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CARESCAPES

toward a careful imagination for the liveability of young fluidly housed adults in Brussels

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Cover: building in Rue de la Loi, Brussels
Photograph by Max Schuska
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This project has been a deeply eye-opening and transformative experience, and I feel incredibly grateful to the many wonderful people who walked beside me throughout this journey.
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To everyone who generously gave me their time, their stories, and their trust—thank you. Your contributions are woven into the heart of this thesis, and I carry them with deep respect and gratitude.
I would also like to thank the DAAD for supporting my studies, which made it possible for me to finish my Master's at TU Delft, and the Philipp Spangenberg Travel Grant, which allowed me to travel, explore, and listen closely to the city.
Finally, a heartfelt thank you to my fellow graduates; to Mahaa and the Atlantis team; the POLIS board; Tigist, Juliana, Irene, Gregory, Dara, and other engaged people I met at the faculty who left a meaningful mark on my studies; and to our studio coordinators, Daniela and Alex. Your encouragement, solidarity, and companionship transformed this intense journey into one filled with learning, laughter, and a profound sense of shared purpose.

This thesis was more than an academic project—it was a personal journey of learning, connection, and care. Thank you all for being a part of it.

abstract

This thesis explores how the built environment can be designed to offer the potential to be activated by young, fluidly housed adults in Brussels—a group that continuously navigates unstable living conditions, from temporarily staying with friends or family, to occupying squats, to occasionally sleeping on the streets.

The project adopts a mixed-method approach, placing active processes of care and collective agency at its core.

It begins by contextualizing the broader issue of 'homelessness' and the specific urban conditions in Brussels. Building on this, the thesis uncovers the socio-spatial realities of young fluidly housed adults through a needs-based approach. Using literature review, ethnographic mapping, and informal conversations, it identifies eight key satisfiers and four interconnected systems that have the potential to improve liveability for this demographic.

These socio-spatial needs are then spatialised using three methods. First, ethnographic mapping in Schaerbeek West and the broader 'Poverty Crescent' identifies existing socio-spatial conditions with potential for bottom-up activation. Second, pattern language is applied to connect observed patterns of care and resistance with the previously defined satisfiers, enabling these insights to be scaled across multiple levels while highlighting the top-down actions needed to support grassroots initiatives. Third, environment-behaviour studies—specifically angular choice and angular integration analysis—are used to identify five key intervention sites within Schaerbeek West and to operationalize this process that can be applied in other contexts.

In the final phase, design explorations are carried out in the five identified locations to test how the previously defined patterns can be applied to shape the urban fabric through careful interventions. These explorations aim to create environments that young, fluidly housed adults can actively engage with and adapt to meet their needs—demonstrating how the built environment can foster more just and adaptable spaces that form an infrastructure of collective care and agency, ultimately improving the liveability of young, fluidly housed adults in a tangible way.

Addressing the housing crisis requires both long-term, top-down reform and immediate, ground-level action. While this approach does not resolve the systemic challenges of the housing crisis, it enables urgent, bottom-up improvements in liveability by placing young, fluidly housed adults at the center—as agents of care driving this transition. Both pathways are essential: one demands time, while the other can begin right now.

Keywords:
Careful Design; Collective Agency; Fluidly Housed; Human Rights; Insurgent Urbanism; Needs-Based Urbanism; Pattern Language; Radical Spatial Imagination; Youth Homelessness

Fig. 0.2: Some of my peers in front of squatted building in Rue de la Loi, Brussels Photograph by Max Schuska

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Fig. 0.3: Rue de la Loi, Brussels Photograph by Max Schuska

‘Homelessness is one of the most extreme forms of social exclusion, negatively affecting people’s physical and mental health, well-being, and life expectancy, as well as their access to employment and access to other economic and social services.

The phenomenon of homelessness affects all Member States and has increased substantially over the last decade in the EU.

European institutions, EU governments and civil society have committed to working together towards combatting homelessness in the EU.’

(European Comission, 2024)

Fig. 0.4: Empty Building in Schaerbeek, photograph taken by author

01

introduction

This chapter provides background information on the topic. It begins with my positionality and personal motivation, and introduces key terms through a glossary.

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Fig. 1.1: Author during fieldwork in Brussels, Photograph by Max Schuska, 2023

positionality

I am an Urbanism Master's student at TU Delft, and at the time of writing this thesis, I am 29 years old. I am a white European female cis-gender individual from Germany and the first in my family to pursue higher education. My parents divorced when I was 12, leaving my father as a single parent to two children, placing us among the demographic most affected by poverty in Germany. Around the same time, my mother, who had previously worked as a cleaner, was forced to retire early due to mental health challenges. That experience taught me how quickly life can shift, and how profoundly one's path can be altered by circumstances beyond their control.

Having lived in 14 different rental homes, my understanding of home differs from that of many of my peers. For me, home is not tied to a single place, but is instead shaped by a combination of connections and experiences accumulated across different times and locations.

When I moved out at 16, I began to understand that while personal effort is important, it is not the only factor that shapes one's life. Sometimes, it takes people or networks willing to offer a chance to truly shift a life situation. This experience made it clear to me how essential a care infrastructure is—especially for those who do not have the stability or support of a so-called "storybook family". It also instilled in me a deep sense of empathy for those who are marginalized by systemic barriers.
I started working early on to support my studies. Many of these jobs were deeply shaped by patriarchal norms, and I often encountered objectification and skepticism simply because I am a woman. These experiences demanded resilience and determination. But they also gave me something invaluable: a feminist, intersectional perspective that deeply informs my design values today.

And this is where I learned from Tigist Kassahun Temesgen that our personal histories can become collective power. That we can transform our challenges—not just to survive or succeed—but to become change makers, ensuring others do not have to face the same barriers we did. The world, undeniably, is a complex and difficult place. Humans come with their own histories, traumas, and egos—often unintentionally shaping the lives of others.

You can understand these struggles on an intellectual level. But unless you have lived them, you may not truly feel them. And that is okay—because empathy does not require identical experience. It requires listening, humility, and the courage to imagine and shape a world where care, dignity, and justice are not exceptions, but foundations.

That is the kind of urbanism I strive to contribute to.

Why a positionality?

Every individual, including researchers, is shaped by personal experiences that influence their values and identity factors, such as race, class, and gender (Crenshaw, 2016; Frezer, 2022). These values and identity factors inevitably shape the positions we take in our research. For this reason, I find it essential to explicitly position myself at the outset of this thesis.
My understanding of positionality has been influenced by the example presented in *Und jetzt du: Rassismuskritisch leben* (And Now You: Living with a Critical Approach to Racism) by Tupoka Ogette (2023). While the topic of this thesis differs, it similarly seeks to raise awareness about a marginalized group. Inspired by Ogette's words, I echo her sentiment:

'Ich stehe nicht am Rand und nicke stumm, sondern ich rede, und ich höre nicht mehr auf'
[I do not stand on the sidelines and nod silently; instead, I speak, and I do not stop]

Fig. 1.2: Sketch of 14 homes I have lived in, made duringworkshop with Tigist Kassahun Temesgen, titled "Designing Equitable Cities through a Feminist Lens."

motivation

My interest in this topic was sparked during my Bachelor thesis at the University of Stuttgart in 2023. That same year, I visited Brussels for the first time and was captivated by its complexity and many layers. To me, it felt like a city that offers something for everyone, with its diverse built environment attracting a variety of people. As I explored further, I was struck by the visibility of roofless individuals in the city. Lacking the time, tools and expertise to delve into such a complex issue then, one observation during my visit stayed with me and became the seed that sparked the interest for this research.

In the Leopold district, home to towering office buildings and European Union governance structures, I witnessed a striking juxtaposition. While professionals in suits briskly entered European Commission buildings, they passed by small tents swaying in the wind. Conversations with both groups highlighted a stark contrast: the professionals admitted they disliked this part of the city and only visited for work, leaving to another area after work. Meanwhile, unhoused individuals expressed a desire to stay in the area but shared that they were not allowed to. This paradox - where some have the privilege to inhabit space within the city but choose not to, while others wish to stay but are excluded - profoundly influenced my perspective.

As I delved further into the topic, I came to understand that homelessness is rising globally, including in Europe. However, visible rough sleepers represent only a fraction of the issue. Many individuals affected remain largely invisible and are often overlooked in the discourse on how we shape our collective future - one of them being young fluidly housed adults.

To highlight the unique challenges faced by this group, I approached the topic through a lens of care - one that challenges our role as urban designers within broader systems of marginalization and underscores the value of systemic design in understanding complexity and shaping more equitable futures.

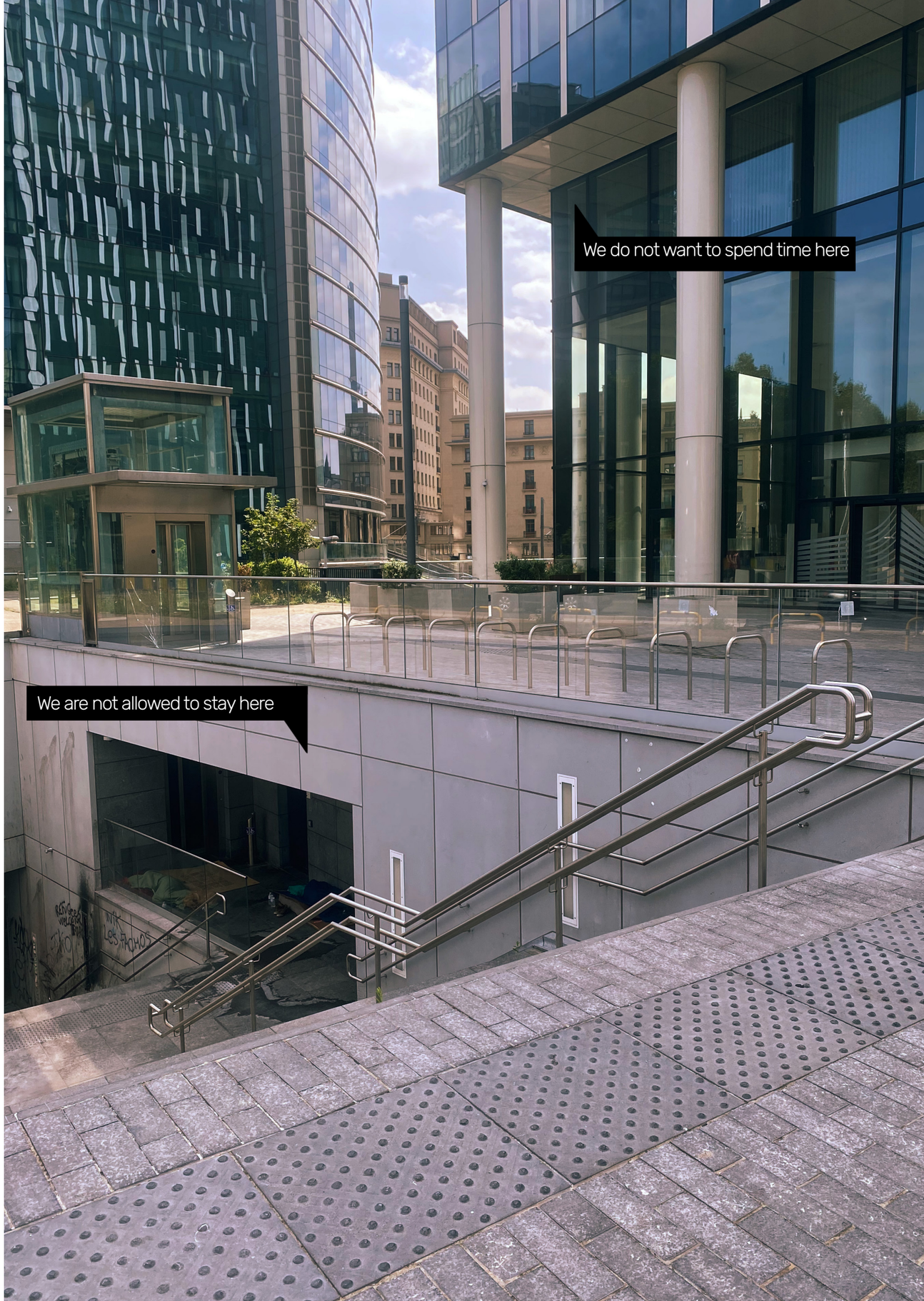

Fig. 1.3: Roofless individuals sleeping in front of one of European Comission's high rise building in Rue de la Loi, Brussels, 2024

glossary

CARE
A term shaped by feminist theory, emphasizing relationships, empathy, and responsibility for others, but taken from the understanding of Benice Fisher and Joan C. Tronto, who frame care not merely as an individual act but as a political process that society must collectively value, support, and organize.

Tronto and Fisher define care as *"a species activity that includes everything we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web"* (Tronto & Fisher in Tronto, 2019).

CARE-INFRASTRUCTURE
The sum of socio-spatial interventions designed to support young, fluidly housed adults by enabling them to actively engage with and benefit from these systems to meet their needs. These interventions form an interconnected web across the city, ensuring accessibility, proximity, and responsiveness.

This approach builds on a broader understanding of infrastructure as *"the sum of all public and private institutions that are considered necessary for adequate public services and economic development"* (Bibliographisches Institut, 2016), but reframes it through a lens of care and relational support.

CAREFUL IMAGINATION
Based on the term 'radical spatial imagination' introduced to me by Irene Luque Martín, which deeply resonated with my approach. It frames "radical" as the effort to uncover and address the root causes of spatial injustice, positioning urban design as a tool to imagine and construct more equitable futures. In doing so, it opens a discussion on how we envision our collective future and the spaces we inhabit.

Rooted in Henri Lefebvre's understanding of space—not as a neutral backdrop, but as something actively produced by society and that, in turn, shapes it—careful imagination invites us to understand and value what already exists. It seeks small but meaningful interventions that create conditions for space to be activated through collective processes of care, opening up endless possible futures. In this way, design becomes a tool that individuals or communities can activate to meet their needs and this way "hack" the systems that sustain inequality.

FLUIDLY HOUSED
Individuals who experience fluctuating conditions of housing precarity—sometimes staying in occupied buildings, couch-surfing with friends, or enduring periods of rough sleeping. This group may be "at home" across changing accommodations within the same city.
This definition is based on fieldwork observations and recognizes that while the FEANTSA (Feantsa, 2024) definition of homelessness encompasses a wide spectrum of housing exclusion, the term "homeless" often carries a stigma and is closely associated with rooflessness. As a result, many fluidly housed young people do not identify with this label, as it fails to capture the nuance of their lived experience and self-perception.

HOMELESS / UNHOUSED
Includes any individual who is not living in a home of their own, encompassing people who are sleeping rough, living in institutions, or temporarily residing with friends or family due to a lack of affordable housing.
(Feantsa, 2024)

Despite the stigma often associated with homelessness, it is important to recognize that this situation is rarely the fault of the individual. Instead, it is typically the result of systemic failures.

HOMELESS YOUTH
'Youth homelessness occurs where an individual between the ages of 13 and 26 is experiencing rooflessness or houselessness or is living in insecure or inadequate housing with- out a parent, family member or other legal guardian.'
(Feantsa, 2020)

LIVING ROUGH/ROOFLESS
Living in the streets or public spaces without a shelter that can be defined as living quarters
(Feantsa, 2024)

PRECARIOUS LIVING SITUATION
This term is often used to describe the living situations of people who are at risk of homelessness but may not yet be fully without shelter. Those include couch surfing, living in shelters or institutions or in bad conditions and overcrwoding
(Feantsa, 2024)

INTROVERTED AND EXTROVERTED
Based on the understanding of people as introverts—who gain energy from internal thoughts and deep, meaningful interactions—and extroverts—who are energized by social activity and external engagement (Sutton, 2025)—I define corresponding socio-spatial needs and conditions.

Introverted socio-spatial needs: describe those needs that are best met in spaces that support privacy, quiet, and retreat, such as for sleeping, hygiene, or focused activities.

Extroverted socio-spatial needs: describe those needs that are best met in spaces that foster connection, solidarity, and togetherness, such as community kitchens or collaborative workshops.

Fig. 1.4: Rue de la Loi, Brussels
Photograph by Max Schuska

02

problem analysis

This chapter introduces the broader problem field on homelessness in Brussels and the term young fluidly housed adults by outlining the broader problem field. It concludes with a clear problem statement, followed by the research aim, relevance and research questions.

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Fig. 2.1: Rue de la Loi, Brussels, Banner in front of a squatted house. Photograph by Max Schuska

‘Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.’

(Universal Declaration of Human Rights;
Art. 25.1, United Nations, 1984)

rising homelessness in europe

Homelessness is on the rise globally, and European cities are no exception (European Parliament, 2023). In response to this growing crisis, European institutions, national governments, and civil society actors have pledged to work collectively toward eradicating homelessness within the EU (European Commission, 2024).

A central actor in this field is FEANTSA—the European Federation of National Organisations Working with the Homeless. Since its founding in 1989, this NGO has played a vital role in shaping policy, fostering dialogue between governments and institutions, and producing critical research on homelessness and housing exclusion across Europe (FEANTSA, 2011, 2021, 2023, 2024; FEANTSA et al., 2019).

Among its key initiatives is a European-wide census aimed at making visible the scale and diversity of homelessness. The graphic on the right visualizes the number of people counted as experiencing homelessness in each country. Yet despite such efforts, accurately capturing the full scope of housing exclusion remains a major challenge.

Two issues persist: first, the lack of comprehensive, consistent data across member states; and second, the invisibility of many affected individuals, whose precarious living situations often fall outside conventional definitions and measurement tools (FEANTSA, 2021).

As a result, the countries with the lowest recorded numbers are not necessarily those with the lowest number of people affected—highlighting the limitations of current metrics and the importance of critical engagement with quantitative data.

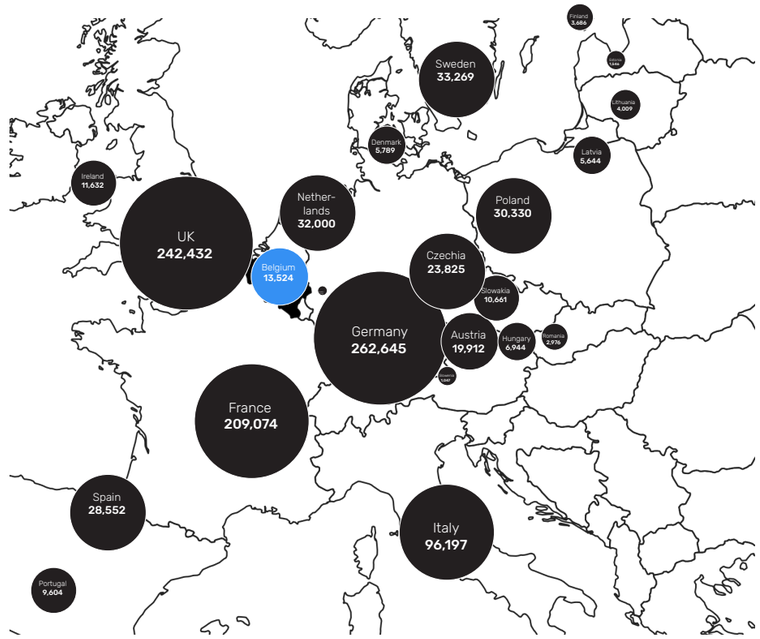


Fig. 2.2: Counted People affected by Housiung Exclusion in Europe (Feantsa, 2024; opendatasoft, n.d.).

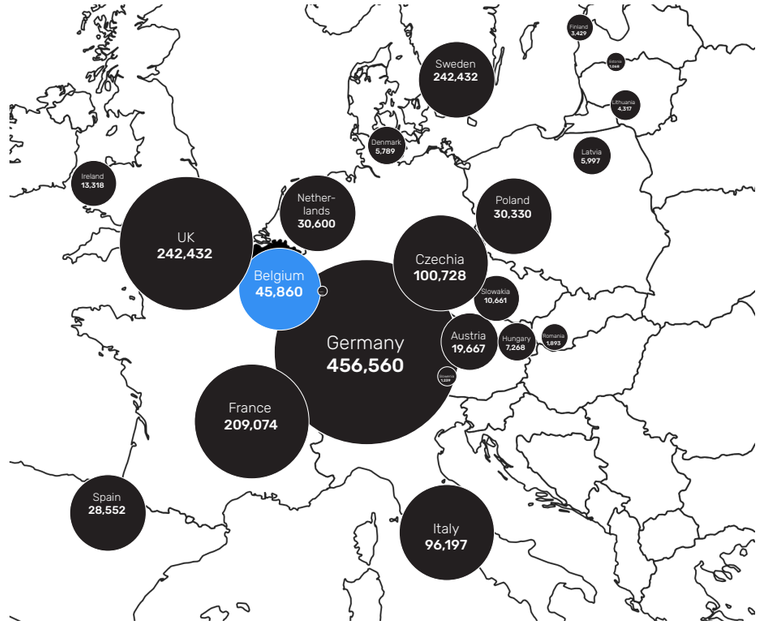


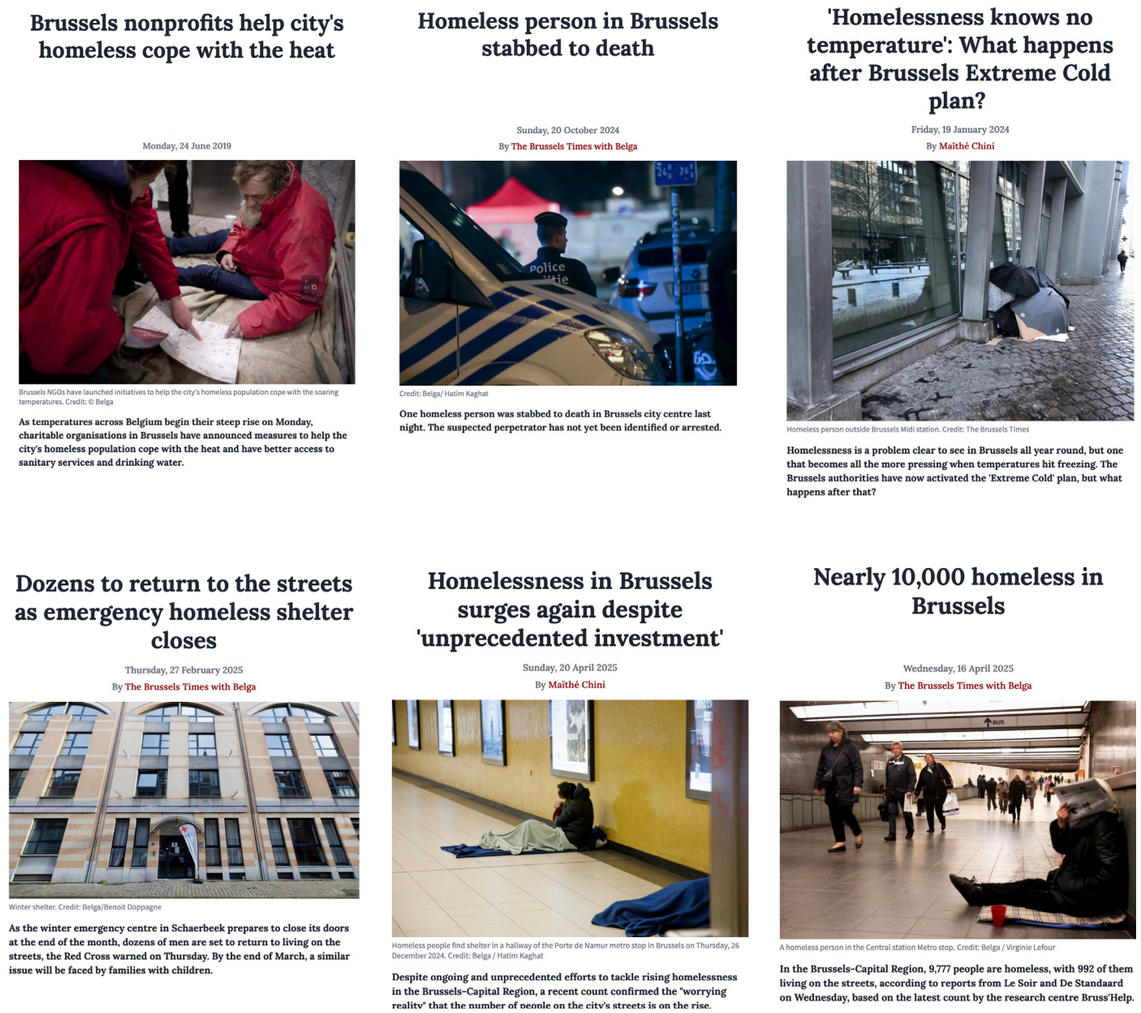
Fig. 2.3: Counted People affected by Housiung Exclusion in Europe (Feantsa, 2024; opendatasoft, n.d.)

stigma, exclusion and vulnerability

Numbers alone cannot capture the everyday realities of those experiencing homelessness—particularly the most visible and vulnerable. Those who sleep rough or stay in emergency shelters often endure the harshest consequences of housing exclusion—and the most entrenched stigma. While these individuals are typically the public face of "homelessness," their lived realities are far more severe than this reductive image suggests. Many shelters, intended as places of refuge, fall short: they are often overcrowded, operate under restrictive rules, or feel unsafe—especially for women, LGBTQ+ individuals, and other vulnerable groups. As a result, many avoid them altogether, seeking rest in public spaces. Yet even there, they face active exclusion (FEANTSA, n.d.).

Hostile architecture—benches with dividers, spikes, or sloped surfaces—discourages rest, while the absence of safe, sheltered alternatives leaves people exposed to violence, harassment, and extreme weather. The consequences can be devastating: injuries, dehydration, hypothermia, or even death (Brox et al., 2023; Bloh et al., 2021).

This public, visible form of homelessness reinforces a deeply entrenched social stigma. Homelessness is often imagined narrowly—as someone begging or sleeping rough—reducing individuals to a dehumanizing stereotype. This oversimplified image distorts the reality of housing exclusion and obscures the diversity, complexity, and invisibility of many people's experiences.



Brussels nonprofits help city's homeless cope with the heat

Monday, 24 June 2019

Brussels NGOs have launched initiatives to help the city's homeless population cope with the soaring temperatures. Credit: © Belga

As temperatures across Belgium begin their steep rise on Monday, charitable organisations in Brussels have announced measures to help the city's homeless population cope with the heat and have better access to sanitary services and drinking water.

Homeless person in Brussels stabbed to death

Sunday, 20 October 2024
By The Brussels Times with Belga

Credit: Belga/ Hatim Kaghat

One homeless person was stabbed to death in Brussels city centre last night. The suspected perpetrator has not yet been identified or arrested.

'Homelessness knows no temperature': What happens after Brussels Extreme Cold plan?

Friday, 19 January 2024
By Maïthé Chini

Homeless person outside Brussels Midi station. Credit: The Brussels Times

Homelessness is a problem clear to see in Brussels all year round, but one that becomes all the more pressing when temperatures hit freezing. The Brussels authorities have now activated the 'Extreme Cold' plan, but what happens after that?

Dozens to return to the streets as emergency homeless shelter closes

Thursday, 27 February 2025
By The Brussels Times with Belga

Winter shelter. Credit: Belga/Benoit Doppagne

As the winter emergency centre in Schaerbeek prepares to close its doors at the end of the month, dozens of men are set to return to living on the streets, the Red Cross warned on Thursday. By the end of March, a similar issue will be faced by families with children.

Homelessness in Brussels surges again despite 'unprecedented investment'

Sunday, 20 April 2025
By Maïthé Chini

Homeless people find shelter in a hallway of the Porte de Namur metro stop in Brussels on Thursday, 26 December 2024. Credit: Belga / Hatim Kaghat

Despite ongoing and unprecedented efforts to tackle rising homelessness in the Brussels-Capital Region, a recent count confirmed the "worrying reality" that the number of people on the city's streets is on the rise.

Nearly 10,000 homeless in Brussels

Wednesday, 16 April 2025
By The Brussels Times with Belga

A homeless person in the Central station Metro stop. Credit: Belga / Virginie Lefour

In the Brussels-Capital Region, 9,777 people are homeless, with 992 of them living on the streets, according to reports from Le Soir and De Standaard on Wednesday, based on the latest count by the research centre Bruss'Help.

Fig. 2.4:
Newsarticles from
The Brussels Times
2019-2025

the multifaceted reality of homelessness

To counter this, FEANTSA developed the European Typology of Homelessness and Housing Exclusion (ETHOS)—a framework that challenges conventional definitions and reflects the full scope of housing precarity across Europe. ETHOS identifies homelessness as a spectrum of situations. This includes rooflessness, referring to people living rough or in emergency shelters, and houselessness, which includes those in temporary institutions, shelters, or migrant accommodation. It also encompasses insecure housing, such as people under threat of eviction, experiencing domestic violence, or lacking legal tenancy—conditions often labeled as hidden homelessness. Finally, it covers inadequate housing, including unfit, overcrowded, or non-conventional dwellings like mobile homes (FEANTSA, n.d.).

Recognizing the multifaceted nature of homelessness is essential. It marks a critical first step in dismantling harmful stereotypes, addressing stigma, and fostering a more accurate, compassionate, and inclusive discourse around housing exclusion.

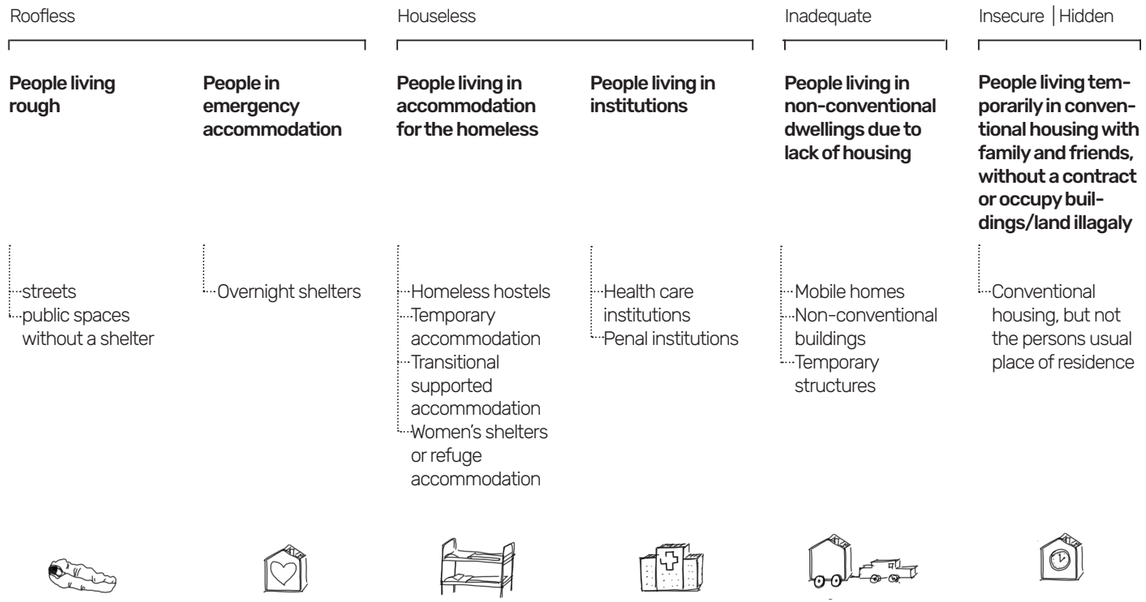


Fig. 2.5: Categorisation of homelessness in 6 different ETHOS light categories, (Feantsa, 2024).

homelessness trends in brussels

In Belgium, an estimated 45,860 people were experiencing homelessness in 2022. Larger cities, such as Brussels, report significantly higher numbers. In the capital alone, 7,136 people were counted as unhoused in 2022—an alarming increase of over 300% since 2008 (FEANTSA, 2022). The graphic on the right presents the distribution of these figures across ETHOS Light categories, underscoring the urgent need for more effective and inclusive interventions. These figures are based on a census conducted by Bruss'help, which organizes biennial counts with the support of volunteers.

I participated in the most recent census, held on November 6, 2024, between 11 PM and midnight. That night, 9,777 individuals experiencing homelessness were recorded in Brussels (Bruss'help, 2025). This sharp rise likely reflects an increase across all ETHOS categories, including those forms of hidden homelessness captured under categories 3 through 6.

The pathways into homelessness are as diverse as the people affected. Structural factors—such as poverty, a lack of affordable housing, and weakened welfare systems—intersect with personal, relational, and institutional vulnerabilities. These may include mental health challenges, domestic abuse, poorly coordinated transitions from hospitals, prisons, or foster care or strokes of fate (FEANTSA, n.d.).

Importantly, there is no single "type" of person who becomes homeless. While middle-aged, single men still represent a substantial portion of service users, increasing numbers of women, young people, migrants, and families are now affected (FEANTSA, n.d.; Eurocities, 2023).

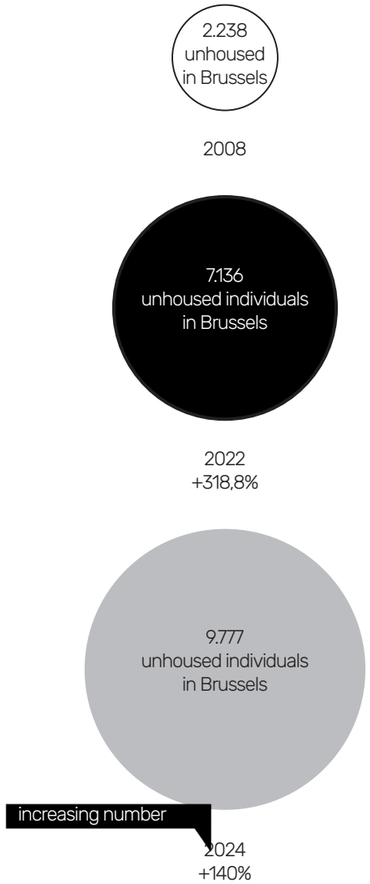


Fig. 2.6: Amount of unhoused individuals in Brussels estimated according to biannual counts by Bruss'Help and estimation about rise in 2024, made by author, retrieved from (Bruss'help, 2022)

estimated unhoused individuals in Belgium

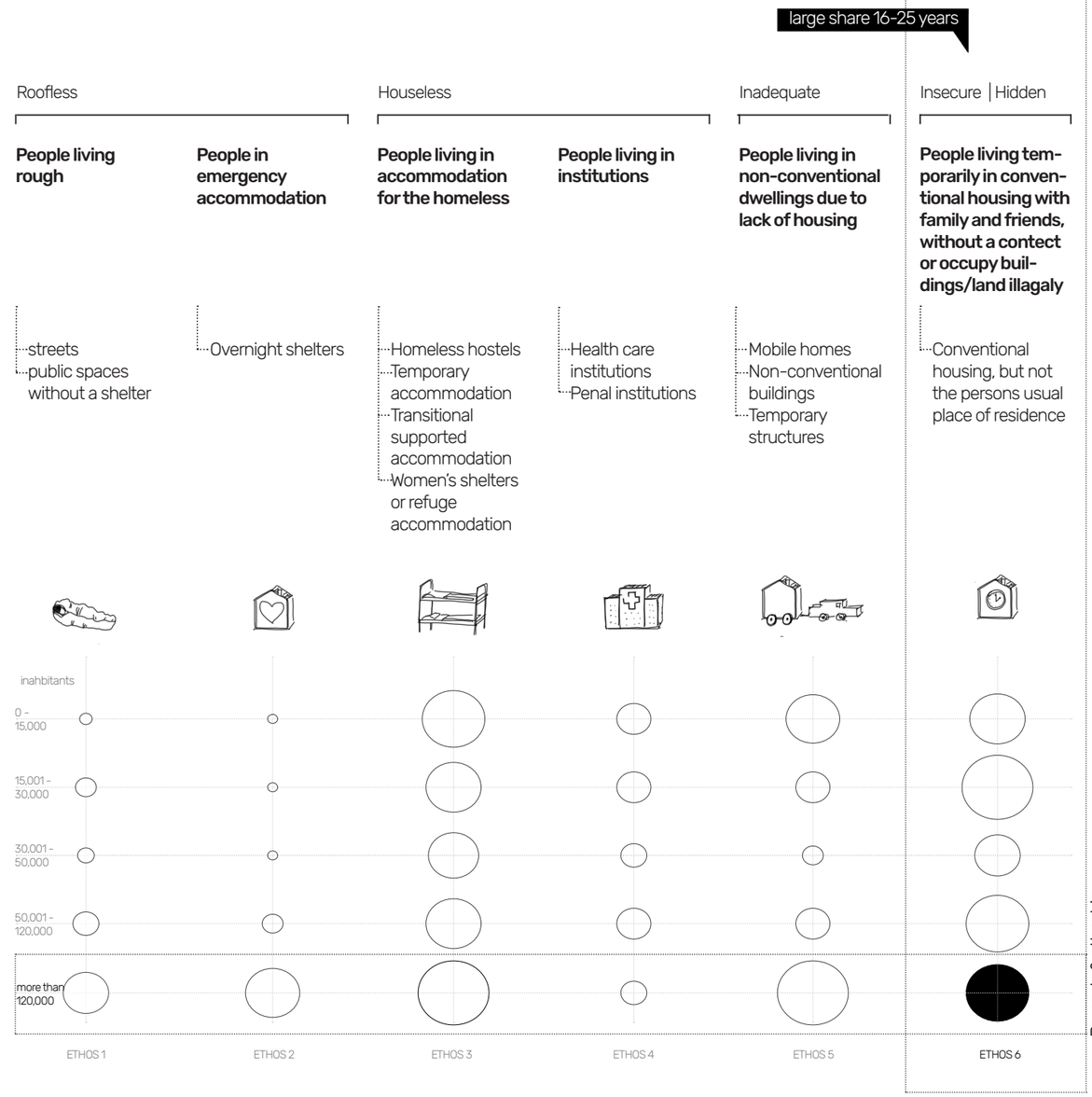


Fig. 2.7: Distribution of people counted by ETHOS light category and city size in 2022/23, modified by author highlighting hidden homelessness in cities with more than 120,000 inhabitants, (Feantsa, 2024).

rising youth homelessness

Young people experiencing homelessness are a demographic often overlooked in policy and research discussions. One major reason is the absence of a universally agreed definition of homelessness at both EU and national levels. While all cities contributing to the Eurocities report Ending Youth Homelessness (2023) included individuals living in shelters or emergency accommodation, 92% also counted those sleeping rough. However, only 60% of cities included people living in institutions, and just 56% considered individuals temporarily staying in conventional housing with family or friends.

Another barrier to effective data collection is the inconsistent definition of 'youth'. Although most cities classify youth as individuals aged 18 to 25, the age range varies widely—from as young as 7 in some countries to up to 30 in others (Eurocities, 2023). Additionally, there is significant variation in how data is collected, making cross-city comparisons difficult. Instead, the report aims to highlight the alarming trend of increasing youth homelessness across European cities.

Youth experiencing homelessness form a diverse and heterogenous group. A significant proportion are care leavers—young people transitioning out of institutional care systems (Eurocities, 2023). However, homelessness among youth is not limited to this group. Many face multiple, overlapping challenges typical of adolescence and early adulthood—a critical period of physical, cognitive, and emotional development (FEANTSA, 2020; Oxford Languages, 2025). These young people often contend with issues such as leaving school without qualifications, struggling to enter the job market, re-entering society after a period in prison, or navigating life in a new country (Eurocities, 2023).

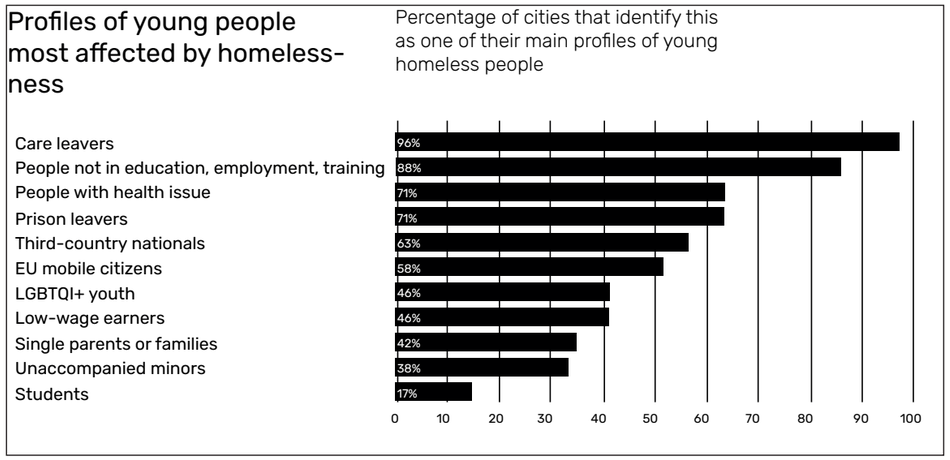


Fig. 2.8: Statistics of youth homelessness, modified by author, (Euro Cities, 2023).

drivers of youth homelessness

The multiple systemic crises currently affecting Europe are contributing significantly to the rising trend in youth homelessness.

One of the most critical factors is the combination of an increasingly unaffordable housing market and insufficient income, which disproportionately impacts young people attempting to secure stable housing. In addition to financial barriers, young people often face other significant challenges, including mental and physical health issues, family conflict or trauma, the absence of identity documents, inequalities with the educational system and a limited social support network—all of which are key drivers of youth homelessness (Eurocities, 2023).

To effectively address the complex issue of rising youth homelessness, the Eurocities report on Ending Youth Homelessness outlines several critical actions and strategies. These strategies encompass the vision and practices of cities working to combat youth homelessness and the significant steps that need to be taken at the EU, national, and local government levels to drive meaningful change (Eurocities, 2023). The report emphasizes the following key areas for action:

- Understanding and addressing the unique challenges of youth homelessness
- Prioritizing prevention efforts
- Enhancing mental health and well-being support
- Improving access to housing and Hosuing First4Youth
- Promoting the economic independence of young individuals
- Fostering collaboration across multiple levels of governance and with various stakeholders
-Developing young people's skills
-Actively reaching out to those in need instead of waiting for them to seek help

Complicated pathways: One in five homeless people is a young adult

Monday 10 October 2022

By Lauren Walker

'he Bernadettewijk, in Ghent, where houseless people, among other, occupy dozens of houses. Credit: Belga/ Jonas D'Hollander

Children and young people suffering from lack of specialised crisis assistance

Tuesday 11 October 2022

Credit: Belga

'Hidden homelessness' in the Brussels Region exposed in new report

Thursday 21 September 2023

By The Brussels Times with Belga

Credit: Belga

At least 400,000 homeless minors in the EU, associations say

Monday 23 September 2024

By The Brussels Times with Belga

A woman playing with homeless refugee children living inside Brussels-North station. Credit: Belga / Nicolas Maeterlinck

One in five EU adults in their early 30s still live with their parents

Monday 3 June 2024

By Maïthé Chini

Credit: Canva

'No housing solution': When a squat closes down, where do its inhabitants go?

Tuesday 2 July 2024

By Ciara Carolan

Credit: Belga / Justin Namur

Fig. 2.9:
Newsarticles from The Brussels Times 2022-2025

distinct challenges of homeless youth

In Belgium, a recent study by KU Leuven, KU Gent, and UCLouvain found that one in five people experiencing homelessness (20.4%) are young adults aged 16 to 25 (Demaerschalk et al., 2024).

Young adults experiencing homelessness in Belgium exhibit distinct characteristics when compared to older homeless populations (Fig. 2.12). Among the 1,208 individuals aged 18 to 25 who were interviewed, nearly 40% were women—compared to just 30% among older homeless groups. Hidden homelessness, which includes staying with friends or family or residing in non-conventional housing due to the lack of alternatives, affected 45.9% of the young adults, while only 30% of older homeless individuals reported similar living situations. Furthermore, 37% of young respondents cited family or social conflicts as a primary cause of their homelessness, in contrast to only 12.3% among older counterparts (Van Noppen, 2022).

It is also important to consider the demographic composition of the sample. Of the 1,208 participants, over half were Belgian nationals, 24% had a history of being in care, 29.4% did not, and 30.4% were classified as 'newcomers'. These differences suggest that findings may vary significantly if the scope is expanded to include broader or more diverse populations.

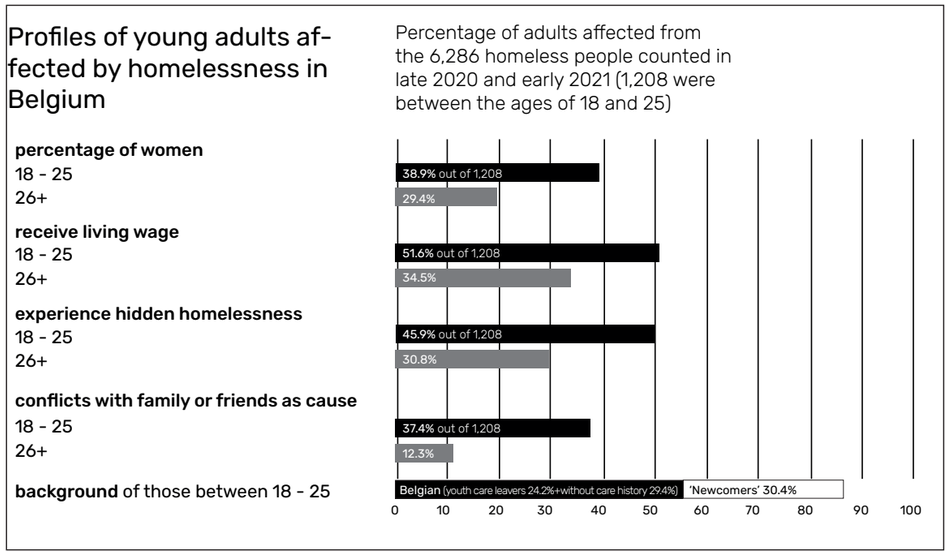


Fig. 2.10:
Statistics of youth homelessness in Belgium, modified by author, (Van Noppen, 2022).

different perception of own living situation

Given the wide variation in available data and its general insufficiency, I sought to better understand the lived realities of young people experiencing homelessness in Brussels. What stood out to me was that most of the people I spoke with were not aware of the broader ETHOS definition of homelessness. Instead, many connected the stigma surrounding homelessness with this term, describing people sleeping rough or in emergency shelters.

Additionally, the young people I spoke with who fall within this definition did not identify as "homeless." Many told me that they do not need a "home"; the whole city is their home. Instead, they often experience fluctuating housing conditions, moving between squats, friends' couches, temporary shelters, and periods of rough sleeping.

Despite these fluctuating conditions, the young people I spoke with demonstrated a strong sense of agency. They actively navigated systems not designed for them, built informal support networks, reclaimed public spaces, and developed creative, often resourceful strategies to meet their needs.

While this way of living may seem like an adaptive response to societal changes at first glance, it also leads to systemic marginalization, making tasks like voting or finding a job more difficult, as these often require a fixed address. Without one, access to basic human rights and services becomes severely limited.

Although some services are available for unhoused individuals, the lack of self-identification with the term "homeless" means many young people do not access the support provided. As a result, both their short-term needs—such as food, hygiene, and safety—and their long-term needs for agency and flexibility often go unmet.

Fig. 2.11: made by author, showing fictive faces of existing young people experiencing homelessness, made by author

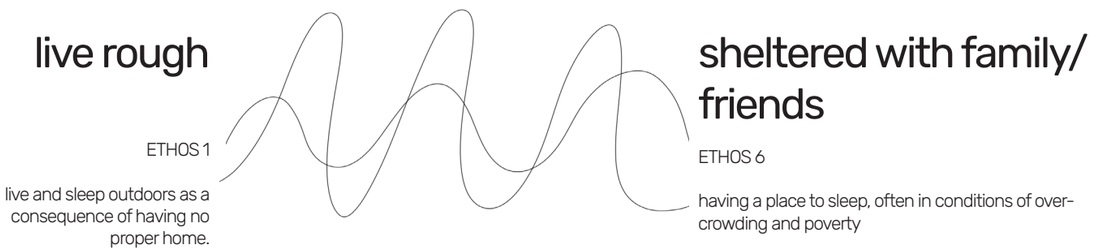


Fig. 2.12: showing living conditions fluctuating between ETHOS1 and ETHOS6m made by author, based on definition by FEANTSA, 2024.

To avoid stigma and more accurately reflect the lived reality of this group I propose the term “fluidly housed.” This term captures the precarious yet dynamic condition of young people who live a nomadic urban life, continuously shifting between moments of staying and moving within the city.

fluidly housed

ETHOS 1 - 6

individual experiencing fluctuating conditions of homelessness - sometimes being sheltered in occupied buildings, sometimes staying with friends, and at times enduring periods of rough living

Also: Being at home in changing accommodations within the same city.

realtions to and gaps in SDGs

The 2030 Agenda for Sustainable Development, adopted by all UN Member States in 2015, provides a shared framework for fostering global peace and prosperity, both in the present and for future generations. At its core are the 17 Sustainable Development Goals (SDGs), which call for collective action from all nations—regardless of their level of development—through international cooperation.

The principle of "Leave No One Behind" serves as a guiding ethos for the SDGs, ensuring that efforts to combat poverty, hunger, and homelessness are inclusive and equitable. The SDGs emphasize that addressing inequalities must occur alongside tackling other critical challenges, such as eradicating poverty, enhancing healthcare and education, promoting economic growth, and mitigating climate change—all while protecting the planet's natural ecosystems.

In the following, I identified several overlapping targets with my project focusdefined by United Nations (2015) that are related to this topic.

Fig. 0.2: Related SDGs, retrieved from United Nations, 2025

y

Target 1.1 aims to eradicate extreme poverty (less than €2.50 a day).
Target 1.2 aims to halve the proportion of people living in poverty by 2030.

Poverty reduction efforts often rely on direct **financial assistance and social protection programs**, which are largely monetary in nature.

SDG 2: Zero Hunger
Target 2.1: Ensure access to safe, nutritious, and sufficient food for all people, especially the poor and vulnerable.
Target 2.2: End all forms of malnutrition, particularly among children and marginalized groups.

Homeless young adults often struggle with food insecurity due to limited financial resources.

Solutions include **political and financial strategies** to ensure access to nutritious meals and reduce food waste and **spatial solutions** like food banks and urban agriculture initiatives.

SDG 3: Health and well-being
Target 3.8 aims to achieve universal health coverage, which is crucial for homeless people, who often lack regular access to health services.

Homeless individuals, especially youth, often lack access to mental health care, addiction treatment, and preventive health services.

Solutions include **financial incentives** for free healthcare services, and community-based mental health programs and **socio-spatial interventions** like mobile clinics.

SDG 4: Quality Education
Target 4.1 aims to ensure that all youth and a substantial proportion of adults achieve literacy and numeracy by 2030.
Target 4.2 focuses on ensuring that all girls and boys have access to quality early childhood development, care, and pre-primary education.
Target 4.3 ensures equal access for all women and men to affordable and quality technical, vocational, and tertiary education.
Target 4.4 aims to increase the number of youth and adults who have relevant skills for employment and entrepreneurship.
Target 4.5 promotes the elimination of gender disparities in education and ensures equal access for the vulnerable.
Target 4.7 ensures that all learners acquire knowledge and skills to promote sustainable development and human rights.

Education initiatives often focus on inclusive programs, vocational training, and financial support to ensure marginalized youth, including the homeless, can access quality education. Measures to support this SDG include community learning centers, scholarships, and collaboration with NGOs to provide tailored educational resources.

SDG 5: Gender Equality
Target 5.1 aims to end all forms of discrimination against women and girls everywhere.
Target 5.2 focuses on eliminating violence against women and girls, including trafficking and sexual exploitation.

Young fluidly housed adults are more frequently women and LGBTQ+ individuals. Many experience familial rejection or violence due to their gender identity or sexual orientation, making community support more crucial.

Efforts to achieve gender equality often include community awareness campaigns, mentorship programs, and safe spaces to promote inclusion and support.

SDG 6: clean water and sanitation
Target 6.1 aims to ensure access to safe and affordable drinking water for all
Target 6.2 focuses on sanitation and hygiene.

These targets are essential for homeless people who struggle to access basic services, affecting their health and dignity.

Specific actions include infrastructure improvements, toilets, waste management, water resource protection, national water policies, pollution monitoring and river restoration.

SDG 8: Decent work and economic growth
Target 8.5 aims to achieve full and productive employment, including for vulnerable groups such as the homeless.

This target emphazises economic growth, job creation and fair wages - **financial incentives** to increase employment and economic stability, which can help prevent homelessness.

SDG 10: Reduced inequality
Target 10.2 promotes social, economic and political inclusion for all, which addresses the marginalization of homeless people.

Measures to reduce inequality under this SDG, such as income redistribution, social transfers and financial assistance, are **primarily monetary** interventions.

SDG 11: Sustainable cities and communities
Target 11.1 focuses on ensuring access to adequate, safe and affordable housing for all by 2030.

While this target includes **infrastructure and housing**, many related **initiatives are financially driven**, including housing subsidies, affordable housing programmes, and urban development funds to reduce homelessness.

SDG 13: Climate Action
Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
Target 13.3: Improve education, awareness, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning.

While these targets focus on enhancing resilience and integrating climate measures, homeless individuals are particularly vulnerable to climate change impacts due to their lack of stable housing. Initiatives aimed at climate adaptation and disaster preparedness can significantly benefit these populations. Community farming can play a critical role in providing local food sources, improving community resilience, and offering educational opportunities related to sustainable practices. Additionally, community farming initiatives can create safe spaces for homeless individuals, helping to mitigate the adverse effects of climate change while fostering community ties and support networks.

SDG 16: Peace, Justice and Strong Institutions
Target 16.3: Promote the rule of law and ensure equal access to justice for all.
Target 16.9: Provide legal identity for all, including birth registration.

Many homeless individuals lack legal documentation, which restricts access to housing, healthcare, and employment. Addressing this issue involves simplifying identity registration processes, ensuring legal protections, and preventing discrimination against homeless populations.

While the targets of the SDGs are essential and must be pursued to achieve long-lasting change, two significant gaps remain—both of which can be addressed from an urbanist perspective:

Slow implementation—Despite the relevance of the proposed strategies, their adoption remains limited, and the pace of change is too slow to address the urgency of the crisis.

Lack of spatial insight—Many of the targets focus on monetary incentives rather than spatial action. Additionally, there is a lack of understanding regarding how to spatially implement change through urban design and planning. As a result, the built environment often continues to marginalize young people rather than support their evolving needs.

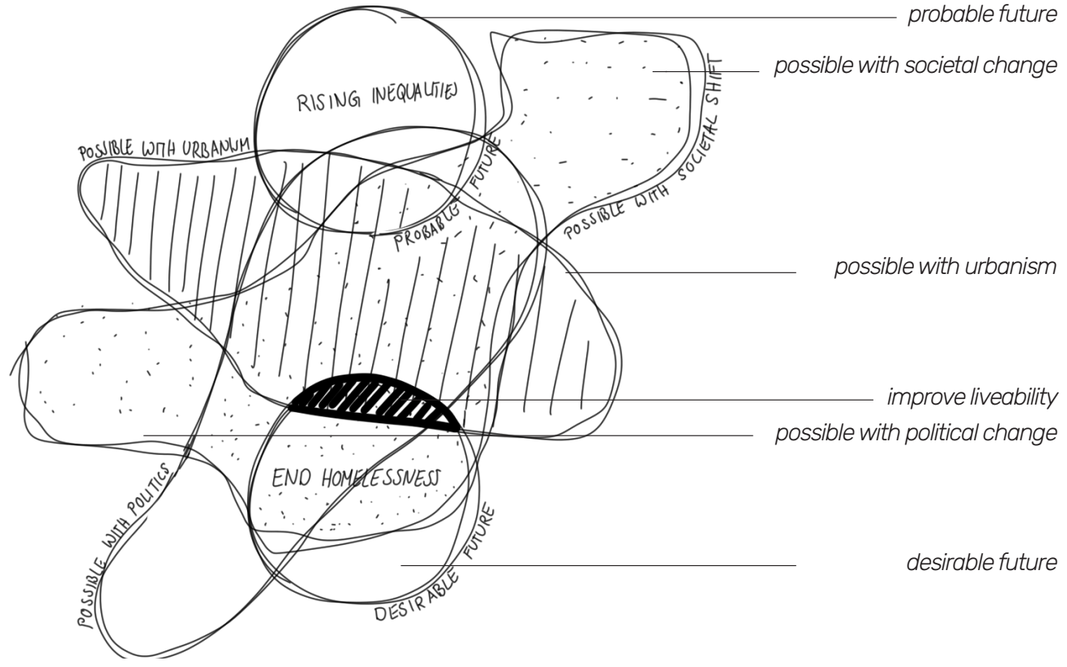


Fig. 2.13: spatial knowledge gap, made by author, inspired by Eames' Design Diagram (1969) and the ‚Kleine Methodologie voor Ontwerpend Onderzoek' by Jong (1992)

Despite the alarming rise in youth homelessness across Europe, there remains a significant gap in reliable knowledge about this group. The lived experiences of young fluidly housed individuals often diverge from the frequently associated image of roofflessness, and the stigma associated with the term prevents many from identifying as homeless. This lack of self-identification limits engagement with available services, and, coupled with systemic marginalization, the needs of young fluidly housed adults remain largely unmet — both in terms of short-term satisfiers, such as access to food, and long-term satisfiers, such as stability, autonomy, and solidarity.

Although highly relevant policy strategies are being developed, a critical gap remains in understanding the socio-spatial conditions needed to implement these measures effectively within the urban fabric of Brussels. As a result, implementation is proceeding too slowly to address the urgency of the crisis.

To address this complex issue, my thesis explores how urban design can help improve the relationship between young fluidly housed adults and their living environment—a relationship known as liveability (Van Dorst, 2011).

To examine the spatial componment, I use the term “infrastructure of care.” This builds on a broader understanding of infrastructure as “the sum of all public and private institutions that are considered necessary for adequate public services and economic development” (Bibliographisches Institut, 2016), but reframes it through a lens of care and relational support. Here, care is understood as a fundamental, species-level activity that includes “everything we do to maintain, continue, and repair our ‘world’ so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web” (Tronto & Fisher in Tronto, 2019).

With this framing, I aim to understand how urban design can offer socio-spatial potentials that can be activated from the bottom up by young, fluidly housed adults, enabling them to meet their needs and improve their everyday liveability through active processes of care.

project aim

research questions

subquestions

What socio-spatial interventions can foster an ‘infrastructure of care’ in Brussels, that offers young fluidly housed adults the potential to activate the urban fabric through socio-spatial processes of care, thereby improving their liveability?

SQ1 Understanding Liveability
What are the socio-spatial needs of young fluidly housed adults in Brussels?

SQ2 Infrastructure of Care
Which socio-spatial patterns can form an ‘infrastructure of care’ that responds to these needs?

SQ3 Activating Space
How can the urban fabric in Brussels be activated through socio-spatial processes of care to improve liveability for young fluidly housed adults?

Fig. 2.14: Rue de la Loi, Brussels Photograph by Max Schuska

03

methodology

This chapter outlines the diverse methods and approaches used to answer the research questions. It begins by presenting the theoretical body of knowledge and the key concepts underpinning the research, which are summarised in the conceptual framework. This is followed by an explanation of the methodology used to address the research questions. The chapter concludes by reflecting on ethical considerations and outlining the graduation process.

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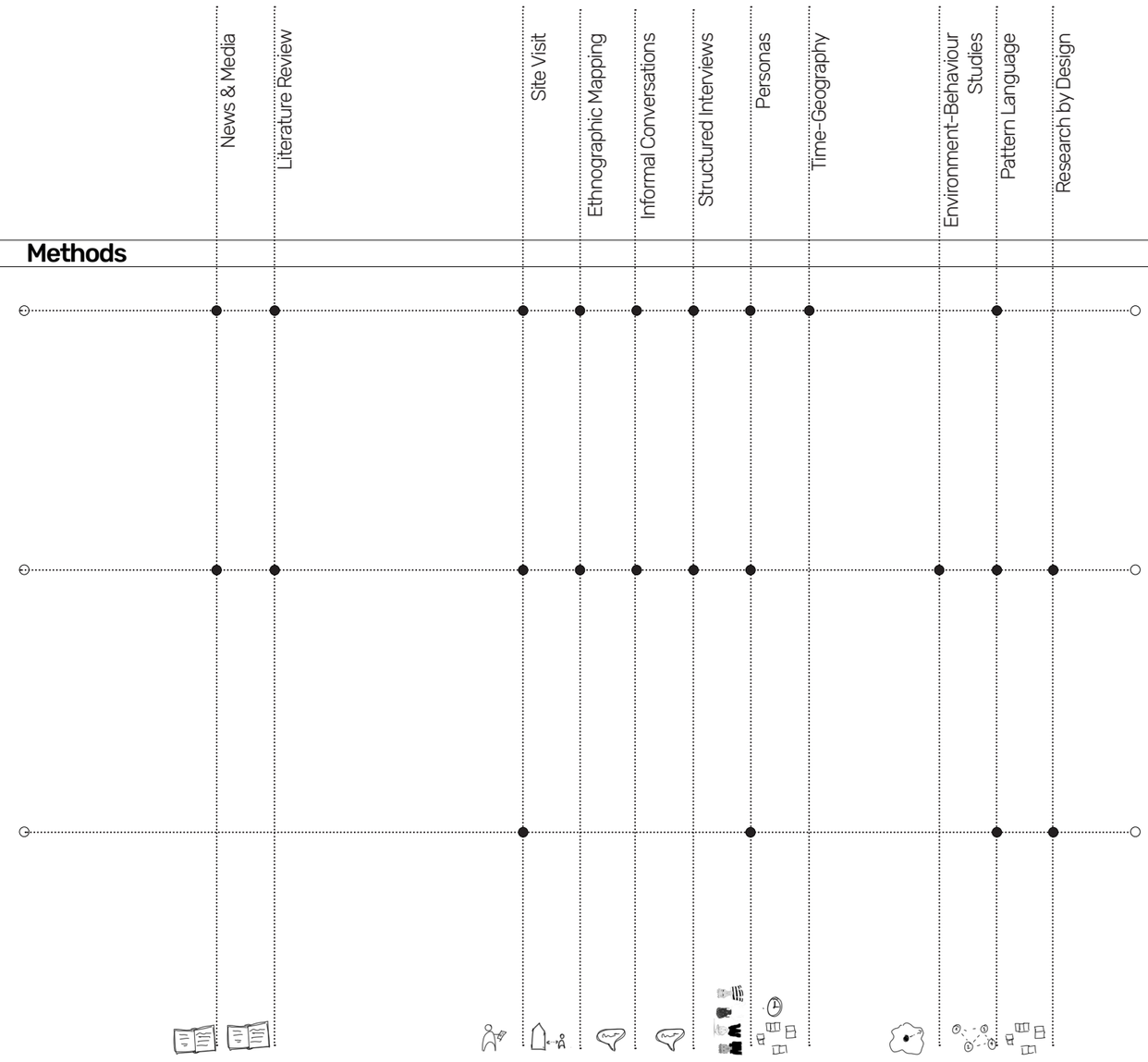
Fig. 3.1: Rue de la Loi, Brussels Photograph by Max Schuska

research structure

What socio-spatial interventions can foster an ‘infrastructure of care’ in Brussels, that offers young fluidly housed adults the potential to activate the urban fabric through socio-spatial processes of care, thereby improving their liveability?



Subquesions	Aim	Methods	Intended Outcome
SQ1 Understanding Liveability **What are the socio-spatial needs of young fluidly housed adults in Brussels?**	To understand the systemic barriers that marginalize young fluidly housed adults and to explore their potential to activate the urban fabric in ways that respond to their socio-spatial needs.		To illustrate the multifaceted living situations of young fluidly housed adults by developing a set of diverse personas. These personas will visualize how individuals navigate the urban environment through Hägerstrand time-geography maps, revealing patterns of movement, spatial exclusion and informal networks in Brussels.
SQ2 Infrastructure of Care **Which socio-spatial patterns can form an ‘infrastructure of care’ that responds to these needs?**	To understand which socio-spatial conditions in Brussels provide opportunities to be activated by young fluidly housed adults in ways that meet their needs.		A set of maps highlighting spatial conditions that enable various forms of activation, and a pattern language outlining socio-spatial patterns of activation. Together, these tools make findings transparent and offer a transferable method to inform interventions that support an
SQ3 Activating Space **How can the urban fabric in Brussels be activated through socio-spatial proccesses of care to improve liveability for young fluidly housed adults?**	To understand which interventions are necessary for the urban fabric to be activated bottom-up in a short time, and which supporting actions are needed top-down to sustain and enable these initiatives.		A research-by-design exploration that demonstrates how identified socio-spatial patterns can be applied in exemplary conditions. This includes an evaluation of whether combinations of patterns enable a sense of belonging, agency, and health/security for young fluidly housed adults.

used methods

FOUNDATIONAL CONTEXTUALIZATION
These methods provide the broader socio-political and academic context for the research:

News & Media
A systematic approach to assess existing trends and urgent issues in Brussels. This will help me become acquainted with the local context, its complex governance structure related to young fluidly housed adults.

