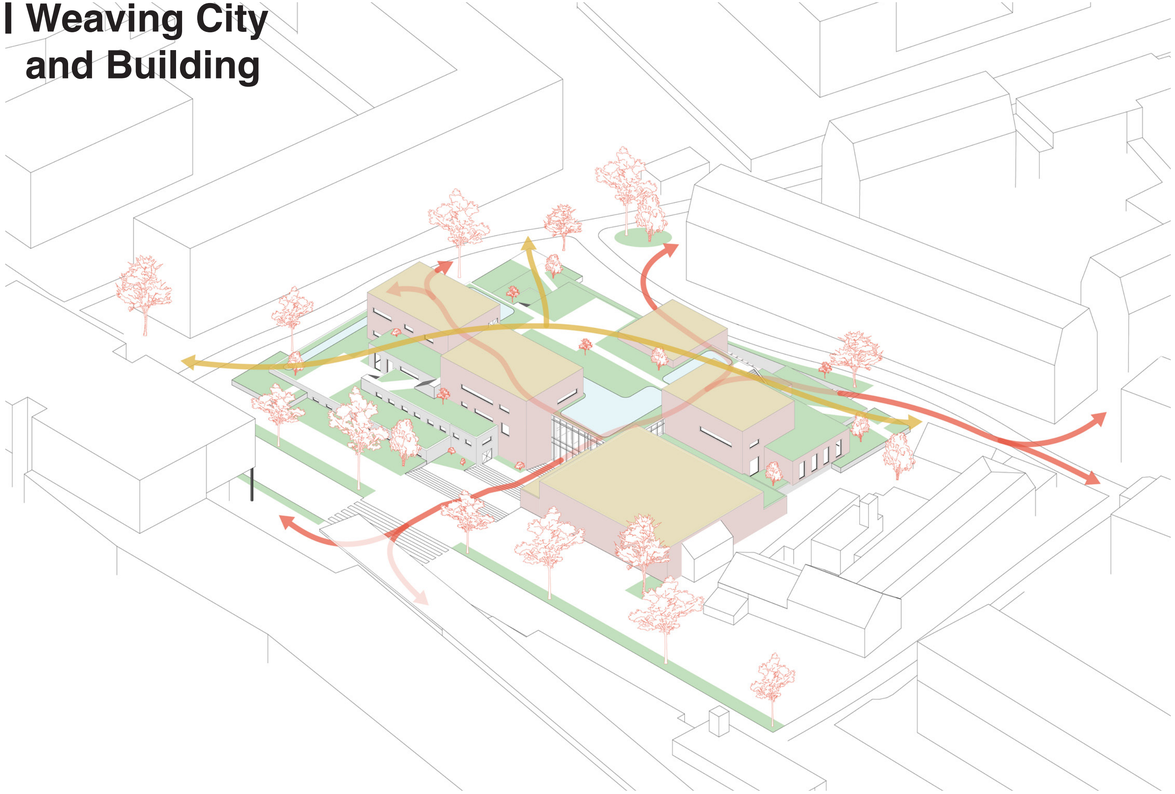




# Weaving City
# and Building



# Weaving City and Building



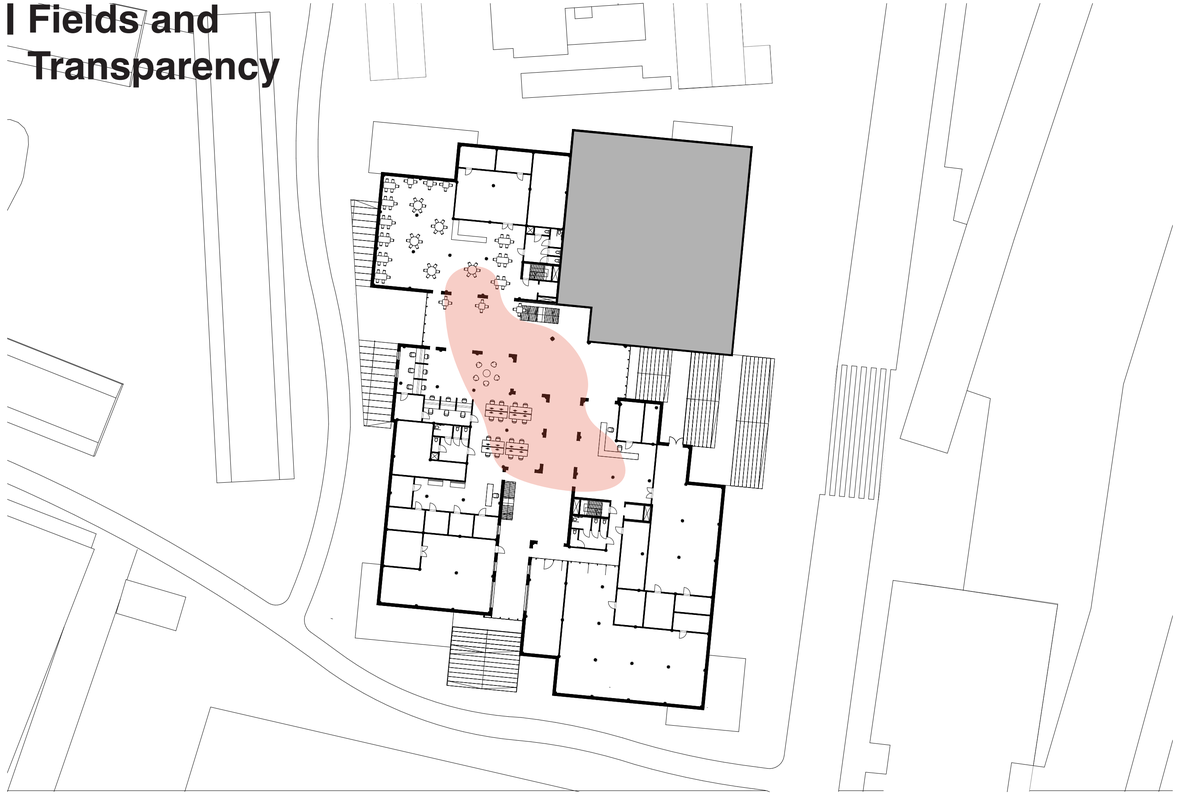




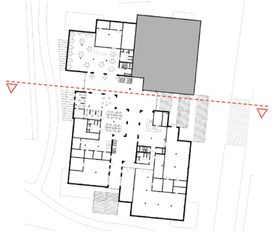
# Ground Floor Plan

# | Porous on all Sides

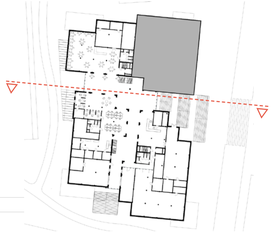
