Beyond the Street

Transitional housing as a bridge for the roofless to reintegrate into local society, Brussels-Capital Region as the case

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Content

Contextualization

1 Introduction

1.1 Glossary and Abbreviation

FEANTSA

European Federation of National Organisations Working with the Homeless

PCSW/CPAS/OCMW

Public Centre for Social Welfare (Dutch: Openbaar Centrum voor Maatschappelijk Welzijn, OCMW; French: Centre public d'action sociale, CPAS)

"Housing First"

Housing First was first introduced in 1992 by psychologist Sam Tsemberis and his team in New York City. The core idea of this approach is that homeless individuals should be provided with stable housing first, before addressing other issues such as mental health, addiction, or employment.

Transitional housing

Temporary, supportive accommodation designed to bridge the gap between homelessness or crisis situations and stable, permanent housing. It often includes access to services such as counseling, job training, and social reintegration support, with the goal of enabling individuals or families to achieve self-sufficiency and long-term stability.

(New) Samu Social

An emergency service organization in Brussels offering immediate aid to homeless individuals, including night shelters and outreach during crises.

Red Cross Brussels

A humanitarian organization providing emergency accommodation, medical assistance, and social services to vulnerable populations including homeless people.

L'Ilot

An NGO in Brussels focusing on homelessness prevention and reintegration through housing support and social accompaniment.

CAW

Het Centrum Algemeen Welzijnswerk is a welfare center offering social services, mental health support, and emergency shelter to people in difficult situations.

SAAMO

A non-profit social services organization that supports people in poverty or social exclusion, including those facing housing insecurity.

Communa

A civic organization that activates vacant buildings for social purposes, including temporary housing and inclusive community spaces.

Coute Violences Conjugales

A support service focused on helping victims of domestic violence

Brussels Housing

A public agency responsible for managing social housing in the Brussels-Capital Region.

Actiris

The regional employment office in Brussels, offering job support and training programs, including for vulnerable groups.

Citydev

A public institution that manages urban development and affordable housing projects in the Brussels region.

OVM (Organisme de logement)

openbare vastgoedmaatschappijen,local housing bodies managing public housing stock at the municipal level.

BGHM

Brusselse Gewestelijke Huisvestingsmaatschappij, is the public utility institution responsible for the development and promotion of social housing in the Brussels Capital Region. It guides and monitors the 16 public real estate companies (OVMs) on technical, social, financial and legal matters.

Bruss'Help

The coordinating body for homelessness services in Brussels, responsible for strategy, data collection, and supporting local actors.

Kind & Gezin

A Flemish public agency focused on child and family welfare, sometimes supporting homeless families.

le Logement Molenbeekois

A municipal social housing operator in Molenbeek, managing affordable housing and allocation procedures.

1 Introduction

1.2 Abstract

The Brussels-Capital Region (BCR) exemplifies a paradox of urban complexity: home to Europe's political center and progressive policies, yet persistently struggling with social housing shortages and a high number of homeless individuals. Against the limited public social housing and a private rental market shaped by the homeownership-led housing market in the BCR (Costa & De Valk, 2018), this research proposes to develop a transitional housing stage that can mitigate the housing problem of Belgian nationality roofless people, ultimately enable them to transit more quickly and stably into the regular housing market.

The thesis is grounded in a theoretical framework that explores how social segregation among roofless individuals is reinforced by stigmatization, housing filtering, and Flanders' long-standing obsession with homeownership. It argues that securing housing justice is essential for regaining full citizenship, ultimately reducing social segregation. Using a mixed-methods approach, the research combines quantitative with qualitative analysis, drawing from 21 interviews with experts, roofless individuals, and local residents. Participants were asked to evaluate the key spatial indicators necessary for reintegration and assign weighted scores to their importance. These factors—such as the number of markets and stores by each monitoring district, were then mapped at the BCR level to create a Reintegration Supportiveness Index for Belgian nationality roofless people.

Based on the results, targeted transitional strategies are proposed for selected districts that have relatively low Reintegration Supportiveness Value, focusing on: (1) Stakeholder collaboration to enhance different actors to involve in neighborhoods activities; (2) Flexibility in housing typologies to unlock potential transitional housing spaces; (3) Needs-based spatial improvements at the neighborhood level to improve city space for roofless people to have more opportunities to interact with neighbors and receive more systemic supports. By implementing the housing strategy, the thesis not only offers a way to reduce rooflessness, but also creates opportunities for various vulnerable groups to participate, ensuring that everyone has a place to call home, access to stable housing, and a better chance to integrate into society.

Key words
Homelessness
Rooflessness
Transitional housing
Brussels Capital Region

1 Introduction

1.3 Contextualization framework

Problem field

Definition of homelessness | European context | Demographic background of BCR | Affordable housing issue | Trajectory

Problem statement

Homelessness has long been an issue in the BCR. The limited growth in the number of temporary shelters and reception centers over the past decade has been outpaced by the significant increase in the homeless population, particularly the rise in the number of the roofless. Against the limited public social housing and a private rental market shaped by the homeownership-led housing market in the BCR, looking for more transitional housing opportunities for Belgian roofless people has become an urgent task.

Research aim

To develop a transitional housing stage that can mitigate the housing problem of Belgian nationality roofless people, ultimately enable them to transition more quickly and stably into the regular housing market.

Research question

How can the transitional housing stage mitigage the housing shortage issue among the belgian nationality roofless in the Brussels-Capital Region?

Sub-questions

1.1 What factors cause the homeless people's current housing situation in the BCR?

1.2 What is the procedure of getting an accommodation for the homeless?

2.1 What are the spatial needs that can be used as variables to evaluate the neighborhood's friendliness to the roofless?

3.1 What transitional strategy can be introduced to the transitional housing stage?

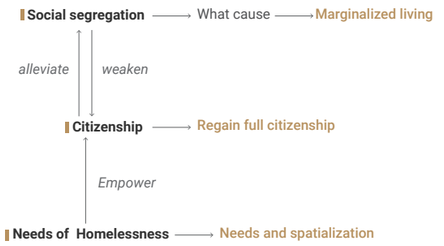
3.2 At the neighborhood scale, how can the transitional strategy be implemented?

4.1 How can different stakeholders collaborate to better achieve solidarity andcollaboration at the neighborhood and regional level?

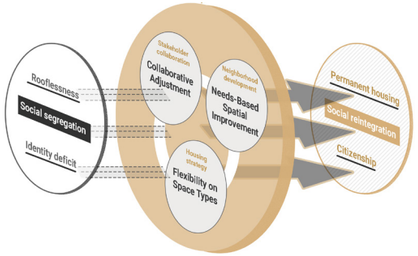
Methods

Literature review | Interview | Observation | Geospacial mapping | Multi-media review
Scenario planning | Multi-criteria analysis | Stakeholder analysis | Strategy making

Theoretical framework



Conceptual framework



1 Introduction

1.4 Motivation

During the preparation of 2024 Paris Summer Olympics, police removed the homeless from Paris City Hall plaza and bussed them to the east France and even across the border into Belgium.

“We have noticed a significant increase in the number of homeless people coming from Paris in recent times,” says Elise Tordure, head of a Brussels local mobile laundry called Bulle, "these people usually come to Brussels in groups of 5 to 10 and are concentrated around transportation hubs such as the South Station."

When I came across this news, I began to wonder how Brussels, as the political center of the European Union, would provide assistance and shelter to those homeless individuals sent there due to the Olympics. This became the trigger for my research on the homeless in Brussels.

As a person from a country where homelessness is not a big social issue, witnessing the systemic neglect and marginalization of homelessness in other contexts is both striking and sad.

Image 01: Homeless people were kicked out of the paris
Source: Alamy Stock Photo

1 Introduction

1.5 Research aim

Wyckaert, E., Leinfelder, H., & De Decker, P. (2020). Stuck in the middle: The transition from shelter to housing for refugees. Transactions of the Association of European Schools of Planning, 4, 80-94.

Wyckaert, Leinfelder and De Decker (2020) argue that even though shelter as well as housing in the intermediate phase are temporary situations, they should be seen as proper residential contexts. The locations, scales and typologies of these projects should be assessed in relation to potential social and spatial interactions.

The aim of the thesis is to develop a transitional housing stage that can mitigate the housing problem of Belgian nationality roofless people, ultimately enable them to transit more quickly and stably into the regular housing market.

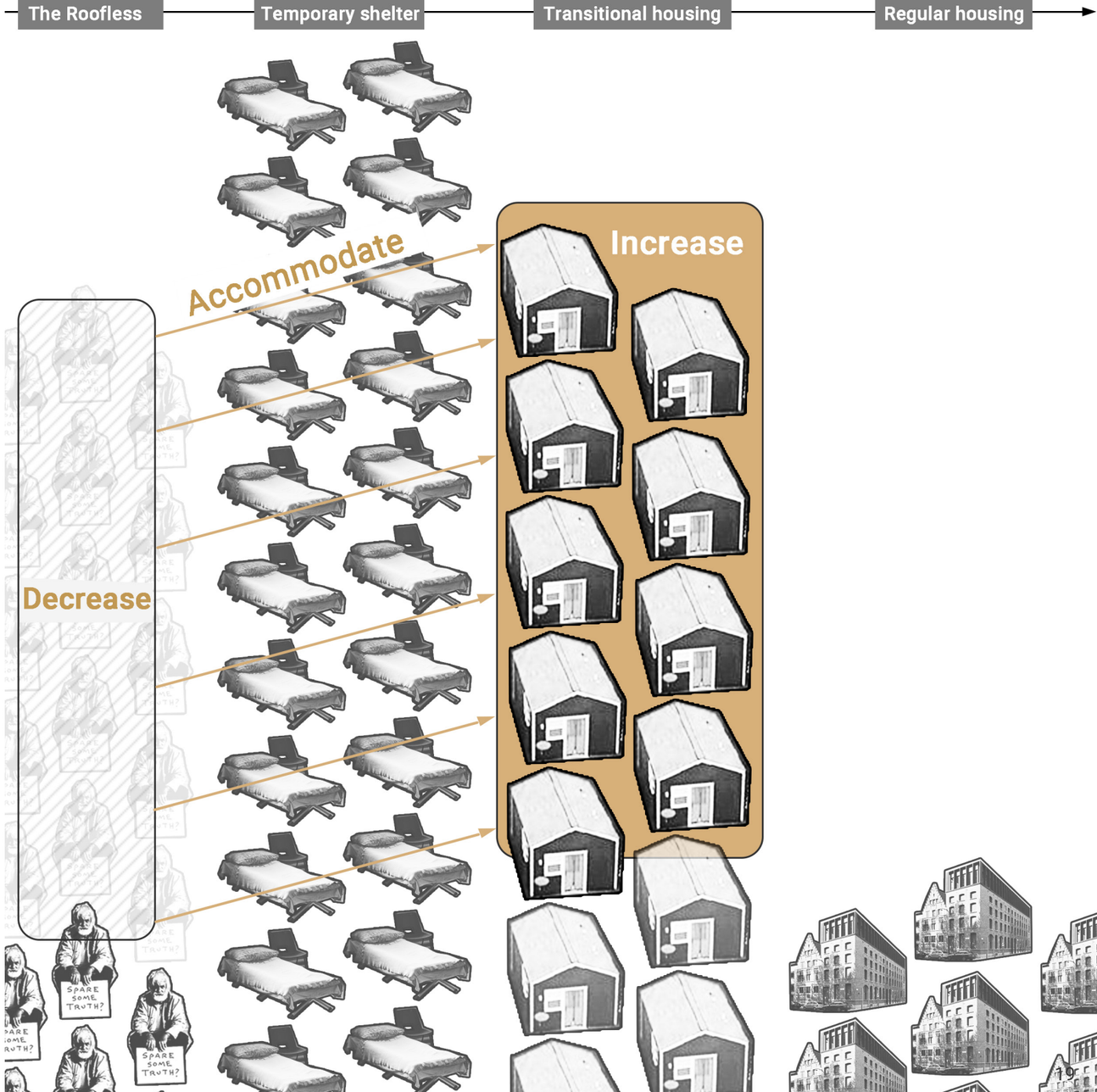
Why the roofless?

The plan given by Bruss' Help addresses Brussels' goal to reduce the homeless population to zero by 2029, and the roofless is the prior group. But the long-term short of beds in temporary shelters and limited affordable housing hinder these vulnerable people from getting proper accommodation. Therefore, finding housing for the roofless has become an urgent matter.

Why the Belgium nationality?

Among the roofless, those with Belgian nationality account for the highest proportion. Although there is still a significant number of non-EU roofless pepople whose living conditions also require urgent attention and support, Brussels is not a common arrival city. Many migrants treat Brussels as a transit hub. This indicates that the proportion of people among them who intend to settle in Brussels for the long term is relatively low, especially in the poor crescent area (Van Hamme, Grippa& Van Criekingen, 2016).

It is undoubtedly important to pay close attention to the roofless coming from outside Europe. However, this should not ignore the voices of native roofless, which also deserve public attention.



1 Introduction

1.6 Research question

How can the transitional housing stage mitigage the housing shortage issue among the Belgian nationality roofless in the Brussels-Capital Region?

Expose

1.1 What factors cause the homeless people's current housing situation in the BCR?
1.2 What is the housing policy and Plan for Homelessness?

Analyze

2.1 What is the role of governments and NGOs in helping the homelss to transfer into formal affordable housing market?
2.2 What are the spatial needs that can be used as variables to evaluate the neighborhood's supportiveness to roofless inclusion?

Propose

3.1 What transitional strategy can be introduced to the transitional housing stage?
3.2 At the neighborhood scale, how can the strategy be implemented?

Politicize

4.1 How can different stakeholders collaborate to better achieve solidarity and collaboration at the neighborhood and regional level?

The critical planning approach

The critical planning method was created by Peter Marcuse in 2010 to aid in the analysis of social and spatial planning concerns, examing how to transition from critical urban theory to radical urban practice.

Marcuse, P. (2009). From critical urban theory to the right to the city. City, 13(2-3), 185-197.

This approach can be summarized in four words: Analyze, Expose, Propose and Politicize.

Analyze means stepping back and analyzing the roots of the particular problem, making clear what forces and actors are responsible for it and what structural conditions bring it about.
Expose in the sense of making clear and communicating that analysis to those that need it and can use it.
Propose, in the sense of working with those affected to come up with actual proposals, programs, targets, strategies, to achieve the desired results.
Politicizing includes attention to issues of organization strategy and day-to-day politics. And where appropriate, it includes supporting organization directly with interventions in the media and sometimes raising issues within the critic's peer groups themselves, often academics (Marcuse, 2009).

2 Problem synopsis

2.1 Problem field

2.1.1 What is homelessness?

Soare, T., Adriaenssens, S., & Rogge, N. (2024). Invisible in Plain Sight: The Economics of Extreme Poverty in High-Income Settings.

Although there is no internationally agreed definition of homelessness (Soare, Adriaenssens, & Rogge, 2024), the European Typology of Homelessness and Housing Exclusion (ETHOS) advocates for a broad understanding which encompasses rooflessness, houselessness and inadequate and insecure housing. This is also Europe's most influential conceptualisation of homelessness (Soare et al. 2024).

According to ETHOS, homelessness is identified into 4 main categories of living situation: Rooflessness, Houselessness, Insecure Housing and Inadequate Housing. These conceptual categories are divided into 13 operational categories that can be used for different policy purposes, such as mapping the problem of homelessness, as well as developing, monitoring and evaluating policies.

De Smet, A., Pak, B., & Schoonjans, Y. (2022). Increasing socio-spatial resilience through temporary appropriation of urban waiting spaces for housing: a Participatory Action Research on the Solidary Mobile Housing project in Brussels.

The list mentioned on the right shows that the most visible form of homelessness, namely "rooflessness", is only the tip of the iceberg of a much broader phenomenon (De Smet, Pak & Schoonjans, 2022). Therefore, De Smet, Pak & Schoonjans argued that in all EU countries, the first two conceptual categories are generally accepted as forms of "homelessness".

Moreover, Rooflessness is considered as the most vulnerable conceptual category of homelessness, which does not have a roof over their heads to get out of the rain and wind, at least during the day.

Conceptual Category		Operational Category		Living Situation		Generic Definition
Roofless		1	People living rough	1.1	Public space or external space	Living in the streets or public spaces, without a shelterthat can be defined as living quarters
		2	People in emergency accommodation	2.1	Night shelter	People with no usual place of residence who make useof overnight shelter, low threshold shelter
Houseless		3	People in accommodation for the homeless	3.1	Homeless hostel	Where the period of stay is intended to be short term
				3.2	Temporary accommodation	
				3.3	Transitional supported accommodation	
		4	People in women's Shelter	4.1	Women's shelter accommodation	Women accommodated to experience of domestic violence and where the period of stay is intended to be short term
		5	People in accommodation for immigrants	5.1	Temporary accommodation/recep-tioncentres	Immigrants in reception or short term accommo-dation due to their immigrant status
				5.2	Migrant workers accommodation	
		6	People due to be released from institutions	6.1	Penal institutions	No housing available prior to release
				6.2	Medical institutions	Stay longer than needed due to lack of housing
				6.3	Children'sinstitutions/homes	No housing identified (e.g. by 18th birthday)
Insecure		7	People receiving longer-term support (due to homelessness)	7.1	Residential care for older homeless people-Supported accommodation for formerly	Long stay accommodation with care for formerly-homeless people (normally more than one year)
				7.2	Homeless people	
		8	People living in insecure accommodation	8.1	Temporarily with family/friends	Living in conventional housing but not the usual place of residence due to lack of housing
				8.2	No legal (sub)tenancy	Occupation of dwelling with no legal tenancy
				8.3	Illegal occupation of land	Occupation of land with no legal rights
		9	People living under threat of eviction	9.1	Legal orders enforced (rented)	Where orders for eviction are operative
				9.2	Re-possession orders (owned)	Where mortagee has legal order to re-possess
		10	People living under threat of violence	10.1	Police recorded incidents	Where police action is taken to ensure place of safety for victims of domestic violence
Inadequate		11	People living in tempo-rary/non-conventional structures	11.1	Mobile homes	Not intended as place of usual residence
				11.2	Non-conventional building	Makeshift shelter, shack or shanty
				11.3	Temporary structure	Semi-permanent structure hut or cabin
		12	People living in unfit housing	12.1	Occupied dwellings unfit for habitation	Defined as unfit for habitation by national legisla-tion orbuilding regulations
		13	People living in extreme over-crowding	13.1	Highest national norm of overcrowding	Defined as exceeding national density standard for foor-space or vesable rooms

Figure 01: Made by author
Data source: ETHOS, FEANTSA

2 Problem synopsis

2.1 Problem field

2.1.2 Picture of homelessness in the European context

Although the thesis chooses the Brussels-Capital Region as the case, it is always informative to grasp an overall concept of homelessness. Homelessness is never an issue that exists in isolation in one city or country; it is a problem characterized by constant flow and change among cities.

Horvat, N.,&Coupechoux,S. (2023). Eighth overview of housing exclusion in Europe. FEANTSA and The Abbé Pierre Foundation.

In the Eighth Overview of Housing Exclusion in Europe (2023), FEANTSA showed the statistical evidence of the big picture of homelessness in the Europe, addressing that there is a worsening homelessness situation.

Horvat, N., & Coupechoux, S. (2024). Ninth overview of housing exclusion in Europe. FEANTSA and The Abbé Pierre Foundation.

As illustrated in the infographic on the right, most EU countries are still experiencing an increase in the number of homelessness in general. According to the Ninth Overview of Housing Exclusion in Europe (2024), Germany, France, the Czech Republic, and Ireland ranked among the top four countries in terms of homelessness rates from 2021 to 2024, with figures at 0.487%, 0.309%, 0.289%, and 0.253%, which have already exceed the EU average of 0.25%.

The estimate is based on a compilation of data from point-in-time counts (dark yellow) covering people in situations of housing exclusion described by ETHOS operational categories1,2 and 3: a total of 737,198 people counted in 11 countries. Overall, Europe could count 1,286,691 rough sleepers, people in night shelters and people in temporary accommodation for the homeless (Horvat et al. 2023). The mobility of homelessness is a critical factor affecting the accuracy of counts. Results can vary significantly depending on the time and location of counting. At least, it is essential to realize that the actual number of homeless people far exceeds the recorded statistics. The "invisible" homeless people also face social exclusion.

However, it is worth noting the decrease in the number of homelessness in Finland, Denmark, and the Netherlands, demonstrating the effectiveness of implementing long-term homelessness strategies. As highlighted by the UN HABITAT "Housing is the basis of stability and security for an individual or family." Providing adequate affordable housing remains one of the most crucial strategies in addressing homelessness.

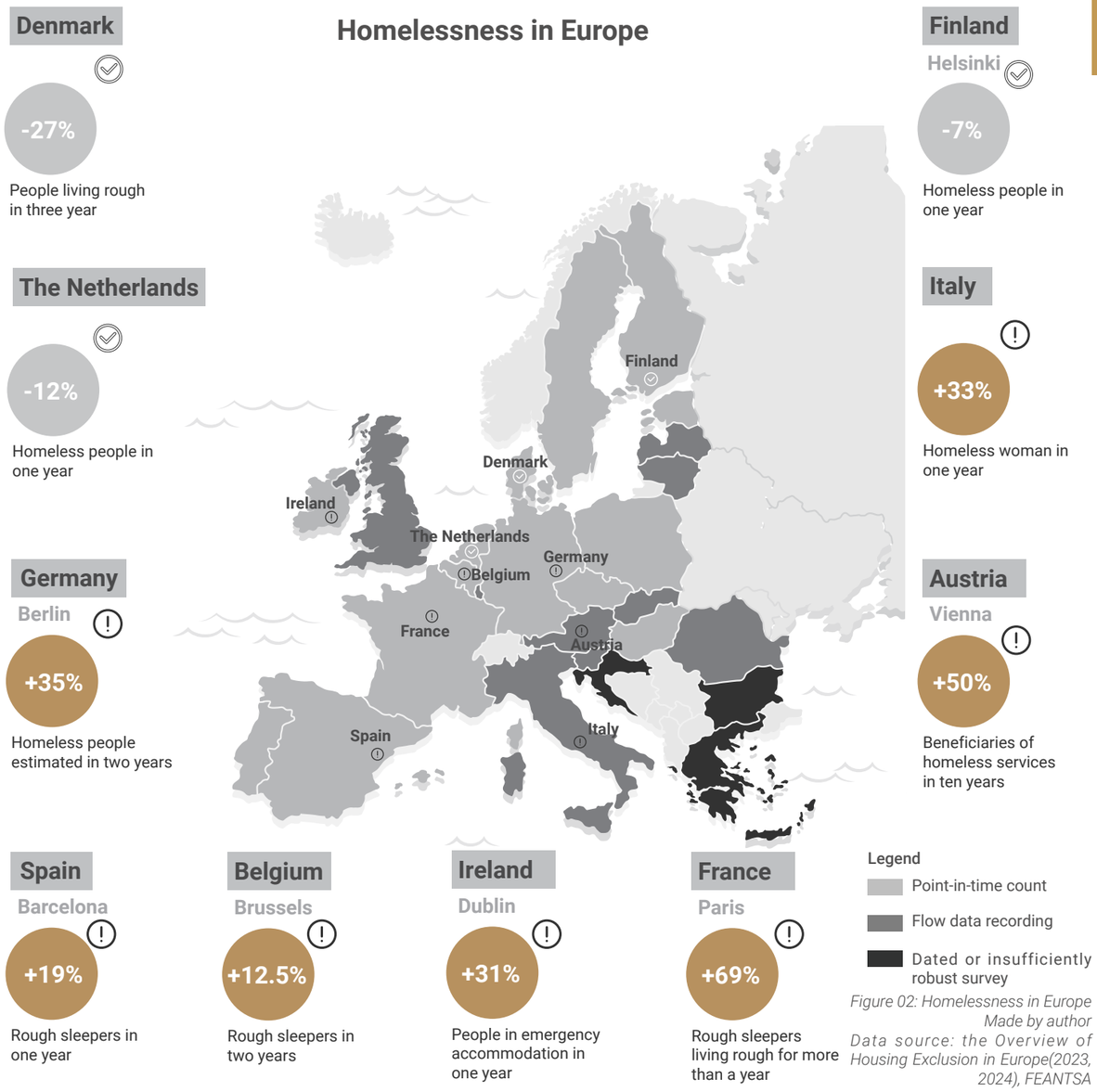


Figure 02: Homelessness in Europe Made by author

Data source: the Overview of Housing Exclusion in Europe(2023, 2024), FEANTSA

2 Problem synopsis

2.1 Problem field

2.1.3 Demographic background of homelessness in the Brussels-Capital Region

2008, 1st homelessness counting

2,273

increased more than three times

2022, 7th homelessness counting

7134

The number of the homeless in BCR tripled in last 12 years resulting with a number above 7000 people and it keeps increasing (Paquot, 2023). This is one of the biggest increases noted in Europe. Based on the seventh edition of the homelessness statistics report released by Bruss'Help, the following characteristics can be summarized:

1 Steady Increase in Homelessness
2 Alarming picture in the Most Vulnerable Category: the Roofless
3 Nationality distribution
4 Geographic Distribution of Rooflessness

Paquot, L. (2023). Dénombrement des personnes sans-chez-soi en Région de Bruxelles-Capitale. Bruss' help.

Figure 03: Basic Road Structure map of Brussels
Data source: Open Street Map
Made by author

2 Problem synopsis

2.1 Problem field

Paquot, L. (2023). Dénombrement des personnes sans-chez-soi en Région de Bruxelles-Capitale. Bruss' help.

1 Steady Increase in Homelessness

Overall, the number of homelessness is increasing steadily. Since the publication of the first report in 2008, the recorded number has risen by more than four times (+313.8%).

2 Alarming picture in the Most Vulnerable Category: the Roofless

The percentage of people who are experiencing the most unstable living conditions, classified as "roofless" (FEANTSA's definition), has also increased significantly. In 2008, this group accounted for 29.2% of the total homeless people. By 2022, this figure had risen to 33.7%, representing a 377.5% growth over 14 years. Studies suggest that women experiencing homelessness often hide their gender and location when forced to spend nights in public spaces (Bretherton & Mayock, 2021). These strategies may affect the representation of homeless women in data.

Bretherton, J., & Mayock, P. (2021). Women's homelessness: European evidence review.

3 Nationality distribution

In terms of nationality, 42.7% of homeless people have Belgian nationality, a proportion similar to the 42.3% who hold non-EU nationality, while 11% hold EU citizenship other than Belgian. While highlighting difficulties non-EU homeless people facing due to their more complex living situation, it does not mean that the rights and voices of native homeless people should be overlooked.

4 Geographic Distribution of Rooflessness

Rooflessness as the most vulnerable group, face increasingly severe challenges with having nowhere to stay. Since 2010, the distribution of rooflessness across the three main train stations is declining. The decline was previously linked to enhanced security measures and renovations at stations. Excluding those at the three main stations, the number of rooflessness in other areas (inside and outside the Pentagon) increased by 47.7% between 2020 and 2022, from 111 to 164 individuals.

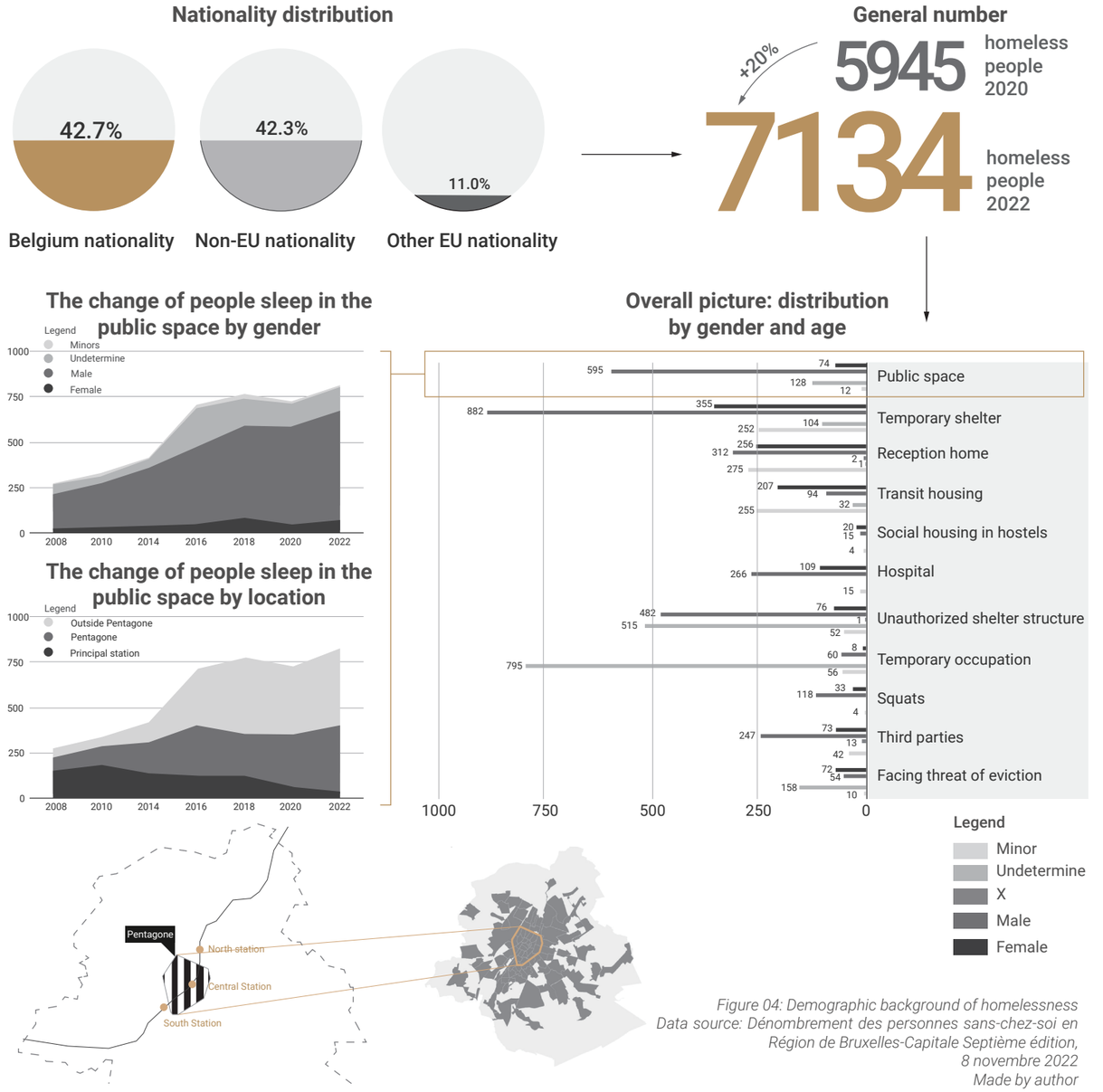


Figure 04: Demographic background of homelessness
Data source: Dénombrement des personnes sans-chez-soi en Région de Bruxelles-Capitale Septième édition, 8 novembre 2022
Made by author

2 Problem synopsis

2.1 Problem field

2.1.4 Affordable housing issue in BCR

Throughout the twentieth century, Belgian housing policy was based on the promotion of homeownership (De Decker, 2008). During the post-war period, due to the absence of spatial planning restrictions, households were able to buy land in the city fringes and rural areas and build their own detached house (De Decker, 2008; Kesteloot and Cortie, 1998). Kesteloot and Van der Haegen also claimed that the Fordist economy benefited greatly from the growing production of single-family homes, since the building industry supported economic growth by meeting the state's homeownership policy and the growing demand for new housing. This can lead to not only urban sprawl (De Decker, 2008) which encourages the emerging middle class to progressively left old dwellings and moved to the green outskirts (Baldwin Hess, Tammaru and Van Ham, 2018), but stuck people from lower class who struggle to find adequate housing due to limited access to affordable rental options, in the shrinking private rental market and the insufficient social housing sector (De decker, Kesteloot and Newton, 2009).

Today, still only 7% of houses in the BCR are owned by social housing companies, compared to almost 19% in France and 31% in the Netherlands (Anfrie & Gobert, 2016). Until 2019, there are only 36117 rented social housing units, while there are more than 48804 households on the waiting list (Quittelier and Horvat, 2019).

Moreover, it is also noted that from 1993 to 2011, the average price of dwellings increased significantly doubled, while the average household income remained stable (Romainville, 2017). This implies that more people will eventually be unable to pay rent due to the ongoing increase in housing costs.

The limited affordable housing market and the increasing housing prices have led to the long-term marginalization of vulnerable groups, such as the homelessness, trapping them in a vicious cycle of marginalization from which they cannot easily escape. Figure 06 is showing the Vicious cycle of segregation homeless people might be facing.

De Decker, P. (2008). Facets of housing and housing policies in Belgium. Journal of Housing and the Built Environment, 23, 155-171.

Kesteloot, C., & Cortie, C. (1998). Housing Turks and Moroccans in Brussels and Amsterdam: the difference between private and public markets. Urban studies, 35(10), 1835-1853.

Kesteloot, C., & HAEGEN, H. V. D. (1997). Foreigners in Brussels 1981–1991: spatial continuity and social change. Tijdschrift voor economische en sociale geografie, 88(2), 105-119.

Baldwin Hess, D., Tammaru, T., & Van Ham, M. (2018). Housing estates in Europe: Poverty, ethnic segregation and policy challenges (p. 429). Springer Nature.

De Decker, P., Kesteloot, C., & Newton, C. (2009). Where are vulnerable people to live in a state obsessed with homeownership?. In In my caravan, I feel like superman: essays in the memory of Henk Meert 1963-2006 (pp. 7-30). Centre for Housing Research.

Anfrie, M. N., & Gobert, O. (2016). Les chiffres-clés du logement public en Wallonie-2016. Rapport du Centre d'Etudes en Habitat Durable, Charleroi.

Quittelier, B., & Horvat, N. (2019). Homeless and inadequately housed people in the Brussels-Capital Region. Brussels Studies. La revue scientifique pour les recherches sur Bruxelles/Het wetenschappelijk tijdschrift voor onderzoek over Brussel/The Journal of Research on Brussels.

Romainville, A. (2017). The financialization of housing production in Brussels. International journal of urban and regional research, 41(4), 623-641.

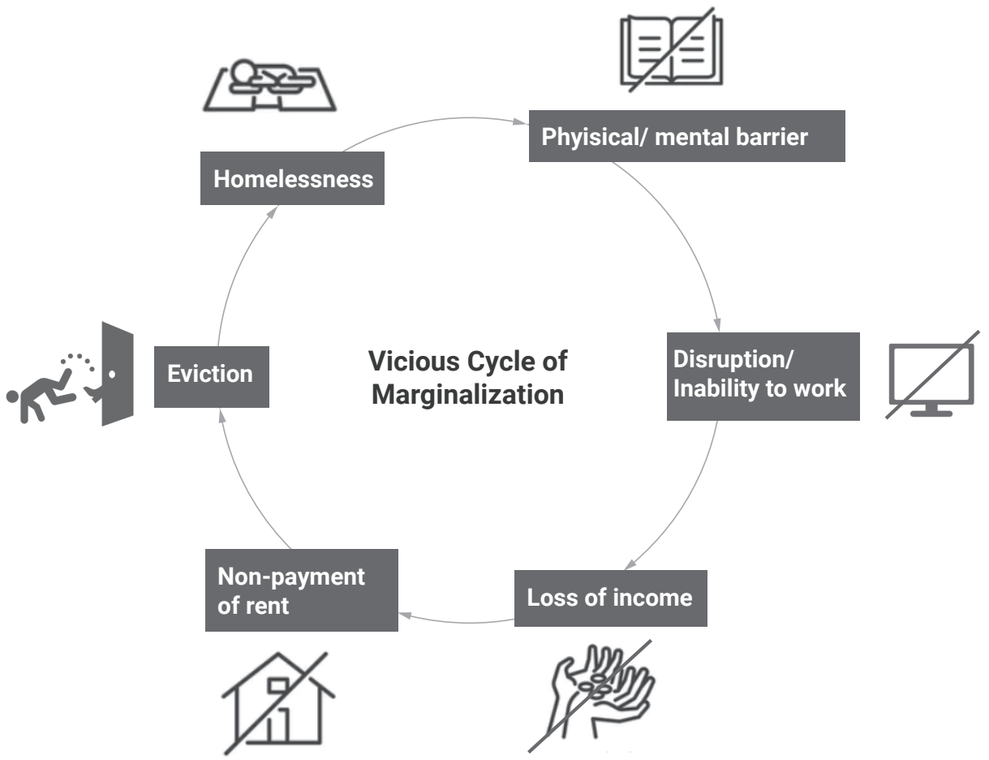


Figure 05: Vicious cycle of marginalization
Made by author

2 Problem synopsis

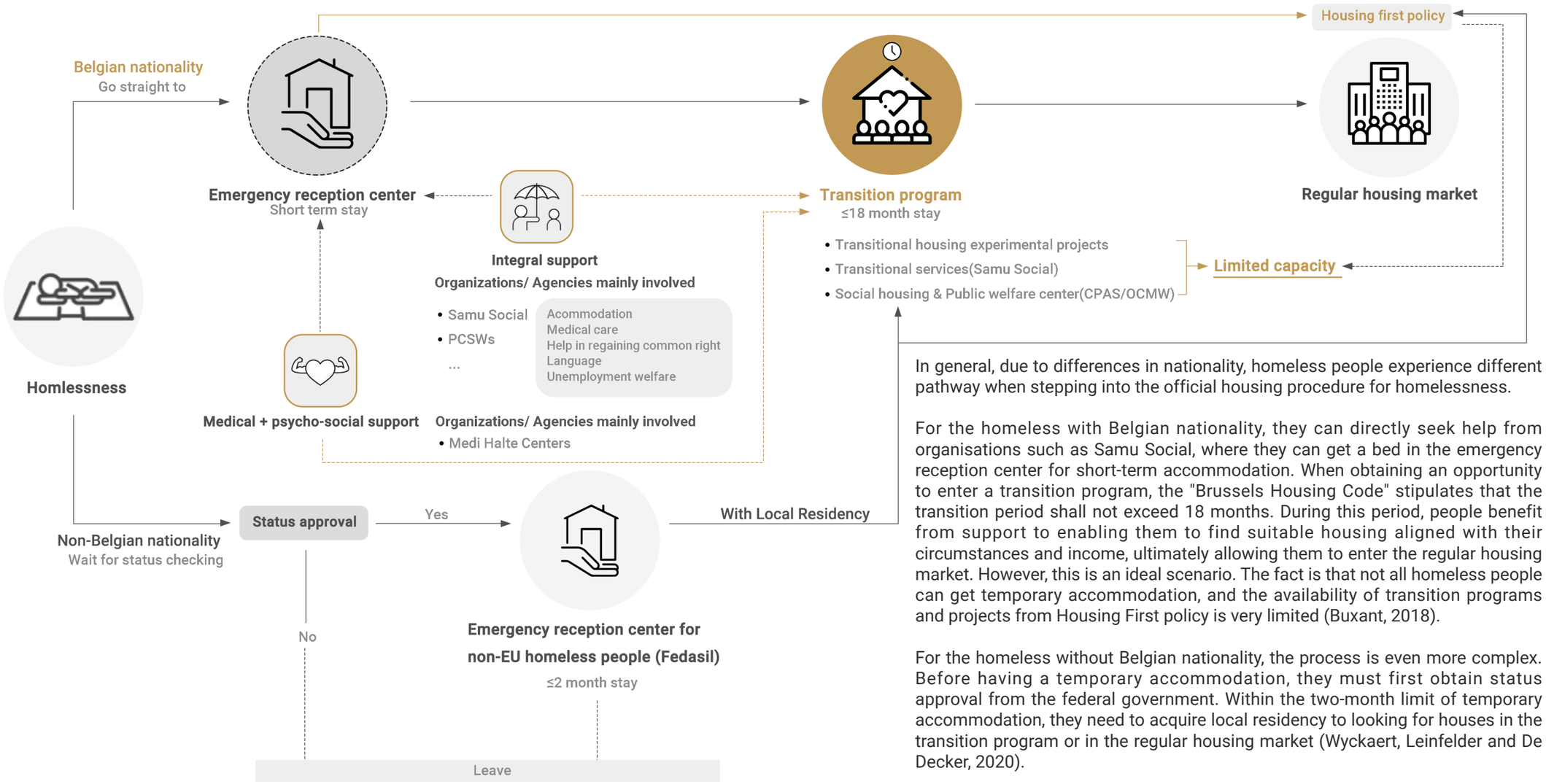


Figure 06: The procedure of getting an accommodation
Made by author

In general, due to differences in nationality, homeless people experience different pathway when stepping into the official housing procedure for homelessness.