Literature Review
A descriptive analysis that provides the scientific context for the project, grounding it in existing research. This method will support all phases of the project, and I will use the APA 7th edition citation style to ensure that all references are properly listed in the bibliography.

FIELD-BASED AND HUMAN-CENTERED INSIGHT
These methods bring in subjective perspectives and lived realities, grounding the research in human experience:

Site Visits
Multiple visits to Brussels will help spatialize the topic and identify potential interventions from an eye-level perspective, preventing planning from a detached perspective (Gehl, 2021). These visits will ground the research in real conditions, testing assumptions and ensuring that the design process remains human-centered.

Ethnographic Mapping
This method helps understand socio-spatial dynamics by observing how individuals engage with their built environment. It will uncover behavior patterns in relation to urban spaces, providing insights into the lived experiences of my focus group (Garritsen, 2024).

Informal Conversations
Informal conversations with young fluidly housed adults will provide valuable insights into their lived experiences. These conversations will help validate observations and ensure the research reflects their perspectives, while minimizing researcher bias.

Structured Interviews
Formal interviews with professionals working on research that addresses human-needs-based design. These conversations will help identify spatial interventions that 'hack' the system of marginalization, which may not be apparent from other methods.

Personas
A method that helps illustrate the diverse lived realities within my focus group while safeguarding participants' privacy. By creating composite characters based on real data, this approach captures key socio-spatial experiences and needs.

Time-Geography
A method developed by Torsten Hägerstrand that allows for the detection of patterns of movement and staying among young, fluidly housed adults. This approach helps identify their socio-spatial needs by mapping individual trajectories through time and space.

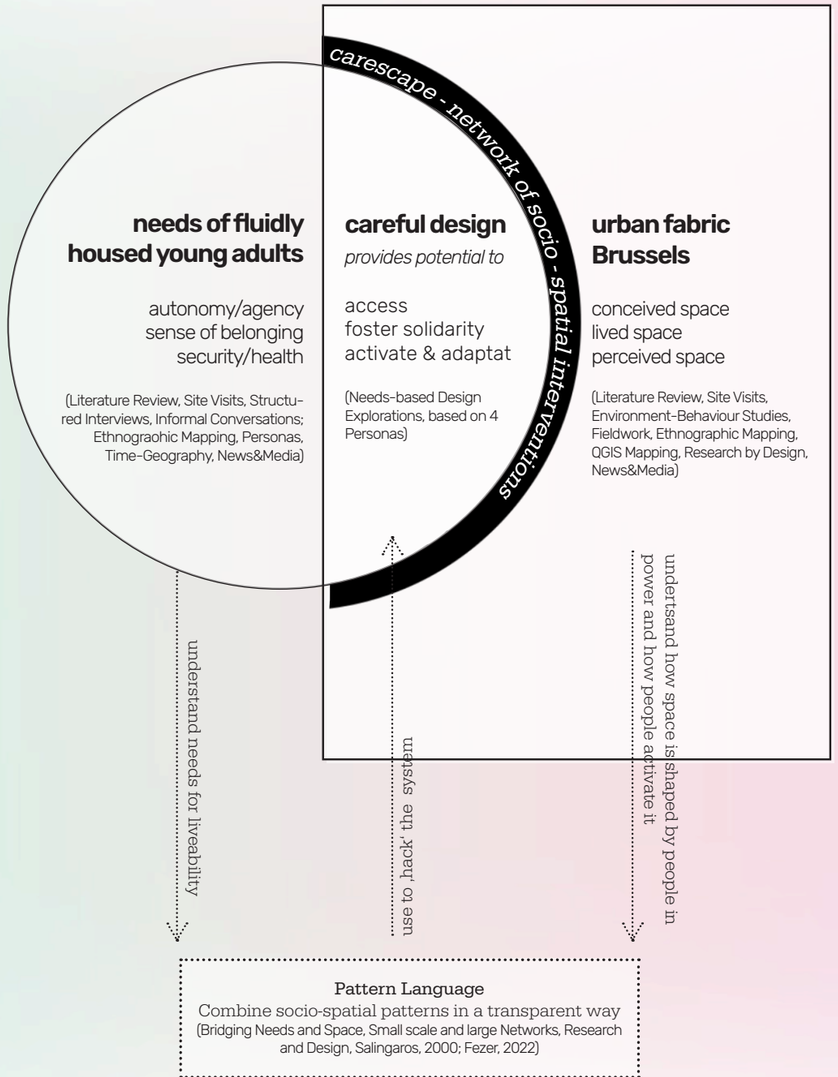
SYNTHESIS AND INTEGRATION
These methods bridge findings from all methods and builds the foundation for careful imaginery:

Environment-Behaviour Studies (Space Syntax)
A method that uses scientific data to understand the relationships between the built environment and social behavior patterns. This approach will help identify potential areas for intervention based on how people navigate urban space.

Pattern Language
A systemic method that helps me break down the complex issue of homelessness into actionable socio-spatial patterns. It allows me to combine needs with urban form, small interventions with larger networks, and research with design. This way, it will create an 'infrastructure of care' that can be activated by young fluidly housed adults to meet their needs.

Co-Design Workshop
While I could not test this method with young fluidly housed adults and other stakeholders in Brussels due to large power imbalance, I tested it with a group of students who - while not necessarily being in the same situation - still might be able to relate due to a similar age.

Research by Design
A design-led method for exploring and testing hypotheses through spatial interventions. It allows me to evaluate the outcomes of different combinations of spatial patterns and assess their effects on behavior and livability, informing further research.



theoretical body of knowledge

To understand how to enhance the liveability of young fluidly housed adults in Brussels, I draw on multiple theories that help uncover and spatialize the underlying patterns of this complex topic.

A central concept in this process is care—informed by feminist theory, particularly the work of Bernice Fisher and Joan C. Tronto—who define care not merely as an individual act, but as a political process that society must collectively value, support, and organize. They describe care as “a species activity that includes everything we do to maintain, continue, and repair our ‘world’ so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web” (Tronto & Fisher in Tronto, 2019).

Building on this foundation, I use the concept of radical spatial imagination, introduced to me by Irene Luque Martin (2025), as a way to navigate the complexities posed by intersecting crises. While imaginaries reflect shared social values and spatial patterns, imagination allows us to envision alternative futures—translating those values into concrete spatial possibilities. Radical here refers not to extremity, but to engaging deeply with the root causes of issues: asking what a problem means in its specific context and identifying where meaningful interventions can occur.

Guided by this concept, I begin by analyzing the socio-spatial root causes that marginalize young fluidly housed adults in Brussels. This involves identifying their fundamental needs (Max-Neef, 1991; Boccagni & Duyvendak, 2021) and examining how the urban fabric is shaped by systems of power but also reinterpreted through lived space by young fluidly housed adults (Lefebvre et al., 1997)—as further informed by my fieldwork.

I then synthesize these insights using a pattern language, as a method to co-create an ‚infrastructure of care‘ that centers young fluidly housed adults as agents of change. This draws on principles from just design (Newton, 2025), solidarity (Oosterlynck, 2022), and the A.U.R.A. framework (Chandel et al., 2025), enabling careful design that:

- Enables access to urban resources and inclusive spaces
- Supports activation by young people themselves
- Fosters solidarity through shared, collective environments
- Encourages adaptability in response to shifting needs and conditions

Together, these theories built the basis of an radical imagination on how urban design can ‘hack’ existing systems of marginalization in Brussels and support bottom-up activation as collective practices of care that creates long-term change.

production of space

Liveability in general is defined by the quality of the relationship between people and their living environment (Van Dorst, 2011). To analyze and understand this connection, I use the understanding of Henri Lefebvre's the production of space (1997). He argues that space is not a fixed, neutral container that exists by itself, instead, it is a social product that is shaped by human activities, power structures, and cultural practices and actively shaping these. His theory identifies three dimensions of space: conceived, perceived, and lived (Lefebvre et al., 1997).

Conceived space (representation of space)
refers to the abstract, planned dimension of space, often imagined by urban planners, architects, and policymakers. This layer reflects the vision and power dynamics of those in control.

Perceived space (spatial practice)
relates to the ways people interact with and navigate the physical environment in daily life. Lefebvre describes it as the "spatial practice of a society," seen through physical patterns and activities.

Lived space (spaces of representation)
encompasses the emotional, symbolic, and cultural meanings individuals and communities assign to their environments. It is the realm of personal and collective experiences, where spaces are reclaimed and reinterpreted to meet individuals needs.

By using this theory as underlying understanding, I can identitfy soico-spatial patterns that inform my design desicions to form urban environments that provide the potential to be activated by young fluidly housed adults in Brussels to meet their needs and this way imporve their liveability.

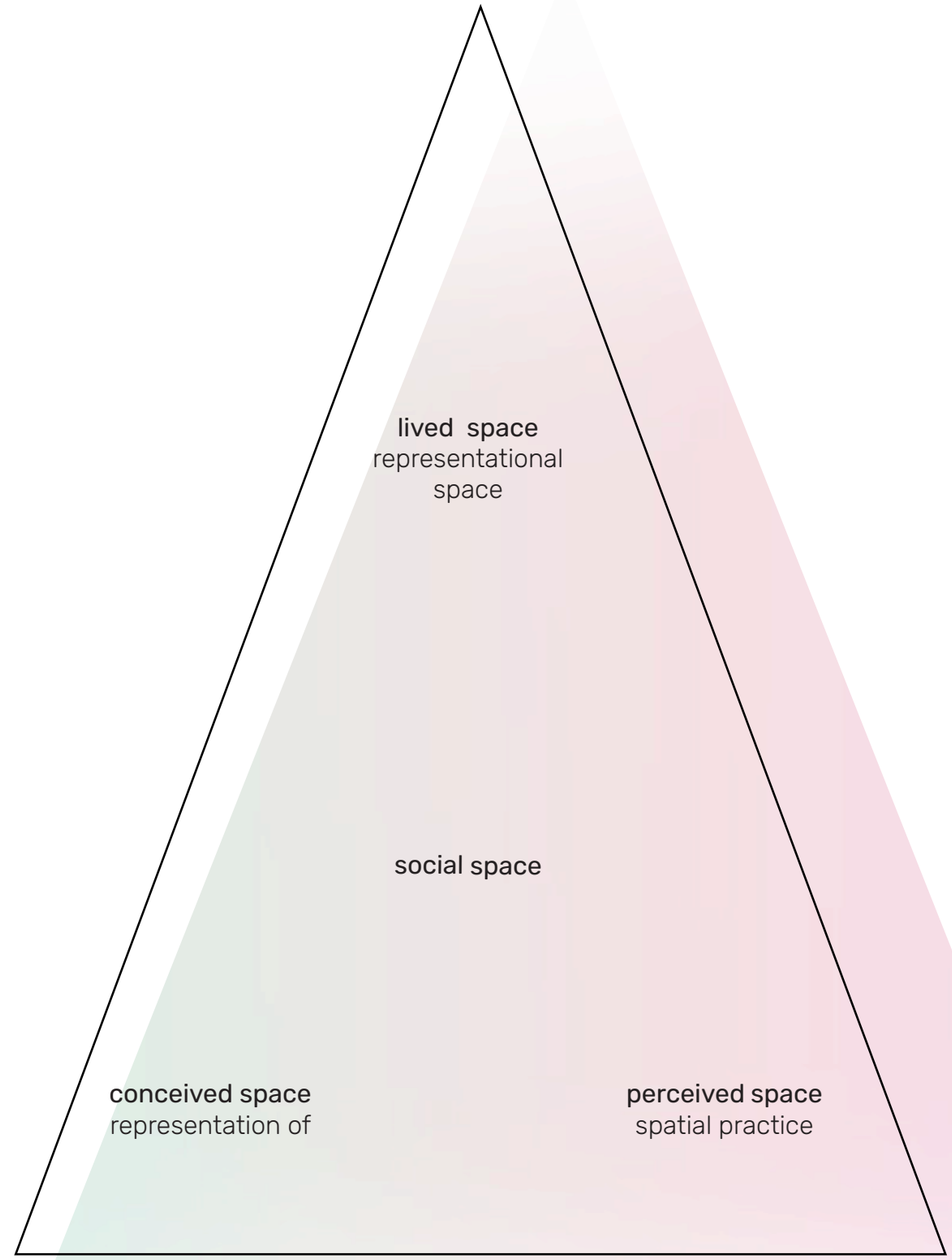


Fig. 3.2: Layers of Social Space, retrieved from (Lefebvre (2009), made by author

human needs

To understand the socio-spatial needs of young fluidly housed adults, I draw on Max-Neefs Theory of Human Needs (1991). This Theory offers a transformative framework for understanding well-being and development. Unlike traditional economic models that focus on income and material wealth as indicators of progress, Max-Neef's approach centers on addressing universal human needsof communities to improve their quality of life.

Max-Neef's model challenges linear frameworks like Maslow's hierarchy of needs (Hobmair & Altenthann, 2013) by presenting a systemic, interconnected framework of nine universal needs: Subsistence, Protection, Affection, Understanding, Participation, Leisure, Creation, Identity, and Freedom. These needs are constant across cultures and time, and they are all equally important. However, subsistence—which includes basic needs like food, shelter, and health—must be met before other needs can be fully addressed.

A key aspect of Max-Neef's theory is the distinction between needs and satisfiers. Needs are universal and unchanging, whereas satisfiers are the specific methods or tools used to fulfill those needs, which can vary across cultures, social contexts, and histories. For example, the need for subsistence can be met through satisfiers that provide access to nutritious food and shelter.

This distinction emphasizes that development and well-being are not just about material wealth. Rather, it's about creating systems that allow for the fulfillment of all human needs in a sustainable and equitable way (Max-Neef, 1991).

Definition of universal needs	adapted from Max Neef (1992)
subsistence	Subsistence entails **survival**, including the availability, affordability and accessibility of prerequisites for bodily functions such as **air, water, food and energy, living space providing shelter, and the ability to move** from place to place for different purposes
protection	Protection concerns the ability to deal with **physical and mental health** threats, and to live in a **safe environment** with few risks, with some level of preparedness
affection	Affection means the ability to express and experience emo**tions of liking, loving or fondness**, towards **people** or in relation to the **environment**
understanding	Understanding is the ability to gain the knowledge, information, capacities and **skills required to take actions, make decisions and communicate** with others
participation	Participation refers to the creation of communities that allow their members to **live with dignity and in harmony** with each other, and collaborating with others for communal goals
leisure	Leisure is about feeling **excited, surprised, relaxed, having** pleasurable experiences and taking relief from mental pressures through relaxation and joyful activities
creation	Creation concerns **applying creative abilities** and **producing** material requirements of life, earning **income and contribut-ing** to feeling needed and significant
identity	Identity is about deserving recognition for one's **beliefs, values and preferences** and the **ability to act** according to feelings of belonging to a place or a community
freedom	Freedom addresses the ability to **make decisions and take actions**, to have control over life and property and to live in societal conditions which enable personal rights

Fig. 3.3: Content retrieved from Cardoso et al., (2022), based on Max-Neef (1992)

homemaking in the public

The concept of “home” is often defined as “a place where one lives permanently, especially as a member of a family or household” (Oxford Languages Dictionary, 2024). Traditionally, home has been viewed as a private, domestic space where personal needs such as rest, hygiene, and intimacy are met (Boccagni & Duyvendak, 2021; Schneider, 2024). However, for those excluded from stable housing, the absence of this space creates significant barriers in fulfilling their fundamental needs (Schneider, 2024).

To understand the majority-minority relations in which individuals perceived as “normal” can appropriate public space, while marginalized groups, such as fluidly housed individuals, often lack the power to do so for private purposes, I overlay the theory of fundamental human needs with the overarching needs related to homemaking in the public, identified in the paper ‚Homemaking in the Public: On the Scales and Stakes of Framing, Feeling, and Claiming Extra-Domestic Space as „Home“ (Boccagni & Duyvendak, 2021).

This paper challenges the traditional understanding of home as a fixed domestic space and highlights three critical emplaced emotions that enable people to embrace the process of homemaking in public spaces:

Security, both as a sense of material and personal security and as a deeper feeling of order and continuity in the world around us. (Dupuis & Thorns, 1998; Giddens, 1991);
Familiarity that develops through repeated, routine interactions with a place and the people in it over time.(Kuurne & Gómez, 2019);
Control over day-to-day life circumstances, revealing the exclusionary forces that shape the concept of home.
Thus, homelessness is not only a condition, but also a lived experience—shaped by aspirations and personal claims (Tucker, 1994). Home, as an analytical category, is not just a material entity but a set of practices that must be sustained over time. It is a matter of homemaking (Blunt & Dowling, 2006; Duyvendak, 2011), revisited biographically through the emotions and cognitions that underpin it—referred to as “homing” (Boccagni, 2017).

Therefore, I cluster the overarching needs into the threem emotions: **privacy and security, solidarity and community, flexibility and autonomy.**

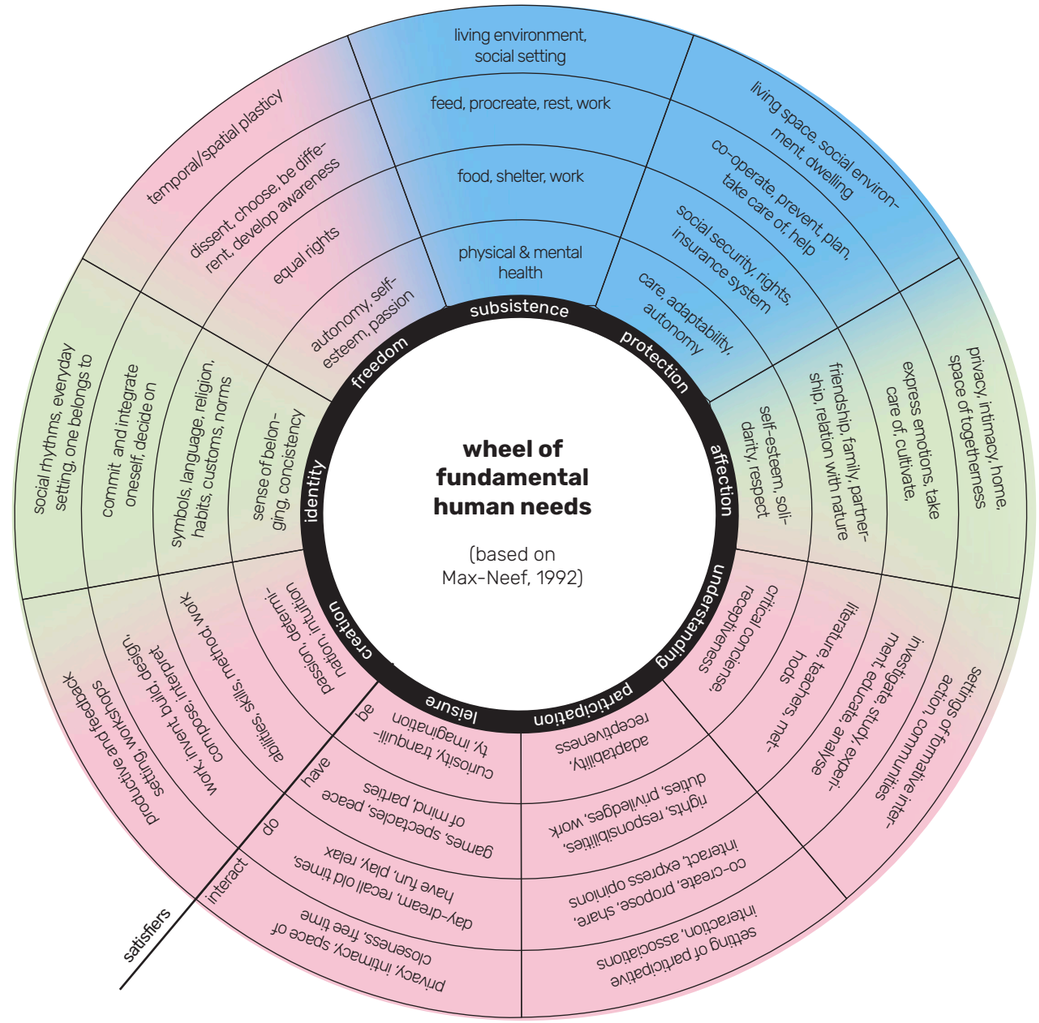


Fig. 3.4: The wheel of fundamental human needs, made by author, based on Max-Neef, 1991.

To truly practice careful design, we must challenge conventional notions of design and understand it as a political act—one that actively shapes more just and inclusive futures.

Following Tronto and Fisher's definition of care as "a species activity that includes everything we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible—including our bodies, ourselves, and our environment" (Tronto, 2019), careful design becomes an act of collective maintenance and transformation.

Drawing on Newton's (2025) understanding of just design, I understand careful design as not predicting a singular future but instead opening space for multiple, collectively shaped imaginaries. These imaginaries challenge traditional top-down design methods by centering communities in dialogue and enabling them to co-create futures that reflect their values and needs. This calls for a design process that is adaptive, dialogic, and critical—one that engages communities as active agents of their own development, uses design to question dominant norms, and envisions justice-oriented alternatives.

These principles align with the A.U.R.A. framework (Chandel et al., 2025) and ‚Planning for Solidarity in Diversity' (Oosterlynck, 2022).

The A.U.R.A framework advances spatial justice across four dimensions: Access, Utilization, Resistance and Adaptation.
Access – Inspired by Amarthya Sen's capabilities approach and David Harvey's critique on power structures, emphasises the importance of creating opportunity for people to shape their environment themselves. Utilisation – Informed by Lefebvre's right to the city and Sojas framing of spatial justice, emphasizes the potential of space not as empoty container but as something continuously shaped by lived practices. Resistance – Draws on Faranak Miraftab's insurgent planning and Harvey's right to the city, focusing on marginalized groups challenging unjust spatial arrangements from bottom-up And Adaptation – Based on AbdouMaliq Simone's "people as infrastructure," and Sen's emphasis on agency centers collective practices of reorganizing to meet human needs where formal systems fall short.

In addition, solidarity is built through four main drivers: Awareness of interdependence, Shared norms and values, Shared enemies or interests and Informal encounters.
In diverse urban settings like Brussels, these drivers are often weakened by fragmented experiences. Oosterlynck argues that solidarity must be fostered through shared practices and physical spaces—sites where meaningful encounters can happen across lines of difference.

To operationalize these principles, I use Pattern Language as a structuring tool for careful design. Originally developed by Christopher Alexander in 1977, Pattern Language offers context-sensitive solutions to recurring spatial and social problems (Salingaros, 2000).

1. Grounded in Needs of Fluidly Housed Youth
Each pattern is based on observable links between social behaviors and the built environment (Fezer, 2022). In this research, patterns emerge through uncovering the specific needs of young, fluidly housed adults in Brussels, exposing systemic barriers, and integrating findings from multiple methods. The result is a set of hypotheses that 'hack' structural injustice through radical spatial imagination.

2. Supporting Systemic Design and Bottom-Up Action
Alexander emphasized that when people shape their own environments, adaptation occurs more organically. Top-down planning, in his view, should only exist to support autonomy—not to override it. In his later work, he developed patterns that are easily understandable, shareable, and actionable, enabling others to co-create well-designed spaces (Fezer, 2022).
This resonates with principles observed from commoning practices. While the concept of the ‚commons' is widely theorized—and some argue that there may be more written about it than actually existing places that match theses descriptions in the neoliberal economy (e.g., Armstrong et al., 2023; Ostrom, 2011)—the principles of the process of commoning are especially relevant to careful design. Commoning emphasizes shared ownership, collective care, and local stewardship from the bottom-up.
A useful example is Bologna's "Regulation on Collaboration between Citizens and the City for the Care and Regeneration of Urban Commons" (2014). In this model, public spaces like parks and squares are co-managed by engaged individuals or groups in partnership with the city. While these public spaces are not ‚commons' per se, they are still activated by the process of commoning. This aligns with the goals of this research, where the pattern language helps identify key interventions across multiple scales. While some may require top-down support, the ultimate aim is to center the agency of young fluidly housed adults—providing the socio-spatial potential so that they can activate and sustain the urban fabric themselves.

3. Adaptable and Open-Ended
Rather than a fixed solution, the Pattern Language acts as a systemic method for navigating complex urban realities. It breaks down large systems of oppression into tangible, adaptable patterns grounded in real life experience, observation, imagination and literature. Due to it's systemic character, it can evolve, allowing for new patterns to be added or adjusted as needs shift or new findings emerge, making it a living tool for transformative design and communication.

Drawing inspiration from Archigram's Plug-In City (1964)—a vision of the built environment as a flexible framework activated from the bottom up and continually adapted to shifting needs (Merin, n.d.)—this research proposes an infrastructure of care as the culmination of the previously introduced theories and concepts.

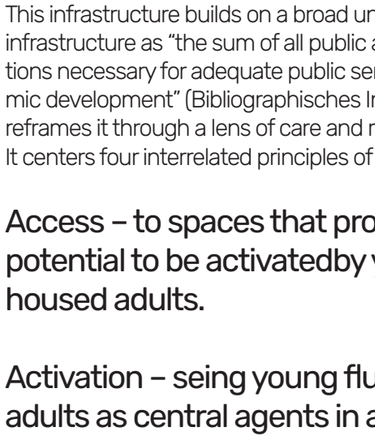
This infrastructure builds on a broad understanding of infrastructure as "the sum of all public and private institutions necessary for adequate public services and economic development" (Bibliographisches Institut, 2016), but reframes it through a lens of care and relational support. It centers four interrelated principles of careful design:

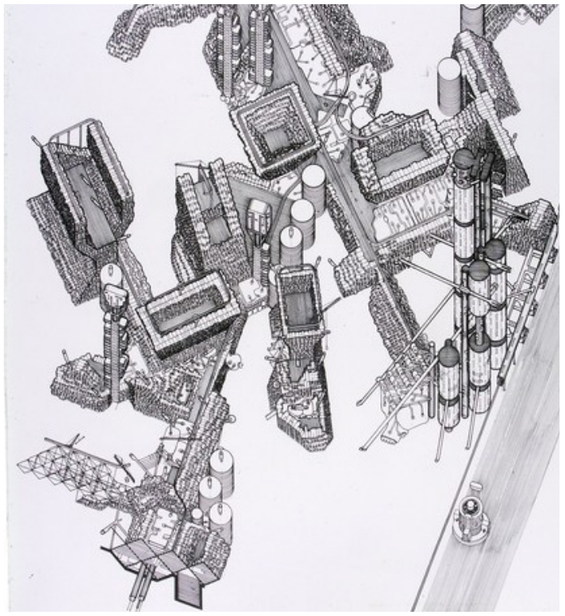
Access – to spaces that provide the potential to be activatedby young fluidly housed adults.

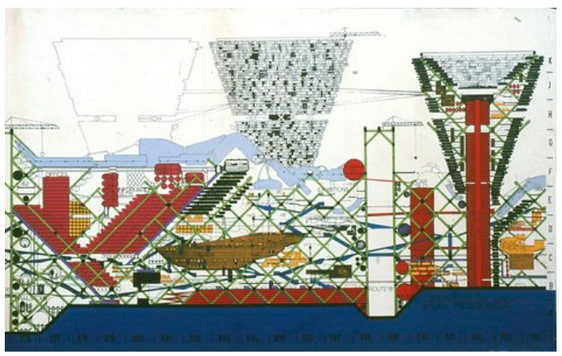
Activation – seing young fluidly housed adults as central agents in activating the urban fabric to meet fundamental needs related to health and security, sense of belonging and agency.

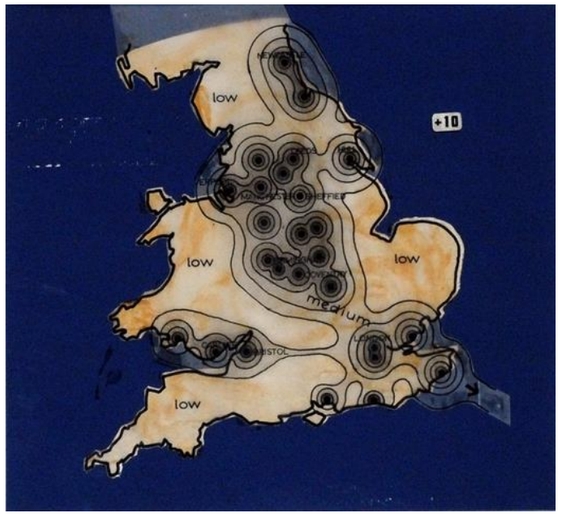
Solidarity – spatial patterns that enable collective processes and community building.

Adaptation – ensuring the system can evolve in response to shifting needs, conditions, and lived experiences.









Map of England With Spread of Plug-in City

Plug-in City Map 1

Central London - Stage 3 of Plug-in City

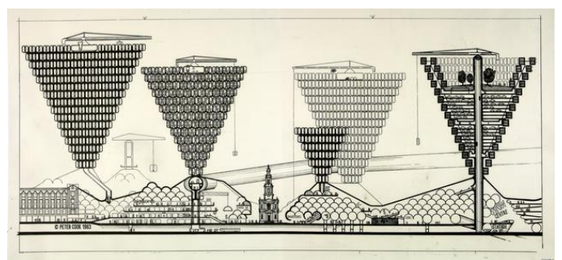
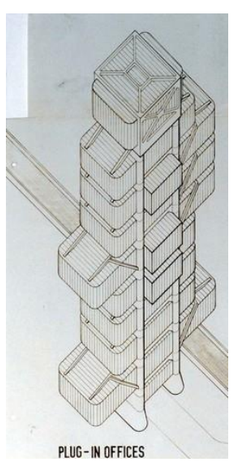
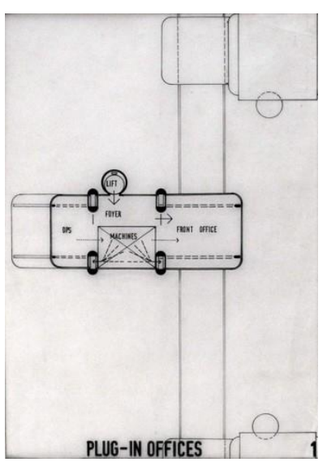


Fig. 3.5: Plug-In City, Peter Cook, Archigram in 1964, retrieved from Merin, n.d.





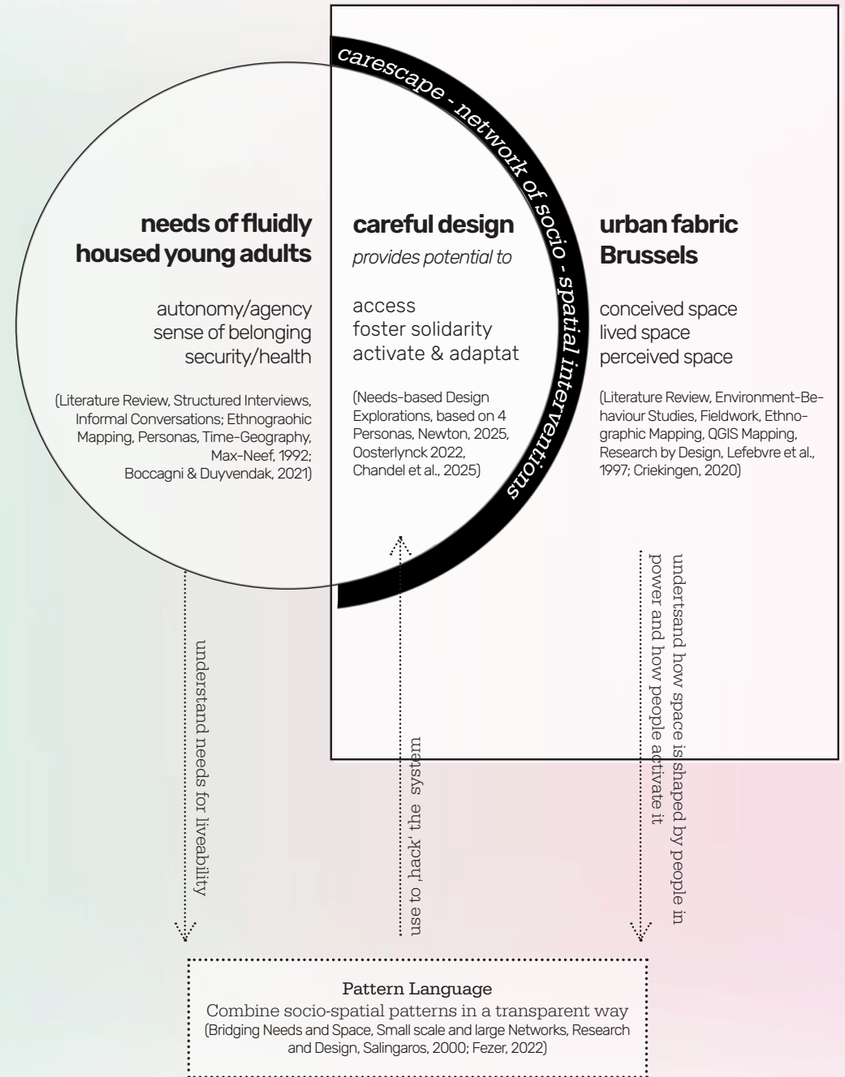
Plug-In Office Stacks And Housing For Charing Cross Road

conceptual framework

By applying multiple methods, I aim to uncover the socio-spatial needs of young, fluidly housed adults in Brussels—highlighting their capacity as central agents of collective care.

At the same time, I combine qualitative and science-based approaches to identify socio-spatial conditions with the potential to form an 'infrastructure of care': a network of spaces that this demographic can activate from the bottom up to meet their needs and improve their liveability.

Ultimately, pattern language serves as a systemic tool to integrate these findings and guide a careful design approach—one that is both critical and political, and that helps to imagine collective futures rooted in access, activation, adaptation, and solidarity.



graduation process

SQ3 How can the urban fabric in Brussels be activated

SQ2 Which socio-spatial conditions can foster an 'infrastructure of care' that responds to these needs?

SQ1 What are the socio-spatial needs of young fluidly housed adults in Brussels?

Context exploration

Literature Review

News & Media

Problem analysis

Research questions

Methodology Framework

Theoretical Framework

Conceptual Framework

Spatial Analysis + QGIS mapping

Diachronic Mapping

Fieldwork
18.09.2024 MEP Excursion to Amsterdam Noord

Fieldwork
06.-07.11.2024 8th homeless count Bruss'Help

Fieldwork
16.12.2024 Walk trough the Poverty Crescent

Fieldwork
02.-05.01.2025 Informal Conversations

Interviews

Fieldwork
14.-16.02.2025 Informal Conversations, SMH Project Site

Fieldwork
26.02.2025 Informal Conversations, Solidary Housing

Ethnographic Mapping

Soft Maps

Environmental Behavior

Top-Down Patterns

Pattern Development

Research by Design

Drawing Conclusions

Lived Space

DMP

Reflection

Reflection

Reflection

Reflection

Reflection

Reflection

take learned with me

P0 P1 **P2** P3 **P4** **P5**

Fig. 3.6: Activated Space at the Train Tracks in Schaerbeek, photograph taken by author

04

project location

This chapter gives an overview of the complex structure of Brussels and its historic patterns of socio-spatial segregation, which are still evident in its urban fabric today —most clearly in the so-called poverty crescent.

04	**PROJECT LOCATION**	**72**
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.2	historic socio-spatial segregation	78
.3	gentrification	82
.4	crossaint pauvre	84
.5	conclsuion	86

Fig. 4.1: Rue de la Loi, Brussels
Photograph by Max Schuska

Fig. 4.2: Hostile architecture designed to prevent people from using it for purposes other than sitting, aimed at discouraging sleeping. Found in a metro station in Brussels. Photo by the author.

"Urban conflicts are part of the diverse current political and social conflicts worldwide. The hot-spots of urban struggles include the privatization of public space, urban land, and commons, as well as the commodification of housing up to entire neighborhoods. In the process, large-scale expropriation occurs: people lose - through deliberate measures of governance - rights, freedoms, and security (such as housing security). They lose opportunities to participate in the city."

(translated by author from Heindl, 2020)

complexity of Brussels

Brussels, located in North-Western Europe, is the vibrant capital of Belgium and serves as the de facto capital of the European Union (EU). Renowned for its international significance, the city hosts major EU institutions, including the European Commission, the European Council, and parts of the European Parliament. Additionally, Brussels is home to the governance of the Flemish Community, the French-speaking Community, and the Brussels-Capital Region, each with distinct roles and powers that reflect Belgium's unique federal structure.

Officially bilingual, Brussels recognizes both French and Dutch as its primary languages. However, the city's diversity is reflected in the more than 104 languages spoken by its inhabitants, making it a truly multicultural metropolis (Chini, 2024).

Politically, Brussels is divided into 19 municipalities, each with its own local government. This decentralized structure contributes to the city's rich complexity but also poses challenges for policy-making and coordination (Brussels-Capital Region, 2024).

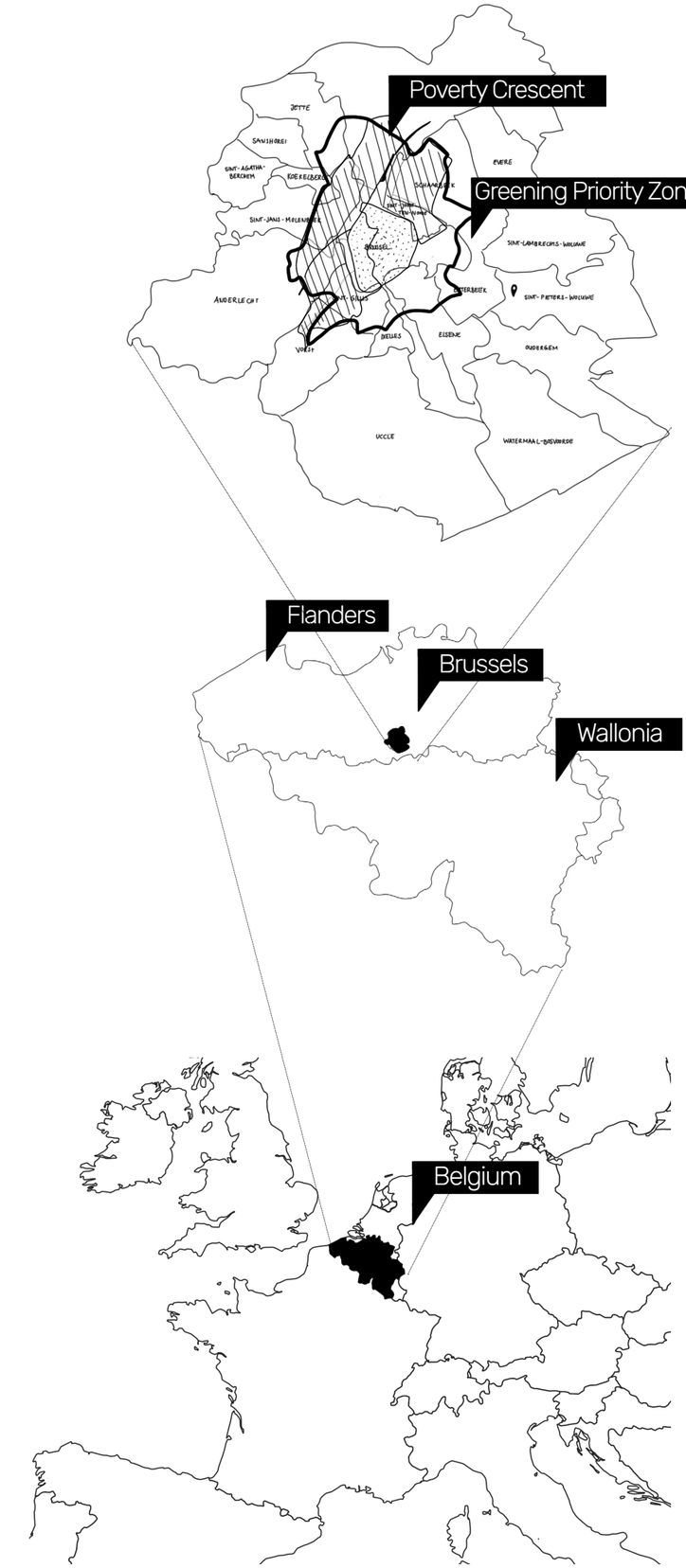


Fig. 4.3: Maps showing Brussels and its 19 municipalities, its location within Belgium and Europe (Datastore. Brussels, 2024; opendatasoft, n.d.; OpenStreetMap, n.d.)

historic socio-spatial segregation

Early settlements of Brussels reveal a clear socio-spatial division that has persisted throughout the city's history. The upper town, situated on elevated terrain, was home to nobles, clergy, and wealthy merchants. Its higher elevation offered protection from floods, strategic defensive advantages, and symbolized power and status. In contrast, the lower town, located near the Senne River and partially outside the first city walls, was inhabited by poorer residents, including artisans, traders, and laborers. The proximity to the river exposed these communities to frequent flooding and unsanitary conditions, contributing to the spread of disease (Brussels City Museum, 2001; Civitas Brussels, 2024).

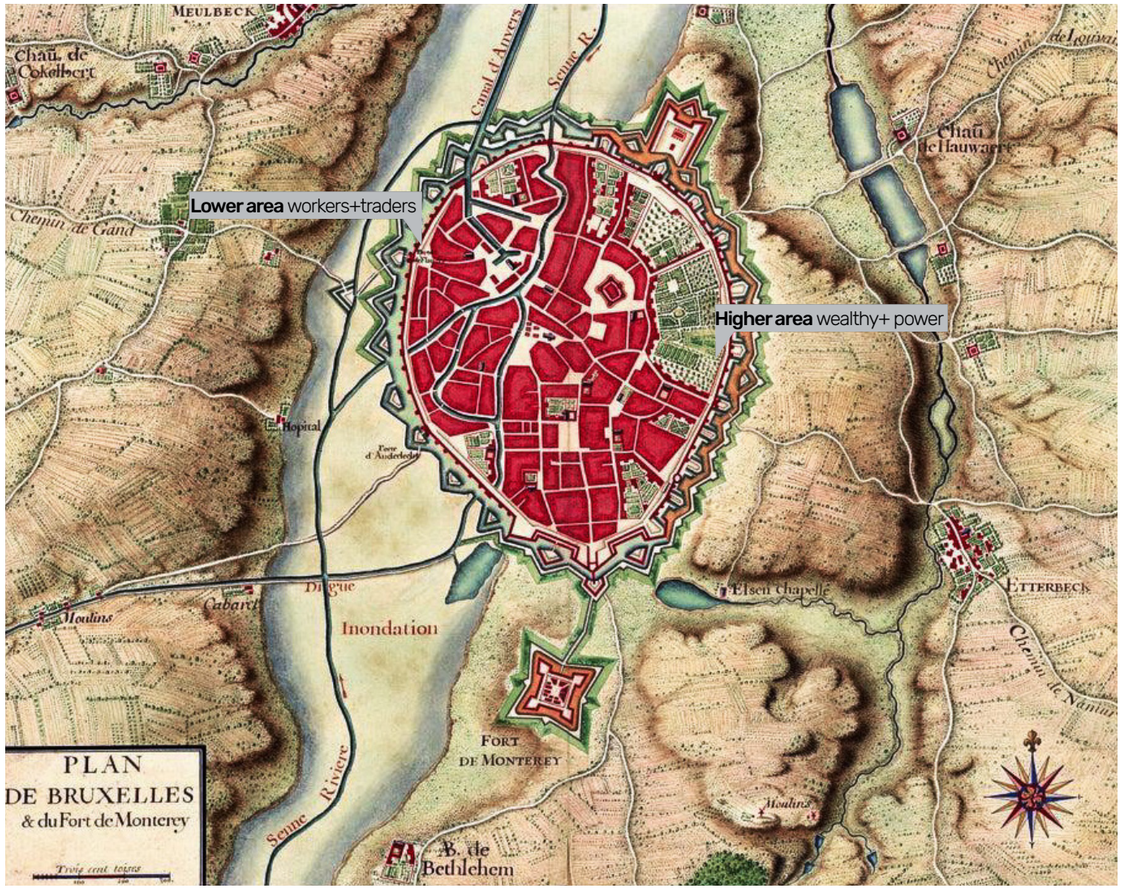


Fig. 4.4: Map showing the topography of Brussels in the 14th century, retrieved from (BrusselsMap360°, n.d.)

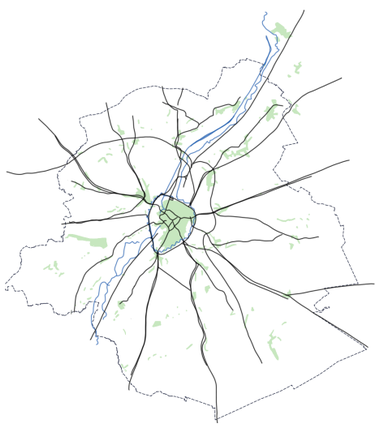


Fig. 4.5: Systemic Section of spatial segregation in Brussels according to higher and lower areas, made by author

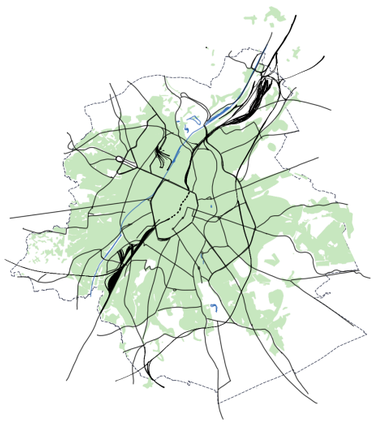
historic socio-spatial segregation

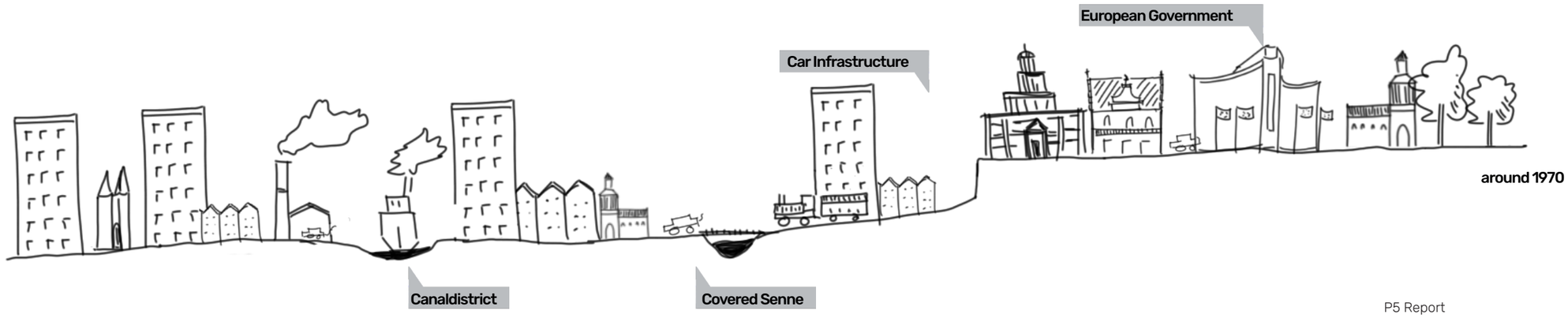
The socio-spatial inequalities in Brussels deepened during the mid-20th century with a process known as 'Brusselization.' Large-scale urban redevelopment projects, such as the transformation of the North Quarter into a business district, displaced thousands of working-class residents. Urban planning policies prioritized commercial development and international institutions over social housing, uprooting entire communities and pushing many into already disadvantaged neighborhoods, particularly near the Canal District. The city invested heavily in modernizing its road network, which, in turn, led to a rise in car ownership (Leloutre, 2021).

This restructuring entrenched socio-economic disparities that remain visible today. The term 'Brussels paradox' captures the widening gap between the city's wealthy inhabitants and the rising levels of poverty and social inequality (Walker, 2024).

Fig. 4.6: Cartoon showing 'Brusselization' in the North district, made by André-Paul Duchateau and Daniel Hulet in 1985, retrieved from Leloutre, 2021.

Fig. 4.7: Systemic Section of spatial segregation in Brussels after Brusselization, made by author



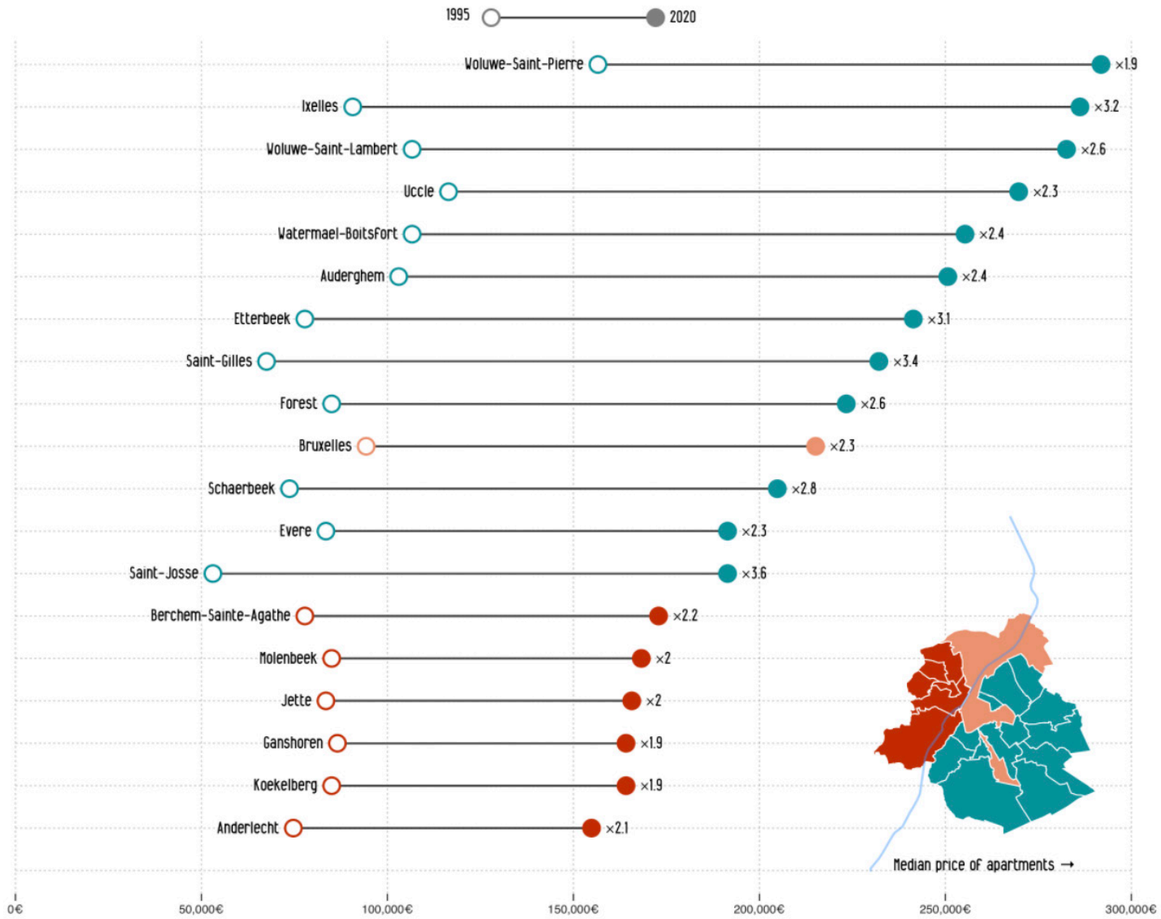


project location

gentrification

rise in rental prices
from 1995 to 2020

Research by Mathieu Van Criekingen (Université Saint-Louis Bruxelles, 2006) highlights how specific dynamics have driven gentrification in recent years, displacing less privileged residents into areas with limited access to green spaces and employment opportunities (particularly in the red area). This study also reveals a contrasting trend: while the greener outskirts of Brussels, particularly on the western part (blue) are often viewed as ideal locations for settling down and building single-family homes later in life, many young people, especially Belgian students, initially gravitate toward the inner city to benefit from its cultural amenities (Van Criekingen, 2020). This shift, combined with a long-standing policy emphasis on homeownership rather than affordable rental housing, has led to a severe shortage of affordable options. Today, social housing accounts for just 10% of the housing stock—8% in designated social housing units and 2% managed by boroughs or welfare offices—resulting in overcrowding, substandard conditions, and deepening social deprivation in many neighborhoods (Costa & De Valk, 2018).



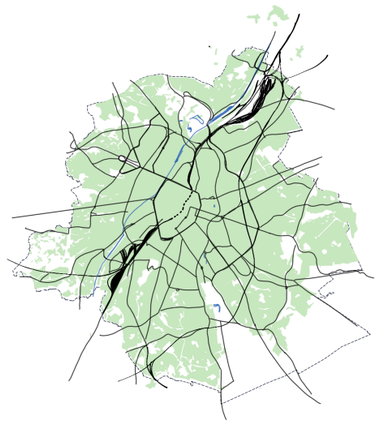


Fig. 4.8: Graph showing the increase in rental prices by area, highlighting gentrification trends across the city, especially in the more affluent south-east, retrieved from Joie et al., 2022.

These marginalized neighborhoods are primarily concentrated in the historical heart of the city, including the 'Pentagon' area and the northeastern parts adjacent to it. These areas are shaped like a crescent and often referred to as the 'poverty crescent.' They house populations facing low income, high unemployment, educational inequalities, housing insecurity, and overcrowding (Brussels Institute for Statistics and Analysis [BISA], 2024). Additionally, its inhabitants often suffer from poor air quality and a lack of green spaces, exacerbating poor health.(Joie et al., 2022).

EHR, or Entitlement to Higher Reimbursements, refers to individuals receiving increased health insurance reimbursements due to low income (below €20,300 gross taxable annually) or specific circumstances (e.g., disability, single parenthood, unaccompanied minor). This indicator, helps analyze precarity at a neighborhood level (% per statistical sector), as explained by the Brussels Institute for Statistics and Analysis (IBSA/BISA). It also highlights the link between precarity and health, as higher reimbursements are meant to improve healthcare access for low-income individuals (Joie et al., 2022). Therefore this map is a good indicator to measure the concentration of vulnerable individuals per location.

The combination of low income and a large proportion of young jobseekers in the 'poverty crescent' points to a lack of both economic and cultural opportunities, increasing the vulnerability of individuals in these areas.

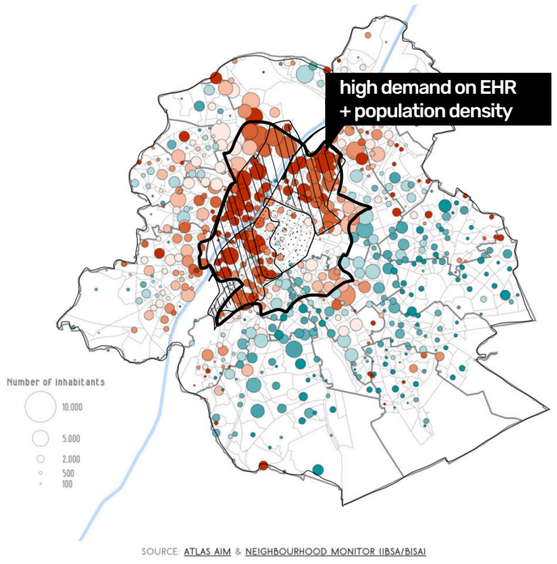


Fig. 4.9: Map showing the concentration of the EHR rate in Brussels (incentive that vulnerable people receive to pay their health insurance) coupled with population density, retrieved from Joie et al., 2022.

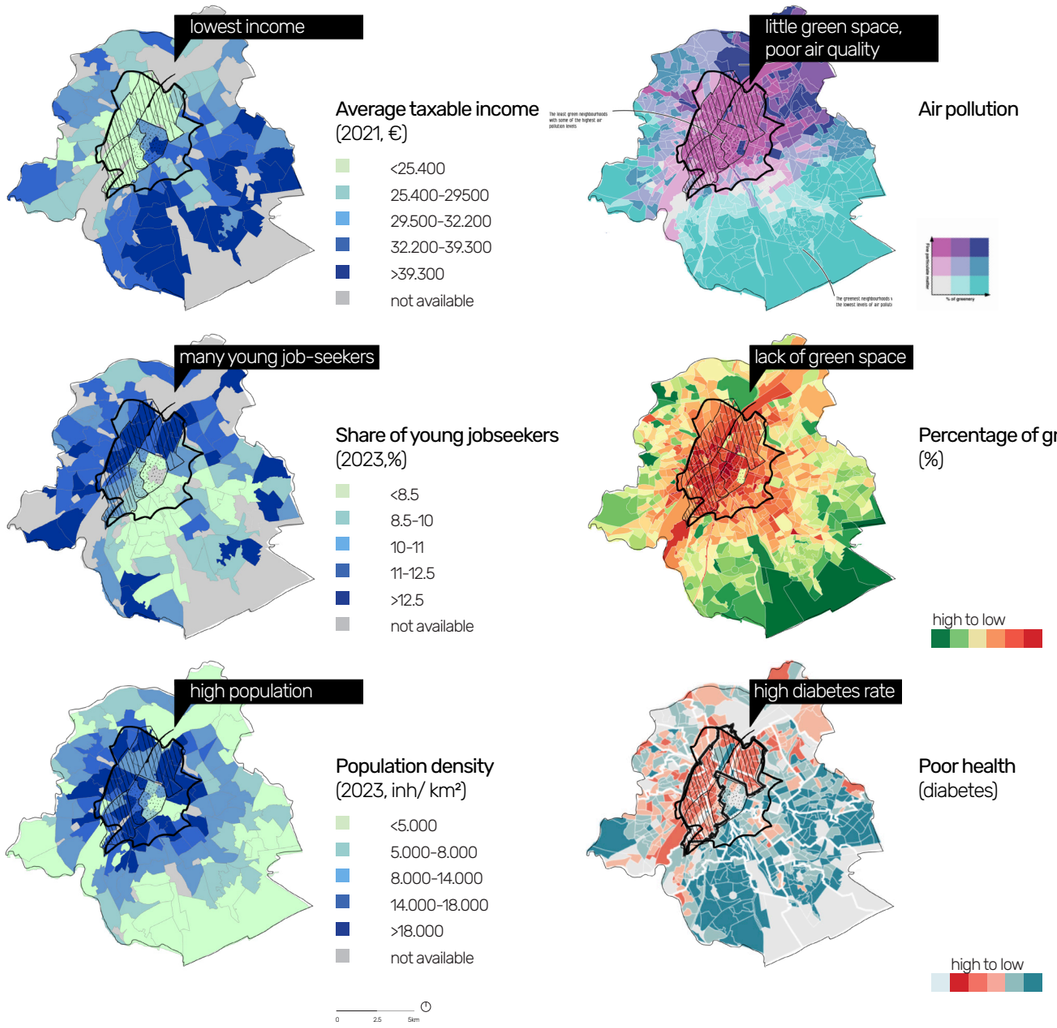
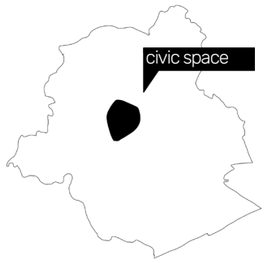


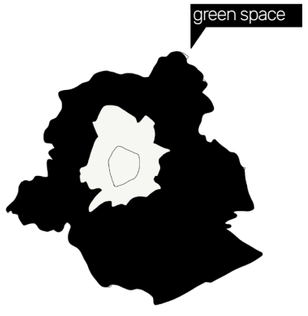
Fig. 4.10: Maps socio-economic challenges, retrieved from (Brussles institute for statistik and analysis (bisa), 2024)

Fig. 4.11: Maps environmental and health conditions retrieved from (Joie et al., 2022)

Brussels' urban landscape reflects a long-standing socio-spatial divide, rooted in its early settlement patterns: wealth historically concentrated in the elevated upper town, while poverty was relegated to the lower areas. This divide was further entrenched during the 20th century through aggressive redevelopment and housing policies that prioritized commercial gain over social equity. Today, these dynamics persist in the form of housing shortages, gentrification, and concentrated deprivation across the so-called "poverty crescent." These marginalized neighborhoods face overlapping challenges—economic precarity, limited access to green space and healthcare, and poor living conditions—yet remain attractive for their proximity to the inner-city Pentagon.

It is precisely in this interstitial spaces—between green area and civic environment—that an infrastructure of care could offer the most impact.





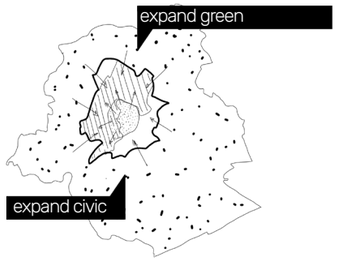


Fig. 4.12: Brussels bustling city center (black)

Fig. 4.13: Brussels green area (black)

Fig. 4.14: Design intention: Civic and green spaces meet in the highlighted area.

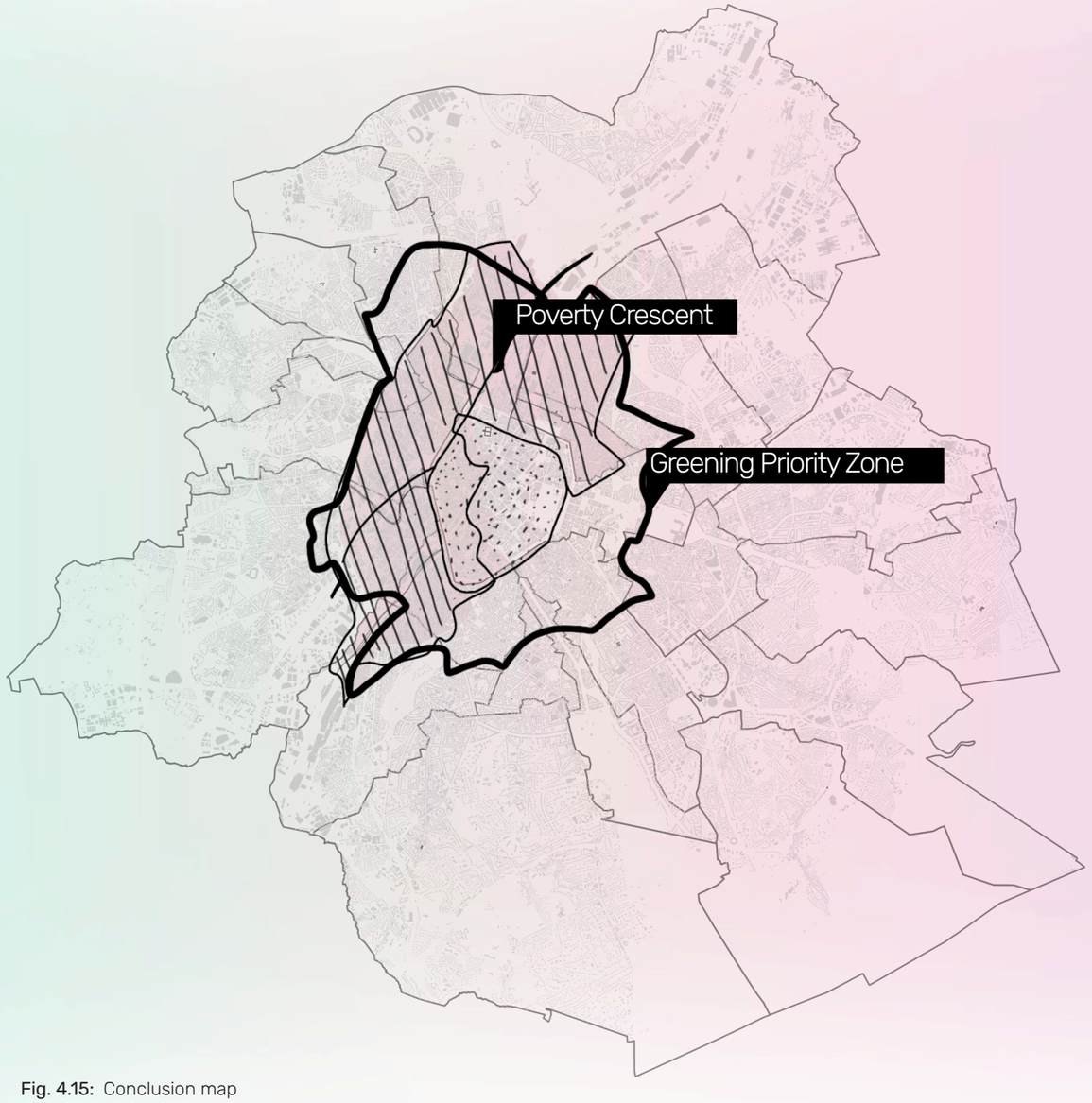


Fig. 4.15: Conclusion map showing overlap between concentration of marginalized individuals and lack of green space, made by author (Datastore.Brussels, 2024; opendatasoft, n.d.)