# | Fields and Transparency

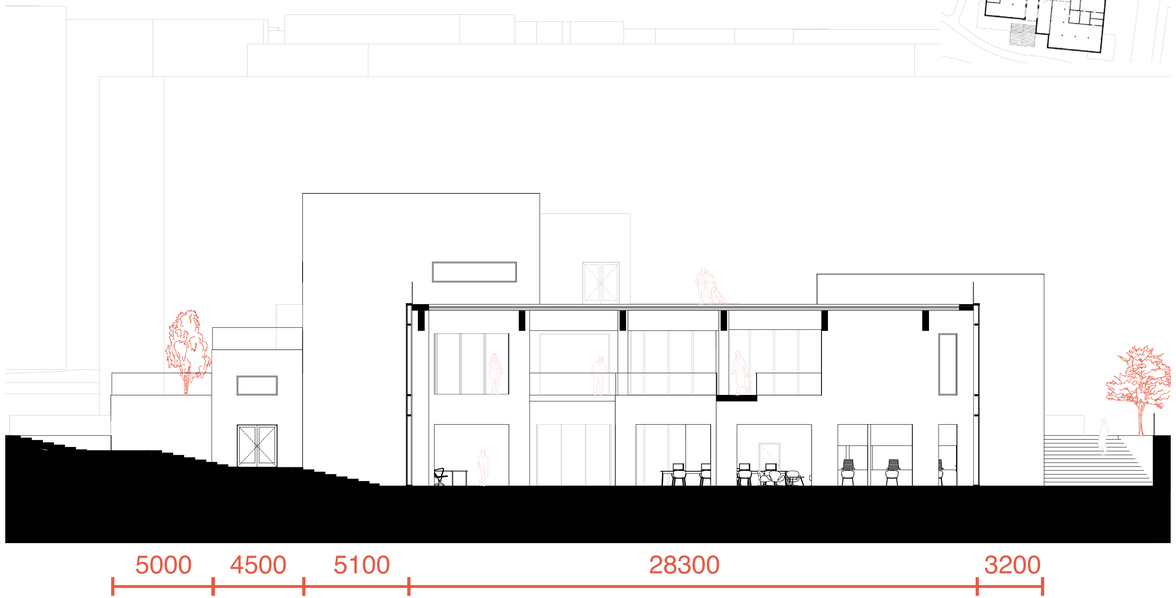


# | Section 1



# | Section 1





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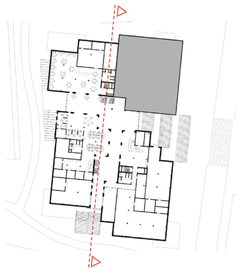
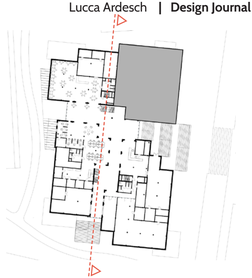
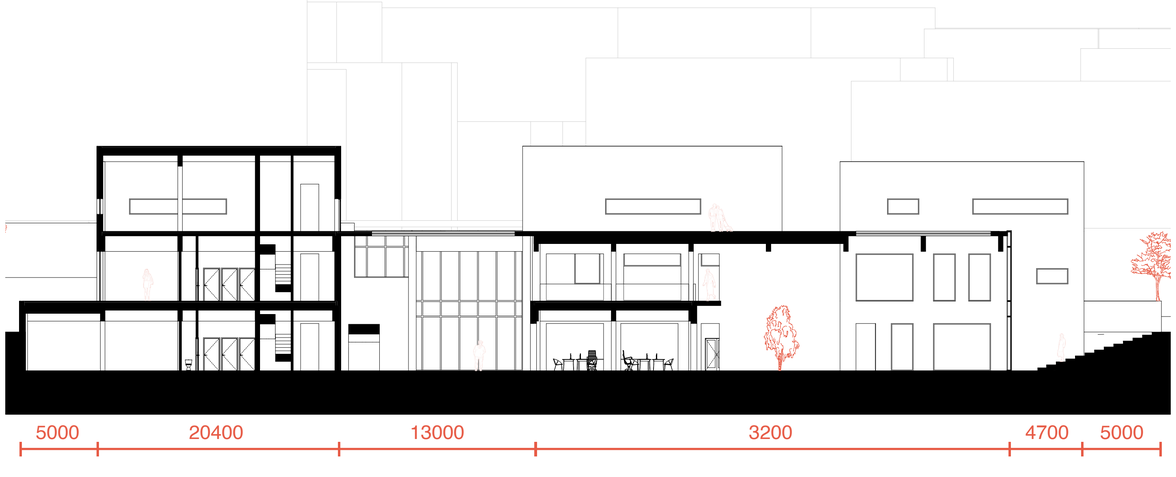