For the homeless with Belgian nationality, they can directly seek help from organisations such as Samu Social, where they can get a bed in the emergency reception center for short-term accommodation. When obtaining an opportunity to enter a transition program, the "Brussels Housing Code" stipulates that the transition period shall not exceed 18 months. During this period, people benefit from support to enabling them to find suitable housing aligned with their circumstances and income, ultimately allowing them to enter the regular housing market. However, this is an ideal scenario. The fact is that not all homeless people can get temporary accommodation, and the availability of transition programs and projects from Housing First policy is very limited (Buxant, 2018).

Buxant, C. (2018). The challenge of implementing the Housing First model: How Belgium tries to connect fidelity and reality. European Journal of Homelessness, 12(3), 229-252.

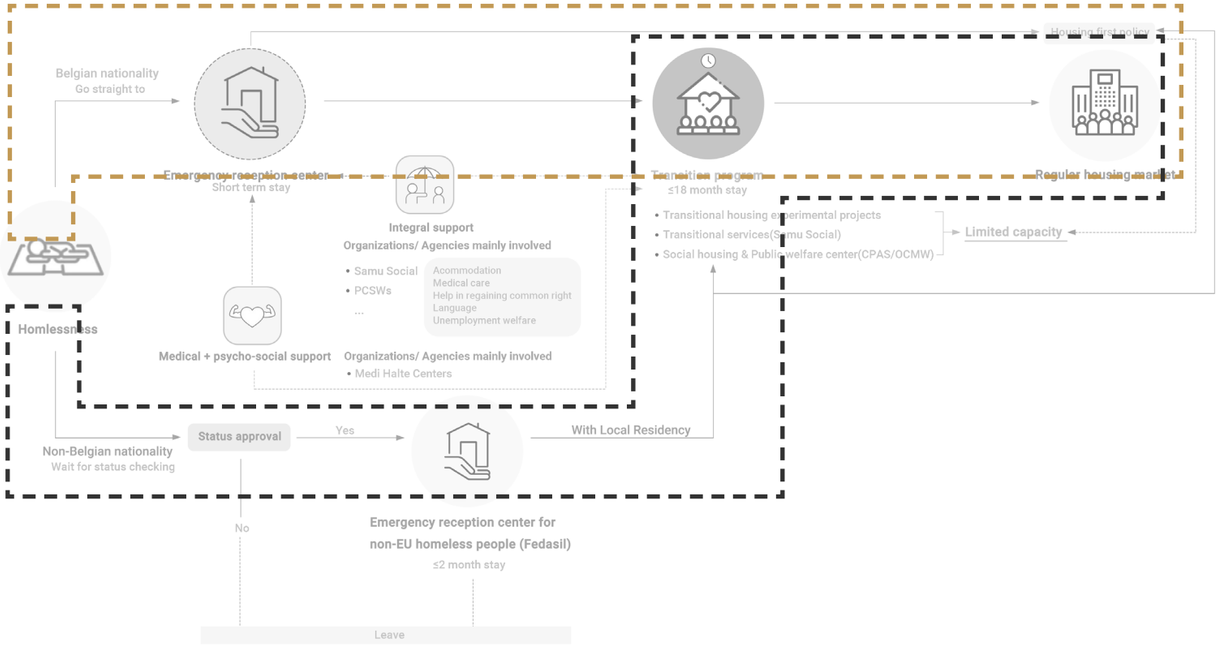
For the homeless without Belgian nationality, the process is even more complex. Before having a temporary accommodation, they must first obtain status approval from the federal government. Within the two-month limit of temporary accommodation, they need to acquire local residency to looking for houses in the transition program or in the regular housing market (Wyckaert, Leinfelder and De Decker, 2020).

Wyckaert, E., Leinfelder, H., & De Decker, P. (2020). Stuck in the middle: The transition from shelter to housing for refugees. Transactions of the Association of European Schools of Planning, 4, 80-94.

2 Problem synopsis

2.1 Problem field

Two trajectories



The importance of trajectory

In Wyckaert, Leinfelder, and De Decker's discussion on the transition from shelter to housing for refugees in Belgium (2020), they argued that it is extremely difficult for refugees to access the Belgian housing market, as they present path-dependency in the housing trajectory of newcomers. In other words, without relying on the provided pathway to seek housing, it is almost impossible.

Wyckaert, E., Leinfelder, H., & De Decker, P. (2020). Stuck in the middle: The transition from shelter to housing for refugees. Transactions of the Association of European Schools of Planning, 4, 80-94.

However, Belgian homelessness also relies heavily on their trajectory. Admittedly, homeless people with Belgian nationality are more likely to find accommodation through existing social networks without relying on formal pathways. This is particularly true for those experiencing short-term homelessness due to various reasons. Nevertheless, this does not mean that all Belgian homeless individuals do not need pathways to help them re-enter the housing market. For those who have been homeless long-term and seek to reintegrate into the housing market through this trajectory, reliance on pathways becomes their only lifeline.

Different intention of using temporary or transitional housing based on nationality

Vulnerable individuals, such as refugees and long-term homeless people, they have similar urgent problems; specifically an immediate housing need (Wyckaert, Leinfelder & De Decker, 2020). Shelter as well as housing in the intermediate phase are distinctively important for those people. Yet there is a difference: As Brussels is not typically treated as an arrival city compared with Berlin, Paris and London, homeless people need permanent housing situations at the end, while housing projects in this intermediate stage are somewhat temporary for refugees (Wyckaert, Leinfelder & De Decker, 2020).

2 Problem synopsis

2.1 Problem field

2.1.6 Master plan for eliminating homelessness

In April 2024, Bruss'help proposed a master plan to end homelessness in Brussels by 2030, as a guideline for the next government. The plan consists of 35 measures divided into four phases: strengthening prevention, improving rapid action, optimising support and combating institutional violence.

Belga News Agency. (2024). Urban challenges: Homelessness in Brussels. Retrieved January 25, 2025, from https://www.belganewsagency.eu/urban-challenges-homelessness-in-brussels

Bruss'help. (2024). Masterplan sortie sans-chez-soirisme RBC 2024 [Master Plan for Tackling Homelessness in Brussels 2024]. Retrieved from https://brusshelp.org/index.php/nl/news/masterplan

According to the plan, rapid action is needed to reduce the time a person spends without a place to live, to prevent the situation from becoming permanent and the lack of housing causing other problems (Belga News Agency, 2024).

One way to do this is to increase the number of sustainable homes. This will include *Increasing the number of sustainable housing units available, redifining the system of emergency shelters, enhancing Housing First, linking employment and housing closely...(Bruss'help, 2024)* In terms of redifining the system of emergency shelters, there are over 3000 shelters in BCR now, and all of them are fully packed with homeless. In the Masterplan, they propose two-thirds of emergency shelters should be transformed into transit places, so people don't stay there too long and enter the regular network more quickly. This methods reflects the importance of a transit system.

First Positionality

It is true that the reintegration of the homeless into society requires their active participation and engagement in bottom-up initiative. Without financial support and prioritization from the government, along with the provision of accessible housing opportunities, it is unrealistic to expect vulnerable groups to overcome systemic barriers on their own. To sum up, while bottom-up approaches are critical for empowering individuals and fostering community-driven solutions; at the bigger scale, the reintegration process remains heavily reliant on top-down procedures to create the structural conditions necessary for sustainable change.

However, it based on ethical and socially acceptable support procedures to avoid "over-intervention and invasive or paternalistic" interventions as mentioned in the Masterplan piller 4: fighting institutional violence and injustice.

Image 02: Masterplan of ending homelessness Source: Bruss' Help

2 Problem synopsis

2.2 Problem statement

Homelessness has long been a social issue around the world. Housing as a basic human right entitles anyone to adequate housing (UN-Habitat, 1976). However, there is a continuous increasing number of homeless people in the vast majority of european cities (Horvat and Coupechoux, 2023), exacerbating the problem of homelessness. Basic right are not guaranteed.

Horvat, N.,&Coupechoux,S. (2023). Eighth overview of housing exclusion in Europe. FEANTSA and The Abbé Pierre Foundation.

As the political center of Europe, the Brussels-Capital Region has implemented various policies and pioneering initiatives to support the homelessness. Despite these efforts, the limited growth in the number of temporary shelters and reception centers over the past decade has been outpaced by the significant increase in the homeless population, particularly the rise in the number of the roofless (classified according to FEANTSA in 2005). In 2024, Bruss'Help develop a masterplan to eliminate homelessness by 2029.Addressing an urgent need for more qualitative affordable housing (Romainville, 2015). While transitional housing programs and the four existing "Housing First" projects (Housing First Europe Hub, 2024) currently provide transitional or permanent housing assistance and services to the homeless aiming to enter the regular housing market, housing resources remain scarce, and the selection and regulation of beneficiaries are highly stringent.

Romainville, A. (2015). Capitalist production of housing in Brussels. Real estate development and the social division of space.

Against the limited public social housing and a private rental market shaped by the homeownership-led housing market in the BCR (Costa & De Valk, 2018), looking for more transitional housing opportunities for Belgian street roofless people has become an urgent task, according to The Masterplan of End Homelessness by 2030. This effort is essential to enabling them to re-enter the formal housing market within a shorter timeframe and to avoid endless socio-economic marginalization.

Costa, R., & De Valk, H. (2018). Sprouted all around: The emergence and evolution of housing Estates in Brussels, Belgium. Housing Estates in Europe: Poverty, Ethnic Segregation and Policy Challenges, 145-166.

Image 03: Evict Rough Sleepers
Author: Andrew Lichtenstein
Source: Getty Images

3 Methodology

3.3 Methodological framework

The framework integrates both research methods and planning/design methods to comprehensively address the sub-research questions.

Literature review to establish theoretical foundations and identify topic background (e.g., Question 1.1). Semi-structured interviews with different groups of people to get their opinion about the importance of spatial needs (Question 2). Geospatial mapping and field observation to quantify spatial needs (Analyze phase). Multi-media analysis (e.g., policy documents, media reports) to contextualize the homelessness issue in general.

Scenario planning to model transitional housing strategies at neighborhood scale (Propose phase, Questions 3.2). Multi-criteria analysis and stakeholder collaboration frameworks to evaluate implementation pathways and create cross-sectoral solidarity (Politicize phase, Question 4).

The mixed-method uses both quantitative data and qualitative analysis, and this integrated approach directly targets the challenges of rooflessness.

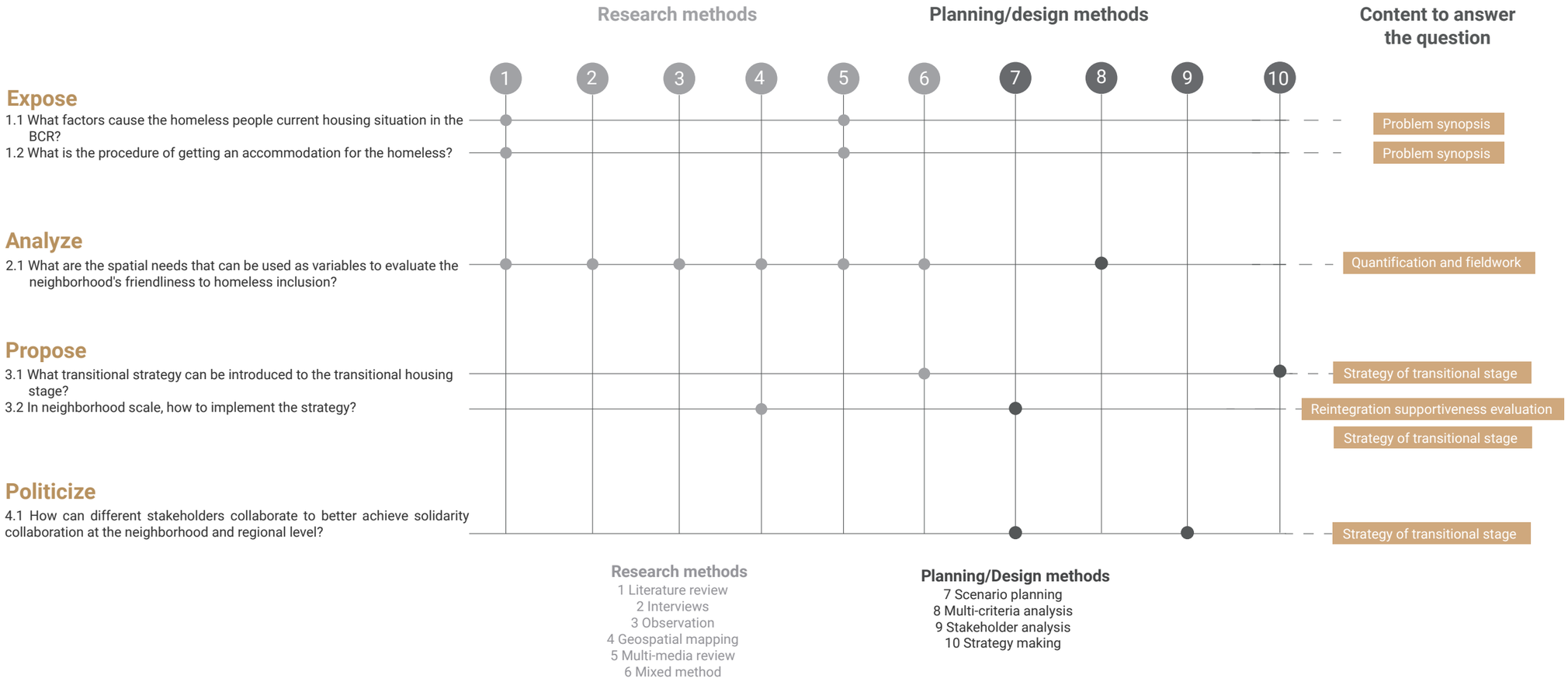


Figure 07: Methodological framework
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3 Methodology

3.4 Methods used and expected outcomes

Expose

1.1 What factors cause the homeless people current housing situation in the BCR?

•Method

a. Literature review | b.Multi-media review

•Expected outcome

a. Through media analysis and media material collecting, visualizing relevant statistics into mappings and diagrams from the scale of the EU and the Brussels Capital Region.

a.& b. Give an overview picture addressing opportunities and challenges of the current social housing and private rental market in BCR by analyzing the literature to expose the unfriendly housing market for marginalized group and the long term vicious cycle faced by the homeless.

a.& b. By using diagrams to showcase the current procedure of the homelessness getting into regular housing market, and demonstrate the project focus.

•corresponding content

2.1 Problem field

1.2 What is the procedure of getting an accommodation for the homeless?

•Method

a. Literature review | b.Multi-media review

•Expected outcome

a. A flow chart will show pathways for the homeless in general of getting an proper accommodation. The support provided by the relevant institutions at each stage will also be mentioned, serving as a theoretical basis for the subsequent stakeholders analysis.

•corresponding content

2.1 Problem field
2.1.5 The procedure of getting an accommodation for homelessness

Analyze

2.2 What are the spatial needs that can be used as variables to evaluate the neighborhood Supportiveness to the roofless?

•Method

a. Literature review | b. Interview | c. Observation | d. Geospacial mapping | e. Multi criteria analysis | f. Mixed method

•Expected outcome

a. & d. & e. Through a literature review, the needs of the roofless will be identified. These needs will then be translated into variables, which will be used to collect corresponding geodata, forming a dataset that will serve as part of the spatial analysis.

b. & c. & e. These variables will be designed as a questionnaire and further refined through interviews with experts, roofless people and local residents. The participants, from their perspectives, will disscuss importance levels to the variables and may also add or remove variables to ensure the results are more comprehensive. Observations during fieldwork will also serve as a source for identifying variables. Ultimately, this process will result in a **Reintegration supportiveness value** for each neighborhood. This will serve as a benchmark for assessing the difficulty of integration for the roofless in different neighborhoods and will guide the following strategy phase.

•corresponding content

5 Quantification and fieldwork
6 Reintegration supportiveness evaluation

Propose

3.1 What transitional strategy can be introduced to the transitional housing stage?

•Method

a. Strategy making | f. Mixed method

•Expected outcome

a. Detailed diagrams and drawings showing the housing transitional strategy. This strategy is developed based on the analysis of variables and conceptual framework.

•corresponding content

7 Strategy of transitional stage

3 Methodology

3.4 Methods used and expected outcomes

Propose

3.2 At the neighborhood scale, how can the transitional strategy be implemented?

- **Method**

a. Geo-spacial mapping | b. Scenario planning

- **Expected outcome**

b. Different scenarios will be made to showcase how roofless people live in the transitional housing and integrate with the local environment, and how stakeholders work with them.

a. Some neighborhood-scale mapping analyses, such as vacant space, stores and markets, and monofunctional buildings, need to be conducted to identify more space that can be converted into transitional housing and optimize support facilities.

- **corresponding content**

7 Strategy of transitional stage

Politicize

4.1 How can different stakeholders collaborate to better achieve solidarity and collaboration at the neighborhood and regional level?

- **Method**

a. Stakeholder analysis | b. Scenario planning

- **Expected outcome**

a. New diagrams and matrices showing the distribution of stakeholders and a new stakeholder collaboration map will be created, illustrating a before-and-after comparison to highlight the aspects of the strategy that enhance stakeholder collaboration. This process will align with adjustment and suggestion to policies and legislation.

- **corresponding content**

7 Strategy of transitional stage

3 Methodology
3.5 Limitation of used methods

- **Practical barrier during interviews**

  Interviews with experts, residents, and roofless people during the fieldwork may result in some discrepancies in the discussion outcomes due to language barriers, and the possible low efficiency could lead to an insufficient number of interview outcomes.

- **The balance between rationality and sensibility**

  The methods used in the thesis lean towards guided and structured rationalism, with all intermediate outcomes based on certain literature evidence or data. Empirical experience such as the interview and observation are not the leading methods, which may make the discussion of the topic less engaging and grounded.

- **Reliance on certain methods**

  For this project, literature review is a crucial method as it helps to establish a solid theoretical and conceptual framework for the thesis. However, since the thesis does not strongly involve a participatory approach, it lacks some methods involving direct engagement, which may result in a theoretical description of aspects such as stakeholders, lacking practical context.

- **Uncertainty within the method of interview**

  Ideally, this project aims to conduct fieldwork and interviews with different groups, asking them to score the needs they believe are essential for the reintegration of rooflessness. This will form the foundational dataset for the quantitative analysis in the thesis. However, due to the unpredictability of the process, there is a risk that the final dataset may be too small, affecting the reliability of the results. Or, the survey could exceed expectations, gaining a large and valuable dataset. Therefore, it is crucial to continuously assess, adjust, and reflect on the results after the actual data collection to ensure the validity and applicability of the findings.

3 Methodology
3.6 Project phasing

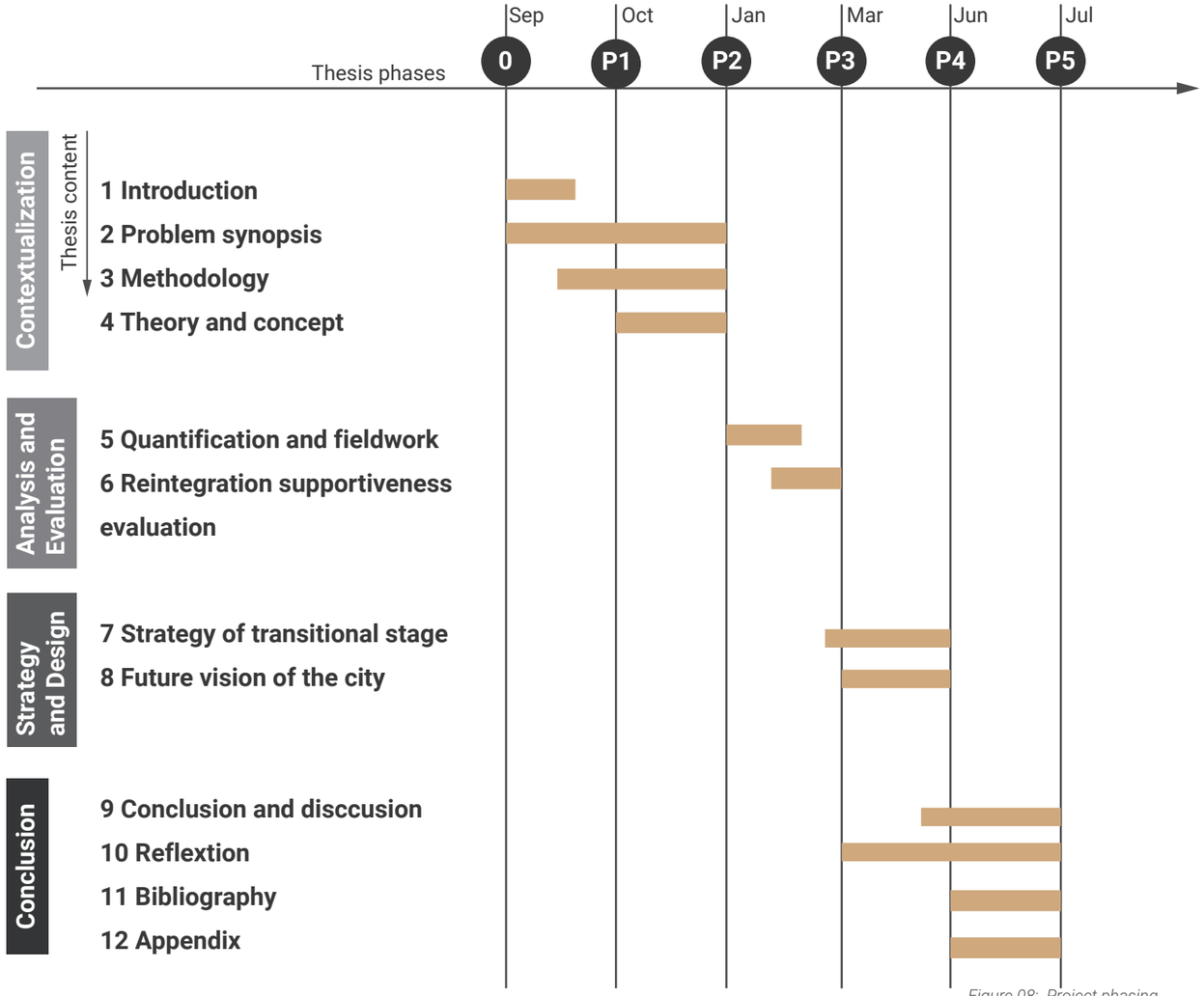

Figure 08: Project phasing
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4 Theory and concept

4.1 Theoretical framework

Different theories are interconnected, forming the theoretical framework of this thesis. The core theoretical logic of this thesis lies in understanding how social segregation contributes to the current living situation of the roofless, recognizing their needs, and addressing these needs within spatial contexts, ultimately enabling marginalized groups like the roofless to regain genuine citizenship.

Specifically, this thesis begins with social segregation, examining how the power of capital influences an individual's social status and how differing social statuses directly or indirectly shape spatial distribution within society. The long-term stigmatization of the roofless, along with the evolving and filtering of the housing market, further exacerbates their marginalized living conditions. These factors collectively weaken the citizenship of the roofless. In a context where marginalized groups are segregated, emphasizing housing justice becomes one of the key methods to strengthen the citizenship. However, it is equally important to recognize the necessity of repositioning citizenship in the era of globalization.

Since space use as a performance of citizenship empowerment, the reintegration of the roofless requires changes not only in societal awareness but in the physical environment. This involves identifying the needs of the roofless, spatializing these needs, and subsequently improving the spatial environment.

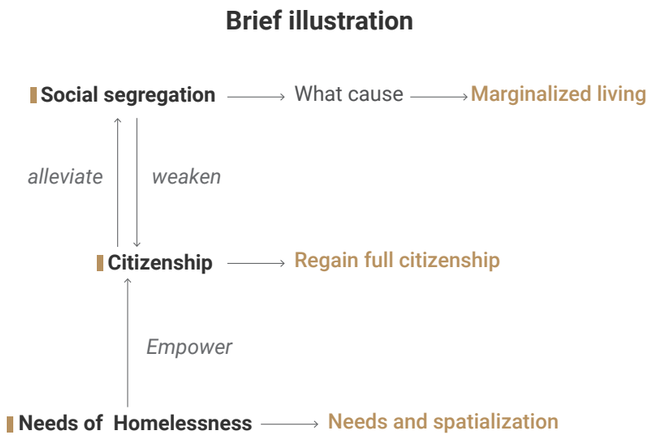

Figure 9: Brief illustration of theoretical framework
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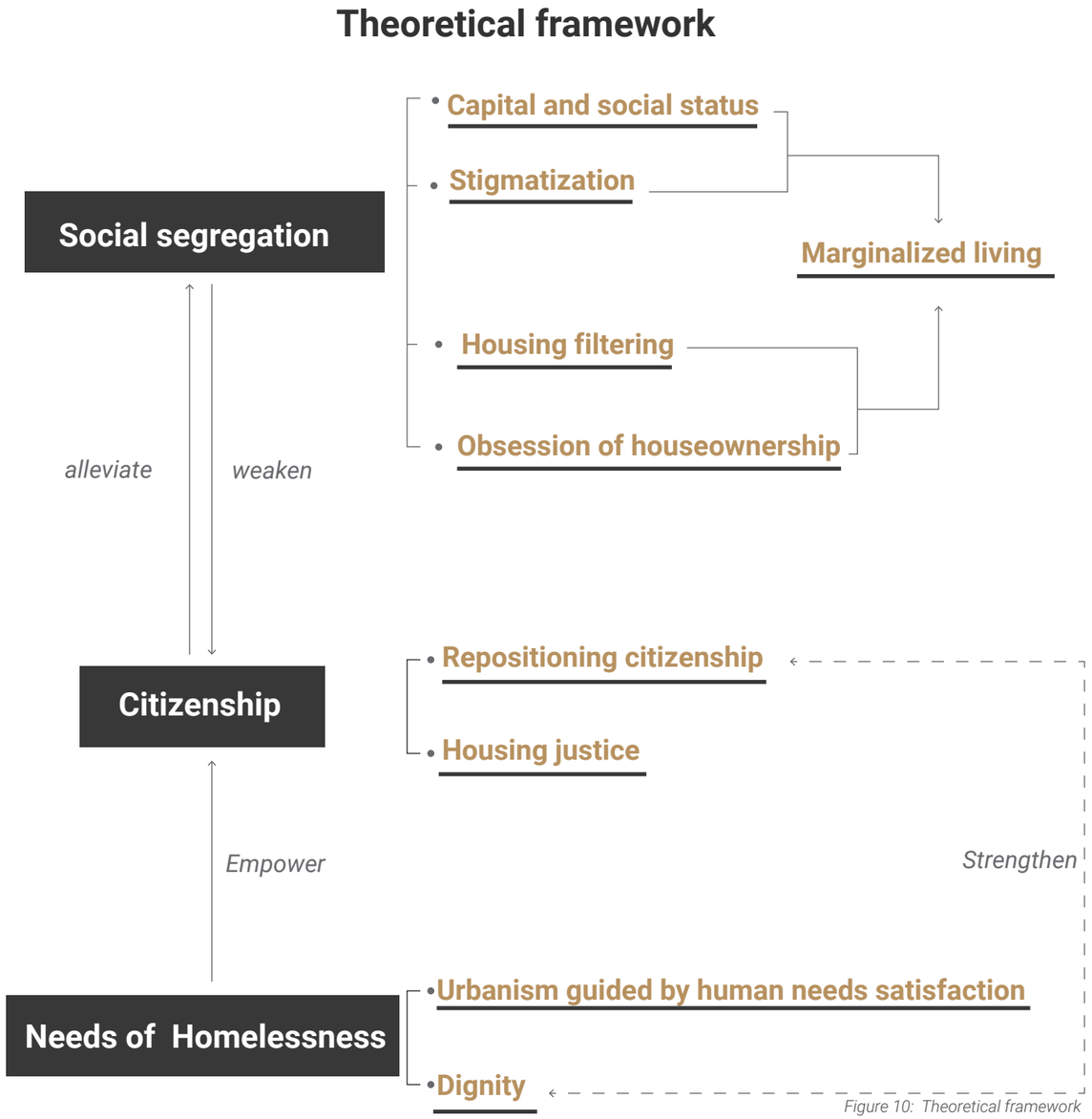

Figure 10: Theoretical framework
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4 Theory and concept

4.2 Positioning through theories

This chapter will elaborate on the theories included in the theoretical framework, as well as the specific content from relevant literature that supports and shapes the perspectives of this thesis. The focus of this chapter is to highlight the relationships between the theories and how they collectively build the value and position where this thesis stands.

Stigmatization

The stigma is associated with a stereotype, not with an individual's qualities (Goffman, 2009). When analyzing the issues of homelessness, based on Goffman's argument about the social constructionist nature of stigmatization, deviation considered in the category of the social construct reveals the society's "production" of homelessness by labeling people as homeless. For example, people often associate drug use or drunkenness with homelessness, but the reality is that not all homeless people fit this description, and not all drug users or drunken people are homelessness. Therefore, ***homelessness is not the cause of social exclusion, but rather it is the perception of others toward them and the societal reactions shaped by these perceptions*** (Kostrzyńska and Littlechild, 2025).

Capital and social status

In fact, stigma is not the only reason why homelessness becomes visibly socially segregated. The capital a person possesses determines the space and social network they hold in society. Pierre Bourdieu (1999) suggests that if people want to have the ability to dominate space in society, they must notably appropriate (materially or symbolically) the rare goods (public or private) distributed there, depending on the capital they possess. Capital makes it possible to keep undesirable persons and things at a distance, while at the same time bringing closer desirable persons and things (made desirable, among other things, by their richness in capital). This minimizes the necessary expense (notably in time) in appropriating them. However, the roofless, as a group of people who possess no capital, are forced to stay away from these rare goods. ***They are forced to stick with the most undesirable and least rare persons or goods. The lack of capital intensifies the experience of finitude: it chains one to a place*** (Bourdieu, 1999). ***This process of spatial homogenization among groups leads to stigmatized areas symbolically degrading their inhabitants, who, in turn, symbolically degrade the area.*** Since they lack the necessary resources to participate in the various social games, the only thing they share is their common excommunication (Bourdieu, 1999).

Housing filtering

However, stigmatization about homelessness and their poor capital of being forced to stick to a place has, to some extent, led to the perception that their marginalized living conditions are a natural occurrence. There is nothing natural about those neighbourhoods change (Change, 2018). It is the outcome of economic forces and of political decisions. Even the stigmatisation that often goes hand in hand with the social and ethnic transformation of housing estates is partly produced by state actors. ***The rationale for creating a worse reputation is that it widens the rent gap (opportunity for profit), which facilitates state-led gentrification focused on displacing the poor to make space for the middle class*** (Kallin and Slater, 2014). Those poor people then are filtered to places that are more likely to have bad reputation.

Obsession of houseownership

Reinforcing the deep aspirations of Flemish households to become homeowners is also a state-led consequence. As explained in the chapter 2.1.4 Affordable housing issue in BCR, during the post-war period, due to the lack of systemic planning in BCR, the city rapidly sprawled, and the emerging middle class progressively left old dwellings and moved to the green outskirts (Baldwin Hess, Tammaru, and Van Ham, 2018). This initially began as the Belgian governments unilaterally promoted homeownership since the end of the 19th century, and when housing policy was devolved to the Regions in the 1970s, the Flemish government didn't change that course of action. ***Governments have used a broad range of subsidy schemes in order to promote and sustain homeownership*** (De Decker, Kesteloot, & Newton, 2009). Essentially, from the perspective of residents, homeownership is the only sustainable housing alternative (De Decker, 2008).

Marginalized living

Based on the abovementioned theories, policy, social, and economic dimensions all contribute to the marginalized living of vulnerable groups such as the roofless. Henk Meert(2013) analyzes this issue from the supply side (which housing forms are offered on the housing market as a result of macro-social processes) and the demand side (which marginal housing forms are the places of residence for which people). The supply side leans towards policy-led and market-driven decisions, as previously discussed regarding the obsession with homeownership and housing filtering; while the demand side leans towards the social perception that marginalized housing is filled by marginalized groups of people, as previously mentioned regarding how the stigma and social status of vulnerable groups influence decisions.

Within the selection mechanisms that lead people to marginal housing forms, a distinction is often made between structural factors (or causes at the macro level) and individual factors (or causes at the micro level) (Avramov, 1995). However, ***in practice, people often focus only on individual factors such as the drug addiction and health problems of the roofless, while ignoring that they are always influenced by certain structural power relations in society (Meert, 2013). Individuals can never fully control their housing conditions, and they should not be stigmatized for housing situations that are beyond their control.***

One limitation in the discussion of social segregation is the lack of specification of scale. One reason for this is that some literature does not explicitly focus on a specific scale, such as Pierre Bourdieu's description of social status and space. Another reason is that

most of the selected studies focus on scale between the community and the city, and the arguments presented are not rendered invalid due to differences in scale. However, this does not imply that it is reasonable to overlook the varying impacts of stigma, housing filtering, social status, and the obsession with homeownership on homelessness across different scales. If the theoretical framework being discussed requires strict adherence to scale, it is essential to clearly define the scale at the outset.

Repositioning citizenship

Citizenship is traditionally understood as a legal status, usually determined by belonging to a nation, and implies inclusion as well as the possession of social, economic, and political rights (Isin and Turner, 2007). Although the roofless, who hold Belgian nationality, are legally considered citizens of Belgium, it is difficult to say that they fully enjoy their rights as citizens on a societal level. Their disadvantaged position in the urban power structure makes it challenging for them to access employment and housing.

Henri Lefebvre, in his book The Right to the City, clearly explains how citizenship shapes urban space: "the right to the city entails a continual and active process of appropriation (in the sense of use rather than ownership) of city spaces." This perspective aligns with Pierre Bourdieu's (1999) discussion in Site Effects, where he describes the social phenomenon that those without capital are forced to be stuck in one place. Vulnerable people like the roofless do not possess full citizenship rights because they lack access to the process of active appropriation. McCann also highlights that, in his interpretation of Lefebvre, ***the core of theorizing active urban citizenship is centrality. A city of centrality—offering access to information, truly broad participation and enfranchisement, unalienated labor, and the opportunity to live life to the fullest—is certainly a goal worth pursuing*** (McCann, 2002).

Housing justice

Based on Lefebvre's perspective, ***strengthening the centrality of marginalized people can most directly be achieved by actively possessing space in the city, which, in this context, translates to housing.*** Mironova categorizes the methods for maintaining housing justice into two main approaches: Defensive housing struggles and Expansionist struggles. Defensive housing struggles often involve actions against private threats, such as evictions, tenant harassment, and neglected building maintenance. These struggles typically occur at the apartment or building level and often serve as stepping stones toward broader defensive or expansionist campaigns (Mironova, 2019). On the other hand, expansionist struggles focus on legislative and policy initiatives, such as advocating for just cause eviction protection, the right to legal counsel in housing court, and stronger protections against tenant harassment. Mironova highlights New York's member-led homeless groups, including VOCAL-NY and Picture the Homeless, as examples central to these efforts. These groups emphasize that existing housing subsidy programs fail to create permanent housing that is affordable for individuals living below the federal poverty level. Using an example from the United States to echo with Brussels' affordable housing policies might seem somewhat far-fetched. However, the BCR faces a similar situation. According to De Decker's (2008) description of Brussels' housing policies, unlike countries such as Germany and the Netherlands, the Belgian government does not provide initial housing. Voluntary organizations and civil society have become crucial in assisting homeless individuals in finding housing. Moreover, ***the financial subsidies from the Brussels regional government are neither extensive enough in coverage nor sufficient in amount to meet the needs of low-income groups, especially the homeless. These subsidies often fail to keep pace with the rising prices of the private rental market, leaving many homeless individuals unable to afford suitable housing.***

Dignity

Following the loss of a home, maintaining dignity may become difficult for homeless persons (Seltser & Miller, 1993). The social stigma of homelessness and the degrading and dehumanizing conditions these individuals encounter may compromise their dignity (Seltser & Miller, 1993). Miller and Keys conducted a thematic content analysis of interviews with 24 homeless men and women to identify their perception of specific environmental events that validate and invalidate dignity. The results shows that eight types of events were found that undermine dignity, such as Poor Service, Arbitrary Rules and lack of storage space for belongings, inadequate lighting. Also, Fleury, Grenier, Sabetti, Bertrand, Clément, and Brochu conclude from their analysis about Met and unmet needs of homeless individuals at different stages of housing. ***Safety issues, in particular, posed a major barrier to real social integration among homeless individuals, including those recently integrated into permanent housing.*** The specific elements selected in the analysis phase will be further detailed in Chapter 6 Quantify Reintegration Friendliness.

Urbanism guided by human needs satisfaction

Based on Parallels between the main developments in human needs debates, urban features and the Human Scale Development model by Max-Neef (1992) and Definition of universal needs (adapted from Max-Neef, 1992), Cardoso, Sobhani and Meijers create a list of nine human needs to broader human-based urban perspective (Appendix 1). This list refines Max-Neef's model and argues for the urgency of interpreting cities from a human needs perspective. This thesis will adopt this list framework to categorize the aforementioned different needs, which will then guide the subsequent spatial analysis.

4 Theory and concept

4.3 Conceptual framework

Based on the theoretical framework, a conceptual framework has been developed to guide spatial design strategies and implementation, while connecting the ultimate goals of the thesis. This framework first identifies the current situation of social segregation experienced by Belgian roofless people, highlighting their living conditions as roofless individuals and the identity deficit they face. The question then arises: how can this transitional housing stage lead to the ultimate goal where the roofless are no longer roofless, but instead have stable, long-term housing and regain full citizenship, achieving social reintegration? This is where the intermediate stage is proposed.

This stage is inspired and adapted from Bourdieu's argument, "Struggles over space may also assume more collective forms, whether at the national level concerning housing policies, or at the local level, with regard to the construction and allocation of subsidized housing or the choices for public services." The stage mainly focuses on three aspects: stakeholder collaboration, housing strategy, and needs-based spatial improvement.

To ensure housing policies are effectively implemented for specific groups and subsidized housing is appropriately allocated, strategies for stakeholder collaboration must be proposed, particularly in the form of collaborative communication. Collaborative communication can be used to create an atmosphere of mutual support, thereby fostering voluntary compliance between partners (Mohr, Fisher, and Nevin, 1996). From a planning perspective, specific strategies for housing need to be proposed, exploring the possibilities of using different land uses and housing ownership types for transitional housing. Finally, neighborhoods spatial improvements should be driven by the needs of the roofless, ensuring that their requirements inform the development and improving of neighborhood spaces.

Mohr, J. J., Fisher, R. J., & Nevin, J. R. (1996). Collaborative communication in interfirm relationships: moderating effects of integration and control. Journal of marketing, 60(3), 103-115.