Fig. 4.16: Graffiti on Closed off Green Space in Schaerbeek, photograph taken by author

Fig. 4.16: Graffiti on Wall in Schaerbeek, photograph taken by author

This chapter provides an overview of the process undertaken to spatialise the topic of highly invisible and fluidly housed young adults in Brussels. It presents the conclusions drawn from the various steps taken to make this complex and often overlooked issue tangible in space. The chapter ends with the key insight that led to the identification of the focus area.
While this process was extensive, it is not shown here in full detail due to considerations outlined in the data management plan. If you have further questions, please reach out to my supervisors or to me directly for access to the research fieldwork diary.

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Fig. 5.1: Rue de la Loi, Brussels
Photograph by Max Schuska

Mapping Helpservices

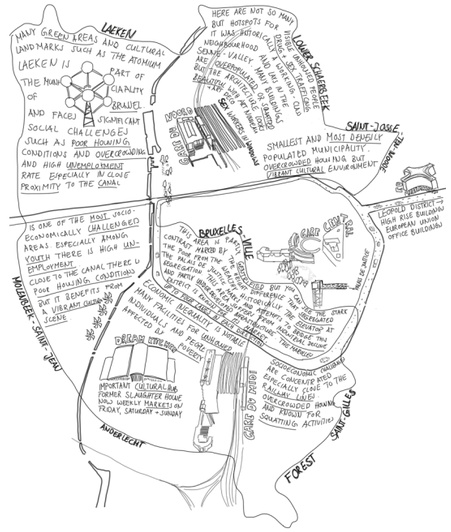


Fig. 5.2: Soft Map concluding observations, made by author

Due to the lack of available spatial data, I began by mapping existing support facilities for unhoused individuals, along with relevant stakeholders addressing various forms of housing exclusion. This helped narrow down the areas where young, fluidly housed individuals were most likely to be found.

In addition, I carried out multiple fieldwork sessions—observing, walking, and documenting—while searching for traces in the urban fabric and engaging in direct conversations to spatialize my focus group in Brussels.

In general, locating unhoused individuals is difficult, as they are not formally registered and their daily lives are marked by frequent movement to meet basic needs and ensure personal safety. For young, fluidly housed adults, even less data is available; in addition, they are often not visible at all in official statistics or public space. To begin addressing this gap, we needed to start somewhere—so my fellow student Yiling Yang and I chose to map the existing help infrastructures that support unhoused individuals in Brussels. This was based on the assumption that proximity to services strongly shapes the daily movement and temporary settlement patterns of fluidly housed adults, providing an initial indication of where they are likely to cluster.

The facilities we mapped manually include short-term services such as food distribution, mobile assistance, showers, clothing, financial aid, and overnight or daytime shelters, alongside longer-term support for mental health and legal issues (Bruss'Help, 2025). In the next step, I applied the concept of attraction distance—an environment-behaviour method in space syntax that measures how far people are likely to travel to access essential services—to assess which areas fall within practical reach. Using a 1,000-metre walking radius, representing a comfortable 10–15 minute walk, the analysis revealed that most facilities are concentrated along the Poverty Crescent, making them highly accessible to vulnerable residents.

Since unhoused individuals often face limited mobility, they tend to stay close to these services, further intensifying the clustering of poverty and social deprivation in these areas (Bruss'Help, 2022).

attraction distance to help facilities for unhoused individuals with space syntax

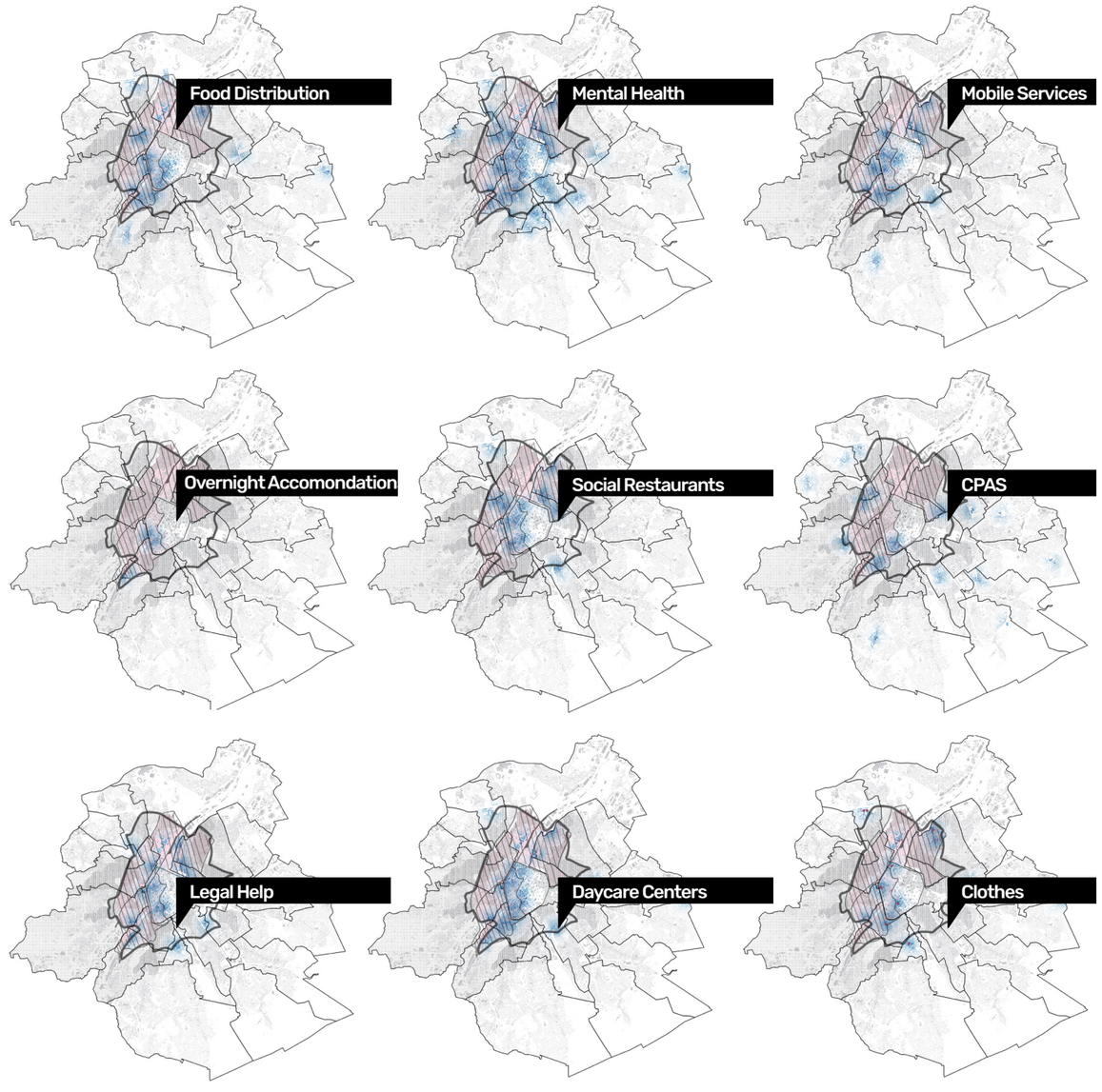


Fig. 5.3: Space Syntax showing the proximity to help services for unhoused people based on information from Bruss'Help, locations mapped by Yiling Yang and author, maps made by author (Datastore.Brussels, 2024; opendatasoft, n.d.; Bruss'Help, 2025)

Since the poverty crescent still covers a large area, I mapped locations of relevant stakeholders and previously squatted buidlings to see if there are distinct patterns that might help me to narrow the area down.

In the process, I observed a concentration of services in distinct parts of the crescent. Near the municipalities of Molenbeek and Anderlecht—two of the most marginalized areas within the poverty crescent—there is a cluster of organizations focused on providing immediate aid to roofless individuals:
Samusocial – emergency shelter, outreach
Diogenes – street work, harm reduction
DoucheFLUX – hygiene services, reintegration
Syndicat des Immenses – advocacy, rights defense
Straatverplegers – street nursing, mental health
Hobo – drop-in center, basic services
In addition, I found two organizations in this area that focus more directly on housing rights:
Huurdersbond – tenant support, mediation
Front Anti-Expulsions – anti-eviction activism, legal defense

In contrast, the northern part of the poverty crescent hosts more structural and advocacy-oriented services. This includes overarching organizations like Bruss'Help and FEANTSA, which focus on data collection and policy coordination rather than direct aid. It also includes several organizations related to squatter support and housing rights:
Réseau ADES – housing support, legal aid
Woningen 123 Logements – squatting advocacy, collective housing
Sans-Papiers (2 groups) – undocumented rights, housing activism
This preliminary mapping gave me a clearer picture of which ETHOS categories and types of services might be found in different areas. To validate these insights and better understand the lived reality of these spaces, I conducted fieldwork to see whether my assumptions aligned with on-the-ground conditions in hope to find fluidly housed adults to talk to.

location of organizations related to ETHOS

conencting organisation
1 Bruss'Help
15 Feantsa

help for unhoused
2 Samusocial
3 Diogenes
4 Douche Flux + Syndicat des Immenses
5 Straatverplegers
6 Hobo

squatting + tenant rights
7 Huurdersbond
9 Réseau ADES
10 Front Anti-Expulsions
11 Woningen 123 Logements
12 Sans-papiers
13 Sans-papiers

commons
14 La Fabriek
15 La Tricoterie
16 Abbatoir de Anderlecht

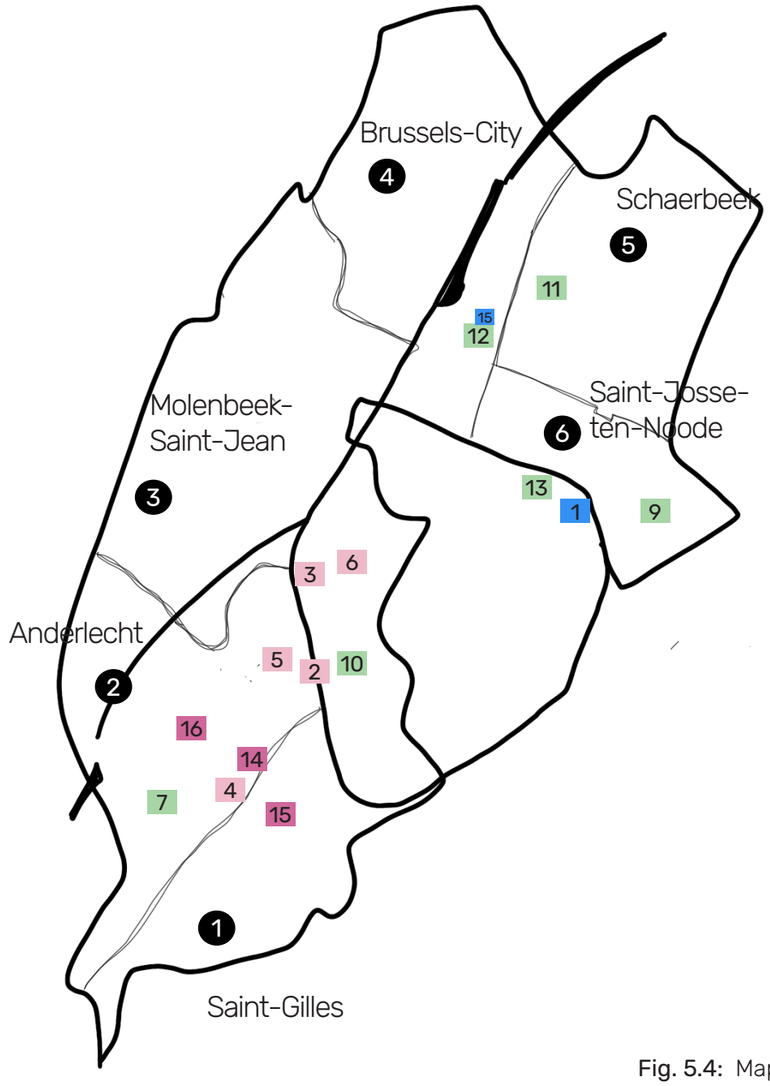


Fig. 5.4: Map showing the division of facilities aimed at squatting (green) and rough sleepers (pink), made by author

In the next step, I conducted multiple fieldwork sessions—walking, observing, and mapping—while searching for young, fluidly housed individuals to speak with.

I realized that the divide between historically marginalized neighborhoods and wealthier areas remains striking—not only socially, but also physically, due to the stark height differences in the urban landscape. This is especially noticeable around Place de la Justice, which borders the former working-class district of the Marolles.

While many public spaces within the poverty crescent are in poor condition—with garbage scattered in the streets and parked cars occupying much of the available space—some areas are beginning to feature more vintage shops and cafés. These shifts are gradually blurring the historic neighbourhood boundaries and are likely to accelerate gentrification.

Around the canal, many houses appear to be in poor condition, and local residents have shared stories of extreme overcrowding. In the southern part of the Poverty Crescent, especially in Molenbeek and Anderlecht, I passed numerous social facilities aimed at supporting those in need.

In contrast, the northern part of the Pentagon and the adjacent northern and western areas of the Brussels municipality show a visible presence of roofless individuals—sleeping in unused public spaces in the morning or seeking shelter in empty office districts at night.

In Schaerbeek, Saint-Josse-ten-Noode, and Brussels-North, social facilities were less visible at first glance. While many buildings in these neighborhoods appear well-maintained, closer observation revealed a significant number of empty or squatted properties, particularly in this area.

Despite these tensions, the streets—particularly in the less ‚hip' areas—remain lively, with many people out and about throughout the day.

Fig. 5.6: Photographs made by author, showing height difference and elevator bridging it at Palais de Justice in 2024

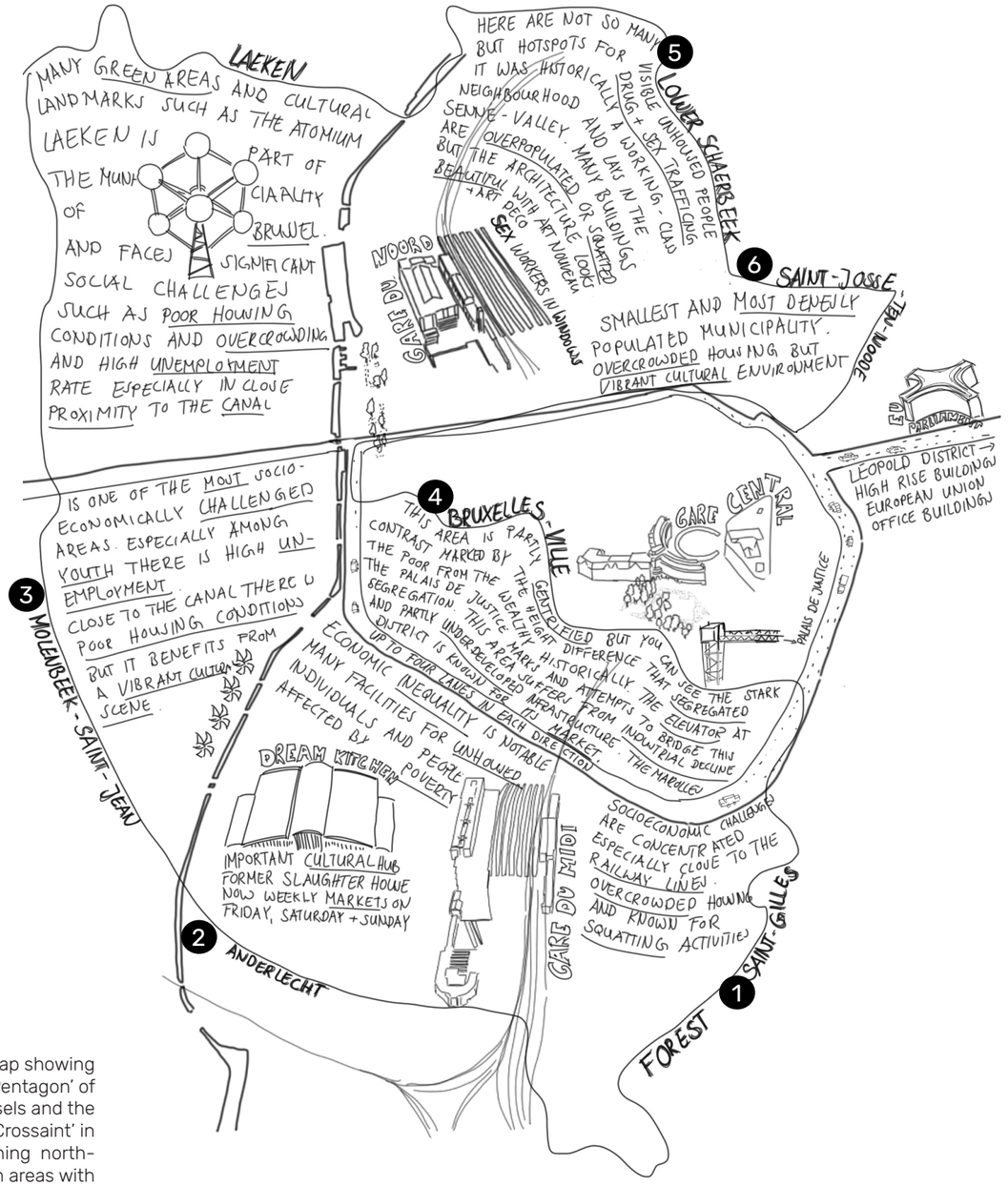


Fig. 5.7: Map showing the ‘Pentagon' of Brussels and the ‘Poor Crossaint' in the adjoining north-western areas with observations from fieldwork, made by author

Along the way, I noticed many spaces where communities had begun to activate and use the urban fabric in ways that diverged from its intended design.

There were many closed-off areas or empty buildings and roofless individuals sleeping rough next to busy streets, under arcades, in set-backs, small self-built shelters.

But there were also patterns of resistance and creativity: I saw communities turning a underused market space into a community kitchen that rescued leftover vegetables from food waste and served free, healthy meals, individuals activating underused buildings, windowsills used for food sharing, water tap extensions fixed to building facades, and public power boxes with high-voltage plug-ins that mobile services used to offer much-needed facilities such as laundry or showers.

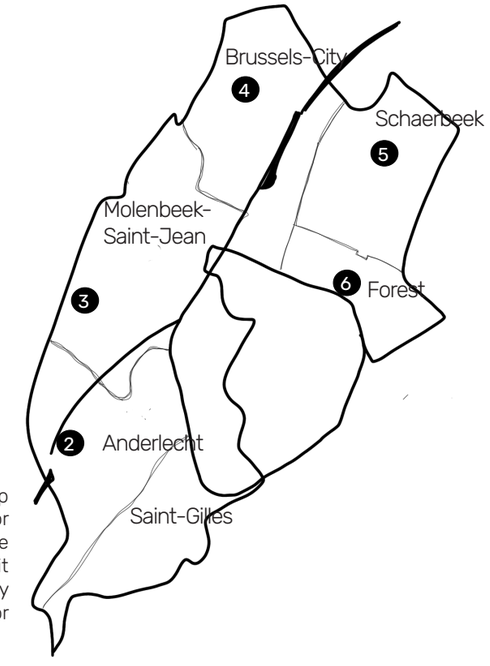


Fig. 5.8: Map showing the 'Poor Crossaint' and the 6 municipalities it includes, made by author

1 Saint-Gilles

Squatted building in good condition

4 Brussels-City

rough sleepers finding shelter from rain under eaves

2 Anderlecht

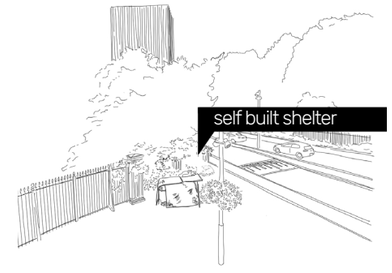
Dream Kitchen: Serving free, nutritious meals to nourish everyone

3 Molenbeek

Food placed on windowsills, freely available for everyone

5 Schaerbeek

existing watertaps or plug-in points in building fascades



6 Saint-Josse ten Noode

A small, self-built shelter located near a park and a road

conclusions from informal conversations

ETHOS 1 - Roofless

Due to the concentration of help facilities in the Pentagon and the Poverty Crescent, many unhoused individuals remain in close proximity to the city center (Bruss'Help, 2022). Common locations where roofless individuals seek help or shelter include both the North and South Stations, as well as underground spaces like the Metro—especially after shops close.

At night, quieter areas such as the Leopold District also see increased numbers of roofless individuals seeking safety or rest.

During the day, many gravitate toward busy public spaces, where there are more opportunities to receive food, money, or social interaction.

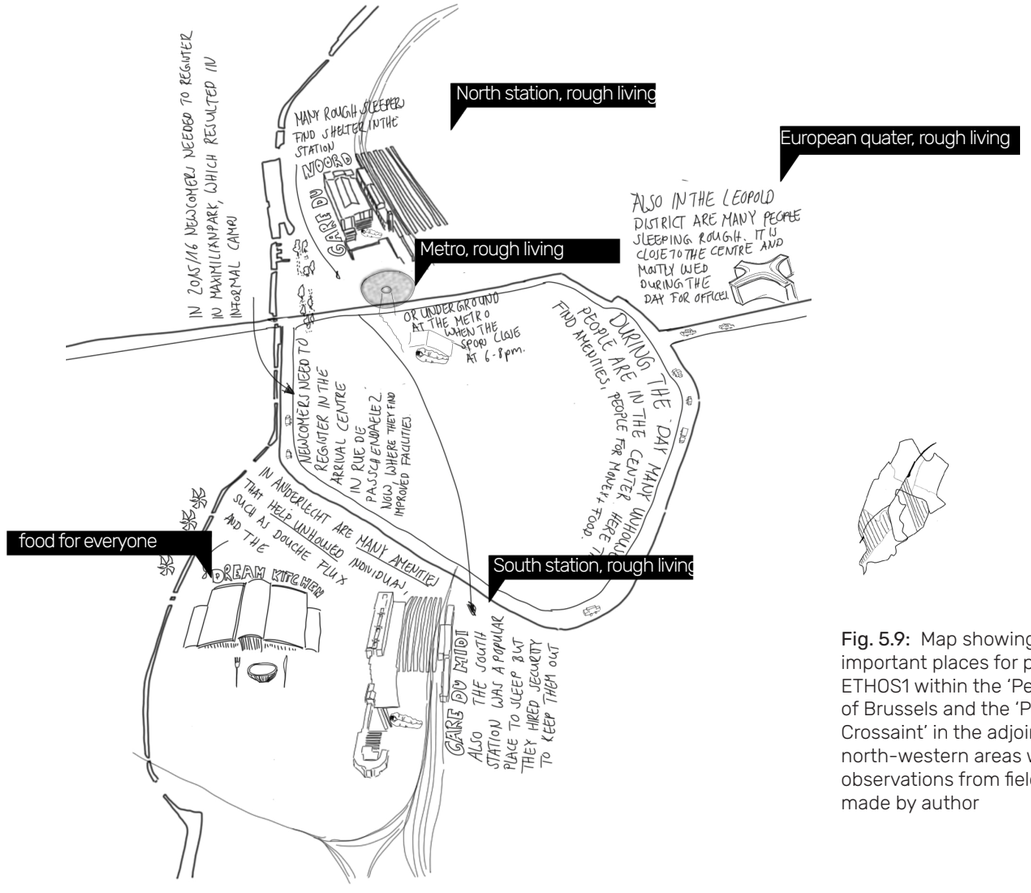


Fig. 5.9: Map showing important places for people in ETHOS1 within the 'Pentagon' of Brussels and the 'Poor Crossaint' in the adjoining north-western areas with observations from fieldwork, made by author

ETHOS 6 - Hidden

In contrast, individuals experiencing less visible forms of homelessness—such as those couch-surfing or squatting—are often unaware that they fall under the definition of homelessness. As a result, they frequently do not seek out available support services.

Many of them are concentrated in the outer areas of the Poverty Crescent, particularly in northern neighborhoods like Schaerbeek and Saint-Josse-ten-Noode, where squatting is more common.

Nevertheless, also these individuals often spend their days outdoors—not only searching for basic resources, but also, perhaps more importantly, seeking connection, autonomy, or inspiration.

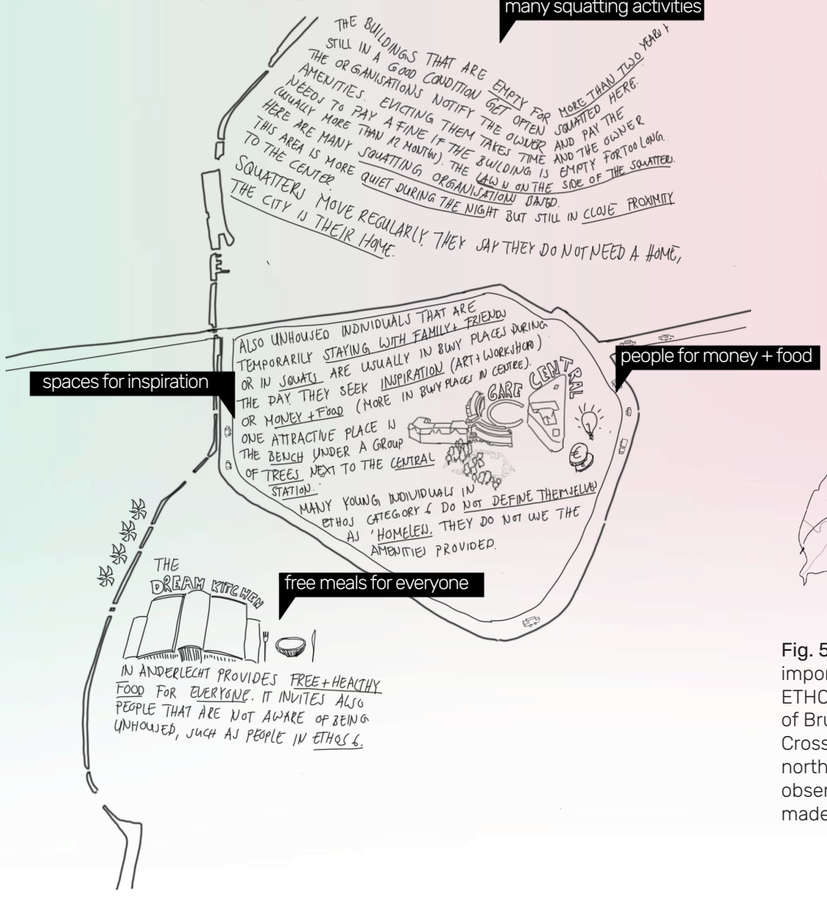


Fig. 5.10: Map showing important places for people in ETHOS6 within the 'Pentagon' of Brussels and the 'Poor Crossaint' in the adjoining north-western areas with observations from fieldwork, made by author

SQ1 Understanding Liveability

What are the socio-spatial needs of young fluidly housed adults in Brussels?

Fig. 5.11: Urinal in the Pentagon in Brussels, photograph taken by author

06

socio-spatial needs

This chapter provides an overview of the socio-spatial needs of young fluidly housed adults in Brussels.

It begins by examining their own perceptions of their living situations and outlines the variety of arrangements they navigate, based on informal conversations conducted during fieldwork. Drawing from these insights, I introduce four fictional personas—each representing a composite of lived experiences to protect the individuals' privacy. Through these personas, I explore different patterns of movement and staying within the urban fabric, concluding with existing systemic barriers and the resulting socio-spatial needs faced by these young adults.

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Fig. 6.1: Rue de la Loi, Brussels Photograph by Max Schuska

Informal Conversations

Fig. 6.2: Part of conversation with young fluidly housed adults in Brussels, made by author

To understand the lived realities of young fluidly housed adults in Brussels, I needed to speak with them directly. However, there was no spatial data available, and overall, very little information about this group. Because they are considered highly vulnerable, I also wanted to avoid intimidating them — so I began by striking up informal conversations on the street, often with small groups, asking people about homelessness and their living situations.

To protect their privacy, I summarised the insights from these conversations rather than recording detailed transcripts. At the same time, I kept a fieldwork diary to document key interactions and observations throughout the process.

When I approached a group of young people, each one said, “I’m not homeless, but...” and then described living conditions that clearly fell within different forms of homelessness — from staying with grandparents after a period of rough sleeping, to occupying squats. This revealed not only the hidden nature of youth homelessness but also how young people often do not see themselves as homeless, nor are they easily recognised as such by outsiders.

This realisation prompted a process of reflective inquiry that helped me approach new contacts more thoughtfully and eventually led me to speak with seven more young adults who were affected by youth homelessness — many of whom were not fully aware of their situation at first.

Fig. 6.3: showing fictive faces of existing young people experiencing homelessness, made by author

When I asked the young adults how they live, they shared a wide range of stories that made me realize just how multifaceted the lived experiences of fluidly housed individuals are. These conversations ultimately led me to rethink existing definitions and form a new one—one that better reflects the fluctuating nature of their living conditions without reinforcing the stigma often associated with the term „homelessness."

Among the people I spoke with were undocumented youth, students, individuals not in education and others working irregular jobs. Their daily lives were vastly different, yet all navigated unstable housing situations.

Some told me that the idea of a home was not something they aspired to. One person said, „For me, a home is not important. For you, maybe. But for me, the whole city is my home."

Others had to leave home in the past and experienced stretches of rough sleeping, staying with friends or family, or participating in solidarity housing projects, where they did not need to pay rent or for food but had to share their room with others and follow certain rules.

Some had found temporary places that offered a sense of safety, but these were often insecure—such as squatted buildings or precarious rental agreements where the contract could be terminated at any moment. Others lived in shared apartments but no longer felt at home due to social tensions, and wanted to leave, yet had no affordable alternatives in sight.

Fig. 6.4: fictive faces with real conversations with young people experiencing homelessness, made by author

To show the precarity of the living situations faced by young unhoused individuals—while avoiding the stigma associated with the term “homeless” and more accurately reflecting their lived reality—I propose the term “fluidly housed.” This term captures the precarious yet dynamic condition of young people leading a nomadic urban life, continuously shifting between moments of staying and moving within the city.

fluidly housed

ETHOS 1 - 6

individual experiencing fluctuating conditions of homelessness - sometimes being sheltered in occupied buildings, sometimes staying with friends, and at times enduring periods of rough living

Also: Being at home in changing accommodations within the same city.

Four Personas

Fig. 6.5: Four fictive personas based on lived experiences of young fluidly housed adults, made by author, shown on next page

To explore both the differences and shared elements in the daily routines of young, fluidly housed adults—while protecting their privacy—I created four personas based on the informal conversations I had with individuals from my focus group. These personas reflect a range of living situations and help to highlight key places and movement patterns across the city.

On the following slides, each persona is illustrated through a short graphic novel, making their stories and socio-spatial needs more tangible and relatable.

Luca, 22 years
Street Artist
Active in Squatter Movement
Lives in changing Squats
From Brussels

I'm a street artist, always moving between squats in Brussels. The city is my home, but no one place for too long. I'm deep into the squatter movement—fighting for spaces, creating art, and building communities. My dog, Rocco, is always with me, my little shadow.

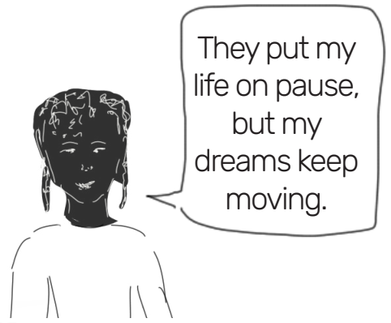
Workshops keep me going—screen printing, woodwork, spoken word—anything hands-on and collective. I love connecting with people, sharing skills, and making something out of nothing. You'll find me at abandoned buildings, community spaces, or painting on open walls and bridges. Stability isn't my thing, but creating and resisting? That's life.

Robin, 17 years
College Student
Volunteers in Rainbow House
Lives temporarily in Solidary Housing
From Brussels

Things at home got rough when I came out, so I had to leave. Now I have a temporary room in solidary housing—not perfect, but it's safe.

The Rainbow House is my safe space. It's where I meet my friends, breathe, just be myself. I also volunteer there, helping out where I can. It feels good to give back, and picking up shifts at the bar lets me contribute to rent, even though I don't have to.

I'm the first in my family to go to college, planning to study psychology. I know what it's like to feel lost, and I want to help others find their way.



Awa, 25 years
Waiting for Papers
Is involved in the Dreamkitchen
Lives temporarily in Solidary Housing
From Côte d'Ivoire

I came to Brussels hoping for a better future. I found a solidary housing project, where they told me I could stay for six months—now it's been three years, and I'm still waiting for my papers. London is my dream, but for now, I'm stuck in here.

I want to work with children, to teach them care and joy, but without papers, I can't. So I wait. In the meantime, I go to the Dream Kitchen. It's more than just a place to eat—it feels like family, a moment of warmth in all this uncertainty. I can sign in when I help cooking, those hours look good on my application the volunteers say.

Sam, 19 years
Quit School
Depends on Mobile Services
Lives Rough
From Ghent

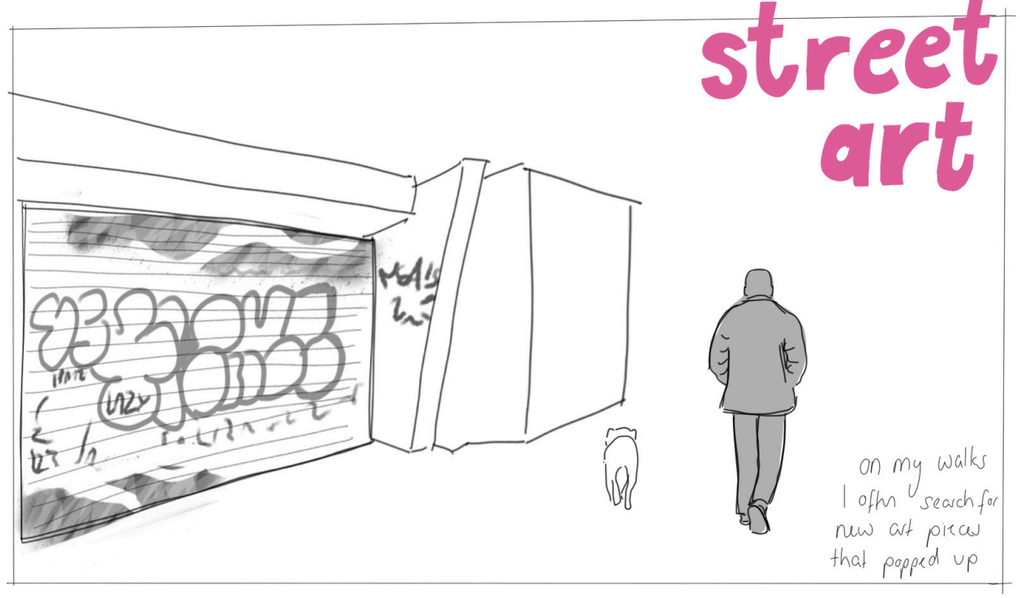
I lived in a run-down building for almost a year. The condition was bad, but the rent was cheap. When the landlord sold the house, I had only one month to find something new. No chance. So now I live on the streets.

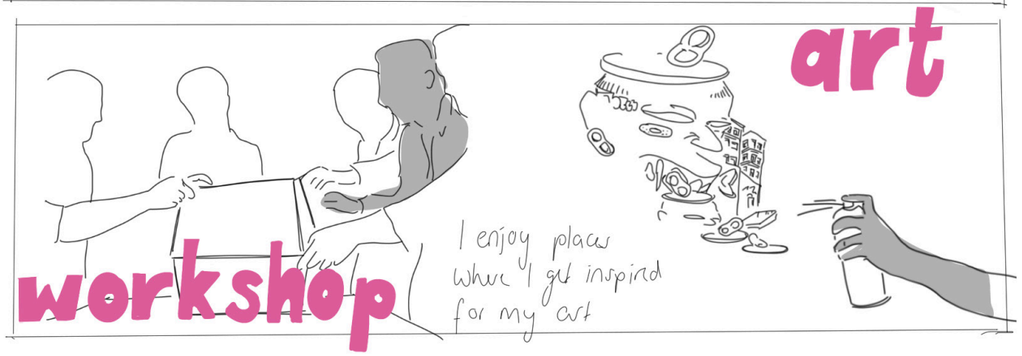
Shelters? Not an option—too much violence, too much theft. My friends were trouble, so I left them too. Now, every night, I have to find a new place to sleep. Every day, I keep moving.

The city is a game of survival. Busy places are best during the day—easier to get some money, some food. At night, I stick to the edges of the Pentagon, where it's quieter, safer. But nowhere is really safe. Some nights, trouble still finds me.

lucas everyday

Late in the morning, Luca wakes up in the building they squatted last week. They mobilized people from the streets, organizing mattresses and painting the windows. The building had been empty for over 24 months, so the owner has no choice but to let them stay, or else face the leegstandstax.



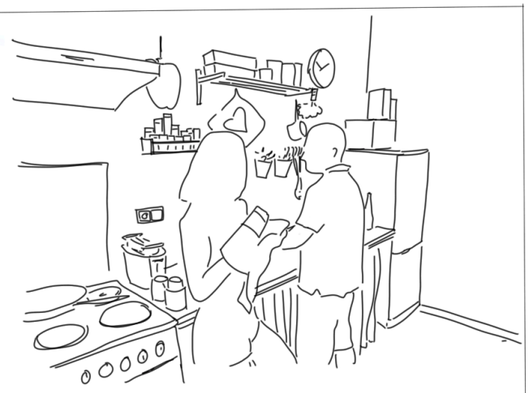


robins everyday

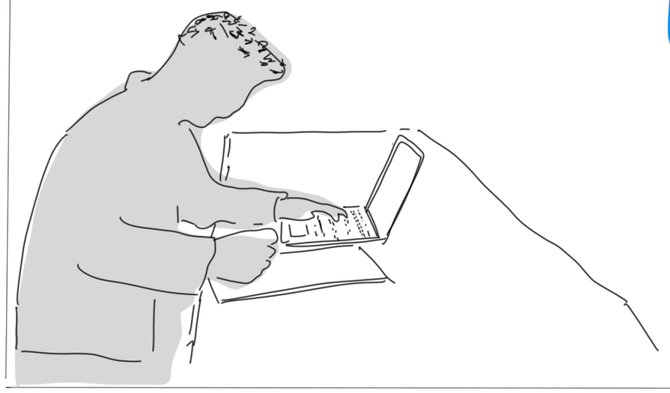
Robin wakes up in their temporary room in solidary housing, grateful for a roof but still feeling the weight of uncertainty. They rush to get to college on time, grabbing an apple and passing their roommates in the kitchen as they head out the door.

shared kitchen

On my way to school I pass by my roommates doing their chores



library



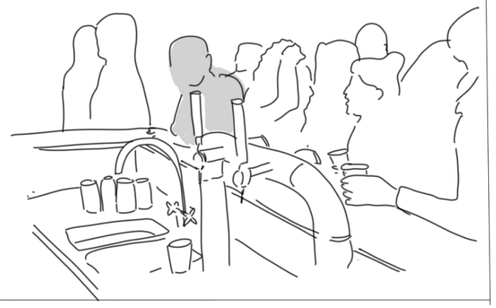
I like the library, here is space, I can concentrate and have access to power and internet

many students complain about the food in the canteen but it is cheap and I do not have to walk far.

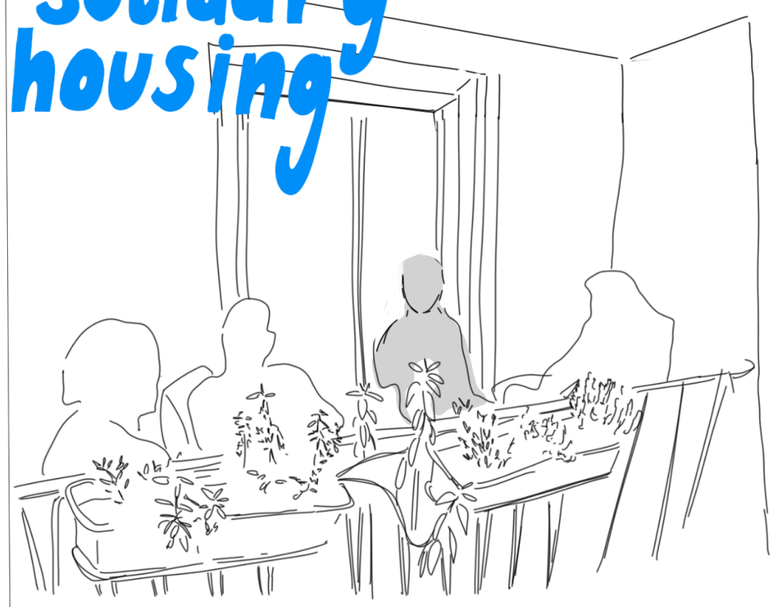
Canteen

rainbow house

I like to come here, it is the only place where I can just be myself



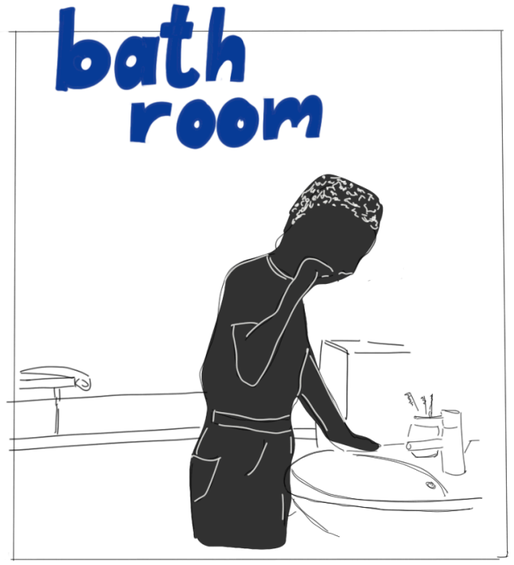
solidary housing

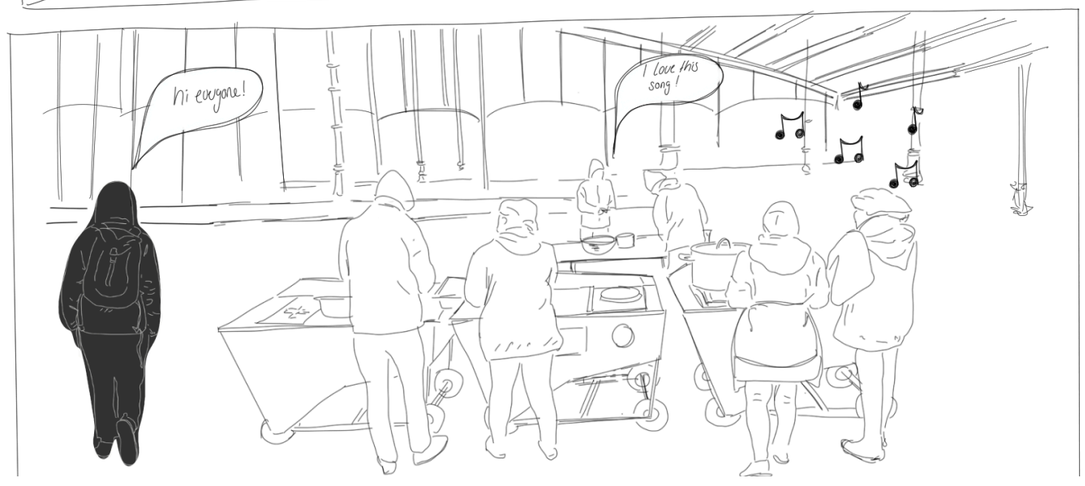


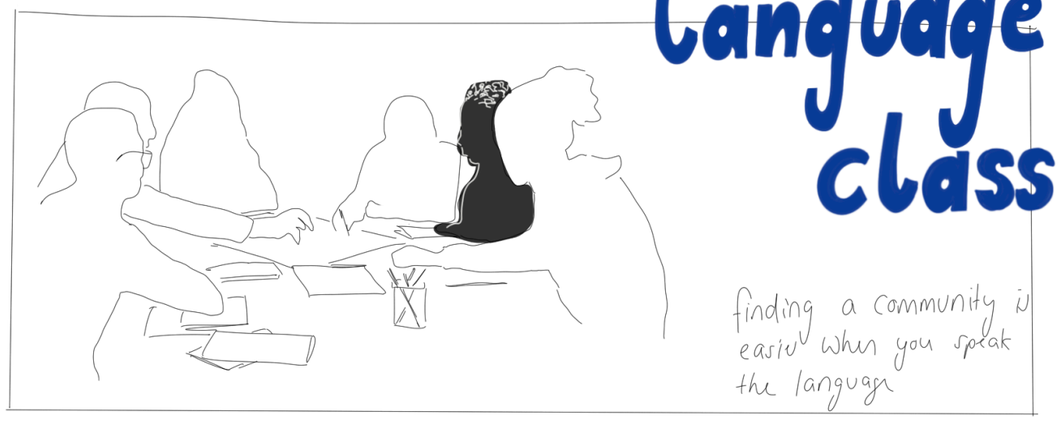
It is nice to be able to hang out with my roommates but I also do not always feel like joining

awas everyday

Awa wakes up late, the last two days spent inside, fighting a deep depression. It's been raining, but today, finally, the sun is out. It's Monday, the day she goes to the Dream Kitchen, where not only can she get a meal, but also take vegetables from the market home.

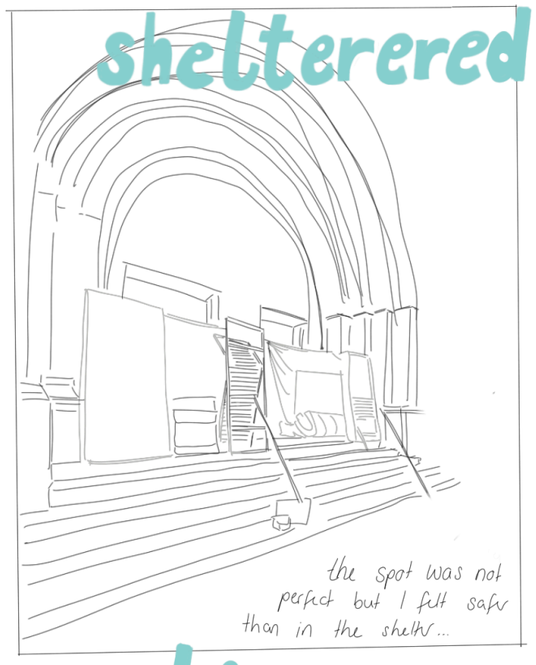


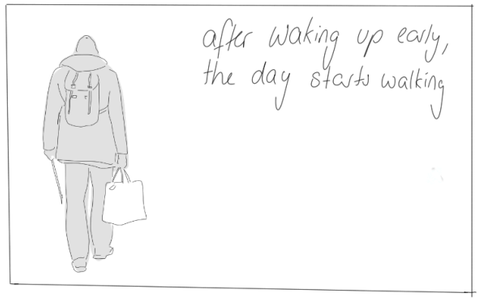




The night was cold, and the street was noisy for hours. At least he found shelter with a few others—it feels safer that way. He has to start moving before more people occupy the streets. He packs his things, starts walking.

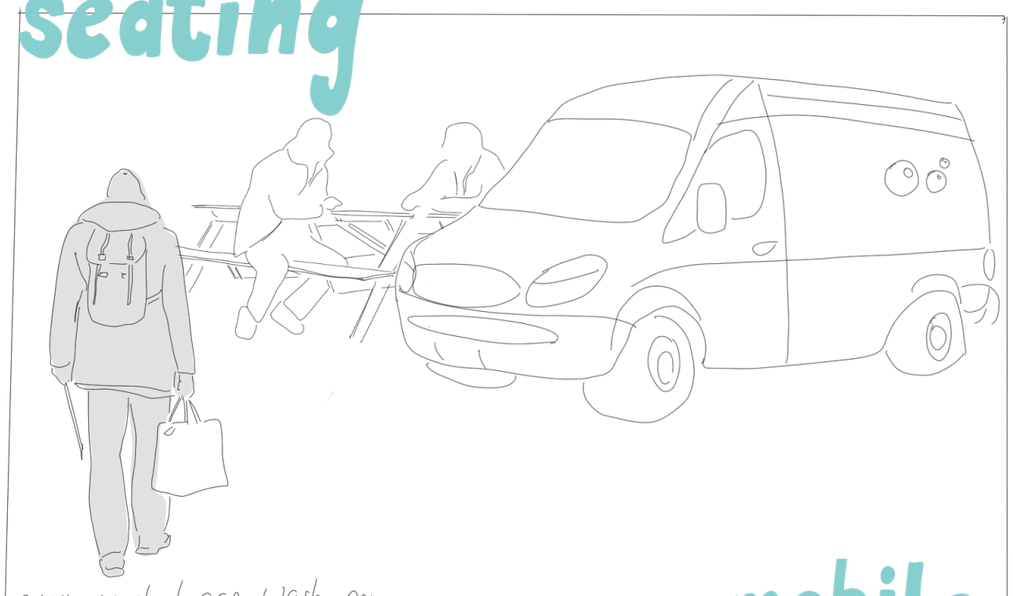
sheltered





no toilet

seating

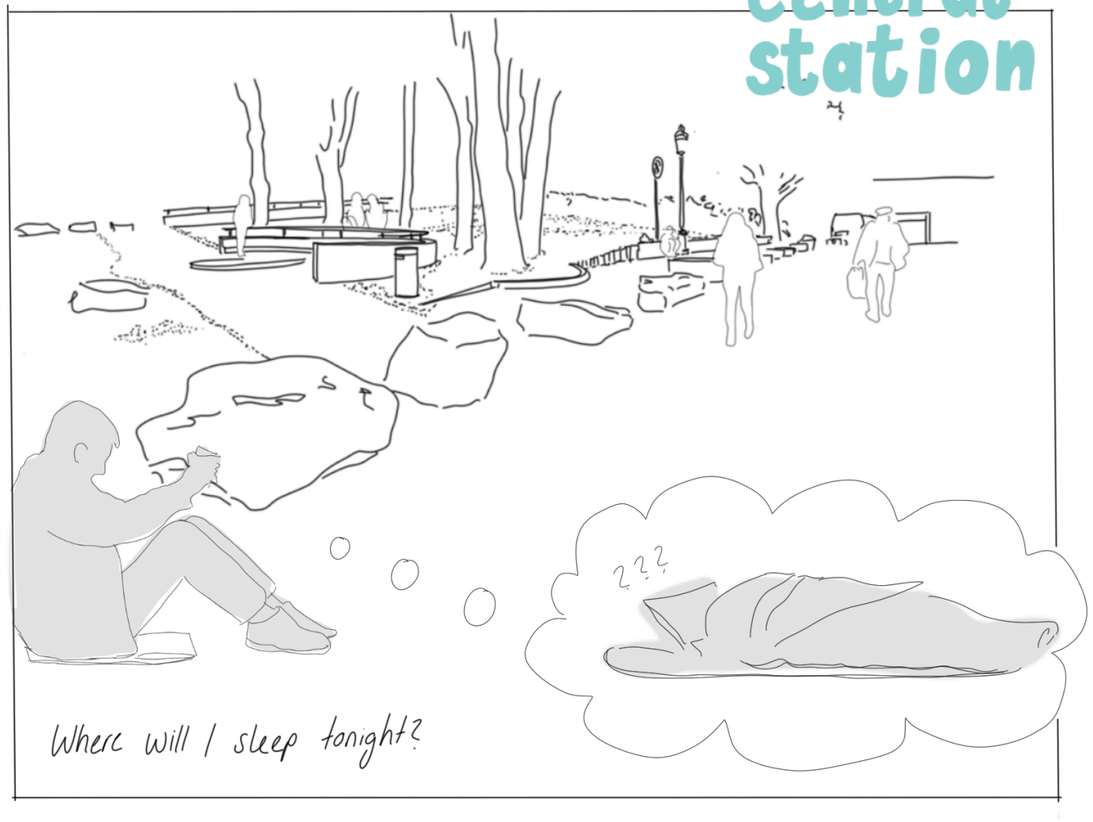


mobile service

mobile service

community kitchen

central station



subconclusion

systemic barriers young fluidly housed individuals face

Linking the literature review from the problem analysis (p.31+35) to the lived realities of each persona, I recognized that, while all four personas show high resilience and creativity in navigating daily life despite their fluctuating living conditions, each individual faces different systemic barriers that prevent them from fully participating as civic citizens. These barriers limit their ability to fully reach their full potential to become civic citicens, even though they each possess the potential to do so.

While all the barriers identified affect each persona to some extent, their impact varies. For Sam, who is roofless, many of these obstacles—such as hostile architecture and lack of accessible public space—are deeply marginalizing. In contrast, the other three personas experience these barriers less intensely. However, both Sam and Awa are particularly affected by complex bureaucratic systems and the absence of a reliable support network, albeit in different ways: while Sam faces a more general lack of institutional recognition and support, Awa in addition is also facing the struggle to obtain legal residency and documentation.

Ultimately, addressing these structural barriers holistically is essential to improving the everyday lives and long-term prospects of young fluidly housed individuals.

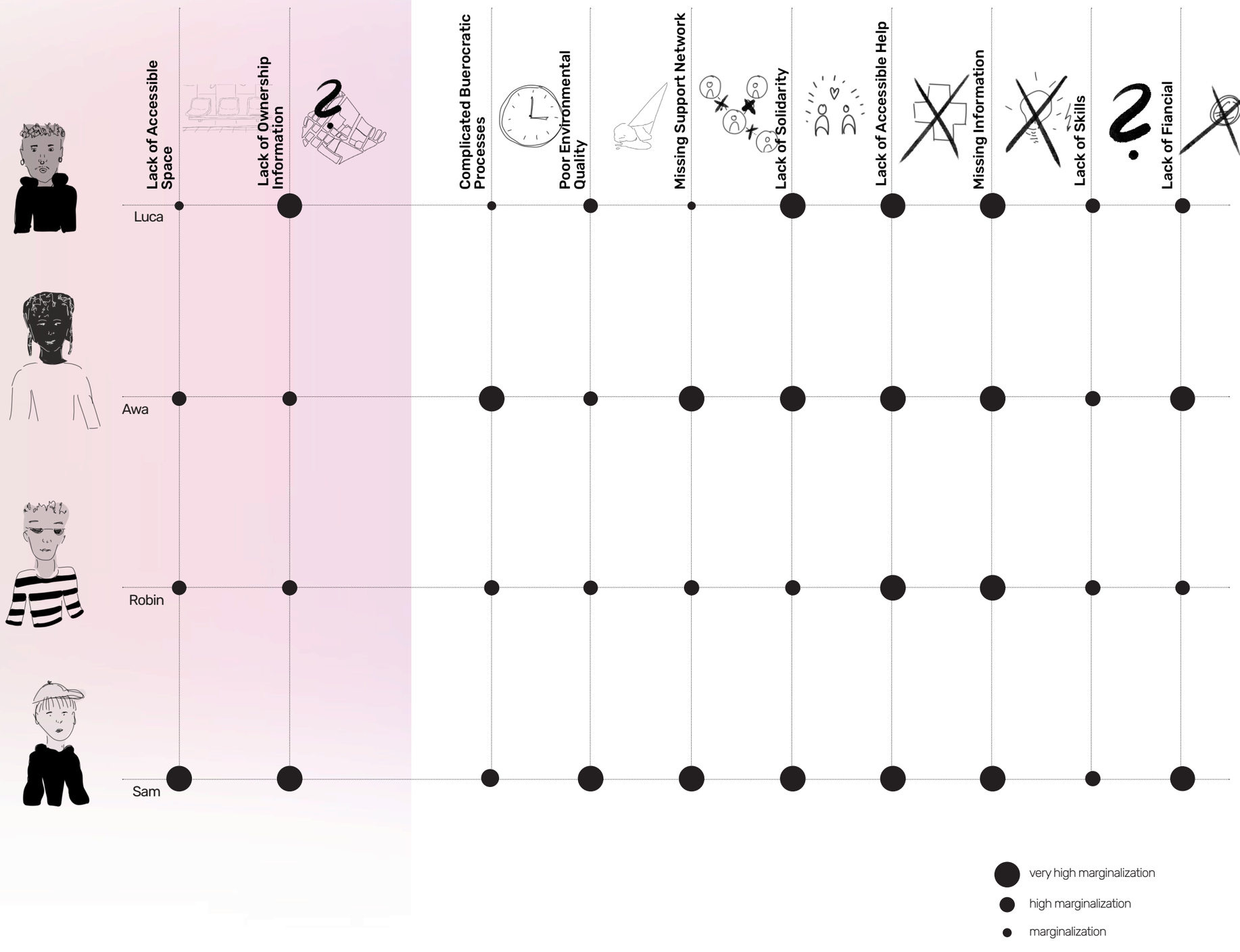


Fig. 6.6: overlapped findings from literature review and informal conversations to identify systemic barriers, made by author

This analysis led me to identify eight key socio-spatial satisfiers that—while varying in importance from one persona to another—are all highly relevant to improving the liveability of young fluidly housed adults:

Accessible food
Accessible water
Hygiene
Privacy
Security
Autonomy & Flexibility
Accessible Knowledge
Solidarity & Community

These overarching satisfiers are closely tied to the fundamental human needs and the three emotions relevant to homemaking in the public: health and security, autonomy, and a sense of belonging (see p.54-57).

Based on the understanding of people as introverts—who gain energy from internal thoughts and deep, meaningful interactions—and extroverts—who are energized by social activity and external engagement (Sutton, 2025)—I define corresponding socio-spatial needs and conditions.

Introverted socio-spatial needs: describe those needs that are best met in spaces that support privacy, quiet, and retreat, such as for sleeping, hygiene, or focused activities.

Extroverted socio-spatial needs: describe those needs that are best met in spaces that foster connection, solidarity, and togetherness, such as community kitchens or collaborative workshops.

Luca

Awa

Robin

Sam

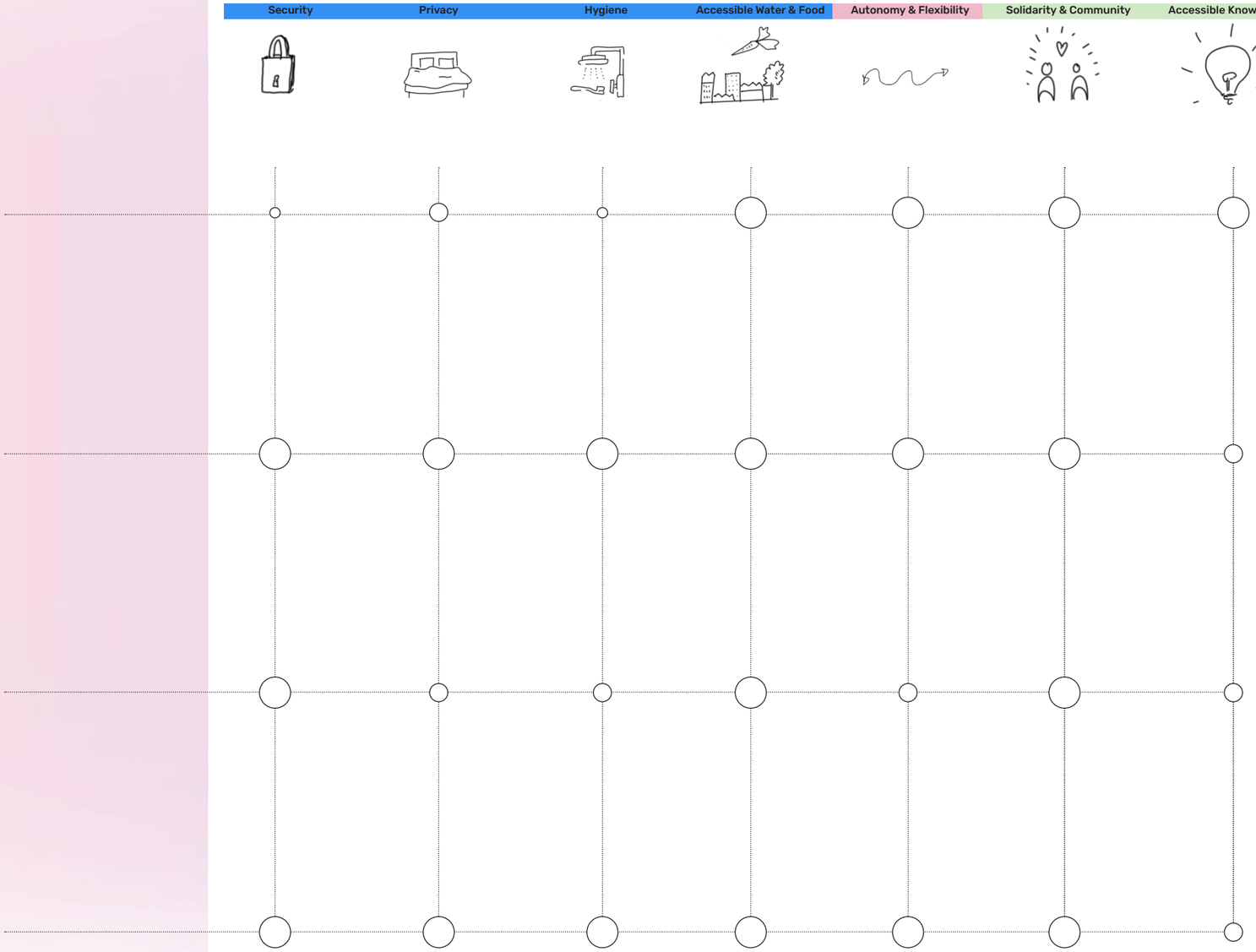


Fig. 6.7: showing importance of identified needs depending on living situation of persona, made by author

Hägerstrand Map

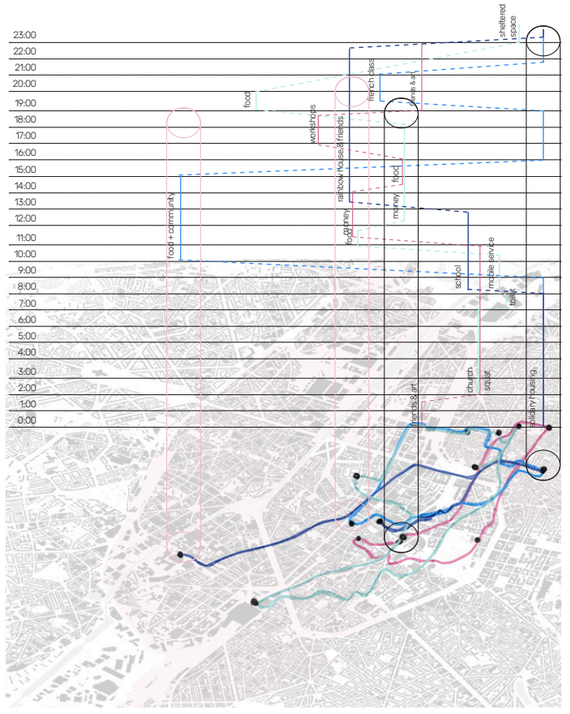


Fig. 6.8: smaller version of Hägerstrand Map showing patterns of movement and stying of four personas, made by author

Time-geography, developed by geographer Torsten Hägerstrand, is a conceptual framework that examines how human activities are shaped by their simultaneous positioning in time and space (Gren, 2009).