# Section 2





# P4 Presentation

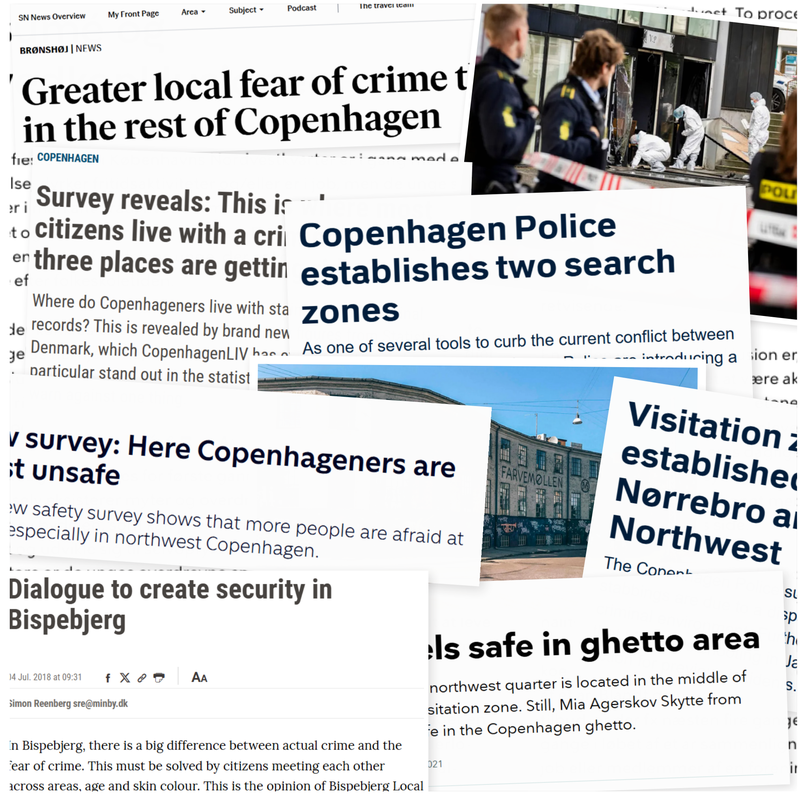
# RECIPROCITY

Turning space into place to enhance wellbeing

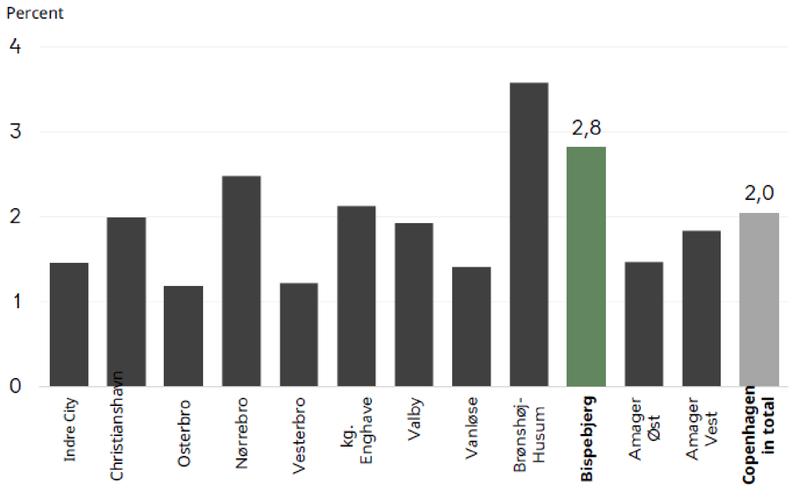




- Wellbeing is low
- Ghetto area
- Socio-economic problems



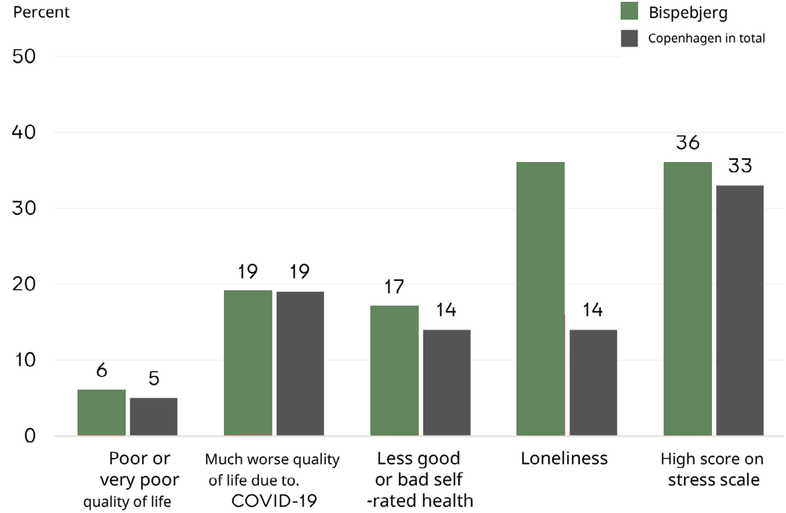
- High poverty

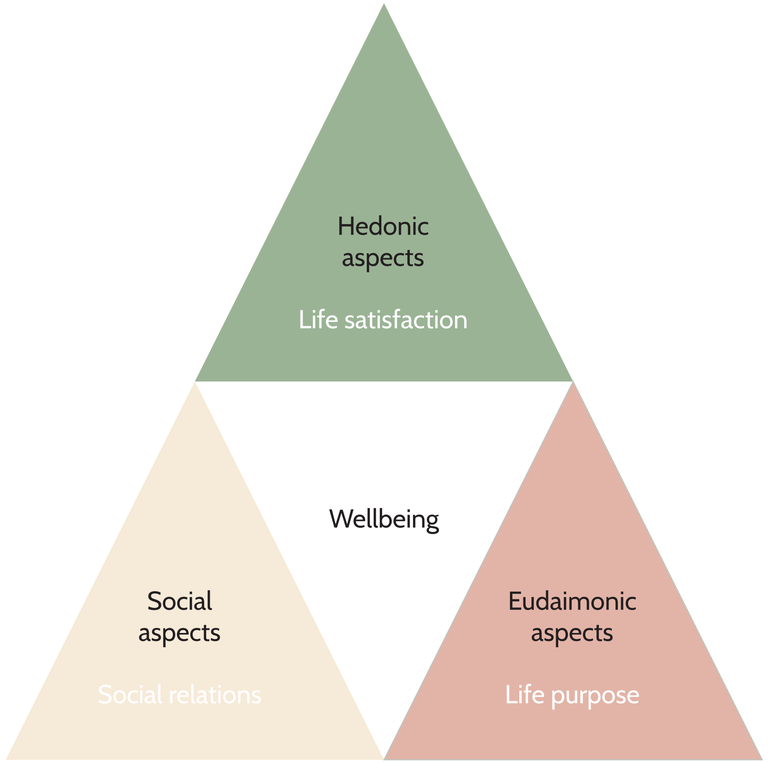







- High stress levels
- Lower quality of life
- Lower health










- Urban environment plays big role
- Anonymous character

- Spaces dedicated to car-centric development
- Lower health due to pollution
- Stress due to noise

- Lack of spaces for social engagement
- Lack of fitting programmatic solutions
- Lack of nature-inclusiveness