Analytical process

Conceptual framework

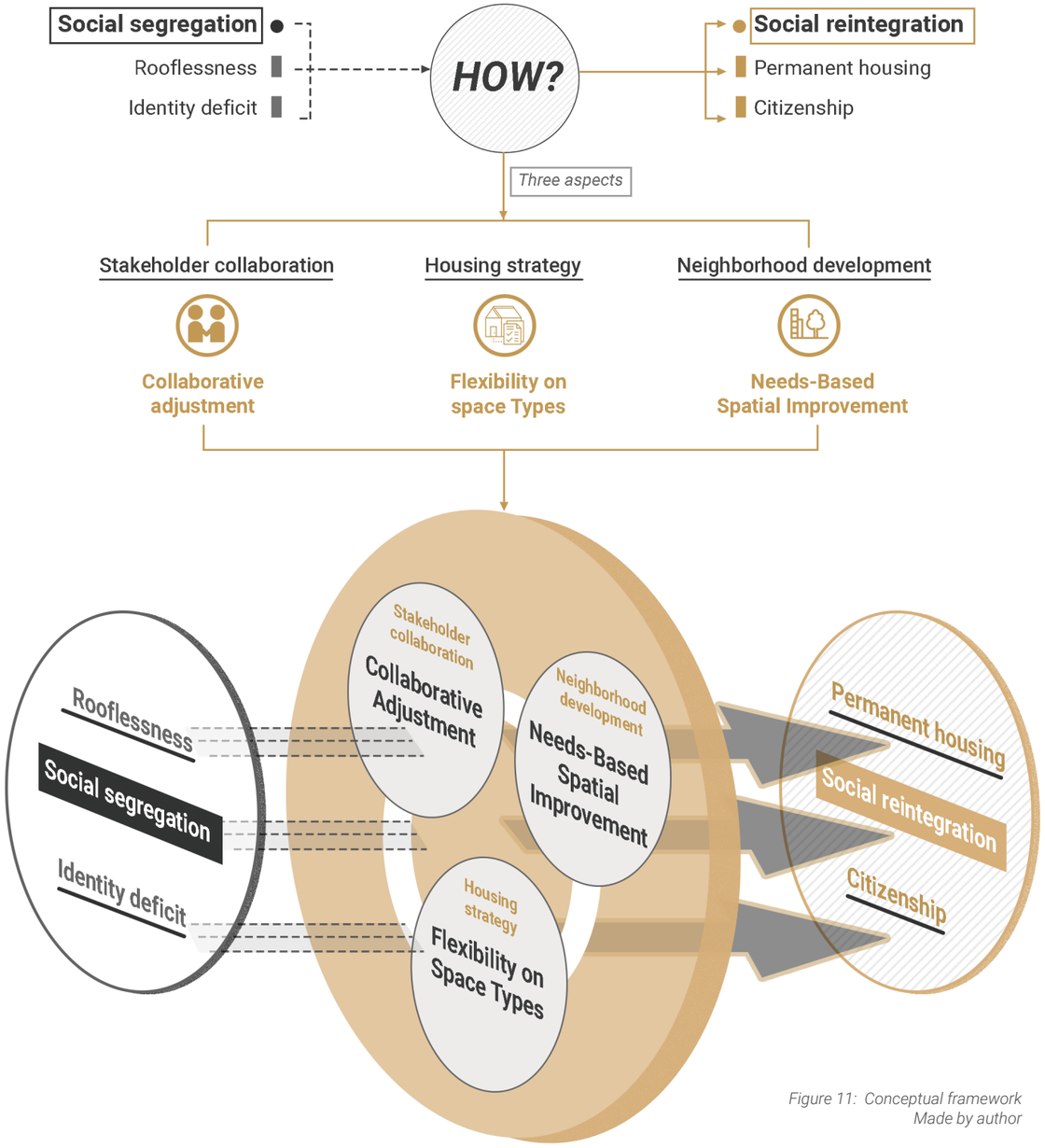

Figure 11: Conceptual framework
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Analysis and Evaluation

5 Quantification and fieldwork

5.1 Analytical framework

By analyzing multiple studies on the fundamental needs of rooflessness, relevant elements are identified and organized as the initial variables. These variables are then classified into categories based on Nine Human Needs(Cardoso, Sobhani, & Meijers, 2022)(see Appendix 1).

The classified variables serve as the main content of the questionnaire, which will be discussed with experts, the roofless population, and local residents for scoring, to understand their perspectives on the importance of different variables for roofless people to reintegrate into society. Subsequently, all questionnaires are collected, and a simple calculation is performed to determine the weight of each variable, which will later be used to assign weights in calculating the Index of Reintegration Supportiveness.

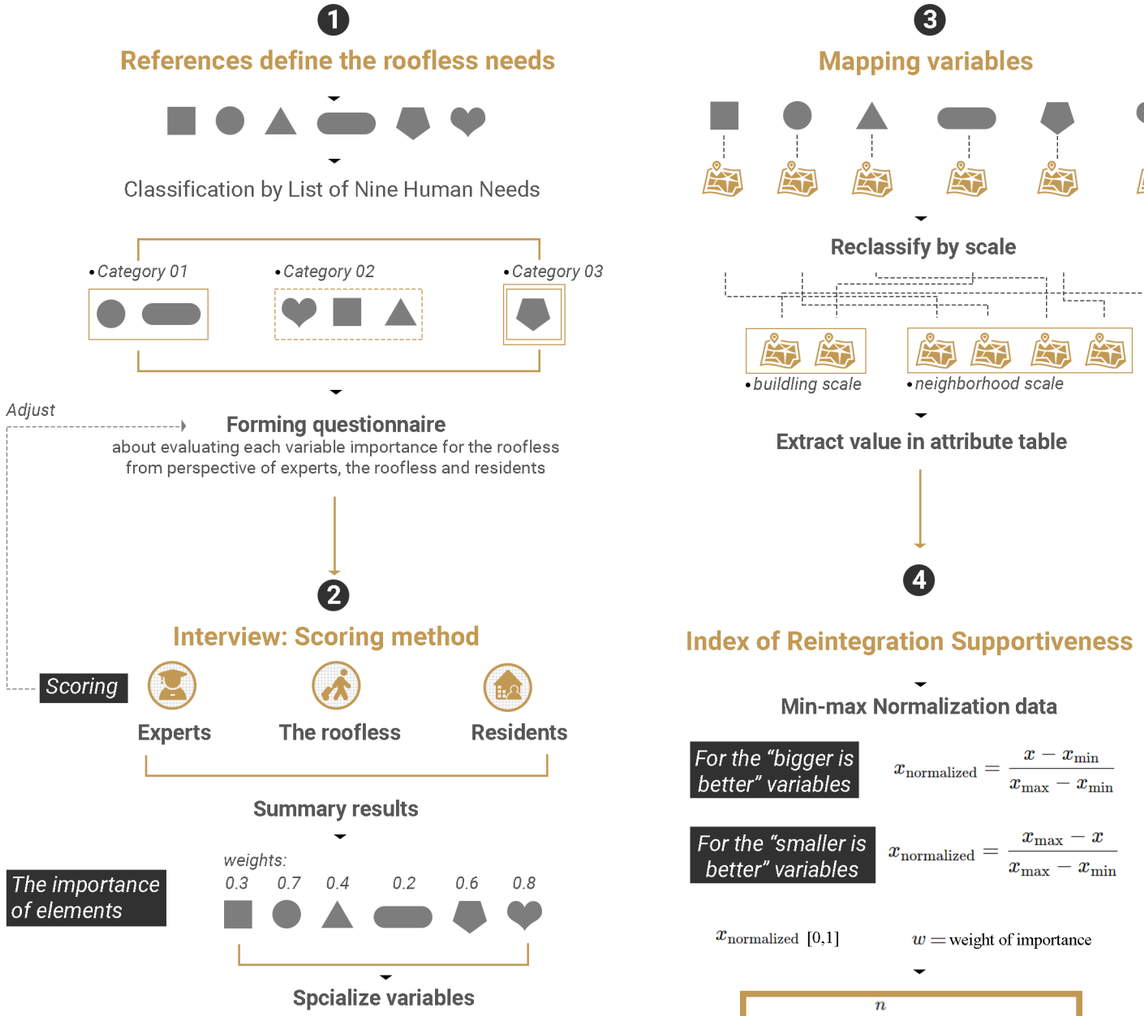

Figure 12: Analytical framework
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Subsequently, each variable is visualized to create a series of mappings. These mappings are divided into two scales: one at the neighborhood level, such as Regional accessibility of the territory by public transport (min), and the other at a smaller building scale, such as the locations of services and police stations.

To calculate the value for each neighborhood, the data for these variables is extracted and then normalized to ensure all values fall within the range of 0 to 1, with larger values indicating better reintegration supportiveness. Finally, the normalized values of all variables in each neighborhood are multiplied by their corresponding weights and summed up to produce the final index result. This value is then used to identify the locations requiring intervention, which will guide the subsequent strategy and design phases.

5 Quantification and fieldwork

5.2 Needs of homelessness

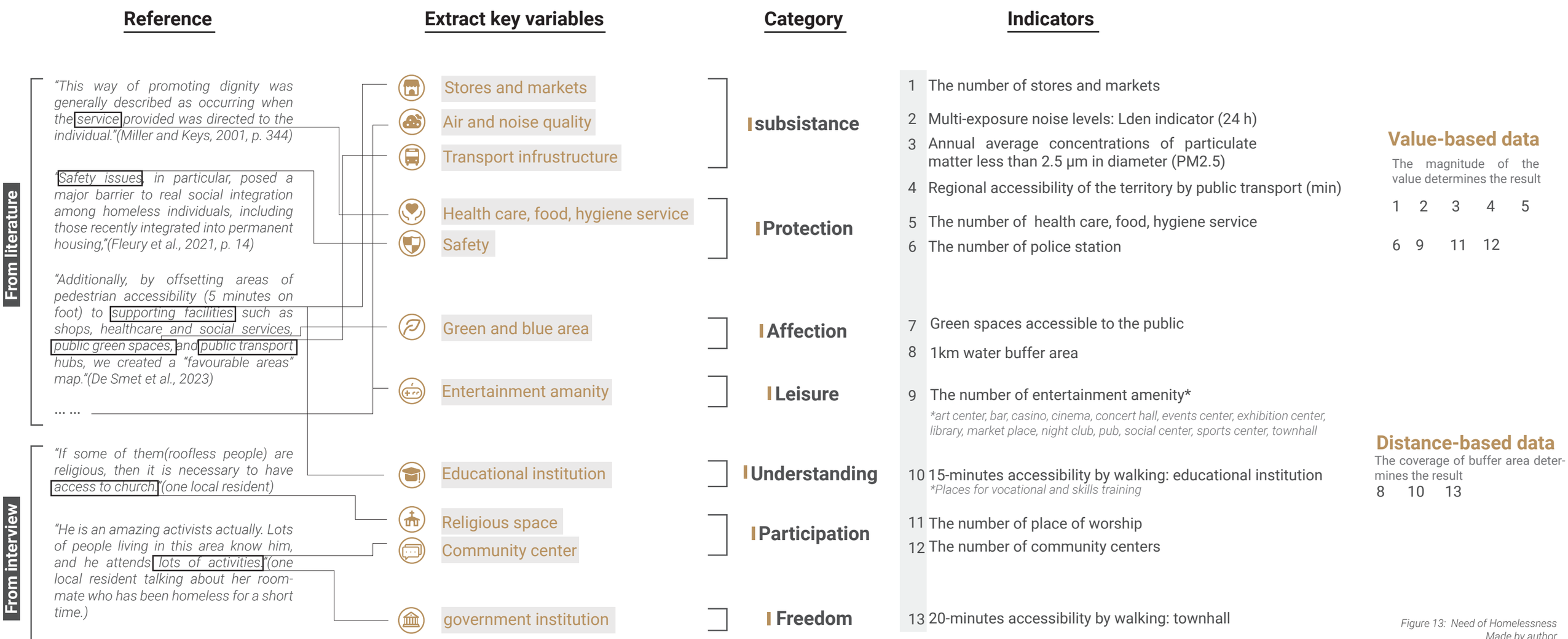

Figure 13: Need of Homelessness
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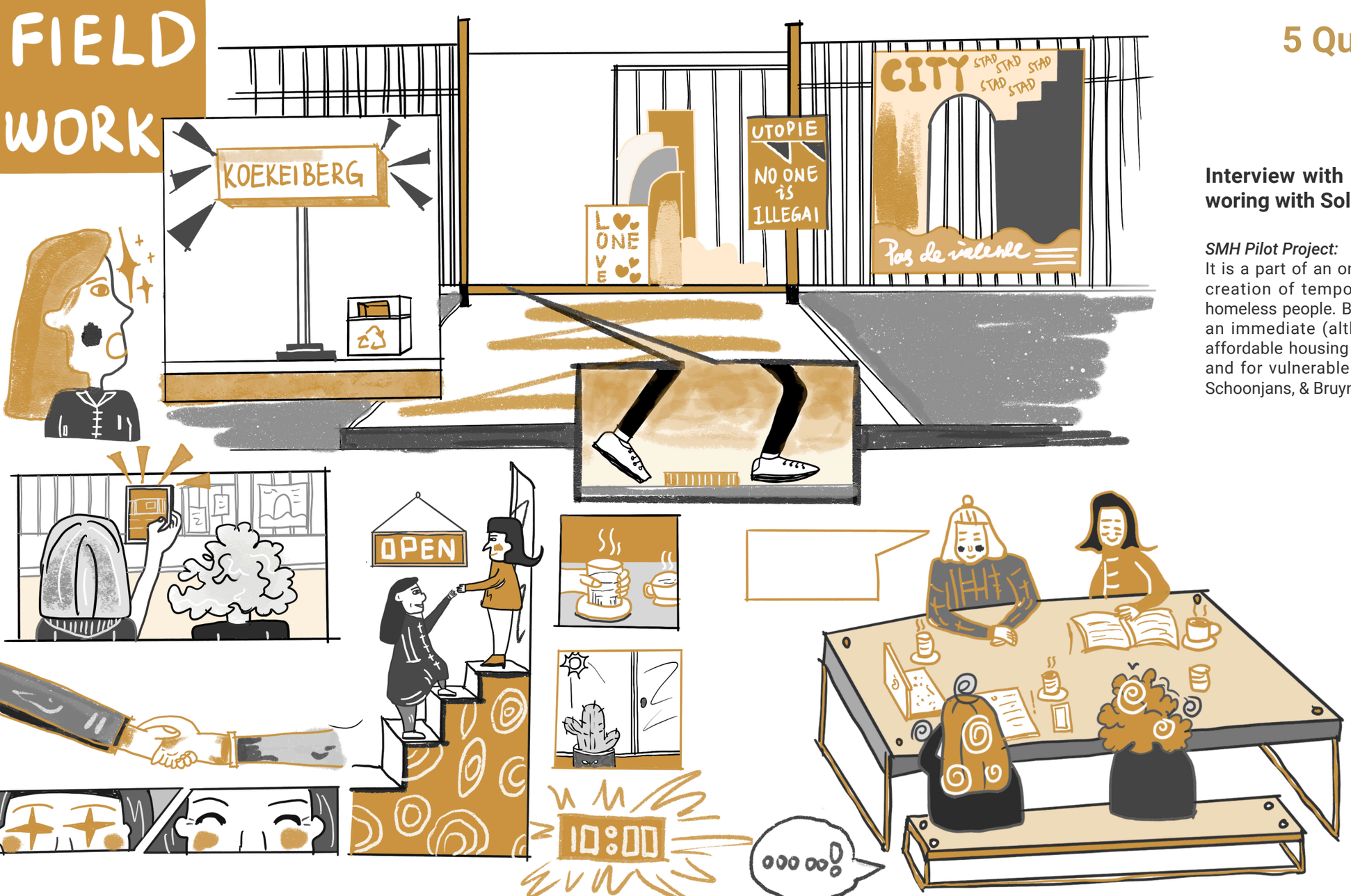
Interview with experts from NGO and KU Leuven who are woring with Solidary Mobile Housing Pilot Project in BCR

SMH Pilot Project:
It is a part of an ongoing participatory action research project for the co-creation of temporary housing on urban waiting spaces with and for homeless people. By using un(der)used spaces, this project aims to provide an immediate (although partial and short-term) answer to the current affordable housing crisis through the provision of temporary housing with and for vulnerable people in the Brussels-Capital Region(De Smet, Pak, Schoonjans, & Bruyneel, 2023).



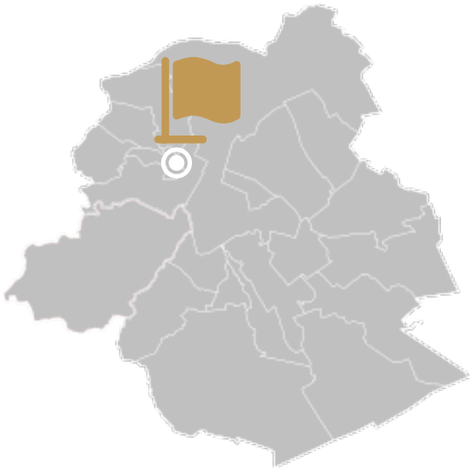


Figure 14: Comics about fieldwork 01
Made by author

The entrance of SMH Pilot Project site

Image 04: The entrance of SMH Pilot Project site
Taken by author

The communication hub module house of SMH Pilot Project

Image 05: The communication hub module house of SMH Pilot Project
Taken by author

5 Quantification and fieldwork

5.3 Field work

5.3.1 The process of fieldwork

① *I decided to go to Brussels Centraal Station to see if there were some roofless people stay in the station since it was still cold outside the station. At the same time, if there is any opportunity to interview some local residents, it would be also nice to talk to them.*

② *I started my conversation with a banana:*
"Hi, do you need some food?" I asked.
The roofless person: "Thank you..."
"How long have you been there?" I asked.
" Eight years..."
"Where are you from?" I asked.
" I'm from here..."
...
This is the whole conversation. I also found out that it is very difficult for them to describe things clearly. Also, because of the language barrier, my phone translator became the key intermediary.

③ *I also talked with several people randomly in and around the station about their opinion of needs of rooflessness reintegration.*

④ *I walked from centraal to the Midi(south station). There used to be lots of roofless people sleeping in and around the station.* ***What suprized me was that the government had built up fences around the station to avoid any rough sleeper in order to reduce the number of rooflessness in general.***

Figure 14: Comics about fieldwork 02
Made by author

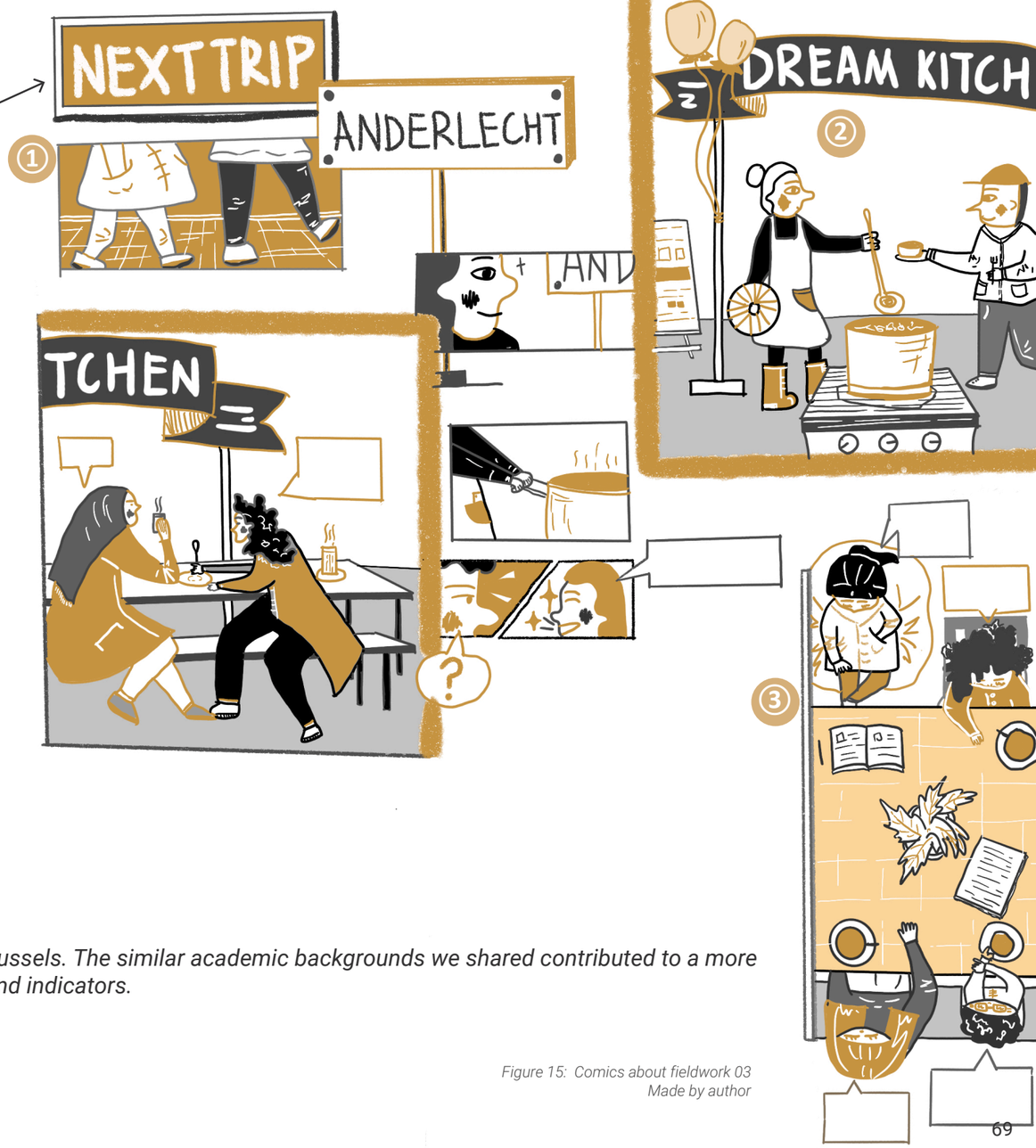
5 Quantification and fieldwork

5.3 Field work

5.3.1 The process of fieldwork

ANDERLECHT is a multicultural, working-class district in the southwest of Brussels, known for its affordable housing and industrial past. It faces socioeconomic challenges, including high unemployment and social inequality, but is also a focus of urban renewal and social initiatives.

DREAMKITCHEN is a solidarity-based community kitchen in Anderlecht, Brussels, run by the non-profit organization Cultureghem. It serves vegetarian meals made from surplus market produce on a pay-what-you-can basis, fostering social inclusion and sustainability.



① *Me and a friend we registerd at Dream Kitchen as one day volunteers, helping them in food preparation for free lunch and dish washes afterwards, in order to involve more closely in the daily life of local people from a more local perspective, and to communicate with them.*

② *Even though everyone can come and get free vegetarian food,* ***barely no homeless people would come and eat. People who come and join very often are mostly from the neighborhood, and they know each other very well.***

③ *The volunteers who prepare food with me were not only residents of the Anderlecht but also students studying in Brussels. The similar academic backgrounds we shared contributed to a more professional output during the interview process, which in turn served as a basis for adjusting the needs variables and indicators.*

Figure 15: Comics about fieldwork 03
Made by author

5 Quantification and fieldwork

5.3 Field work

5.3.1 The process of fieldwork

People gathering and having lunch together

Image 06: People gathering and having lunch together
Taken by author

"Sharing is caring"

Image 07: "Sharing is caring"
Taken by author

5 Quantification and fieldwork

5.3 Field work

5.3.2 Data proccessing

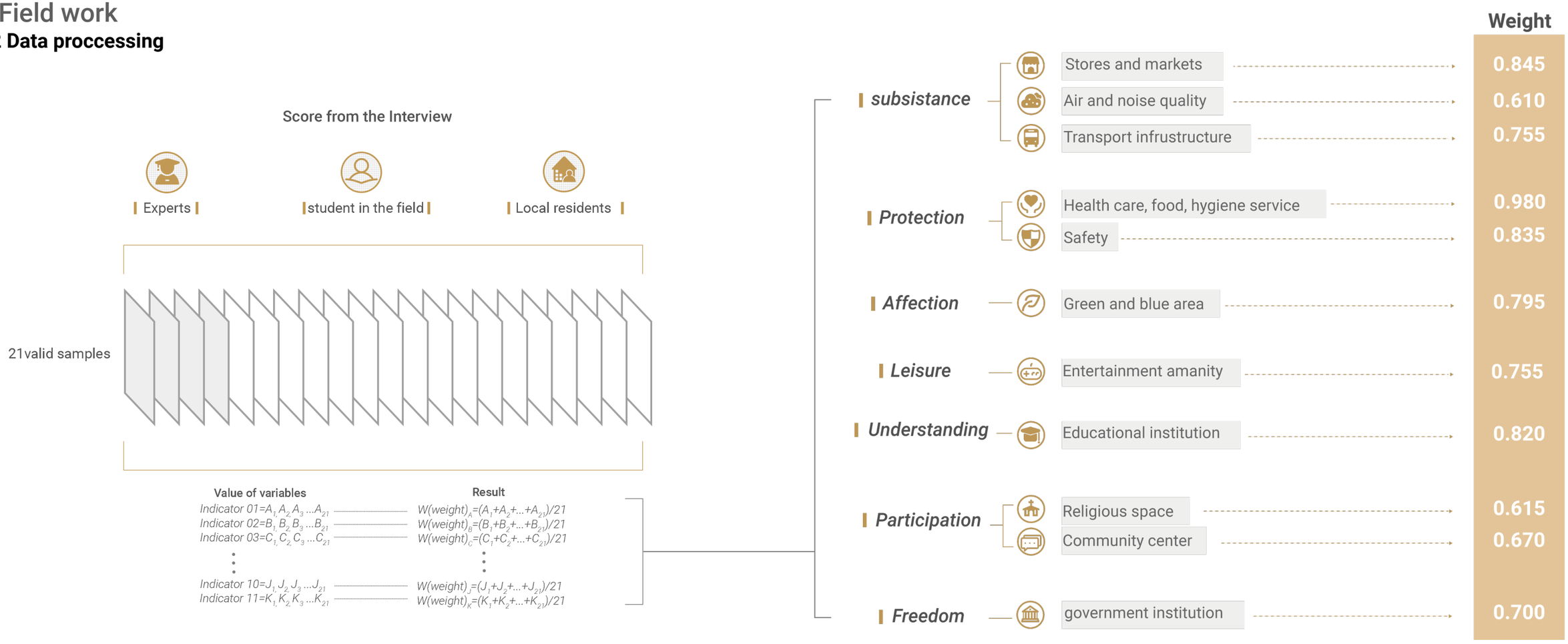


Figure 16: Data processing
Made by author

6 Reintegration supportiveness evaluation

6.1 Spatialize variables

Stores and markets

This figure illustrates the spatial distribution of stores and markets in the Brussels-Capital Region through two layers of analysis: The map on the left shows the number of stores and markets per neighborhood (Indicator01). It highlights a clear concentration of commercial resources in the city center, while many peripheral neighborhoods display significantly lower availability.

The map on the right uses a 200m × 200m grid density analysis, offering a more granular understanding of distribution patterns. High-density commercial clusters are observed in central areas, whereas outer zones mostly exhibit lower densities with a few scattered hotspots.

Indicator01(I_1)
The number of stores and markets by neighborhood

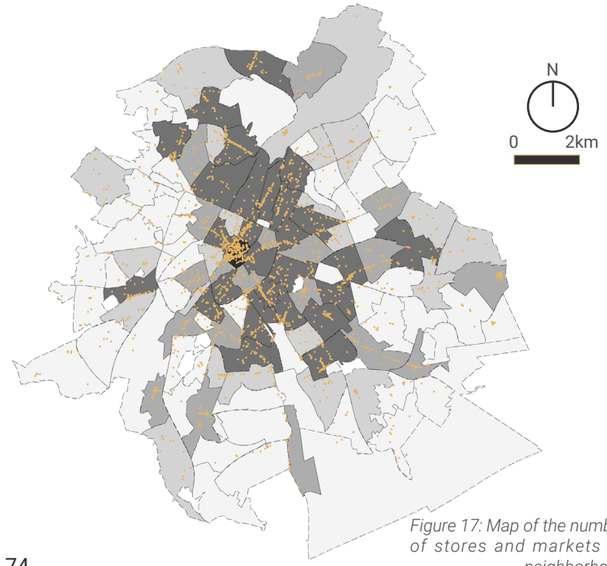
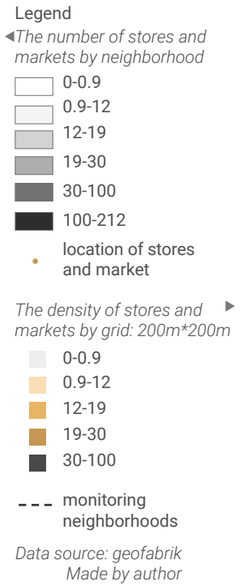


Figure 17: Map of the number of stores and markets by neighborhood



The density of stores and markets by grid: 200m*200m

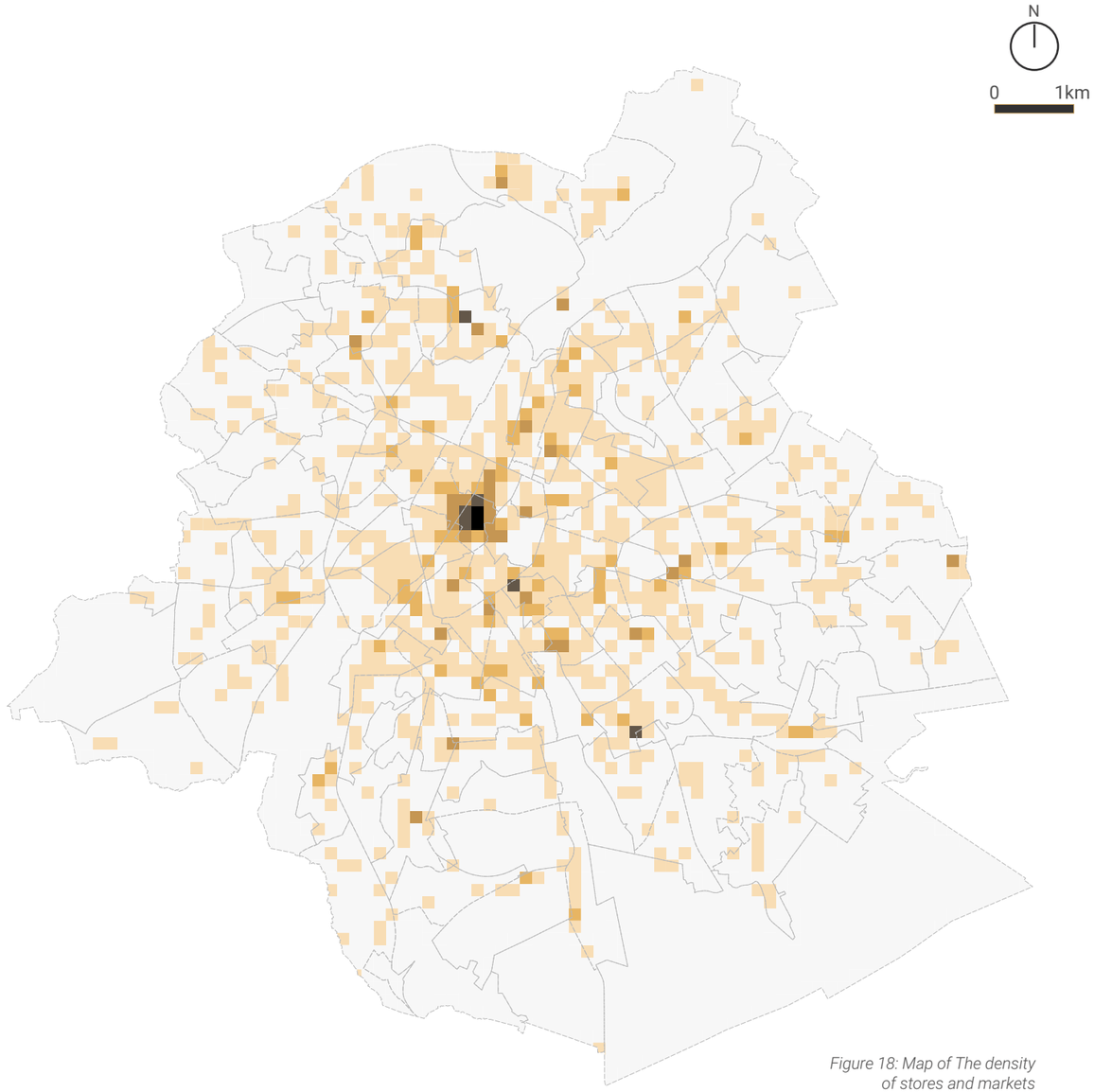


Figure 18: Map of The density of stores and markets

6 Reintegration supportiveness evaluation

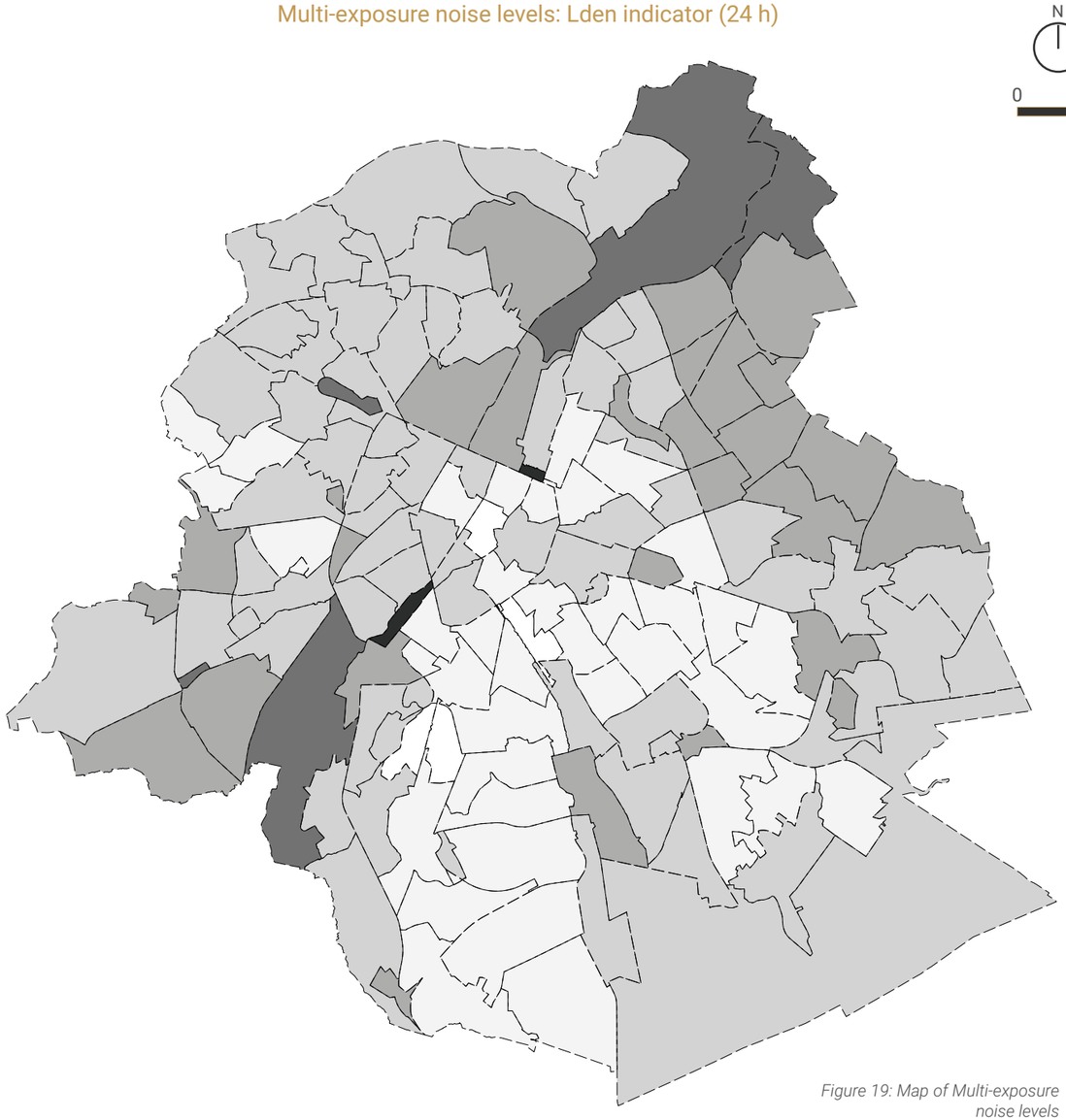
Air and noise quality

Multi-exposure noise levels: Lden indicator (24 h)

This measures multi-exposure noise levels, integrating daytime, evening, and nighttime noise with additional weight given to nighttime exposure due to its greater impact on health. The map shows higher noise levels in major transport corridors, mainly due to traffic, railways, industry and airport activity, while quieter zones are found in suburban and green areas.

According to European Environment Agency, there is a penalty of 10 dB(A) for night time noise (23.00-7.00) and an additional penalty of 5 dB(A) for evening noise (i.e. 19.00-23.00). In Belgium, including Brussels, this EU standard is followed, applying the same additional weight to night and evening noise.

Indicator02(I_2)
Multi-exposure noise levels: Lden indicator (24 h)



Data source: wijkmonitoring.brussels
Made by author

Figure 19: Map of Multi-exposure noise levels

6 Reintegration supportiveness evaluation

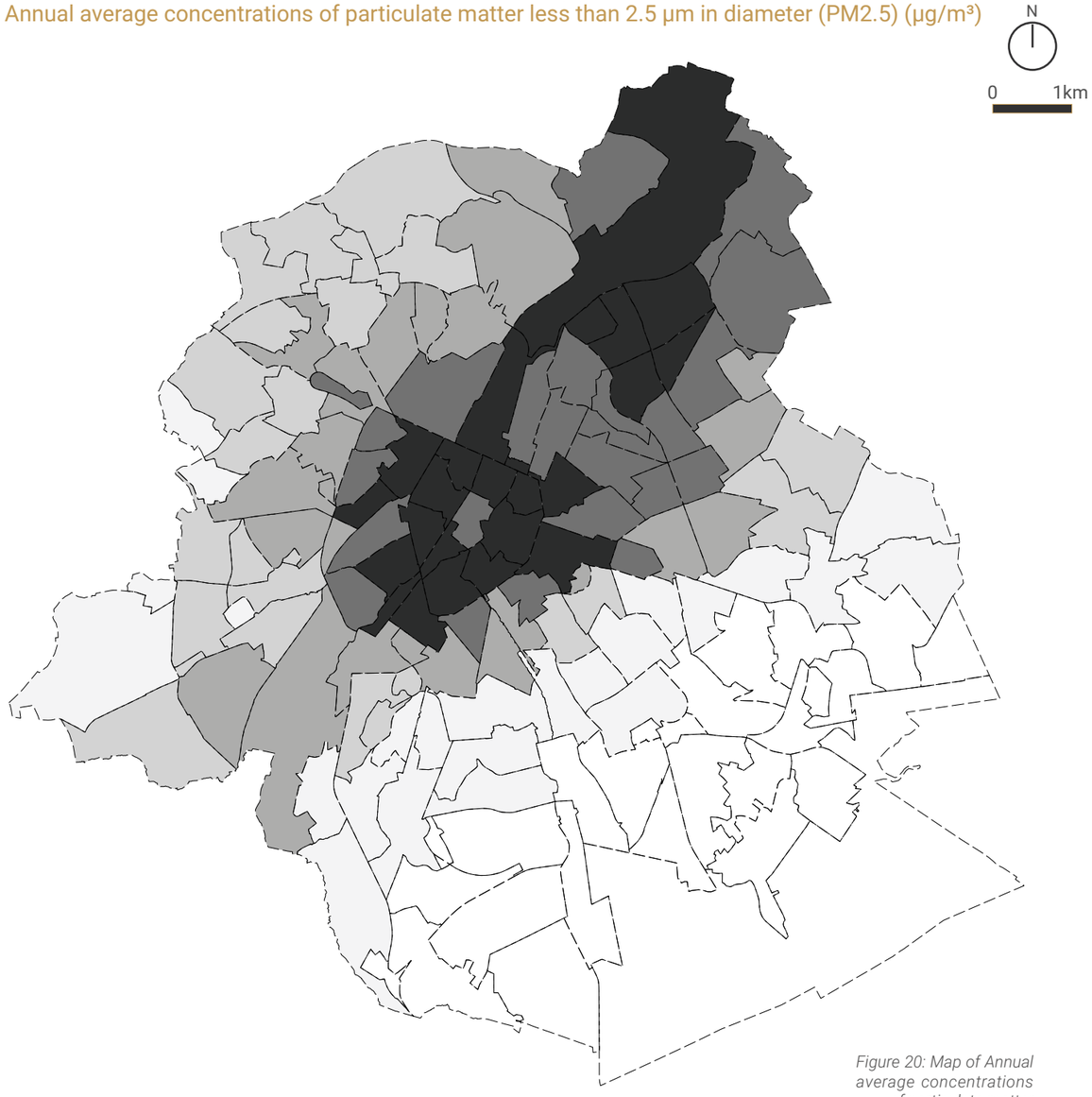
Air and noise quality

Annual average concentrations of particulate matter less than 2.5 μm in diameter (PM2.5) (μg/m³)

PM2.5 is a commonly used indicator to measure pollution levels in cities.The map illustrates a higher concentrations typically in high-traffic areas and dense urban zones.The darker areas on the map likely indicate regions with higher pollution levels, possibly influenced by car emissions, industrial activities, and limited air circulation.

Indicator03(I_3)

Annual average concentrations of particulate matter less than 2.5 μm in diameter (PM2.5) (μg/m³)



Data source: wijkmonitoring.brussels
Made by author

Figure 20: Map of Annual average concentrations of particulate matter

6 Reintegration supportiveness evaluation

Transport infrustructure

The Zones of public transportation accessbility indicates the accessibility zones by public transport according to the Regional Urban Planning Regulations (RRU). The Region is divided into 3 zones. Zone A is very well served, zone B is well served and zone C is moderately served. It can be illustrated that people living in suburban area with pale color in the map are more likely to possess cars because of the poor public transportation.

Regional accessibility of the territory by public transport (min) shows time taken to get to the city center by public transport. This data contains all means of transports such as tram, bus, metro and train.