In this thesis, time-geography is used to trace the daily movement patterns of each persona as illustrated in the graphic novel. This approach helps reveal where needs are met, how much time is spent in specific locations, and where paths intersect—providing insights into the spatial and temporal dimensions of everyday life.

socio-spatial needs

hägerstrand map

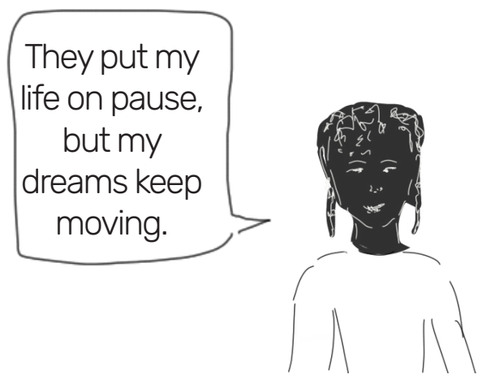
patterns of movement and staying
of different personas

Luca, 22 years

Street Artist
Active in Squatter Movement
Lives in changing Squats
From Brussels

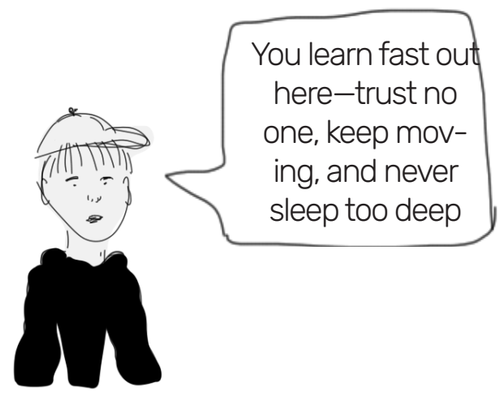
Robin, 17 years

College Student
Volunteers in Rainbow House
Lives temporarily in Solidary Housing
From Brussels



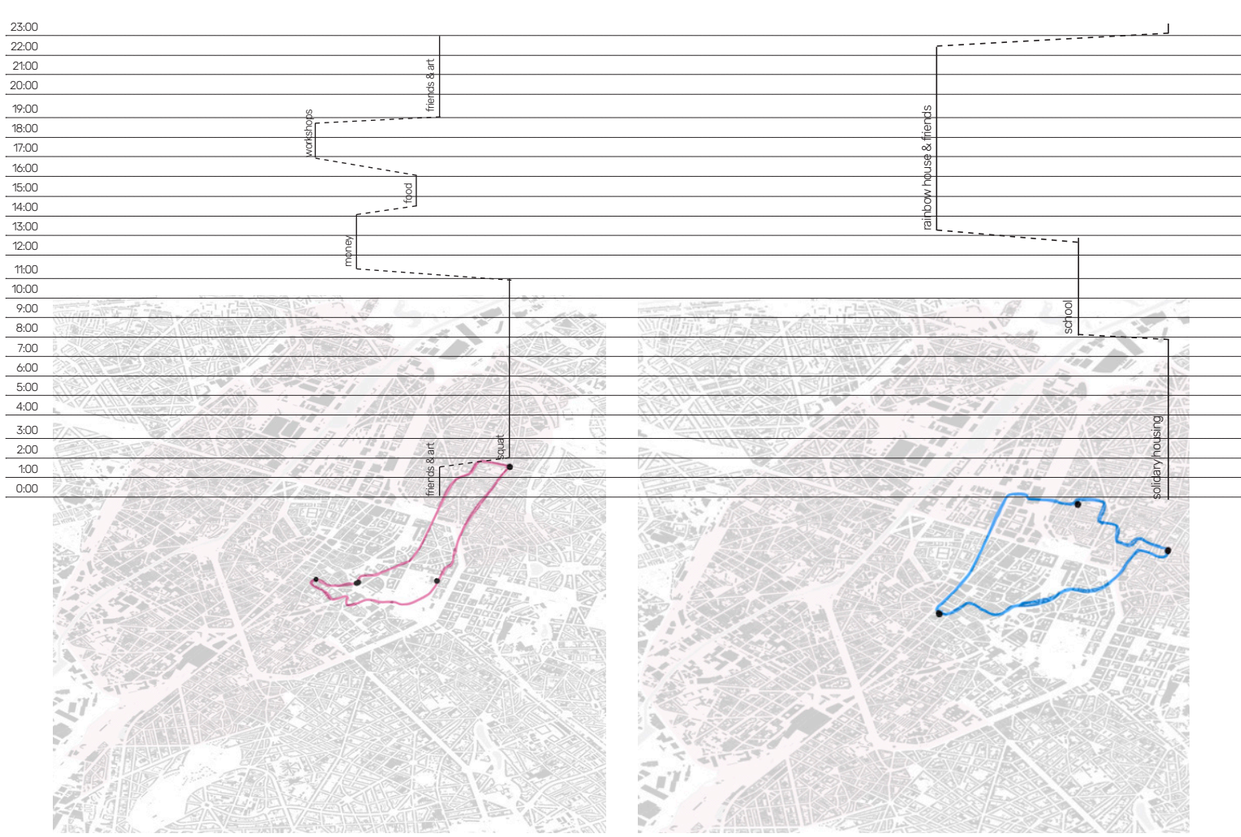
Awa, 25 years

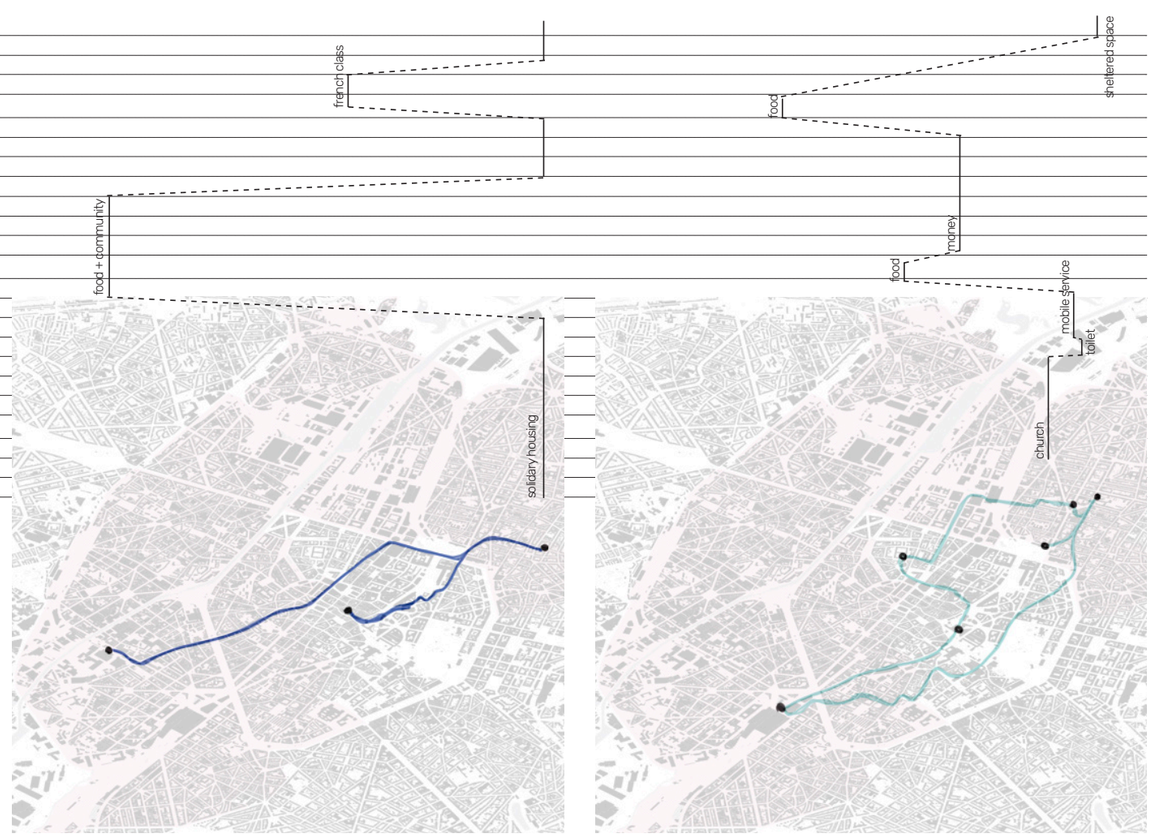
Waiting for Papers
Is involved in the Dreamkitchen
Lives temporarily in Solidary Housing
From Côte d'Ivoire



Sam, 19 years

Quit School
Depends on Mobile Services
Lives Rough
From Ghent

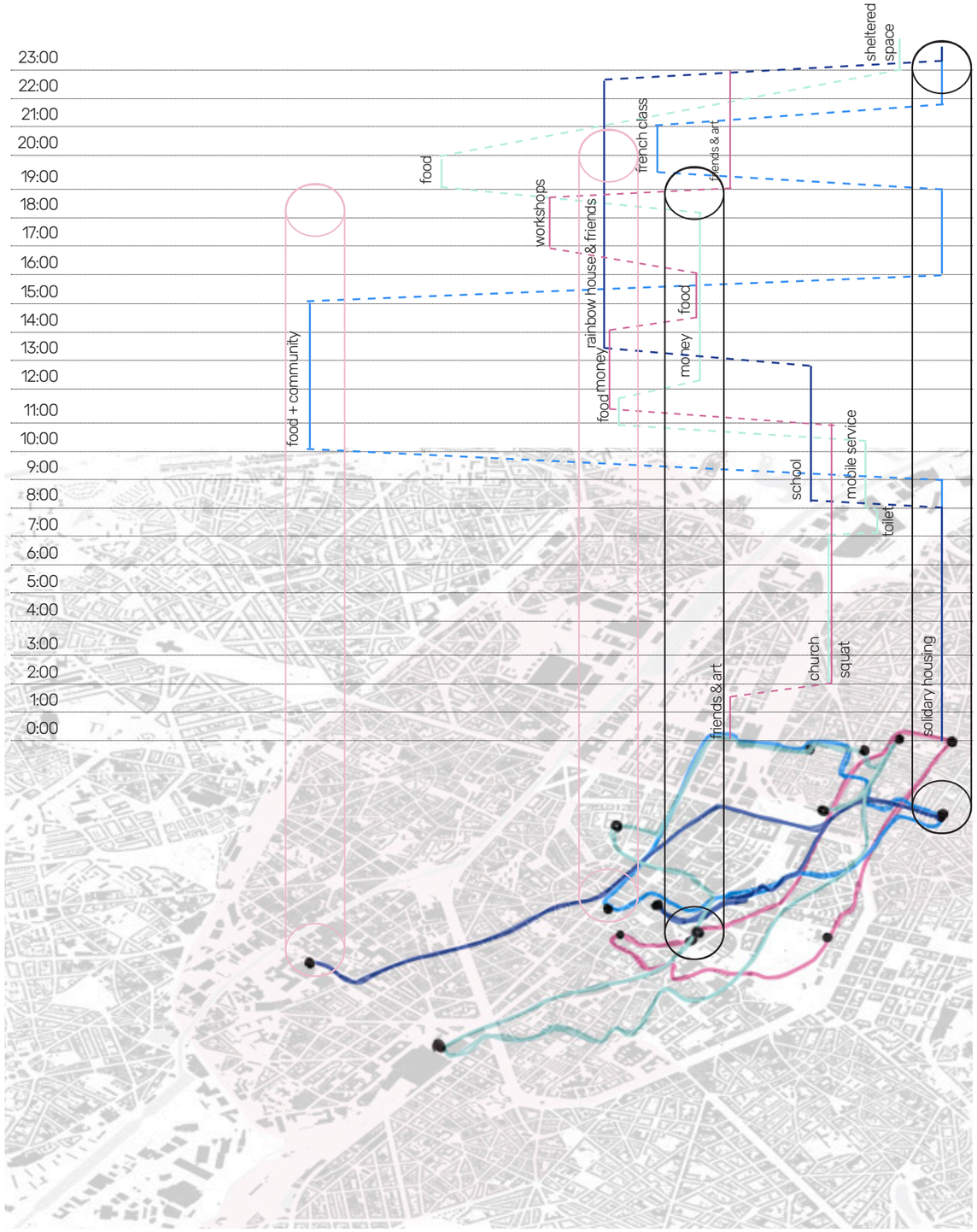




By overlapping these patterns of movement and staying, it becomes evident that the amount of time each individual spends moving versus staying in one place largely depends on their access to safe, welcoming spaces. For instance, Sam is constantly on the move with limited opportunities to rest, while Robin benefits from access to both a school and the Rainbow House—places where they feel safe and can stay for longer periods.

The map shows that their paths rarely intersect. This is because they are active at different times of day and often use the same spaces but in entirely different ways, shaped by their individual needs.

Fig. 6.8: Hägerstrand Map showing patterns of movement and stying of four personas, made by author



This chapter emphasizes the importance of using diverse methods to detect and showcase the socio-spatial needs of young fluidly housed adults in Brussels. Through multiple informal conversations and innovative thinking, I eventually identified eight young adults who fit the profile of fluidly housed individuals.

The use of four personas, proved to be a valuable tool in showcasing the dynamic, self-organizing nature of this demographic while respecting their privacy. These individuals actively engage in processes of agency, such as occupying buildings, creating informal governance structures, and challenging conventional forms of cohabitation, highlighting their potential for self-determination. However, systemic barriers—such as the lack of a fixed address, limited access to spaces, and the absence of legal rights often prevent them from fully participating as civic citizens. Therefore I identified eight key socio-spatial satisfiers, ranging from extrovert to introvert, as defined earlier (p.130).

The Hägerstrand time-space map played a crucial role in revealing the movement patterns and daily routines of the personas. It offered a clearer understanding of the complex socio-spatial challenges they face and helped identify a significant lack of spaces that foster solidarity within this demographic.

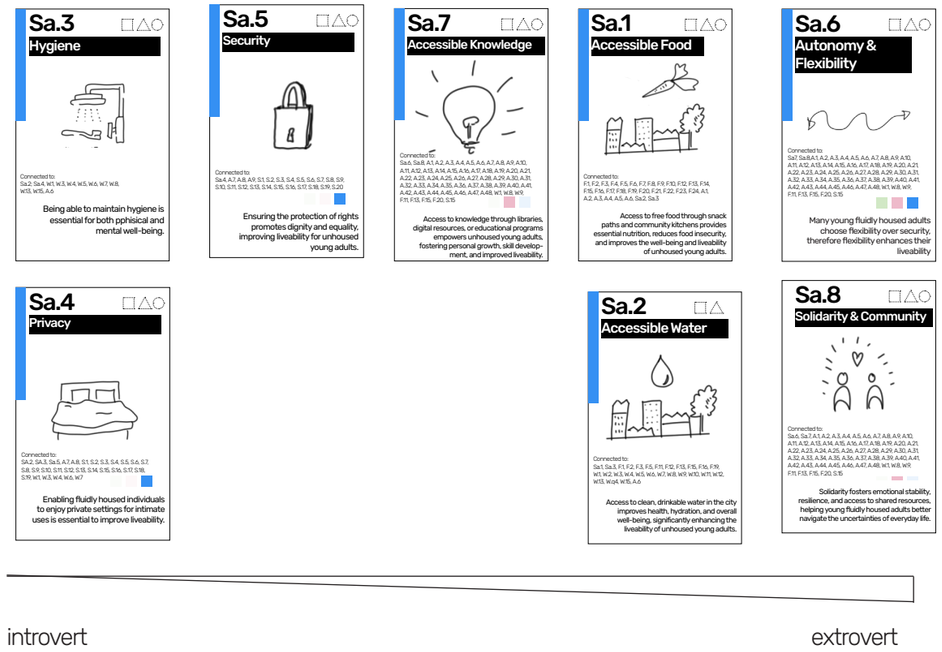


Fig. 6.9: identified satisfiers in form of a pattern organized according to gradient of privacy they require, made by author

Fig. 6.10: Image on the façade of a run-down building between Clemenceau Metro and the Abattoir in Anderlecht, photograph taken by author

SQ2 Infrastructure of Care

Which socio-spatial conditions can form an 'infrastructure of care' that responds to these needs?

Fig. 6.11. Graffiti in Schaerbeek, photograph taken by author

07

socio-spatial conditions

This chapter outlines the socio-spatial patterns that respond to the previously identified needs of young fluidly housed adults in Brussels.

It begins by presenting insights from fieldwork and ethnographic mapping, followed by a set of patterns linked to these needs. These patterns—characterized by their potential for bottom-up activation—collectively contribute to an emerging infrastructure of care. The chapter concludes by identifying five key areas in Schaerbeek where these patterns can be explored and tested through site-specific design interventions.

07 SOCIO-SPATIAL CONDITIONS 144
.1 schaerbeek west 146
.2 ethnographic mapping 148
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.8 conclusion 204

Fig. 7.1: Rue de la Loi, Brussels Photograph by Max Schuska

Due to both my findings from fieldwork and the informal conversations, I delved deeper into the municipality of Schaerbeek.

Schaerbeek is one of the 19 municipalities of Brussels, characterized by its diverse demographic and socio-economic profile (Brussels Institute for Statistics and Analysis (BISA), 2022).

Population: 130,690 inhabitants
Area: 7.9 km²
Population Density: 16,540 inhabitants/km²
(twice the average of the municipality of Brussels)

A significant portion of the population comprises job-seekers and social housing residents. Schaerbeek is home to people from various origins, including a substantial Muslim community. The largest groups are Moroccan and Turkish residents (Brussels Institute for Statistics and Analysis (BISA), 2022).

Schaerbeek is divided into an elevated and a lower area, each with distinct characteristics:

Eastern Schaerbeek (elevated)
Affluent Area: Known for its elegant architecture and convenient location.
Proximity: Close to major hubs like EU institutions, the financial district, and NATO headquarters.

Western Schaerbeek (lower)
Centered around the Chaussée de Haecht, renowned for its Turkish restaurants and shops 'Little Anatolia' (Readings & Walks of Brussels, 2015).
This area is geographically lower and part of the Poverty Crescent, as well as included in the priority zone for greening. The North Railway Station is located here and its residents face higher levels of poverty compared to the eastern side of Schaerbeek.

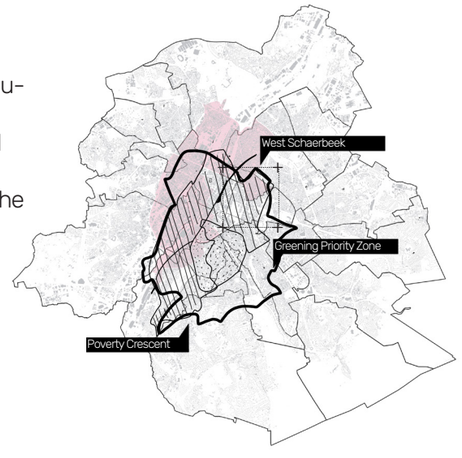


Fig. 7.2: Conclusion map with zoom-in area, made by author

priority greening
municipalities
train, tram, metro

0 150m 300m

Surce Google Satellight (n.d.). Image in QGIS

Ethnographic Mapping

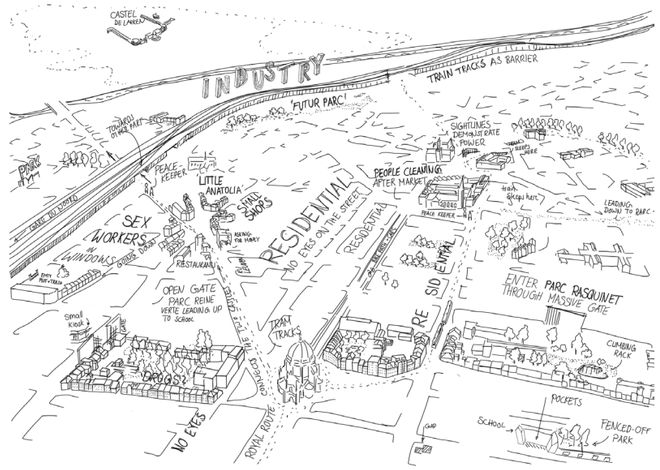


Fig. 7.3: Soft map of Schaerbeek West, made by author, shown on next page

Ethnographic mapping is a qualitative research method that combines the study of people through observation and participation with spatial analysis. It relates to lived space (as introduced in the methodology chapter) and involved multiple fieldwork explorations where I spent time in Brussels ans Schaerbeek, walking, sitting, observing and documenting how people use, move through, perceive, and interact with space.

My personal experiences from fieldwork are brought together in the soft map shown on the right. It captures the places that stood out to me most during my observations—often public spaces surrounding official buildings such as churches, the town hall, and schools. It also highlights more hidden or introverted green spaces and backyards, as well as less obvious yet important connections within the neighborhood.

This bird's-eye view reveals the potential of Schaerbeek's straight street network, which connects key locations, supports easy navigation, and enables fast movement across the urban fabric.

The map also underscores the strong spatial divide created by the train tracks, which separate the main part of Schaerbeek from the area closer to the Brussels-North municipality, contributing to a sense of disconnection. However, it also highlights key connections that cut through this barrier and offer opportunities to move between the two sides.

Another interesting finding is the Royal Route, which runs from the Château de Laeken to the Royal Palace in Brussels. This ceremonial axis follows Rue des Palais, passes through Place de la Reine near the Église Royale Sainte-Marie and KU Leuven, and continues along Rue Royale, connecting several key landmarks along the way. While this has more ceremonial relevance today, it can become a key link in the ‚infrastructure of care'.

Château de Laeken Royal Palace

Fig. 7.4: Location in Brussels, made by author

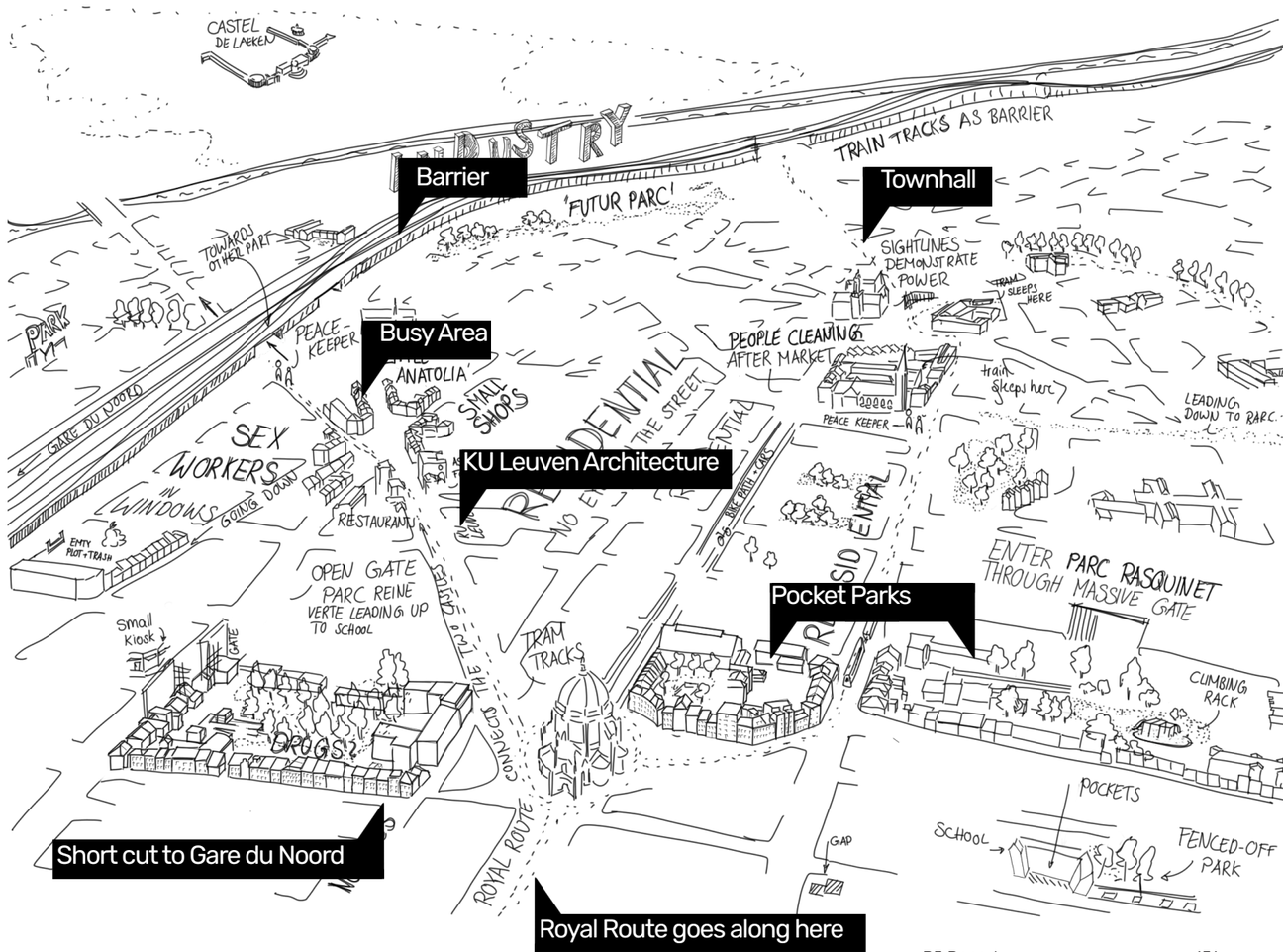


Fig. 7.3: Soft map of Schaerbeek West, made by author,

Focusing on Schaerbeek West, I delved deeper into exploring the urban fabric and how it is activated by different individuals. My aim was to understand the spatial potentials that enable such activation and to identify patterns that could inform future interventions.

As a result, I clustered my observations into several categories that reveal how small-scale opportunities—or pockets—emerge within the streetscape. These ranged from interconnected infrastructural networks to building facades and setbacks that enabled the potential to be activated by moveable elements.

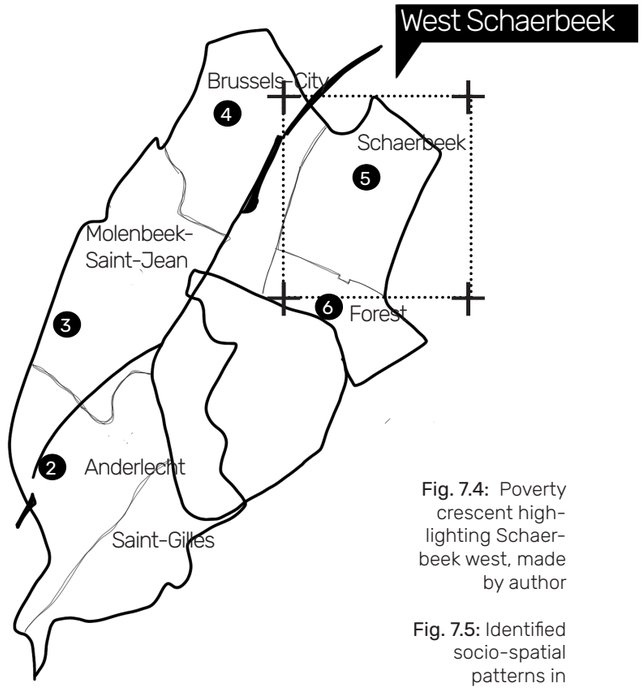
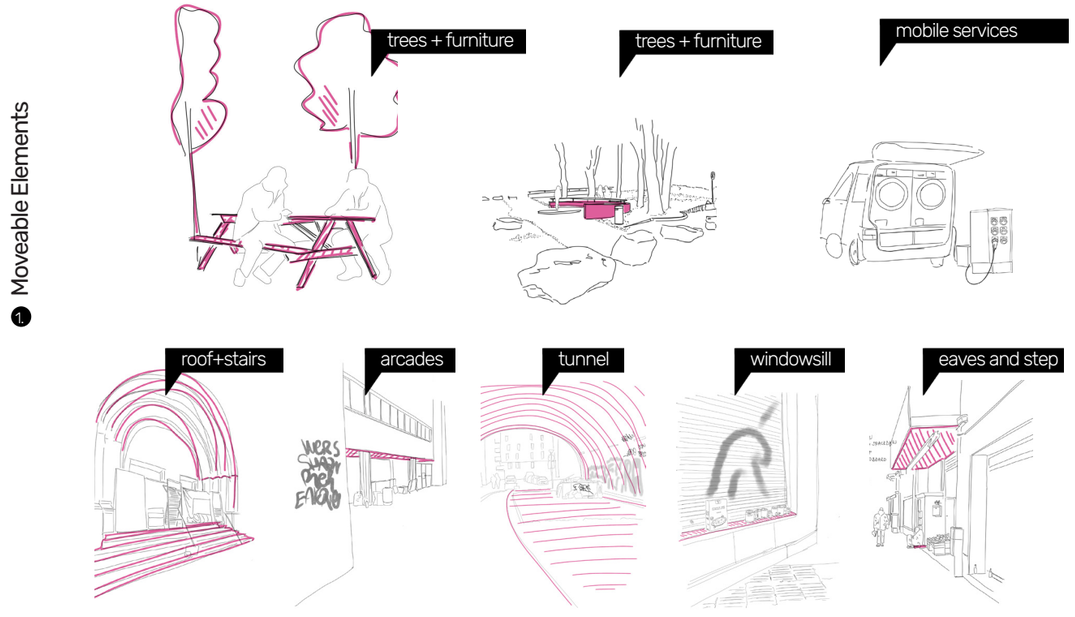
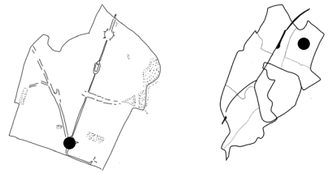


Fig. 7.4: Poverty crescent highlighting Schaerbeek west, made by author

Fig. 7.5: Identified socio-spatial patterns in Schaerbeek West, made by author

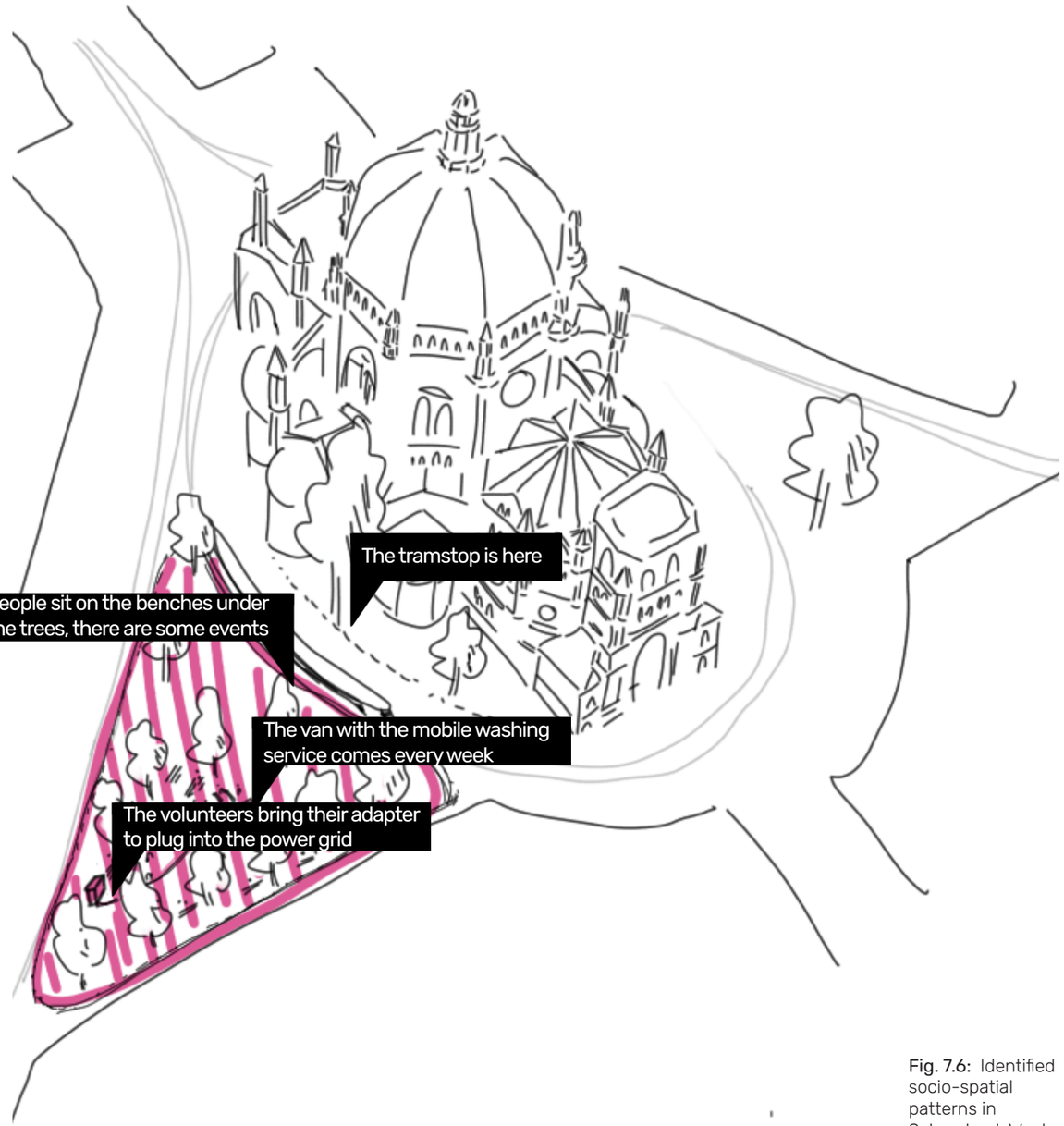




Moveable elements include both mobile services and movable furniture.

Mobile services consist of essential provisions like laundry, showers, and food distribution, typically operating on a fixed schedule, visiting designated locations on specific days of the week. Additionally, buses are often used to provide a warm environment during cold nights or serve as a free means of transport for those in need.

Movable furniture in the public or semi-public realm, on the other hand, serves various functions such as sitting, eating, meeting, or observing. When sheltered and large enough, these furniture elements also provide opportunities for sleeping, offering temporary support for those in need.



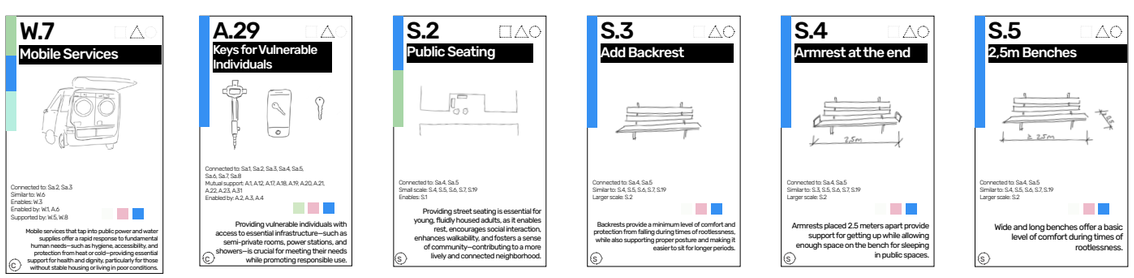
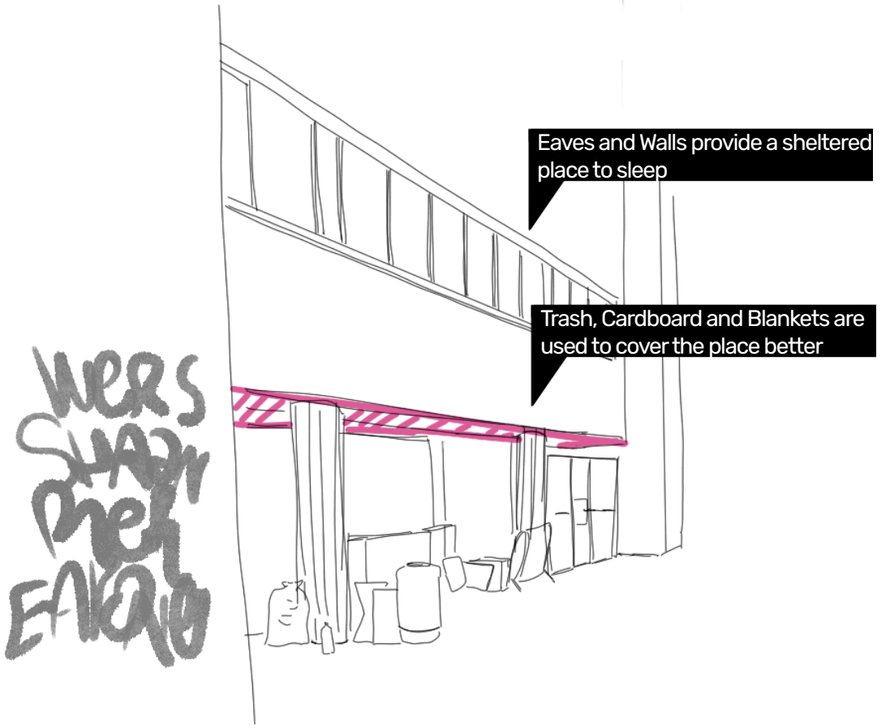


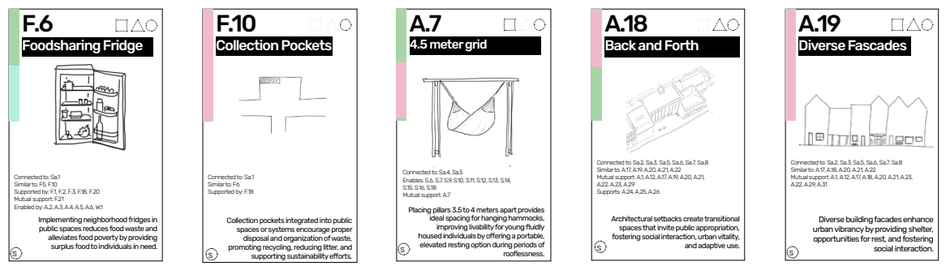
Fig. 7.6: Identified socio-spatial patterns in Schaerbeek West, made by author

Pockets are small spaces in the urban environment that offer shelter, practical use, or opportunities for social interaction.

Building-Related Pockets include setbacks in façades, arcades, as well as smaller features like window sills recessed into the façade.

Larger, covered spots were sometimes used for resting or temporary shelter. Larger setbacks were more frequently used for streatfurniture or seating. Smaller areas like window sills were used for food distribution.





patterns of resistance
in schaerbeek west

buildings
green space
municipalities
priority greening
municipalities
train, tram, metro

0 150m 300m

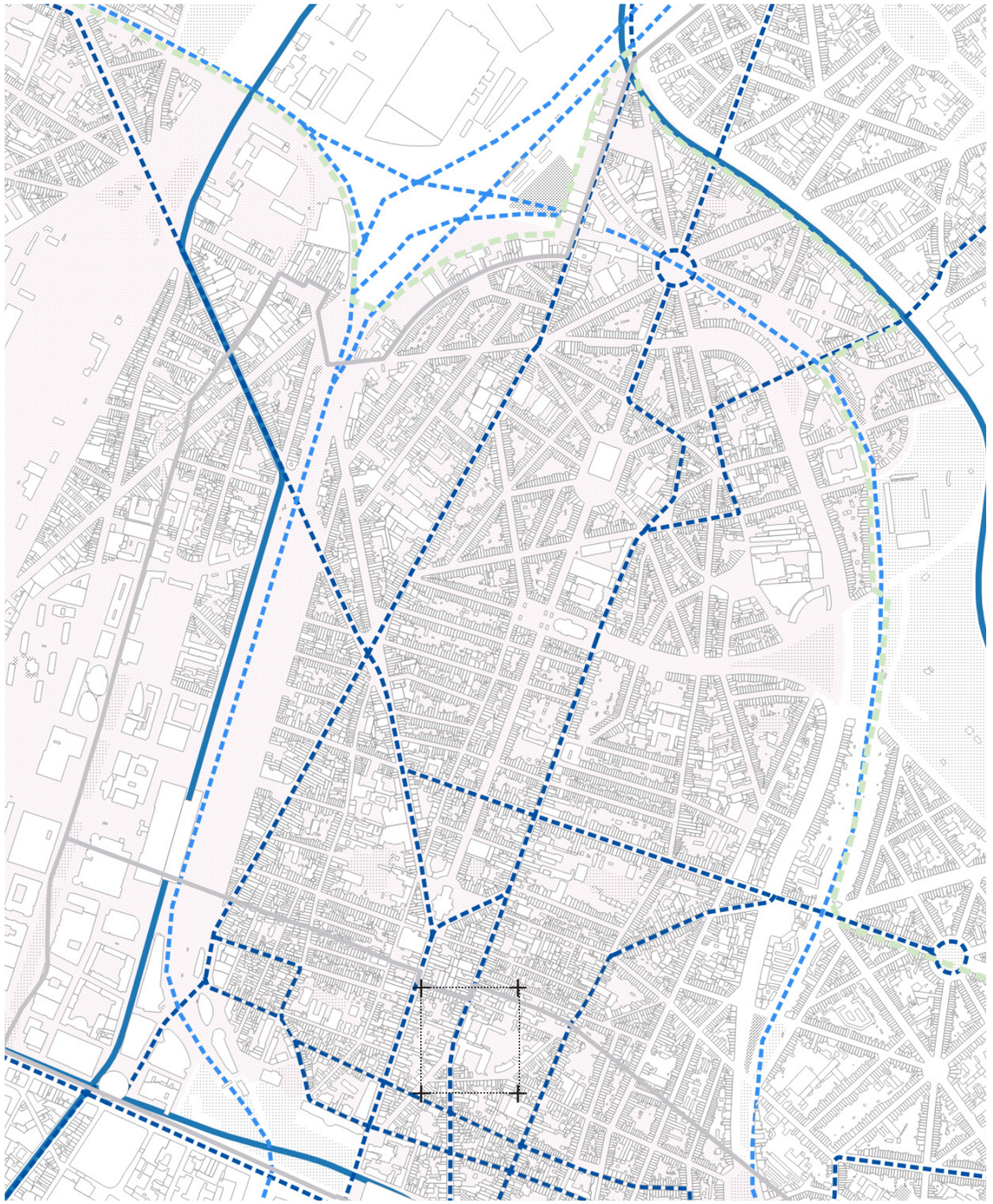


Fig. 7.7: Identified socio-spatial patterns in Schaerbeek West, made by author

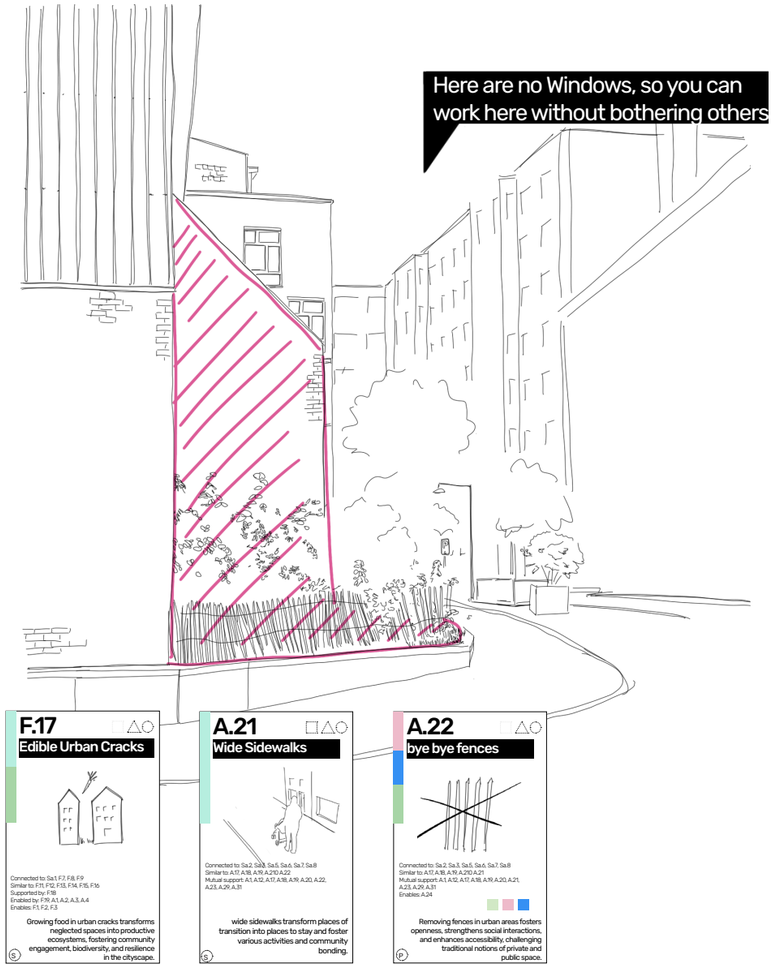
Fig. 7.8: Map with location in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

Street-Related Pockets include interstitial spaces along tunnel walls, gaps at street corners, and larger setbacks that open up the streetscape.

When these pockets are large enough, unfenced, and located along blind building façades, they are often used for informal gatherings, seating, or small urban gardens.

In contrast, very small or fenced-off spots are usually left unused—sometimes becoming dog toilets. Larger fenced areas are often barely noticeable from a pedestrian's perspective, yet they make the street feel less engaging. These spaces typically do not contribute to a welcoming street atmosphere and are often used for garbage can storage.



buildings
green space
municipalities
priority greening
municipalities
train, tram, metro

0 150m 300m

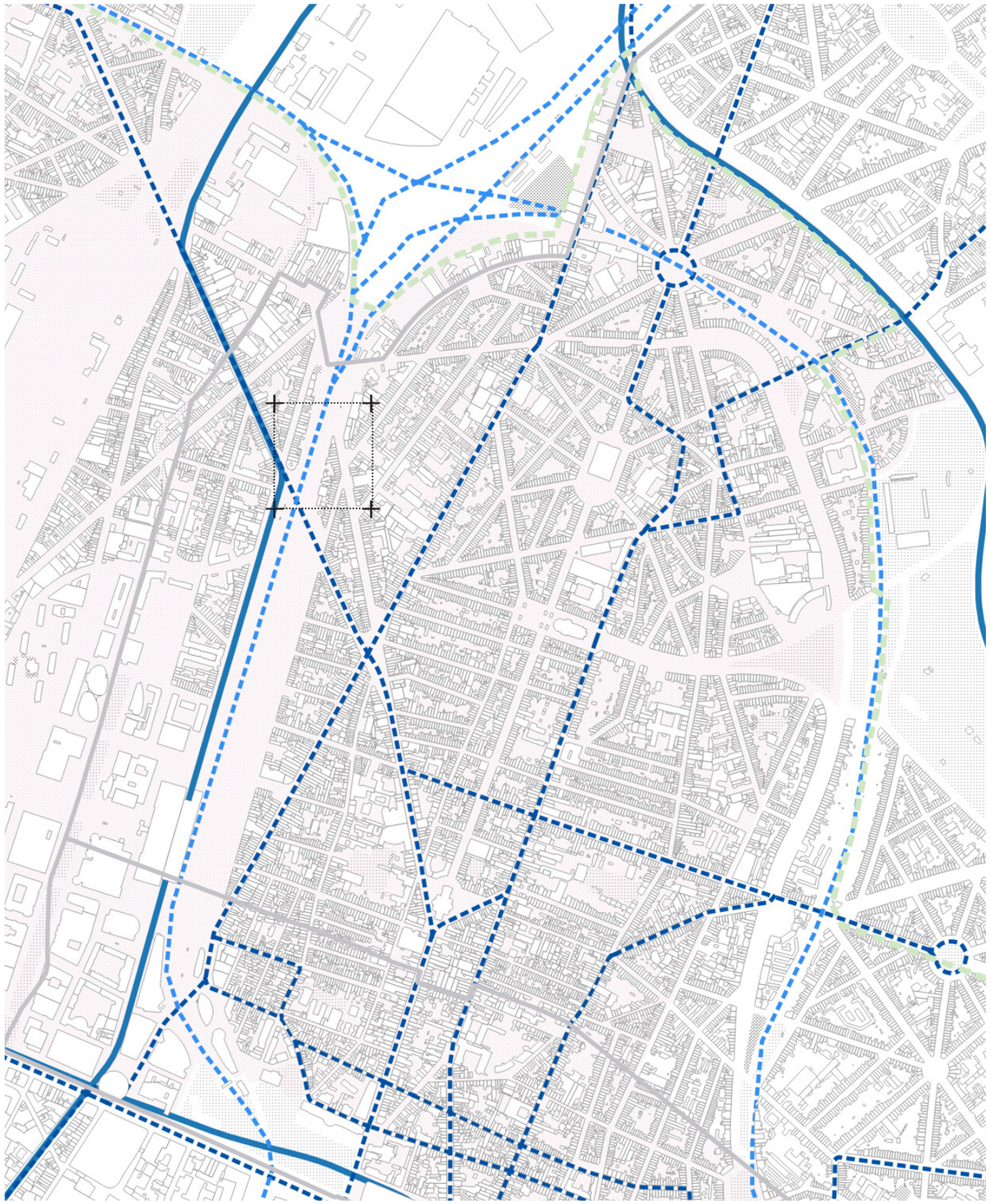


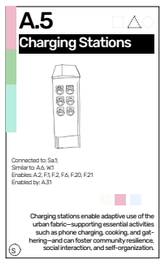
Fig. 7.9: Identified socio-spatial patterns in Schaerbeek West, made by author

Fig. 7.10: Map with location in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

In public spaces, I observed grey power boxes—typically located on squares near churches. Unlike in many other cities, these boxes included high-voltage plugs. While intended for public events, they were also used by mobile services. For instance, the mobile laundry service plugged in their washing machines and provided free services directly on the square. These power boxes thus offer a flexible, low-barrier infrastructure that supports social initiatives in public space.

The Electric Control Board is equipped with Power Plugs



patterns of resistance in schaerbeek west

buildings
poverty crescent
municipalities
train, tram

0 150m 300m

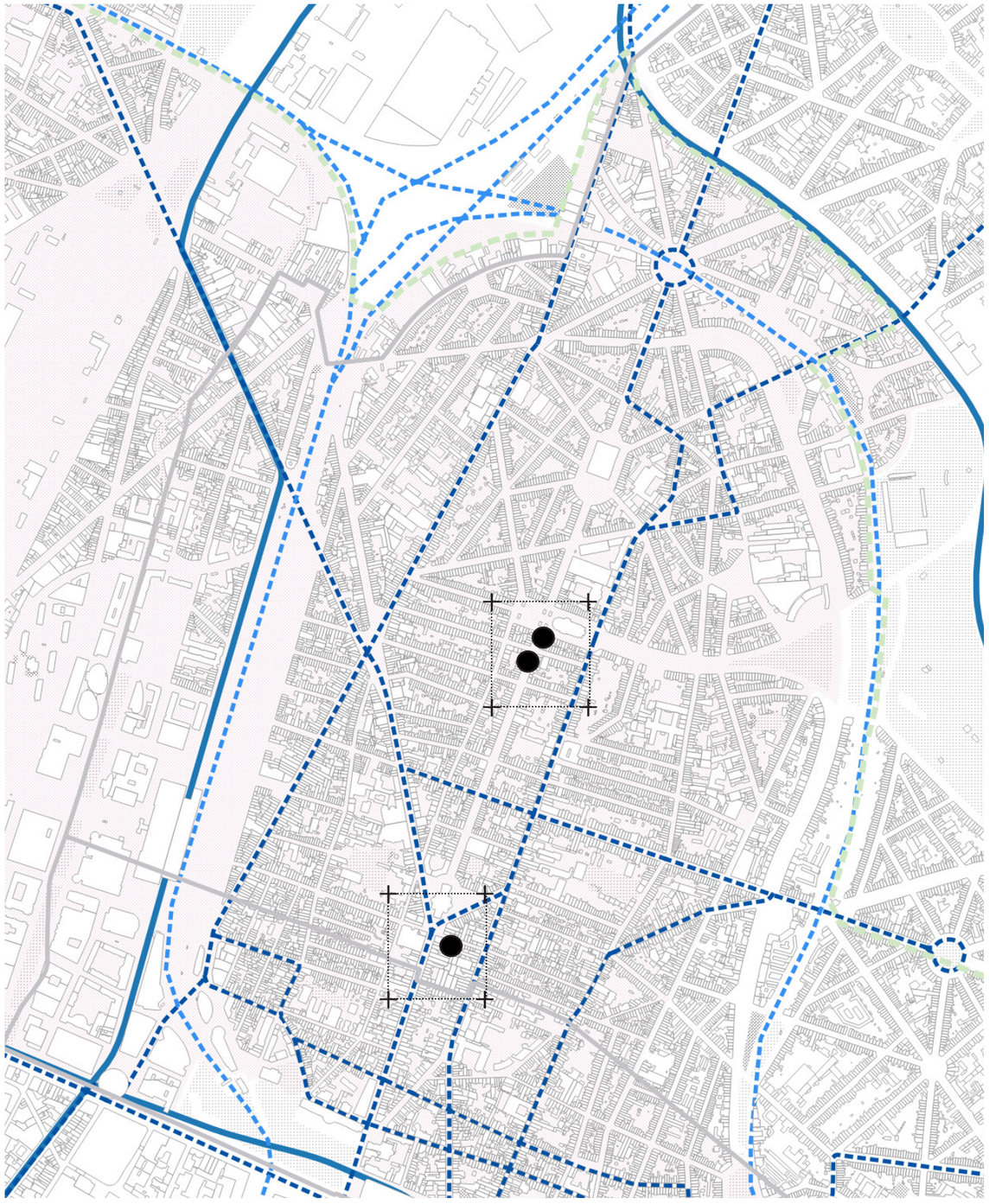


Fig. 7.11: Identified socio-spatial patterns in Schaerbeek West, made by author

Fig. 7.12: Map with location in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

ethnographic mapping

buildings
green space
municipalities
priority greening
municipalities
train, tram, metro

0 150m 300m

In addition, I noticed that many older building façades still featured remnants of shoe-cleaning fixtures, often accompanied by a threaded socket for water taps. In some cases, these taps were still present—and even functional. These existing elements could be repurposed as public water fountains or used by mobile services to enhance access to hygiene infrastructure in a low-cost, decentralized way.
Moreover, integrating similar features into new building façades—especially in public or semi-public developments—could strengthen the city's water support network across neighborhoods.

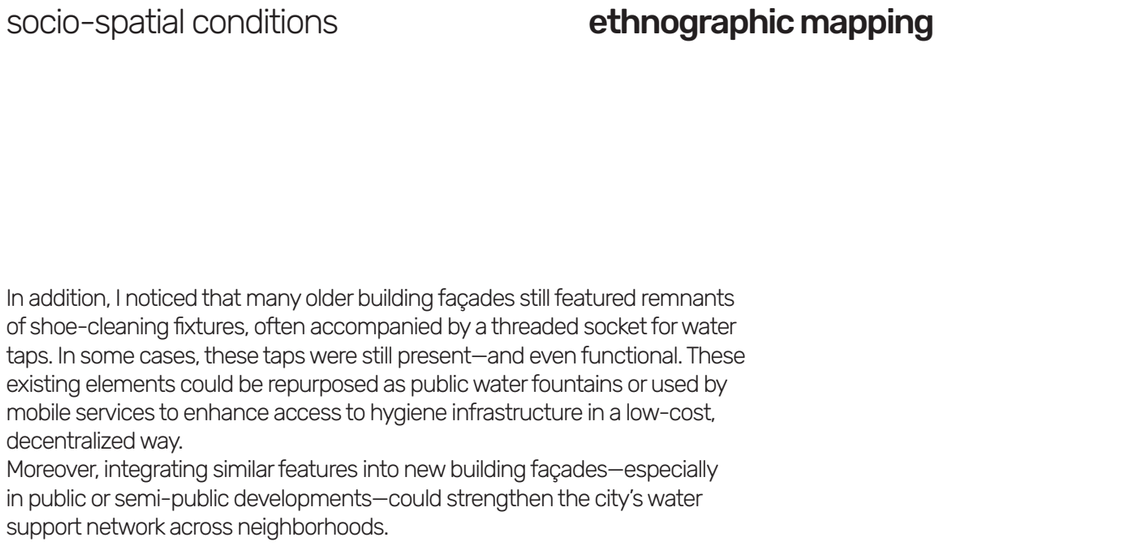


Fig. 7.13: Identified socio-spatial patterns in Schaerbeek West, made by author

Fig. 7.14: Map with location in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

From ethnographic mapping and fieldwork, I identified several socio-spatial patterns that can help address the previously identified needs of young, fluidly housed adults in Brussels.

These patterns range from small, tangible, and often movable elements to spatial pockets within the built environment, as well as larger interconnected networks that offer opportunities to 'plug in' and engage with the city.

1 Moveable Elements

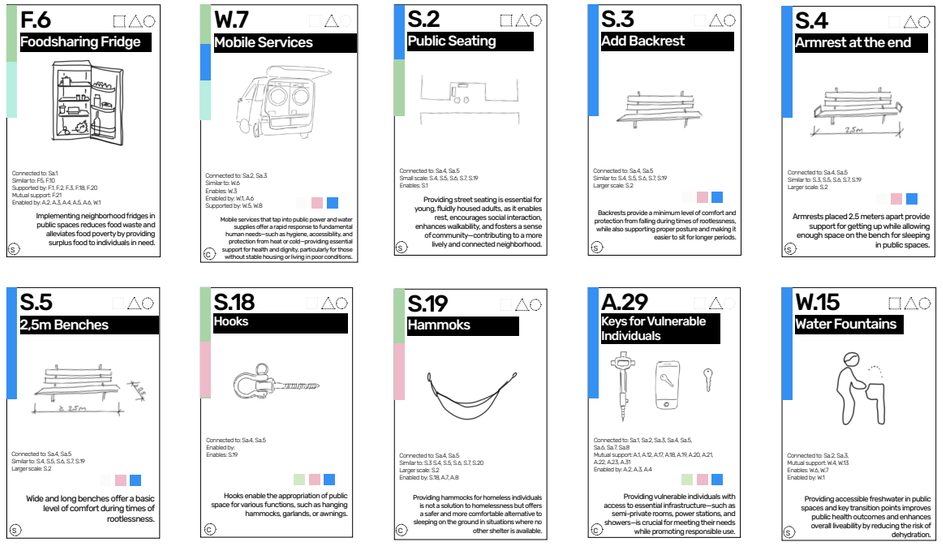


Fig. 7.15:
Identified socio-spatial patterns in Schaerbeek West, made by author,

Pattern Language

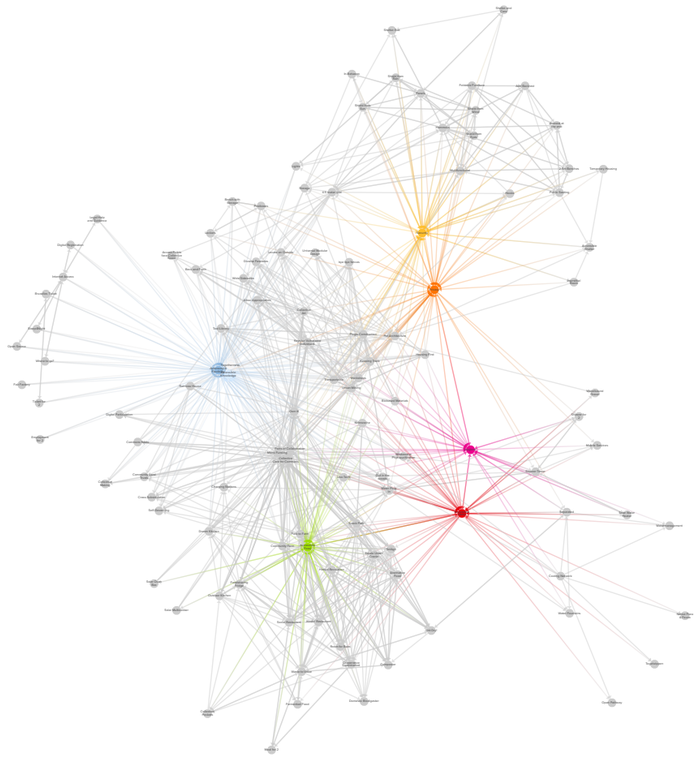


Fig. 7.16: Illustration showing connections between the patterns of all four systems, highlighting the eight satisfiers, made by author on kumu.io

The concept of Pattern Language was first developed by architect Christopher Alexander in 1977, as a system of design principles offering context-specific solutions to common problems in the built environment (Salingaros, 2000).

In this thesis, I use it to create an ‚Infrastructure of Care' as described in the Methodology chapter. In combining the identified socio-spatial needs of young fluidly housed adults in Brussels with ways how they already activate lived space based on Lefebres theory, I can bridge research and design, uncover underlying systemic connections, and spatialize this topic.

Alexander's approach of the Pattern Language challenged the idea of design as purely the domain of a designer's intuition. He recognized that problems in the built environment are growing increasingly complex and understanding the systemic relation between social events and the physical spaces becomes more relevant to provide a foundation of both informed and responsive design (Fezer, 2022).

To spatialize the very intangible topic of liveability for young fluidly housed adults in Brussels, I use the previously identified soco-spatial needs as the base, forming 4 interconnected systems: Accessible Food, Accessible Water, Accessible Shelter and Autonomy, Felxibility & Solidarity, as displayed on the right.

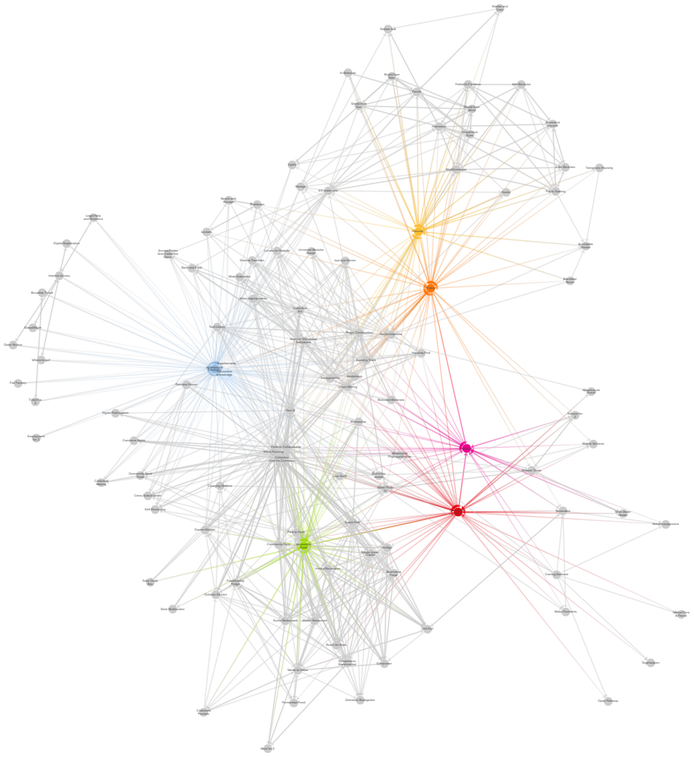


Fig. 7.17:
Illustration showing connections between the patterns of all four systems, highlighting the eight satisfiers, made by author

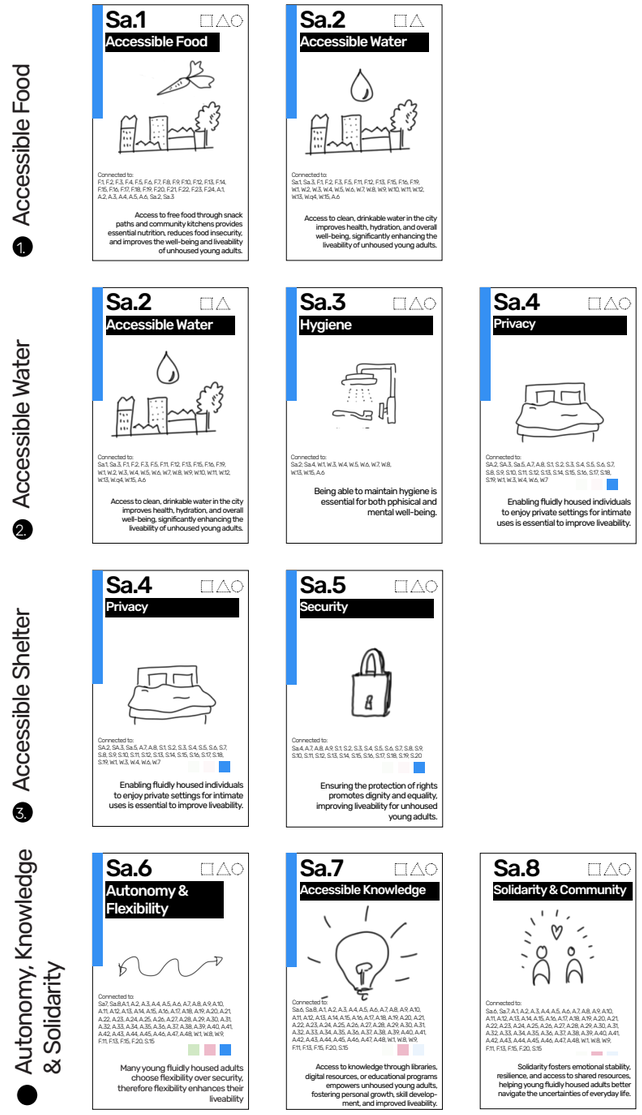


Fig. 7.18:
Overview of patterns showing the eight satisfiers and four systems, made by author

examplary pattern

Each pattern is rich in information. The title, image, and hypothesis provide an initial overview of the pattern and introduce its core idea. The color of each pattern indicates the related pattern field and shows whether it provides access to satisfiers, provides the oportunity to activate or adapt socio-spatial conditions and/or fosters solidarity.