- Lack of activity within area
- Unsafe environment
- Urban space is just space

Flexible functions

Shelter to natural hazards/weather

Moderate density

Access to transport

Responsible land use

Biodiversity

Sense of place

Social interactions

Exercise opportunities

Beauty

Accessibility

Social support

**Urban indicators for high wellbeing**

Diversity of functions

Pedestrian-orientedness

Lack of air pollution

Enhanced relations between users and spaces

Low fear of crimes

Climate change adaptation

Low crime rates

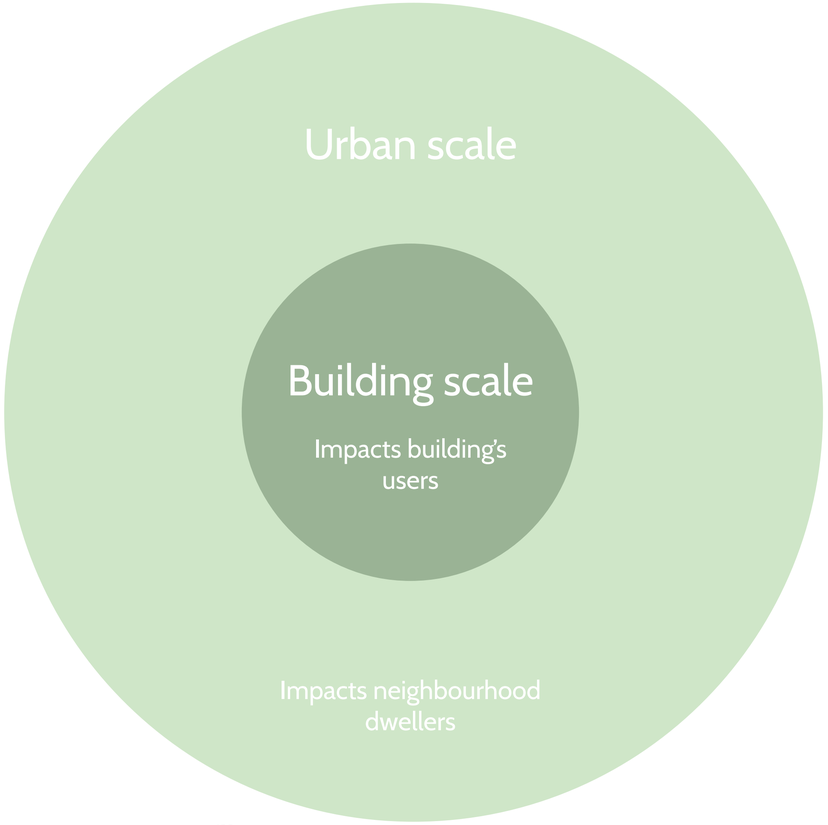
Active places

Lack of noise pollution

Eyes on the street

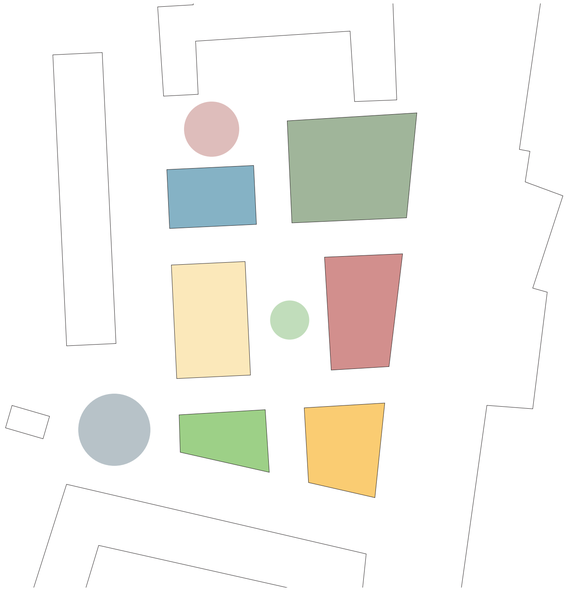

- OECD report on wellbeing
- Davos Declaration
- Hematian, Hooman, en Ehsan Ranjbar. 2022. "Evaluating Urban Public Spaces From Mental Health Point Of View: Comparing Pedestrian And Car-dominated Streets". Journal Of Transport & Health 27 (november): 101532. https://doi.org/10.1016/j.jth.2022.101532.

- Mixing building and city
- Broader impact
- Lowers thresholds
- More opportunity for improving the social aspects

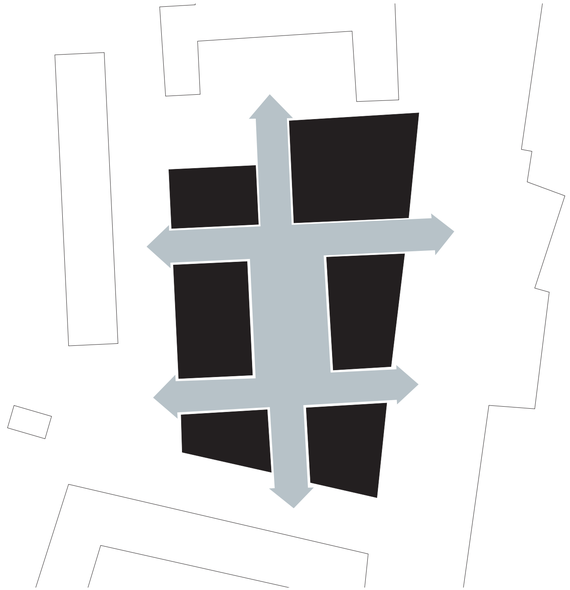






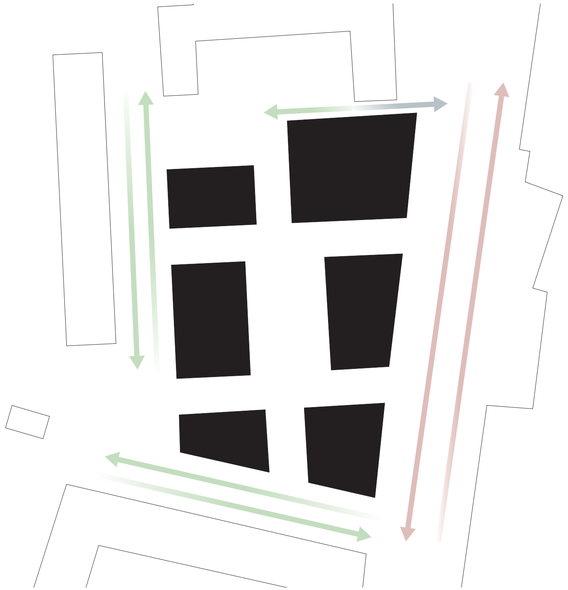
Diverse functions



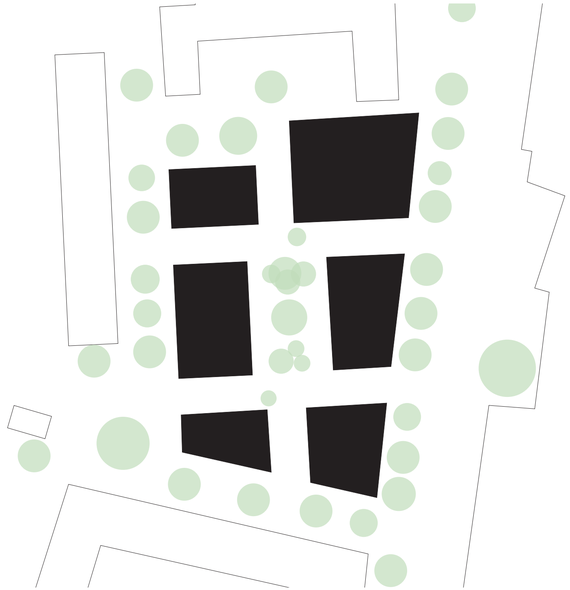
Porous extension of the city







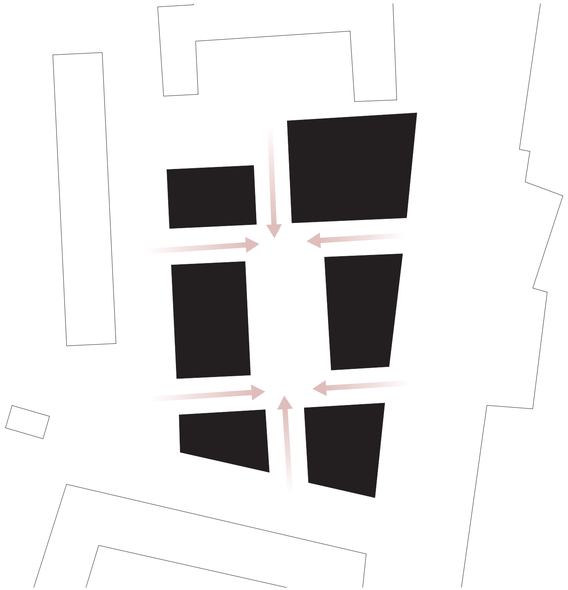
Enhancing pedestrian-friendly mobility flows