Indicator04(I_4)
Regional accessibility of the territory by public transport (min)

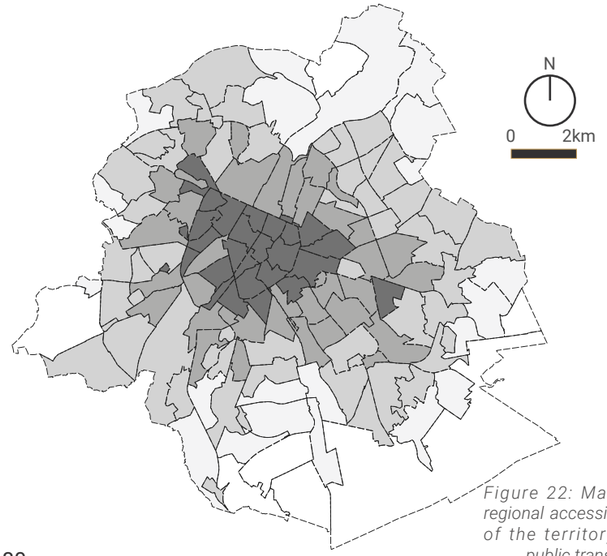


Figure 22: Map of regional accessibility of the territory by public transport

Legend

Regional accessibility of the territory by public transport (min)

- 26-31
- 31-35
- 35-41
- 41-47
- ≥47
- monitoring neighborhoods

Zones of public transportation accessbility

- zone A:very well served
- zone B:well served
- zone C:moderately served

Data source: geodata.environnement.brussels
Made by author

Zones of public transportation accessbility

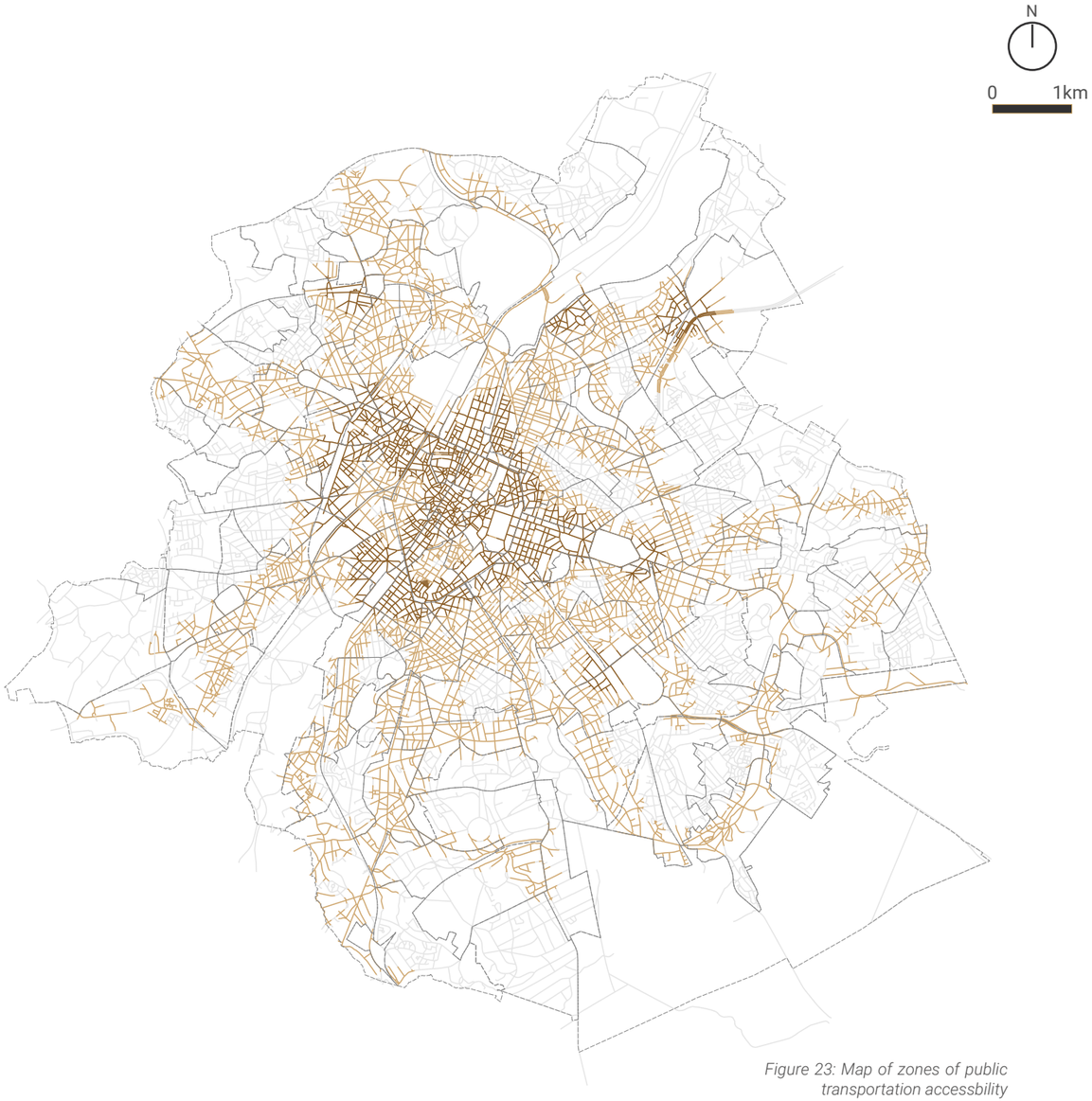


Figure 23: Map of zones of public transportation accessbility

6 Reintegration supportiveness evaluation

Services especially for homelssness

In the map, darker color indicate areas with a higher concentration of services, particularly in the city center and surrounding districts, since it is closer to principal train stations. Those locations were collected and mapped manually based on the information that Bruss' Help provided on their official website.

Indicator05(I_S)
The number of health care, food and hygine services for homelessness by neighborhood

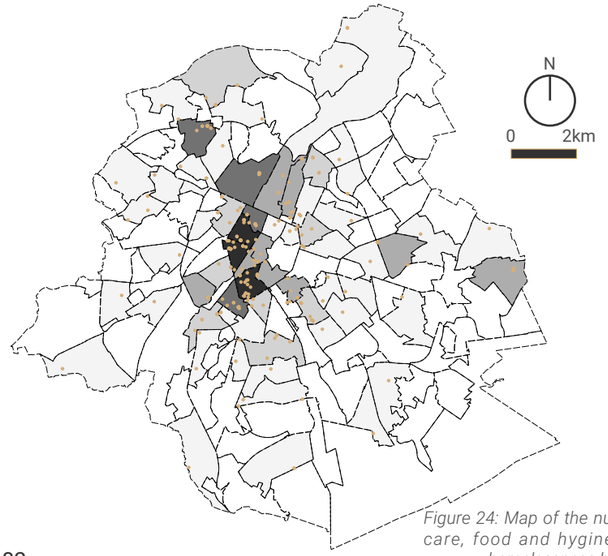


Figure 24: Map of the number of health care, food and hygine services for homelessness by neighborhood

Legend

The number of health care, food and hygine services for homelessness

- 1-3
- 4-6
- 7-10
- 11-15
- 16-23
- location of services

*The density of services by grid: 200m*200m*

- 0-0.9
- 1-1.9
- 2-4.9
- 5-7.9
- 8-9.9
- 10-16
- monitoring neighborhoods

Data source: Bruss' Help
Made by author

The density of health care, food and hygine services for homelessness by grid: 200m*200m

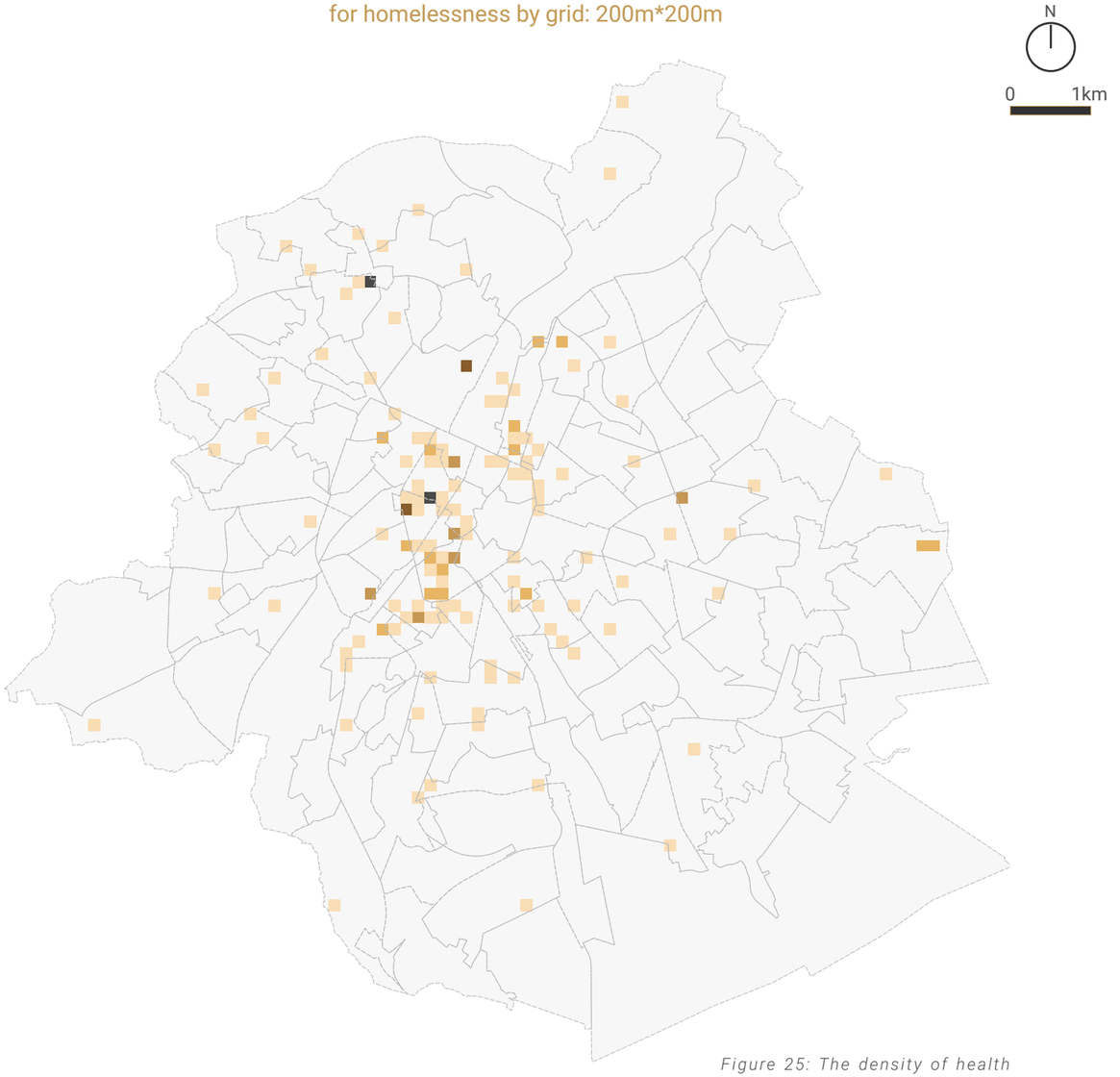


Figure 25: The density of health care, food and hygine services for homelessness by grid

6 Reintegration supportiveness evaluation

Safety

Not every neighborhood has a single police station, as the map illustrates, and some neighborhoods have multiple police stations. Compared to the Southeast, the northwestern region has more police stations.

Indicator06(I_6)
The number of police station by neighborhood

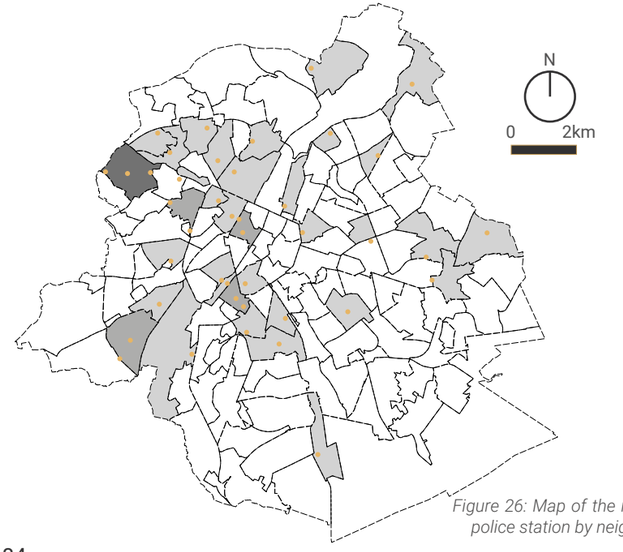


Figure 26: Map of the number of police station by neighborhood

Legend

The number of police station by neighborhoods

- 0
- 1
- 2
- ≥3
- location

*The density of police station by grid: 200m*200m*

- 0
- 1

- monitoring neighborhoods

Data source: geofabrik
Made by author

The density of police station by grid: 200m*200m

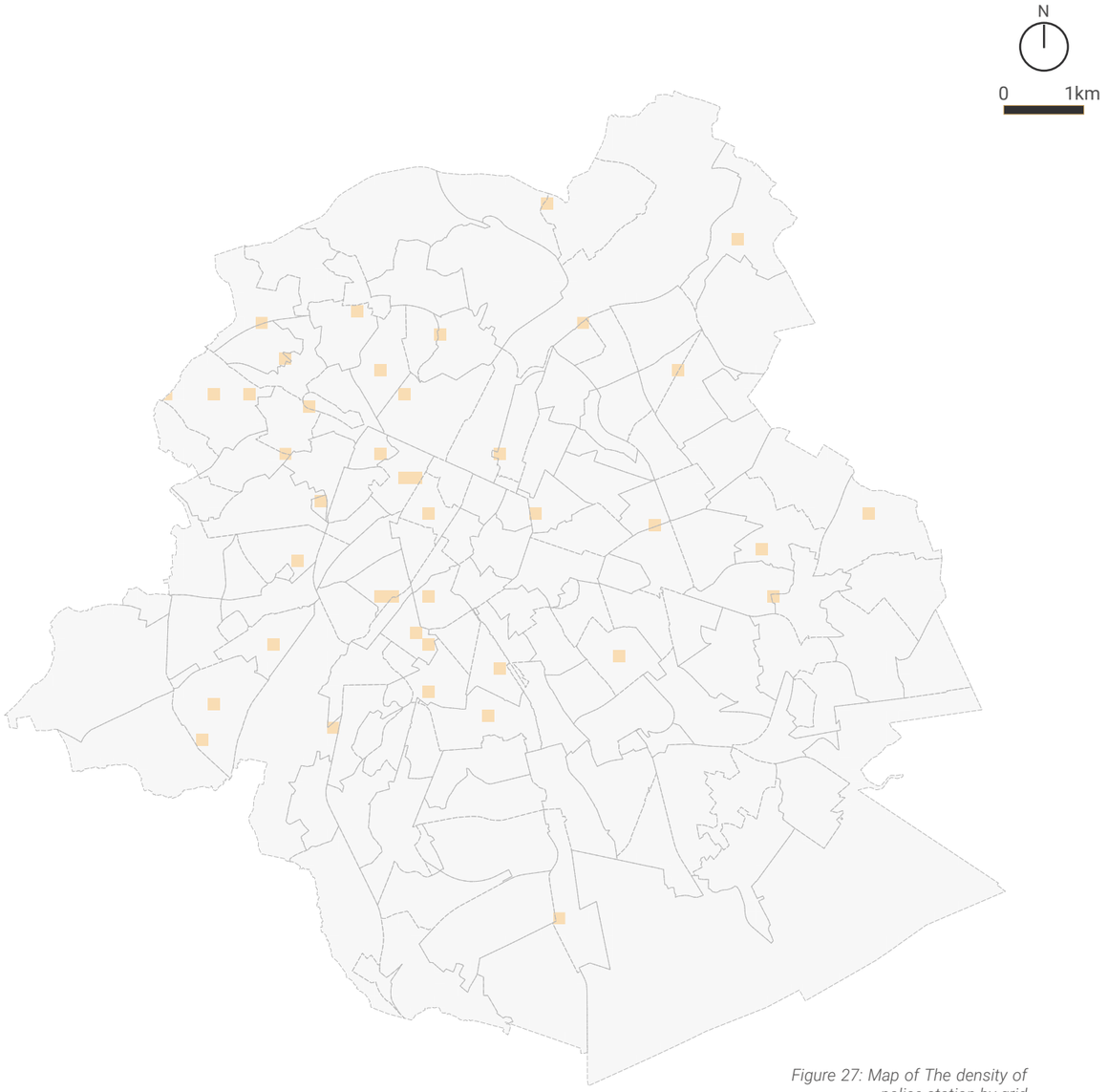


Figure 27: Map of The density of police station by grid

6 Reintegration supportiveness evaluation

Green and blue area

The map shows that central and some peripheral neighborhoods have better access to public green spaces(marked with hatching), while certain areas, particularly in the south and northwest, have lower accessibility. In the northwestern crescent area surrounding the Pentagon with white color is concentrated poor neighborhoods.

Indicator07(I_7)
Proportion of population publicly accessible to the green area (%)

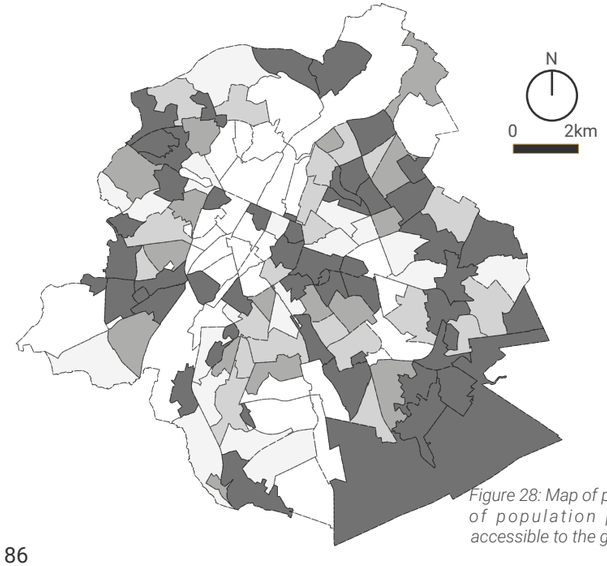


Figure 28: Map of proportion of population publicly accessible to the green area

Legend

roportion of population publicly accessible to the green area (%)

- ≤70
- 70-80
- 80-90
- 90-95
- 95-100

Public green area and Water accessible to people

- public green area
- Water
- monitoring neighborhoods

Data source: wijkmonitoring.brussels
Made by author

Public green area and water accessible to people

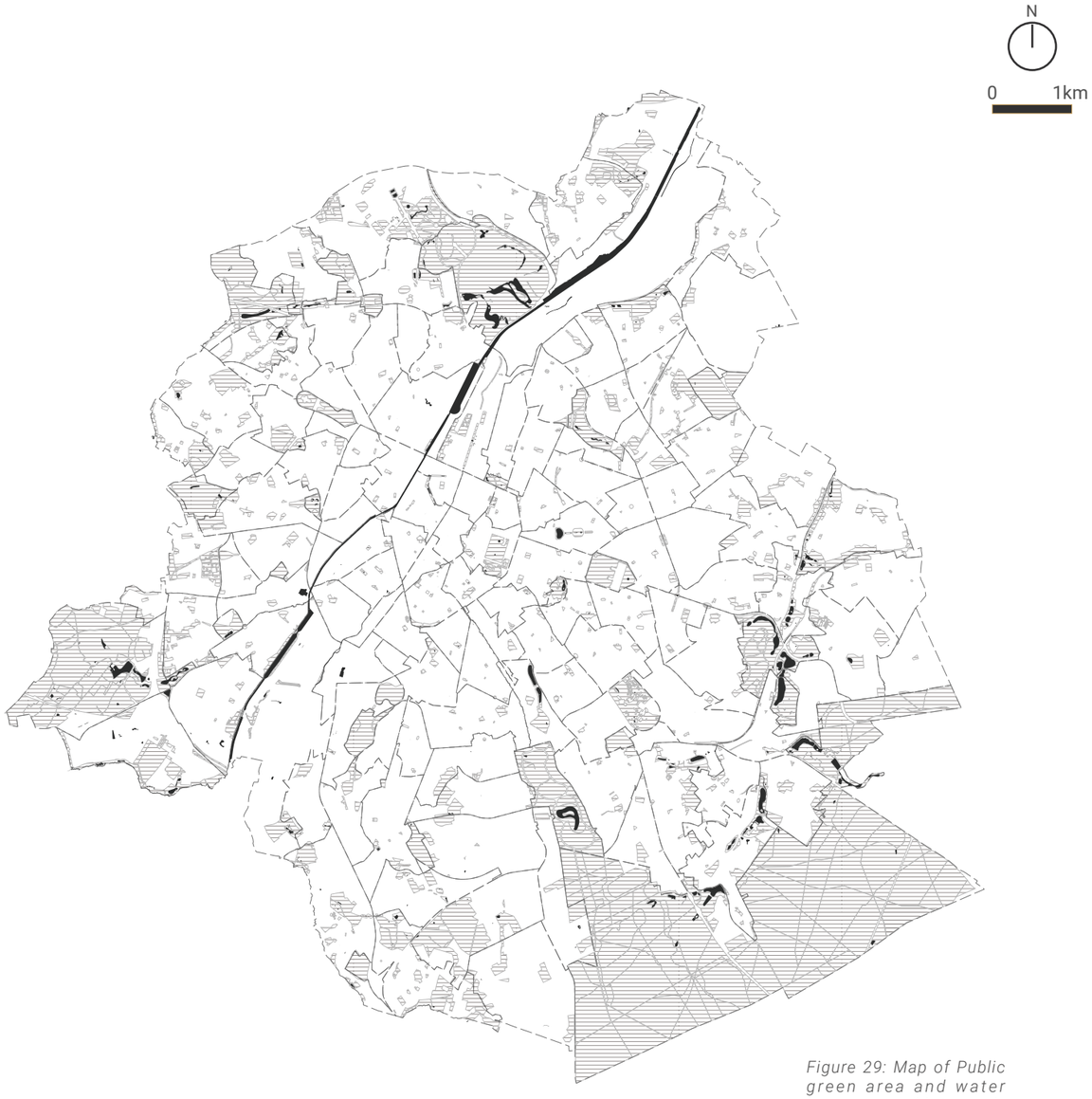


Figure 29: Map of Public green area and water accessible to people

6 Reintegration supportiveness evaluation

Green and blue area

Assuming an average walking speed of 1 km in approximately 10 to 15 minutes, a 1 km buffer zone was established. Areas within this zone indicate that people can access blue spaces within less than 10 to 15 minutes on foot. This does not only illustrate the accessibility to water, but also various public space that is often built along the waterfront.

Water accessible to people

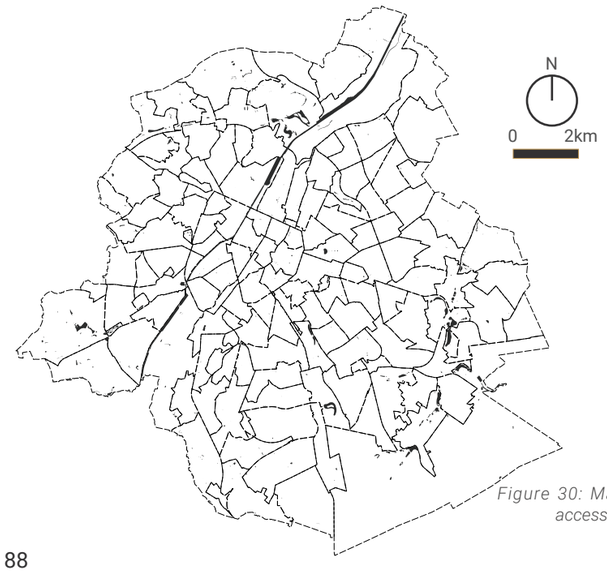


Figure 30: Map of Water accessible to people

Legend

roportion of population publicly accessible to the green area (%)

surface water

1km water buffer area

1km buffer zone

monitoring neighborhoods

Data source: Open Street Map
Made by author

Indicator08(I8)
1km water buffer area of water

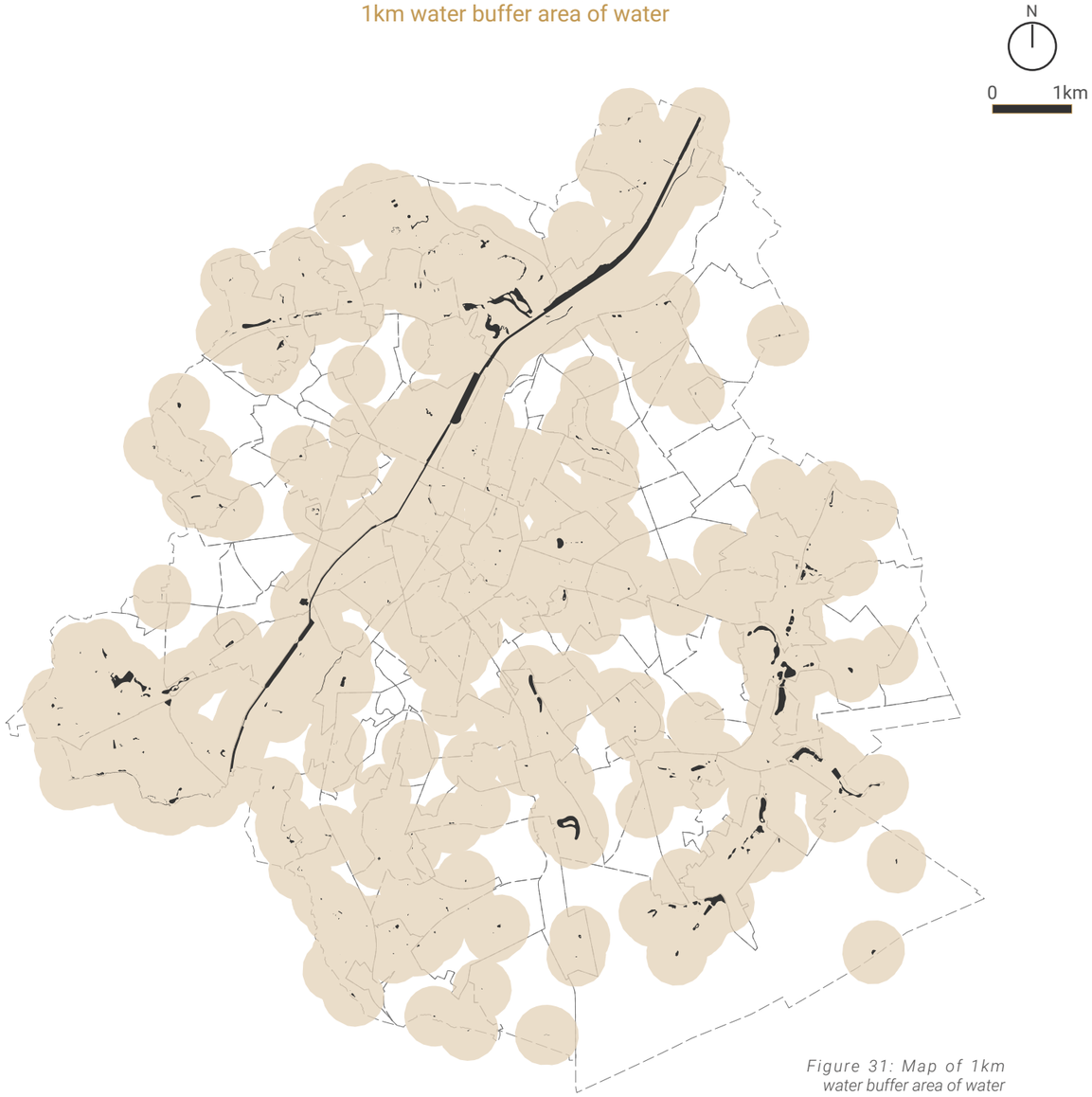


Figure 31: Map of 1km water buffer area of water

6 Reintegration supportiveness evaluation

Entertainment amenity

Entertainment amenities include bars, pubs, nightclubs, cinemas, theaters, art centers, music venues, and casinos, as classified by OpenStreetMap (OSM). The darker areas indicate districts with a higher concentration of these amenities, particularly in the city center and major commercial zones.

Indicator09(I_9)
The number of entertainment amenity by neighborhood

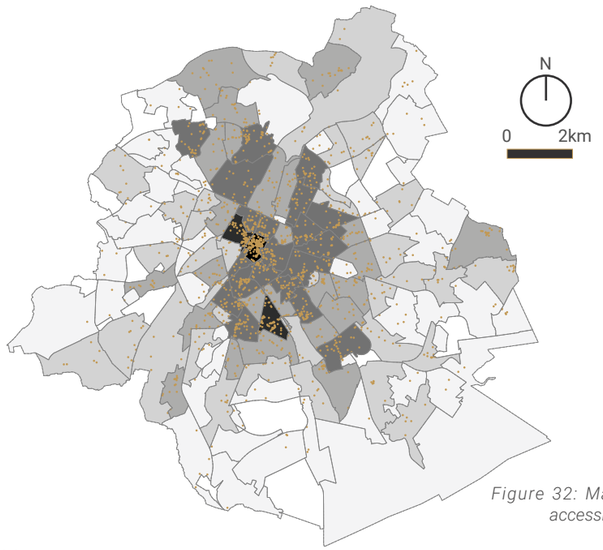


Figure 32: Map of water accessible to people

Legend

The number of entertainment amenity

- 0
- 1-5
- 5-10
- 10-20
- 20-50
- 50-146
- location

*The density of entertainment amenity by grid: 200m*200m*

- 0
- 1-3
- 3-10
- 10-15
- 15-25
- monitoring neighborhoods

Data source: geofabrik
Made by author

The density of entertainment amenity by grid: 200m*200m

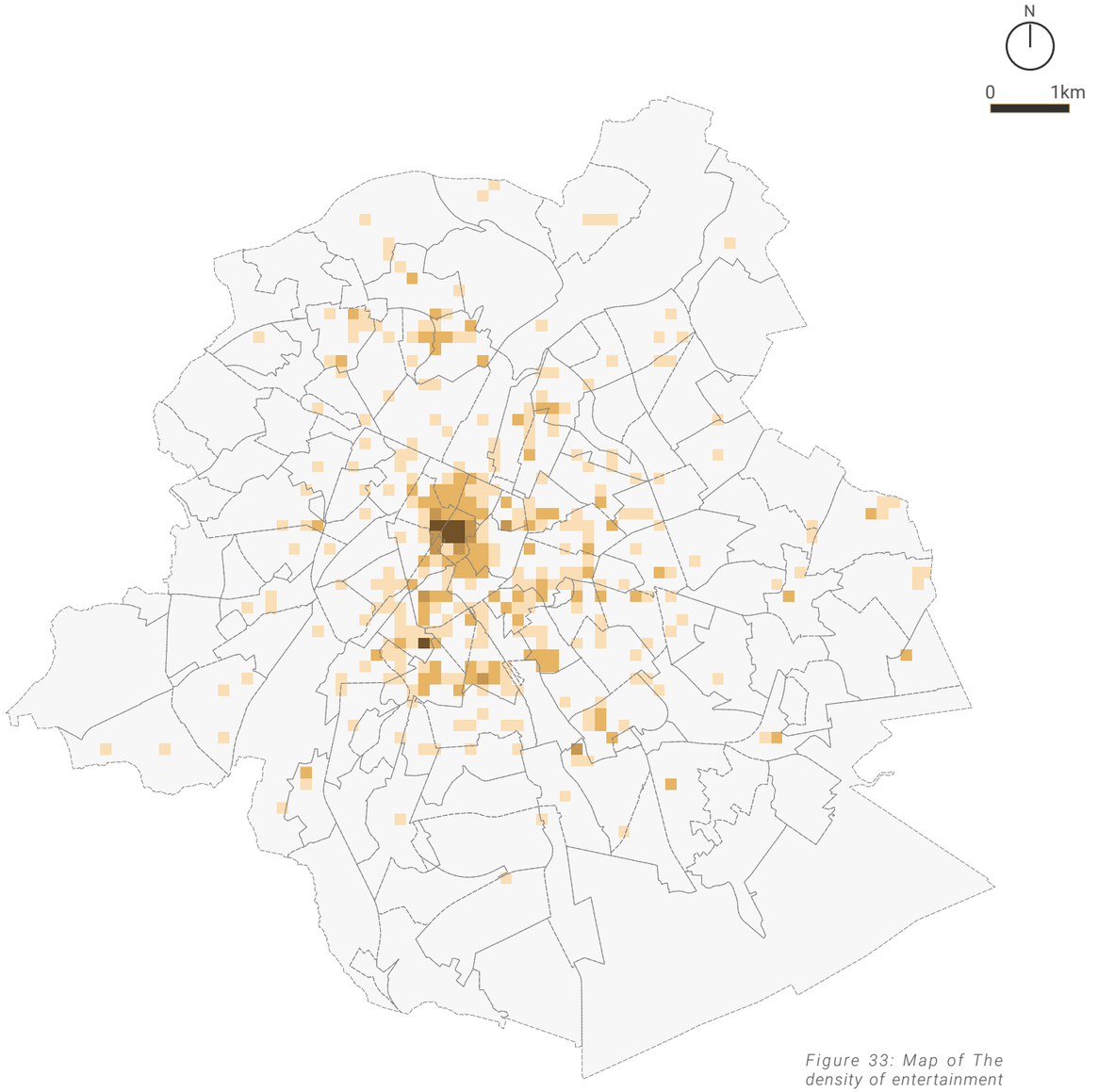


Figure 33: Map of The density of entertainment amenity by grid

6 Reintegration supportiveness evaluation

Education

The number of educational institution

This map illustrates the distribution of educational institutions. However, the term "educational institution" here does not refer to traditional schools. Instead, it represents locations identified by Bruss' Help as NGOs that offer opportunities for skill-training, language learning, and the regaining of basic rights education. These institutions typically do not provide educational services in isolation, but rather combine them with other forms of support—such as hygiene facilities and temporary shelters.

Indicator10(I_{10})
15-minutes accessibility by walking: based on road network

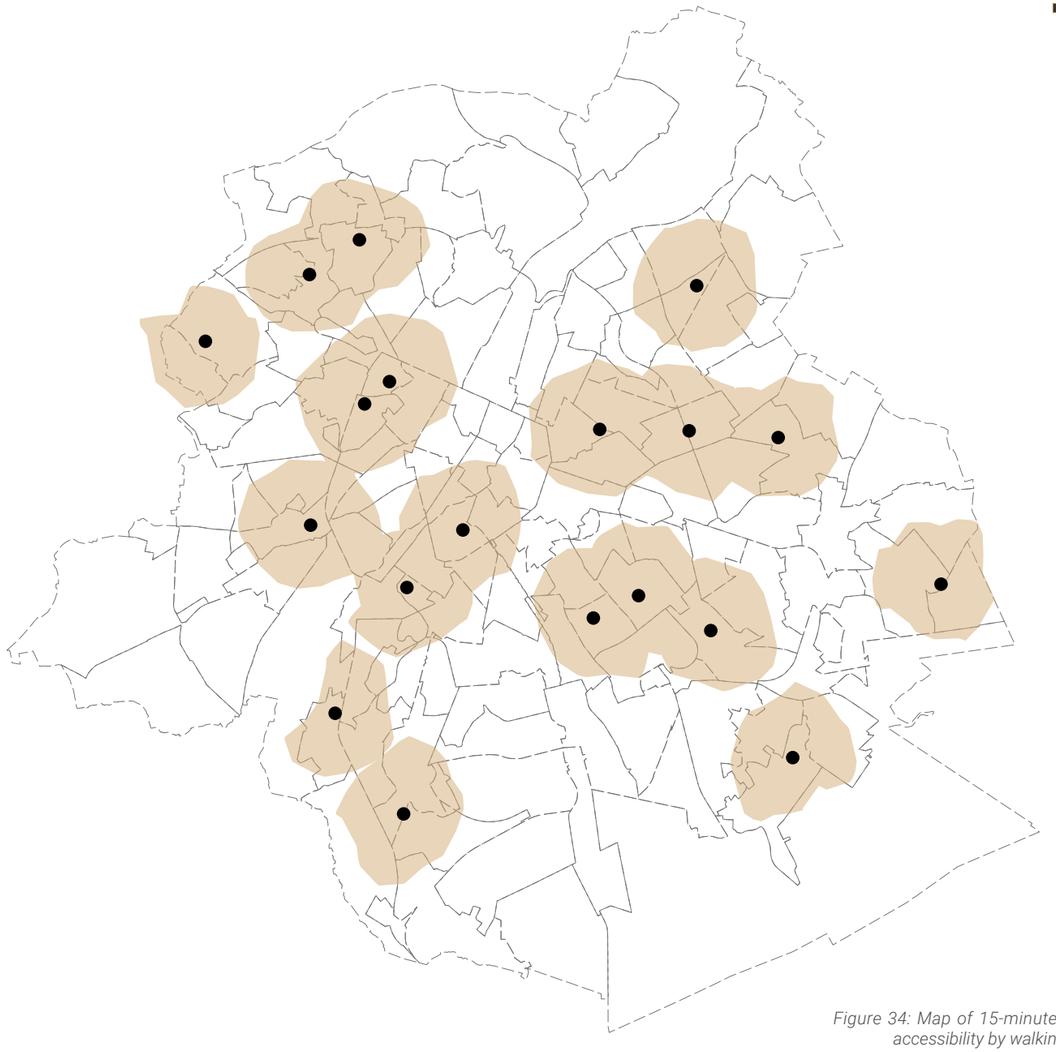


Figure 34: Map of 15-minutes accessibility by walking

6 Reintegration supportiveness evaluation

Religious space

The place of worship

This map marks all places of worship within the BCR. The data is sourced from polygon datasets provided by Geofabrik, which classify land use across the city. To facilitate visualization and spatial calculations, the polygon data was converted into point data by extracting the centroid of each worship site polygon. As shown in Indicator 11 (I11), this process yielded a point-based dataset that enabled the calculation of both the number of worship places per neighborhood and their spatial density.