The patterns are structured within the four key systems I identified—Food, Water, Shelter, and Agency—or grouped under overarching satisfiers. The quantity of patterns within each system helps me organize them clearly and consistently.

Each pattern includes a type, which indicates whether it primarily relates to a political, spatial, or behavioural implication. It also includes a source, revealing whether the pattern is grounded in literature review (and thus tested and proven), based on fieldwork through observed practices, or developed through a research-by-design process—representing speculative ideas that still require further testing.

Patterns also connect to emotional dimensions, showing whether they relate to privacy and security, solidarity and community, flexibility and autonomy, or a combination of these. This categorization helps clarify how each pattern supports different forms of homemaking in public space, recognizing that individuals may prioritize different needs.

Links between patterns make visible how they function within a system—some support or depend on one another and benefit from being implemented together. The scale of each pattern indicates whether it operates on a small or large level, ranging from furniture and materials to entire green-blue networks within the city.

Many of the patterns are supported by theoretical backing, offering examples or references from research and practice to demonstrate its relevance. The social implication outlines what social conditions or support systems are needed for the pattern to work effectively ranging from top-down to bottom-up implementation, while the spatial implication provides guidance on wheather the pattern should be embedded in an introvert or extrovert space within the urban fabric.

In this way, the complex system of youth homelessness becomes more accessible—broken down into understandable, actionable components that can guide both bottom-up and top-down implementation.

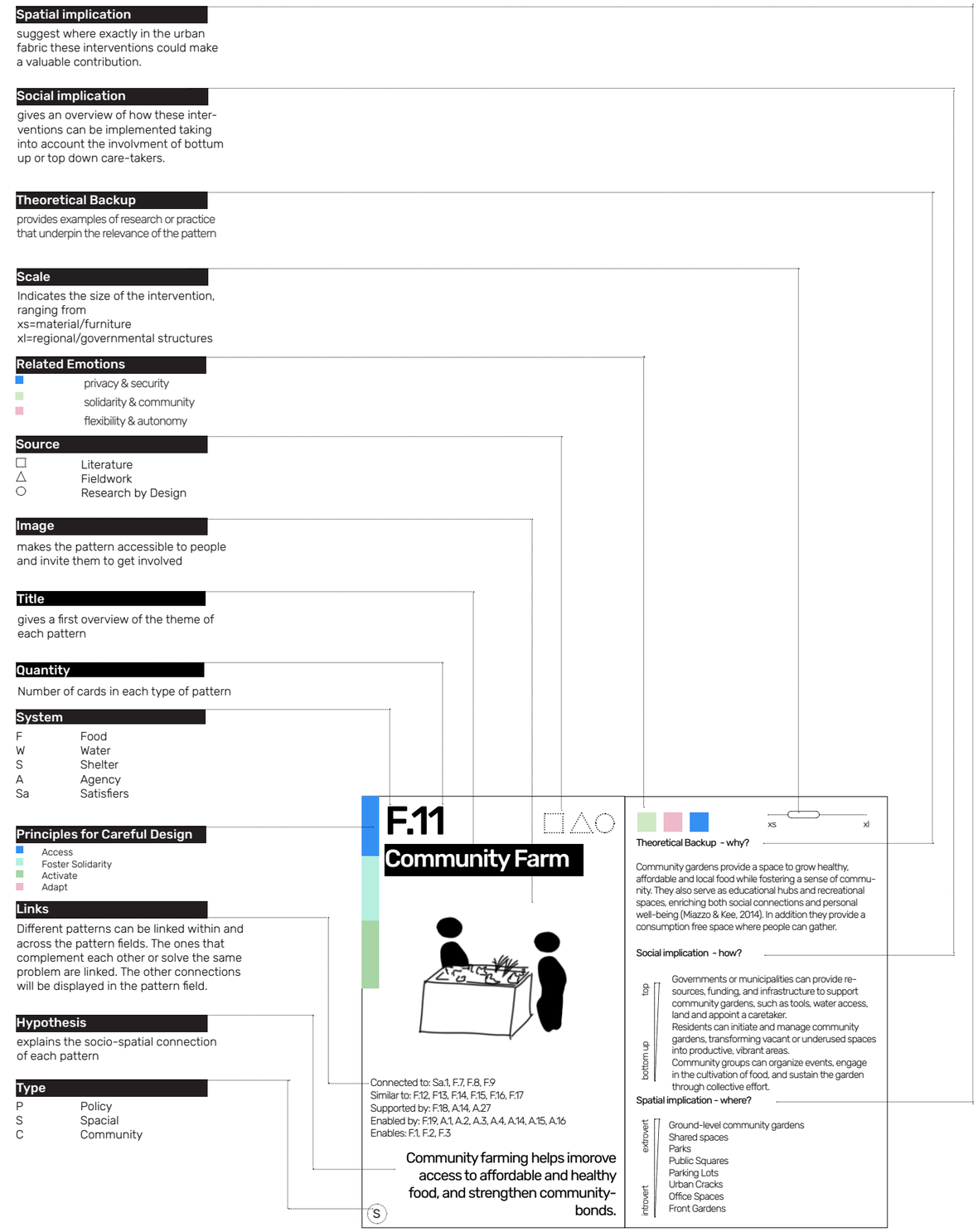
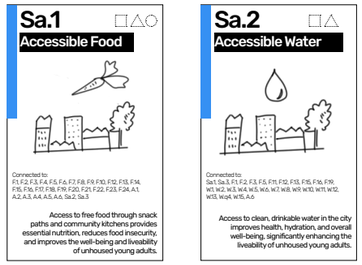
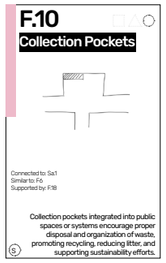
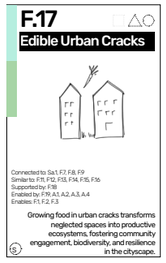


Fig. 7.19: Graphic showing final design of patterns, made by author

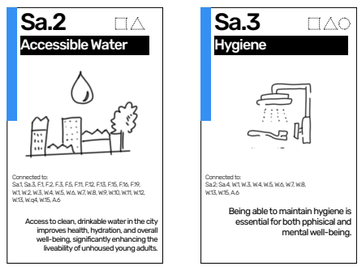
1. Providing & Preparing Food

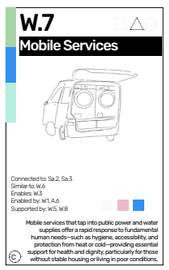




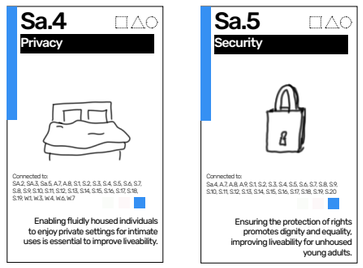


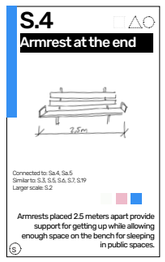
2. Accessible Water

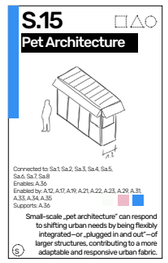


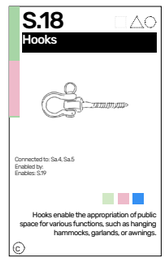


3. Shelter

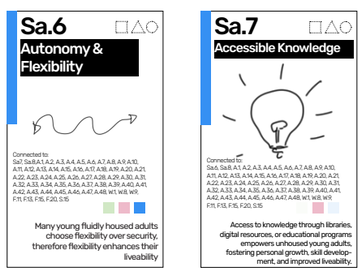


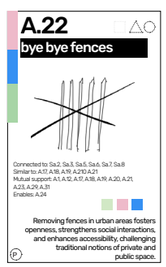






4. Autonomy, Knowledge & Solidarity





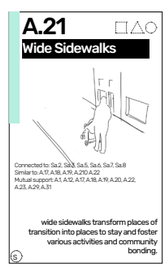


Fig. 7.20:
overview of satisfiers and socio-spatial patterns of resistance according to four systems, made by author

connected
similar
supports
enables

satisfiers
food
water
shelter
agency

Based on insights from the literature review, fieldwork, case studies, and other observations I added further patterns. All patterns are illustrated on the next pages, organized according to the four systems. The full collection is available in the accompanying pattern booklet.

It is important to emphasize that these systems are not finished. Instead, they represent a starting point for understanding the socio-spatial system related to young fluidly housed adults. These systems can—and should—be further expanded or adapted as new insights emerge.

You can access the full-quality interactive illustration on kumu.io at the following link: https://kumu.io/Wiebke/carescapes-masterthesis-wiebkestadtlander-june2025#patternfield

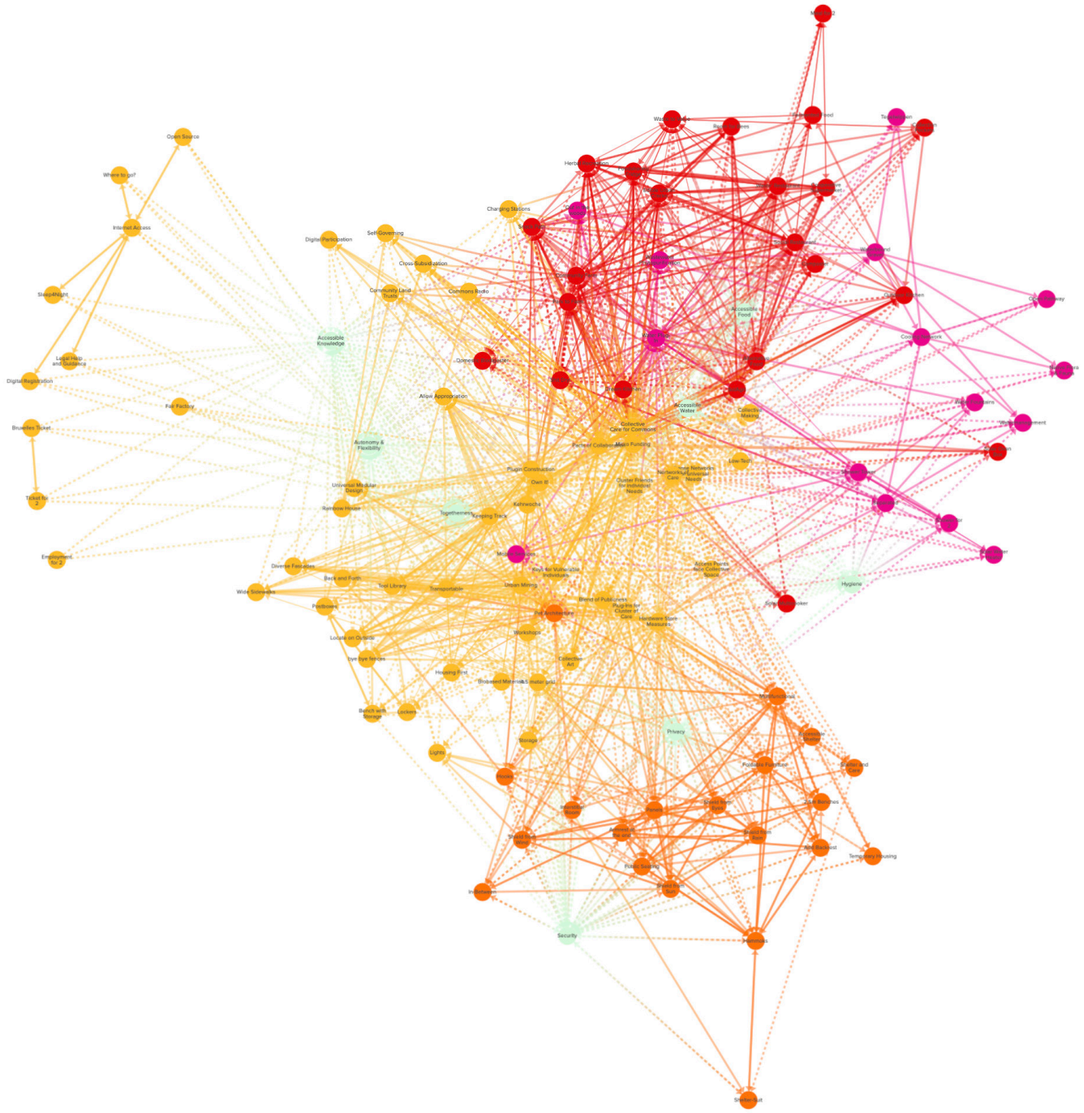


Fig. 7.21: Illustration showing connections between the patterns of all four systems, highlighting the satisfiers and four systems, made by author on kumu.io

the food system

connected
similar
supports
enables

satisfiers
food

The system surrounding Accessible Food is highly dependent on accessible water. Water is essential not only for growing food but also for cooking and cleaning, making it a foundational element in addressing health-related needs. Moreover, food-related activities—such as collective cooking or urban gardening—can serve as powerful tools for community building and social cohesion.

While the satisfier hygiene is partially linked—as clean water is necessary for washing cooking utensils and maintaining food safety—it is not central to the Accessible Food system. Similarly, satisfiers like privacy and security, though important in a broader sense, are less central to this specific subsystem and play only a peripheral role.

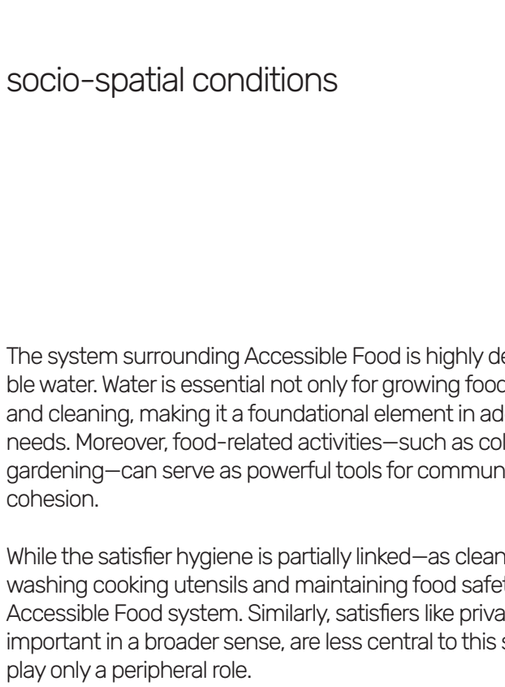


Fig. 7.22:
Illustration showing the food related patterns (red) and the eight satisfiers (green), made by author on kumu.io

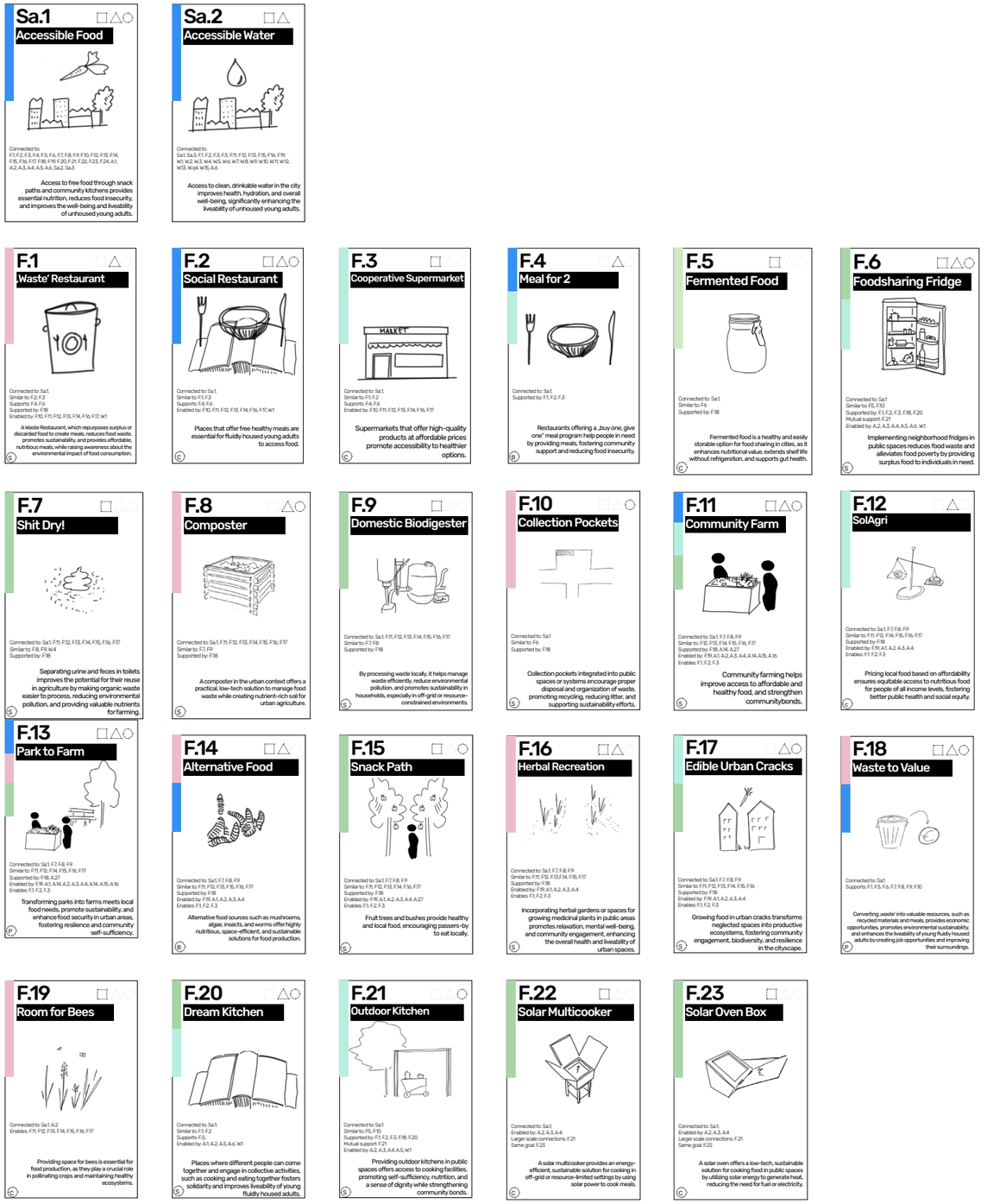


Fig. 7.23:
overview of patterns in food system, made by author

the water system

connected
similar
supports
enables

satisfiers
water

The system surrounding Accessible Water is deeply connected to multiple satisfiers, particularly Hygiene and Privacy, with indirect links to Security. In fact, water plays a foundational role across nearly all satisfiers, making it a crucial enabler within the care infrastructure.

However, while water access is critical at the local scale, it is also embedded in larger blue-green infrastructures and a broader water management system that ensures water quality and public hygiene. In Brussels, water is regarded as a common good, and maintaining its quality and accessibility requires not only localized interventions but also top-down governance and infrastructure maintenance. As such, the success of accessible water systems depends on a coordinated approach, combining bottom-up initiatives with institutional support.

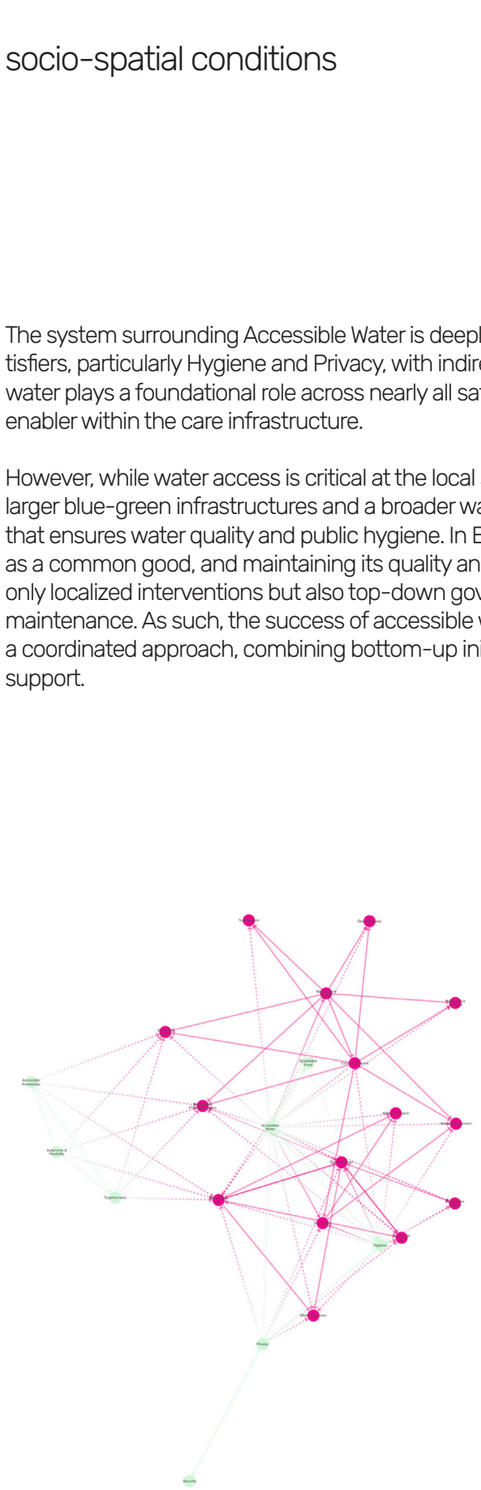


Fig. 7.24:
Illustration showing the water related patterns (pink) and the eight satisfiers (green), made by author on kumu.io

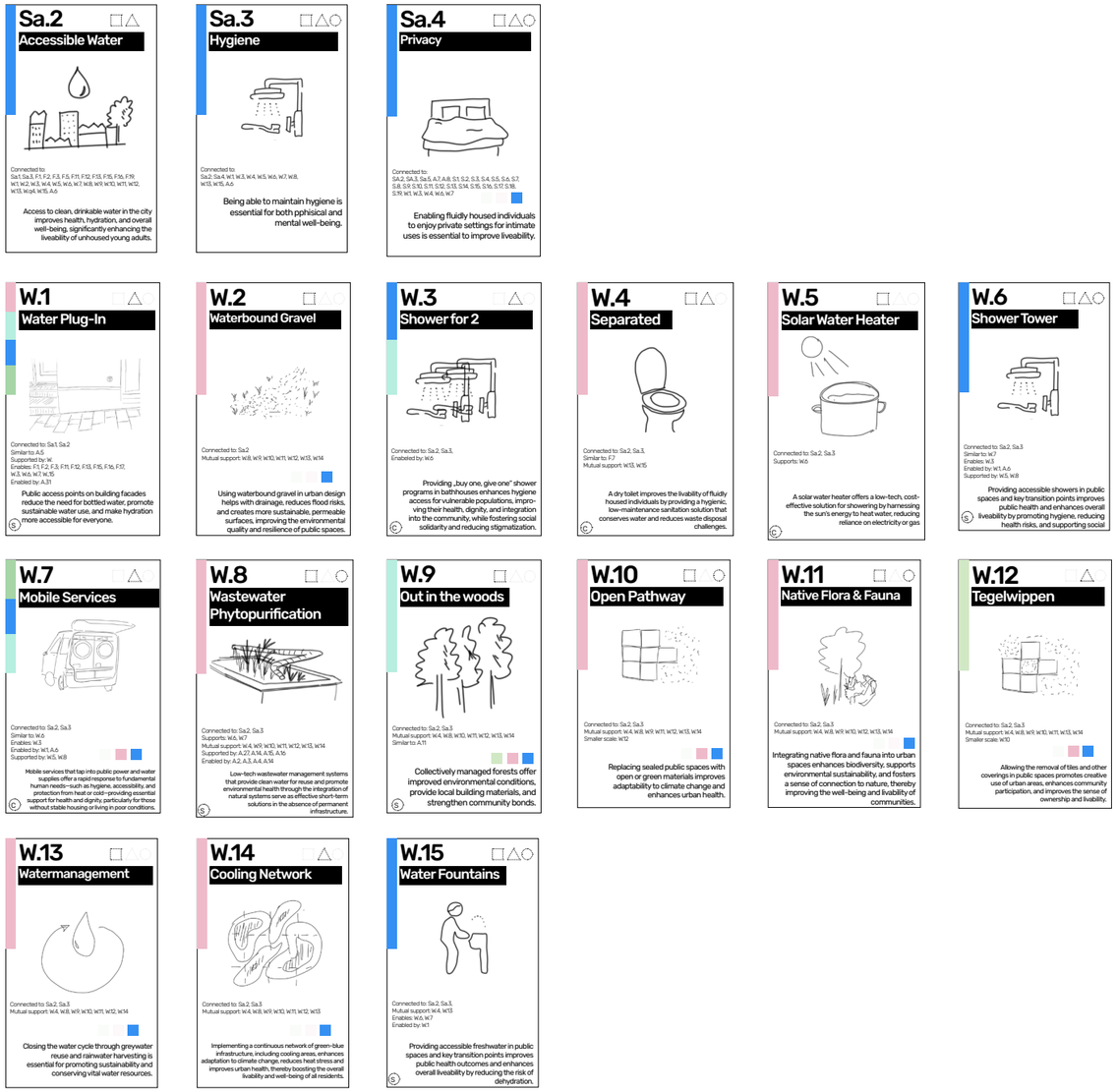


Fig. 7.25:
overview of patterns in water system, made by author

- connected
- similar
- supports
- enables

- satisfiers
- shelter

The system surrounding Privacy and Security is closely linked to Accessible Shelter and indirectly connected to all other satisfiers. The selected patterns focus on shelter in worst-case scenarios—specifically, when individuals are forced to sleep rough and no other immediate options are available. In such cases, these patterns propose spatial interventions that can offer temporary rest and protection, primarily through bottom-up adaptations within the urban fabric.

However, it is important to stress that these are not ideal or sufficient solutions. Meaningfully addressing rough sleeping requires confronting the broader housing crisis, particularly the systemic lack of affordable and secure housing. A Housing First approach—which prioritizes the provision of stable housing alongside integrated support services—is widely recognized as a necessary first step in addressing this complex issue (Housing First Europe Hub, 2020).

Given the focus of this project on bottom-up interventions and the socio-spatial needs of young, fluidly housed adults, the patterns presented here represent provisional responses that operate within existing constraints, rather than long-term solutions.

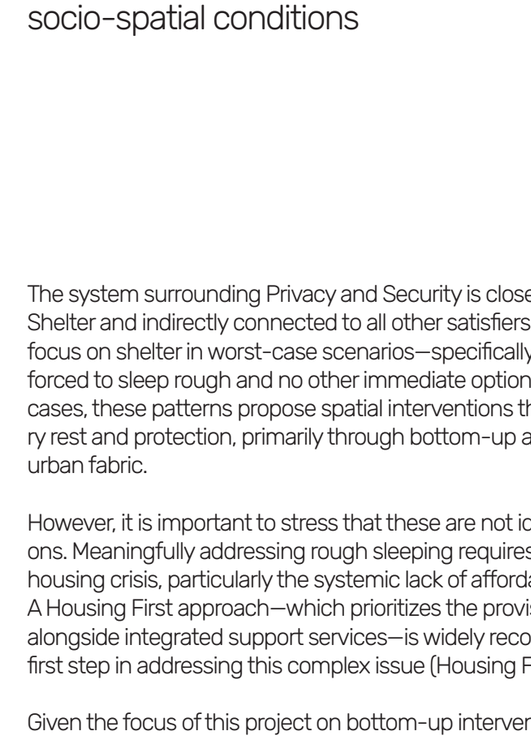


Fig. 7.26:
Illustration showing the shelter related patterns (orange) and the eight satisfiers (green), made by author on kumu.io

Fig. 7.27:
overview of patterns in shelter system, made by author

the agency system

connected
similar
supports
enables

satisfiers
agency

The system surrounding Agency encompasses the largest number of patterns and connects to all satisfiers within the framework. The pattern overview can be found on the next pages.

Improving the liveability of young, fluidly housed adults depends heavily on enabling key interventions that can have a disproportionately positive impact—for example, postboxes. These seemingly small additions enable individuals to register officially, which is crucial for gaining access to employment, stable housing, monetary benefits, and the ability to participate in civic life, including voting.

Many of the selected patterns are rooted in the potential of young people to actively shape their environments, when given the space, tools, and support to do so. As such, these patterns often draw from the principles of commoning. While the concept of the commons is widely discussed and lacks a single definition, the process of commoning—focused on shared ownership, collective care, and mutual stewardship—remains highly relevant to the design of an ‚infrastructure of care'.

Key patterns that address this include A.12 Allow Appropriation, along with A.2–A.4, which are inspired by Bologna's Regulation on Collaboration between Citizens and the City for the Care and Regeneration of Urban Commons (2014)a nd present top-down actions. This model empowers citizens through micro-funding and pacts of collaboration, enabling the co-care and co-management of public spaces and must be supported by further top-down patterns. For example, A.1 Own It emphasizes the need for transparency in land and property ownership in Brussels—ensuring that citizens know which spaces belong to whom, and thus, where action is possible.

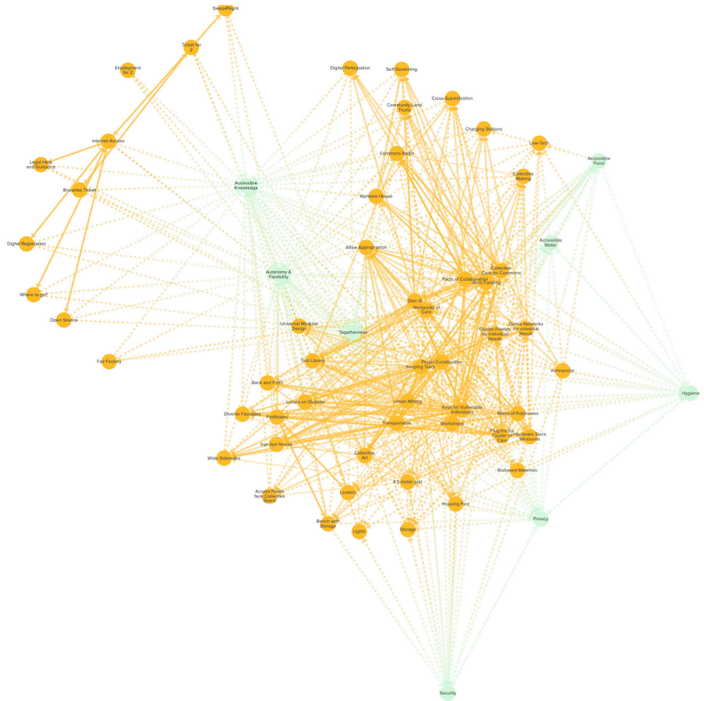


Fig. 7.28: Illustration showing the agency related patterns (yellow) and the eight satisfiers (green), made by author on kumu.io

Sa.6 Autonomy & Flexibility

Connected to
Sa7, Sa8, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, W1, W8, W9, F11, F13, F15, F20, S15

Many young fluidly housed adults choose flexibility over security, therefore flexibility enhances their liveability

Sa.7 Accessible Knowledge

Connected to
Sa6, Sa8, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, W1, W8, W9, F11, F13, F15, F20, S15

Access to knowledge through libraries, digital resources, or educational programs empowers unhoused young adults, fostering personal growth, skill development, and improved liveability.

Sa.8 Solidarity & Community

Connected to
Sa6, Sa7, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, W1, W8, W9, F11, F13, F15, F20, S15

Solidarity fosters emotional stability, resilience, and access to shared resources, helping young fluidly housed adults better navigate the uncertainties of everyday life.

A.1 Own it!

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Enables: A2
Similar to: A2, A13, A14, A15, A16
Mutual support: A12, A17, A18, A19, A20, A21, A22, A23, A29, A31

By making ownership transparent, both public and uncared-for land can be activated.

(P)

A.2 Collective Care for Commons

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Similar to: A1, A13, A14, A15, A16
Enabled by: A1, W1
Mutual support: A3, A4
Enables: F1, F2, F6, F11, F12, F13, F15, F16, F17, F20, F21, W8, W9, A12, A23, A24, A25, A26, A28, A29

Establishing a legal framework for collaborative governance between citizens and municipalities fosters sustainable urban stewardship, social cohesion, and shared responsibility.

(P)

A.3 Micro Funding

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Similar to: A1, A13, A14, A15, A16
Enabled by: A1, W1
Mutual support: A2, A4
Enables: F1, F2, F6, F11, F12, F13, F15, F16, F17, F20, F21, W8, W9, A12, A23, A24, A25, A26, A28, A29

Microfunding provides a financial foundation that enables individuals and communities to activate and manage common spaces collectively.

(P)

A.4 Pacts of Collaboration

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Similar to: A1, A13, A14, A15, A16
Enabled by: A1, W1
Mutual support: A2, A3
Enables: F1, F2, F6, F11, F12, F13, F15, F16, F17, F20, F21, W8, W9, A12, A23, A24, A25, A26, A28, A29

Pacts of Collaboration provide a legal foundation that enables individuals and communities to collectively activate and manage pulic and common spaces.

(P)

A.5 Charging Stations

Connected to
Sa1
Similar to: A6, W1
Enables: A2, F1, F2, F6, F20, F21
Enabled by: A31

Charging stations enable adaptive use of the urban fabric—supporting essential activities such as phone charging, cooking, and gathering—and can foster community resilience, social interaction, and self-organization.

(S)

A.6 Low-Tech

Connected to
Sa1
Similar to: A5
Enables: A2, F1, F2, F6, F20, F21, W3, W6, W7, W, 15

Low-tech solutions improve livability for young, fluidly housed adults by offering accessible methods for phone charging, water filtration, and alternative food sources—enhancing health, dignity, and flexibility.

A.7 4.5 meter grid

Connected to
Sa4, Sa5
Enables: Sa, S7, S9, S10, S11, S12, S13, S14, S15, S16, S18
Mutual support: A7

Placing pillars 3.5 to 4 meters apart provides ideal spacing for hanging hammocks, improving livability for young fluidly housed individuals by offering a portable, elevated resting option during periods of rooflessness.

(S)

A.8 Storage

Connected to
Sa4, Sa5
Enables: S7, S8, S9, S16, S20
Mutual support: A7

Providing storage facilities with modular elements enables adaptive use and protects them from damage and environmental factors when not in use, ensuring a longer lifespan.

(S)

A.9 Lights

Connected to
Sa5
Similar to: S11, S12, S13, S14

Lights contribute to a feeling of safety at night, and by allowing individuals to control them, they can better meet diverse needs in public spaces.

(S)

A.10 Employment for 2

Connected to
Sa6, Sa7, Sa8
Supports: A11

Requiring companies to hire an additional person with every new employment opportunity helps reintegrate more individuals into the job market, promoting economic inclusion and reducing unemployment.

(P)

A.11 Fair Factory

Connected to
Sa5, Sa7, Sa8
Similar to: W9
Supported by: A10

Employment and learning opportunities that are accessible to everyone, foster greater inclusivity, skill development, and social mobility, ultimately enhancing individual and community well-being.

(S)

A.12 Allow Appropriation

Connected to
Sa1, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A1, A2, A3, A4, A17, A18, A19, A20, A21, A22, A23, A29, A31
Enables: F11, F13, F15, F20, W8, A24, A25, A26, A30

Allowing appropriation of spaces enhances the liveability of young fluidly housed adults by fostering autonomy, stability, and social connection.

(P)

A.13 Digital Participation

Connected to
Sa6, Sa7, Sa8
Similar to: A1, A2, A14, A15, A16

Digital participation models enhance transparency, and foster inclusive urban decision-making through open-source technology and collaborative governance.

(P)

A.14 Cross-Subsidization

Connected to
Sa6, Sa7
Similar to: A1, A2, A13, A14, A15, A16
Enables: F11, F13, F15, W8, W9, A12,

Increasing the costs of luxury or environmentally harmful industries—such as finance or pollution-heavy sectors—and redirecting revenues from taxes and fees makes essential but less profitable services feasible, significantly enhancing urban livability.

(P)

A.15 Community Land Trusts

Connected to
Sa6, Sa7, Sa8
Similar to: A1, A2, A13, A14, A15, A16
Enables: F11, F13, F15, W8, W9, A12, A30

Community Land Trusts provide long-term affordable housing, prevent displacement, and foster solidarity by ensuring collective stewardship of urban land.

(P)

A.16 Self-Governing

Connected to
Sa6, Sa7, Sa8
Similar to: A2, A14, A15
Enables: F11, F13, F15, W8, W9, A12, A30

Communal living fosters a resilient alternative model of urban life that challenges conventional governance, property ownership, and social structures.

(C)

A.17 Locate on Outside

Connected to
Sa2, Sa3, Sa5, Sa6, Sa7, Sa8
Similar to: A18, A19, A20, A21, A22
Mutual support: A1, A12, A18, A19, A20, A21, A22, A23, A29, A31

Locating important facilities such as showers, toilets, kitchens on the outside of public buildings, helps communities to make them accessible to people in need in times of crisis.

(S)

A.18 Back and Forth

Connected to
Sa2, Sa3, Sa5, Sa6, Sa7, Sa8
Similar to: A17, A19, A20, A21, A22
Mutual support: A1, A12, A17, A19, A20, A21, A22, A23, A29
Supports: A24, A25, A26

Architectural setbacks create transitional spaces that invite public appropriation, fostering social interaction, urban vitality, and adaptive use.

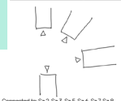
A.19 Diverse Fascades

Connected to
Sa2, Sa3, Sa5, Sa6, Sa7, Sa8
Similar to: A17, A18, A20, A21, A22
Mutual support: A1, A12, A17, A18, A20, A21, A23, A22, A29, A31

Diverse building facades enhance urban vibrancy by providing shelter, opportunities for rest, and fostering social interaction.

(S)

A.20 Access Points face Collective Space



Connected to
Sa2, Sa3, Sa5, Sa6, Sa7, Sa8
Similar to: A17, A18, A19, A21, A22
Mutual support: A1, A12, A17, A18, A19, A21, A22, A23, A29

The design and positioning of entrances to collective spaces influence social interaction, accessibility, and the perception of

(S)

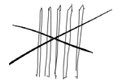
A.21 Wide Sidewalks

Connected to
Sa2, Sa3, Sa5, Sa6, Sa7, Sa8
Similar to: A17, A18, A19, A20 A22
Mutual support: A1, A12, A17, A18, A19, A20, A22, A23, A29, A31

wide sidewalks transform places of transition into places to stay and foster various activities and community bonding.

(S)

A.22 bye bye fences



Connected to
Sa2, Sa3, Sa5, Sa6, Sa7, Sa8
Similar to: A17, A18, A19, A20 A21
Mutual support: A1, A12, A17, A18, A19, A20, A21, A23, A29, A31
Enables: A24

Removing fences in urban areas fosters openness, strengthens social interactions, and enhances accessibility, challenging traditional notions of private and public space.

(P)

A.23 Tool Library

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A1, A12, A17, A18, A19, A20, A21, A22, A29, A31
Enabled by: A2, A3, A4
Enables: A24

Tool libraries enable fluidly housed individuals to access tools to actively reshape their built environment to meet shifting needs.

(S)

A.24 Collective Making

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Enabled by: A2, A3, A4, A12, A22, A23
Supported by: A18
Supports: A28

Collective making spaces serve as welcoming environments for everyone, fostering creativity and collaboration while providing opportunities for diverse activities and knowledge sharing.

(C)

A.25 Collective Art

Connected to
Sa4, Sa5, Sa6, Sa7, Sa8
Enabled by: A2, A3, A4, A12, A22, A23
Supported by: A18

Collective art fosters creativity and collaboration while providing opportunities for diverse activities and knowledge sharing.

(C)

A.26 Workshops

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Enabled by: A2, A3, A4, A12, A22, A23
Supported by: A18

Workshops foster inspiration, solidarity and collaboration, helping young fluidly housed adults improve their livability.

(C)

A.27 Kehrwoche

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Same as: A2
Supports: W8, W9, F11, F13, F15

Shared Responsibility in Urban Cleanliness fosters communal responsibility, enhances neighborhood cleanliness, and reinforces social cohesion through collective maintenance practices.

(C)

A.28 Commons Radio/Zine

Connected to
Sa6, Sa7, Sa8
Enabled by: A2, A3, A4, A23
Supported by: A24

Radio or Magazine commons enhances civic engagement and social cohesion by providing a platform for local voices, fostering dialogue, and disseminating information that reflects the needs and interests of the community.

(C)

A.29 Keys for Vulnerable Individuals

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A1, A12, A17, A18, A19, A20, A21, A22, A23, A31
Enabled by: A2, A3, A4

Providing vulnerable individuals with access to essential infrastructure—such as semi-private rooms, power stations, and showers—is crucial for meeting their needs while promoting responsible use.

(C)

A.30 Rainbow House

Connected to
Sa4, Sa7, Sa8
Enabled by: A2, A3, A4, A14, A15, A16, A27

Community safe spaces are crucial for fostering a sense of safety and building community.

(S)

A.31 Plugin Construction

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Supports: A12, A17, A19, A21, A22, A23, A29, A32, A33, A34, A35
Supported by: A37
Enables: A5, S15, W1

Designing construction modes that allow for the easy addition or removal of elements empowers individuals to adapt their environment to personal needs, even without prior knowledge or expertise.

(S)

A.32 Urban Mining

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A12, A17, A19, A21, A22, A23, A29, A31, A33, A34, A35
Supports: A36, S15

Ensuring materials can be reused for different functions enables adaptable use while reducing consumption and mitigating climate change.

(P)

A.33 Transportable

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A12, A17, A19, A21, A22, A23, A29, A31, A32, A34, A35
Supports: A36, S15

Transportable kitchen supplies, washing machines, and even homes ensure access while providing flexibility and adaptability, allowing individuals to activate changing spaces.

(S)

A.34 Universal Modular Design

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A12, A17, A19, A21, A22, A23, A29, A31, A32, A34, A35
Supports: A36, S15

Standardized building parts with consistent measurements allow modular units to seamlessly fit both empty industrial buildings and vacant plots, offering flexible, efficient, and sustainable solutions for diverse urban contexts.

(S)

A.35 Keeping Track

Connected to
Sa1, Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Mutual support: A12, A17, A19, A21, A22, A23, A29, A31, A33, A34
Supports: A36, S15

Building Information Modeling (BIM) enhances urban development efficiency by enabling precise tracking of resources, timelines, and design changes, facilitating the reuse and repurposing of existing materials.

(P)

A.36 Housing First

Connected to
Sa2, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Supported by: S15, A32, A33, A34, A35

Providing unconditional housing alongside essential support services fosters community, personal agency, and dignity—key elements in effectively addressing homelessness. (Housing First Finland)

A.37 Biobased Materials

Connected to
Sa1, Sa3, Sa4, Sa5, Sa6, Sa7, Sa8
Supports: A31

Using bio-based materials allows for flexible adaptation of the built environment to changing needs while reducing environmental impact.

(P)

A.38 Lockers

Connected to
Sa4
Similar to: A39, A40
Enabled by: A29
Enables: Sa6

Free lockers provide secure storage solutions that enhance dignity and autonomy, allowing individuals to safely store their personal belongings.

(S)

A.39 Postboxes

Connected to
Sa4
Similar to: A38, A40
Enabled by: A29
Enables: Sa6

Access to postboxes ensures reliable communication and connectivity, fostering independence and improving liveability for young fluidly housed adults.

(S)

A.40 Bench with Storage

Connected to
Sa4, Sa5
Similar to: A39, A40
Enabled by: A29
Enables: Sa6

Integrating storage into benches allows people sleeping rough to secure their belongings, reducing the risk of theft.

(S)

A.41 Internet Access

Connected to
Sa6, Sa7
Enables: A42, A43, A44, A45, A48

Internet access enables individuals to make appointments, seek assistance, and maintain social connections, thereby improving their chances of stability.

(P)

A.42 Digital Registration

Connected to
Sa6, Sa7
Enabled by: A41

Allowing digital registration improves dignity and access to essential rights, while providing a clearer understanding of the number of individuals in need.

(P)

A.43 Open Source

Connected to
Sa6, Sa7
Enabled by: A41

Freely sharing knowledge, tools, and resources fosters access to essential information and services, while enhancing collective problem-solving.

(C)

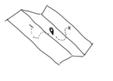
A.44 Legal Help and Guidance

Connected to
Sa6, Sa7
Enabled by: A41

Access to social services offers vital support for stability by helping individuals navigate bureaucratic challenges, secure housing, and rebuild a sense of home.

(P)

A.45 Where to go?

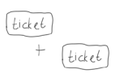


Connected to
Sa6, Sa7
Enabled by: A41

Accessible help facilities, mapped through online sources and apps, guide individuals to where they can find assistance and meet their needs.

(C)

A.46 Ticket for 2

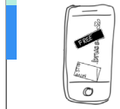


Connected to
Sa6
Similar to: A47

Paying for public transport based on affordability ensures fluidly housed individuals can access free or reduced-fare tickets, promoting mobility, inclusion, and equal access to city resources.

(C)

A.47 Bruxelles Ticket



Connected to
Sa6
Similar to: A46

Providing free public transport to all residents enables them to access resources located further away and reduces the amount of car infrastructure needed.

(P)

A.48 Sleep4Night

Connected to
Sa6, Sa7
Enabled by: A41

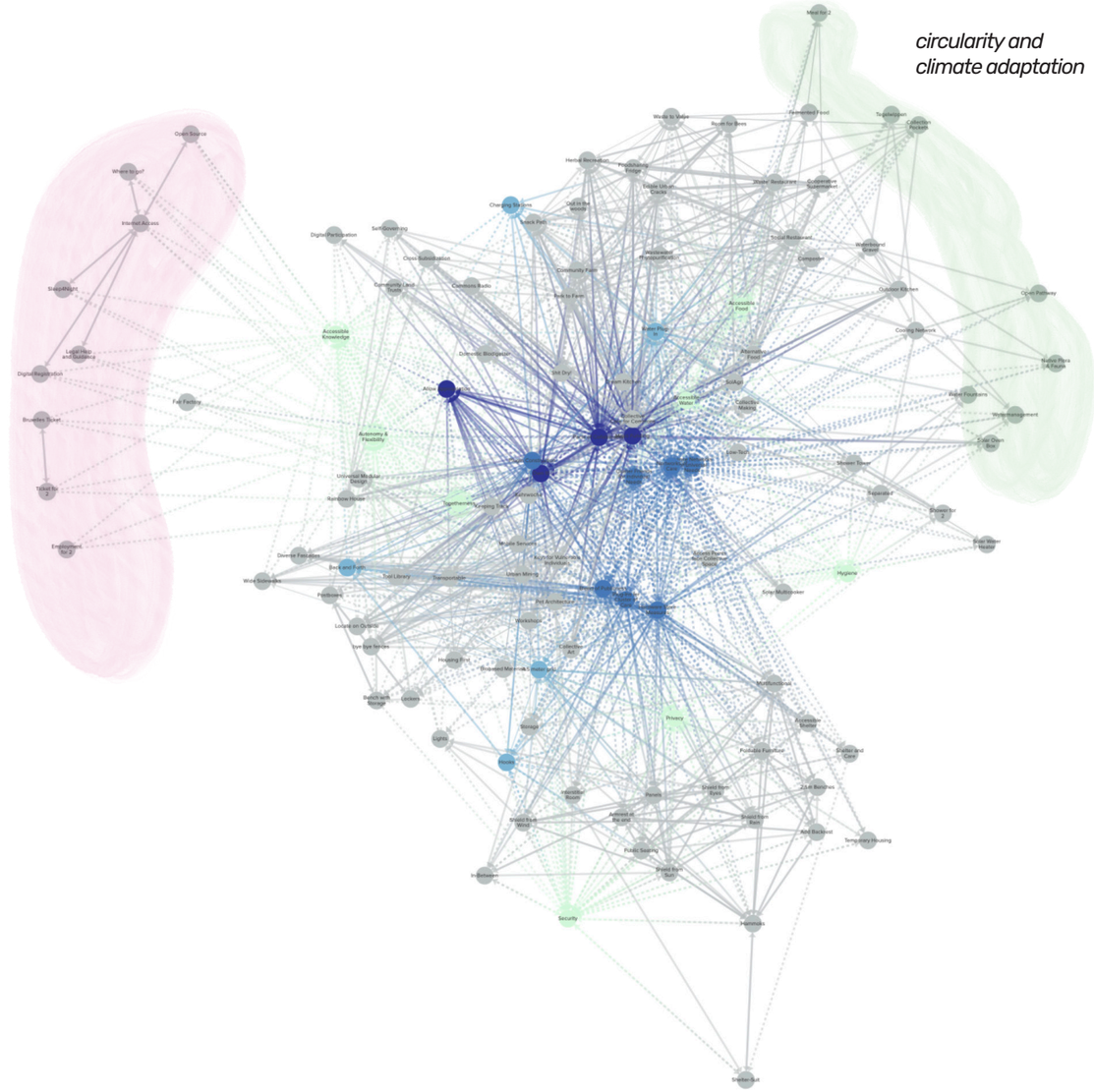
Apps that enable sharing experiences can help fluidly housed individuals find safe places to sleep at night and access essential resources such as postboxes, hygiene facilities, food, power, and water.

(C)

It became evident that the pattern A.31 Plug-In Construction (red) is central—both within the pattern field and in its relation to various satisfiers (green). It is closely connected to other key patterns, including A.18 Back and Forth, S.18 Hooks, A.7 4.5m Grid, W.1 Water Plug-In, and A.5 Charging Stations (orange). Together, these patterns enable a flexible infrastructure that can support a wide range of interventions related to the four systems—such as lockers, postboxes, seating, hammocks, and access to power and water—all of which are crucial to meeting the needs of young, fluidly housed adults.

Patterns related to shelter and digital infrastructure (e.g., open-source tools, legal help, or "Where to go?") are situated more at the edges of the system. While these are essential in situations of roofLessness and should certainly be addressed, they are not the central focus of liveability for young fluidly housed adults.

Similarly, patterns associated with circularity and climate adaptation—such as water management, waste-to-value systems—are also positioned at the periphery. These patterns address broader, often universal human needs, and while they are less central to the specific discourse on improving liveability for young, fluidly housed adults, they offer valuable entry points for other stakeholders working to enhance urban liveability on a wider scale.



Shelter Suit, minimal, non-spatial improvement in time of rough-sleeping

Fig. 7.30: Illustration showing all patterns, highlighting the central patterns (red) and the satisfiers (green), made by author

Network Analysis

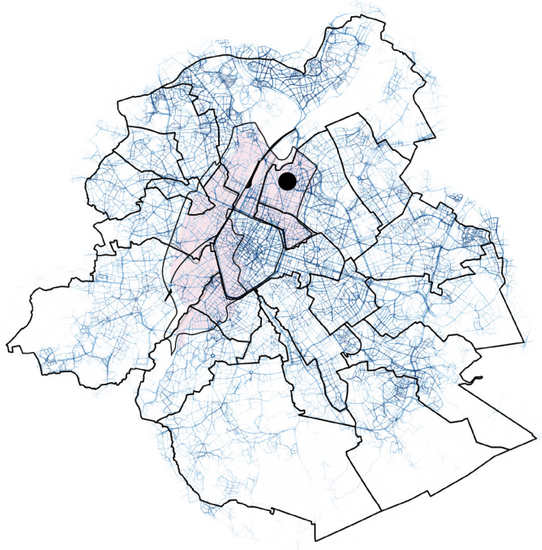


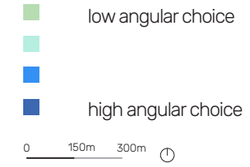
Fig. 7.31: map showing network analysis in Brussels, highlighting the poverty crescent and different municipalities, made by author

To better understand the socio-spatial characteristics of different areas and be able to operationalize my findings, I used two key concepts from Environment-Behaviour Studies—Angular Choice and Angular Integration—in QGIS. These measures reveal how movement patterns and spatial accessibility emerge from the structure of the street network (Anne Vernez Moudon, 2003).

I began by preparing the datasets, selecting the building layer and the street network. In the preprocessing step, I removed all streets that are not suitable for walking—specifically motorways, motorway links, and trunk roads, as these are typically high-speed roads lacking pedestrian infrastructure.

I included primary, secondary, and tertiary streets, as well as tracks graded 1–5, as these are generally walkable in Schaerbeek. In addition, I included footways, living streets, paths, pedestrian zones, and residential streets.

Using the Place Syntax Tool (PST) in QGIS, I calculated Angular Choice and Angular Integration for walking distances of 500 meters and 1000 meters. I then overlaid these results to identify areas that are more or less suitable, clustered them based on which kinds of satisfiers they support, and analyzed these in relation to the eight key satisfiers I identified earlier.



500m walking distance

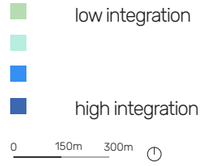
Angular Chocie measures how often a street segment is used as part of the shortest paths (with the least angular deviation) between all pairs of points in the network, **revealing how probable a street is chosen to move through** (A. van Nes & C. Yamu, 2021)**.**

1000m walking distance

Comparing the results for walking distances of 500 m and 1000 m shows that, at the longer distance, more streets display a high angular choice value. In contrast, at the 500 m distance, a greater number of streets show la low value.
High Angular Choice means: The street segment is frequently passed through when people move across the city, making it a key connector.
Low Angular Choice means: The segment is less likely to be a connector between neighborhoods or areas.

Fig. 7.32: map showing angular choice network analysis in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html



500m walking distance

Angular Integration shows how easily a street can be accessed from all others, considering the angular changes (turning effort) required, **basically revealing how easy a street is to reach** (A. van Nes & C. Yamu, 2021)**.**

1000m walking distance

Comparing the results for walking distances of 500 m and 1000 m shows that, at the longer distance, more streets show a high integration into the street network. In contrast, at the 500 m distance, a greater number of streets show la low integration, especially around the Josafat Parc.
High Angular Integration means: The street is easily reachable from many other places with few or small turns.
Low Angular Integration means: The street is less directly accessible, often associated with backstreets, alleys, or internal courtyards.

Fig. 7.33: map showing angular integration network analysis in Schaerbeek West, made by author

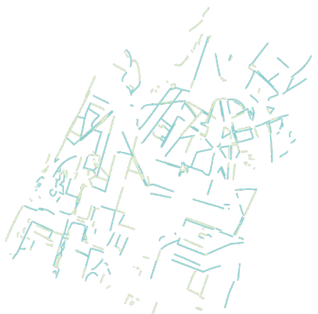
OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

low angular choice, low integration

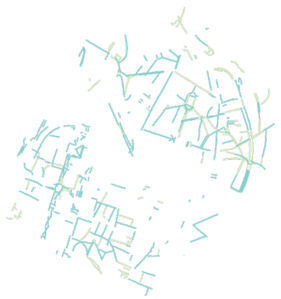
spaces with low integration are structurally distant from the rest of the network. When these spaces also exhibit low choice, they contribute little to connecting other areas and often fall outside natural movement patterns altogether (Hillier, 1996). Such streets are neither frequently passed through nor easily accessible, making them highly localized and disconnected from the broader urban system.

At first glance, these areas might appear suitable for introverted uses — such as spaces for retreat — but their isolation can foster environments that feel unsafe, due to a lack of passive surveillance or "eyes on the street" (Jacobs et al., 2015). Moreover, residents in these quiet zones may be more sensitive to unconventional uses, increasing the risk of conflict or disturbance. As a result, these segments are not ideal locations for an infrastructure of care.

angular choice



angular integration



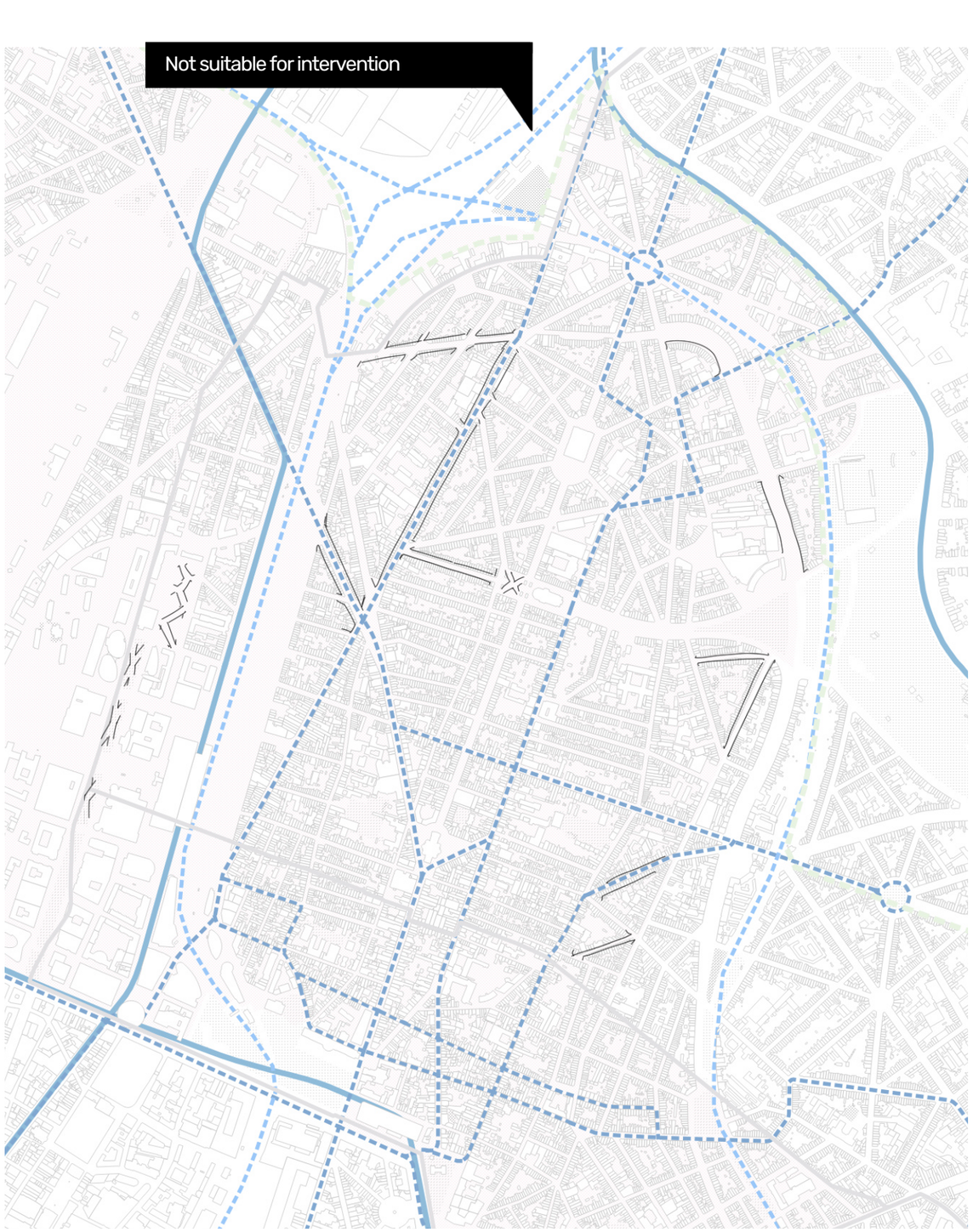


Fig. 7.37: synthetic map showing areas for intervention in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

high angular choice, low integration

not suitable
transitional space
key connector
destination
buildings
poverty crescent

0 150m 300m

According to Hillier & Iida (2005), high angular choice values can exist independently of high integration, meaning that some routes play a critical role in overall movement flow even if they are relatively remote within the spatial system.

Street segments that exhibit high angular choice but low integration are frequently traversed as part of journeys across the city, yet they are not easily accessed directly. These areas function primarily as movement corridors rather than destinations, serving as essential links within the broader urban network.

Given their transitional nature, such segments are well-suited for universal infrastructure, such as public toilets or wayfinding elements, but are less appropriate for more introverted uses — like spaces for shelter, privacy, or quiet retreat — which benefit from a stronger sense of spatial enclosure and local accessibility.

angular choice

angular integration

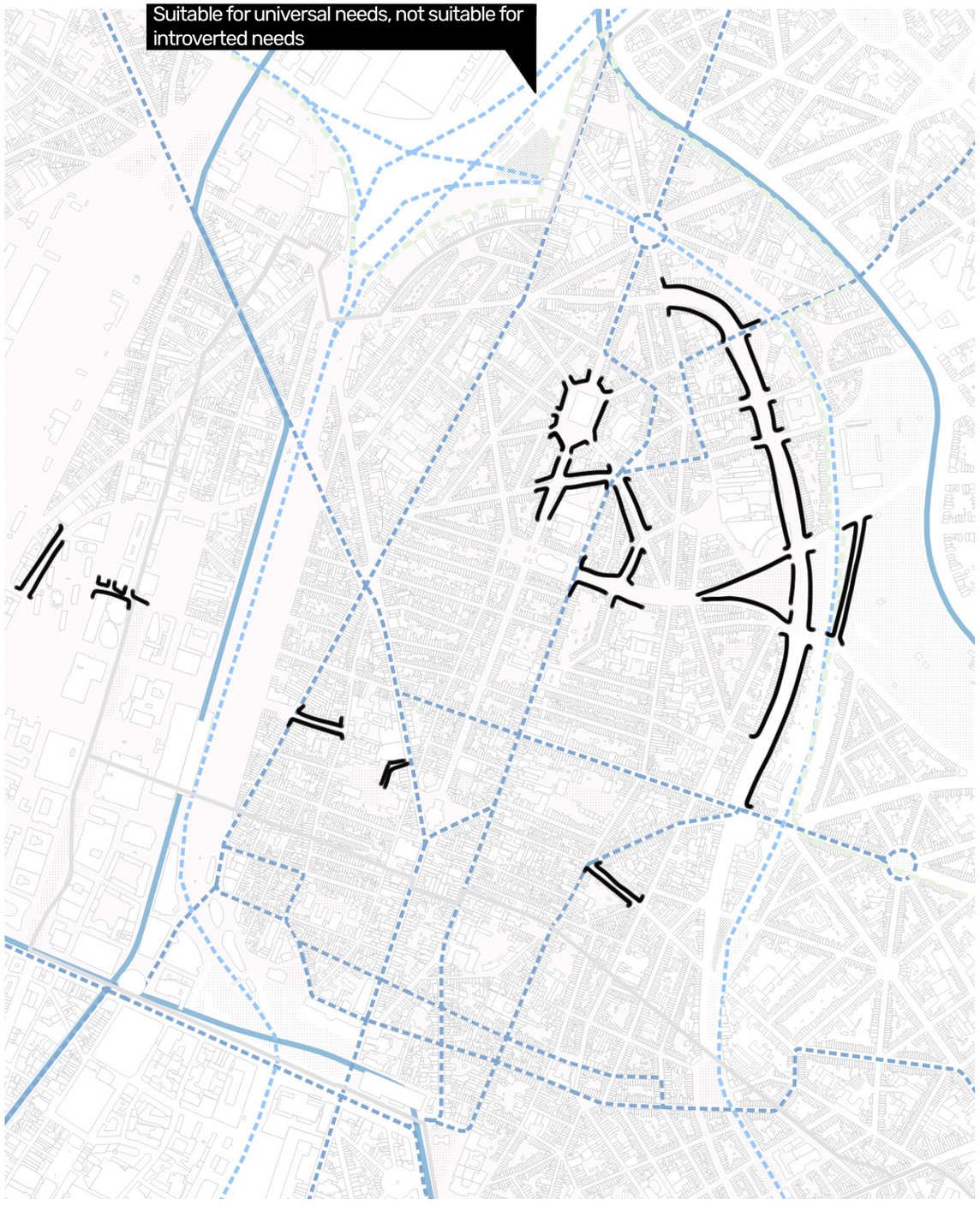


Fig. 7.36: synthetic map showing areas for intervention in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

socio-spatial conditions

high angular choice, high integration

understanding the network

not suitable
transitional space
key connector
destination
buildings
poverty crescent

0 150m 300m

Spaces that have both a high angular choice and integration value tend to function as vital arteries of the city. These areas naturally attract movement and activity, making them critical connectors within the urban fabric (Hillier & Iida, 2005; van Nes & Yamu, 2021).