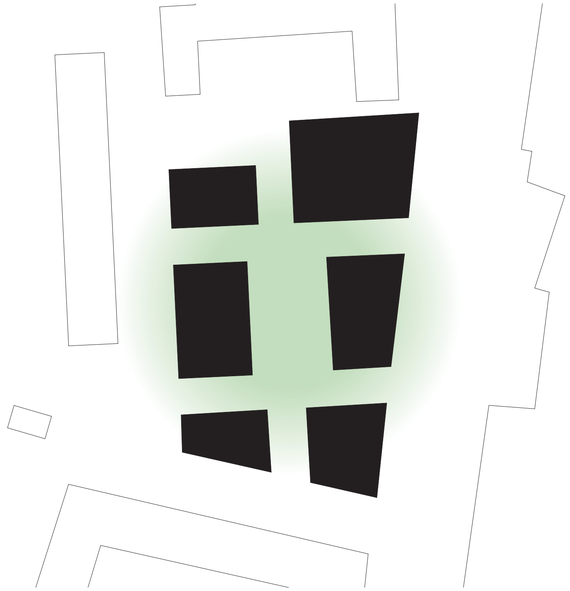
Green public environment







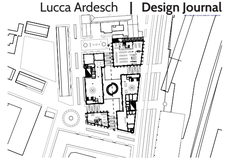
Condensing the public

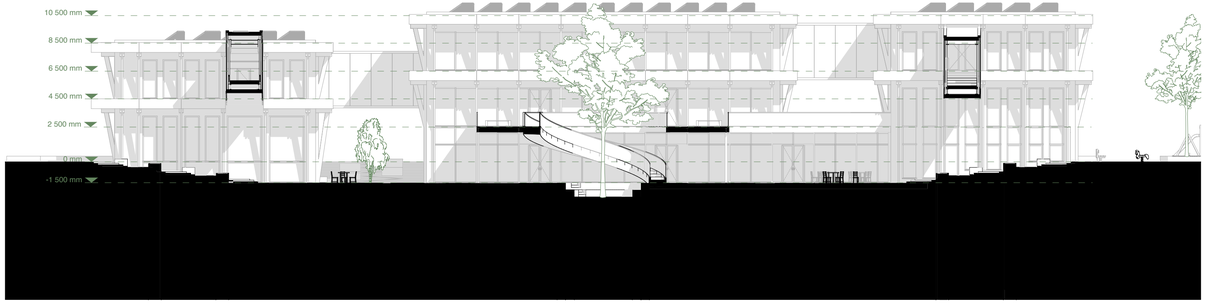


Sheltered from bustling city environment



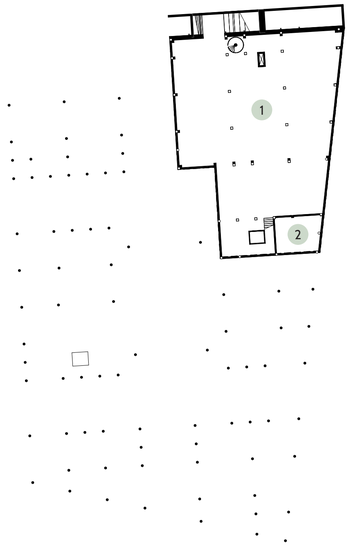







**Building courtyard & split levels**

1. Bicycle parking
2. Rainwater storage

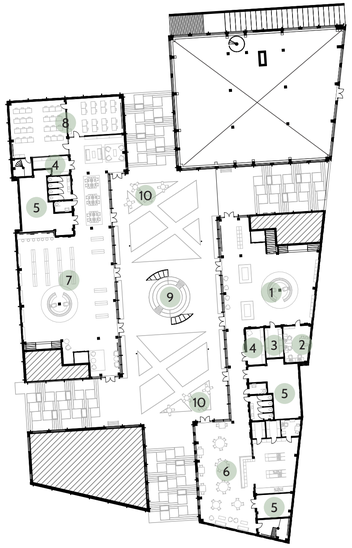



**Building level -4500 mm**





1. Reception & public information
2. Back office & break room
3. Lockers & changing rooms
4. Storage
5. Technical space
6. Restaurant
7. Library
8. Classrooms
9. Conversation pit
10. Terrace



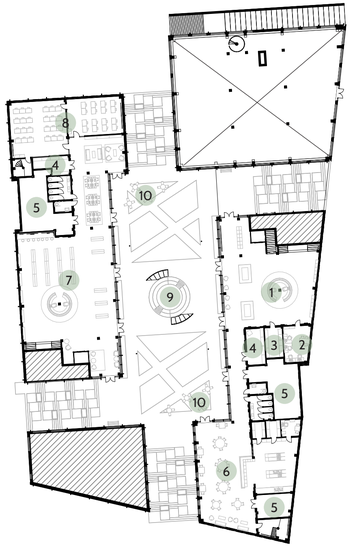

**Building level -1500 mm**

Access from street level





1. Reception & public information
2. Back office & break room
3. Lockers & changing rooms
4. Storage
5. Technical space
6. Restaurant
7. Library
8. Classrooms
9. Conversation pit
10. Terrace




**Building level -1500 mm**

Conversation pit

Building level +0 mm

Enhanced mobility flows

Building level +0 mm

Main entrances

Main entrances

Building level +0 mm

Playground

Water playground / market square

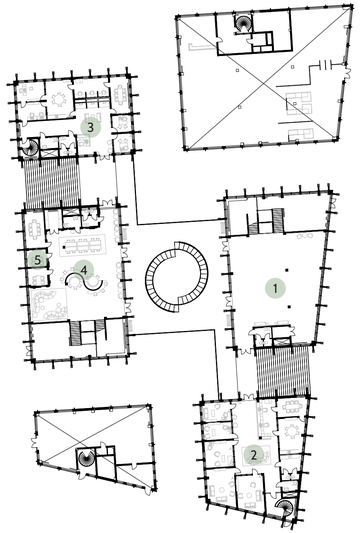
Building level +0 mm

Bike repair shop





1. Event space
2. Family relations centre
3. Study lounge
4. Legal help centre
5. Meeting spaces

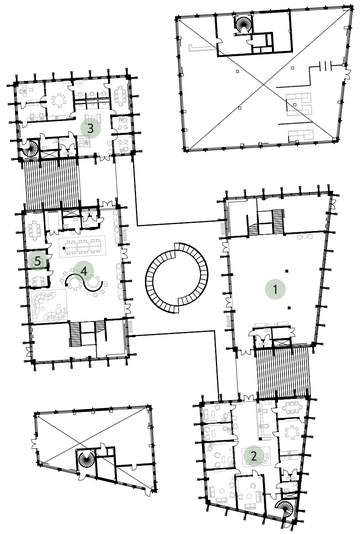



**Building level +2500 mm**

Study lounge

Study lounge

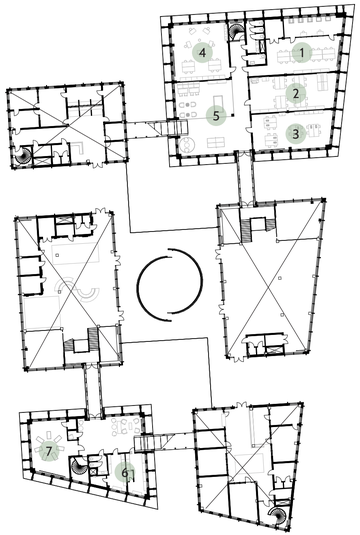
1. Event space
2. Family relations centre
3. Study lounge
4. Legal help centre
5. Meeting spaces