Indicator11(I_{11})
The number of worship place by neighborhood

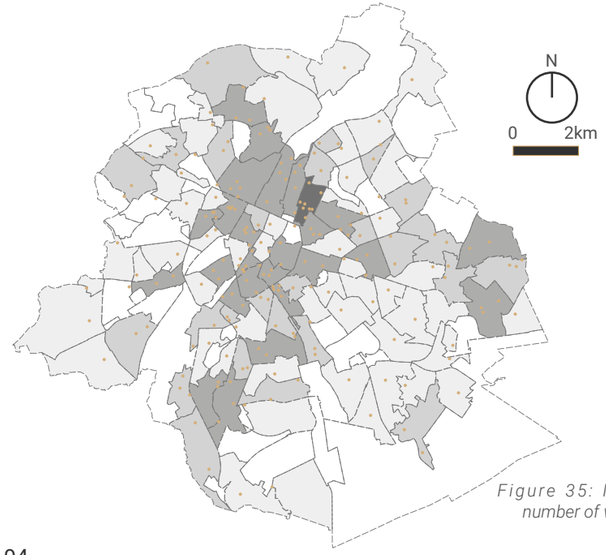


Figure 35: Map of the number of worship place

Legend

◂ The number of entertainment amenity by neighborhood

- 0
- 1
- 2-3
- 4-10
- 11-30
- ≥31
- location

The density of the ▸ place of worship

- 0
- 1
- 2-3
- 3-4
- monitoring neighborhoods

Data source: geofabrik
Made by author

The density of the place of worship by grid: 200m*200m

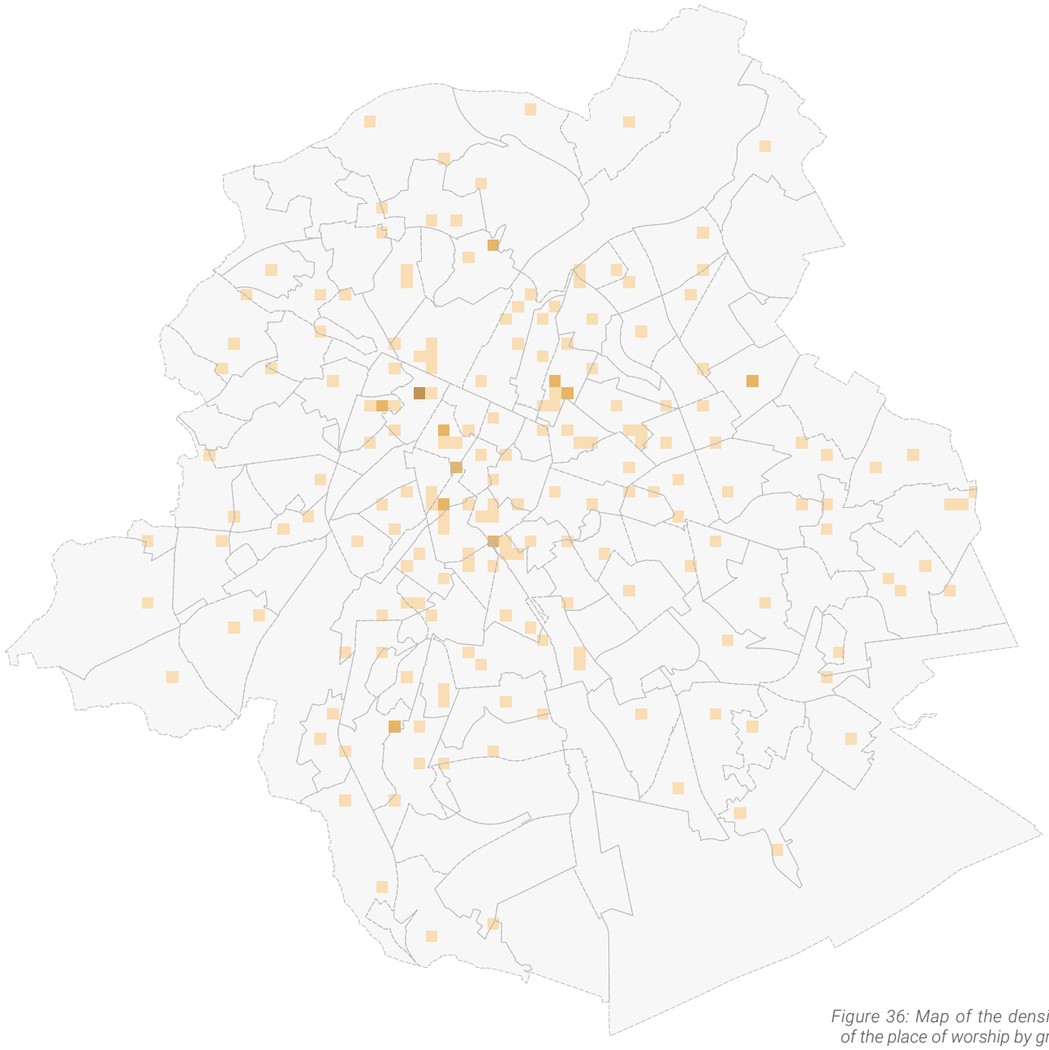


Figure 36: Map of the density of the place of worship by grid

6 Reintegration supportiveness evaluation

Community center

The number of community center

Ideally, every neighborhood should have at least one community center. However, this is far from the reality. The city center hosts a dominant number of community centers, which suggests that these areas offer a greater variety of community activities, higher levels of social vitality, and generally higher population densities. In contrast, the peri-urban areas tend to have fewer community centers. This is partly due to the large areas of land dedicated to transportation infrastructure, industrial zones, and nature reserves. Beyond that, these areas are often occupied by wealthier neighborhoods, where population density is lower and the demand for community centers tends to be relatively low.

Indicator12(I_{12})
The number of community center by neighborhood

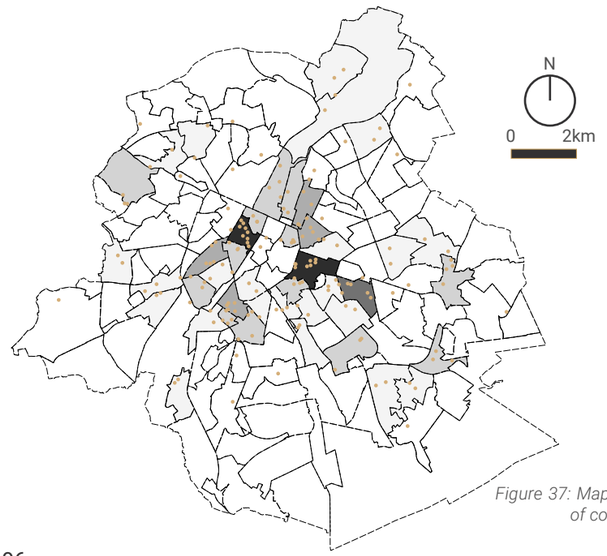


Figure 37: Map of the number of community center

Legend

The number of community center by neighborhood

- 0-1
- 2-3
- 4-5
- 4-6
- 7-9
- ≥10
- location

*The density of community center by grid: 200m*200m*

- 0
- 1-2
- 2-3
- 3-4
- monitoring neighborhoods

Data source: geofabrik
Made by author

The density of community center by grid: 200m*200m

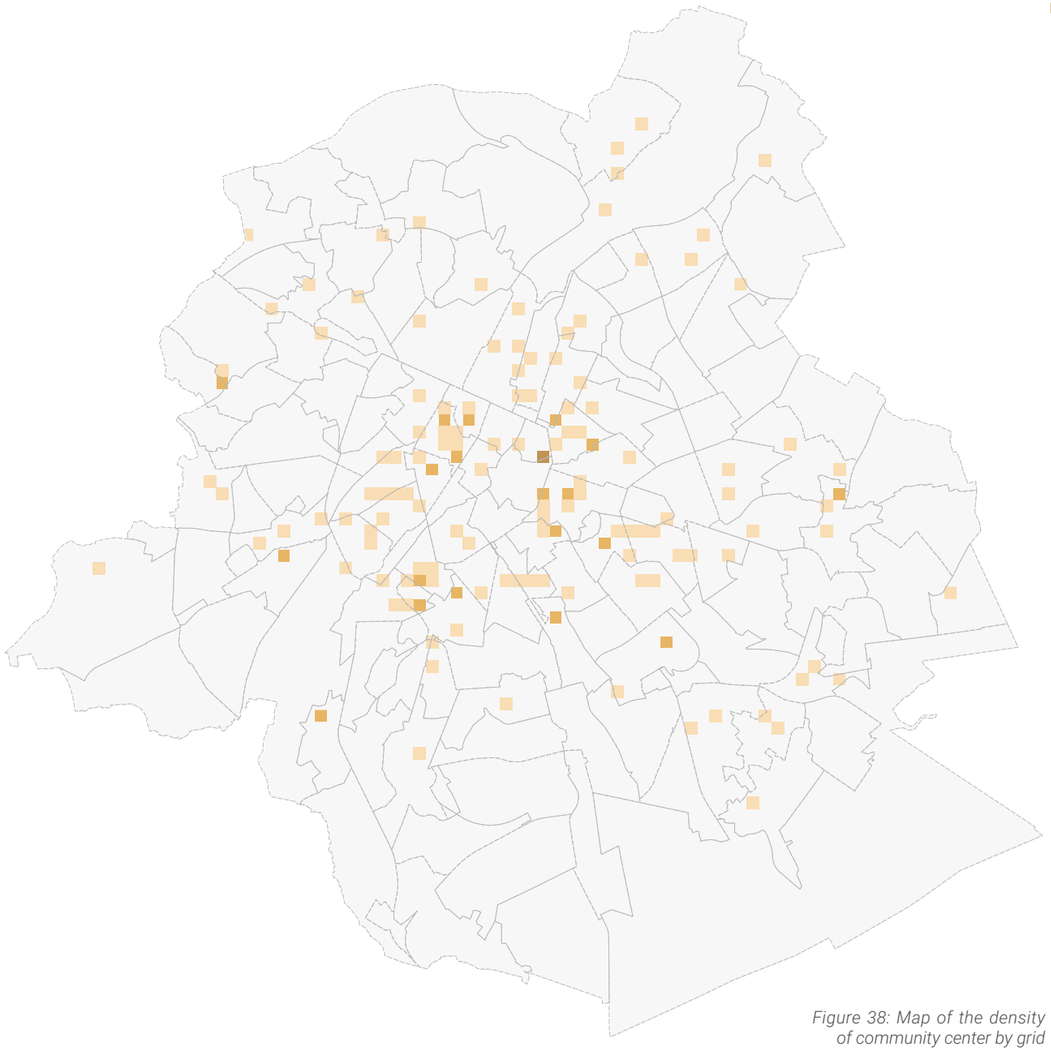


Figure 38: Map of the density of community center by grid

6 Reintegration supportiveness evaluation

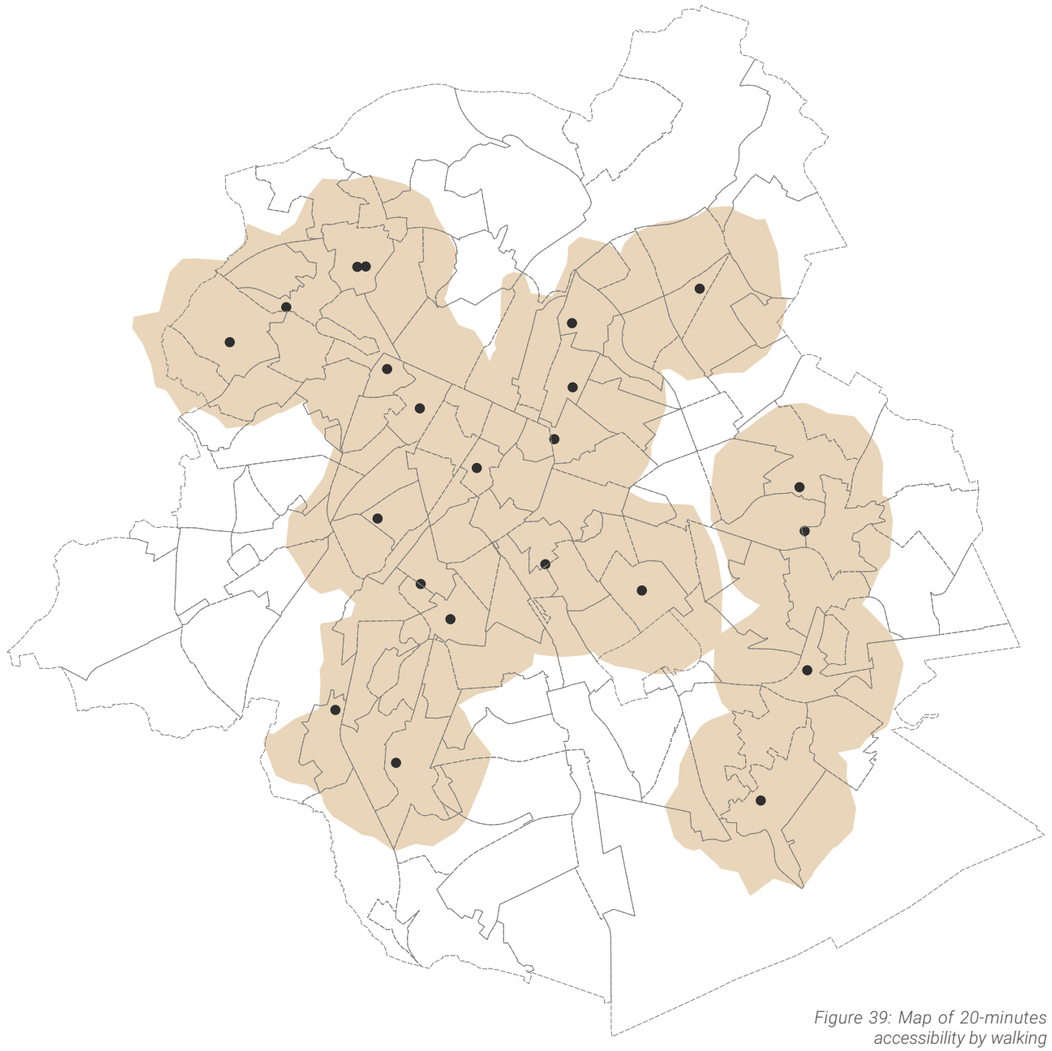
Government institution

The location of townhall

This map shows the locations of town halls. Compared to broader governmental institutions, town halls are more localized—they represent the most accessible level of government that citizens can directly approach.

The choice to focus on town halls rather than all governmental institutions is intentional: when roofless people seek help from the government, the institutions they are most likely to visit are these local-level offices, not higher-level bodies such as the Flemish Government or the Federal Government. These higher-tier institutions typically participate in supporting roofless populations indirectly, through policy implementation and financial support rather than direct interaction.

Indicator13(I_{13})
20-minutes accessibility by walking: based on road network

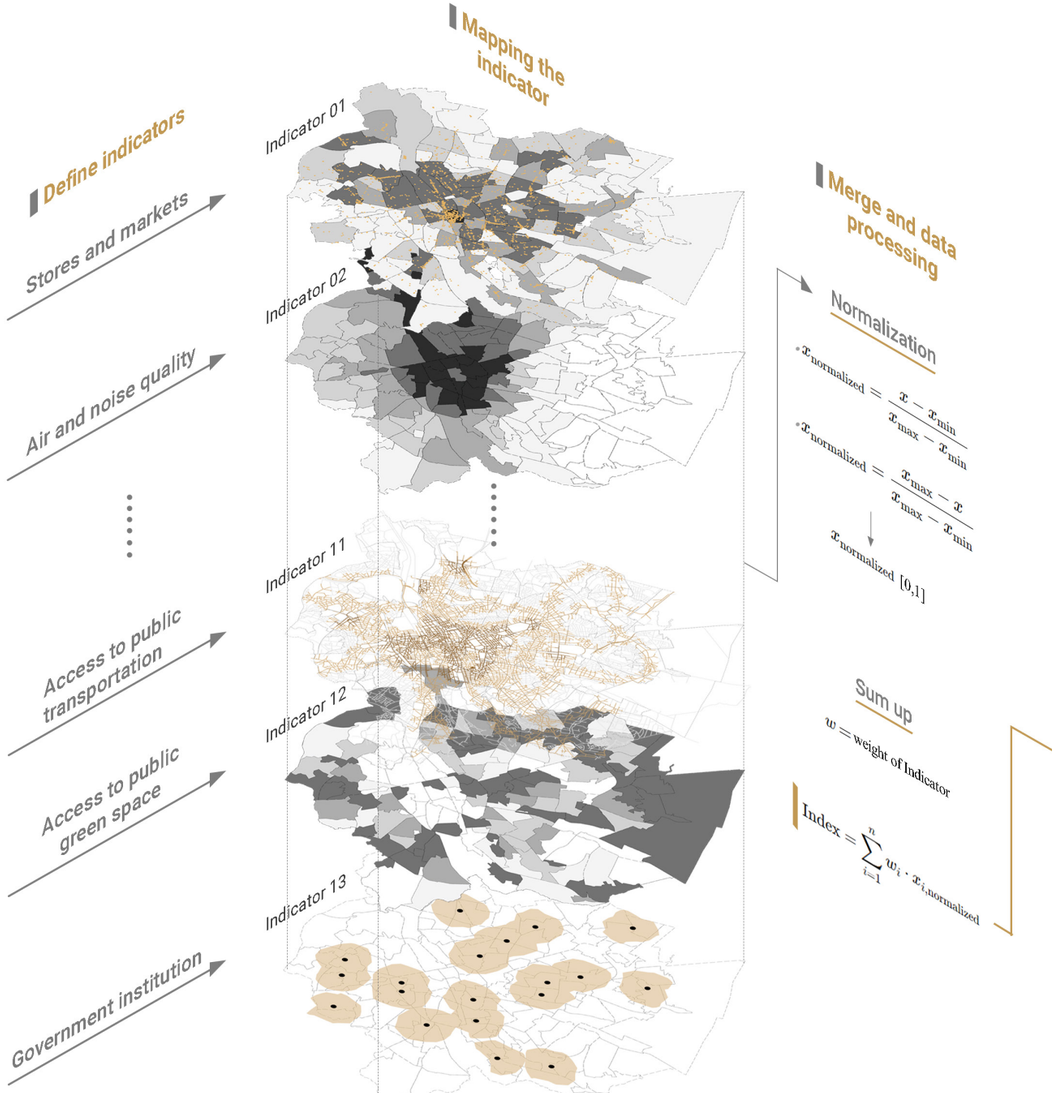


Data source: Open Street Map
Made by author

Figure 39: Map of 20-minutes accessibility by walking

6 Reintegration supportiveness evaluation

6.2 Synthetic map of Reintegration Supportiveness



Synthetic map of Reintegration Supportiveness for Rooflessness by neighborhood

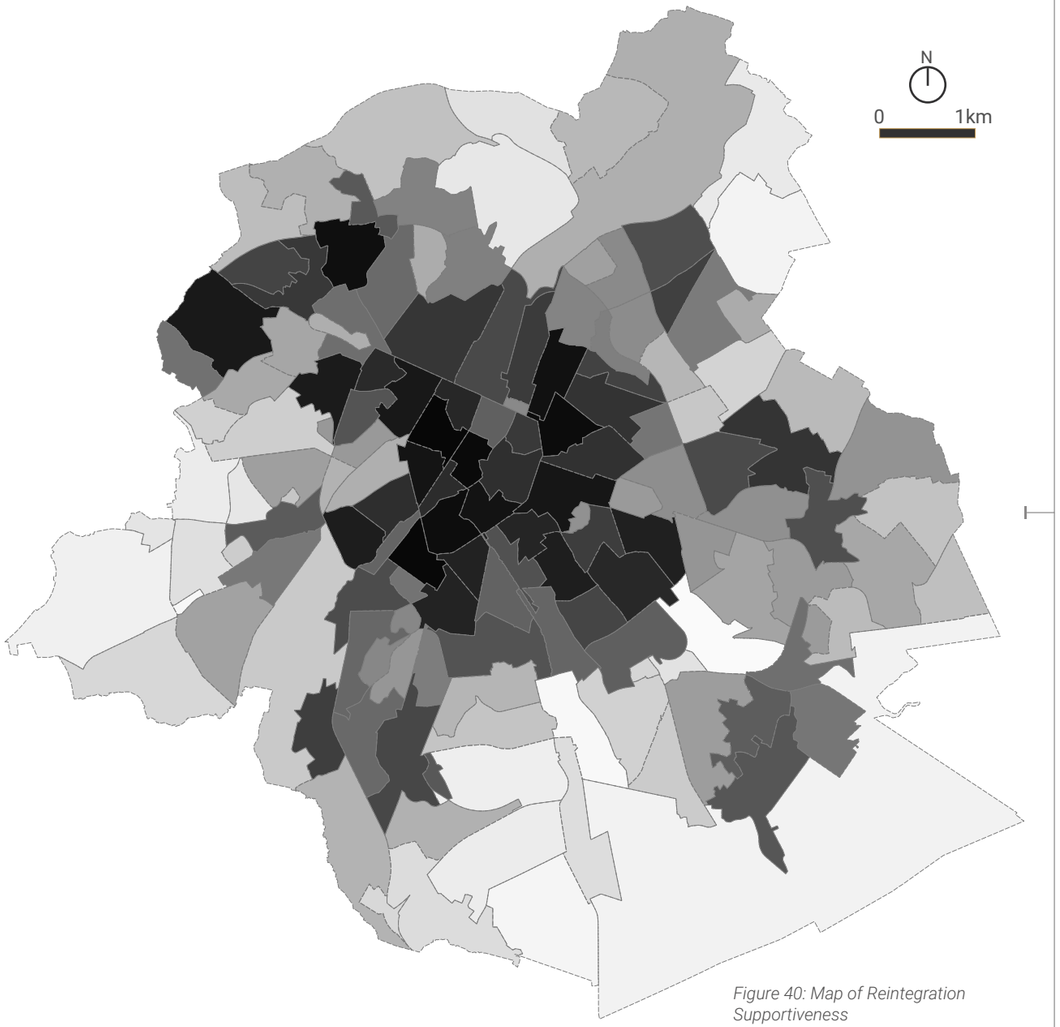


Figure 40: Map of Reintegration Supportiveness
Made by author

Appendix 2: full table of reintegration supportiveness value by neighborhood

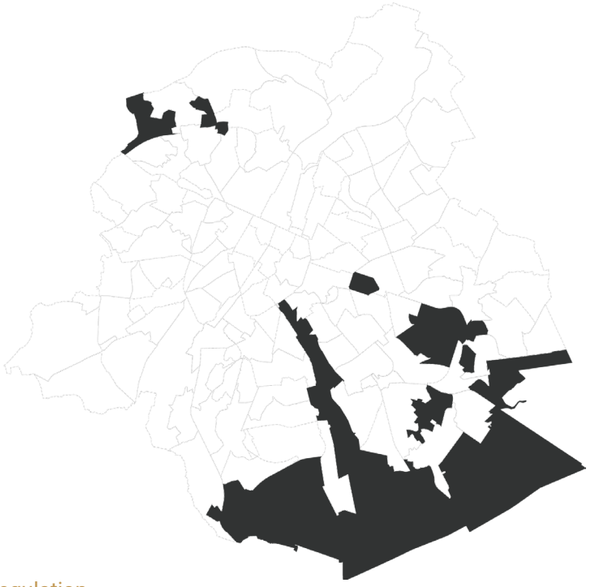
urbis_id	name_nl	Value
2	Dansaert	6.40787
48	Hallepoort	6.33517
1	Grote markt	5.90364
25	Sint-joost centrum	5.83512
8	Marollen	5.78601
72	Jette centrum	5.45423
24	Haachtse steenweg	5.23273
7	Zavel	5.22866
10	Anneessens	5.13857
35	Europawijk	5.05918
16	Historisch molenbeek	5.04027
67	Sint-agatha berchem centrum	5.03409
63	Karreveld	4.97593
12	Kuregem veeartsenij	4.95382
37	Flagey - malibran	4.91788
32	Sint-pieter	4.88608
41	Berckmans - munthof	4.86577
47	Hoog sint-gillis	4.85769
36	Matonge	4.84155
3	Begijnhof - diksmuide	4.83335
33	Jacht	4.81575
17	Koekelberg	4.76707
9	Stalingrad	4.75621
11	Kuregem bara	4.74258
6	Koningswijk	4.68678
29	Squares	4.67888
26	Dailly	4.67367
90	Roodebeek - sterrebeelden	4.66315
18	Havenwijk	4.65476
69	Ganshoren centrum	4.61251
5	Onze lieve vrouw ter sneeuw	4.56094
22	Brabantwijk	4.54422
34	Jourdan	4.52605
118	Sint-denijs - neerstalle	4.47787
83	Conscience	4.43513
27	Josaphat	4.39516
68	Villa's van ganshoren	4.39297
38	Hospitaal etterbeek - elsene	4.3895
116	Globe	4.37251
21	Noordwijk	4.35545
88	Georges henri	4.31338
50	Laag vorst	4.31169
79	Vrede	4.2979
93	Woluwelaan	4.28781
40	Louiza - langehaag	4.28573
43	Brugmann - lepoutre	4.27068
15	Weststation	4.25281
103	Bosvoorde centrum	4.25154
908	Wolvendaelpark	4.23038
917	Boudewijnpark - dielegembos	4.22469
58	Anderlecht centrum - wayez	4.20171
101	Drie linden	4.18745
107	Universiteitswijk	4.17741
4	Martelaars	4.17424
42	Kastelein	4.17285
804	Zuidstation	4.16737
39	Vijvers van elsene	4.10612
51	Van volxem - van haelen	4.10415
117	Vossegat - roosendaal	4.05676
71	Woeste	4.04579
14	Hertogin	4.02366
70	Basiliek	4.0231
98	Oudergem centrum	4.01324
66	Potaarde	3.99626
49	Bosnie	3.98156
28	Plasky	3.95061
102	Transvaal	3.90508
52	Veeweide - aurore	3.88148
13	Kuregem dauw	3.82077
84	Leopold iii laan	3.80386
45	Moliere - longchamp	3.74321
901	Josaphatpark	3.73248
20	Oud laken oost	3.73071
75	Houba	3.71762
23	Colignon	3.71512
805	Industrie birmingham	3.70355
909	Dudenpark - park van vorst	3.60738
902	Kruidtuin	3.59454
80	Helmet	3.57733
82	Terdelt	3.56918
30	Tervurense poort	3.54344
89	Gribaumont	3.54324

6 Reintegration Supportiveness evaluation

6.3 Identifying Key Intervention Area

Protection area

Area that is not allowed to intervene



Regulation

- NATURA 2000

Figure 41: Map of protection area
Made by author

limited Potential area

Area that has very limited potential to intervene

Regulation

- Area designed for industry

Land characteristic

- Area that has very limited potential
  - Single type of land use
  - Less frequently used by the roofless

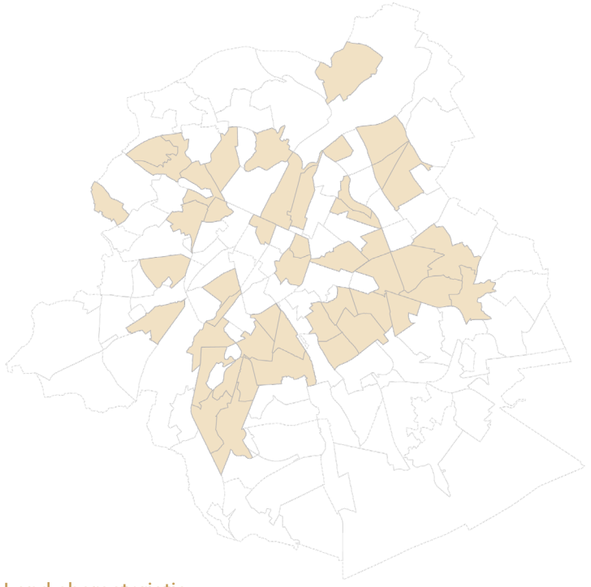
Value

- Area that has the value higher than 5.1(top 20%)

Figure 42: Map of limited potential area
Made by author

Moderate Potential area

Area that has Moderate potential to intervene



Land characteristic

- Area that has moderate potential
  - mixed types of land use
  - Frequently used by the roofless

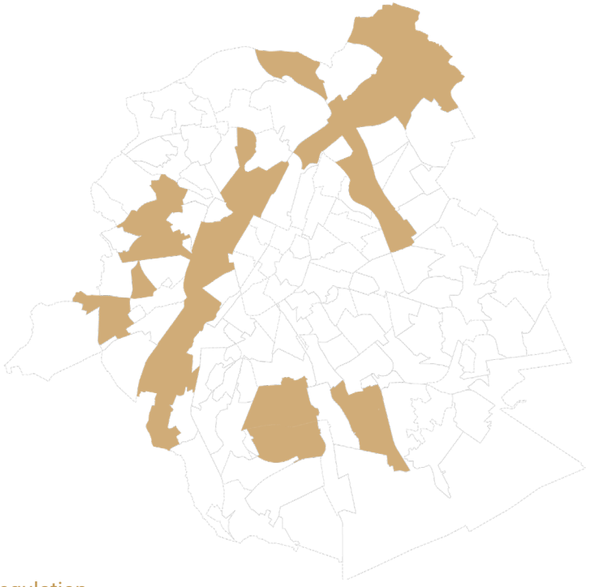
Value

- Area that has the value between 3.7 and 5.1

Figure 43: Map of moderate potential area
Made by author

Priority area

Area that has high potential to intervene



Regulation

- ZEUS Zone

Land characteristic

- Area has high potential
  - mixed types of land use
  - More frequently used by the roofless

Value

- Area that has the value lower than 3.7(lower than the average value)

Figure 44: Map of priority area
Made by author

6 Reintegration Supportiveness evaluation

6.4 Conditional map of choosing intervention area

This conditional classification distinguishes four types of areas: Protection Areas (where intervention is prohibited), Limited Potential Areas (with low intervention potential), Moderate Potential Areas (with moderate potential), and Priority areas (with high potential and urgency for intervention).

The prioritization is informed by multiple factors including regulatory constraints, land-use diversity, and the frequency of use by the roofless people. Priority areas are highlighted in golden brown, reflecting zones with favorable land-use characteristics, strategic location, and high relevance to roofless populations. Moderate areas, shown with dotted fill, are identified for secondary interventions. Limited areas (outlined in golden brown) and Protection area (in black) are deprioritized due to legal or practical restrictions.

This conditional map helps guide spatial decision-making by clearly indicating where interventions can be most impactful and feasible. Moreover, it will be discussed with the previously developed Synthetic Map of Reintegration Supportiveness for Rooflessness by Neighborhood map to identify areas that, despite being categorized as Priority Areas, score low in terms of reintegration supportiveness. These zones represent strategic blind spots—areas with high potential for intervention but currently insufficient support. As such, they will be selected for further zoom-in analysis, serving as focus areas for reintegration strategy making and implementation.

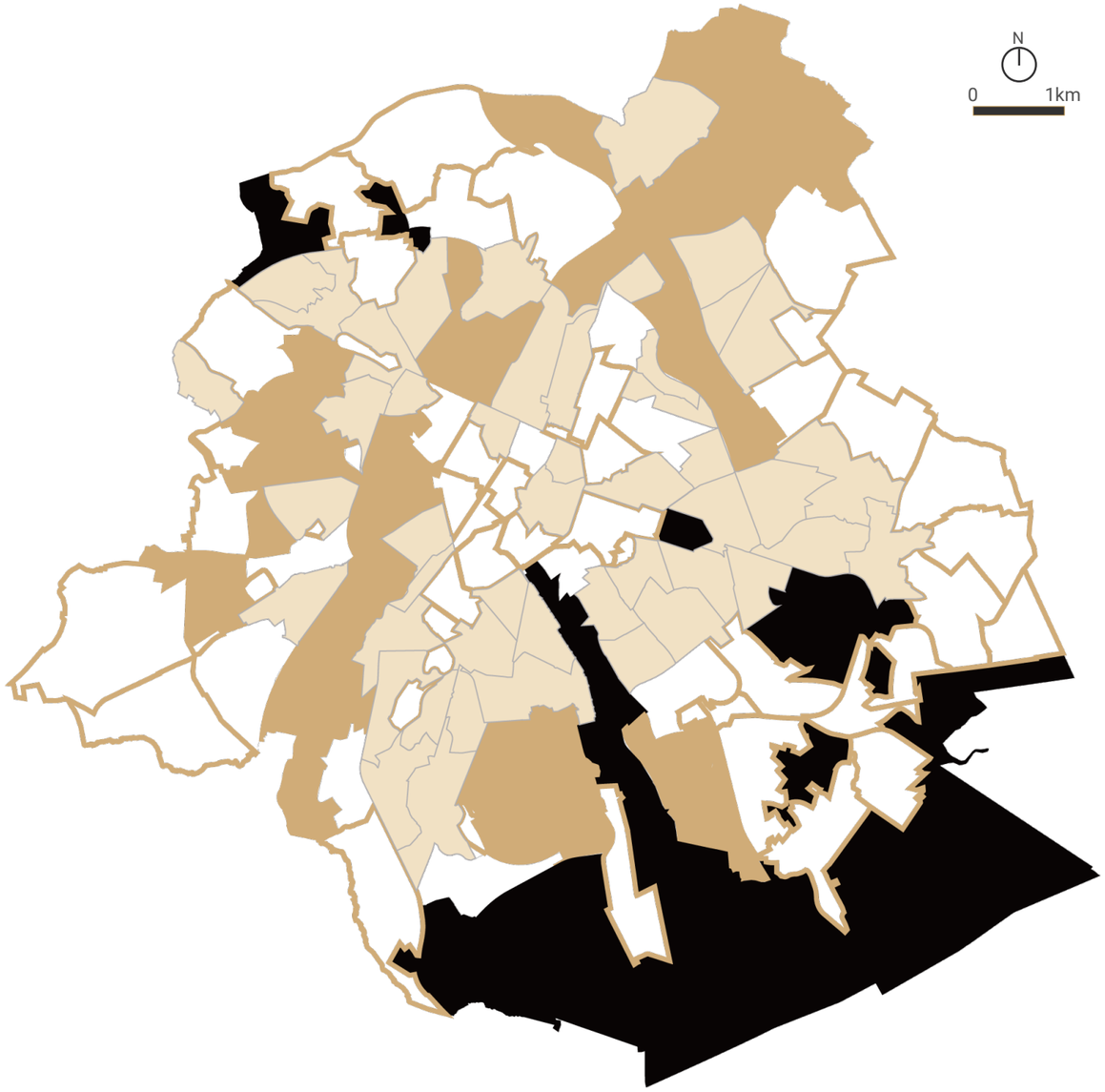


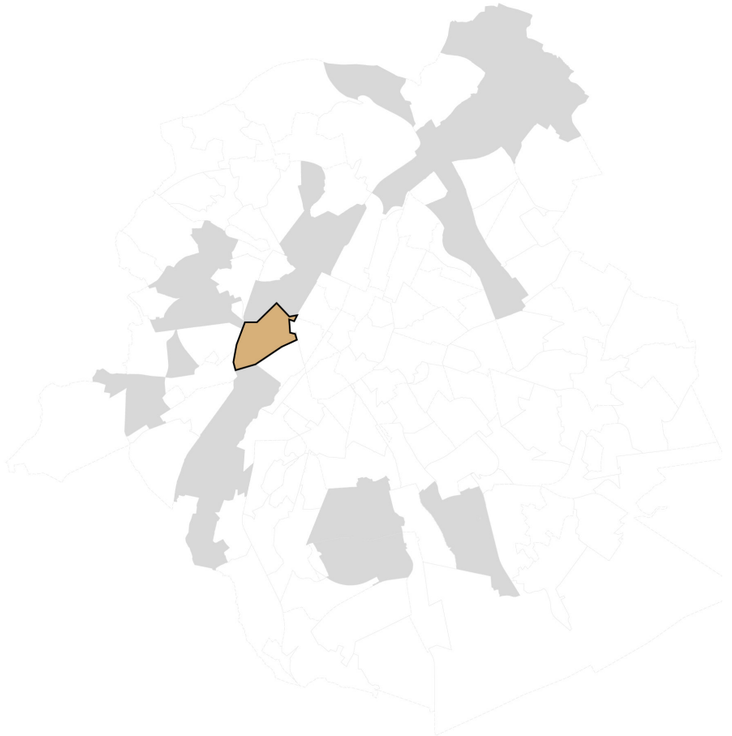
Figure 45: Conditional map
Made by author

6 Reintegration Supportiveness evaluation

6.5 Intervention area

The selected zoom-in area is located at the southwest edge of the Pentagon, crosses border between Anderlecht and Molenbeek. Covering around 1.3 square kilometers, it sits right next to the South Station (MIDI) and is crossed by the canal, with several bridges ensuring good connectivity across both sides. Despite its high accessibility, the area scores low in terms of reintegration supportiveness, with a value of 3.7.

At the same time, this area has a relatively high vacancy rate, which creates opportunities for developing transitional housing. These combined factors make it a strong potential area for targeted strategies and intervention.



Strategy and Design

7 Strategy of transitional stage

7.1 Echoing with The Masterplan

Bruss'help. (2024). Masterplan sortie sans-chez-soirisme RBC 2024 [Master Plan for Tackling Homelessness in Brussels 2024]. Retrieved from https://brusshelp.org/index.php/nl/news/masterplan

In Chapter 2.1.6 of the Master Plan for ending Homelessness, the thesis introduces the plan sets out a goal to end homelessness by 2030 through 4 pillars: strengthening prevention, improving rapid action, optimising support and combating institutional violence.

In terms of transitional housing, there are several measures from the plan are particularly relevant:

Measure 11.8 sets a SMART goal that by 2030, 20% of vacant housing in each municipality should be brought under public housing management. This opens up opportunities for reusing vacant properties to provide affordable housing for the homeless.

Measure 13.1 sets a target of allocating 1,200 transitional housing units and flexible rental agreements annually, providing immediate and adaptable housing solutions.

Measure 21 introduces a large-scale Housing First 2.0 program, with a SMART goal of helping 300 homeless individuals per year access decent jobs and sustainable and affordable housing. The integration of employment and housing aims to enable more personalized, point-to-point assistance.

Pillar 4 focuses on long-term prevention, particularly on addressing institutional violence and amplifying the voices of rights holders. It stresses the need for a comprehensive, accountable, and sustainable system as a foundation to prevent future homelessness.

Based on the guidance and inspiration from some of the measures in this plan, this thesis proposes a neighborhood-scale strategy. On one hand, it aims to spatially detail these measures and test their practical feasibility; on the other hand, it offers a new transitional stage that enables roofless people to reintegrate into society more quickly and stably, and, through a series of supportive actions, truly regain full citizenship and return to a normal life.

Position through the Plan and leads to the transitional strategy

How I interpreted this Plan and the foundation of my strategy share a common premise: **the Right to Housing**. This fundamentally differs from the traditional notion of the Right to Property.

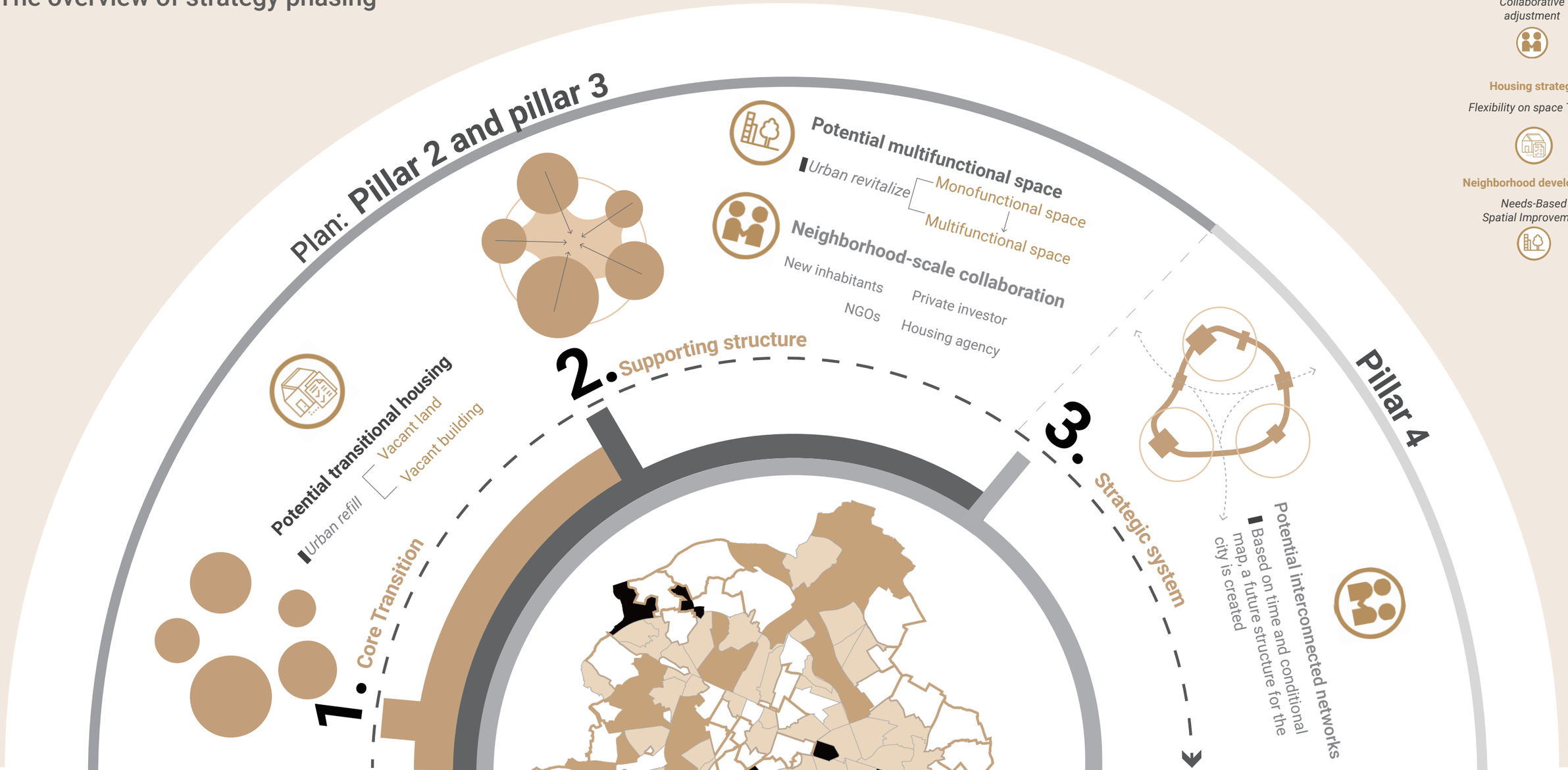
The right to property is built on protecting the legal ownership of housing owners. However, the current situation in the BCR, where an estimated 17,000 to 26,400 housing units are vacant and about 4,500 units are considered illegal (according to 2023 ULB/VUB study), is a consequence of the government's prioritization of property rights to certain extend.

If the strategy of transitional housing stage is based on the Right to Housing, then public and parastatal institutions will be better positioned to play their roles by reactivating vacant buildings and plots. This shift would enable the provision of immediate and secure transitional accommodation for rooflessness.