Due to their strategic location, they hold strong potential to become central nodes within neighborhoods and are particularly well-suited for infrastructure that serves universal needs.

This makes them ideal for introducing plug-in elements: water outlets integrated into public façades, power plug-ins, and modular systems like hooks and grids that can support essential facilities, including restrooms and drinking fountains. These spaces can also be activated by communities through adaptable elements such as lighting, awnings, or other temporary installations that encourage local engagement and flexibility of use.
In addition, these areas provide excellent opportunities for connecting the green-blue network through interventions like snack-paths that can connect existing parks and green spaces.

angular choice

angular integration

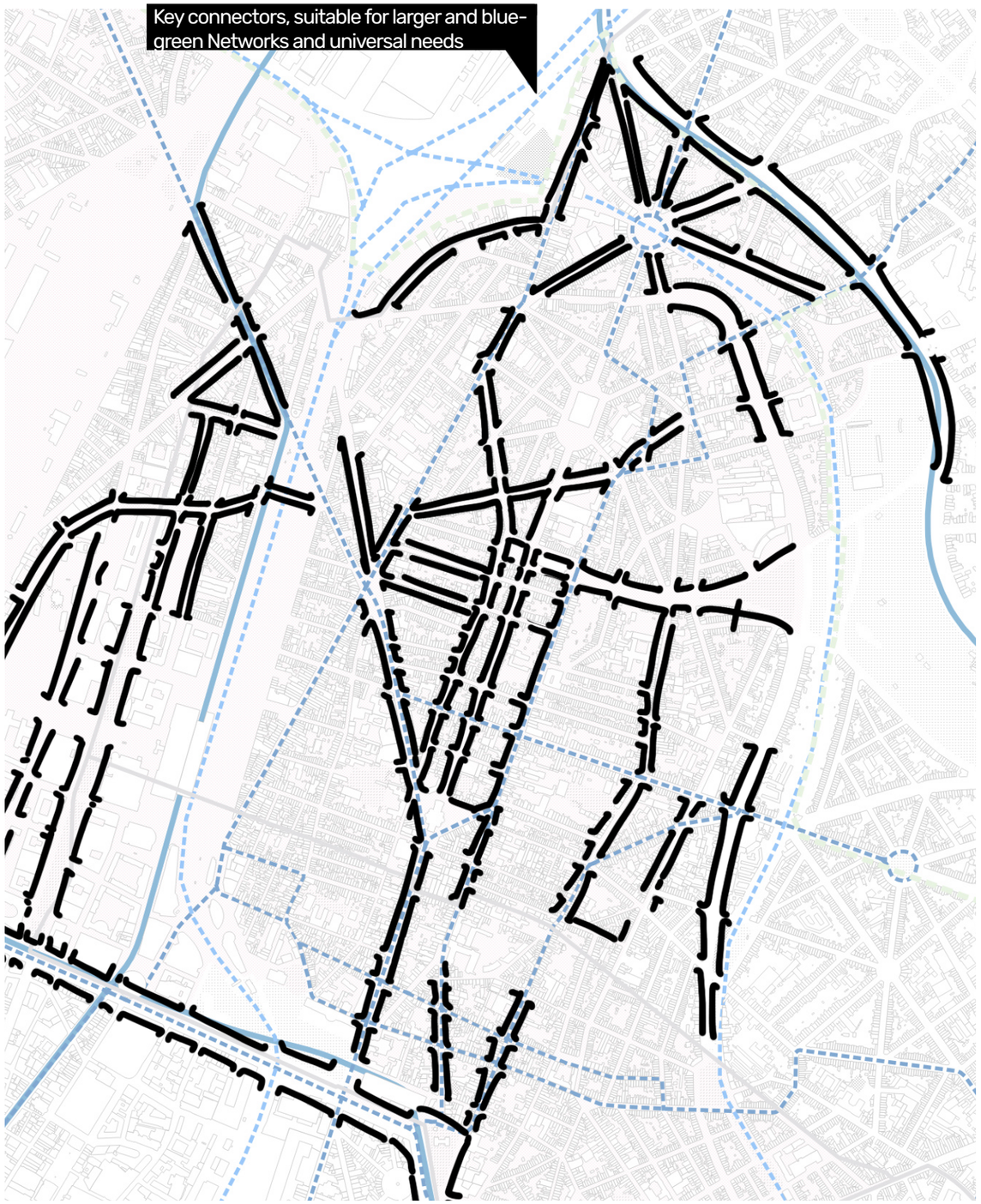


Fig. 7.34: synthetic map showing areas for intervention in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

low angular choice, high integration

not suitable
transitional space
key connector
destination
buildings
poverty crescent

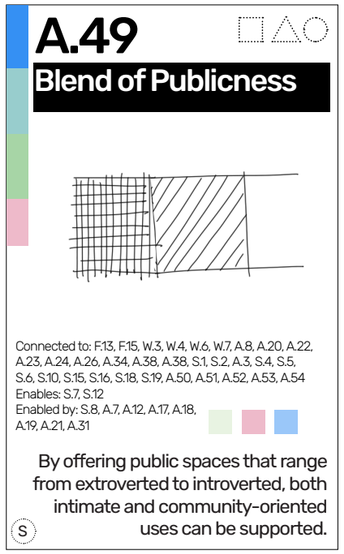
0 150m 300m

Low angular choice combined with high integration indicates a space that is easy to reach but not frequently used as a route between other destinations — making it more of a destination than a connector (Hillier & Iida, 2005; van Nes & Yamu, 2021).

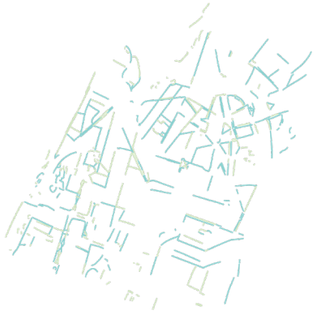
These segments are well-connected to many parts of the urban network but are rarely passed through. As such, they are well-suited for amenities that foster meaningful social interaction and community solidarity, offering a gradient of both introverted and extroverted satisfiers.

Introverted satisfiers may include spaces for shelter, privacy, or quiet reflection. Extroverted satisfiers might take the form of community gardens, shared kitchens, collaborative making spaces, or collective art installations.

This layered approach supports a diverse range of social interactions, enabling young fluidly housed adults to engage with their surroundings at their own pace and according to their comfort level.



angular choice



angular integration

Fig. 7.35: synthetic map showing areas for intervention in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

The network analysis helped validate the observations from the ethnographic mapping in Schaerbeek by grounding them in scientific methods.

It revealed that several locations in Schaerbeek West offer socio-spatial conditions suitable to fostering an infrastructure of care:
Areas with high angular choice but low integration (thin) are often used as transitional spaces. These are well-suited to support extroverted needs, such as brief interactions that help build solidarity (Oosterlynck, 2022).
Areas with high angular integration and high choice (medium) tend to attract frequent use. As key connectors, they are best suited to accommodating universal needs—such as green-blue networks or public toilets—which, while not specific to young, fluidly housed adults, enhance overall liveability for all residents.
Areas with low angular choice but high integration (fat) are more likely to be destinations than connectors. These areas are ideal for facilities that support a gradient of extroverted to introverted needs, offering diverse social and spatial experiences—and therefore, the greatest potential.

These insights informed the selection of five key areas for my design explorations, enabling me to tailor the project to the specific needs of young, fluidly housed adults in Brussels. Furthermore, this method can be applied to identify additional suitable locations within the broader poverty crescent—or even in other contexts—helping to narrow down areas for more targeted, ground-level investigation.

Fig. 7.38: synthetic map showing areas for intervention in Schaerbeek West, made by author

OpenStreetMap. (n.d.). Belgium—Building layer [Dataset]. https://download.geofabrik.de/europe/belgium.html

This chapter highlights the necessity of applying multiple methods grounded in systems thinking to identify socio-spatial conditions that support and enhance liveability for young, fluidly housed adults:

Ethnographic mapping and extensive fieldwork were essential for understanding the local context and how young, fluidly housed adults actively inhabit and activate lived space. These methods provided valuable insight into opportunities to “hack the system” through bottom-up actions.

The use of pattern language enabled the synthesis of grounded observations with previously identified satisfiers, making it possible to connect individual needs to the urban fabric. This approach supports designing across multiple scales, helping to identify both bottom-up opportunities and necessary top-down interventions, while helping to define key patterns that are particularly relevant to my research focus. Furthermore, it made it possible to situate the system of ‘homelessness’ within a broader systemic network, linking it to larger interventions aimed at enhancing environmental and social well-being.

Environment-Behavior Studies, particularly through angular choice and angular integration analysis, added a scientific and spatially grounded layer to the research. This helped clarify how people navigate the neighbourhood and enabled the identification of high-potential areas for intervention. Importantly, this method offers a scalable tool that can be applied in other neighbourhoods or cities, extending the reach of this approach.

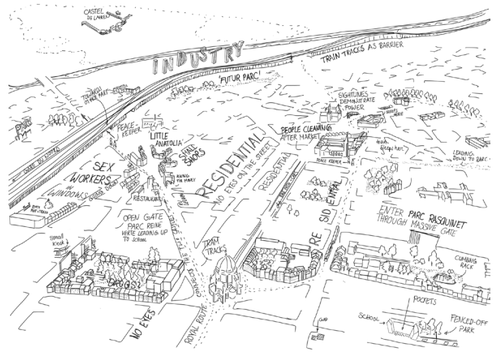


Fig. 7.3: qualitative soft map of Schaerbeek West, made by author

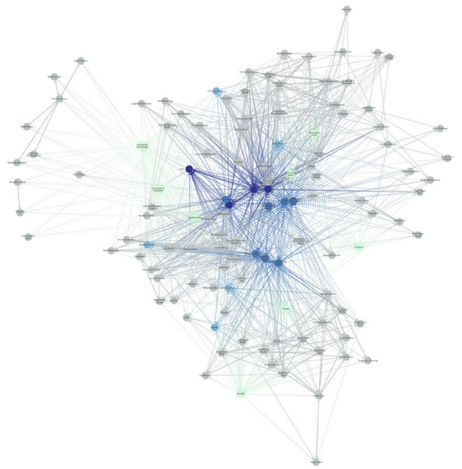


Fig. 7.30: Illustration showing connections between the patterns of all four systems, highlighting the key patterns (red) and satisfiers (green), made by author on kumu.io

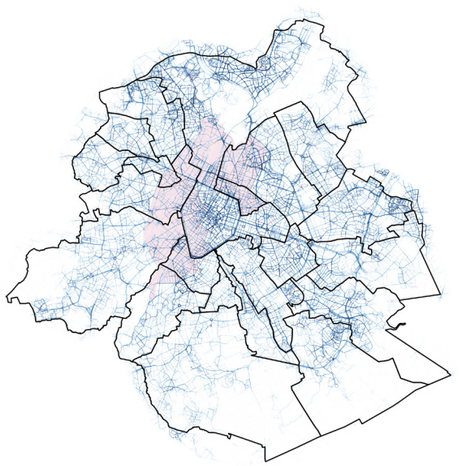


Fig. 7.31: map showing network analysis in Brussels, highlighting the poverty crescent and different municipalities, made by author

SQ3 activating space

How can the urban fabric in Brussels be activated through socio-spatial proccesses of care to improve liveability for young fluidly housed adults?

Fig. 8.1: Careful Intervention at Urban Art Biennale, Völklinger Hütte, 2022, photograph taken by author

Fig. 8.2: Photo of Fence around Solidary Mobile Housing Project in Koekelberg, photograph taken by author

activating the urban fabric

This chapter explores how the urban fabric of Schaerbeek can be designed to support bottom-up activation by young, fluidly housed adults.

It begins by selecting one of the previous developed personas, which helps to make transparent which socio-spatial needs are behind the selected patterns. Through a research-by-design approach, the chapter then tests various pattern combinations in the previously chosen strategic areas and evaluate their spatial impact based on the concepts developed for careful design in the methodology chapter.

Drawing from these design explorations, the chapter concludes with guidelines for implementation — offering insights that not only inform interventions in Schaerbeek, but also provide transferable knowledge applicable to other neighborhoods.

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Fig. 8.3: Neon Sign at Urban Art Biennale, Völklinger Hütte, 2022, photograph taken by author

Research by Design with Personas

Fig. 8.4: Persona Luca, made by author

Fig. 8.5: sketches of design explorations to improve liveability for Luca at P3, made by author

I conducted research by design through targeted design explorations in selected areas, synthesizing insights throughout the process. Drawing on one of the previously developed personas, I translated their specific situation into tangible spatial and social needs. This approach guided the application of relevant patterns within key locations. Using an established set of patterns, I investigated which combinations worked well—or poorly—in these contexts.

The full explorations are documented in the accompanying research-by-design booklet, which opens careful imaginaries toward more just and liveable futures for young adults in fluid housing situations.

Based on the theory of the Production of Space (Lefebvre et al., 1997), introduced in the methodology chapter (pp. 56–57), I conducted my design explorations on two interconnected levels:

Conceived space (top-down)
refers to the abstract, planned dimension of space, often imagined by urban planners, architects, and policymakers. This layer reflects the vision and power dynamics of those in control.

Lived space (bottom-up)
encompasses the emotional, symbolic, and cultural meanings individuals and communities assign to their environments. It is the realm of personal and collective experiences, where spaces are reclaimed and reinterpreted to meet individuals needs.

Distinguishing between these two dimensions helps clarify which interventions require larger-scale planning by policymakers and designers from the top down, but also opens up possibilities for sparking discussions on how these structures can be activated and adapted through bottom-up, community-driven actions—ultimately not to propose a single solution, but to provide a basis for rethinking how we want to live together.

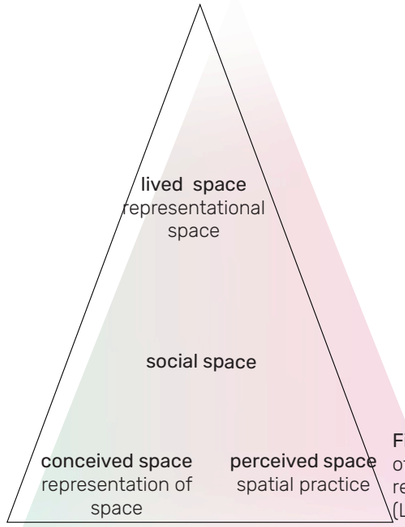


Fig. 8.6: Layers of Social Space, retrieved from (Lefebvre (2009), made by author

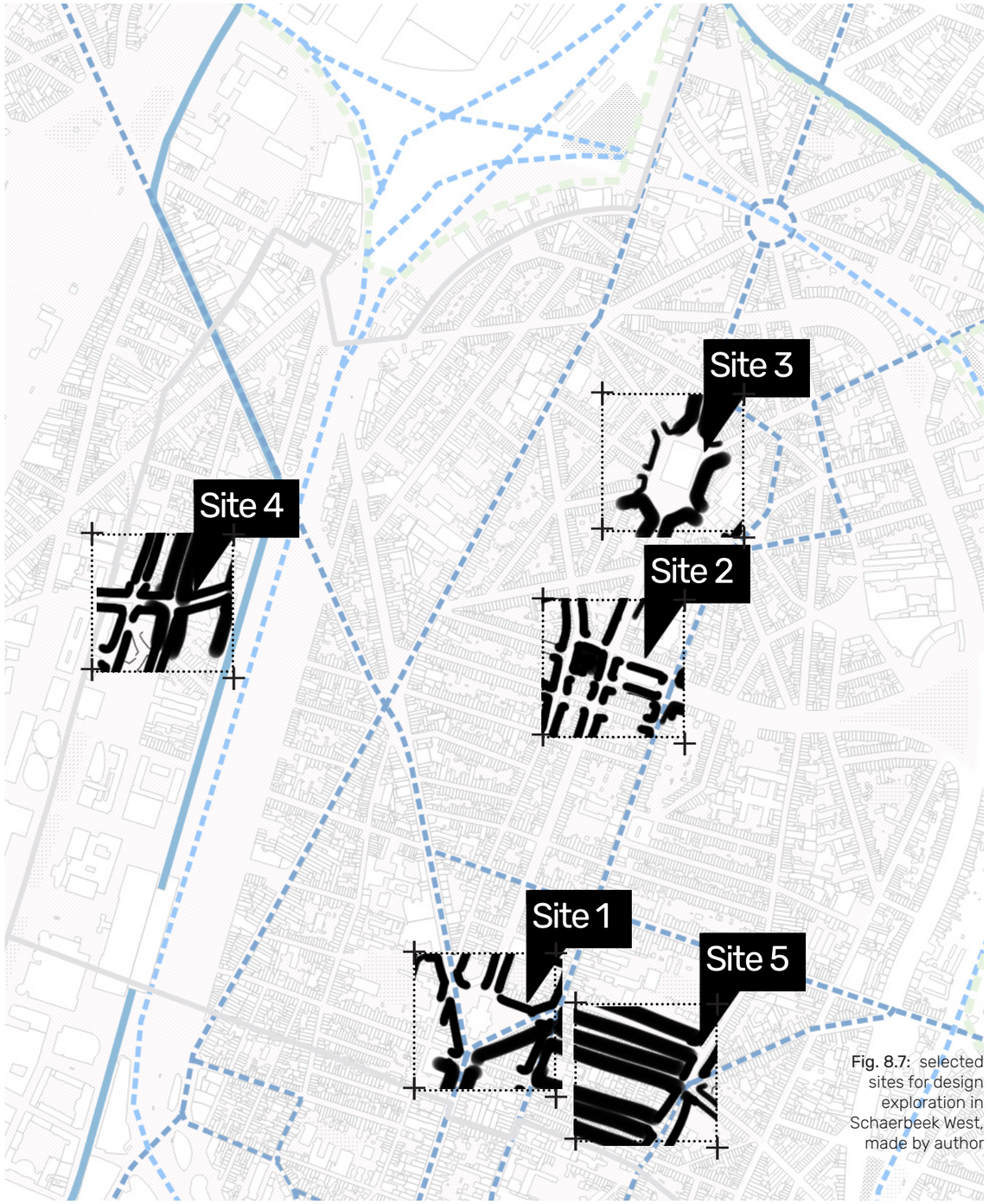


Fig. 8.7: selected sites for design exploration in Schaerbeek West, made by author

Important Socio-Spatial Needs

- Art & Expression
- Consumption Free Spaces (Wall of Fame', Community Kitchen, Nap)
- Workshops
- Community Zine / Radio
-Water & Toilet in Public Spaces
- Locker + Postbox
- Legal help, Squatter support, where to go?

1. Accessible Food

2. Accessible Water

3. Accessible Shelter

● Autonomy, Knowledge & Solidarity

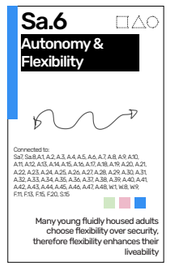
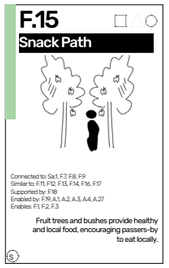
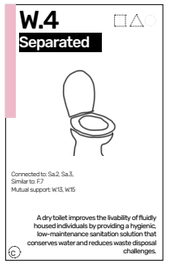
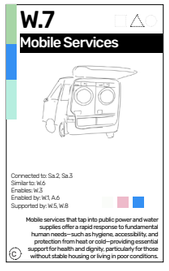
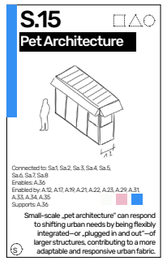


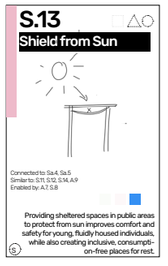
Fig. 8.7: most relevant patterns when designign to improve liveability for Luca, made by author

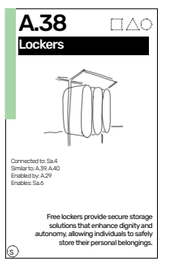


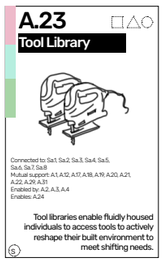


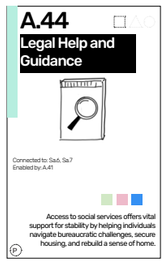


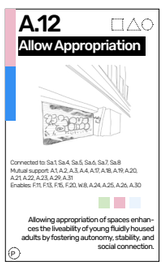


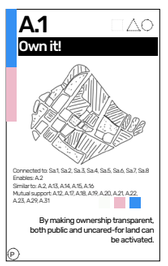


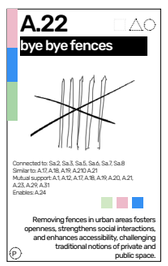






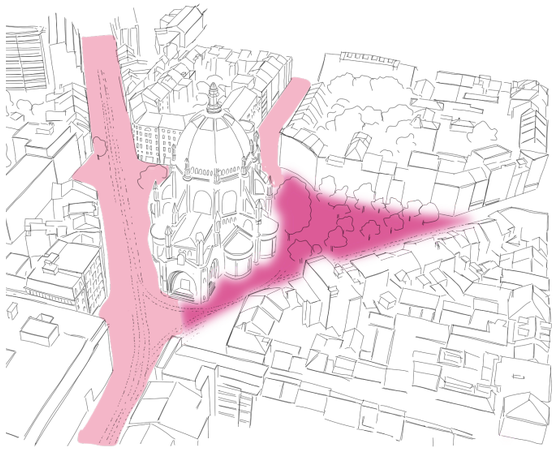






lived space
spaces reclaimed and reinterpreted bottom-up

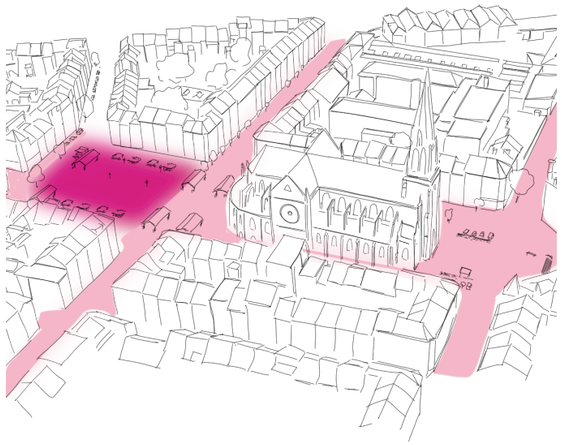
transit-area
key connector
desitination



Site 1 - Place de La Reine & Rue Royale-Sainte-Marie

Who is there?
Churches, NGOs for international help, school, elderly home, youth daycare center, cultural center, art, theatre collective, food, doctors, KU Leuven architecture and art, French Community commission

What is there?
Kings road, mobile wahsing service, powerplug and wateraccess, community garden and park in school, benches, trees and changing programs (festival de la marelle; La Roncerie + Renovas (co-creation)EPN mobile Brabandt (open compuerroom); queers on the move; la marmeet (mobile, participatory and social restaurant); semi-public backyards

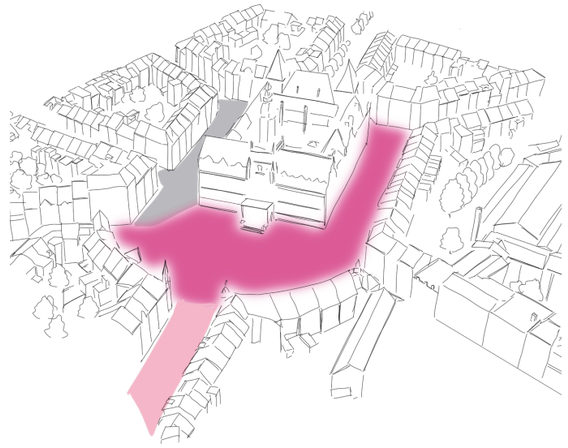


Site 2 - Église Saint-Servais & Lehonplein

Who is there?
Church, DPD shop, Car Shops, Few restaurants, bookshop with printing workshops

What is there?
Printing workshops, High voltage power station, Bus stop, Basketball fields, Market on Fridays, six pavilions

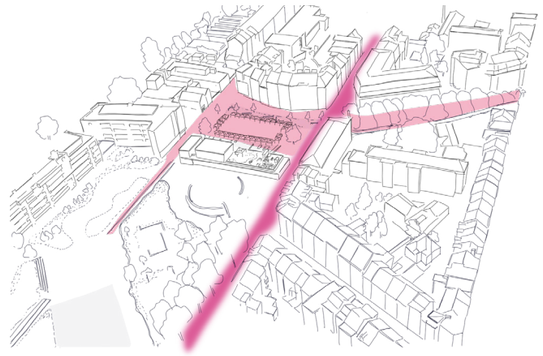
Fig. 8.8: five selected sites for design explorations and results from behavior-science analysis, made by author



Site 3 - Place Colignon

Who is there?
Municipality (townhall), Bike Workshop, Restaurants, School, Collective Housing Project, Hair dresser, Laundry service

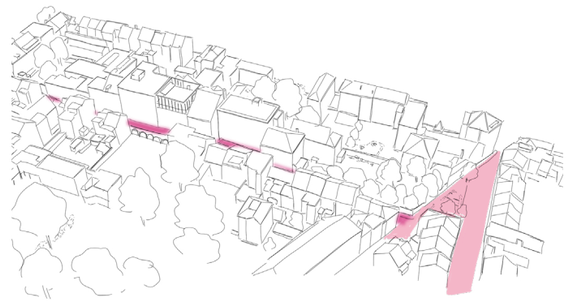
What is there?
Roofgarden, Common rooms, School with Backyard, table tennis, small pots of greenery, small trees



Site 4 - Place Gaucheret

Who is there?
Social facility with rooftop, school, daycare, church and artschool for children

What is there?
Park, trees, benches, large area for temporary use



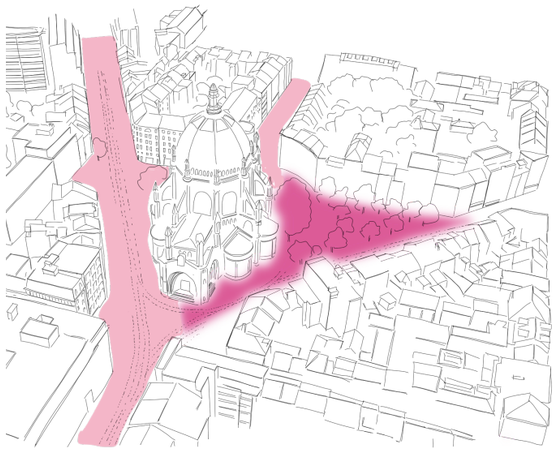
Site 5 - Rue de l'Abondance & Rue Josaphat

Who is there?
School, family help center, Neighborhood house for youth, facility for women education, facility for salary help, Nuns, club, doctors, food

What is there?
Park, Gardens, Square, Narrow street with few traffic, small raised bed in front of family help, active roof with sport facilities in school, graffitiwall

lived space
spaces reclaimed and reinterpreted bottom-up

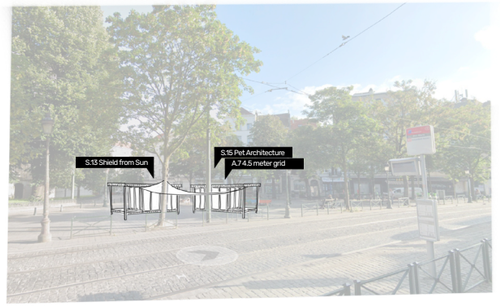
transit-area
key connector
desitination

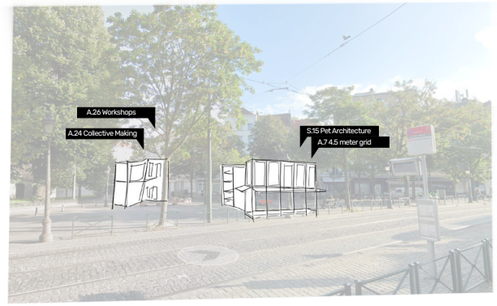


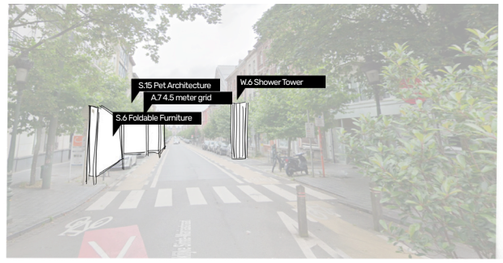
Site 1 – Place de la Reine & Rue Royale-Sainte-Marie

By introducing small, modular structures, Place de la Reine can be activated from the bottom up to meet diverse needs. It can, for example, be transformed into a gradient of privacy—supporting both more introverted uses and activities that foster solidarity, such as workshops related to art or water treatment.

Rue Royale-Sainte-Marie, on the other hand, holds strong potential to be equipped with functions that extend the cultural center and nearby cafés into the public realm. This would create spaces for social encounters, encourage slower movement, and support food collection—transforming the street into a more vibrant, community-oriented environment. By placing elements strategically—on the left, right, or in the center of the street—different spatial potentials can be activated, offering a variety of uses and atmospheres.







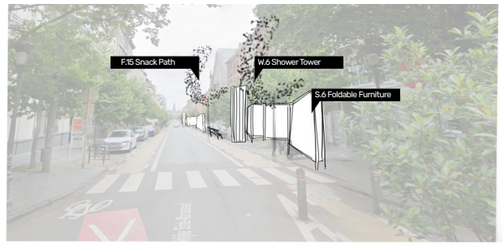
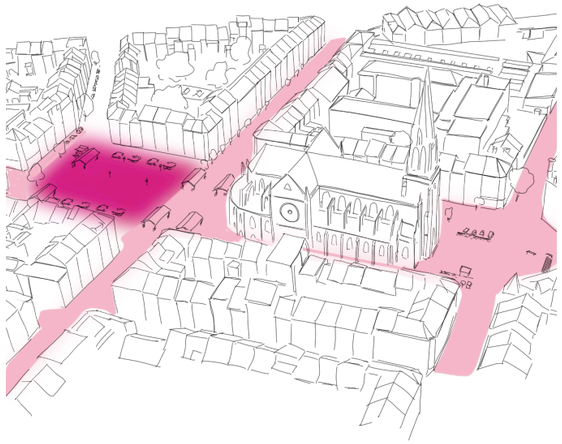


Fig. 8.9: design explorations on google street view image, made by author, larger version can be found in the research by design booklet

lived space
spaces reclaimed and reinterpreted bottom-up

transit-area
key connector
desitination

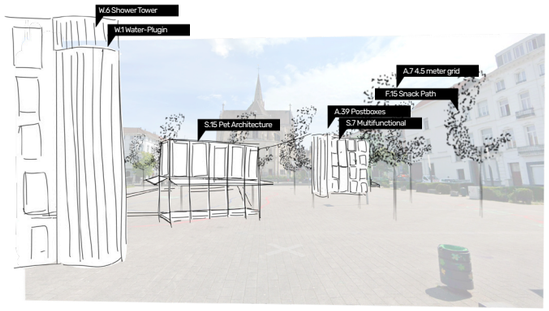


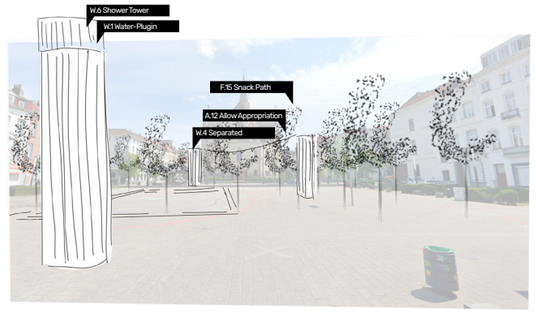
Site 2 – Église Saint-Servais & Lehonplein

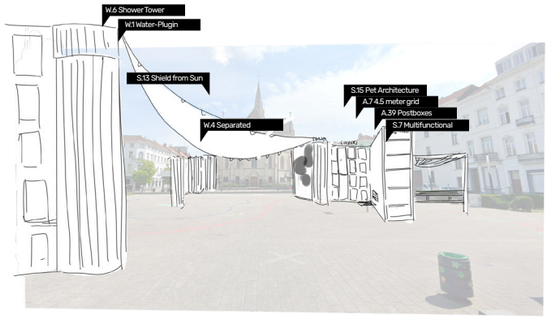
Lehonplein currently feels unwelcoming for diverse uses due to its very open layout with sharp corners and the need to remain flexible for the Friday market. Such open spaces, often defined by straight, hard edges, can feel exposed and insecure. To counter this, it is important to work with height differences and introduce edges and contours within the space to make it more engaging and comfortable.

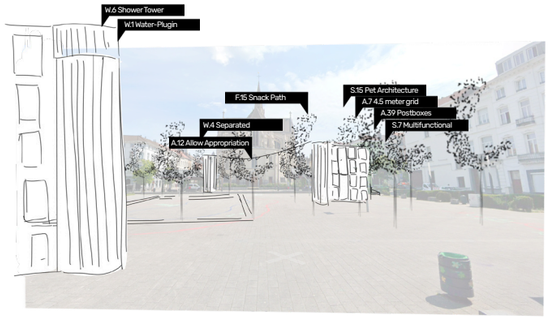
By introducing small elements arranged within a grid, the space can unlock a wider variety of spatial potentials. It can be activated to support more introverted uses at certain times, while still preserving space for basketball—which already takes place—and accommodating the market.

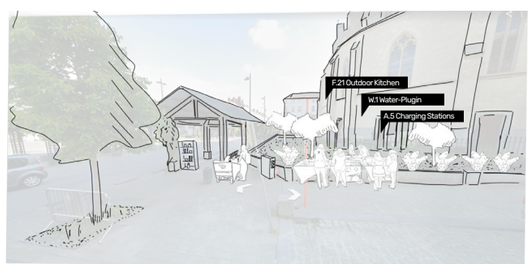
Power plugs could be utilized for community kitchens, with the church providing storage for necessary facilities. Additionally, nearby bus stops—as key transition points—could be equipped with food-sharing stations, helping reduce food waste while offering a convenient way to collect shared food.











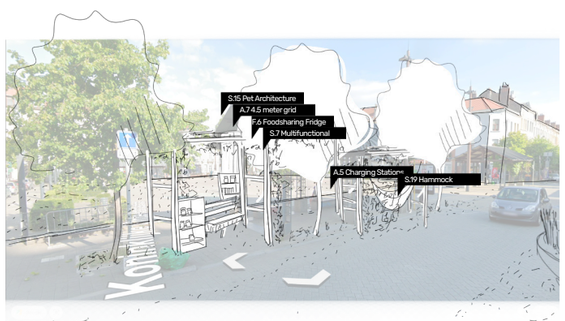
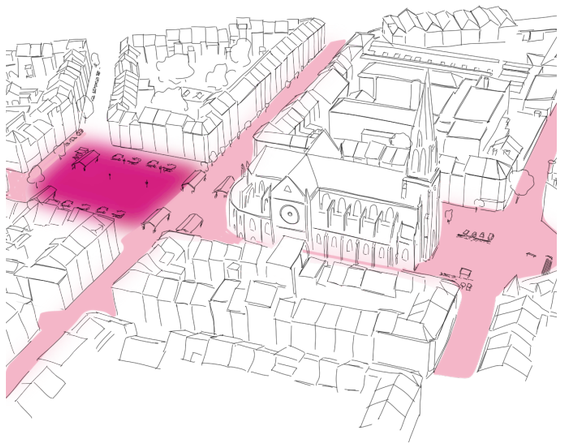


Fig. 8.10: design explorations on google street view image, made by author, larger version can be found in the research by design booklet

lived space
spaces reclaimed and reinterpreted bottom-up

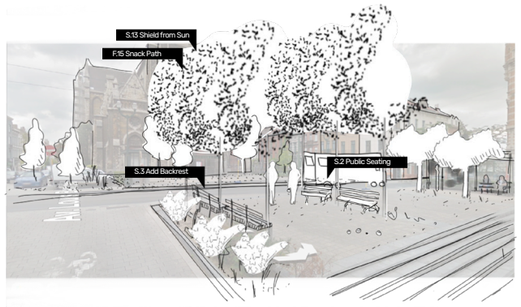
transit-area
key connector
desitination



Site 2 – Église Saint-Servais & Lehonplein

The street connecting Église Saint-Servais with Parc Josaphat currently has three lanes, but the middle lane—with its green strip—is mostly used only by dog walkers. By introducing clusters of trees, this space can become a more attractive transitional area. Combined with benches, it would invite people to pause and observe, opening opportunities for activities like gardening, boccia, or water play that foster social connection.

Additionally, by reducing parking, more space could be made available to enhance this corridor as a key connector for pedestrians. This would support the small businesses and cafés located along the street and create consumption-free areas for community gathering.



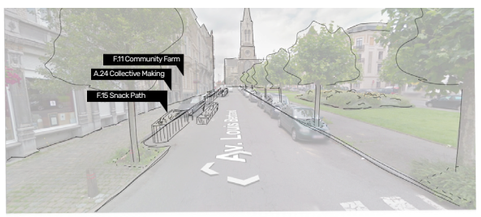
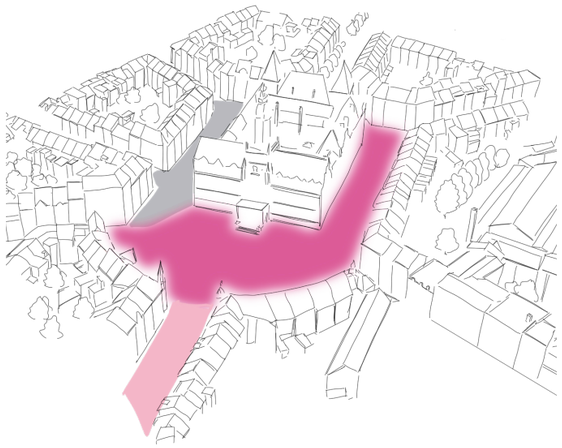


Fig. 8.11: design explorations on google street view image, made by author, larger version can be found in the research by design booklet

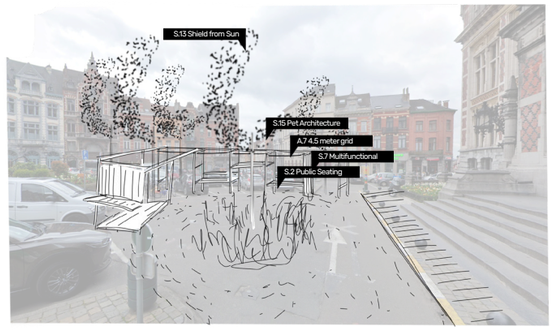
lived space
spaces reclaimed and reinterpreted bottom-up

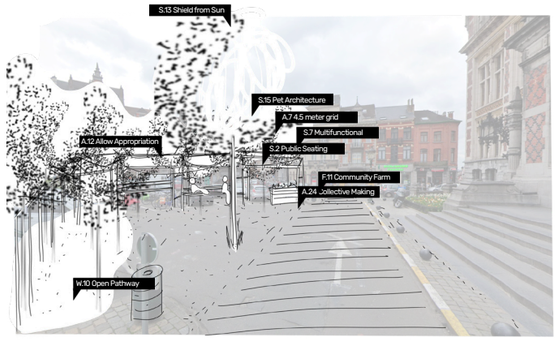
transit-area
key connector
desitination



Site 3 - Place Colignon

Currently a parking lot on a busy road, this space faces challenges in creating intimacy or a sense of retreat. With a more radical top-down approach introducing green-blue infrastructure, the site could become a habitat for bees and birds, support climate adaptation, and offer moments of introversion or refuge—particularly for those experiencing rough sleeping. However, it offers limited potential for bottom-up activation that supports diverse needs.





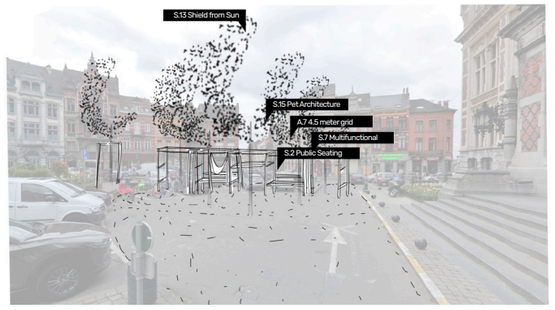


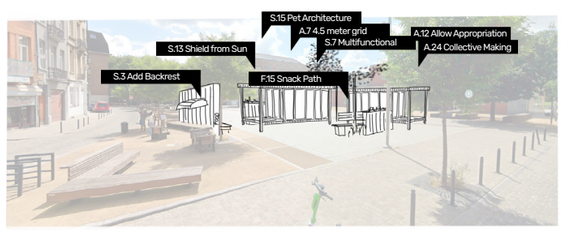
Fig. 8.12: design explorations on google street view image, made by author, larger version can be found in the research by design booklet

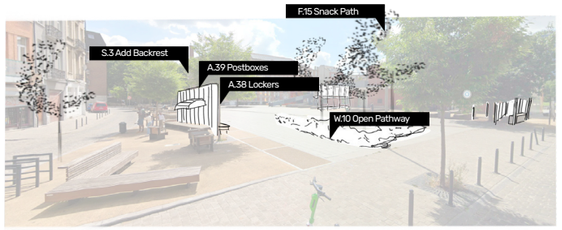
lived space
spaces reclaimed and reinterpreted bottom-up

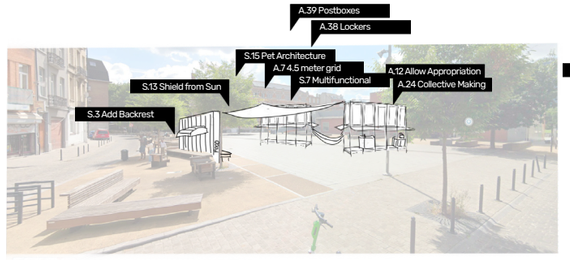
transit-area
key connector
desitination

Site 4 - Place Gaucheret

Located next to several social facilities—including a school and an art center for children—this area borders a well-used park and features large benches and some small trees. Adding minimal infrastructure, such as backrests and sheltered lockers, could make the benches safer and more welcoming for sleeping. Plug-in micro-architecture connected to the nearby facilities could provide space for hygiene services hut also spaces that can be activated for workshops, enhancing the area's role as a node of care.







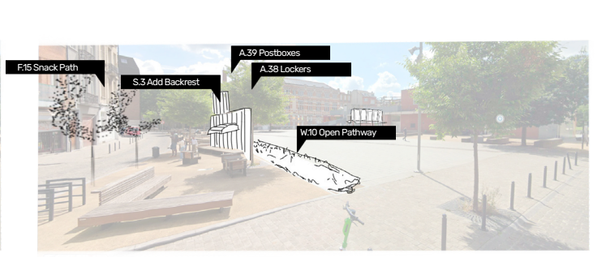
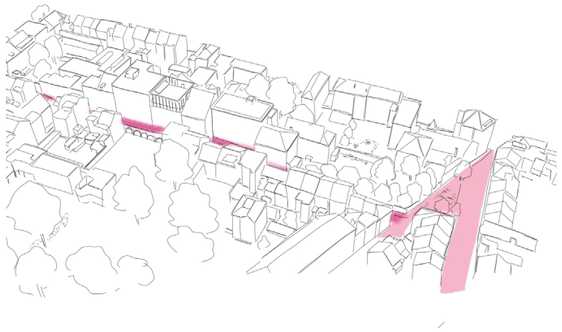


Fig. 8.13: design explorations on google street view image, made by author, larger version can be found in the research by design booklet

lived space
spaces reclaimed and reinterpreted bottom-up

transit-area
key connector
desitination



Site 5 - Rue de l'Abondance & Rue Josaphat

Carefully opening up existing barriers and replacing them with more porous elements—such as pavilions that can be closed when needed—can provide access to and potential use of the green space behind the walls and foster bottom-up activation to meet a variety of needs. This could include workshops, art projects, as well as practical amenities like postboxes and lockers.

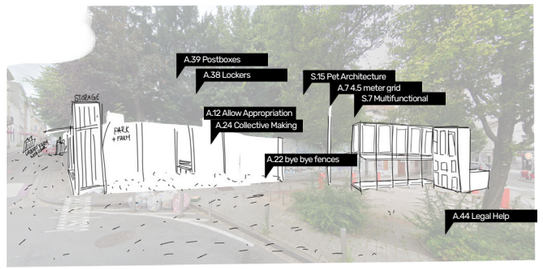


Fig. 8.14: design explorations on google street view image, made by author, larger version can be found in the research by design booklet

conceived space
abstract, planned dimension of space
top-down

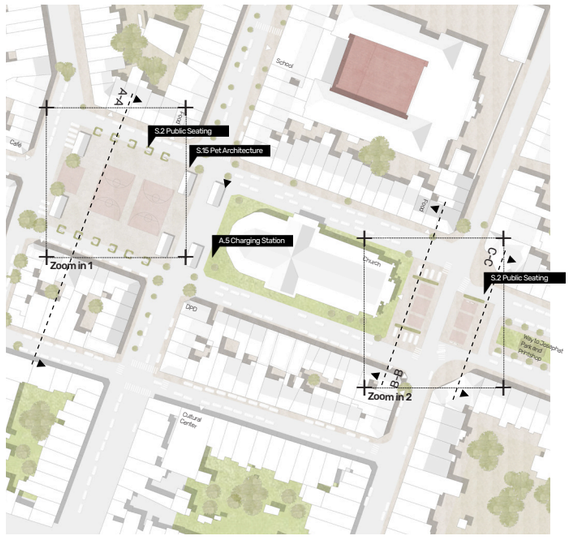
existing buildings
existing green

0 20m 40m

Site 1 - Place de La Reine & Rue Royale-Sainte-Marie

A-A Section

B-B Section



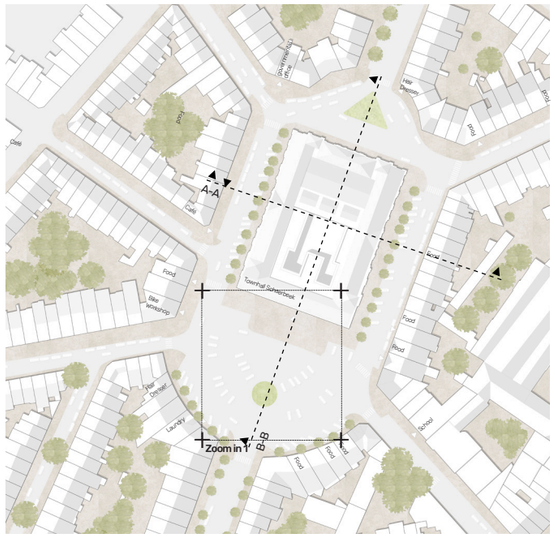
Site 2 - Église Saint-Servais & Lehonplein

A-A Section

B-B Section

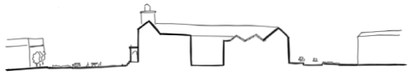
C-C Section

Fig. 8.15: five selected sites for design explorations and results from behavior-science analysis, made by author

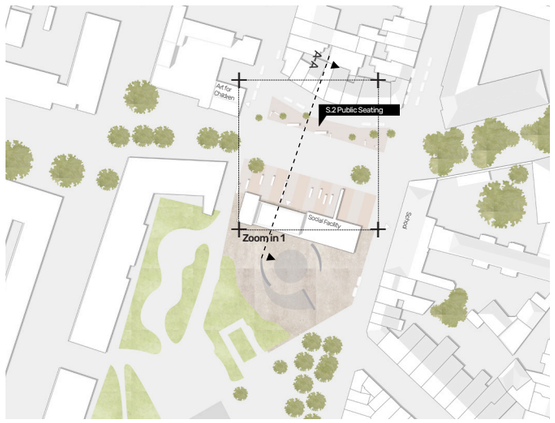


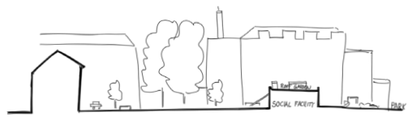
Site 3 - Place Colignon

A-A Section



B-B Section





A-A Section

A-A Section

conceived space
abstract, planned dimension of space
top-down

existing buildings
existing green

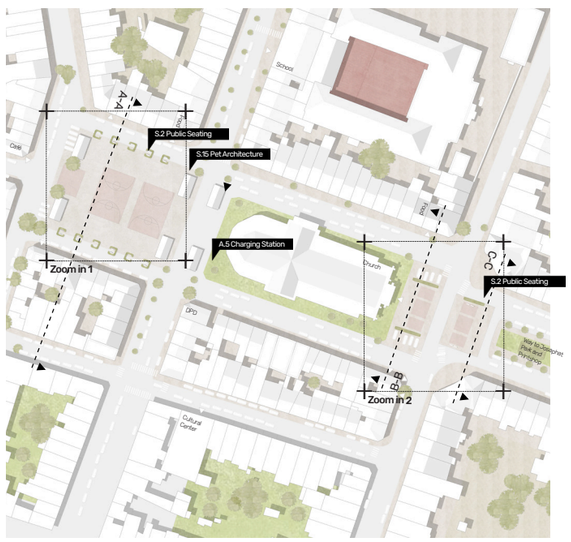
0 10m 20m

A-A
B-B
Zoom in 2
Zoom in 1
W.7 Mobile Services
A.5 Charging Station
S.2 Public Seating
Church
NGO
Cultural Center
Supermarket
Theater Collective
Food
Food
Food

conceived space
abstract, planned dimension of space
top-down

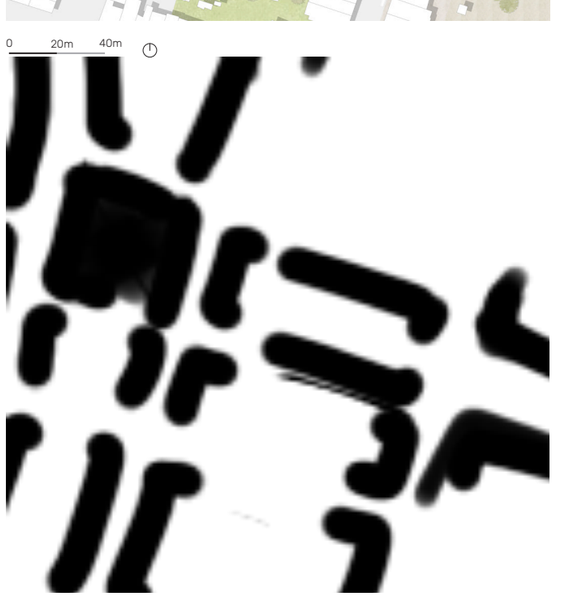
existing buildings
existing green

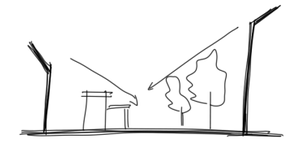
0 10m 20m

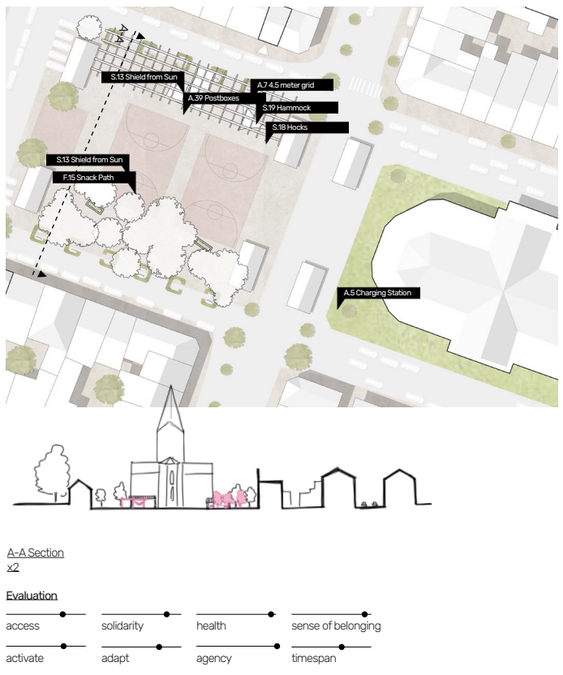


Site 2 – Église Saint-Servais & Lehonplein

As a large public square, Site 2 offers the potential to accommodate a wide range of functions. Located in the center of Schaerbeek West, it fosters connections to Parc Josaphat as well as other important places in the area. Its proximity to the DPD shop makes it a central location for postboxes. Additionally, the site should support activities that promote solidarity, such as sports, workshops, and gardening.



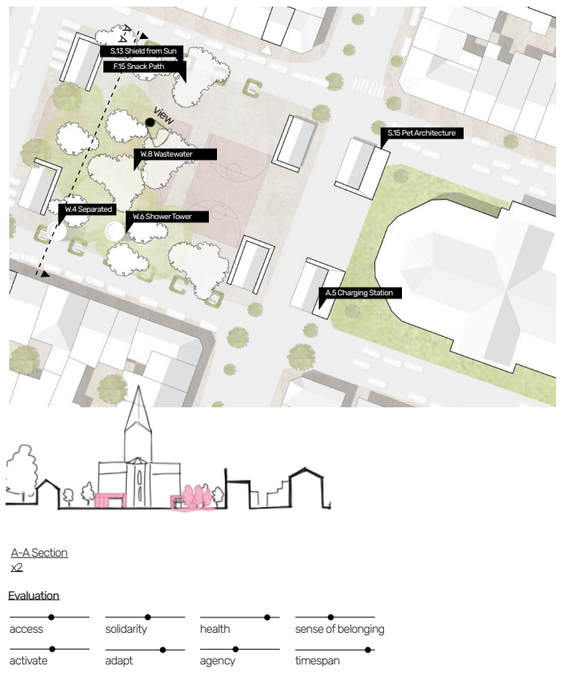




A-A Section
x2

Evaluation

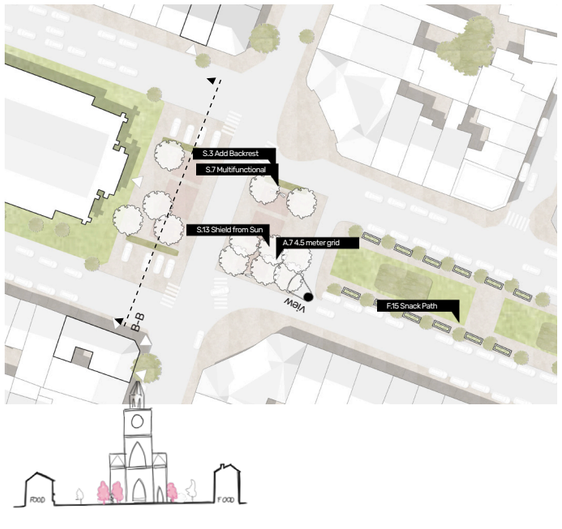
access	solidarity	health	sense of belonging
activate	adapt	agency	timespan



A-A Section
x2

Evaluation

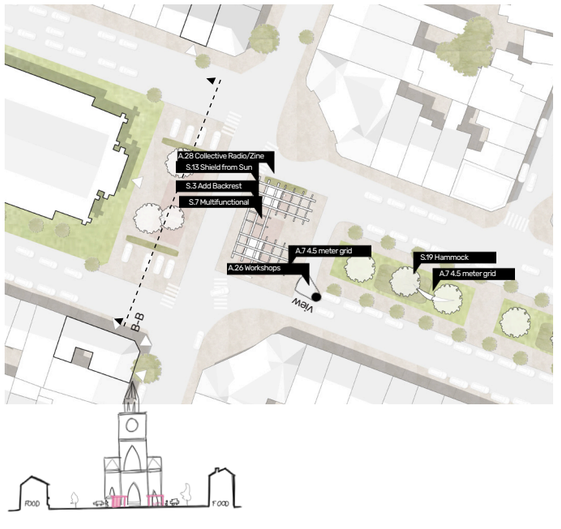
access	solidarity	health	sense of belonging
activate	adapt	agency	timespan



A-A Section
x2

Evaluation

access	solidarity	health	sense of belonging
activate	adapt	agency	timespan



A-A Section
x2

Evaluation

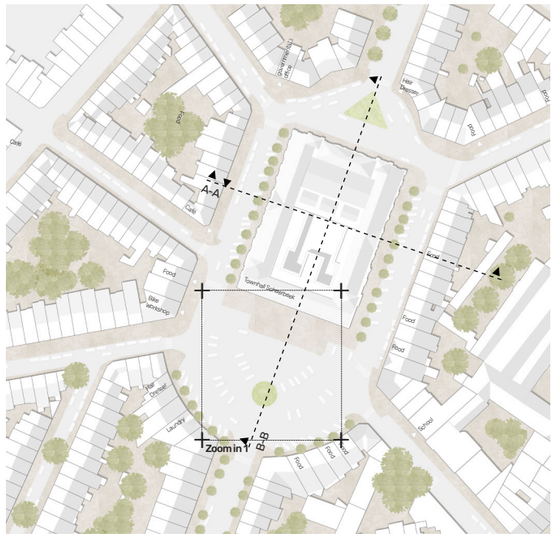
access	solidarity	health	sense of belonging
activate	adapt	agency	timespan

Fig. 8.17: design explorations, made by author, larger version can be found in the research by design booklet

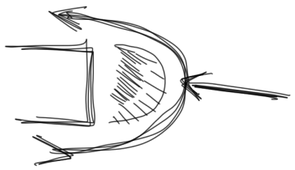
conceived space
abstract, planned dimension of space
top-down

existing buildings
existing green

0 10m 20m



0 20m 40m

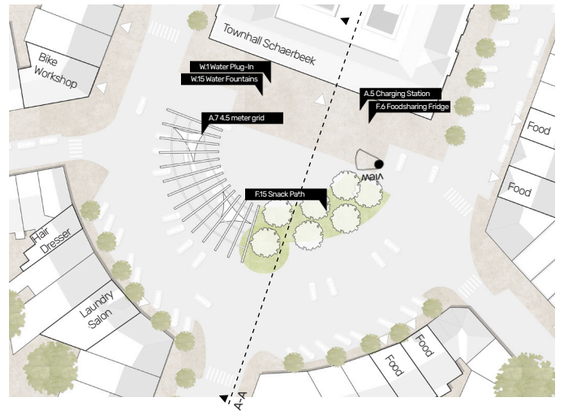


Site 3 - Place Colignon

Currently a parking lot situated on a busy road, Site 3 faces challenges in terms of creating intimacy or a sense of retreat.
With a more radical top-down approach introducing green-blue infrastructure, the site could become a habitat for bees and birds, support climate adaptation. Given its extroverted context, it may be more suitable for outward-facing uses, such as snack paths, markets, or workshops, that thrive in more active, visible settings.

A-A Section
x2

Evaluation

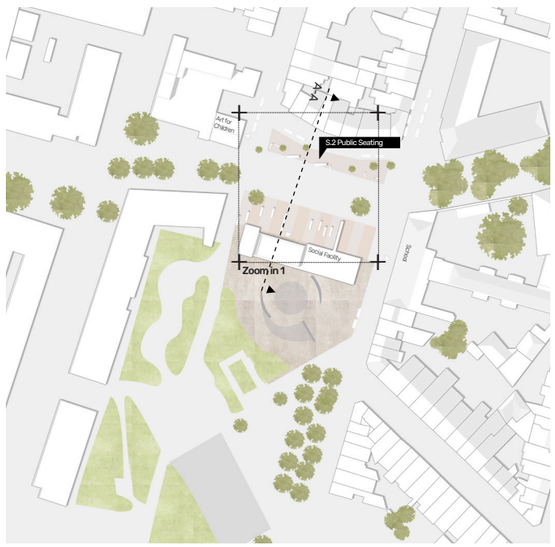


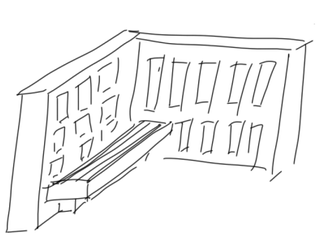
A-A Section
x2

Evaluation

Fig. 8.18: design explorations, made by author, larger version can be found in the research by design booklet

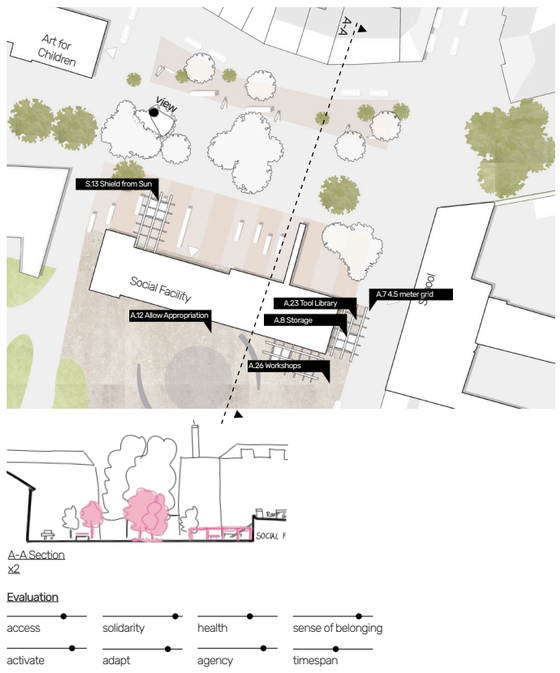
conceived space
abstract, planned dimension of space
top-down





Site 4 - Place Gaucheret

Located next to various social facilities—including a school and an art center for children—Site 4 borders a well-used park and features large benches and some small trees. Adding plug-in micro-architecture connected to the nearby facilities could provide space that can be activated for workshops, kitchens, or hygiene services, increasing the site's value as a node of informal care.



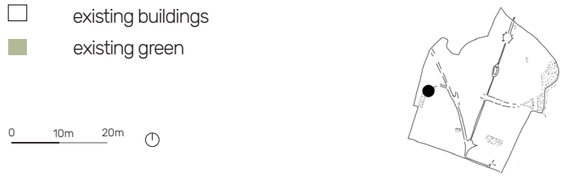
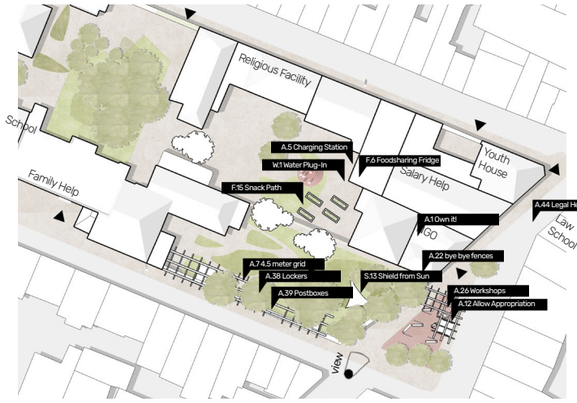


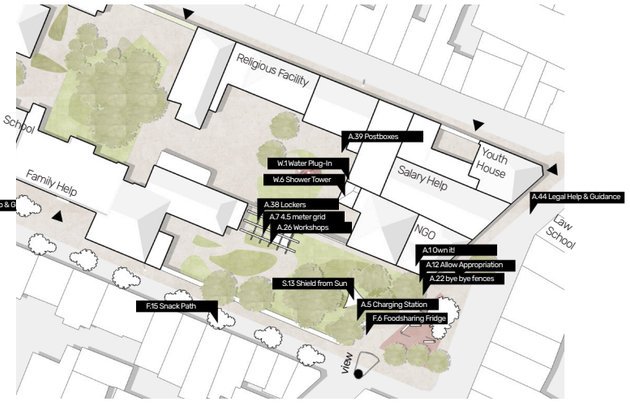
Fig. 8.19: design explorations, made by author, larger version can be found in the research by design booklet

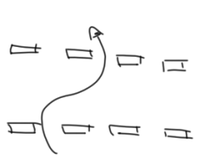
conceived space
abstract, planned dimension of space
top-down

Site 5 - Rue de l'Abondance & Rue Josaphat

This site is already surrounded by a cluster of care-focused social facilities and includes generous green areas with mature trees. However, these are currently fenced off with high walls. Carefully opening these boundaries and replacing them with more porous barriers—such as pavilions that can be closed when needed—could transform the area into a flexible, multi-functional space. Given its location slightly outside the main street grid, it offers a greater degree of privacy, making it ideal for a gradient of uses focused on young, fluidly housed adults.