**Building level +2500 mm**

**Legal help centre**

1. Wood/metalworking
2. Makerspace
3. Sewing
4. Painting/drawing
5. Games lounge
6. Changing rooms
7. Yoga space




**Building level +4500 mm**

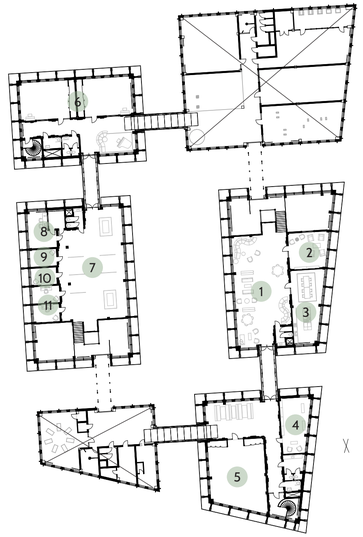
**Games lounge**

Yoga space

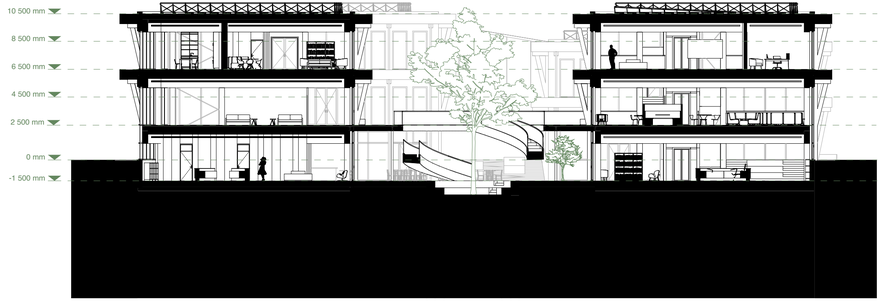


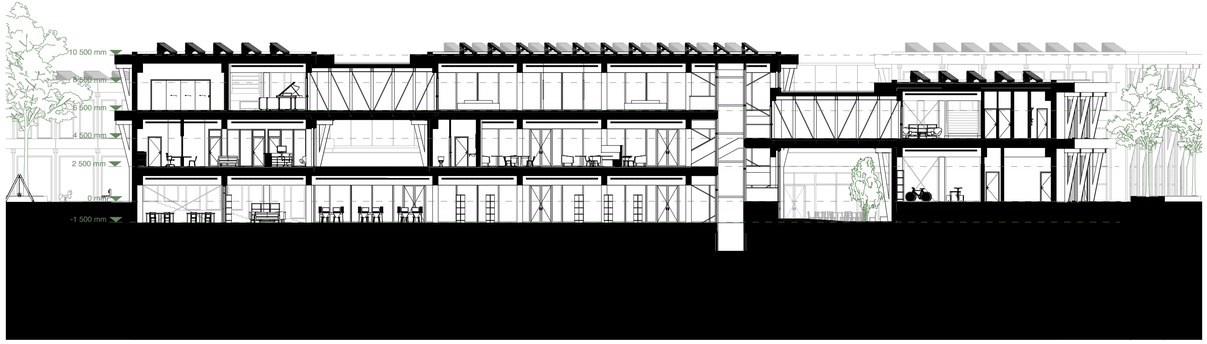