Image 08: the front gate of the SWOT Mobile Housing project
Taken by author

7 Strategy of transitional stage

7.2 The overview of strategy phasing



Conceptual framework key elements

Stakeholder collaboration

Collaborative adjustment

Housing strategy

Flexibility on space Types

Neighborhood development

Needs-Based Spatial Improvement

"The Roofless".

Potential transitional housing
Urban refill
Vacant land
Vacant building
1.
Core Transition

7 Strategy of transitional stage

7.3 Identifying vacant space

Vacant building

Rue Heyvaert 15, 1080 Molenbeek-Saint-Jean, Belgium

Vacant building

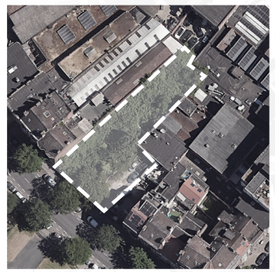
1080 Sint-Jans-Molenbeek, Belgium

Vacant land

Rue du Compas, 1070 Anderlecht, Belgium

Vacant land

1080 Sint-Jans-Molenbeek, Belgium



Make every inch of space useful: limitation into advantage

Based on google map street view in July 2024 and fieldwork observation in March 2025, several vacant spaces were identified. These spaces can be divided into two main categories: vacant buildings and vacant land. These spaces, which have not yet been reused, will serve as an excellent resource for use as transitional houses, attracting investment from social housing companies and regional governments.

Property ownership is a crucial issue to consider on a practical level, as it determines the legal conditions and prerequisites for tenancy. However, limited information availability means that property ownership distribution in this neighborhood remains unclear. Therefore, this limitation becomes both a constraint and a motivation — that regardless of ownership, if all available spaces could be utilized, it would reveal how many roofless people could potentially find accommodation and really stand on the track of regaining full citizenship.

7 Strategy of transitional stage

7.3 Identifying vacant space

How legislation frame the issue?

Unoccupied housing offence

According to the Brussels Housing Code, it is an offence to keep a property unoccupied or use it for purposes other than housing for more than 12 consecutive months. The offence may be discovered through an investigation initiated by Brussels Housing or through a complaint filed with this administration. Only the 19 municipalities and associations approved by the Government of the Brussels-Capital Region are authorised to file such complaints.

After identifying a property presumed to be unoccupied, Brussels Housing sends a warning to the owner, who then has 3 months to:

1)prove that the property is occupied;
or
2)justify the property being unoccupied (e.g. scheduled or ongoing work, a legitimate reason, force majeure).

If there is no response or valid justification within 3 months of the warning being issued, an administrative fine is imposed.

Administrative fine

The fine is calculated as €500 per linear meter of facade, multiplied by the number of unoccupied floors and the number of years the building has been unoccupied since it was first confirmed to be unoccupied.

For example, a building with a ground floor and 3 floors, a facade 5 metres wide and two vacant floors is liable to a fine of €5,000 (€500 x 5 metres x 2 floors).

BRUSSELS HOUSING
BRUSSELS REGIONAL PUBLIC SERVICE

Stricter sanction should be introduced!

House owners prefer to keep their houses vacant and pay the fine which is reletively low, instead of taking risks in using their houses.

only when house owners feel stressful to pay the vacancy fine, those houses can be pruchased by the government and develop, or managed properly. Finally, the roofless, and other vulnerable people can be accommodated.

More reasonable benefits to owners!

The benefits are all mutual. It is not reasonable to make use of vacant buildings at the expense of the owners. Financial incentives such as tax reductions and maintenance subsidies can lower the economic barrier. Also, social recognition and moral incentives may further motivate owners by highlighting their contribution to addressing homelessness.

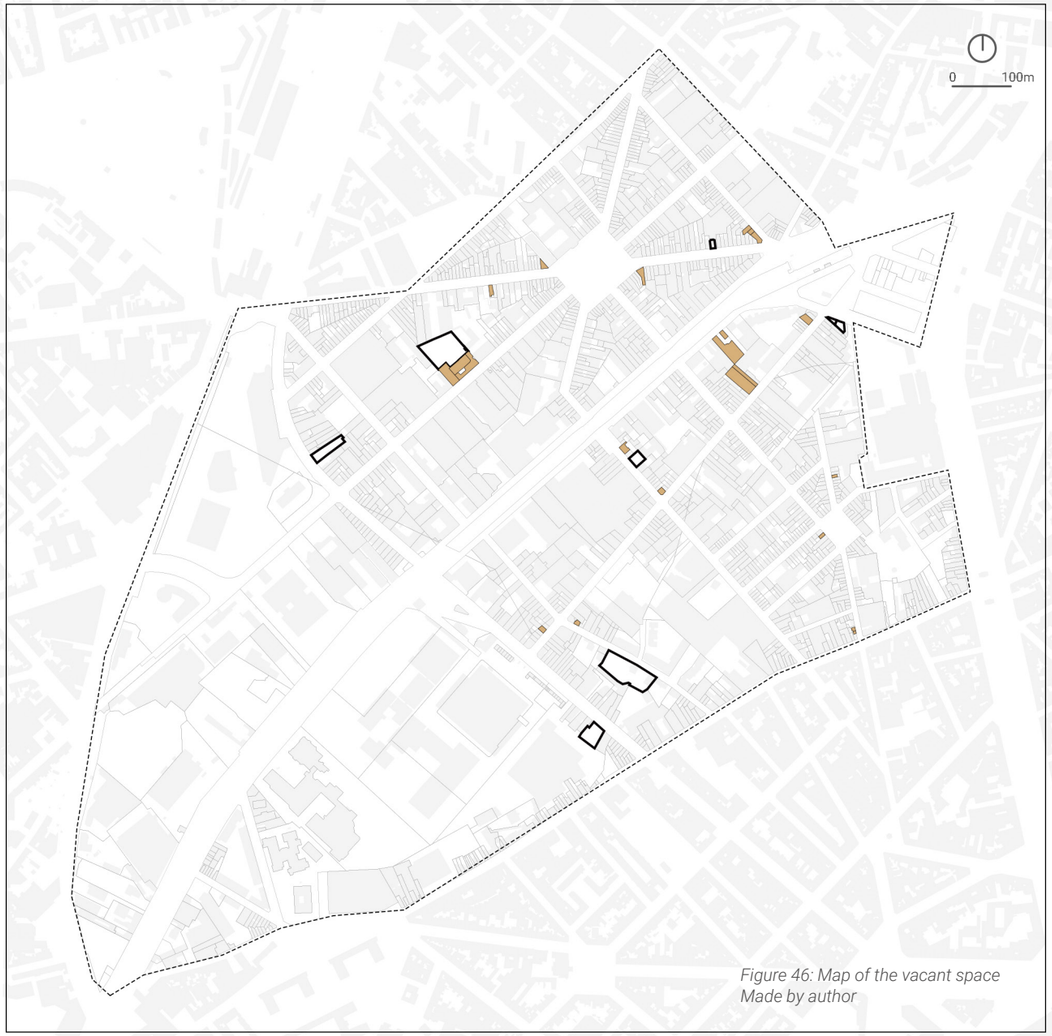


Figure 46: Map of the vacant space
Made by author

7 Strategy of transitional stage

7.4 the Regional Land Use Plan

In a constantly changing region, the Regional Land Use Plan (PRAS) is an essential tool for land use planning. It determines whether each plot of land in the Brussels Region is suitable for building (building zones, green zones, etc.). And if so, what types of construction (housing, offices, shops, etc.) are permitted. It therefore defines land use(Perspective.brussels, n.d.).

Basically, this Regional Land Use Plan (PRAS) contains two parts: six maps, the most important of which is the map of land use; literal, precise and binding prescriptions, grouped together in a booklet. On the rigtht side is the Land Use Map that showing the territory of the region according to authorised uses (housing, shops, facilities, green spaces, etc.).

Based on the previously identified vacant buildings and vacant land within the selected neighborhoods, the implementation of transitional housing can take place directly within these existing spaces.

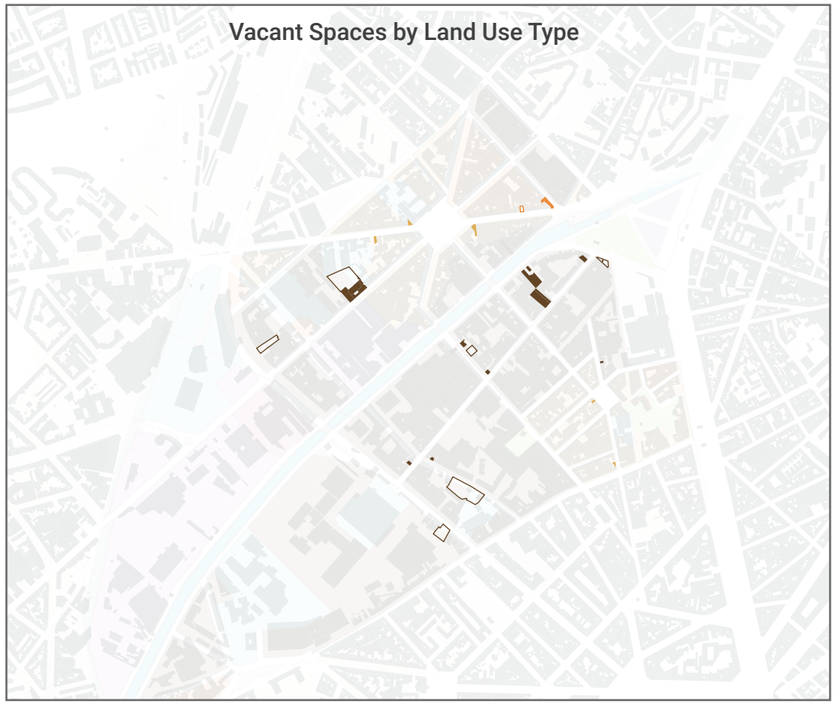


Figure 47: Map of the vacant space by Land Use Type
Made by author

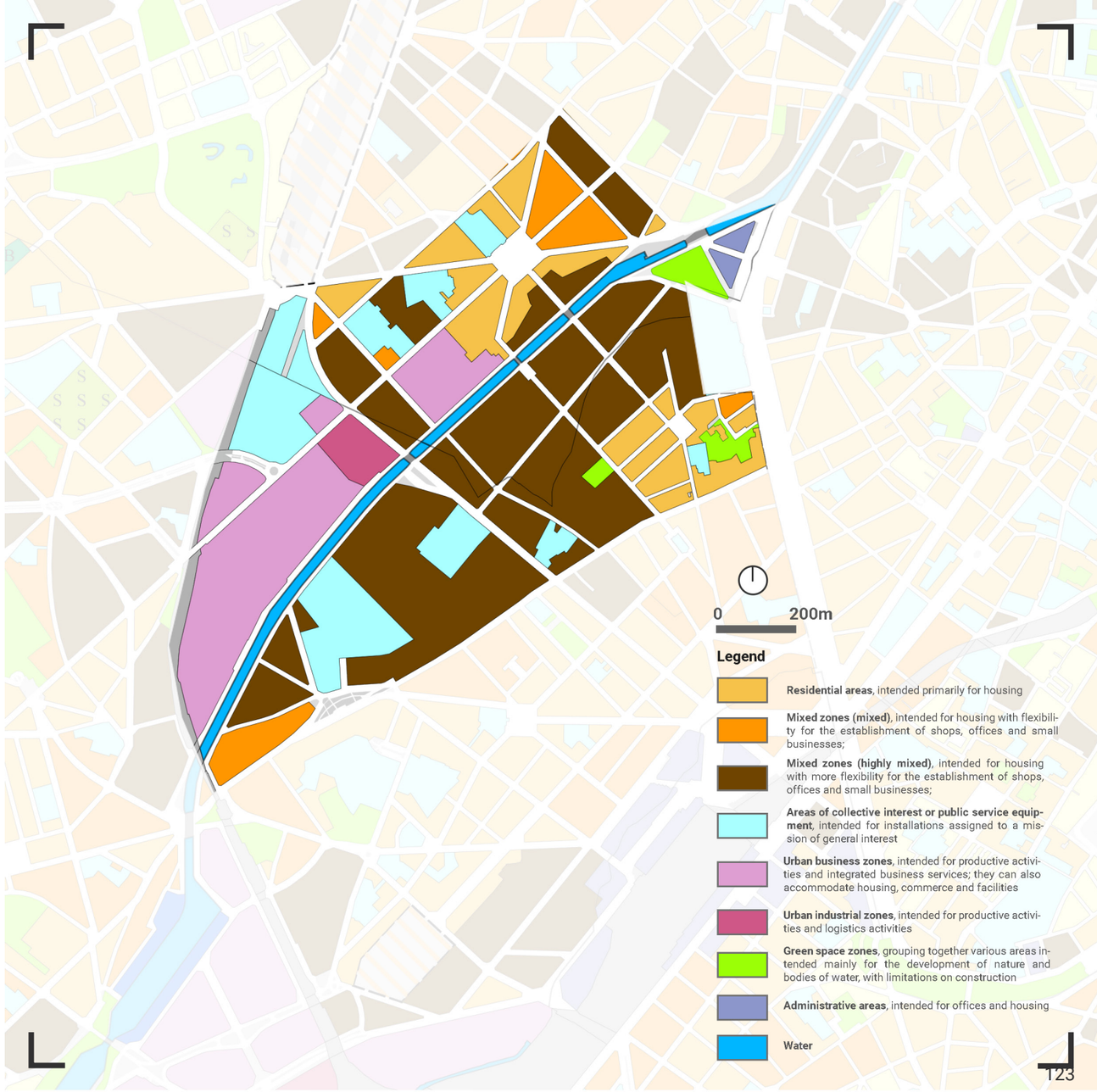
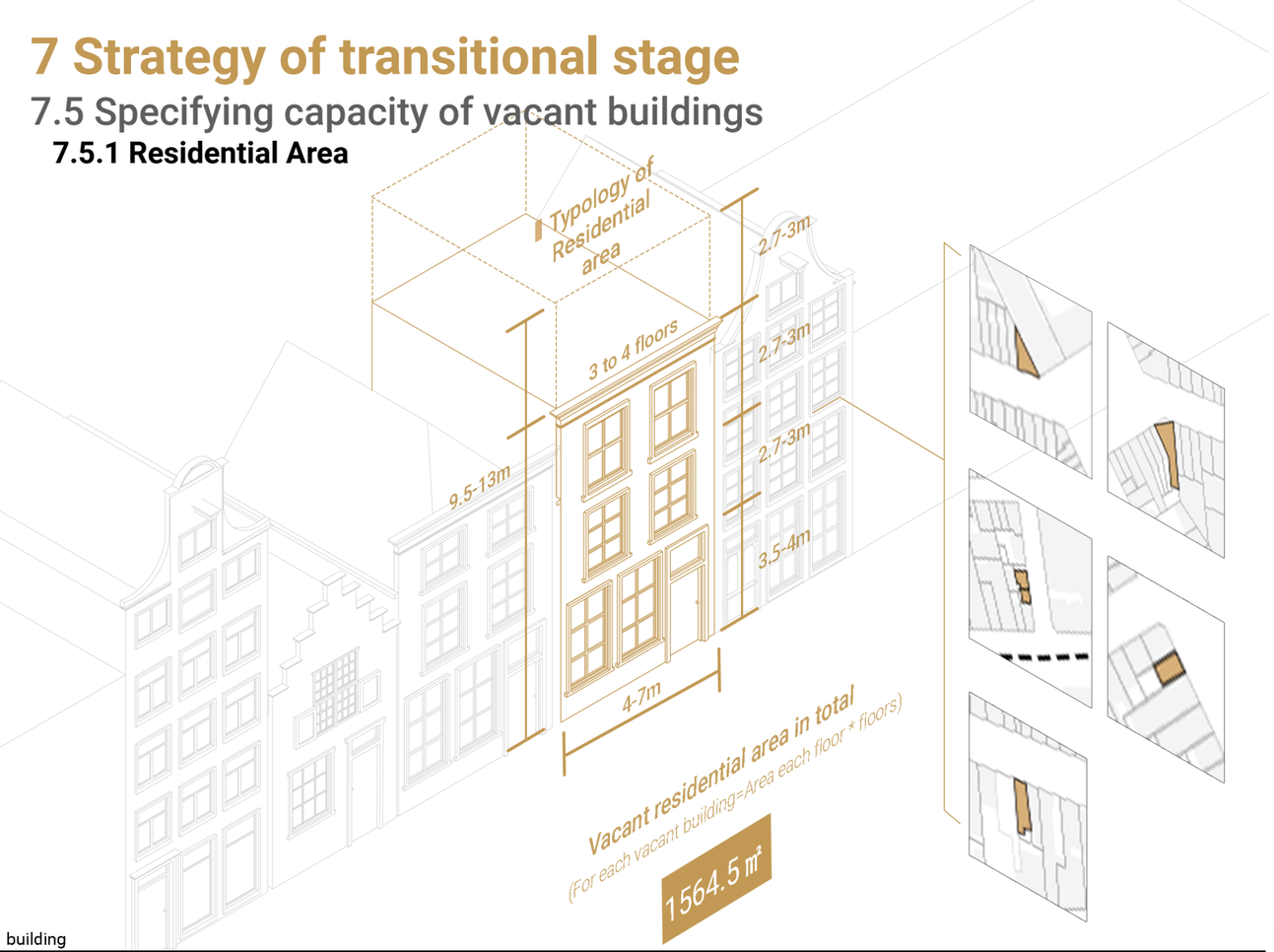


Figure 48: Map of the Land Use
Source: perspective.brussels

7 Strategy of transitional stage

7.5 Specifying capacity of vacant buildings

7.5.1 Residential Area



building

The RUPR (Règlement Régional d'Urbanisme / Gewestelijk Bestemmingsplan - Regional Urban Planning Regulation) is a legally binding instrument of the Brussels-Capital Region that defines specific planning and building rules across the entire regional territory, established within the framework of the Brussels Code for Territorial Development (CoBAT / BWRO), which serves as the core legal basis for urban planning and construction in Brussels. The RUPR sets out detailed requirements concerning building height and depth, the distance between buildings and streets or adjacent properties, as well as accessibility standards.

Coliving accommodation is suitable for at least one bedroom, a bathroom equipped with a shower, a toilet and a private storage room or space and all the premises and collective spaces.

Title iii: interior of buildings
Section 2: Coliving accommodations
Article 19 – Adapted coliving accommodation

Title iii: interior of buildings
Section 2: Coliving accommodations
Article 17 – Dimensions

Type	number of people	Min(㎡)	efficiency(people/ ㎡)
Studio	1	28	0.0357
two-bedroom	2	70	0.0285 MIN
three-bedroom	3	85	0.0352
four-bedroom	4	100	0.0400
five-bedroom	5	120	0.0416 MAX
six-bedroom	6	160	0.0375
seven-bedroom	7	180	0.0388

If build all five-bedroom*

Maximum capacity = 1564.5 ÷ 120 = 13 homes

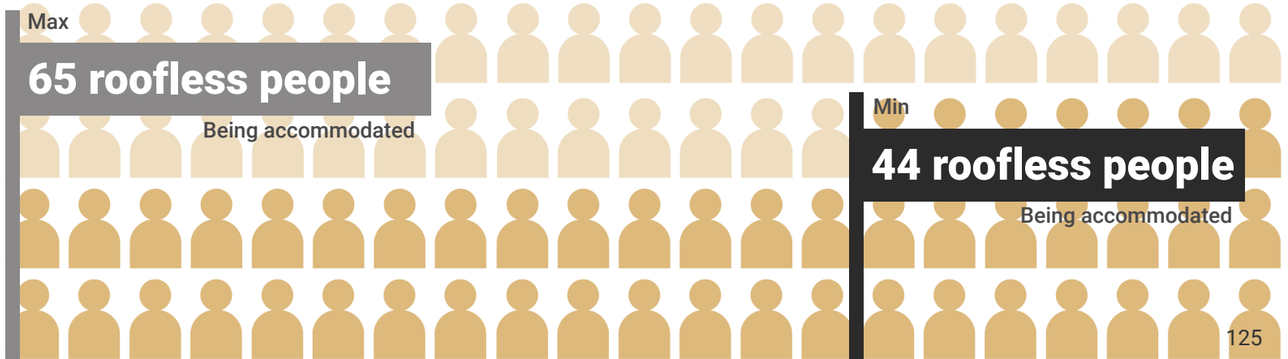
Maximum roofless people = 13 × 5 = 65

If build all two-people bedroom*

Minimum capacity = 1564.5 ÷ 70 = 22 homes

Minimum roofless people = 22 × 2 = 44

** The situation that is disscussed here is an ideal situation. The real condition is way complex.*



7 Strategy of transitional stage

7.5 Specifying capacity of vacant buildings

7.5.2 Mixed Zones(mixed)

Building

Vacant buildings in the Mixed Zone (mixed) can be developed to include small commercial or other public activity spaces in addition to residential functions. In order to both maximize the capacity of transitional housing and strengthen the system of various services that support roofless people in reintegrating into society, the ground floor of such typically mixed-use vacant buildings will be designed for service functions, while the first and second floors will be used to provide accommodation.

Similarly, based on Title III: Interior of Buildings, Section 2: Coliving Accommodations, Article 17 – Dimensions(RUPR), it is possible to calculate a theoretical capacity for accommodating the roofless. When the ground floor is reserved for providing various services and the remaining floors is used for transitional housing, the building can accommodate a maximum of 20 people and a minimum of 14 people.

If build all five-people bedroom*

Maximum capacity = 539.68 ÷ 120 = 4 homes

Maximum roofless people = 4 × 5 =20

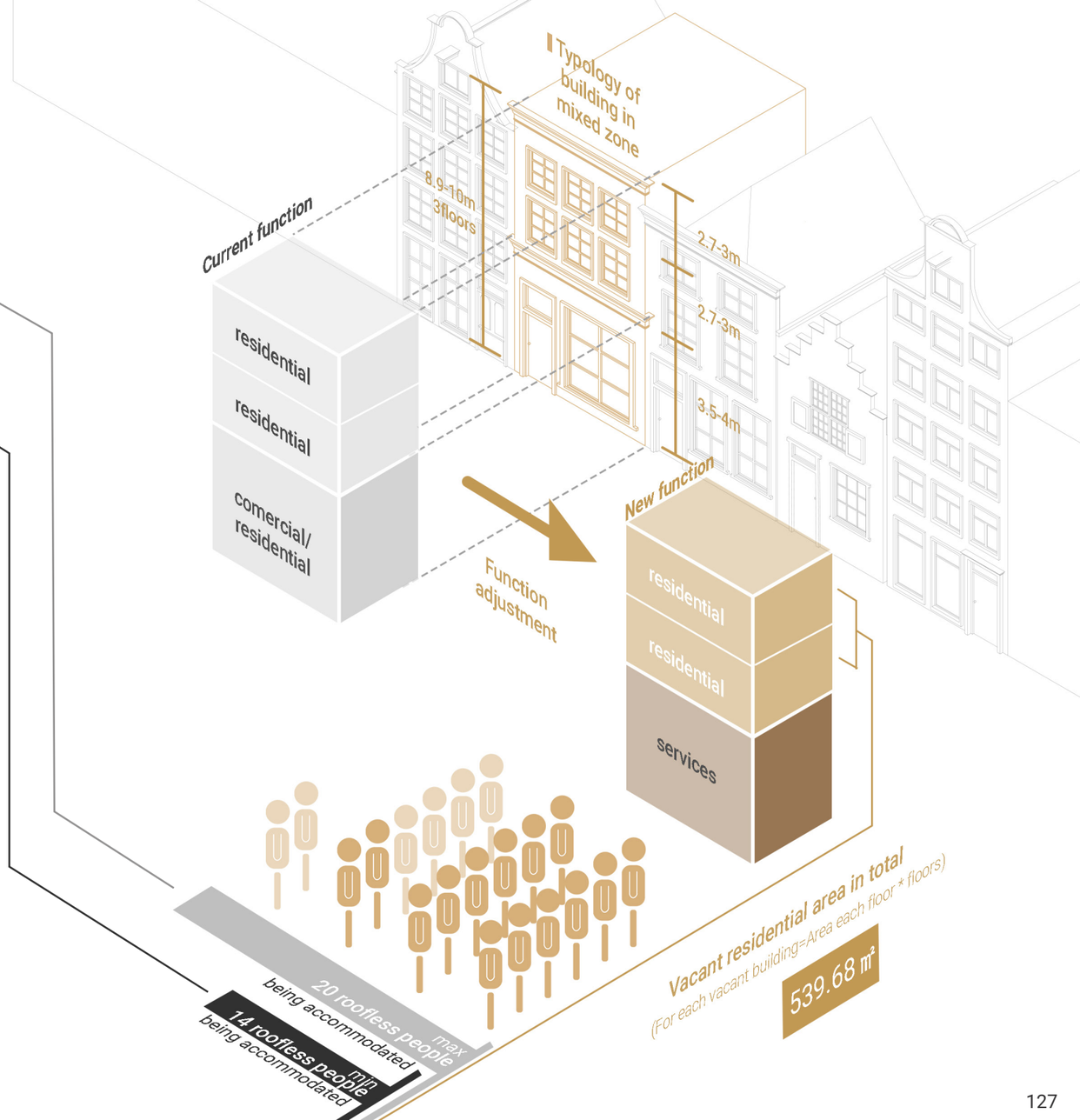
If build all two-people bedroom*

Minimum capacity = 539.68 ÷ 70 = 7 homes

Minimum roofless people = 7 × 2 =14

** The situation that is disscussed here is an ideal situation. The real condition is way complex.*

building



7 Strategy of transitional stage

7.5 Specifying capacity of vacant buildings

7.5.3 Mixed Zones(highly mixed)

Building

The scale of vacant buildings in the Mixed Zone (highly mixed) is generally larger than that of vacant buildings in the Residential and Mixed Zone (mixed), and they are usually 4 to 5 floors high. Therefore, these buildings play an important role in three aspects: providing more transitional housing, attracting businesses and companies, and offering transitional services. By adjusting the building functions, the ground floor and first floor can be used for offices or service support, while the remaining floors are reserved for accommodation.

Based on RUPR, a theoretical capacity for accommodating the roofless is from a maximum of 160 people to a minimum of 110 people.

If build all five-people bedroom*

Maximum capacity = 3902 ÷ 120 = 32 homes

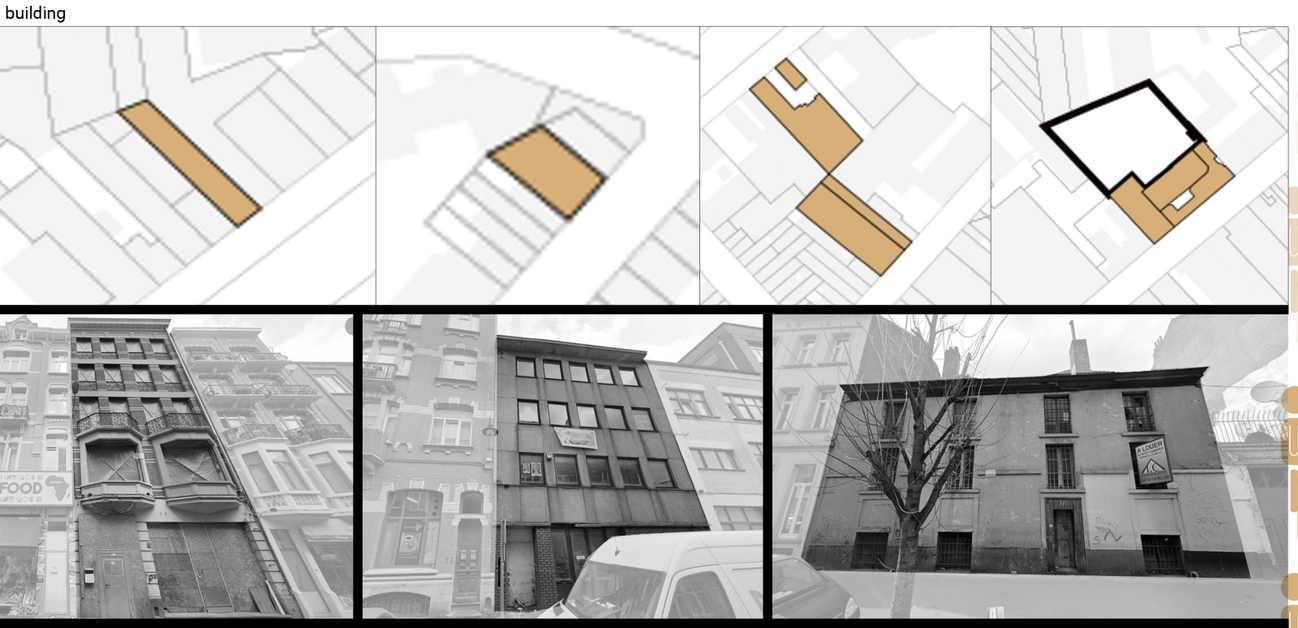
Maximum roofless people = 32 × 5 = 160

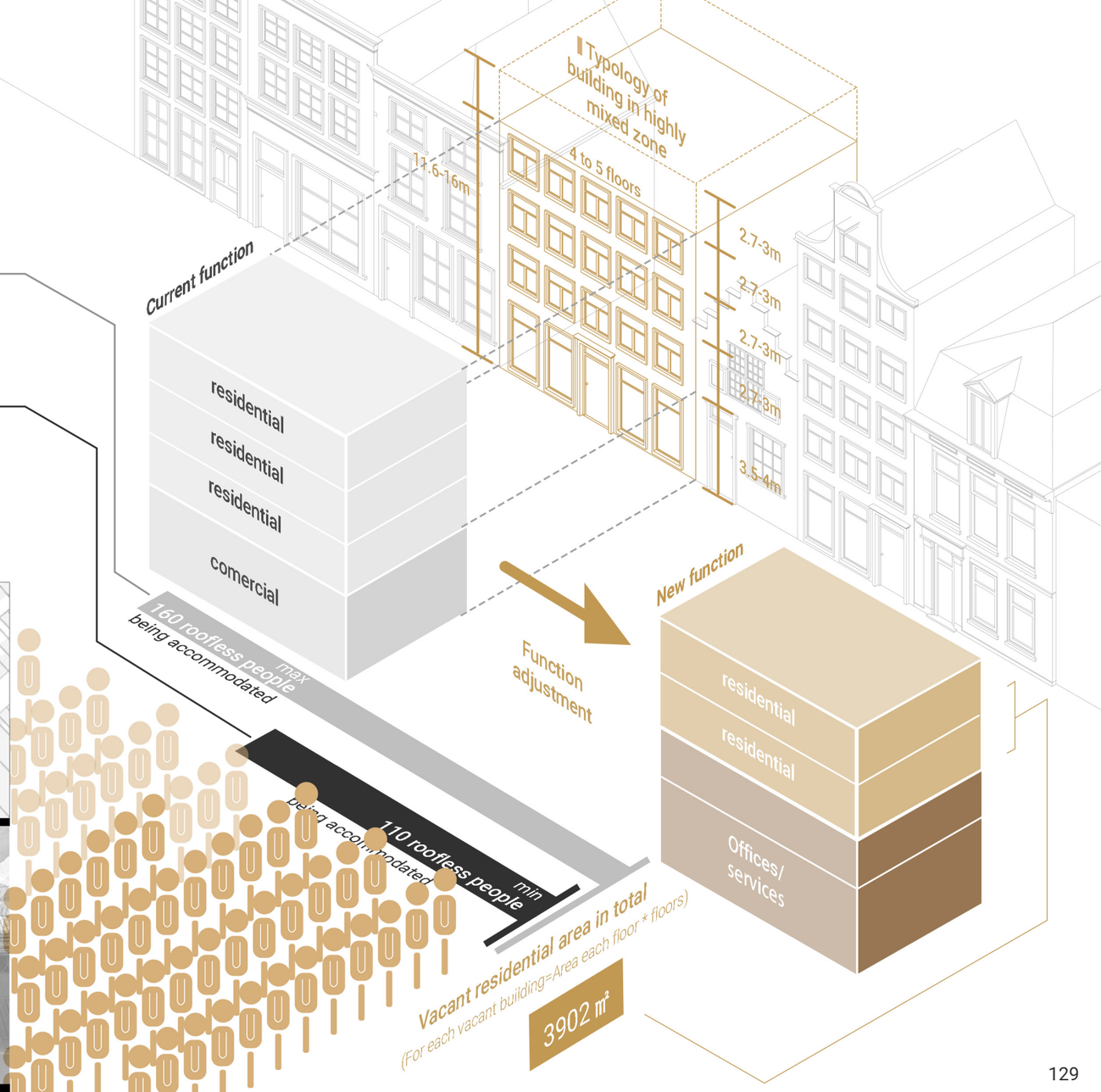
If build all two-people bedroom*

Minimum capacity = 3902 ÷ 70 = 55 homes

Minimum roofless people = 55 × 2 = 110

** The situation that is disscussed here is an ideal situation. The real condition is way complex.*





7 Strategy of transitional stage

7.6 Specifying capacity of vacant land

7.6.1 Modular transitional housing as the solution

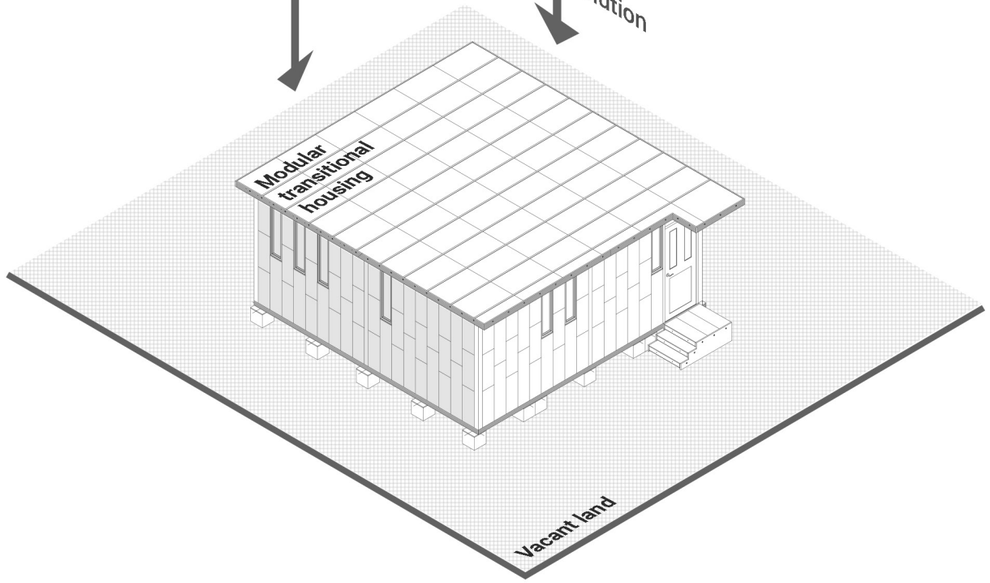
Land

"It is way more acceptable if those modular housing for the roofless can be pluged in in a small scale, than accommodating hundreds of them at one place. Using small leftover spaces may be a nice one".

solution

We started with finding small waiting spaces that can be used to build up modular housing for the homeless in Brussels.

solution

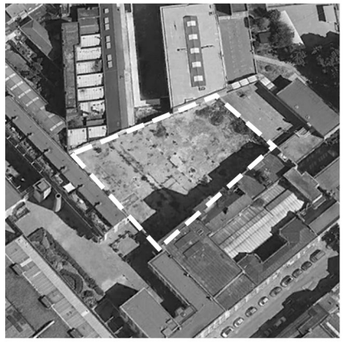


Area: 3060 ㎡

Area: 99 ㎡

Area: 223 ㎡

Area: 825 ㎡



Area: 2227 ㎡

Area: 400 ㎡

Area: 1218 ㎡

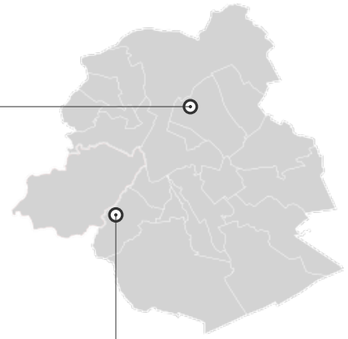
7 Strategy of transitional stage

7.6 Specifying capacity of vacant land

7.6.2 Case study

Case 1: 400 Daken (400 roofs)

The 400 daken(400 Roofs) is a campaign aiming at finding 400 permanent residences for Brussels' most vulnerable homeless people. The reason why they named it 400 roofs is that this is the number of homeless people recorded in 2014 in Brussels when the project was being designed. Since then, the number of people living on the street has increased dramatically.



Bridge city

Two wooden mobile homes, 20m² in size, have been installed temporarily on an empty plot close to the Van Praet Bridge. The plot belongs to citydev, the public agency in charge of urban development in the Brussels Region. The two modular houses are the first prototypes of the temporary accomodation project. Beside the construction, they have another major advantage: they can be built in one month and are affordable. The Moving Nest costs 18,700 euros, not counting transport and assembly costs, while the Cube costs 42,000 euros.

Barcelonastraat

2 years later, Citydev bought a plot of 5,700 m² next to the town hall of Vorst and wanted to build houses on it. Another project, as a part of 400 daken campaign at Barcelonastraat in BCR, built up 6 modular, mobile studios. **The area of these modular studios is approximately 20m².**

Image 10: the Barcelonastraat project 01
Source: Citydev.Brussels

Image 09: the Bridge City project
Source: Citydev.Brussels

Image 11: the Barcelonastraat project 02
Source: Citydev.Brussels

Image 12: the Barcelonastraat project 03
Source: Citydev.Brussels

7 Strategy of transitional stage

7.6 Specifying capacity of vacant land

7.6.2 Case study

Case 2: SMH Pilot Project

Solidary Mobile Housing is a co-creation between the Team Wonen of Samenlevingsopbouw Brussel vzw, the Faculty of Architecture of the KU Leuven and Centrum Algemeen Welzijnswerk Brussel vzw in collaboration with a group of eight inhabitants from the Brussels-Capital Region facing precarious housing conditions. They use urban "waiting space" as a way to enlarge the fabric of Brussels city, more importantly, provide immediate temporary houses for vulnerable people.

This project co-create the SMH Model (as a housing co-creation method incorporating social guidance and skill-building methods and tools, a service-learning methodology, and preliminary financial and legal strategies as well as a modular and circular construction system) and, in parallel, co-realise the SMH Pilot Project(De Smet, Pak, Schoonjans & Bruyneel, 2023).

Currently, two mobile housing units have been established on a vacant plot in Koekelberg, accommodating two inhabitants. They maintain a good connection with the local community and, with support, have secured long-term job.