A-A Section

×2

Evaluation

access	solidarity	health	sense of belonging
activate	adapt	agency	timespan

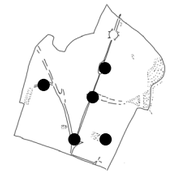
View

Evaluation

access	solidarity	health	sense of belonging
activate	adapt	agency	timespan

Fig. 8.20: design explorations, made by author, larger version can be found in the research by design booklet

sub-conclusion
competing patterns



The Patterns A.7 (4.5m Grid) and A.18 (Back and Forth) can accommodate either trees or built structures such as pavilions, provided certain conditions are met. For example, a spacing of 2.5–4.5m is ideal to support features like hammocks or benches, but it should also align with standard dimensions available in hardware stores for practical implementation.

With the liveability of young, fluidly housed adults in mind, built structures are prioritized. They offer adaptability and enable the integration of essential plug-in functions related to water, food, shelter, and personal agency.

However, where possible, a combination of built structures and fruit trees within the grid is ideal. This hybrid approach provides the broadest range of benefits, merging functional infrastructure with the ecological, nutritional, and sensory advantages of greenery.

Benefits Built Structures

While built structures do not directly support biodiversity, they provide vital adaptive infrastructure to meet evolving urban and social needs:
They can be enclosed for uses like storage, enabling initiatives such as: Urban farming, Community zines, Podcasts or creative projects; can be equipped with hooks to hang hammocks, awnings, or lights; allow plug-in elements like lockers or postboxes, must include flexible furniture (in line with S.3–S.5), such as: Foldable benches, Pull-out surfaces, Modular seating options; should be prepared for social gathering (see earlier point 3), but also allow for introverted configurations by repositioning furniture for more introverted use.

Benefits Trees

Deciduous trees offer seasonal advantages: shade in summer, sunlight in winter; Fruit trees provide free, healthy snacks and support food affordability; When mature, trees can support hammocks—offering informal public seating or shelter, especially suitable for summer; They contribute to biodiversity, support pollinators like bees, and enhance the environmental and sensory quality of the space.

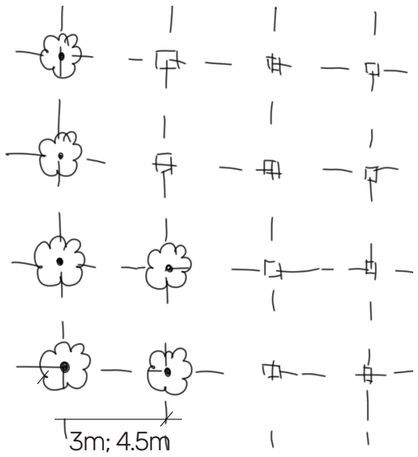
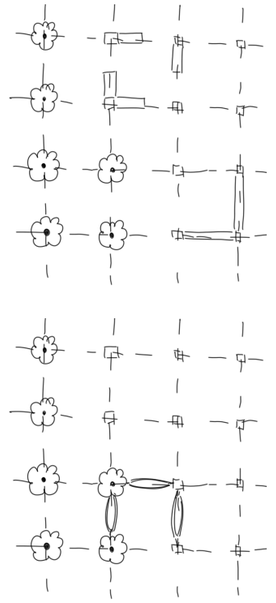


Fig. 8.21: conclusions from Design Explorations, made by author

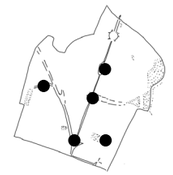
Trees and built structures arranged in a grid can accommodate multiple uses. Trees can provide shade and climate adaptation, as well as fruit, and offer the possibility of hanging hammocks. Built structures in the grid can be equipped with hooks for garlands or hammocks, and can accommodate multifunctional furniture that can be folded or pulled out to suit different social settings.



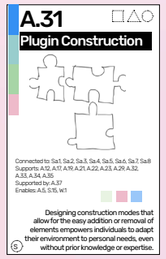
plug-in possibilities

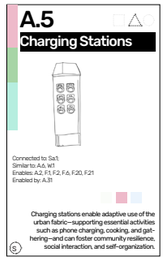
sub-conclusion
new pattern

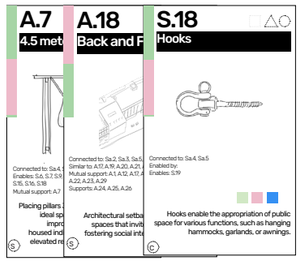
transit-area
key connector
desitination



To enable the activation of important functions such as A.39 Postboxes, A.38 Lockers, W.15 Water Fountains, W.4 Separated Toilets, W.6 Shower Tower, and F.6 Food-sharing Fridges, larger structures must be strategically designed to allow bottom-up plug-in activation. This includes incorporating features like water (W.1) and power (A.5) connections, building setbacks (A.18), modular grids (A.7), and hooks (S.18)—combined with standard dimensions commonly available in hardware stores (A.50).







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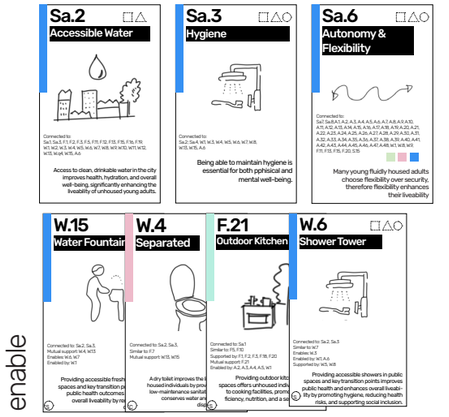

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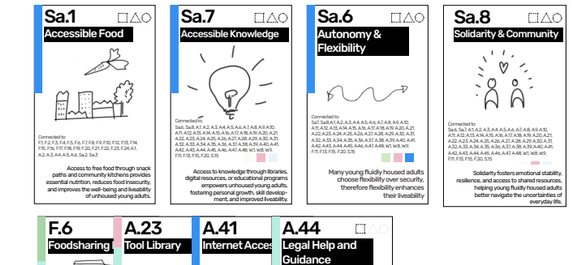

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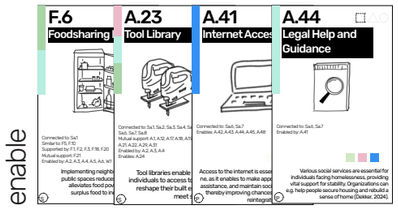

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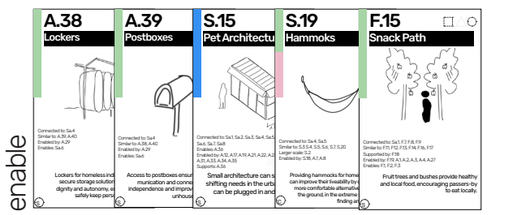


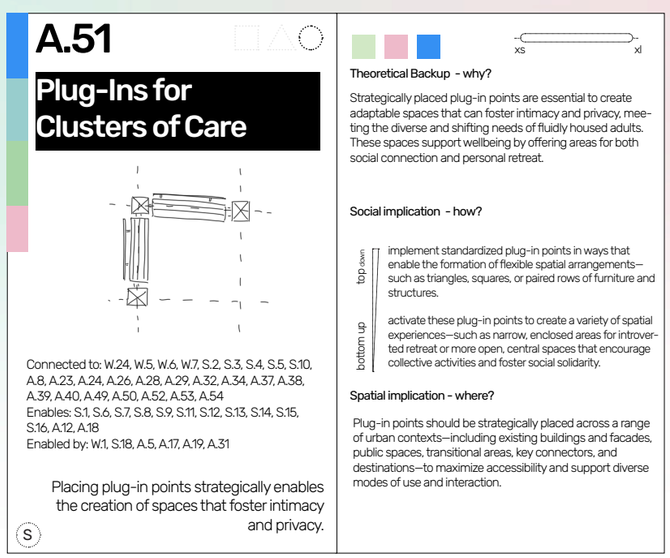
Fig. 8.22:
conclusion of central patterns to activate the previously identified central patterns relevant for designers, made by author

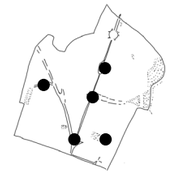
sub-conclusion
new pattern

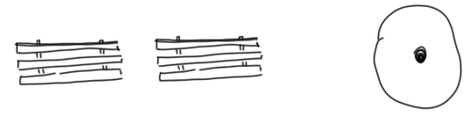
These plug-in possibilities as well as built structures—such as buildings, pavilions, furniture, and trees—must be placed thoughtfully to ensure that public spaces can be activated in a way that fosters both solidarity and intimacy.

When arranged in a straight line, elements like trees or benches often fail to create welcoming or comfortable environments. However, when grouped in clusters—such as triangles, squares, or paired rows—they can define informal micro-spaces. These spatial frames foster intimacy, provide varying levels of privacy, and encourage spontaneous social interaction.

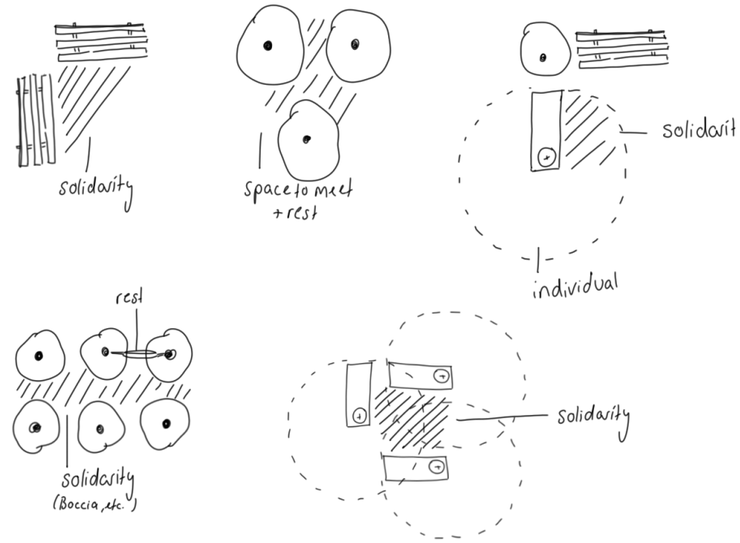
Such arrangements break the open space into more usable zones, supporting a range of activities and modes of occupation—from solitary rest to group gatherings.







The spatial configuration is not suitable. When benches are placed in a row or as single elements, no space is created and the opportunity for spontaneous encounters is reduced.



Preferred configurations encourage intimacy and solidarity. Clustering elements like benches in a way that invites interaction, or clustering trees, opens up a nice space. Empty corners can also create interesting spaces for activation.

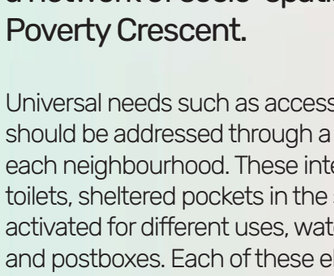
Fig. 8.23: conclusions from Design Explorations, made by author

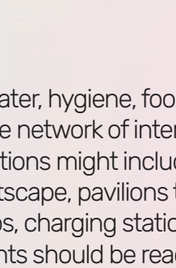
sub-conclusion
networks of care

To effectively implement an infrastructure of care that ensures access, activation, adaptation, and fosters solidarity in Brussels—particularly to improve liveability for young, fluidly housed adults—we must establish a network of socio-spatial interventions across the Poverty Crescent.

Universal needs such as access to water, hygiene, food, and rest should be addressed through a dense network of interventions within each neighbourhood. These interventions might include public seating, toilets, sheltered pockets in the streetscape, pavilions that can be activated for different uses, water taps, charging stations, lockers, and postboxes. Each of these elements should be reachable within a 10-minute walking distance. To achieve this, existing infrastructure can be leveraged. For example, nearby restaurants and kiosks could support a food-sharing fridge connected to their power supply, while a shared outdoor kitchen could draw on existing water and cleaning systems.

In parallel, individual or community needs form a looser but equally essential network of care. These include spaces for collective art-making, knowledge sharing, and other forms of communal activity, such as community centres like the Rainbow House, which foster solidarity and belonging. While fewer in number, these spaces serve as key destinations and must remain accessible. Ideally, each neighbourhood should have at least one such space, so that one is never more than a 30-minute walk away from another.





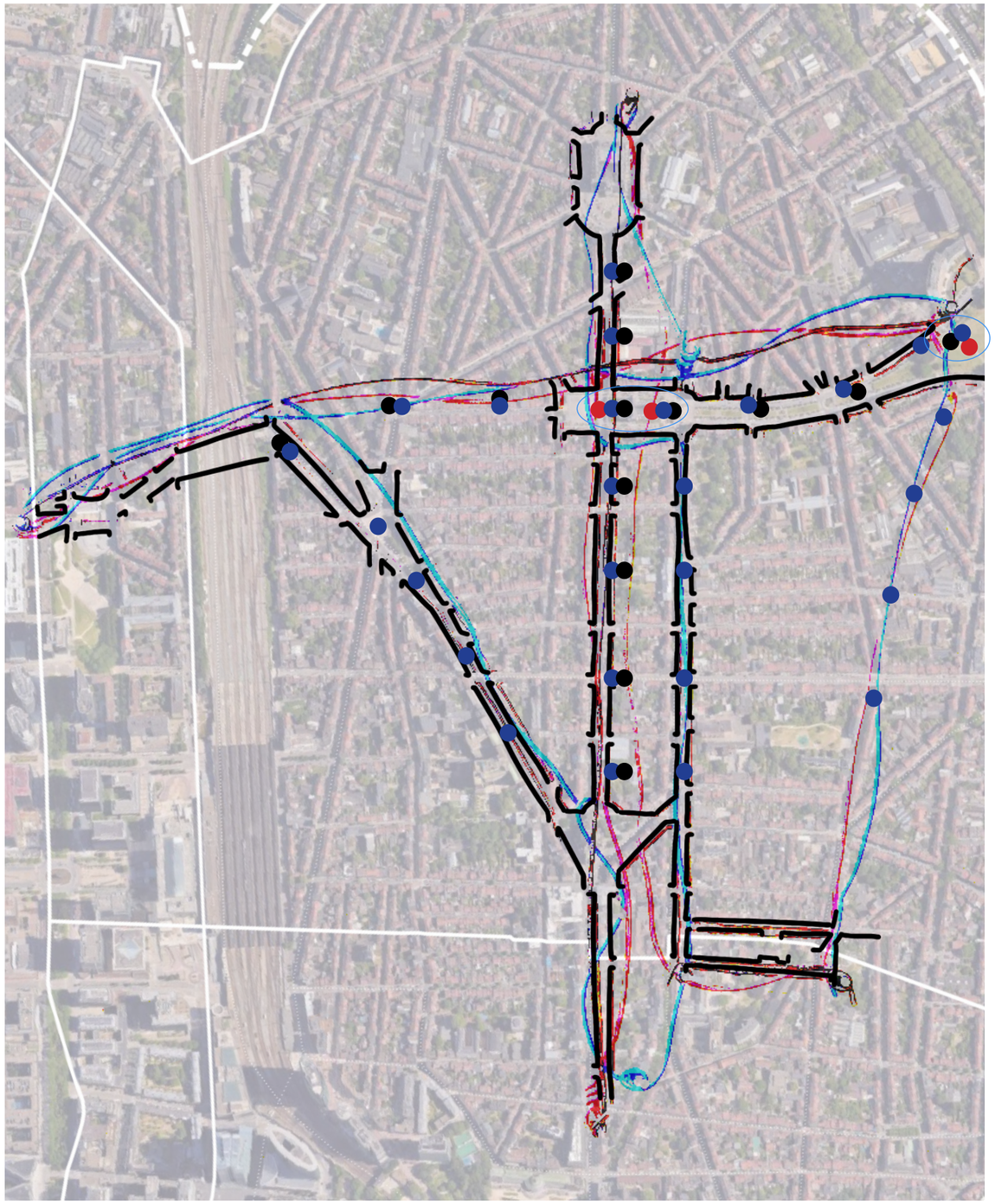


Fig. 8.24: Modell showing plug-in network in Schaerbeek West, made by author

conclusions
careful design

By understanding the potential of space and combining it with essential plug-in networks—such as S.15 Pet Architecture for easy adaptation, A.5 Charging Stations, W.1 Water Connections, S.18 Hooks, and F.25 Snack-Paths—we can design with care and create the spatial conditions for places to be activated and adapted from the bottom up. This enables access and fosters solidarity, even without specialized knowledge.

Within these networks, people can plug in other functions—such as A.38 Lockers and A.39 Postboxes—to safely store and register important belongings, thereby creating agency. They can also activate power and water networks for initiatives like F.6 Food-sharing, W.15 Water Fountains, or an F.21 Outdoor Kitchen. These elements bring people together, meeting essential needs for food, water, and hygiene while fostering solidarity and community.

By providing such flexible infrastructures, it becomes easy to add or remove functions as needed—making space for new ideas and ensuring that public spaces remain responsive to changing needs and collective care.

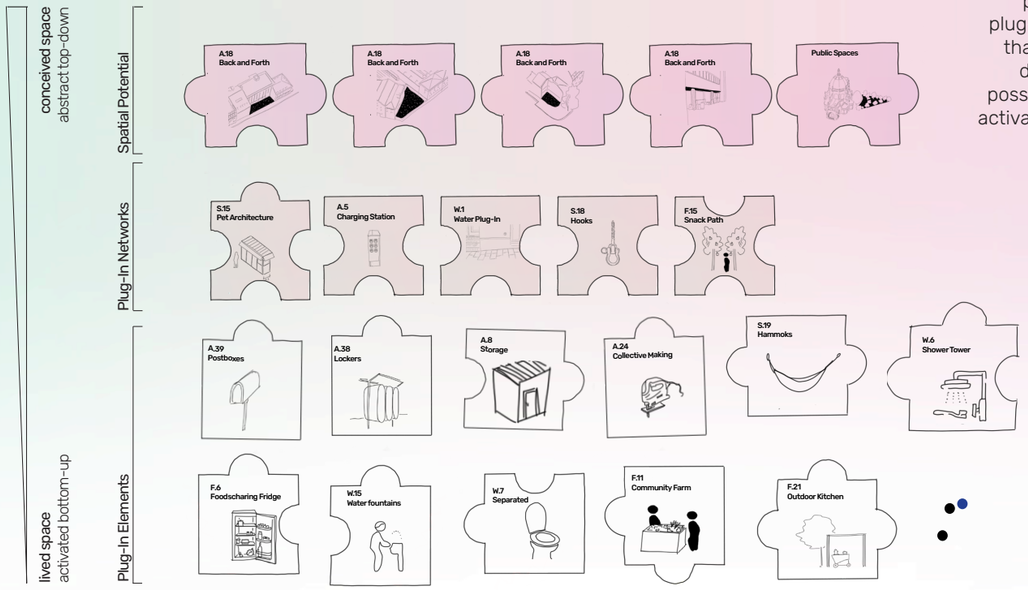
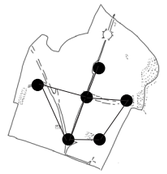
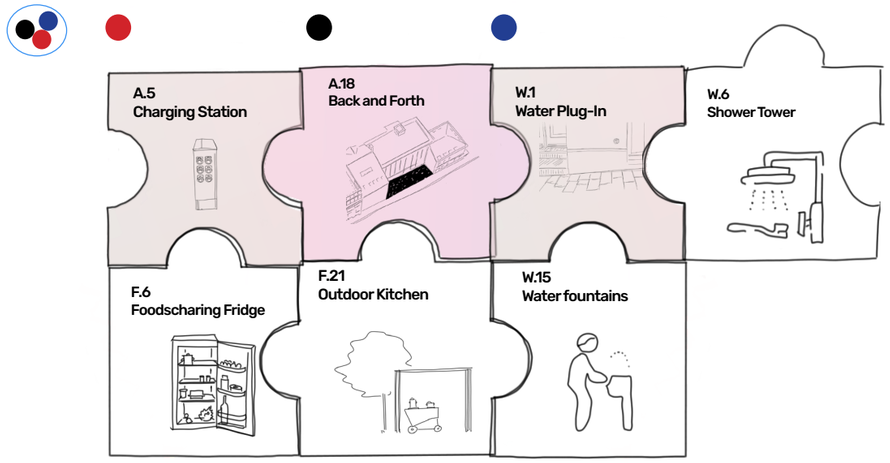


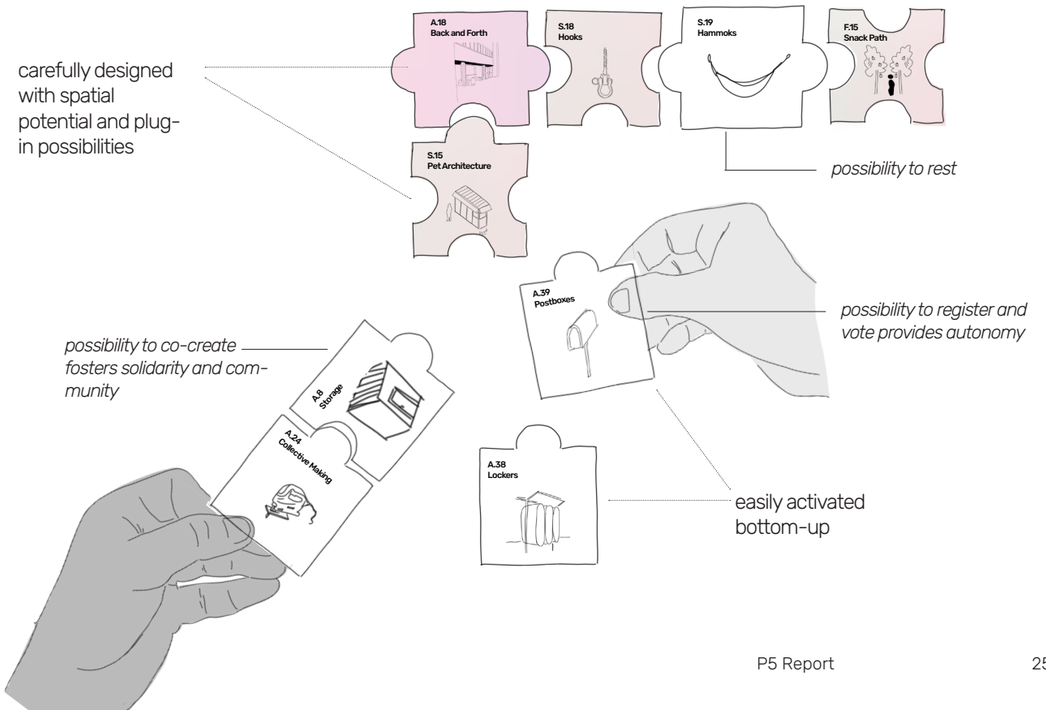
Fig. 8.25: Graphic showing spatial potential and plug-in networks that need to be designed and possibilities to be activated bottom-up, made by author

cluster friends
universal needs plug-in

buildings network
electricity network
water network







conclusion
new patterns

The patterns that derived from the research-by-design explorations are overarching patterns that connect the small interventions with the larger city scale. They are very central in the pattern field, as they are connected to multiple additional patterns.

Concluding from this, we can see that some patterns are particularly central across all satisfiers (green). These are related to policy frameworks—for example, collective care for the commons and allowing appropriation (dark blue); spatial patterns of different plug-in situations—such as building setbacks, grids, hooks, water and power plugs (light blue); and overarching patterns—like the blend of publicness, hardware store measures, plug-in construction, plug-ins for clusters of care and networks of care (blue).

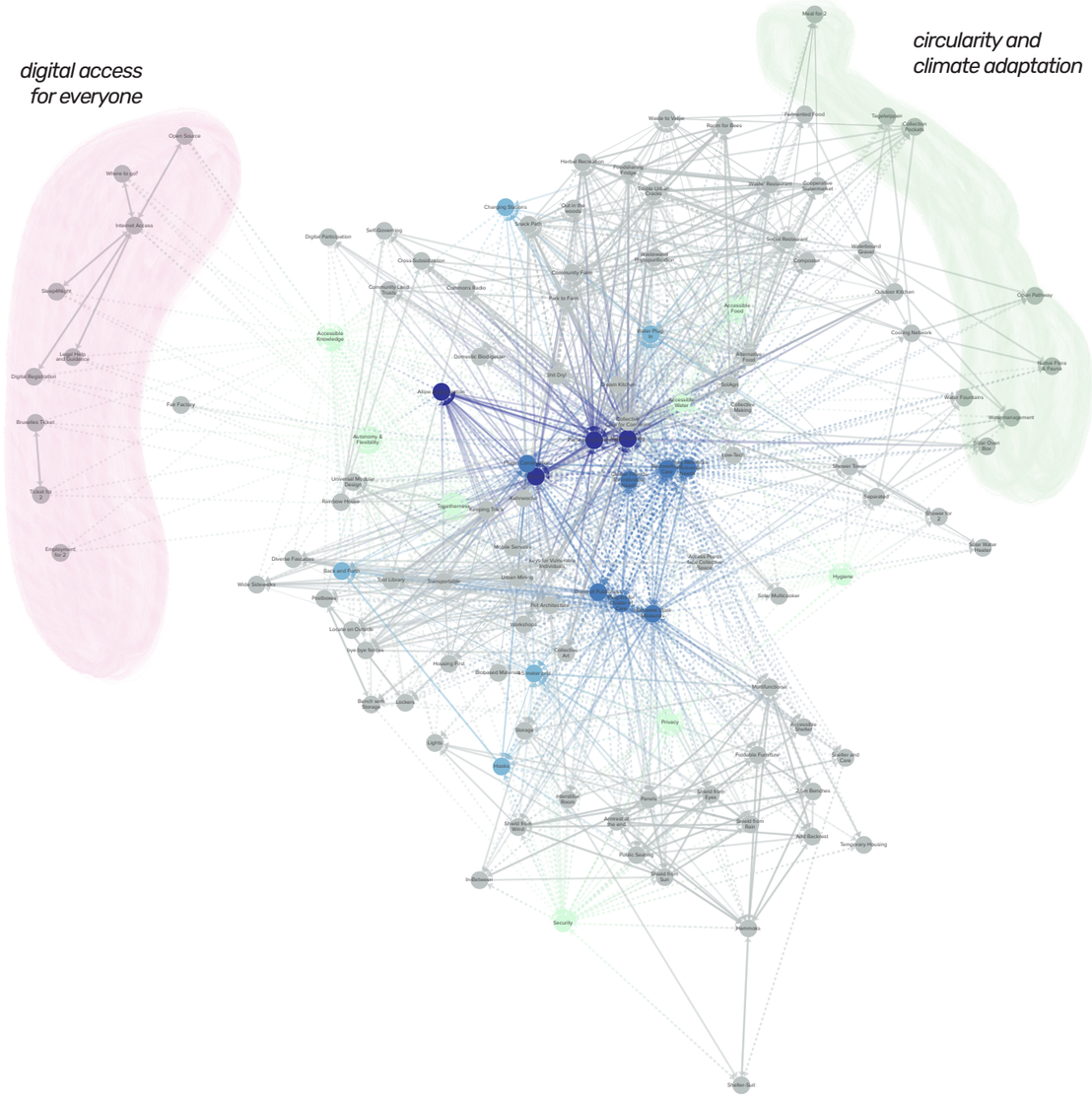
A.31 Plug-In Construction stands out as a key connector—both within the pattern field and across satisfiers (green). It links closely to A.18 Back and Forth, S.18 Hooks, A.7 4.5m Grid, W.1 Water Plug-In, and A.5 Charging Stations. Together, they support a flexible infrastructure for interventions like lockers, postboxes, seating, hammocks, and access to power and water—all vital to the everyday liveability of young, fluidly housed adults.

In contrast, patterns related to shelter and digital infrastructure—such as open-source tools, legal help, or "Where to go?" platforms—sit more at the system's edge. While essential in situations of rooflessness, they are not the core of liveability for this group.

Similarly, circularity and climate adaptation patterns—such as water management, waste-to-value systems, and collective governance models—address broader needs. Though less central to the specific discourse around fluidly housed youth, they offer important entry points for other stakeholders focused on wider urban resilience.

- connected
- similar
- supports
- enables

- satisfiers
- central policy patterns
- central spatial patterns
- central overarching patterns



Shelter Suit, minimal, non-spatial improvement in time of rough-sleeping

Fig. 8.25: Illustration showing all patterns, highlighting the central patterns (red) and the satisfiers (green), made by author

Pattern-Workshop with Personas

Fig. 8.25: Pattern Workshop, photograph taken by author of one of the groups

In the next step, I conducted a pattern workshop with students to explore whether the patterns were understandable, practical to implement, and to learn how they could be adapted. This was important because young, fluidly housed adults are considered highly vulnerable, and there is a large power imbalance when involving them alongside different stakeholders in the built environment. At the same time, their lived realities are not necessarily very different from those of young students.

I organized the session by first dividing the students into groups of 3–4, assigning each group one persona and sharing the corresponding graphic novel. I then asked them: What would your needs be if you were in this situation? They organized these needs into more extroverted categories (community, solidarity) and more introverted ones (health, privacy). Next, I asked them to select the most relevant patterns and apply them to a selected site in Schaerbeek West.

In the following round, I reshuffled the groups so each included students who had worked on all four personas. I then asked: How would you prioritize the needs now, and how would you design this area?

While time was limited, I learned a lot from this process—not so much about the design itself, which mostly reassured me that other young people think similarly—but more about how to prepare workshops like this and how to better pre-select materials and questions for future sessions (more images in appendix and pattern booklet).

Top-Down vs Bottom-Up

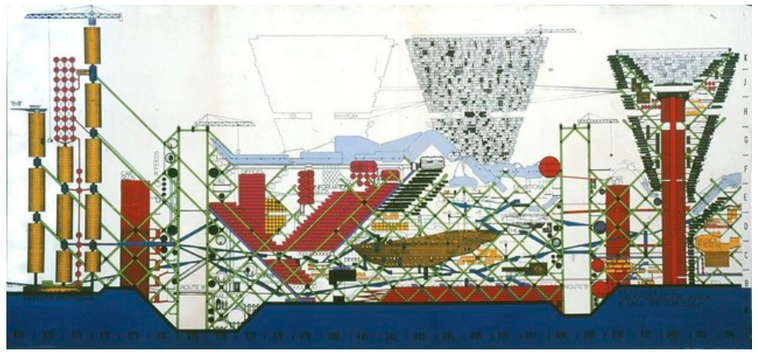


Fig. 8.26: Plug-In City, Peter Cook, Archigram in 1964, retrieved from Merin, n.d.

To understand which of the Patterns can be implemented Bottom-Up and which one needs to be implemented Top-down, I organized them according to the priciples I defined in the methodology chapter for careful design:

Access – to spaces that provide the potential to be activatedby young fluidly housed adults.

Activation – seing young fluidly housed adults as central agents in activating the urban fabric to meet fundamental needs related to health and security, sense of belonging and agency.

Solidarity – informa bout spatial patterns that enable collective processes and community building.

Adaptation – ensuring the system can evolve in response to shifting needs, conditions, and lived experiences.

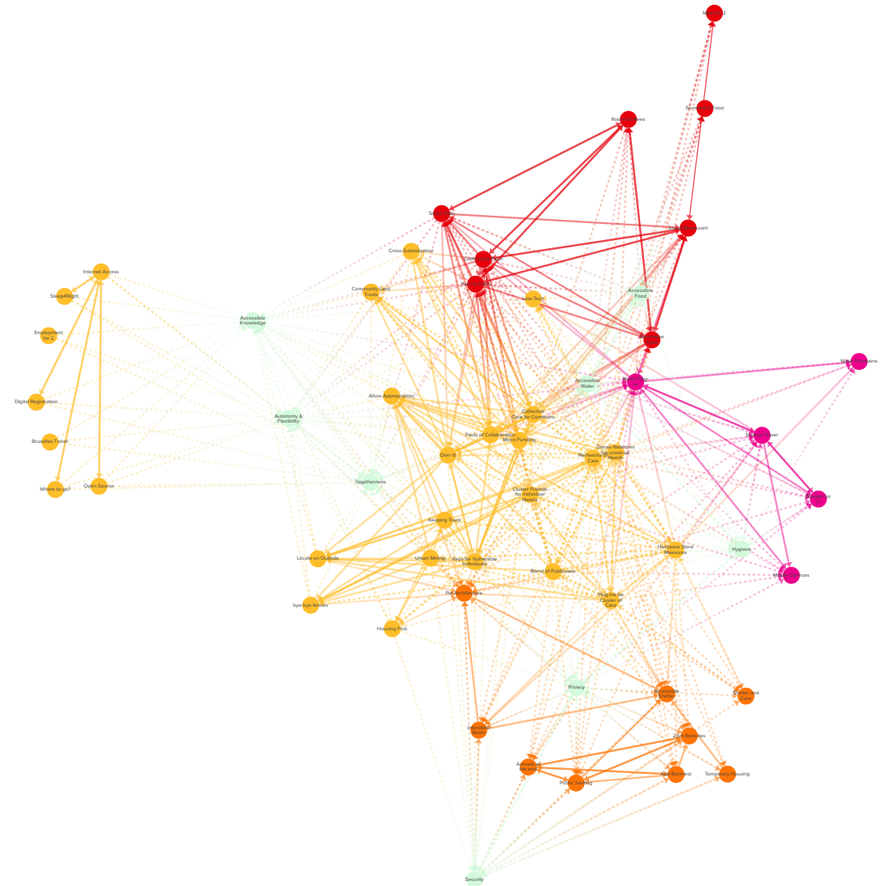
sub-conclusion

This pattern field highlights that the most tangible interventions related to access—within the context of my research—center around A.29 Keys for Vulnerable Individuals. However, it becomes evident that many of the patterns represented here depend primarily on top-down policy actions (e.g., A.2 Collective Care for the Commons, A.36 Housing First, A.12 Bye Bye Fences), while a smaller number rely on community-led initiatives (e.g., F.5 Fermented Food).

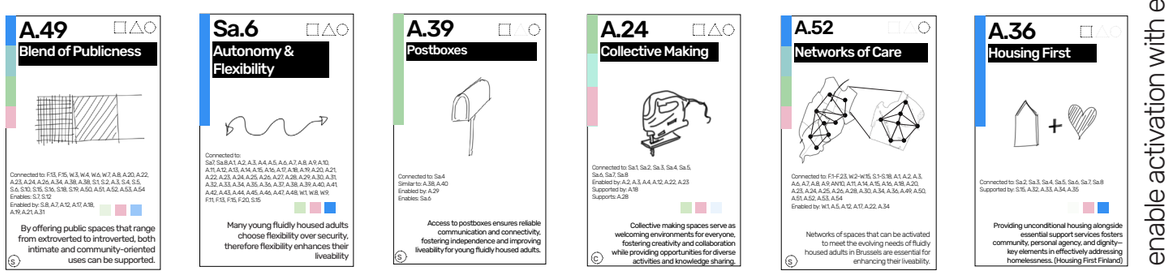
Fig. 8.27: Illustration showing the patterns related to access and the eight satisfiers (green), made by author on kumu.io

connected
similar
supports
enables

satisfiers
food
water
shelter
agency



enable activation with e.g.:



sub-conclusion

Patterns related to solidarity tend to focus more on processes than physical spaces. Although they contain spatial components—such as A.20 access points facing collective spaces, A.23 tool library, F.6 foodsharing fridge or A.21 Wide Sidewalks that can foster interaction—the emphasis lies on processes of commoning, including A.16 self-governing or F.11 Community Farm and small-scale social incentives, such as the F.4 Meal for Two pattern.

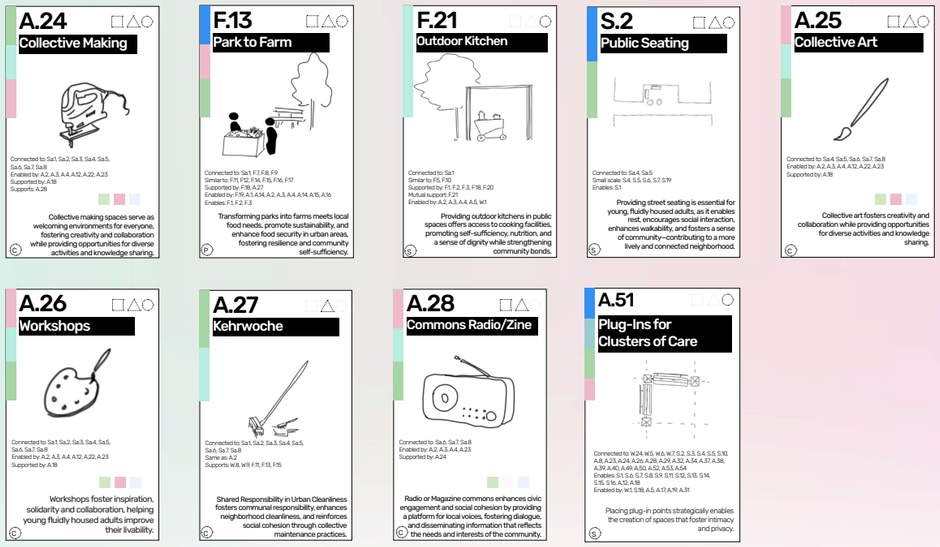
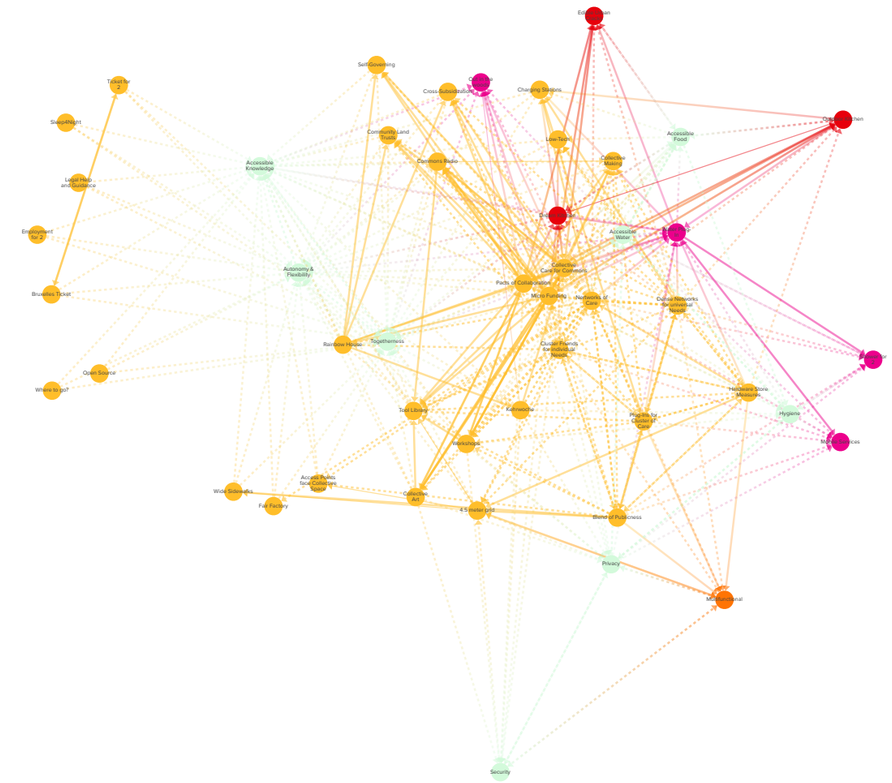


Fig. 8.28: Illustration showing the patterns related to solidarity and the eight satisfiers (green), made by author on kumu.io



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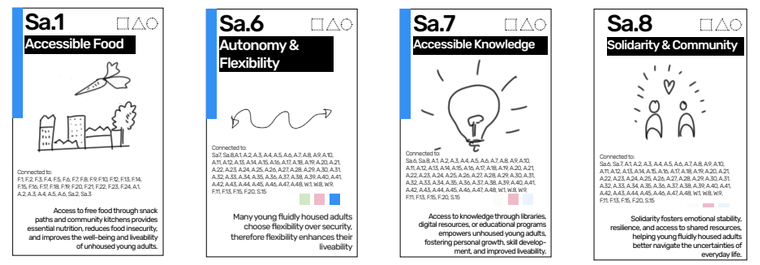
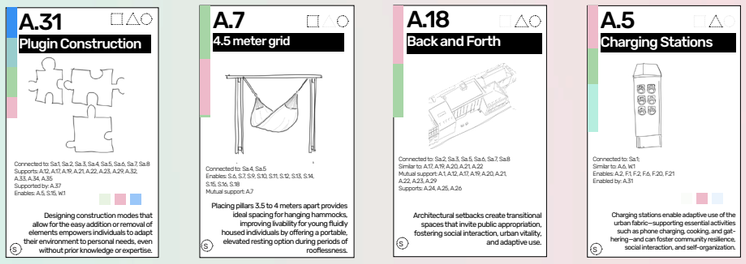


sub-conclusion

In contrast, patterns grouped under Activate and Adapt are more action-oriented and tangible, including examples like A.23 Tool Library, A.18 Back and Forth, and A.17 Locate on Outside, that help. These focus on specific community-based activities, such as F.11 Community Farm, A.25 Collective Art, or A.28 Commons Radio. This field combines both spatial opportunities and commoning processes, offering strong potential for locally grounded interventions.



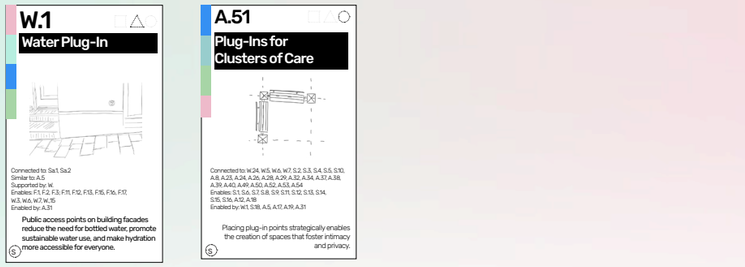
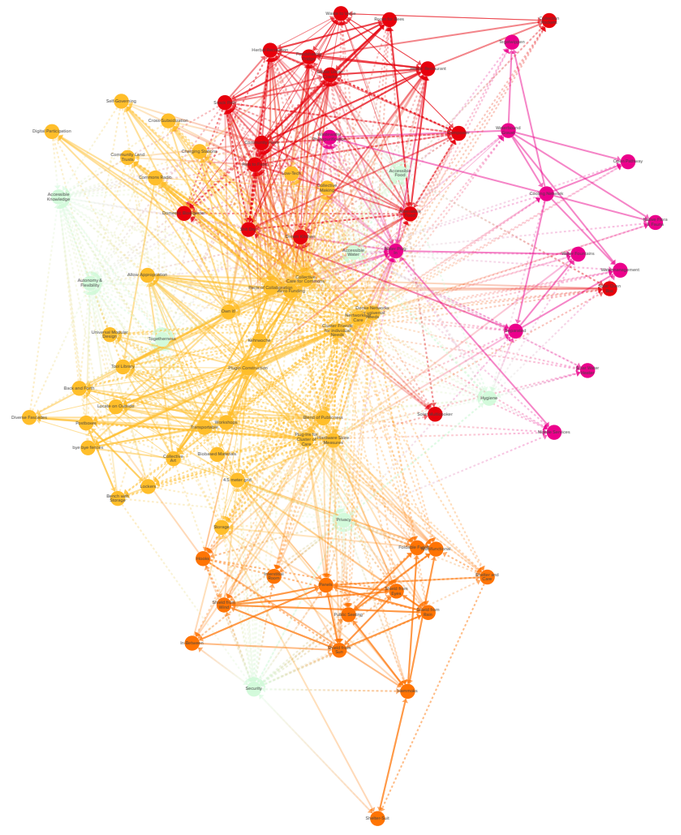


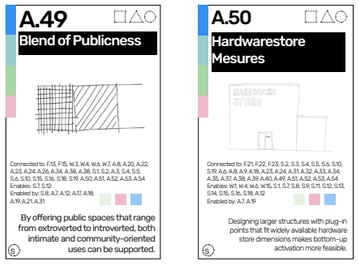
Fig. 8.29: Illustration showing the patterns related to activate and adapt and the eight satisfiers (green), made by author on kumu.io

connected
similar
supports
enables

satisfiers
food
water
shelter
agency



enable activation with e.g.:



How to use the findings ?

Fig. 8.30: cover of the sustainable development plan of the city of brussels (Ville de Bruxelles, 2024)

To translate the insights gained from this research into tangible outcomes, it is crucial to bridge the gap between the lived experiences of young, fluidly housed adults and the formal frameworks that shape our urban environment. Achieving this requires a dual approach that acknowledges both bottom-up initiatives led by communities themselves and top-down interventions driven by designers, planners, and policymakers.

This section therefore presents concrete recommendations from both perspectives: outlining interventions through which communities can foster change from the bottom up, and guiding designers and policymakers to embed flexible, adaptable infrastructure and supportive policies within the city's fabric. By addressing both the "lived space" of everyday users and the "conceived space" of urban planning, these recommendations aim to cultivate a resilient, inclusive, and liveable Brussels for young adults navigating fluid housing situations.

recommendations for lived space

Young, fluidly housed adults have significant capacity to activate and adapt urban spaces to meet their shifting needs. By leveraging strategically placed plug-in infrastructure, they can customize environments with elements like seating, lighting, food-sharing fridges, or showers. This bottom-up activation supports flexible, self-determined use, allowing communities to respond in real time to changing demands. Through collective governance and commoning, these individuals foster solidarity and agency, transforming public spaces into inclusive, vibrant nodes of care and connection.

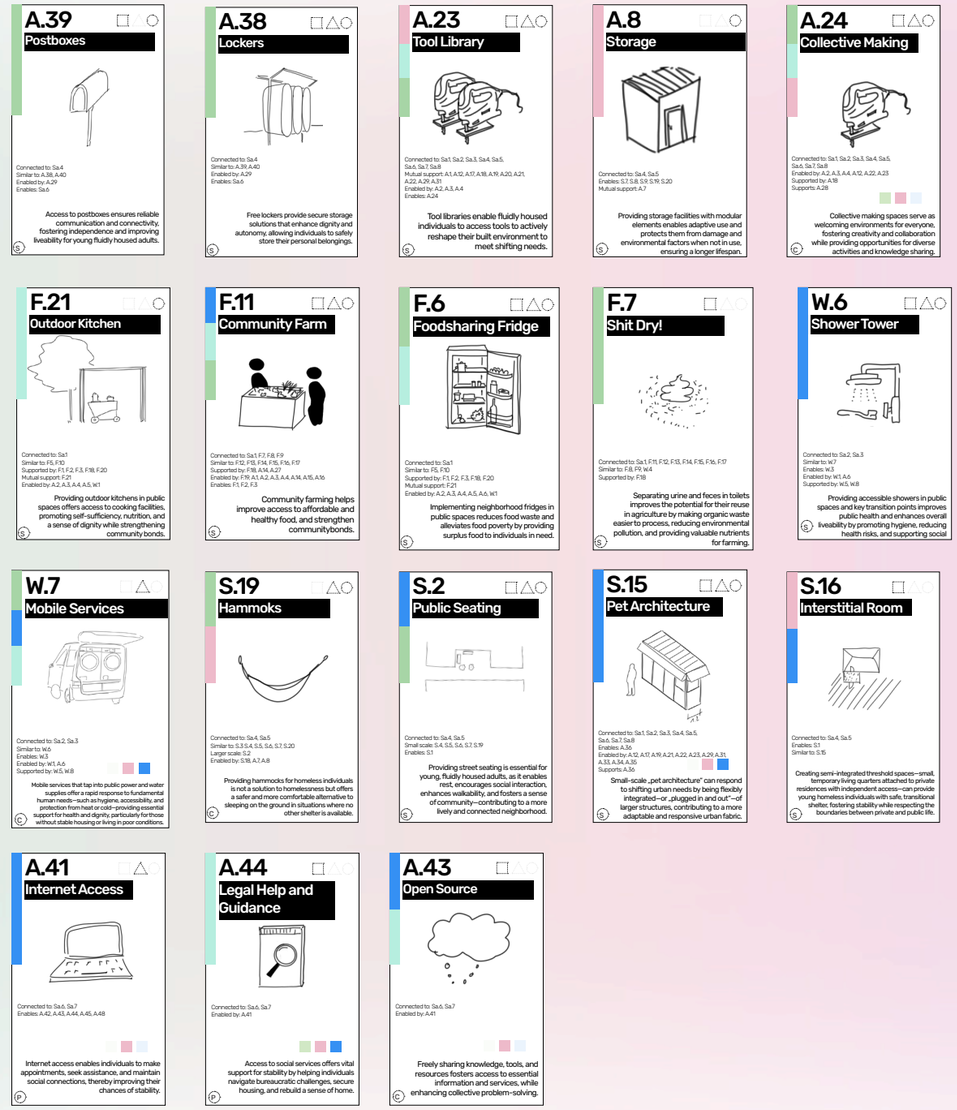


Fig. 8.31: patterns relevant for bottom-up activation, made by author

recommendations for conceived space

To provide the socio-spatial potential necessary for bottom-up activation, several top-down actions are essential. Policymakers and planners must create a supportive framework by implementing infrastructure such as plug-ins—hooks, modular grids, power outlets, and water connections—strategically within urban pockets. These measures enable spaces to be adaptable and ready for diverse uses. Additionally, systemic policies addressing housing stability, social infrastructure investment, and collective governance frameworks are crucial for long-term, sustainable impact.

Spatial Accessibility Rule:
Similar plug-in types (e.g., water taps, power outlets) must be installed no more than 1000 meters apart, ensuring accessibility within a 10-minute walk.
Different plug-in types may be spaced up to 1500 meters apart to maintain functional diversity while maximizing coverage.
Implementation Guidelines:

For Existing Urban Fabric:
Retrofit power plugs, water taps, and hooks on key locations, prioritizing facades of public buildings and all public squares.
Replace closed walls and fences with porous, adaptable structures such as pavilions that can be opened or closed to encourage flexible use and social interaction.

For New Building Developments and Renovations:
Install water and power plugs on exterior building facades to facilitate easy bottom-up activation.
Position restrooms and kitchens along external walls to allow shared or emergency access from outside.
Incorporate semi-sheltered pockets in wide buildings—2.5 to 4.5 meters wide, enclosed on two sides, with at least one non-windowed enclosing wall—equipped with structures designed for plug-in adaptability.
Design arcades with columns spaced between 2.5 and 4.5 meters, equipped with hooks at 1.7 to 2.2 meters high. Ensure at least one bay has no window to allow flexible, temporary use while preserving facade permeability.

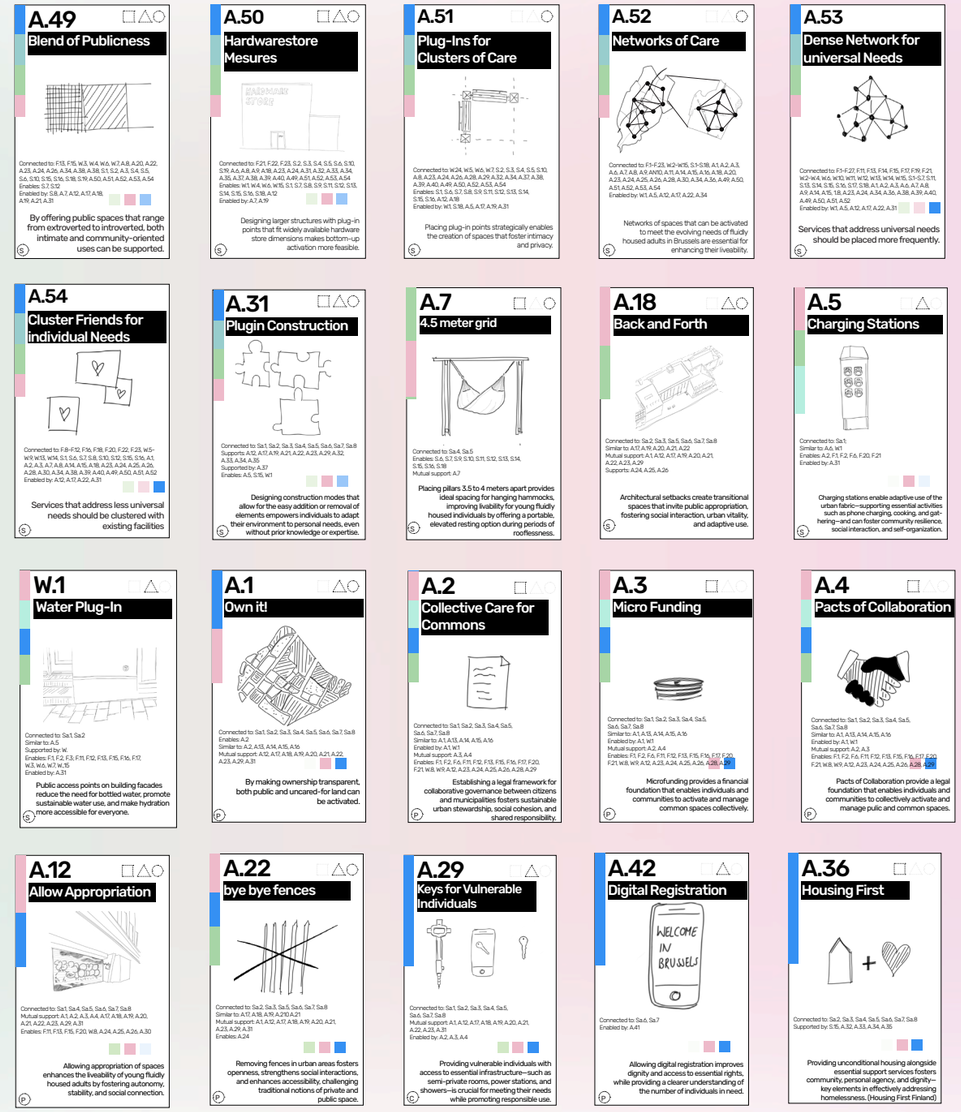


Fig. 8.32: patterns relevant for top-down implementation, made by author

SUPPORT
YOUR LOCAL
GOUAT !

NIDOR

Fig. 8.33: Graffiti in Pentagon North Brussels, photograph taken by author

conclusion

This chapter summarizes and concludes the report and the graduation project.

It situates the work within its broader context and explains how the project has addressed both the sub-questions and the central research question: What socio-spatial interventions can foster an ‘infrastructure of care’ in Brussels, offering young fluidly housed adults the potential to activate the urban fabric through socio-spatial processes of care, thereby improving their liveability?

The chapter closes with a reflective section, offering critical insights into the limitations, potential future directions and the how it shaped my understanding of urbanists as agents of care.

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Fig. 9.1: picture of door with multiple postboxes, Pentagon North Brussels, taken by author

process

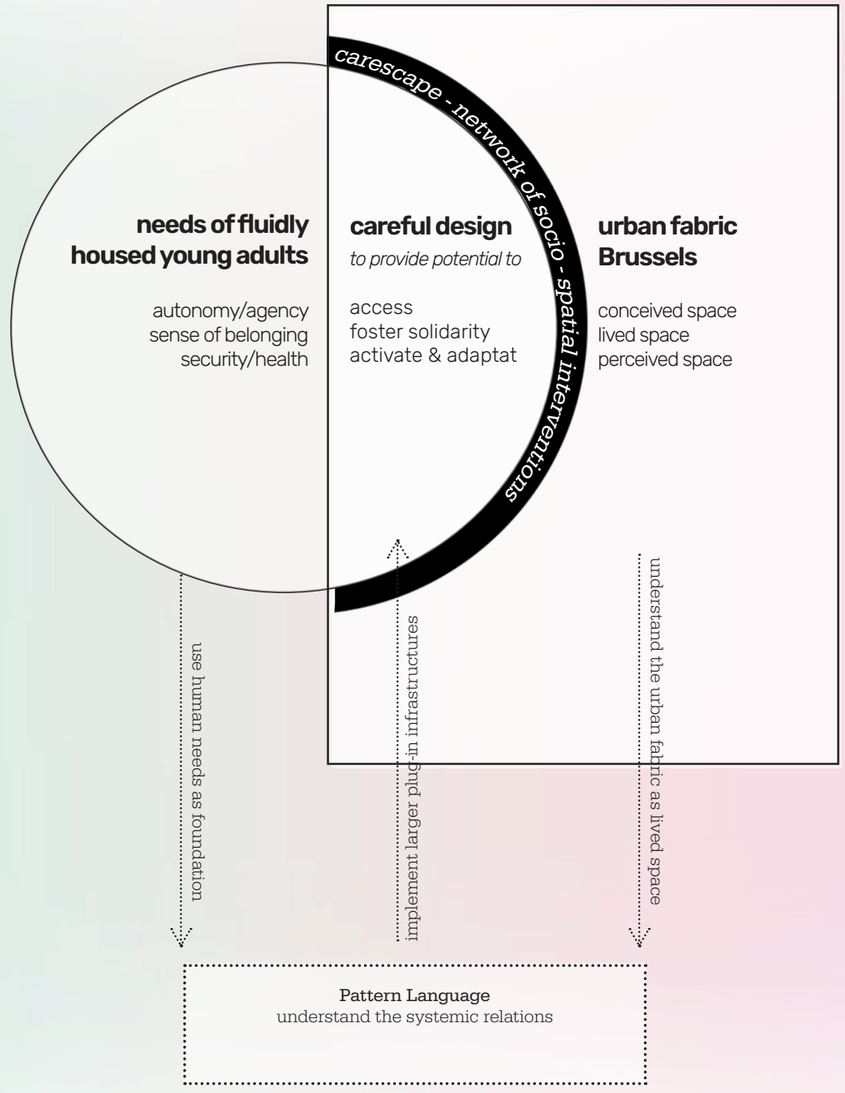
This thesis has explored how urban design can contribute to improving the liveability of young fluidly housed adults in Brussels. Despite the alarming rise in youth homelessness across Europe, there remains a significant gap in reliable knowledge about this group. The lived experiences of young fluidly housed individuals often diverge from the frequently associated image of rooflessness, and the stigma associated with the term prevents many from identifying as homeless. This lack of self-identification limits engagement with available services, and, coupled with systemic marginalization, the needs of young fluidly housed adults remain largely unmet — both in terms of short-term satisfiers, such as access to food, and long-term satisfiers, such as stability, autonomy, and solidarity.

Although relevant policy strategies are being developed, a critical gap remains in understanding the socio-spatial conditions necessary to implement these measures effectively within the urban fabric of Brussels. As a result, progress is occurring too slowly to address the urgency of the crisis.

Therefore the resulting research question was: What socio-spatial interventions can foster an 'infrastructure of care' in Brussels, that offers young fluidly housed adults the potential to activate the urban fabric through socio-spatial processes of care, thereby improving their liveability?

Addressing this question required a combination of methods that were sensitive to the nuances of this demographic and their fluid living conditions. It necessitated both identifying socio-spatial needs and spatializing this fluid topic. Understanding how the urban fabric can become an agent of care — one that can be activated bottom-up by this group to meet their needs — was central to the investigation. This approach involved working through multiple scales, starting with small-scale observations and expanding to larger systems using pattern language, before operationalizing the findings through environment-behaviour studies.

The research also employed research by design, persona-centered design, and pattern fields to identify how urban spaces can be activated. By thinking outside of the box, applying systemic thinking, and using multiple methods, I was able to bring this highly complex topic together in a way that provides actionable insights for improving the liveability of young fluidly housed adults in Brussels.



sub questions

SQ1: What are the socio-spatial needs of young fluidly housed adults in Brussels?

The socio-spatial needs of young fluidly housed adults were determined by using fundamental human needs (Max-Neef, 1992) — Subsistence, Protection, Affection, Understanding, Participation, Leisure, Creation, Identity, and Freedom — as a base and overlaying them with the concept of 'Homemaking in the Public' (Boccagni & Duyvendak, 2021). This resulted in three overarching emotions that guided the investigation: health & security, sense of belonging, and autonomy & flexibility.

In combination with literature review, ethnographic mapping, and informal conversations, it became evident that depending on the current living conditions, different needs take higher priority. To showcase the diverse patterns of everday life of young fluidly housed adults, I worked with four personas. I identified eight overarching satisfiers that, while not equally important to every fluidly housed young adult depending on their current situation, are all highly relevant and can help young fluidly housed adults meet these fundamental needs: accessible food, accessible water, hygiene, security, privacy, accessible knowledge, autonomy and flexibility, and solidarity & community.

Based on the understanding of people as introverts — who gain energy from internal thoughts and deep, meaningful interactions — and extroverts — who are energized by social activity and external engagement (Sutton, 2025) — I define corresponding socio-spatial needs and conditions as introverted and extroverted needs.
Introverted socio-spatial needs: These are best met in spaces that support privacy, quiet, and retreat, such as for sleeping, hygiene, or focused activities.
Extroverted socio-spatial needs: These are best met in spaces that foster connection, solidarity, and togetherness, such as community kitchens or collaborative workshops.

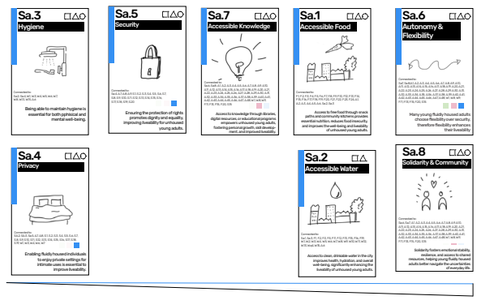


Fig. 9.2: identified satisfiers organized according to gradient of privacy required, made by author

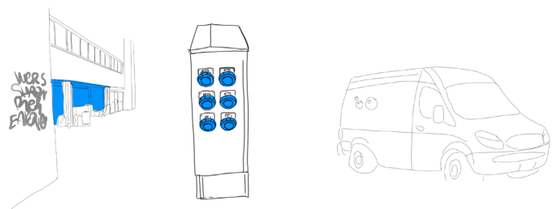
Fig. 9.3: identified patterns of resistance, made by author

Fig. 9.4: pattern field with central patterns highlighted, made by author on kumu.io

SQ2: Which socio-spatial conditions can form an 'infrastructure of care' that responds to these needs?

To identify socio-spatial conditions that can form an infrastructure of care that responds to these needs, I integrated the understanding of space as not just an empty container, but as something actively shaped by and shaping society, based on Lefebvre's Production of Space (1997). The results were twofold:
1. I defined the Infrastructure of Care through combining socio-spatial needs with socio-spatial patterns of bottom-up activation and expanding them across different scales and accompanying top-down decisions
2. I found a way to understand which socio-spatial conditions are suitable to implement the infrastructure of care and how this identification process can be operationalized with environment-behaviour analysis and space syntax.

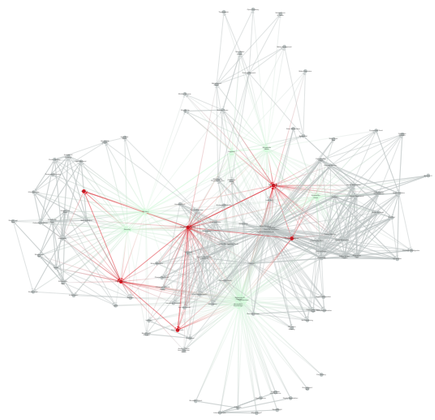
1. To understand patterns of bottom-up activation as base for the infrastructure of care, I undertook multiple fieldwork trips, exploring the poverty crescent on foot, immersing myself in the area, and observing patterns in how people activate space, particularly in Schaerbeek West, but also across the Pentagon and the poverty crescent. The result of these observations was the identification of different patterns of resistance including mobile elements such as mobile services and furniture, pockets in the streetscape such as setbacks in the building line or arcades, and plug-in infrastructure networks such as water access points on facades and power plug-ins on public circuit breaker panels.