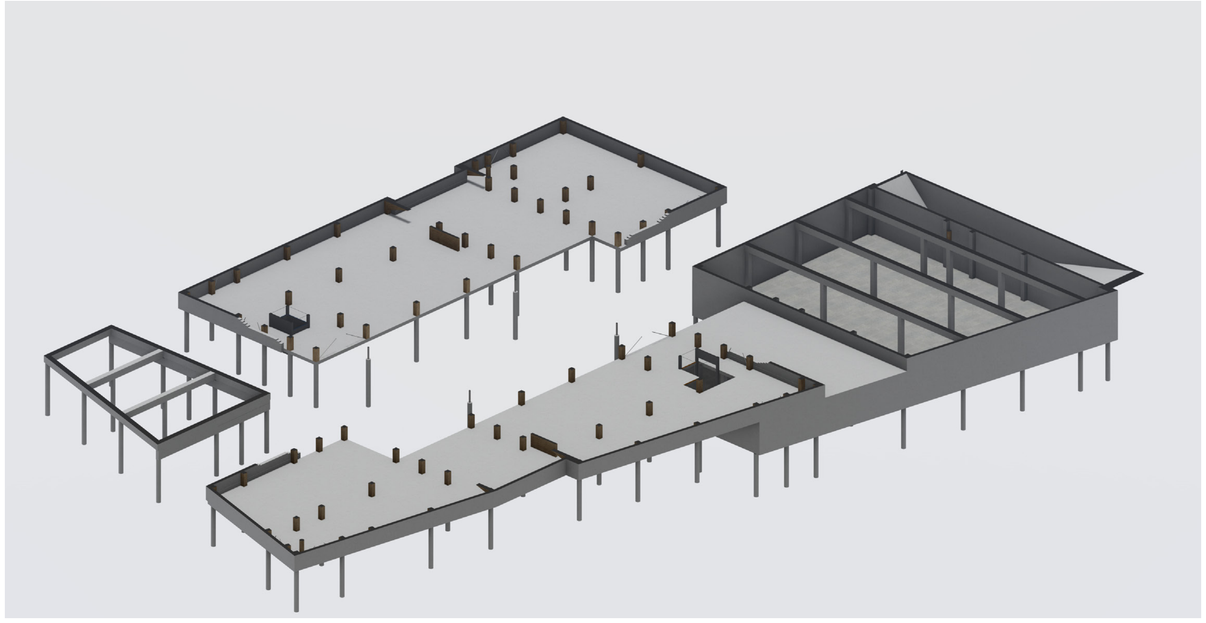
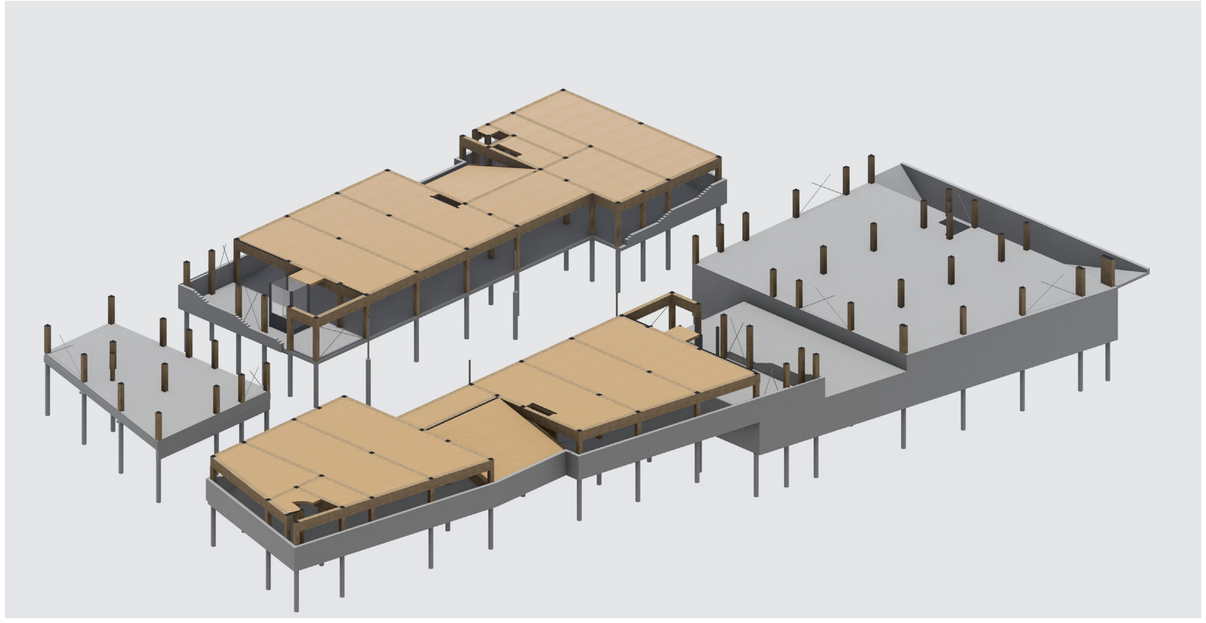
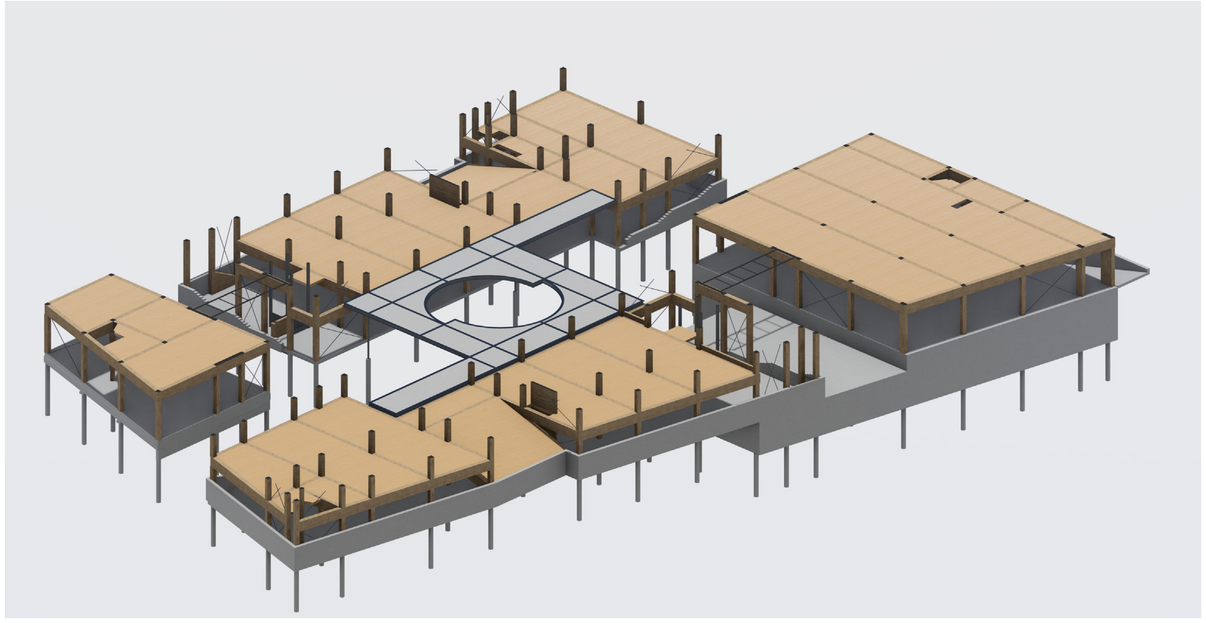
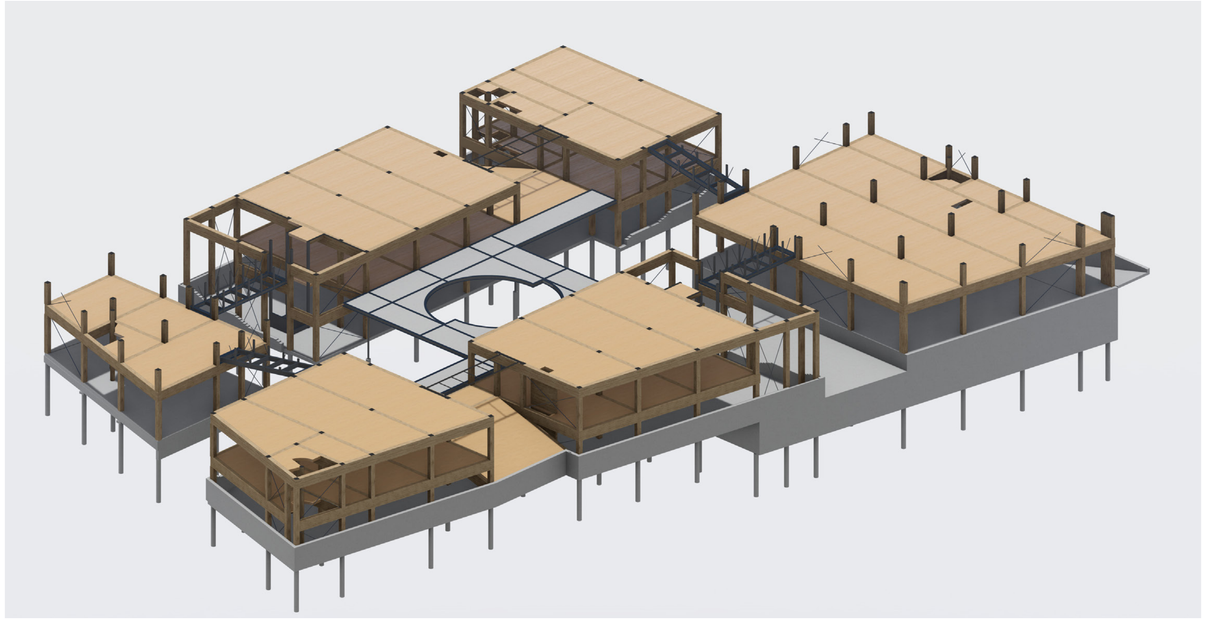
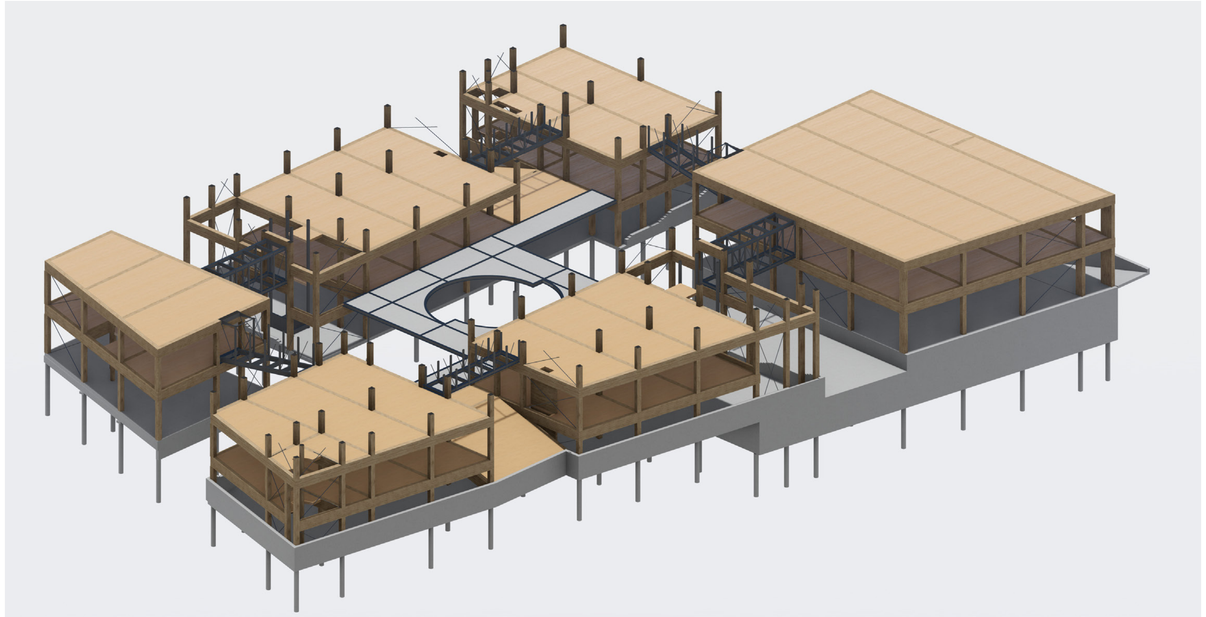
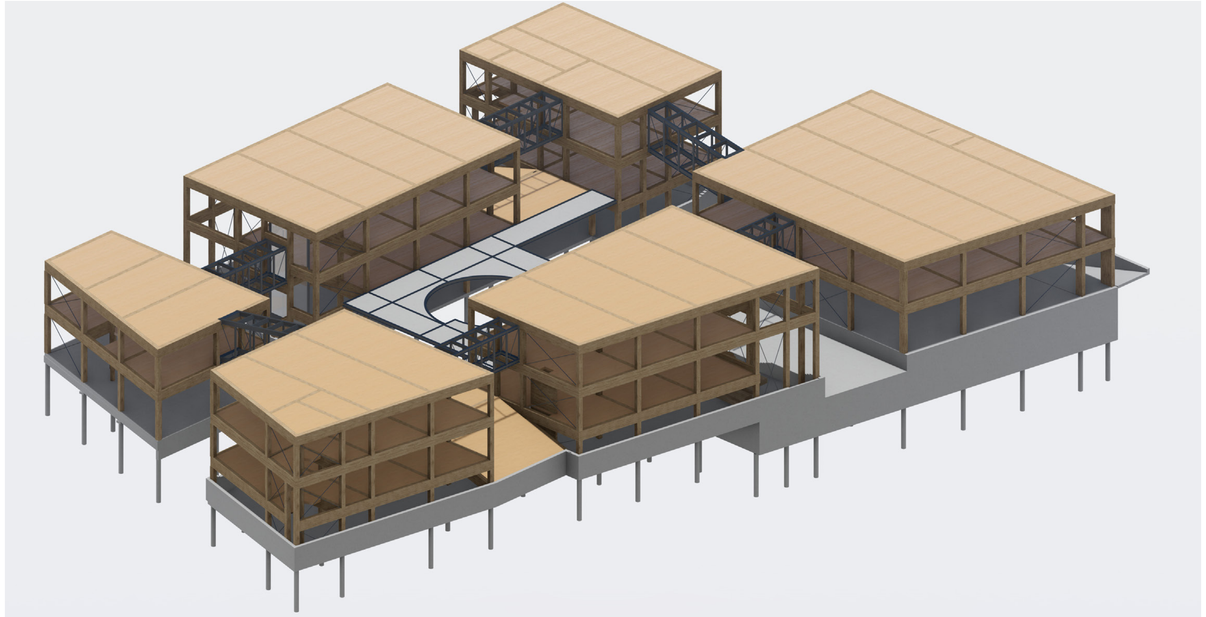
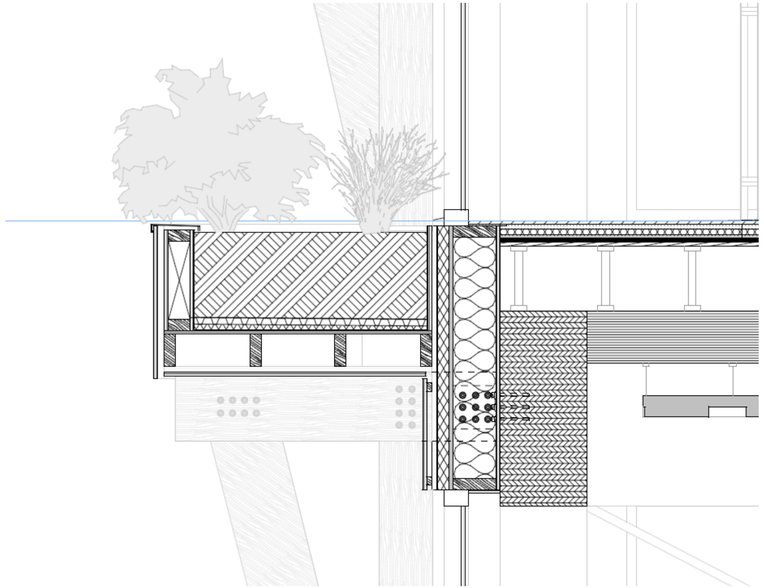


1. Public living room
2. Senior's lounge
3. Public kitchen
4. Multi-faith room
5. Dance studio
6. Repetition spaces
7. Exhibition space
8. Recording studio
9. Guitar studio
10. Piano studio
11. Editing studios




**Building level +6500 mm**


10 500 mm
8 500 mm
6 500 mm
4 500 mm
2 500 mm
0 mm
-1 500 mm


10 500 mm
8 500 mm
6 500 mm
4 500 mm
2 500 mm
0 mm
-1 500 mm