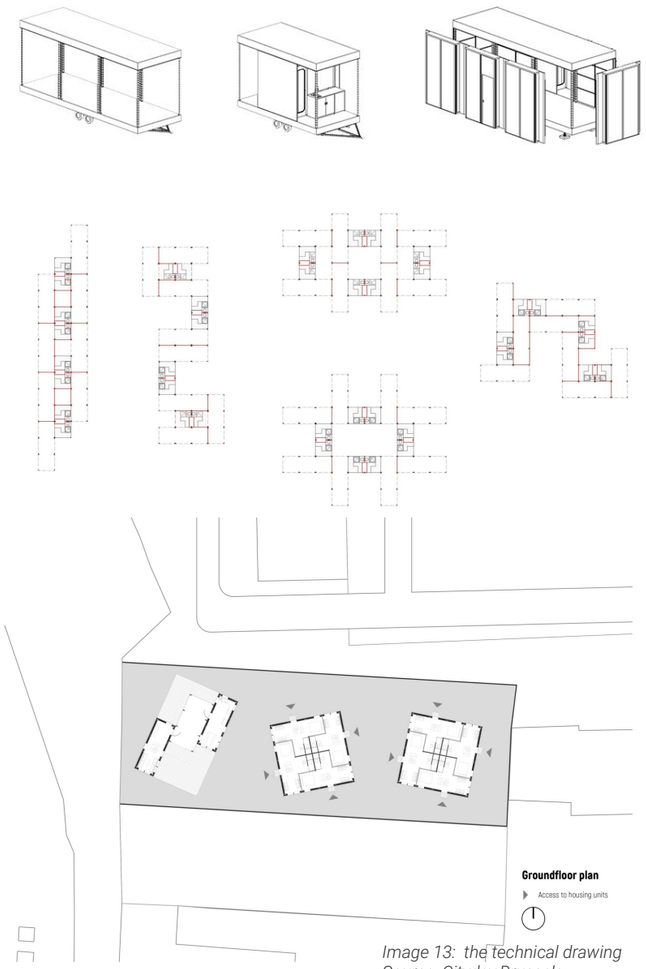


Image 13: the technical drawing
Source: Citydev.Brussels

Image 14: the SMH Pilot Project 01
Source: Citydev.Brussels

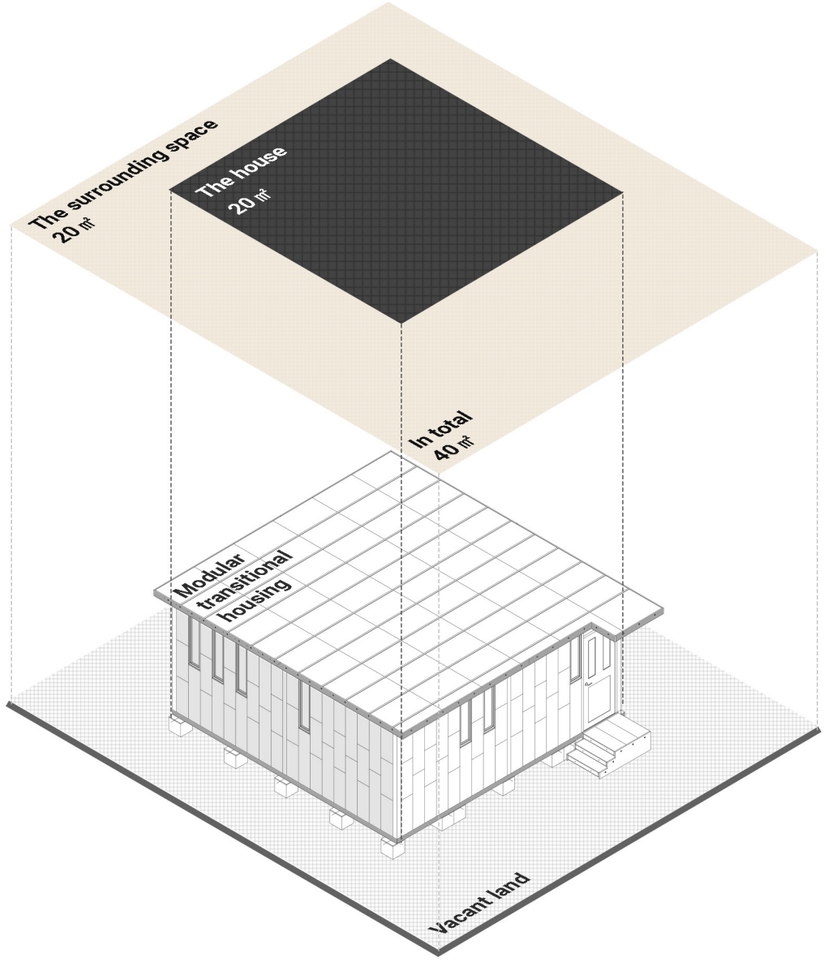
Image 15: the SMH Pilot Project 02
Source: Citydev.Brussels

7 Strategy of transitional stage

7.6 Specifying capacity of vacant land

7.6.3 Approximate capacity of people living in modular transitional housing

Assuming that **each modular housing unit has an area of 20 m² and requires a total of 40 m² including surrounding space**, we can estimate how many roofless individuals could be accommodated if all of the following seven vacant land were used to construct temporary transitional housing.

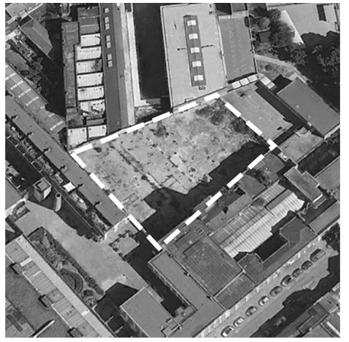


Area: 3060 ㎡
modular house(max): 76

Area: 99 ㎡
modular house(max): 2

Area: 223 ㎡
modular house(max): 5

Area: 825 ㎡
modular house(max): 20



Area: 2227 ㎡
modular house(max): 55

Area: 400 ㎡
modular house(max): 10

Area: 1218 ㎡
modular house(max): 30

198
roofless people are accommodated

Maximum

If all vacant space can be used properly as transitional housing in this neighborhood

at most 443

Roofless people can get out of the Homeless Vicious Cycle

"New Inhabitant".


Potential multifunctional space
Urban revitalize
Monofunctional space
Multifunctional space
Neighborhood-scale collaboration
New inhabitants
Private investor
NGOs
Housing agency
2. Supporting structure
Potential transitional housing
Urban refill
Vacant land
Vacant building
1. Core Transition

7 Strategy of transitional stage

7.7 Revitalizing Building Functions

7.7.1 Shared and individual needs

As mentioned in the chapter 2.1.3 Demographic background of homelessness in the Brussels-Capital Region, according to the the seventh edition of the homelessness statistics report, there are 809 people sleeping rough. Among them, adult male dominate the group with the number of 595, followed by undetermined 128 people. 74 adult female and 12 minors are also counted during the counting period.

In order to implement different functional services into vacant buildings — and to use this implementation strategy as a recommendation for the future activation of vacant spaces — it is first necessary to clearly identify the transitional needs of the new inhabitants. What are their specific needs, and which needs are shared across different groups?

Bircan, T., Schockaert, I., & Nicaise, I. (2018). More Than a Roof: A Statistical Profile of Homeless People in Belgium. European Journal of Homelessness, 12(2), 35-57.

Bircan et al. (2018) identified diverse profiles among homeless people in Belgium, emphasizing their severe difficulties in reading and writting, even in their native language, based on the SILC-CUT (Survey of Income and Living Conditions) survey. These limitations often prevent them from engaging in daily communication or completing even basic tasks that require reading and comprehension, such as understanding simple street signs. Furthermore, the study noted that 84% of this vulnerable group were either living in a household with no paid employment. Similarly high proportions were observed regarding their health situation. Among the roofless population specifically, nearly 30% had a health problem but did not go to see doctor. A significant portion of this group suffered from chronic conditions such as asthma, rheumatism, cardiovascular diseases, or diabetes. Notably, the health profile of women appeared to be worse than that of men.

Paquot, L. (2023). Dénombrement des personnes sans-chez-soi en Région de Bruxelles-Capitale. Bruss' help.

Mostowska, M. (2024). Visible women, invisible gender: Knowledge production on homelessness in Flanders. European Journal of Women's Studies, 31(2), 197-212.

Moore, T., & McArthur, M. (2011). 'Good for kids': Children who have been homeless talk about school. Australian Journal of Education, 55(2), 147-160.

Women experiencing homelessness or living in poverty tend to hide themselves, and this is the reason of less female homeless are found during the counting period (Paquot, 2023). Due to structural gender-based oppression, some endure long time gender-based violence without knowing how—or daring—to seek help, as described by Mostowska (2024). The living conditions of children, in most cases, depend on those of their parents. When parents are in segregated situations, children often struggle to continue their education (Moore & McArthur, 2011).

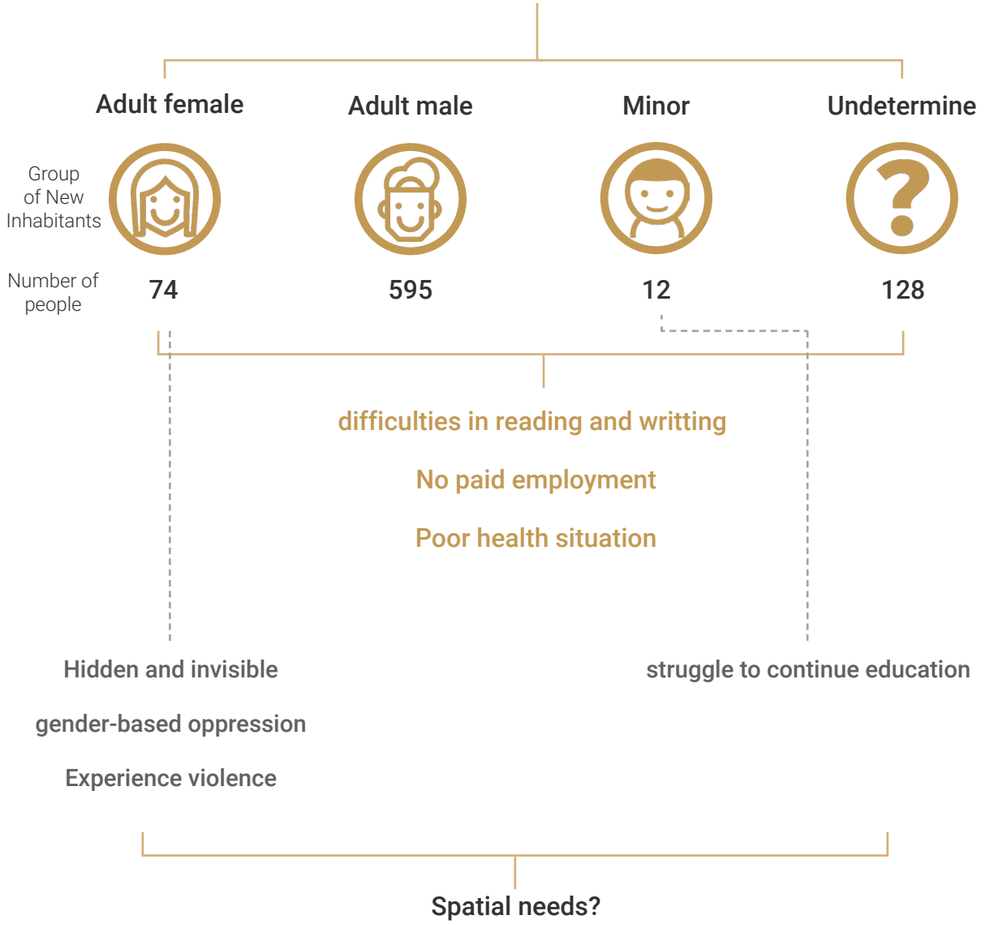


Figure 49: Specify needs
Made by author

7 Strategy of transitional stage

7.7 Revitalizing Building Functions

7.7.1 Shared and individual needs

Starting from the shared needs, based on the literature of homeless people needs, since the ultimate goal is to enable new inhabitants to actively and sustainably reintegrate into the community and daily life, it is essential to provide education and skill training that can help them secure jobs and regain basic rights. In addition, health center is crucial to help new inhabitants recover or stabilize their physical and mental health, giving them the capacity to work and interact with local residents. Finally, community centers are necessary to foster interaction between new inhabitants and the original residents.

For each specific group, they also have different needs.

For adult females, independent sanitary and private spaces are essential, providing not only basic hygiene but also a safe place in cases of gender-based violence and other gender-based opression.

For mothers, mother-and-baby spaces are also important. For adult males, spaces for anti-violence education, communication and reconciliation are necessary to prevent and resolve conflicts. For minors, appropriate education facilities such as daycare centers or schools are the primary spatial functions that need to be considered.

Without both financial and institutional support, such systems struggle to sustainably assist new inhabitants over the long term. In ZEUS (Zone d'Économie Urbaine Stimulée) zone planning, the strategy encourages diverse businesses to establish offices in the area. On one hand, this stimulates the local economy and facilitates economic feedback loops; on the other hand, it creates more job opportunities. Vacant spaces within the community can be repurposed as office rentals for these companies, and the rental income can, in turn, be used to fund reintegration services—enabling a more practical and sustainable model of operation.

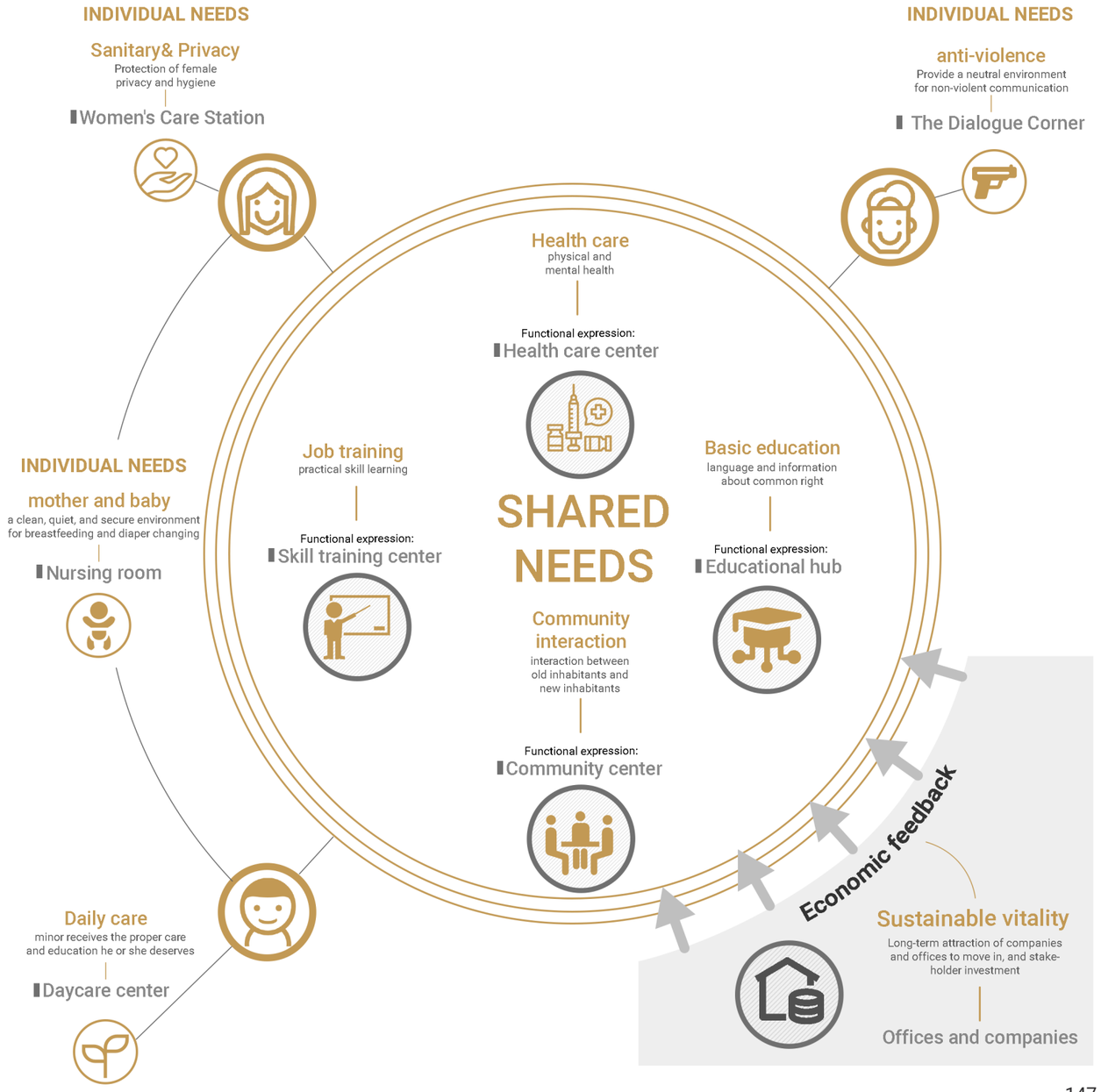


Figure 50: Spatializing needs
Made by author

7 Strategy of transitional stage

7.7 Revitalizing Building Functions

7.7.2 function implementation kit

The principle of allocating different needs into different spaces and keeping the allocation rational is "3B": By building, By floor, By time.

By building means different buildings located at different area have different focused groups. For example, buildings that are located in pure residential area with quieter physical environment are more suitable for female and minor who need higher privacy and safety; and buildings at crowded mix zone would be more suitable to be used for all roofless people.

By floor refers to the vertical distribution of functions within a building, aligned with the level of privacy and intensity of use. Ground floors, which are more accessible and visible to the public, are typically allocated to public services like community centers, health services, and skill training hubs. Upper floors, with higher privacy, are designed for more sensitive functions such as women's care station, nursing room, or healthcare facilities.

By time means a time-phased programming approach. Different services are activated during different periods of the day or week to maximize spatial efficiency and meet diverse needs. For instance, job and rights empowerment programs and training sessions may operate during daytime hours (08:00–18:00), while health services or women's care may continue into the evening (18:00–22:00). On weekends, social and community interaction functions become more prominent to strengthen social bonds.

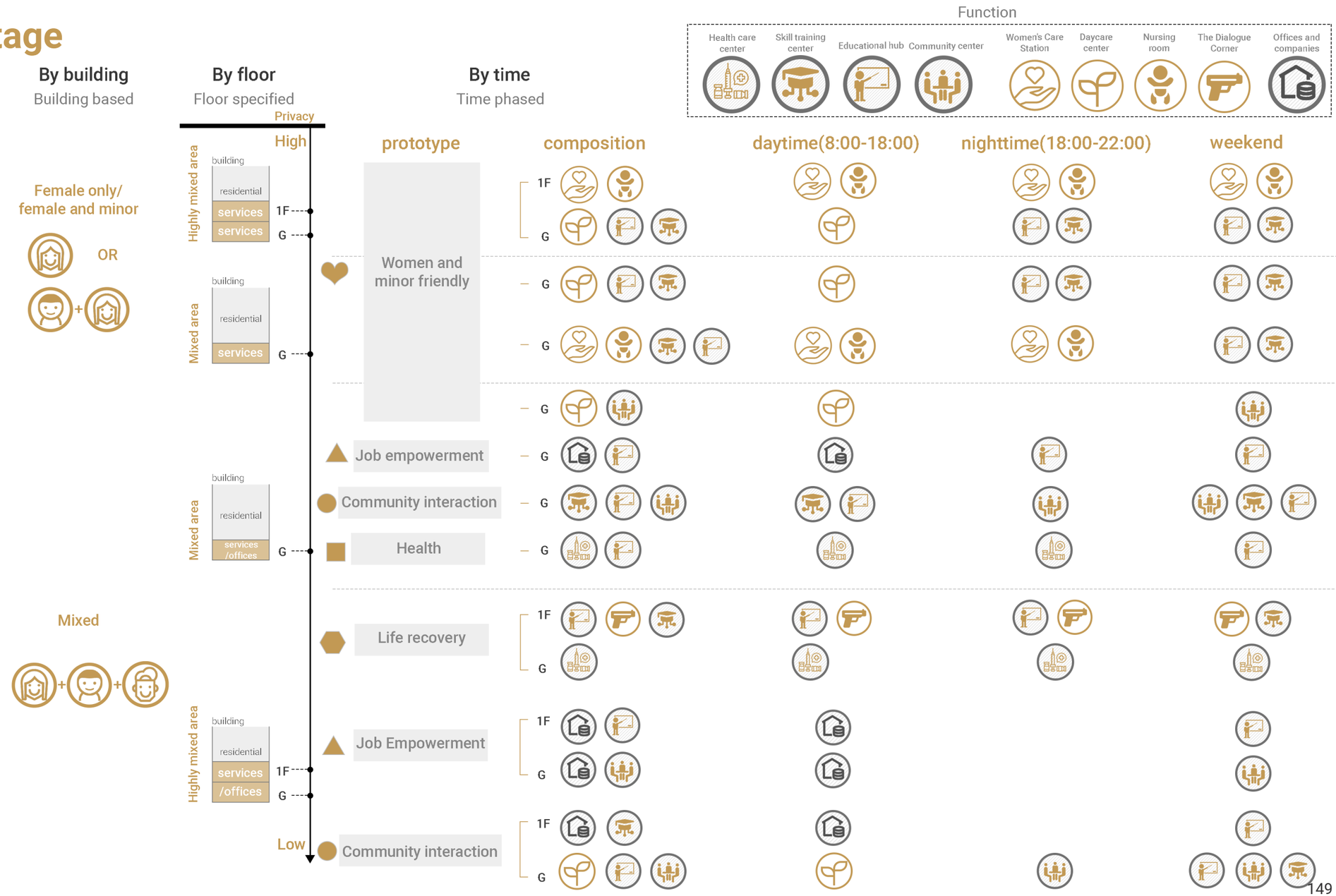


Figure 51: function implementation kit
Made by author

7 Strategy of transitional stage

7.8 Spatial structure at the Neighborhood scale

7.8.1 Three cores

Based on different land use types and spatial characteristics, the area was divided into three sub-zones, each with its own reintegration cluster focusing on a specific function. Each cluster contributes a unique role to the overall support system within the neighborhood. Together, these clusters form a networked system that enhances the support of reintegration through spatial exposure and connection to the surroundings. By increasing opportunities for interaction between new inhabitants and old inhabitants, this approach marks the beginning of reducing stigmatization.

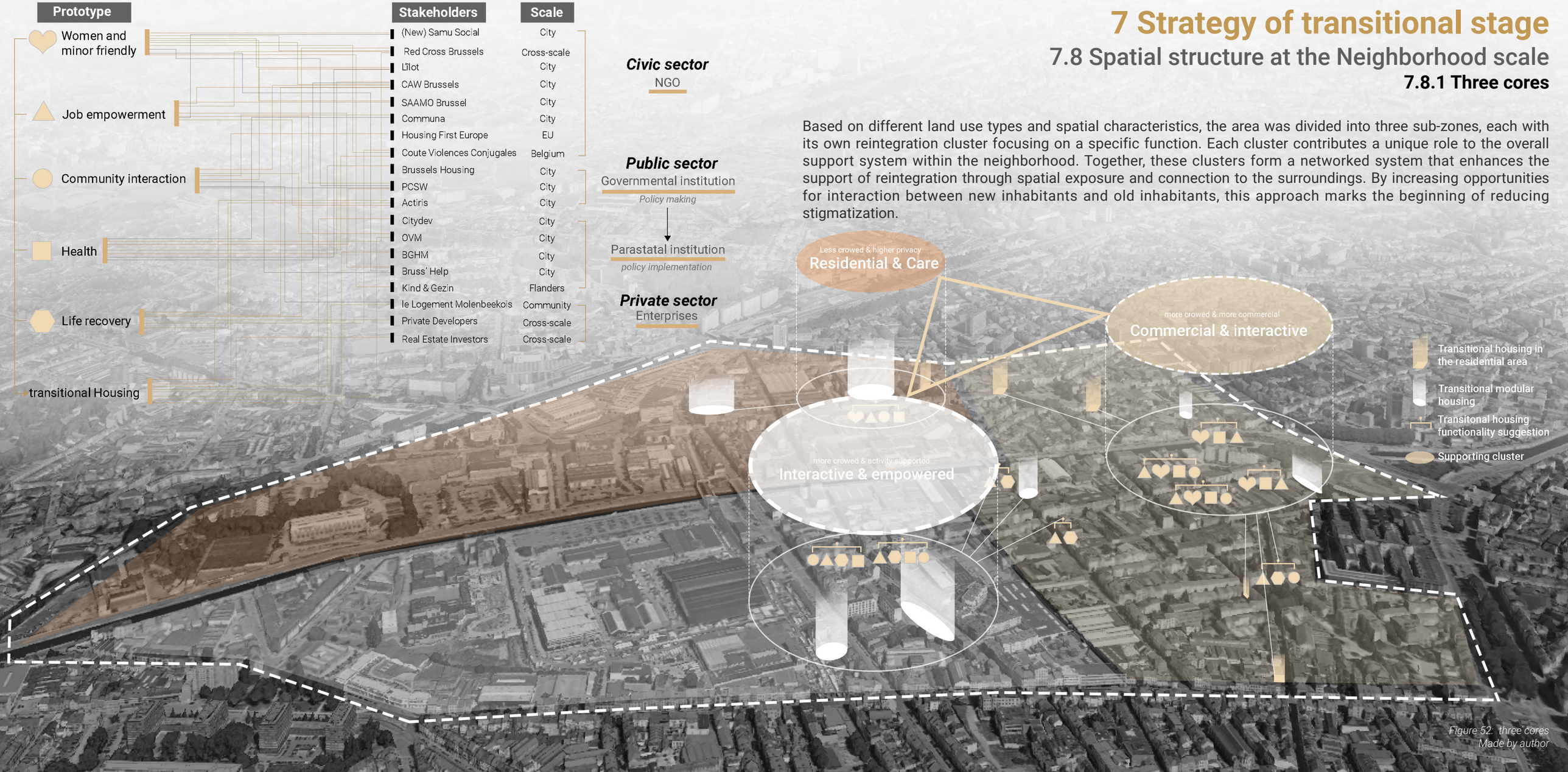


Figure 52: three cores
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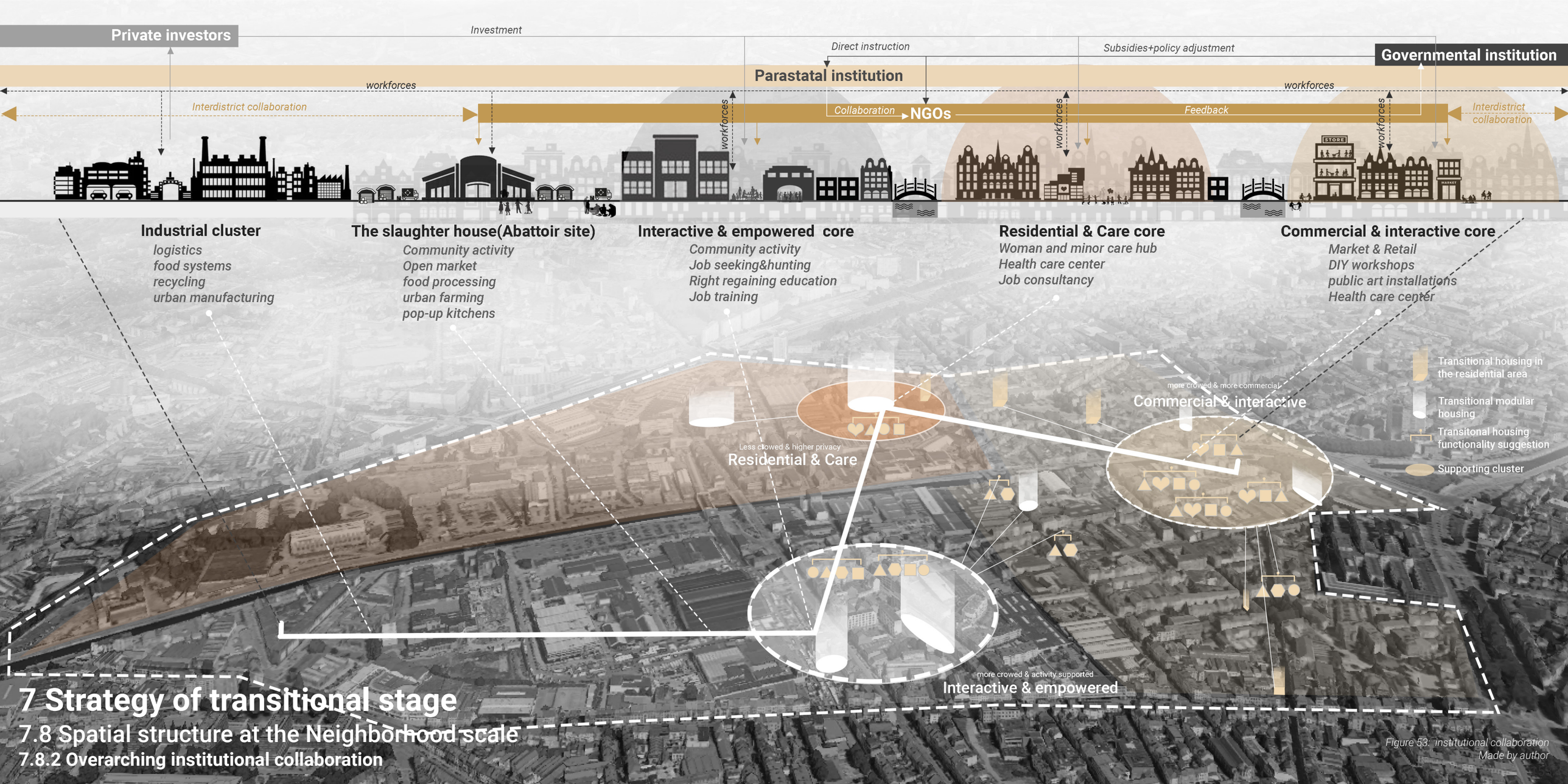


7 Strategy of transitional stage

7.8 Spatial structure at the Neighborhood scale

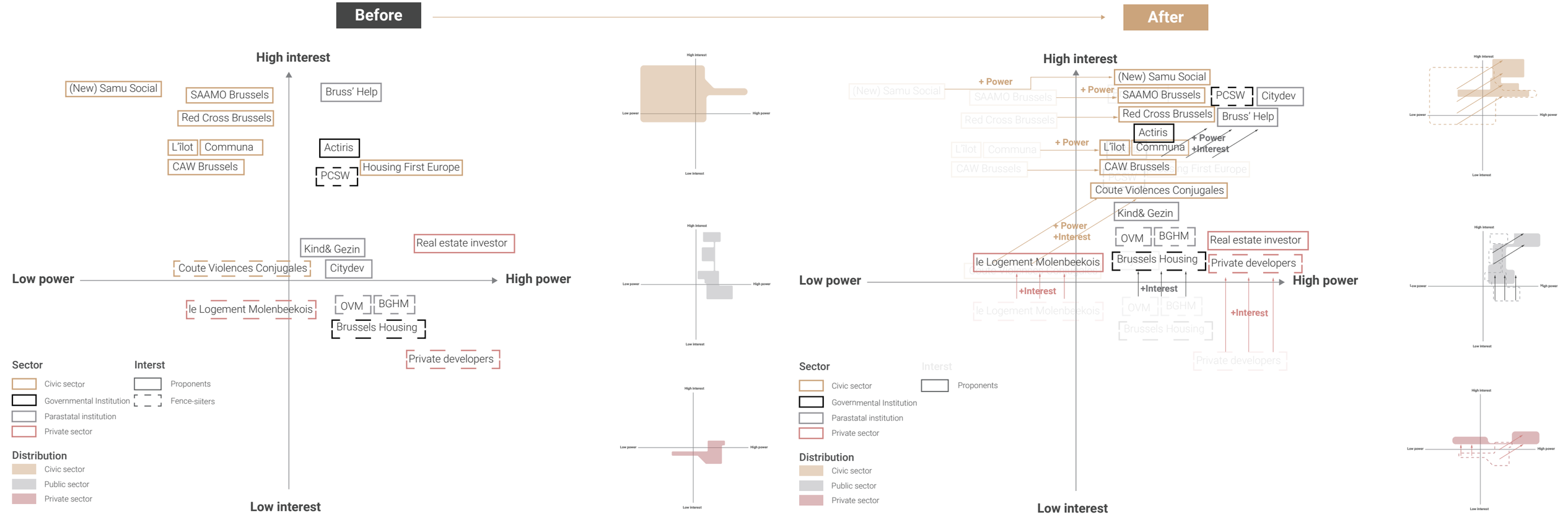
7.8.2 Overarching institutional collaboration

Figure 53: institutional collaboration
Made by author

7 Strategy of transitional stage

7.8 Spatial structure at the Neighborhood scale

7.8.2 Overarching institutional collaboration



In the context of the homelessness in general, NGOs play a crucial role throughout the reintegration process. They typically demonstrate a high level of interest and commitment, but often lack the institutional power needed to drive systemic change. In contrast, the private sector—particularly private developers and real estate investors—holds significant financial resources and urban influence. However, transitional housing for vulnerable groups is generally not seen as profitable or attractive enough for them to engage with, which limits their willingness to participate in such initiatives. Meanwhile, governmental and parastatal institutions possessed significant power but remained passive or disengaged, positioned in the low-interest quadrant.

After change of interests and power, several NGOs not only retained their strong interest but also gained influence through policy support and increased collaboration with public entities. Importantly, government and parastatal institutions like Brussels Housing, BGHM, and Citydev are repositioned with notably increased interest, acknowledging their role as crucial enablers rather than distant administrators. real estate investors and private developers have shifted toward the high-interest quadrant. This repositioning highlights the need for their active participation. Not only as stakeholders with capital and land assets, but as collaborators in achieving socially-driven housing solutions.

Figure 54: changing of collaboration
Made by author

7 Strategy of transitional stage

7.9 Sketching scenarios

Image 16: the street view of vacant building
Source: Google map

Figure 55: sketching the vacant building
Made by author

Image 17: the street view of vacant plot
Source: Google map

Figure 55: sketching the vacant plot
Made by author


A DAY IN TRANSITION
—— "FEEL REALLY SUPPORTED"
GOOD MORNING
KNOW MY RIGHT
MORNING
CLOSE
Hi!
CAFE
HOW'S YOUR DAY GOING?
LET'S TAIK!
DINNER TIME
WORKSHOP
COUNSELING ROOM

"Citizen"

1. Core Transition

Potential transitional housing

Urban refill

Vacant land

Vacant building

2. Supporting structure

Potential multifunctional space

Urban revitalize

Monofunctional space

Multifunctional space

Neighborhood-scale collaboration

New inhabitants

Private investor

NGOs

Housing agency

3. Strategic system

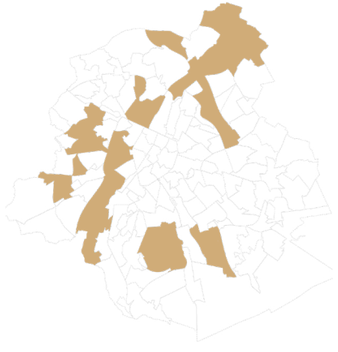
Potential interconnected networks

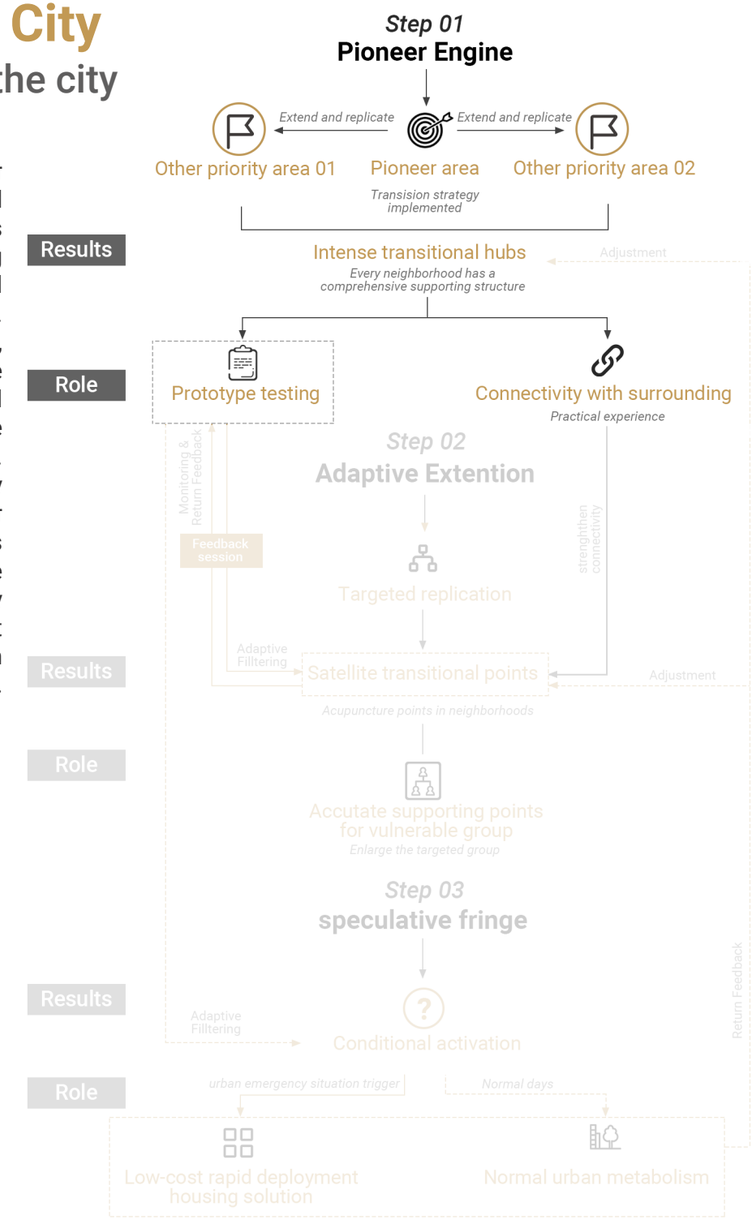
Based on time and conditional map, a future vision map for the city is created

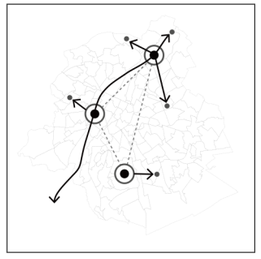
8 Future vision of City

8.1 Future structure of the city

The first step starts with “Pioneer Area” from the priority area identified through conditional map. This area becomes a prototype testing ground where intense transitional support hubs are implemented. These hubs aim to integrate housing, health, training, and administrative services as shown in the transitional stage into one highly accessible neighborhood-based structure. Through strong spatial connectivity and high exposure, this pioneer cluster not only serves the citizens but also acts as a replicable engine to guide other priority areas. The goal is to prove that comprehensive reintegration can be spatially designed and scaled.







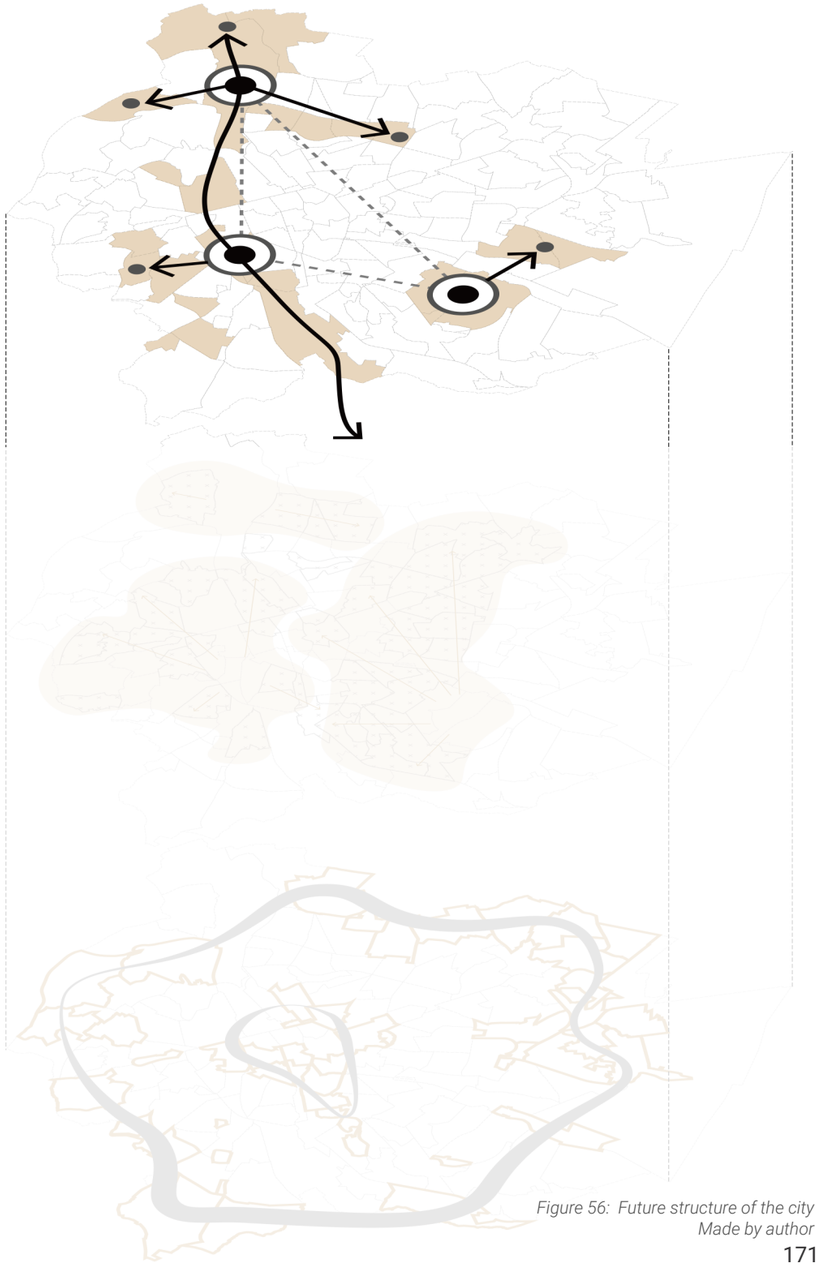
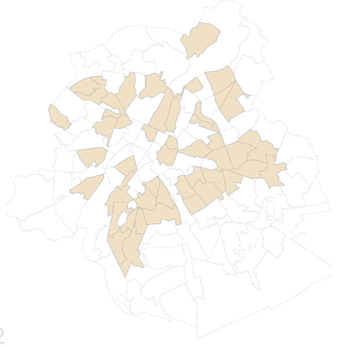
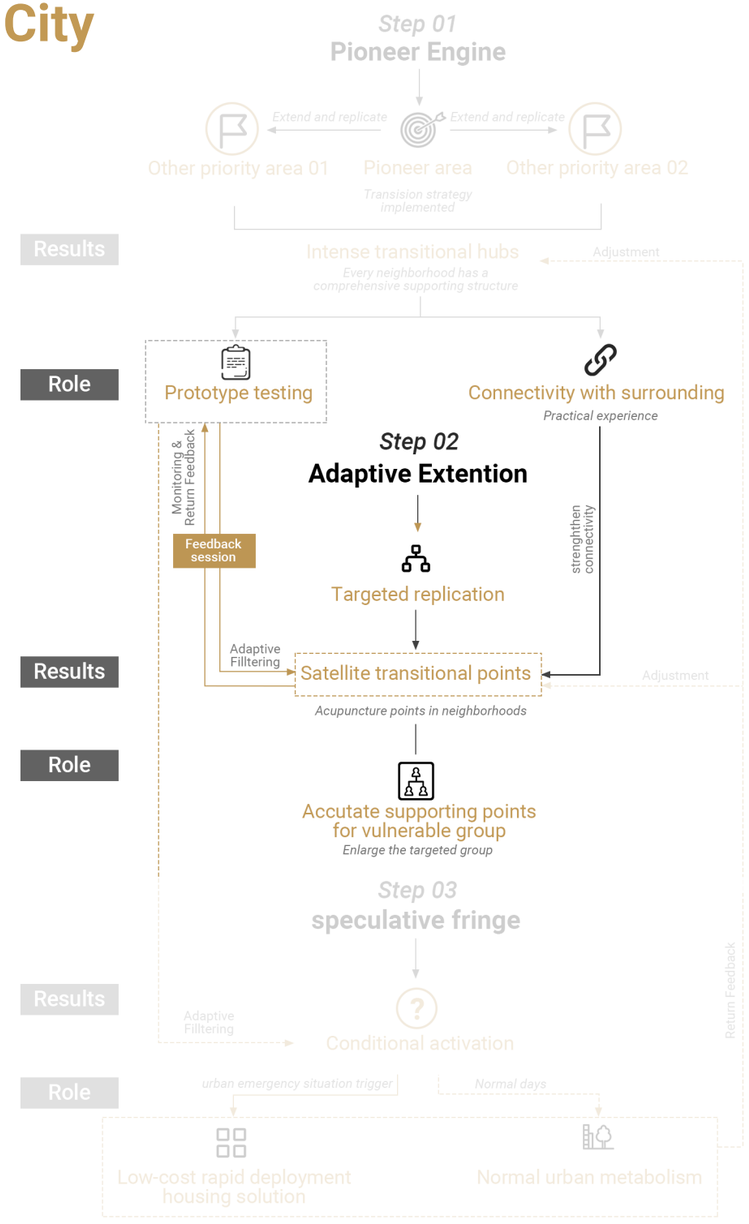


Figure 56: Future structure of the city
Made by author

8 Future vision of City

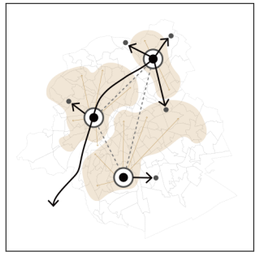
Once the Pioneer Engine proves effective, the second step focuses on Moderate Potential Areas, where intervention is possible but must be more carefully tailored. Here, targeted replication occurs in the form of satellite transitional points, which apply selected strategies from the pioneer zone through adaptive filtering. These interventions are lighter, smaller in scale, but strategically positioned—acting as “urban acupuncture” to extend reintegration support. Feedback loops between Step 01 and Step 02 allow for continuous adjustment, ensuring each neighborhood's solution reflects its specific spatial and social context.