To expand this infrastructure of care I combined these observations with the previously identified socio-spatial needs within the pattern language, resulting in the identification of four interconnected systems: food, water, shelter, agency.

By using pattern fields and connecting the patterns, I identified several additional patterns that helped me to expand the infrastructure of care across multiple scales from small scale furniture to interconnected networks within the city, allowing me to connect them to broader topics of care such as circularity, climate adaptation, and collective governance. This resulted in identifying necessary top-down interventions that can support the possible bottom-up interventions to foster lasting change.

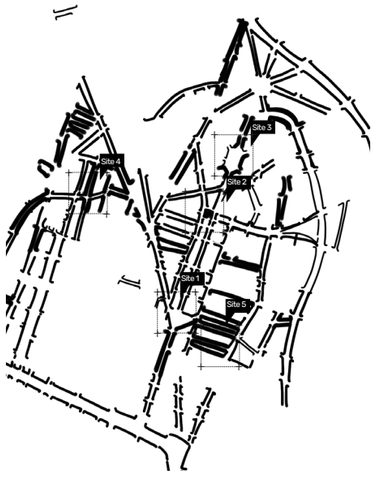
The pattern field revealed that the pattern A.31 Plug-In Construction, in relation to A.18 Back and Forth, S.18 Hooks, A.7 4.5m Grid, W.1 Water Plug-In, and A.5 Charging Stations, is central in responding to the needs of young fluidly housed adults, as it allows for important functions to all four systems to be pluged-in and the urban fabric to be activated bottom-up.



Pattern Field highlighting key patterns and satisfiers

2. Applying angular choice and integration from space syntax and overlapping these results helped me identify suitable socio-spatial conditions to implement the infrastructure of care. While areas with both low integration and angular choice are not suitable for intervention, areas with high angular choice but low integration (light pink) tend to function as transition areas, facilitating fluctuating interactions rather than deep conversations. Spaces with high angular integration and choice (grey) are suited to provide a network of plug-in constructions: water, hooks, power, grids for adaptation, and snack paths for improving green-blue networks. Areas with low angular choice but high integration (dark pink) offer potential for a gradient of both extroverted and introverted needs, supporting diverse social and spatial experiences. Therefore, the last two area types offer the greatest potential.

This approach helped me both to operationalize a method that can be applied in other neighbourhoods and to identify five key locations in Schaerbeek West where different area types intersect, leading me to conclude on the socio-spatial conditions that can foster the infrastructure of care.



Suitable Socio-Spatial Conditions

sub questions

SQ3: How can the urban fabric in Brussels be activated through socio-spatial proccesses of care to improve liveability for young fluidly housed adults?

To understand how Brussels' urban fabric can be activated to improve liveability for young fluidly housed adults, I conducted design explorations based on a previously identified persona in key locations. By focusing on their lived experience at eye level, I found that young fluidly housed adults are highly capable of activating many developed patterns themselves—such as postboxes, lockers, food-sharing fridges, showers, and toilets—through bottom-up initiatives.

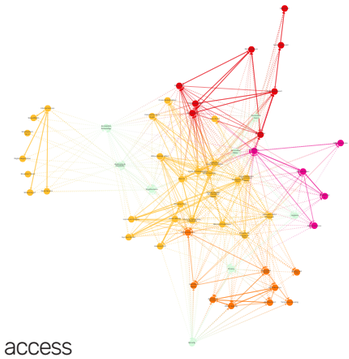
However, certain patterns require strategic, top-down implementation to create the conditions that enable easier activation. These include spatial networks of care featuring plug-in constructions, building setbacks, water and power connections, modular grids, and hooks designed for flexible use. In addition, policy measures are crucial—such as replacing fences with more permeable, adaptable structures, establishing legal frameworks for collective commoning practices, and increasing transparency in ownership.

By combining bottom-up agency with targeted top-down support, liveability can be improved immediately through community-driven actions that foster spaces promoting health & security, community & solidarity, and agency & autonomy—while systemic policy reforms to address the broader housing crisis need to catch up over time.

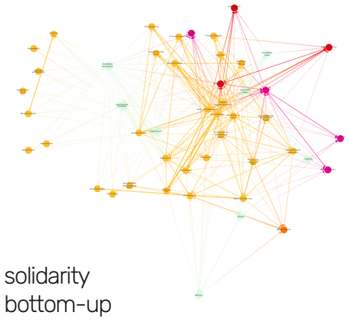
Fig. 9.5: identified locations suitable for infrastructure of care, made by author

Fig. 9.6: take away from design explorations, made by author

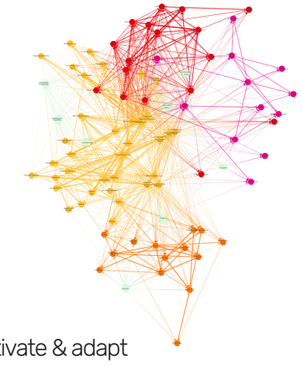
Fig. 9.7: take away from pattern field, made by author on kumu.io



access
top-down



solidarity
bottom-up



activate & adapt
bottom-up

research question

Main RQ: What socio-spatial interventions can foster an 'infrastructure of care' in Brussels, that offers young fluidly housed adults the potential to activate the urban fabric through socio-spatial processes of care, thereby improving their liveability?

1. Grounded in the Needs of Fluidly Housed Youth

To foster an infrastructure of care in Brussels that provides the potential for young fluidly housed adults to activate the urban fabric and improve their liveability, socio-spatial interventions must respond to their diverse, shifting, and interdependent needs. These needs were identified using Max-Neef's framework of Fundamental Human Needs and further enriched through the concept of homemaking in public, supported by literature review and informal conversations. These findinfs translated into a set of satisfiers that address lived realities—such as access to food, water, hygiene, security, privacy, knowledge, autonomy, flexibility, and community.

2. Adaptable and Open-Ended Interventions That Hack Systemic Barriers

Young fluidly housed adults often navigate the city with agency and adaptability, actively engaging with the urban fabric to meet their everyday needs from the bottom up. This capacity underscores the importance of providing spatial conditions that support and amplify their ability to adapt and modify space according to shifting needs—essentially enabling them to "hack" systemic barriers.

Spatial interventions that support this include mobile elements such as lockers and benches, informal street pockets that offer room for diverse uses, and plug-in infrastructures such as water access points, charging stations, and modular grids. These components form the physical backbone of a flexible and responsive care infrastructure. By enabling plug-in possibilities—grids, hooks, water taps, power outlets—these spaces can be transformed and reconfigured by individuals themselves.

For such flexibility to be effective, these spatial elements must form a distributed network of places, strategically located based on how people move through and interact with their environments. A well-positioned network of plug-in components allows young fluidly housed adults to activate and adapt spaces to best meet their evolving needs.

3. Multi-Scalar Implementation: Hybrid Systems of Care

While bottom-up interventions are well-suited to respond quickly to immediate needs, fostering community solidarity and agency, they cannot solve the underlying systemic issues of housing exclusion. Achieving the European Union's goal of ending homelessness by 2030 requires addressing these structural challenges in addition—implementing housing-first strategies co,bining condition-free accomondation in combination with support services (as described in the pattern language).

The most promising approach lies in hybrid systems of care: a synergy between bottom-up activation and top-down structural support. Such systems can foster a carescape—an urban landscape that enables various forms of active collective care that responds to fundamental human needs. This way young fluidly housed adults can be the agents of change and activate and adapt their environments to live with greater dignity, autonomy, and community.

careful design is part of the solution

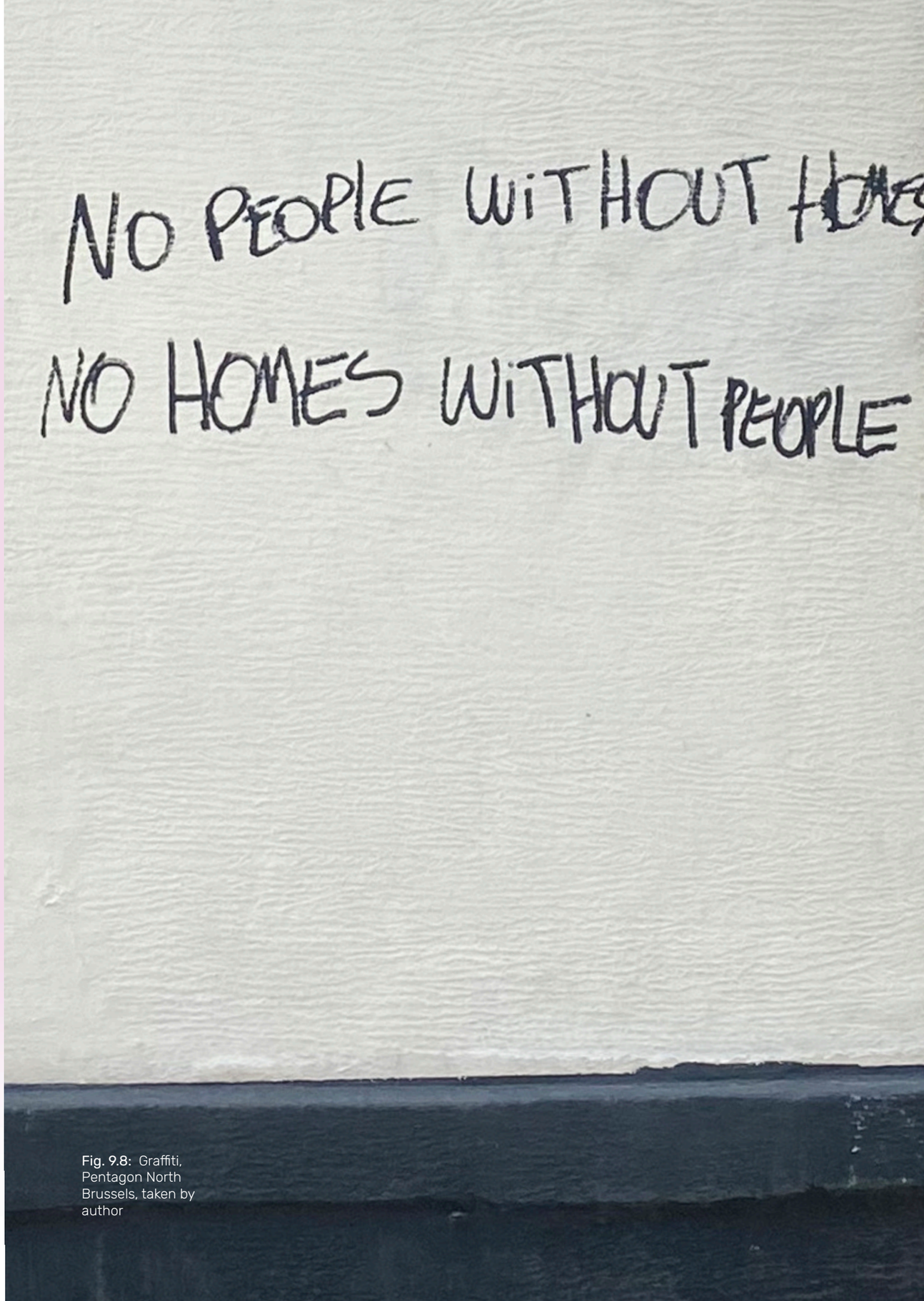


Fig. 9.8: Graffiti, Pentagon North Brussels, taken by author

looking ahead

Learning for the future

1. Formalize knowledge in planning instruments
Spatial, top-down patterns such as building setbacks, grids, arcades and plug-in elements are particularly valuable as they provide the potential to be activated bottom-up. Therefore, it is important to formalize this knowledge and integrate it into established planning tools. While these patterns should guide planning, the exact measures in each case must remain flexible to context and human scale to foster well-designed environments at eye level.

2. Pattern language as spatial superpower
Pattern language was key in managing complexity, connecting social and spatial aspects, scales, stakeholders, and modes of implementation. It is a systemic tool that makes complexity understandable, breaking it down into small patterns without oversimplifying it. Its adaptability ensures that it can evolve alongside new needs and insights, making it ideal for communication and co-design with various stakeholders.

2.1 Suitable places for patterns
Several patterns in my pattern language are best suited to spaces that allow for retreat and privacy. While many areas in Schaerbeek are designed in a way that fosters the use as transitional spaces and are therefore highly suitable for extroverted uses, it is essential to create spaces with high angular integration and low angular choice in the urban fabric. These spaces are well suited to accommodating a gradient of privacy, providing the spatial potential to accommodate diverse needs and integrate varied spaces.

2.3 Creating transparency and solidarity
Using pattern language as a communication and co-design tool helps include those who may not share the needs of young, fluidly housed adults, making the project more accessible and acceptable. Additionally, many of the patterns address spaces designed to foster solidarity. When people interact more with one another, the intention is to build greater empathy and understanding, ultimately bringing us closer together in our diversity.

Limitations

1. capturing complexity
Engaging with the complex and layered realities of young fluidly housed adults has meant navigating what are often referred to as “wicked problems”—issues with no clear or singular solutions. This process has revealed the necessity of remaining open to diverse approaches and perspectives. While I have acquired significant insights over the course of this research, it is essential to acknowledge the risk of overgeneralization. The lived realities of young fluidly housed adults are far more varied and nuanced than any single study can fully capture, especially within a limited timeframe.

2. Lack of avaliable data
Due to the constraints of available data, this project relied primarily on qualitative methods such as ethnographic mapping, informal conversations, and literature review to identify the needs of young and young fluidly housed adults. While these approaches offered valuable depth, they necessarily reflect a partial view. Broader, large-scale quantitative data about the lived realities of young fluidly housed adults is still lacking and would be needed to complement this work and strengthen its empirical foundation. On this note it would be interesting to see if the term ‘fluidly housed’ resonates with affected individuals. However, any such data must be interpreted with caution, as generalizing across diverse lived experiences risks erasing the very complexity this project aims to highlight.

3. Policy strategies to solve the housing crisis
Although this research contributes to imagining how a care-based urban infrastructure can be implemented from the bottom up—addressing crucial needs that go beyond housing and challenging dominant mindsets—it does not solve the urgent need for safe and affordable housing, whether fluid or fixed. Being able to decide on how you want to live however, is a crucial part of liveability. On this part, investigation into grounded policy strategies is needed on how strategies such as Housing First can be effectively applied, and how structural issues like the ongoing housing crisis can be addressed in the long term.

4. researcher bias
Finally, this topic resonated deeply with my own life experiences and those of friends and peers, which has enriched the emotional engagement and relevance of the work. At the same time, this personal connection may have introduced biases or assumptions that require further critical reflection and interrogation.

Recommendations for Further Research

1. Systems-lerning case
There is a pressing need to conduct further research on the socio-spatial needs of young fluidly housed adults. As part of this it is crucial to test and evaluate proposed socio-spatial interventions in real living environemts which will offer valuable insights for further design implementations.

2. Poverty Crescent and rural areas
In addition, future research should deepen the understanding of young fluidy housed adults and other age groups across different spatial contexts. While this study has focused mainly on Schaerbeek West and developed a way to operationalize the identification of suitable locations for a care infrastructure, it is crucial to investigate how fluid housing is experienced in other neighbourhoods and Belgian regions, particularly in rural settings where access to infrastructure and amenities is often more limited. Expanding the scope beyond urban centres would allow for a more comprehensive understanding of the socio-spatial challenges faced by fluidly housed adults and help avoid urban-centric assumptions.

3. Larger scope and different social groups
Further inquiry should also explore how young fluidly housed adults engage with space and how spatial practices can be shaped to support their specific needs across different cities and rural areas in Europe and beyond. Comparative studies between regions could highlight universal patterns as well as locally specific dynamics. Alongside this, there is a need to investigate radical and alternative spatial imaginaries for diverse social groups. For example broader research into the experiences of young people or people with intersecting identities and the socio-spatial pressures they face—regardless of housing status—could reveal overlaps in vulnerability, resilience, and offer deeper insights in careful design.

Urbanists as Agents of Care

A central focus of this thesis became rethinking the role of urbanism as a political and critical practice. While we, as urban practitioners, cannot solve systemic marginalisation alone, we can help make it visible and more addressable. Through concepts like radical spatial imagination, we can surface the structures that sustain inequality, bring them into public discourse, and propose spatial interventions that are easy to activate—but difficult to dismantle, even when political tides shift. We may not be able to fix the system entirely, but we can learn to understand it—and hack it.

Several conversations and reflections helped me gradually shift my understanding of design. I came to see it not as a definitive act that locks in a singular future, but as a tool to open up possibilities. Through methods like pattern language and its application in research by design, I began to explore how design can propose multiple combinations—speculative, adaptable, and grounded in real needs. This reframing allowed me to see design as something iterative and generative, rather than final and prescriptive.

This process reinforced for me that space truly matters in shaping equitable futures. While social disciplines may offer deeper expertise in addressing inequality, the spatial dimensions of justice and care are often overlooked. As urbanists, we must meet this challenge—not simply by responding to social issues, but by understanding and shaping the spatial conditions that make more just and liveable futures possible. This requires close attention to how people inhabit and navigate space—and how spatial design can either reinforce or dismantle the inequalities embedded within it.

Fig. 9.9: beautiful image for radical spatial imagination, made by Małgorzata M. Rybak (2025) for the dUST project

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Fig. 10.1: Portrait my partner made of me while working on this thesis

On the Methodology
Engaging with a complex and highly fluid topic required an approach that combined multiple methods, all brought together through the systemic method of pattern language.

Identifying, understanding, and spatializing the socio-spatial needs and patterns of young fluidly housed adults proved especially challenging, given the lack of existing research and the absence of designated spaces where this demographic gathers. Through extensive fieldwork, ethnographic mapping, informal conversations, literature review, and Hägerstrand's time-geography, I was eventually able to ground this thesis in human-centered needs.

However, other methods aimed at reaching this demographic—such as contacting stakeholders, participating in the homeless count organized by Bruss'Help, and distributing disposable cameras to initiate spatial discussions—proved less effective than expected.

To spatialize the findings, again, a combination of methods was required. Environmental behavior analysis, rooted in an understanding of space as a lived and active entity, was complemented by qualitative methods such as ethnographic mapping, observations, sketching, and walking. In parallel, tools like Angular Choice and Integration from space syntax helped operationalize these findings, providing a more scientific lens alongside the qualitative insights. Each method has its limitations: qualitative methods often capture only a small range of experiences, while quantitative tools can risk oversimplifying complex realities. However, their combination allowed for a richer and more nuanced understanding of how people navigate and engage with urban space.

The pattern language method was instrumental in linking social needs to spatial conditions, allowing for the uncovering of deeper systemic issues and the development of interventions across multiple scales. This approach was also aligned with the values of circularity, which—while not the primary focus of this thesis—remain a foundational principle in all aspects of my work. The 115 identified patterns were initially connected manually, but I also employed a quantitative tool to map 1,124 potential interconnections among them. Given the scale, it is likely that some connections are still missing. Nonetheless, the pattern language serves as a dynamic and adaptable framework—well-suited for initiating complex discussions and capable of being revisited, refined, and expanded in future research.

To tie everything together, I employed research by design, with the pattern language. This approach challenged my previous understanding of design—which often appeared as a final, fixed product created with limited knowledge. In contrast, it allowed me to explore multiple connections of possible interventions and view design as a tool for research rather than a solution in itself. Applying design in this way helped me frame it as a means of inquiry: by offering a range of spatial options, it highlights the diversity of possible responses and invites discussion, rather than proposing a single, definitive plan.

The personas served a dual purpose: they helped communicate the insights in a grounded, relatable way while protecting the privacy and dignity of the individuals whose experiences inspired them. Working with them helped me center my design explorations grounded in human needs satisfaction.

Concluding, I can say that I have grown significantly as a designer throughout this process. I gained many skills and methods that I first needed to understand in order to adapt them meaningfully to my focus. While this was a time-consuming and at times frustrating endeavour, it ultimately allowed me to bring everything together. Seeing all the loose ends connect gave me confidence—not only in the work itself, but also in my ability to navigate complexity and design with care and purpose.

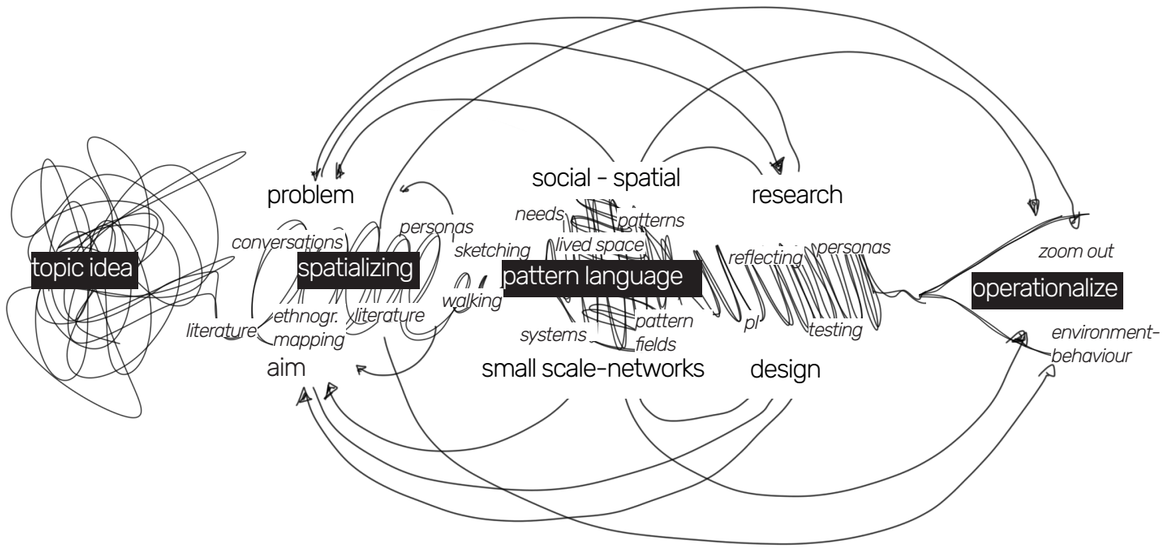


Fig. 10.2:
schematic visualization of messy process informed by multiple methods

On the Relation Between My Graduation Project, Master Track, and Master Programme

I began my academic journey in Architecture and Urban Planning in Stuttgart, driven by a desire to merge my background in carpentry with my deep interest in social topics. My experiences working in social fields, alongside my psychology and pedagogy studies in my Abitur, shaped my perspective on the built environment. Although I was aware that this field would be demanding, I believed it was a worthwhile challenge to bring my lived experience shaped by growing up below the poverty line in Germany into discussions about shaping how we want to live together.

As I progressed in my studies, I gained valuable knowledge and methodological approaches. However, I noticed a strong imbalance in addressing both social and ecological sustainability in the built environment. This became particularly evident during my bachelor's thesis when I observed significant homelessness in Brussels but lacked the academic support and methodological tools to address it adequately. This realization planted the seed for my graduation thesis and the desire to search for a masters that can help provide me with the necessary tools. When I discovered Urbanism - a field described by Christel Aalbers as sitting at the intersection of architecture, landscape architecture, urban design, and sociology, often pursued by idealists, this resonated deeply with me. My first year in the track expanded my methodological toolkit, enabling me to connect my background - from small-scale furniture construction to architecture and urban planning at the neighborhood scale to city, and regional scales.

The topic of liveability for young, fluidly housed adults is not purely spatial; it is deeply shaped by socio-spatial systemic barriers. As a result, it is often framed as the responsibility of politicians and social workers rather than urban planners and designers. Throughout my thesis, I had to refine my focus, recognizing that while urbanism can influence spatial justice and empower marginalized groups, it does not have all the tools to fully end homelessness.

This realization has been an ongoing process—understanding the limitations of my discipline while also exploring how urban design can act as a agent for change. Rather than attempting to „solve" homelessness, I tried to understand how to intervene within the urban fabric to 'hack the systems' that reproduce inequalities. My goal therefore shifted towards using urban design as a tool of care to provide fluidly housed young adults with spatial opportunities have the potential to be activated bottom-up and this way meet their needs and gain agency.

On my Studio Choice and Its Influence on My Thesis

When it came time to choose a studio, I had a hard time to decide, as I wanted to explore a very social topic in a systemic way. The Metropolitan Ecologies of Place studio seemed like the most flexible and I believed it would allow me to integrate the strategic, theoretical, and social aspects of my topic while also engaging in hands-on explorations of the area. Initially, I expected the studio to strike a balance between strategic planning, hands-on design, and an understanding of the socio-spatial metabolism of care.

As the studio progressed, I realized its focus leaned more toward technocratic approaches. While this occasionally made it challenging to fully align with my perspective, I found a perfect match in my mentors, who centered the needs of young, fluidly housed adults within both spatial and broader systemic contexts. They not only encouraged me to explore my interests in ways that remained true to my focus but also provided invaluable guidance on methodologies and literature—sometimes opening up new directions, other times helping me return to my core ideas. With this power team on my side, I was able to develop a careful and feminist approach aligned with my values—positioned between different studios but essential for addressing the complexity of the topic.

At times, navigating between studios made it difficult to fully immerse myself in one approach. On one hand, I wanted to explore the social aspects more deeply; on the other, I gained valuable insights from hands-on fieldwork and from translating my findings to space. Bridging my social, needs-based approach with spatial design to foster socio-spatial activation was an extensive and ongoing process. During this process, I noticed that I often tend to work at either a small or large scale—the small scale, shaped by my background in carpentry, architecture, and urban planning at the block level, and the broad, theoretical scale, influenced by my interest in literature and human needs and well-being. Finding the in-between scale was something I had to actively push myself to do, but I realized that this middle ground was where I gained the most insight, bridging human needs and spatial undertsanding with systemic design.

With the ongoing support of both my mentors, I gained incredible insights, from multiple methods to interesting literature, to ways how to detect and spatialize needs of vulnerable individuals and operationalize them in connected systems. Their guidance has helped me to learn new approaches and methods while allowing me the freedom to decide which directions to explore further and I am excited to see how everything comes together.

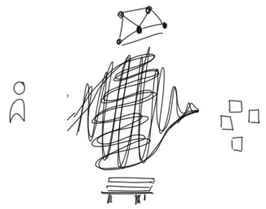


Fig. 10.3: schematic visualization of moving between social and spatial, small scale and networks

On the Influence of Research on Design and Vice Versa

When I began this thesis, I believed that research was simply a prerequisite for good design—a tool to ensure that design decisions were grounded in facts. However, over the course of the process, I came to realize that design itself can be a political and critical act. It does not need to result in a single, finalized outcome. Rather, it can open up imaginaries, invite dialogue, and spark collective reflection on how we want to shape our futures—together.

Through the use of methods like pattern language and its integration into research by design, I learned that design does not have to dictate a top-down vision. Instead, it can propose a range of possibilities—different combinations that reflect diverse needs and shifting realities. In this way, design becomes not a prescriptive solution, but a tool for imagining more just and equitable futures. This reframing changed my understanding of design: from something fixed and rigid to something iterative, generative, and inherently more careful.

I now believe that research and design are deeply interdependent. They challenge and inform one another, producing more nuanced and grounded insights. Moreover, the design process should not end at the drawing board—or even at the moment of implementation. Design must extend into the life of what is created: it should be revisited, adapted, and cared for over time.

This calls for a fundamental shift—not only toward more adaptive ways of designing, but also toward more responsive ways of building. Careful design needs deep understanding, respecting what is there and finding ways to ‚hack' the existing barriers with careful interventions while embracing complexity, and prioritizing long-term care over short-term fixes and giving room for evaluation.

Fig. 10.4: learning from design explorations informed by research to inform research

Social Relevance
The number of young people affected by housing exclusion is rising rapidly, underscoring the urgency of immediate action. As housing insecurity increasingly impacts youth, this thesis emphasizes the need to address their lived realities in order to create more inclusive, equitable urban futures.

Scientific Relevance
Despite the growing number of fluidly housed young adults, there is still limited data and understanding of their unique experiences. Addressing their specific situation is crucial to broadening the public discourse on homelessness and ensuring that all forms of housing insecurity—including temporary, mobile, and informal arrangements—are acknowledged and destigmatized. While the housing crisis is widely recognized as a structural issue disproportionately affecting less privileged individuals, this thesis also highlights the resourcefulness and resilience of this group. It brings attention to the importance of autonomy, flexibility, accessible food and water, and spaces of solidarity—factors often overlooked in mainstream narratives, yet central to improving their liveability.

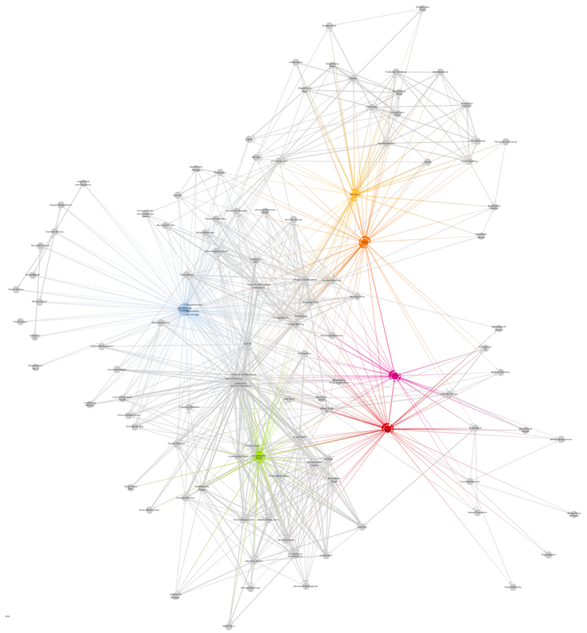
Spatial Relevance
Although the European Union has committed to ending homelessness by 2030, there remains a critical gap in how spatial dimensions are addressed in this effort. This thesis contributes by offering a way to spatialize a complex and socially nuanced topic within the urban fabric of Brussels. It proposes a framework that goes beyond simply providing housing, opening up a broader conversation about how urban environments can be shaped to support liveability, dignity, and care for young fluidly housed adults.

Ethical Considerations
The process of developing a data management plan opened up a new level of ethical awareness. Being required to think through all the ways my work could potentially impact the people I focused on led me to approach the topic with heightened care and empathy. It reinforced the importance of ethical responsibility, particularly when working with vulnerable populations who are often excluded from traditional research frameworks.

This awareness not only guided my methods but also prompted me to reflect on my own biases. The more I engaged with young fluidly housed adults, the more I realized that they did not fit the stereotype of fragile or passive victims. On the contrary, many demonstrated remarkable agency, adaptability, and resilience. Acknowledging this complexity was crucial—it reminded me that ethical research is not just about protecting participants, but also about representing them in ways that honor their strength without ignoring their vulnerability. Both perspectives are important, and holding that tension shaped the care with which I approached this thesis.

On the Transferability of My Project Results
The initial weeks of my thesis were particularly challenging due to the difficulty of spatializing my topic. Unlike previous research projects, which typically began with a specific location and evolved from there, this project required me to start with a broad social phenomenon, one that is particularly hard to identify and spatialize it. This forced me to rethink my approach and develop new strategies for bridging the gap between social issues and spatial interventions.

Through the use of multiple methods grounded in qualitative data collection, I gradually uncovered new insights. I documented my fieldwork encounters and methodological steps in a separate booklet. This serves not only as a record of the process but also as a tool to make the findings more transparent, adaptable, and open to further development in future research or practice, as there is still much knowledge to be gathered about young fluidly housed adults.
The use of a pattern language allowed me to clearly trace the origin of each insight—whether it was drawn from literature, already tested in practice, observed in real-life contexts, or a hypothesis that still needs testing. This transparency enhances the credibility and adaptability of the findings.



Later in the process, I was able to complement this qualitative project with a scientific lens by applying space syntax analysis, using Angular Choice and Integration to operationalize my findings. This approach helped me better understand spatial dynamics and supports the potential application of my work in other urban contexts.

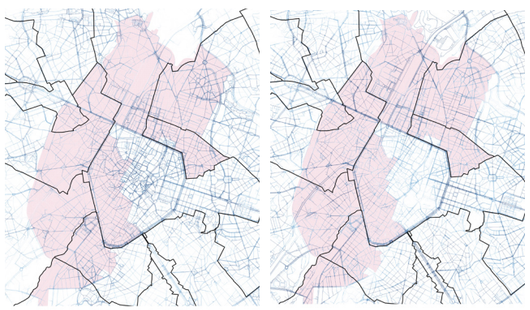


Fig. 10.5: Pattern Field as adaptable systemic approach

Fig. 10.6: zooming out - operationalize method across Brussels

Final Thoughts
Ultimately, my thesis journey, coupled with my experience as co-editor-in-chief of Atlantis this year, where we explored how power and oppression intersect and how identities can be reclaimed, has reinforced my commitment to addressing spatial inequalities. It has deepened my dedication to advocating for more socially and environmentally just futures using the tools I gained in the past years.

While both processes have been complex and, at times, frustrating, it has also given me valuable insights into the challenges and responsibilities of urban design. Over the course of this journey, I found a sense of healing—transforming personal experiences into productive avenues of research and expression. Gaining new methods allowed me to channel my own trauma into this project, making sense of complex socio-spatial realities in a way that felt both analytical and deeply personal. At the same time, the journey at the urbanism department of the bk faculty helped me realize that I am not alone—many others share my perspective and commitment.

Moving forward, I hope to continue refining my approach, bridging the gap between research and action, and contributing to more inclusive, responsive urban environments. By working toward spatial justice for marginalized communities, I aim to help shape spaces for a more equitable way of living together in the future—one that embraces differences and uplifts the most vulnerable amongst us.

subjective process and time

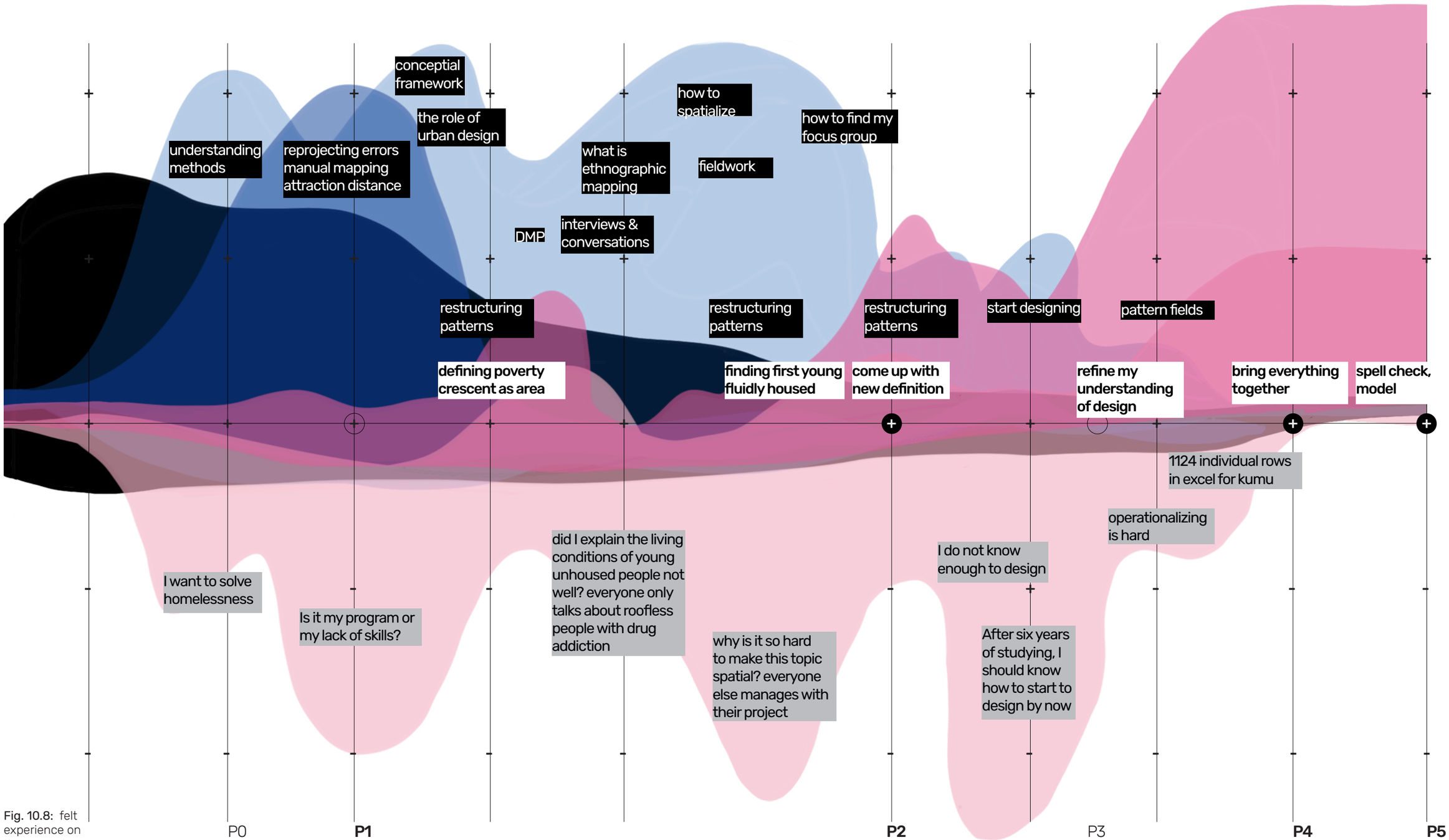


Fig. 10.8: felt experience on time spend highlighting the most time-consuming activities so far, made by author

AIME ET JUSTICE

Fig. 10.9: Graffiti in Schaerbeek West, photograph taken by author

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Fig. 11.1: Golden Room, illustrating the contrast between cheap parking and unaffordable housing. Part of the Urban Anomalies seminar (University of Stuttgart, 2022) by Julius Friedrich, Yannik Pfaff, Ferdinand Schumacher, Johanna Sigloch, Wiebke Stadtlander, Prof. Sonja Nagel, and Dipl. Ing. Heike Rittler; photograph by author.

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Fig. 12.1: Rue de la Loi, Brussels Photograph by Max Schuska

designing for personas

Luca, 22 years

Street Artist
Active in Squatter Movement
Lives in changing Squats
From Brussels

I'm a street artist, always moving between squats in Brussels. The city is my home, but no one place for too long. I'm deep into the squatter movement—fighting for spaces, creating art, and building communities. My dog, Rocco, is always with me, my little shadow.

Workshops keep me going—screen printing, woodwork, spoken word—anything hands-on and collective. I love connecting with people, sharing skills, and making something out of nothing. You'll find me at abandoned buildings, community spaces, or painting on open walls and bridges. Stability isn't my thing, but creating and resisting? That's life.

Possible Socio Spatial Needs

- Art & Expression
- Consumption Free Spaces (Wall of Fame', Community Kitchen, Nap)
- Workshops
- Community Zine / Radio
-Water & Toilet in Public Spaces
- Locker + Postbox
- Legal help, Squatter support, where to go?

Robin, 17 years

College Student
Volunteers in Rainbow House
Lives temporarily in Solidary Housing
From Brussels

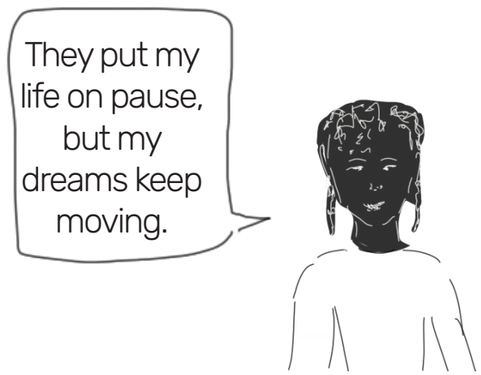
Things at home got rough when I came out, so I had to leave. Now I have a temporary room in solidary housing—not perfect, but it's safe.

The Rainbow House is my safe space. It's where I meet my friends, breathe, just be myself. I also volunteer there, helping out where I can. It feels good to give back, and picking up shifts at the bar lets me contribute to rent, even though I don't have to.

I'm the first in my family to go to college, planning to study psychology. I know what it's like to feel lost, and I want to help others find their way.

Possible Socio Spatial Needs

-Safe space & Community (Rainbow House)
-Internet/Powerstation
-Quiet Zones (reading, writing)
- Support & Trauma groups (family therapy)
-awarenesscampaigns



Awa, 25 years

Waiting for Papers
Is involved in the Dreamkitchen
Lives temporarily in Solidary Housing
From Côte d'Ivoire

I came to Brussels hoping for a better future. I found a solidary housing project, where they told me I could stay for six months—now it's been three years, and I'm still waiting for my papers. London is my dream, but for now, I'm stuck in here.

I want to work with children, to teach them care and joy, but without papers, I can't. So I wait. In the meantime, I go to the Dream Kitchen. It's more than just a place to eat—it feels like family, a moment of warmth in all this uncertainty. I can sign in when I help cooking, those hours look good on my application the volunteers say.

Possible Socio Spatial Needs

- Registration & Papers
- Dreamkitchen (acknoledge voluntary work, built community, skill building)
- cultural and language community
- help facilities (trauma, legal help, registration process)
-food
-transitional housing (housing first, pet-architecture)

Sam, 19 years

Quit School
Depends on Mobile Services
Lives Rough
From Ghent

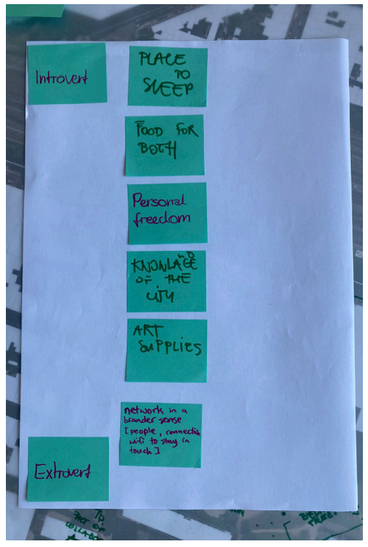
I lived in a run-down building for almost a year. The condition was bad, but the rent was cheap. When the landlord sold the house, I had only one month to find something new. No chance. So now I live on the streets.
Shelters? Not an option—too much violence, too much theft. My friends were trouble, so I left them too. Now, every night, I have to find a new place to sleep. Every day, I keep moving.
The city is a game of survival. Busy places are best during the day—easier to get some money, some food. At night, I stick to the edges of the Pentagon, where it's quieter, safer. But nowhere is really safe. Some nights, trouble still finds me.

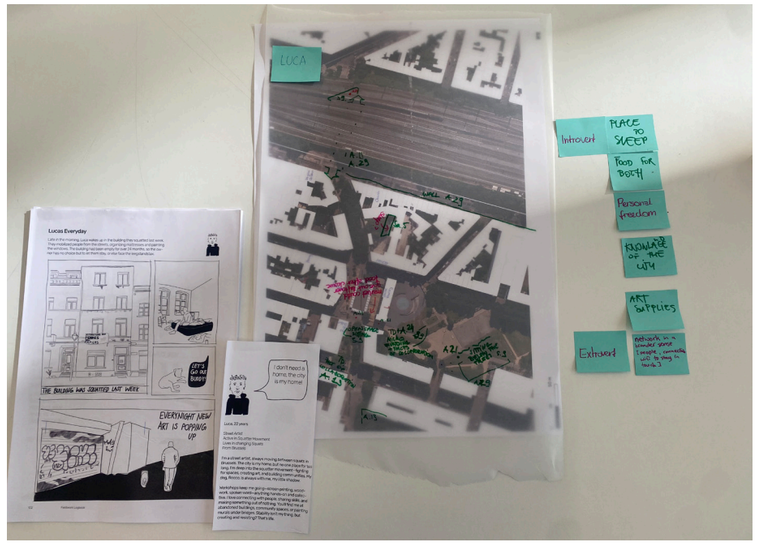
Possible Socio Spatial Needs

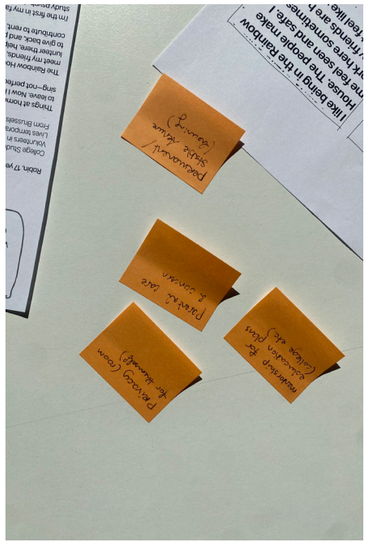
- Shelter (Housing first, micro shelter, pet architecture, shelter in lirbaries, schools or gyms, safe sleeping zones)
- Safe and accessible hygiene (shower, toilet, water)
-food+water
-help facilities (financial aid, legal help, where to go?)

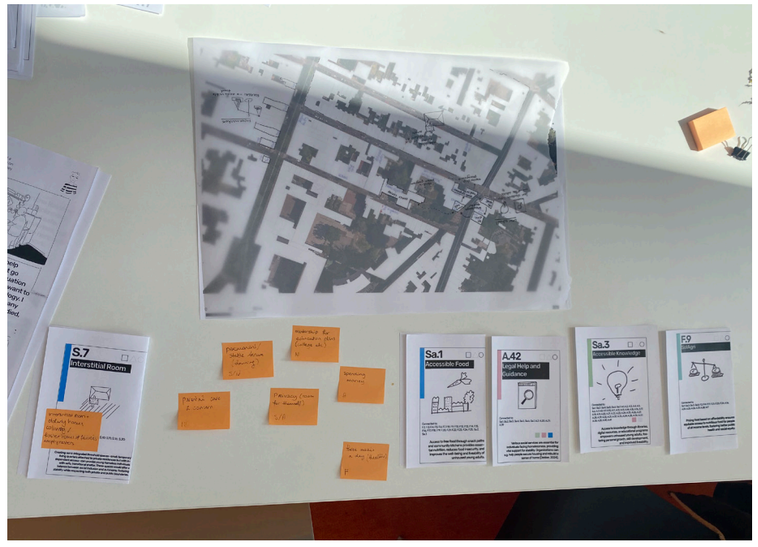
pattern workshop

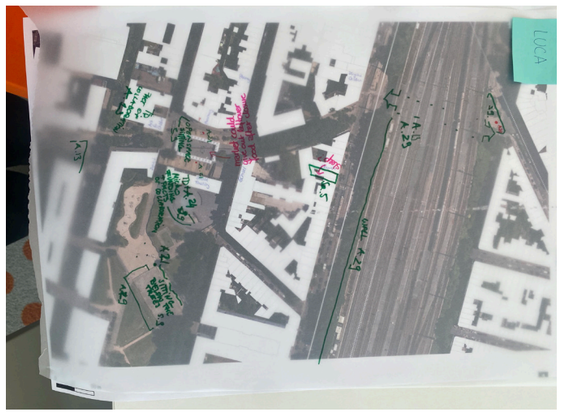
Which Needs would you have if you were in the situation of your Persona?
How can you meet these Needs in one/multiple locations? Are Patterns missing?

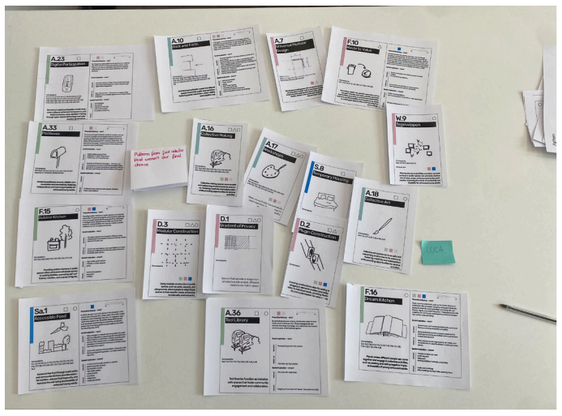








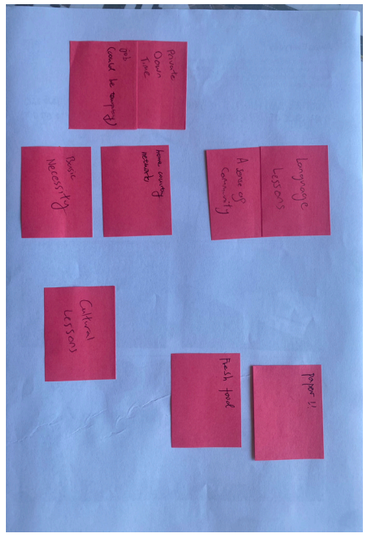


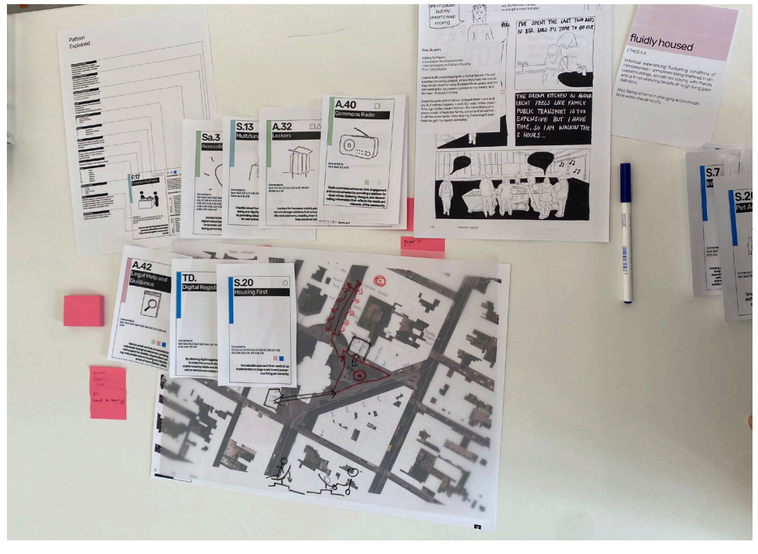


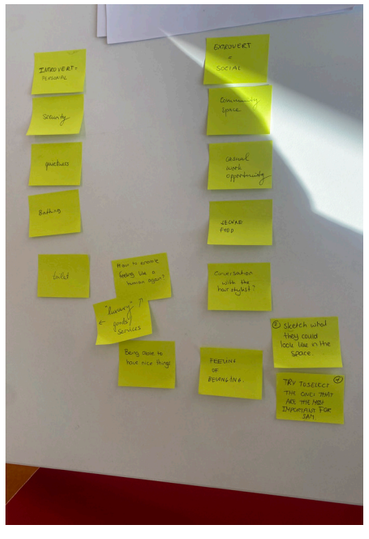
Group Luca: Alina, Jing, Ola

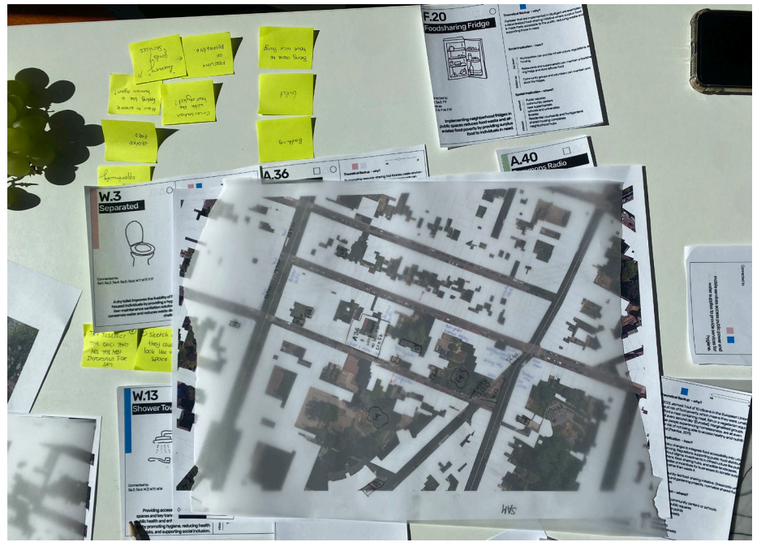
Group Robin: Margot, Jil, Carine

pattern workshop



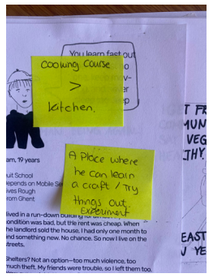






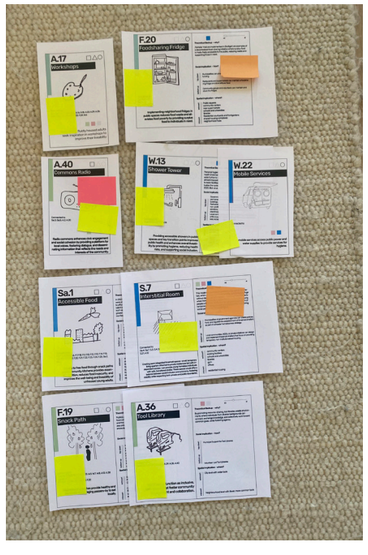
Group Ava: Yi-An, Yiling

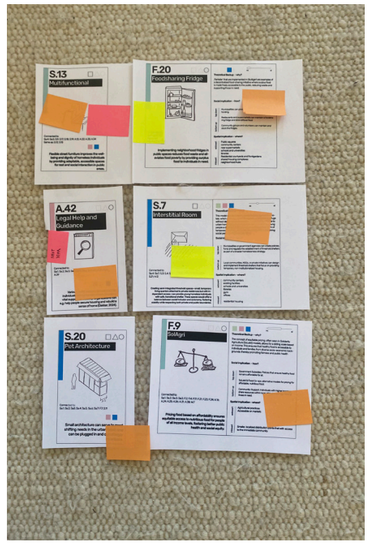
Group Sam: Angela, Feline, Gill

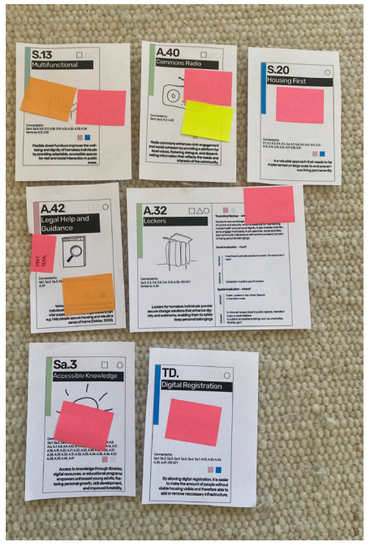


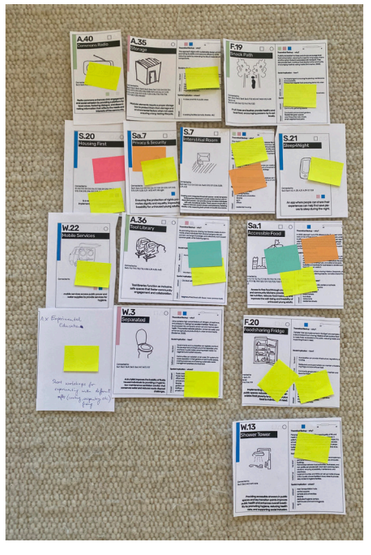
pattern workshop

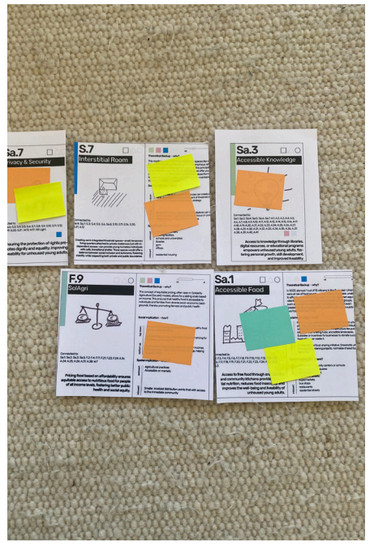
If your goal would be to improve the liveability of all 4 Personas within the next year, how would you prioritise and combine your designs?

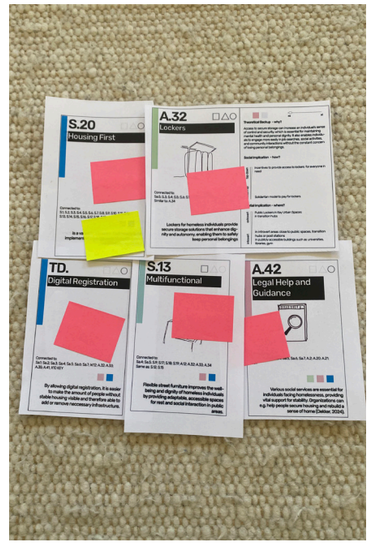


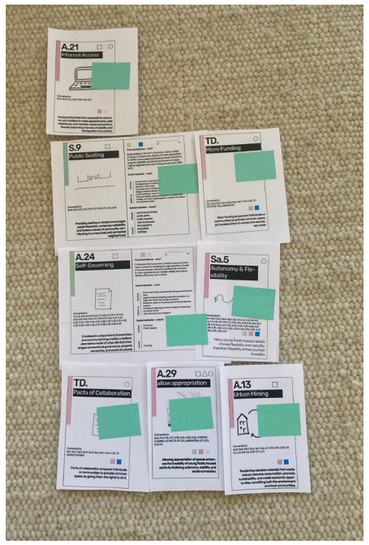


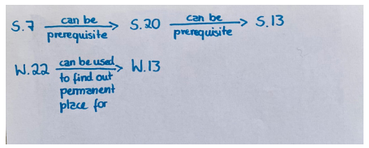


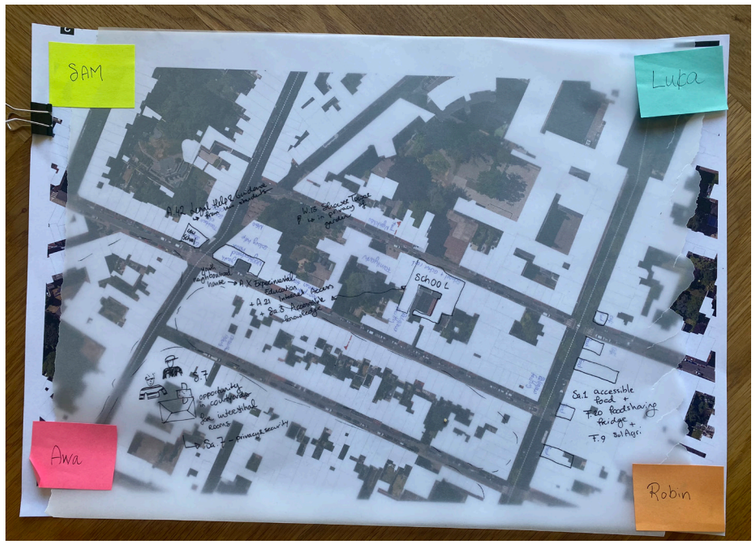












Group 1: Angela, Margot, Yiling, Alina

Group 2: Feline, Yi-An, Carine, Ola

Full story showing patterns of fluid housing and patterns of resistance and care in Soft Story Booklet ‘Hacking the System of Oppression’.

station

activated house

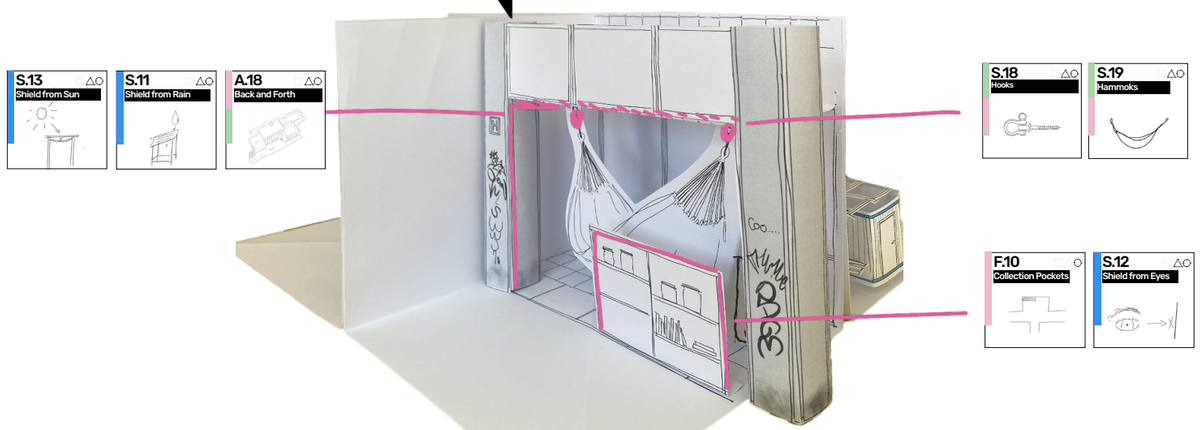
sheltered

solidary housing

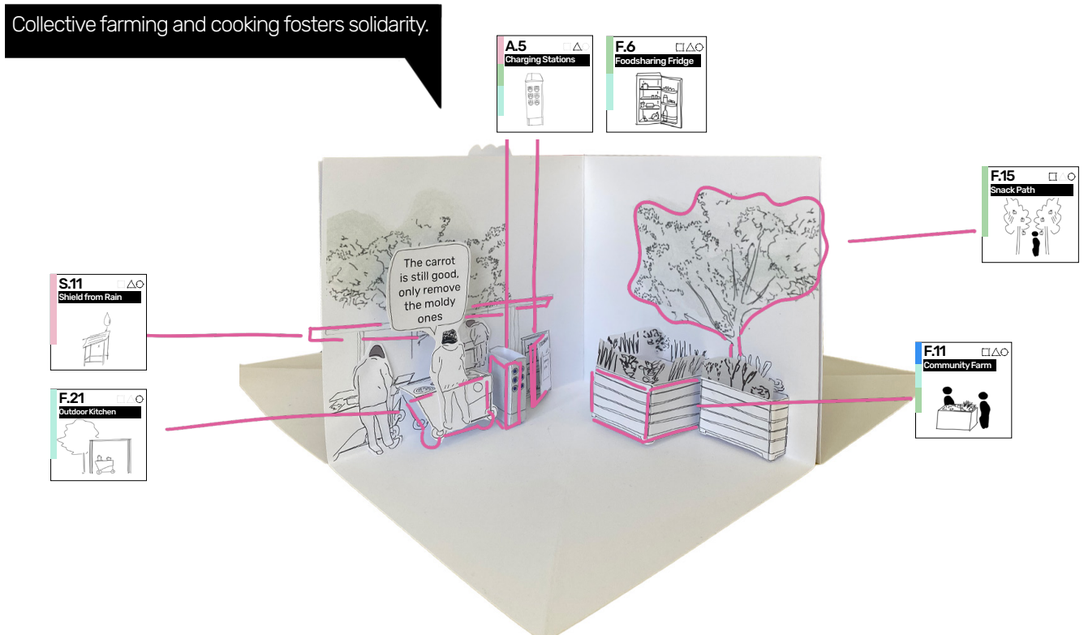
patterns of care and resistance

Full story showing patterns of fluid housing and patterns of resistance and care in Soft Story Booklet ‘Hacking the System of Oppression’.

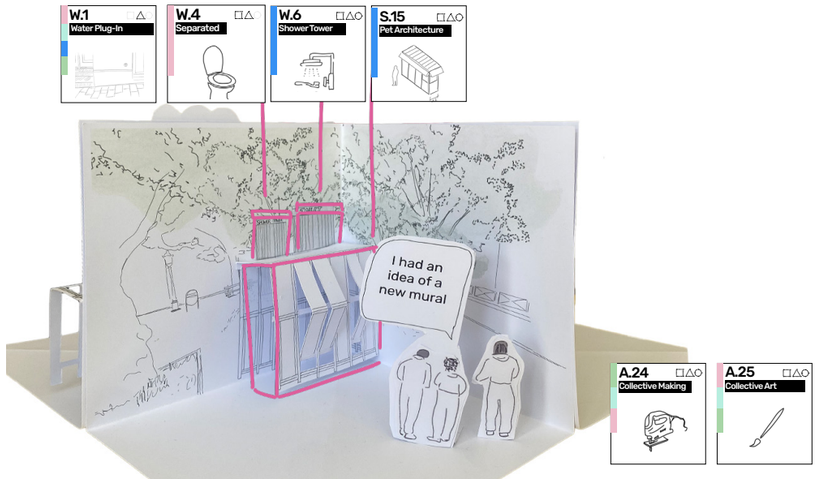
Hooks in a grid enable the hanging of a hammock.



Collective farming and cooking fosters solidarity.



Having access to water enables hygiene and hydration.



Postboxes enable registration at an address.