Pioneer Engine

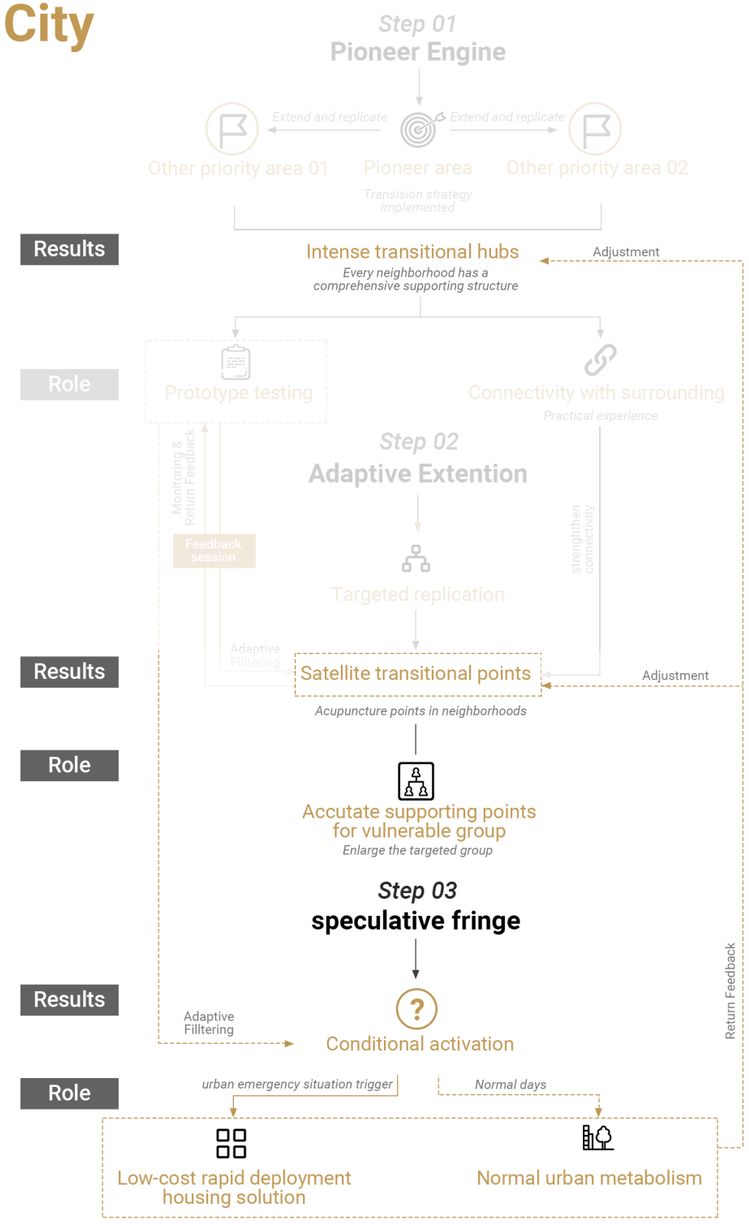
Adaptive Extention



speculative fringe

8 Future vision of City

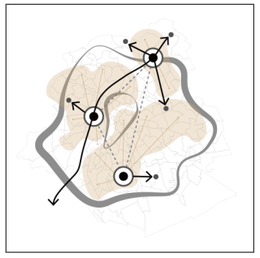
The third step addresses the most uncertain territories: the Limited Potential Areas. These areas are not suitable for immediate intervention but have long-term strategic value. Defined here as the “speculative fringe,” they function as urban reserves. Spaces where speculative, low-cost, and modular strategies can be pre-tested or stored. This vision includes a conditional activation mechanism: under normal circumstances, these areas maintain standard urban metabolism; but in cases of emergency or systemic shift, they are ready to deploy rapid transitional housing or new support frameworks. Their passive presence ensures that reintegration capacity can expand with the city’s evolving needs.

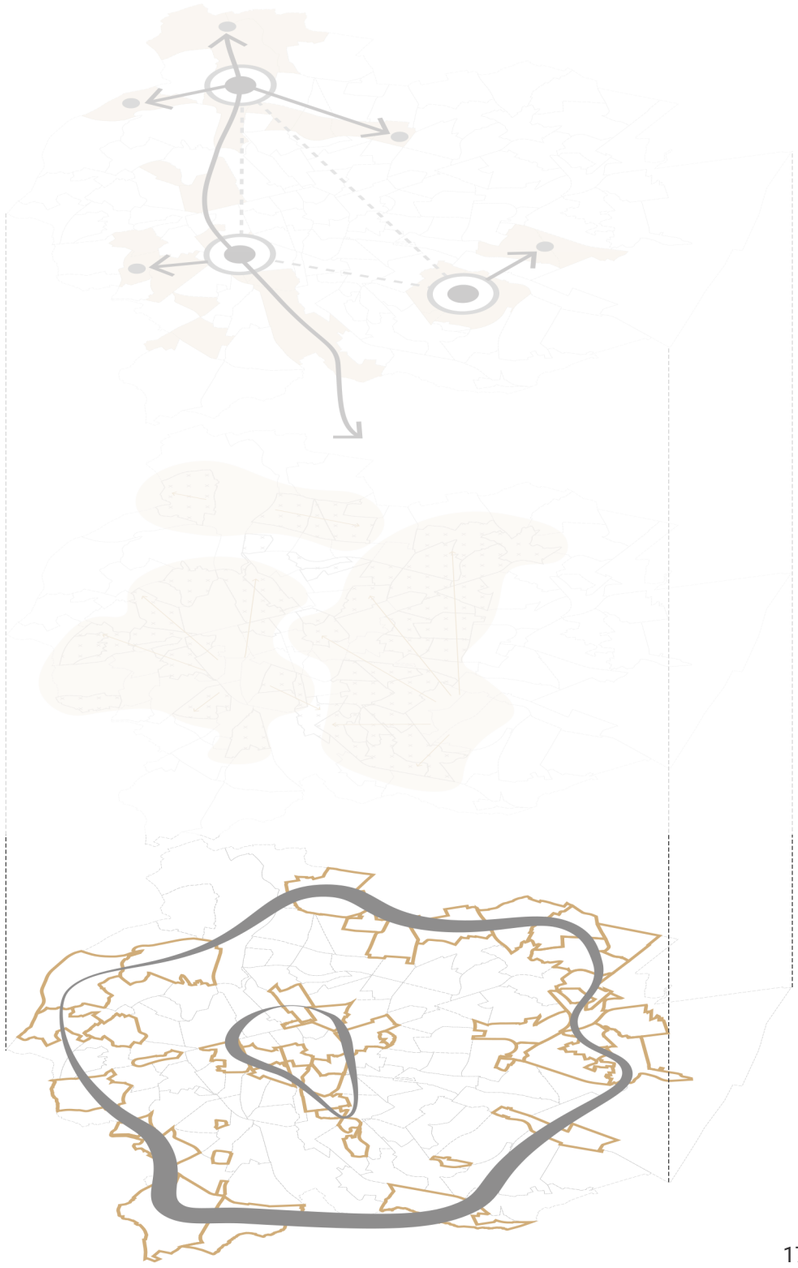


Pioneer Engine

Adaptive Extention

speculative fringe





8 Future vision of City

8.2 Back to the trajectory

When going back to the trajectory introduced in the "Problem Field", what I did and intervened in through this thesis was essentially to simplify the process by which Belgian roofless people gain access to affordable housing.

They no longer need to line up endlessly for emergency shelter beds or wait for extremely limited affordable housing units—instead, they can directly enter a transitional stage. This allows them to gradually reintegrate into society by participating in community activities and receiving support through transit services. Through the functioning of this system, they are supported in regaining full citizenship.

Although this might seem like only one small adjustment within the overall pathway, for those in the extremely vulnerable position, it could be a real chance to change their lives.

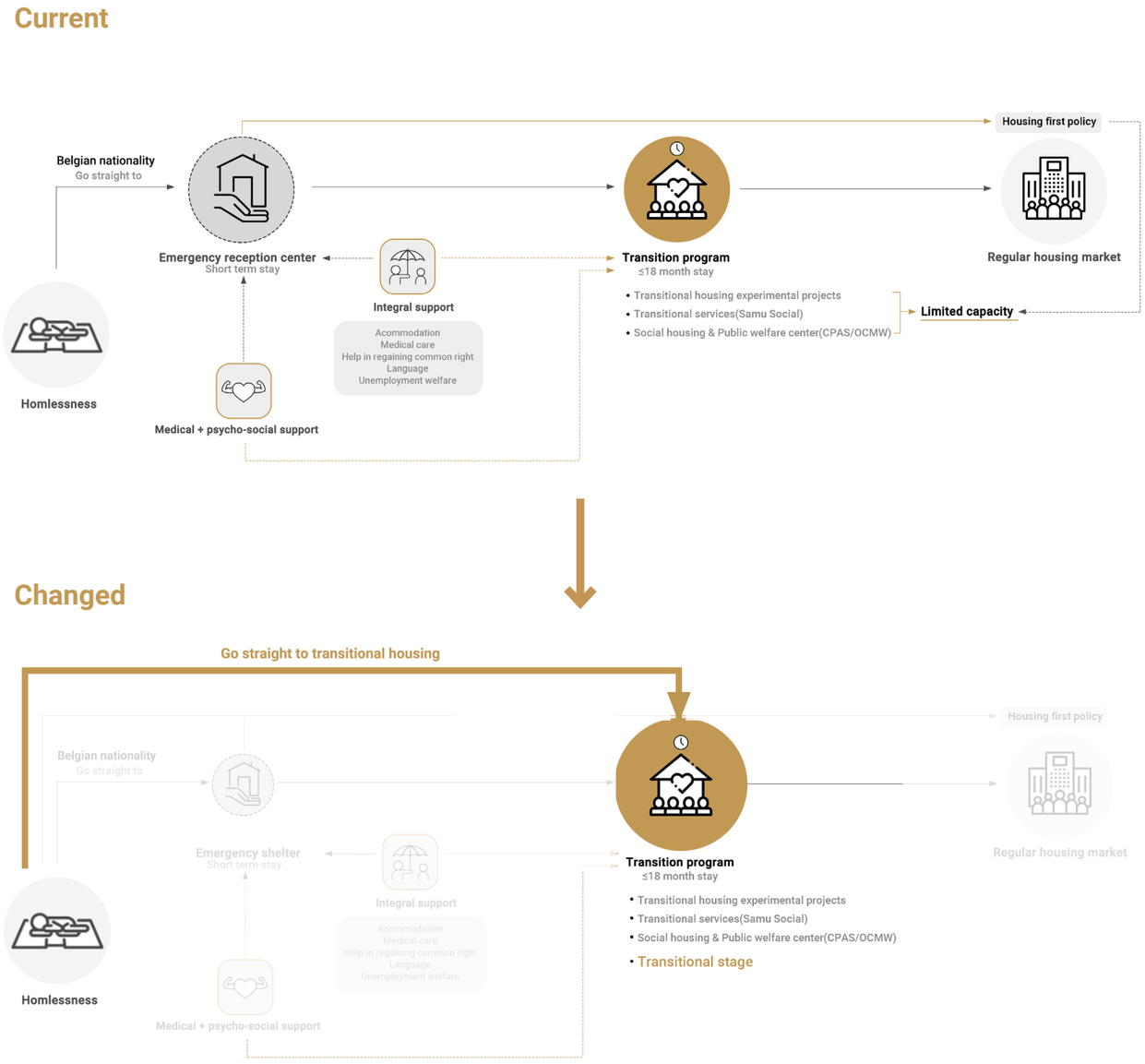


Figure 57: Back to the trajectory
Made by author

Conclusion

9 Conclusion and Discussion

The thesis begins with the main research question: How can a transitional housing stage mitigage the housing shortage issue among the Belgian nationality roofless in the Brussels-Capital Region? Through the structure of the thesis - Contextualization, Analysis and Evaluation and Strategy and Design, I build up the thesis by answering sub-questions that are categorized into four parts: Analyze, Expose, Propose and Politicize.

Through the Problem Synopsis, this thesis analyzed the most widely recognized categories of homelessness(ETHOS) in current academic discourse. It also examined the potential causes that lead to long-term segregation and the vicious cycle. One of the key structural issues is the government's promotion of homeownership, which has contributed to the limited public social housing and private rental market—both of which intensify housing exclusion for vulnerable groups.

By analyzing the trajectory of reintegration for roofless people, the thesis highlighted the path dependency embedded in the current system, as well as the important role of transitional housing. This analysis emphasizes the need for a more systematic and multi-stakeholder support framework to help roofless people re-enter the housing market. Even though the city has a plan to end homelessness by 2030, the current system remains too difficult to navigate—even for Belgian citizens who should, in theory, qualify for support.

To identify a suitable zoom-in area for developing the transitional strategy, the thesis constructed a detailed index: The Reintegration Supportiveness Index, which measures the capacity of each neighborhood to support roofless people reintegration. The index is based on 13 key indicators, including the number of markets and stores, public transportation accessibility, and the number of educational institutions. The weighting of these indicators was informed by fieldwork interviews with local residents, experts, and roofless people. The resulting Reintegration Supportiveness Map showed a clear spatial pattern: central neighborhoods tend to have more of the services and facilities needed for reintegration, while peripheral areas often lack these essential urban elements.

In parallel, the thesis created a Conditional Map based on land-use and regulations in BCR. This map categorizes areas into four types: Protection Areas (where interventions are prohibited), Limited Potential Areas, Moderate Potential Areas, and Priority Areas (with high potential and urgency for intervention). By combining this conditional map with the Reintegration Supportiveness Map, a priority intervention zone was identified for further strategy making and implementation.

Based on the selected neighborhood, the thesis proposed a three-phase Transitional Stage, aligned with the city's Master Plan to end homelessness by 2030. The first phase focuses on repurposing empty buildings and vacant plots into transitional housing. The second phase proposes activating the ground and first floors of vacant buildings to accommodate essential support services based on needs, such as healthcare, job training, and community center, to enable roofless people to achieve decent job, stable income and health condition. Crucially, this strategy calls for cooperation between governmental institutions, NGOs, and private investors, encouraging an adjustment of interests and responsibilities to make the system function. The final phase presents a city-scale vision map to demonstrate how this strategy could expand beyond the pilot site and operate on multiple scales.

The thesis concludes by adjusting the trajectory introduced at the beginning. It reflects on how the transitional strategy could simplify the current trajectory and to make it more accessible, direct, and supportive. What is needed now is the collective will to put them into action. This research offers a roadmap for Brussels: to make better use of vacant spaces, to strengthen neighborhood-level support systems, and to shift the focus from simply managing homelessness to ending it—by getting people into permanent, dignified housing.

Image 18: the street graffiti
Taken by author

10 Reflection

Positionality

Homelessness or more specifically, rooflessness, is not simply a spatial or social issue, but a deeply ethical one. It challenges the fundamental values of a city: who is seen as part of the city, and who is left outside. In this thesis, I begin with acknowledging that roofless people are often segregated not only in the housing market, but also in people's dignity, visibility, and participation. This is also linked with the first part of the critical planning approach: Expose. Only when this group of vulnerable people are getting more visible to the public, can they get enough attention to ask for a change. Addressing homelessness, therefore, is not just about providing attention; it is about restoring spatial justice, equity, and full urban citizenship.

The core of the thesis is concluding a map of Reintegration Supportiveness of Roofless People to guide the transitional stage that provides detailed transit system for roofless people to reintegrate to society. The Reintegration Supportiveness Map was created to challenge the data exclusion on the roofless. For example, a population density map would not include those living on the streets for they are lacking official address—yet aren't they also part of the city? The second part of the project, the strategy of transitional housing, is not designed as a form of containment, but rather as an position response rooted in the right to housing, not the right of property.

At the same time, a complexity arises. Are we encouraging temporary transitional housing to remain "temporary" permanently? Can transitional housing be designed to avoid institutionalization or social stigma? These questions remain open—and my work seeks not to close them, but to build upon them through spatial strategy and stakeholder collaboration.

This thesis focuses on developing transitional strategies specifically for roofless people with Belgian nationality, and there's a reason for that. In large European cities, homelessness is not only a well-known social issue, but also a deeply political one, involving various interest groups and different homeless populations. The public often understood homelessness with people sleeping on the streets, but as ETHOS categorizes, homelessness includes much more—such as those facing eviction or living in inadequate housing.

When homeless people try to reintegrate into Brussels society, their nationality plays a big role in the kind of support and procedures they have to follow. Thus, for the thesis, it is feasible to focus on one specific group instead of making discussion general. Public discussions and media often highlight the struggles of non-EU migrants, while the voices of native homeless people are frequently overlooked. Yet, according to the latest Counting Homelessness Report by Bruss Help, this local group makes up the largest share of the homeless population.

This "invisibility" led me to focus on roofless people with Belgian nationality. Despite being legal citizens with rights, they still face systemic exclusion from the housing market and society. This hidden but structural marginalization has shaped my positionality. Choosing to focus on roofless people with Belgian nationality doesn't mean ignoring the struggles of migrants—instead, it reveals how even "legal" citizenship can fail in the face of housing crisis and social exclusion.

Ethical consideration

This research follows ethical principles in both data collection and processing, and strategy to minimize harm and protect the dignity of vulnerable participants. Verbal consent was obtained from all interviewees, including roofless people, NGO workers, and local residents. To protect privacy, no names or identifiable details were recorded; instead, anonymized codes (e.g., "01," "12") were used in fiedwork transcripts for each interviewee. Given the sensitivity of rooflessness experiences, interviews avoided delving into traumatic histories (e.g., domestic violence) unless participants voluntarily shared such narratives.
In the Spatial Analysis chapter, I analyzed 14 sets of spatial data to create the Map of Reintegration Supportiveness Value for each neighborhood. Most of these datasets were open-source, second-hand geodata—publicly accessible and with transparent data sources and collection methods that I could verify for reliability and relevance. However, when it came to mapping services specifically targeted at homeless people, I manually geolocated service points in QGIS based on address information provided by the NGO Bruss'Help. While all the data sources used were publicly available, I critically examined the original collection context and limitations of each dataset before integrating them into the analysis.

During the fieldwork, I tried to engage in conversations with three roofless people. However, due to language barriers, the communication was quite challenging. We relied on my phone translators to talk. Fortunately, they were very willing to talk with me. I carefully limited the questions to basic, non-invasive ones such as "How long have you been homeless?" and "Where are you from?", avoiding any sensitive or personal topics. The reality is that it was difficult for them to express more—either due to the language barrier or challenges in self-expression. These conversations made me deeply aware of how heavily stigmatized this group is. They are far from the negative stereotypes often portrayed in the media. On the contrary, they were approachable and open, and they were just people who simply do not have a place to live.

I was growing up in the country where people had very limited experience to see and talk with the homeless, as homelessness is relatively rare in China. This valuable research experience allowed me, as someone who is a so-called "outsider" to this topic, to gain a deep and comprehensive understanding of the struggles of homeless people within the European context. As someone raised in an Asian background, this has been a truly meaningful and unforgettable learning journey.

Knowing privilege

It is crucial to always remind myself of the privileged position I am in—especially when engaging with those who are the most vulnerable in society. I am fully aware that being able to study topics related to social justice and vulnerability at university, and having the opportunity to interact directly with people experiencing it, is already standing at the privileged and fortunate position that many do not have access to.

Recognizing this privilege has made me value every part of the research process even more, and has strengthened my commitment to louder the voices of marginalized groups.

Apply Mixed Quantitative and Qualitative Methods to Roofless Problems

This thesis presents an innovative use of mixed methods, combining both quantitative and qualitative approaches to explore the challenges of rooflessness. The quantitative analysis was used to create the Reintegration Supportiveness Map, which identifies how well each neighborhood supports the reintegration of roofless people. This allows for a quick and intuitive understanding of where the support systems are stronger or weaker.

On the other hand, the qualitative analysis enabled a more interpretative layer, allowing subjective insights and contextual understanding to guide the next steps of the strategy development. Traditionally, rooflessness is approached primarily through qualitative research, since it is deeply embedded in complex social and political dynamics.

However, introducing even a rough and basic level of quantitative analysis provides a new perspective. It allows broader audiences not just researchers, to grasp the severity or imbalance of the issue through simple, visualized data. Especially for people outside of this professional field, numbers and maps are often easier to understand than dense academic texts. In this way, the analysis can raise awareness about how differently various communities within BCR support roofless people.

Path-dependency and Bureaucratic Disincentivization

For many roofless people, reintegrating into society depends mostly on the path provided by the government. In Belgium, this path typically involves a sequence for belgian roofless people: first, people are categorized based on their nationality; then they enter temporary shelters, followed by transitional housing, and eventually, the formal housing market.

This procedure is already challenging for me to understand and figure out. But for vulnerable rooflessness, it somehow becomes a barrier rather than a support system. The strategy proposed in this thesis also aims to simplify this process, allowing people to enter the transitional stage directly, without waiting for each step in the pathway to unfold. This simplification is designed to accelerate their reintegration and reduce unnecessary delays.

Institutionalized pathways in this way are designed to “guide” and help, but may still bring up the risk of punishing the most vulnerable ones because of bureaucratic disincentivization. When the reintegration process becomes overly formalized, it often relies on invisible forms of power: procedures, unclear requirements, or excessive paperwork that can quietly discourage participation. This results in a form of procedural injustice, where people are not explicitly excluded but are worn down by the system itself. Such injustices must be acknowledged and avoided, especially in policies designed to support the most vulnerable groups in our cities.

11 Bibliography

Goffman, E. (2009). Stigma: Notes on the management of spoiled identity. Simon and schuster.

Kostrzyńska, M., & Littlechild, B. (2025). How "helping" can sustain the stigmatization of homeless people. Journal of Social Work, 25(1), 21-41.

Bourdieu, P. (1999). Site effects. In P. Bourdieu et al. (Eds.), The weight of the world: Social suffering in contemporary society (pp. 123–129). Stanford University Press.

Change, E. (2018). Who is to blame for the decline of large housing estates. Housing estates in Europe: poverty, ethnic segregation and policy challenges, 57.

Kallin, H., & Slater, T. (2014). Activating territorial stigma: gentrifying marginality on Edinburgh's periphery. Environment and planning A, 46(6), 1351-1368.

Costa, R., & De Valk, H. (2018). Sprouted all around: The emergence and evolution of housing Estates in Brussels, Belgium. Housing Estates in Europe: Poverty, Ethnic Segregation and Policy Challenges, 145-166.

Baldwin Hess, D., Tammaru, T., & Van Ham, M. (2018). Housing estates in Europe: Poverty, ethnic segregation and policy challenges (p. 429). Springer Nature.

De Decker, P., Kesteloot, C., & Newton, C. (2009). Where are vulnerable people to live in a state obsessed with homeownership?. In In my caravan, I feel like superman: essays in the memory of Henk Meert 1963-2006 (pp. 7-30). Centre for Housing Research.

De Decker, P. (2008). Facets of housing and housing policies in Belgium. Journal of Housing and the Built Environment, 23, 155-171.

Meert, H. (2013). Mens, maatschappij en ruimte. EPO Uitgeverij. 189.

Avramov, D. (1995). Homelessness in the European Union: Social and legal context of housing exclusion in the 1990s: Fourth Research Report of the European Observatory on Homelessness. Feantsa.

Robben, L. L., Pierre, A., & Hermans, K. (2023). 'Without an address, you do not exist': the administrative invisibility of people experiencing homelessness in Belgium. Citizenship Studies, 27(5), 566–583. https://doi.org/10.1080/13621025.2023.2237418

Isin, E. F., & Turner, B. S. (2007). Investigating citizenship: An agenda for citizenship studies. Citizenship studies, 11(1), 5-17.

Lefebvre, H. (1996). The right to the city. In E. Kofman & E. Lebas (Eds. & Trans.), Writings on cities (pp. 63–181). Blackwell. (Original work published 1968)

McCann, E. J. (2002). Space, citizenship, and the right to the city: A brief overview. GeoJournal, 58(2/3), 77-79.

Mironova, O. (2019). Defensive and expansionist struggles for housing justice: 120 years of community rights. Radical Housing Journal, 1(2), 135-152.

Seltser, B. J., & Miller, D. E. (1993). Homeless families: The struggle for dignity. University of Illinois Press.

Miller, A. B., & Keys, C. B. (2001). Understanding dignity in the lives of homeless persons. American journal of community psychology, 29, 331-354.

Fleury, M. J., Grenier, G., Sabetti, J., Bertrand, K., Clément, M., & Brochu, S. (2021). Met and unmet needs of homeless individuals at different stages of housing reintegration: A mixed-method investigation. PloS one, 16(1), e0245088.

Cardoso, R., Sobhani, A., & Meijers, E. (2022). The cities we need: Towards an urbanism guided by human needs satisfaction. Urban Studies, 59(13), 2638-2659.

Desforges, L., Jones, R., & Woods, M. (2005). New geographies of citizenship. Citizenship studies, 9(5), 439-451.

Max-Neef, M. (1992). Development and human needs. In: Ekins P and Max-Neef M (eds) Real-Life Economics: Understanding Wealth Creation. London: Routledge, pp. 197–213.

Mohr, J. J., Fisher, R. J., & Nevin, J. R. (1996). Collaborative communication in interfirm relationships: moderating effects of integration and control. Journal of marketing, 60(3), 103-115.

De Smet, A., Pak, B., Schoonjans, Y., & Bruyneel, G. (2023). The right place. Finding locations for the co-creation of temporary affordable housing through the Solidary Mobile Housing Pilot Project. Brussels Studies. La revue scientifique pour les recherches sur Bruxelles/Het wetenschappelijk tijdschrift voor onderzoek over Brussel/ The Journal of Research on Brussels.

Fleury, M. J., Grenier, G., Sabetti, J., Bertrand, K., Clément, M., & Brochu, S. (2021). Met and unmet needs of homeless individuals at different stages of housing reintegration: A mixed-method investigation. PloS one, 16(1), e0245088.

Perspective.brussels. (n.d.). Plans et programmes d'initiative régionale – PRAS. Retrieved April 21, 2025, from https://perspective.brussels/fr/outils-de-planification/plans-et-programmes-dinitiative-regionale/pras

Bircan, T., Schockaert, I., & Nicaise, I. (2018). More Than a Roof: A Statistical Profile of Homeless People in Belgium. European Journal of Homelessness, 12(2), 35-57.

Mostowska, M. (2024). Visible women, invisible gender: Knowledge production on homelessness in Flanders. European Journal of Women's Studies, 31(2), 197-212.

Moore, T., & McArthur, M. (2011). 'Good for kids': Children who have been homeless talk about school. Australian Journal of Education, 55(2), 147-160.

Van Hamme, G., Grippa, T., & Van Criekingen, M. (2016). Migratory movements and dynamics of neighbourhoods in Brussels. Brussels Studies. La revue scientifique pour les recherches sur Bruxelles/Het wetenschappelijk tijdschrift voor onderzoek over Brussel/The Journal of Research on Brussels.

Costa, R., & De Valk, H. A. (2018). Ethnic and socioeconomic segregation in Belgium: A multiscalar approach using individualised neighbourhoods. European Journal of Population, 34, 225-250.

Rios, M. (2008). Envisioning citizenship: Toward a polity approach in urban design. Journal of Urban Design, 13(2), 213-229.

McCann, E. J. (2002). Space, citizenship, and the right to the city: A brief overview. GeoJournal, 58(2/3), 77-79.

Sassen, S. (2002). The repositioning of citizenship: Emergent subjects and spaces for politics. Berkeley journal of sociology, 4-26.

Max-Neef, M. (2017). Development and human needs. In Development ethics (pp. 169-186). Routledge.

European Commission. (2013). Commission staff working document. Confronting homelessness in the European Union.

Godart, P., Swyngedouw, E., Van Criekingen, M., & van Heur, B. (2023). Housing evictions in Brussels: how many, who and where? Brussels Studies, 176.

Vander Donckt, A., & Vindevogel, M. -S. (2021). A homeless atlas: The architecture of precarious dwelling in Brussels (Master's thesis, KU Leuven). Faculty of Engineering Technology, Department of Architecture. Retrieved from KU Leuven website.

European Federation of National Organisations Working with the Homeless (FEANTSA). (2023, January 31). Urban Challenges, Housing Solutions: Understanding Cities' Vacant Housing Potential to Provide Adequate Affordable Housing Solutions [Report]. FEANTSA. Retrieved from https://www.feantsa.org/en/report/2023/01/31/

Malherbe, A., Moriau, J., Rosa, E., & Wagener, M. (2019). Homelessness in Brussels–Limits of multi-level governance in the application of the principle of spatial justice. Justice Spatiale/Spatial justice, 10, 1-24.

Dekker, K. (2024). Urban homelessness: Designing for the needs and recognition of the homeless population (Master thesis, Delft University of Technology). TU Delft Repository. https://resolver.tudelft.nl/aff4e5d7-8144-40f9-8ddb-16f7a58fca46

Su, J. (2024). How to live together? Scenarios for integrating social housing and refugee housing pathways in Trèfles and La Roue, Brussels (Master's thesis, KU Leuven, Faculty of Engineering and Department of Architecture).

De Smet, A., Pak, B., & Schoonjans, Y. (2018, September). Waiting spaces as spaces of negotiation in the SWOT-MOBILE design studio. In Landscapes of Conflict, ECLAS Conference 2018, Ghent, Belgium, Conference Proceedings (pp. 502-510). University College Ghent-School of Arts-Landscape & Garden Architecture and Landscape Development; Ghent, Belgium.

12 Appendix

Appendix 1: List of nine human needs, their 20 operational dimensions in cities and respective indicators for satisfiers/dissatisfiers.

Needs	Dimensions	Indicators for (dis)satisfiers			
		Being	*Having*	*Doing*	*Interacting*
1. Subsistence	Physiology		Air quality | Water and energy infrastructure Food availability		Food systems
	Shelter		Housing stock | Neighbourhood quality Temporary settlement areas		Housing markets and regulations
	Mobility		Transport infrastructure | Multimodality Proximity to destinations		Transport affordability and accessibility
2. Protection	Health	Life expectancy	Health care | Environmental quality Legibility and comfort of built space	Environmental action	Disease transmission
	Security	Crime perception	Police and security services Communication systems | Safe environment		Social surveillance and neighbourhood monitoring
	Safety		Civil defence | Geographic risk features Resilience of built environment and natural areas		Preparedness levels and training
3. Affection	Intimacy	Isolation and loneliness	Meeting spaces and social amenities Access to counselling		Internet access | Partner matching
	Aesthetics		Built environment | Green and blue areas Heritage preservation | Biodiversity		Accessibility of public spaces
4. Understanding	Knowledge		Higher education and knowledge institutions Schools | Adult education/ training		Community knowledge | Education systems
	Innovation	Entrepreneurship	Informal interaction spaces R&D institutions | Innovation districts		Sharing, matching and learning opportunities
5. Participation	Community	Trust and care	Community centres | Meeting places		Social capital | Community-building
		Spiritual/faith sharing	Religious spaces and activities		Urban subcultures | Segregation levels
	Society	Solidarity/tolerance	Transitory public spaces Symbolic public spaces	Commuting	Social gatherings and events Capacity for collective action
6. Leisure	Recreation	Induced demand	Entertainment and tourism amenities Arts | Shopping areas		Competition for space
	Relaxation	Stress	Access to nature | Resting places Mind and body amenities		Overcrowding
7. Creation	Creativity	Personal initiative	Collective interaction spaces | Media outlets Meeting venues and cultural clusters		Access to (social) media and networks Peer review and interaction
	Productivity	Free initiative	Firms | Incubators | Digital infrastructure Advanced business service districts		Active sharing, matching and learning mechanisms Employment markets and regulations
8. Identity	Belonging	Spatial memory	Heritage, monuments and collective symbols Openness of urban structure		Community cultures, faiths and traditions
	Recognition	Cosmopolitanism	Public protest spaces | Street grids Public institutions		Sociocultural diversity Gender equality
9. Freedom	Autonomy	'Street smarts'	Welfare systems Social emancipation policies	Freedom to migrate to city Freedom to move in city	Social responsibility
	Liberty	Political engagement	Political system Governance institutions	Traditional practices	Freedom to gather

Appendix 2: full table of reintegration supportiveness value by neighborhood

	ogc_fid	urbis_id	versionid	mdrc	name_fr	name_nl	name_bil	inspire_id	stores and markets	noise level	air quality (PM2.5)	transport infrastructure	health care, food, hygiene service	police station	community center	green area	blue area	Educational institution	religious space	entertainment amanity	governance institution	
									0.845	0.61	0.61	0.755	0.98	0.835	0.795	0.755	0.755	0.82	0.615	0.67	0.7	VALUE
0	41	1	1	41	Berckmans - hotel c	Berckmans	Berckmans	BE.BRUSSELS.I	0.056604	0.336601	0.892248	0.903195	0.173913	0	0.2	0.9045	1	0.846089	0.25	0.106796	1	4.865768
1	43	1	1	43	Brugmann - lepoutr	Brugmann	Brugmann	BE.BRUSSELS.I	0.193396	0.328538	0.913585	0.755082	0.26087	0.333333	0	0.8701	0.933566	0.004594	0.375	0.097087	0.834696	4.270683
2	15	1	1	15	Gare de l'ouest	Weststatio	Weststatio	BE.BRUSSELS.I	0.042453	0.202055	0.896871	0.960552	0.130435	0	0	0.1927	0.928535	1	0.5	0.029126	1	4.252807
3	913	1	1	913	Parc marie-jose	Marie-jose	Marie-jose	BE.BRUSSELS.I	0.009434	0.152095	0.899716	0.96152	0	0	0	0	1	1	0	0	0.711723	3.448729
4	911	1	1	911	Parc astrid	Astridpark	Astridpark	BE.BRUSSELS.I	0	0.206324	0.913229	0.755082	0	0	0	1	1	0	0	0.009709	0	2.769519
5	912	1	1	912	Parc forestier	Bospark	Bospark /	BE.BRUSSELS.I	0	0.278735	0.906828	0.8894	0	0	0	0	0.61157	1	0	0	0.283756	2.875055
6	60	1	1	60	Buffon	Buffon	Buffon	BE.BRUSSELS.I	0.004717	0.231779	0.911451	0.71273	0	0	0	0.8638	0	0.537527	0.125	0	0	2.409283
7	101	1	1	101	Trois tilleuls	Drie linder	Drie linder	BE.BRUSSELS.I	0.042453	0.296443	0.970484	0.639642	0	0	0.2	0.9943	0.738718	0.786681	0.125	0.009709	0.999904	4.187446
8	83	1	1	83	Conscience	Conscienc	Conscienc	BE.BRUSSELS.I	0.061321	0.170909	0.889047	0.750484	0	0.333333	0	0.8342	0.761866	1	0.25	0.019417	1	4.435128
9	110	1	1	110	Fort jaco	Fort jaco	Fort jaco	BE.BRUSSELS.I	0.103774	0.252332	0.961949	0.537028	0	0.333333	0	0.6859	0.677966	0	0	0	0	2.541909
10	701	1	1	701	Cimetiere d'ixelles	Kerkhof el	Kerkhof el	BE.BRUSSELS.I	0.051887	0.188458	0.932077	0.723621	0	0	0	1	0.703613	0.016644	0	0.038835	0.052325	2.636227
11	702	1	1	702	Cimetiere saint-gille	Kerkhof sir	Kerkhof st	BE.BRUSSELS.I	0	0.178182	0.942034	0.674008	0	0	0	0.9186	0.943014	0	0	0	0	2.597726
12	903	1	1	903	Cinquantenaire	Jubelpark	Jubelpark	BE.BRUSSELS.I	0.004717	0.164585	0.894737	0.756776	0	0	0	1	1	0.028959	0.125	0.029126	0.849446	3.446286
13	24	1	1	24	Chaussee de haecht	Haachtse s	Haachtse s	BE.BRUSSELS.I	0.254717	0.293439	0.890469	0.830591	0.086957	0	0.5	0.8607	0.925529	0.533335	1	0.126214	1	5.232734
14	81	1	1	81	Gare de schaerbeek	Schaarbee	Schaarbee	BE.BRUSSELS.I	0.028302	0.19747	0.886558	0.744434	0	0.333333	0	0.9044	0.448464	0	0.25	0.019417	1	3.413725
15	59	1	1	59	Scheut	Scheut	Scheut	BE.BRUSSELS.I	0.061321	0.279051	0.905405	0.760649	0.043478	0.333333	0	0.9437	0.221359	0.824758	0.125	0.048544	0.140361	3.43314
16	909	1	1	909	Parc duden - parc d	Dudenpark	Dudenparl	BE.BRUSSELS.I	0	0.19004	0.911807	0.725315	0	0	0	1	0.341093	0.807441	0	0.019417	1	3.607375
17	905	1	1	905	Parc de la woluwe	Park van w	Park van w	BE.BRUSSELS.I	0.004717	0.167747	0.943812	0.644966	0	0	0	1	0.983008	0	0.125	0	1	3.443032
18	52	1	1	52	Veeweyde - aurore	Veeweide	Veewe(i)(y	BE.BRUSSELS.I	0.061321	0.225929	0.906117	0.82696	0.043478	0.333333	0.2	0.9838	0.958765	0.520773	0	0	0.201634	3.881476
19	805	1	1	805	Industrie birminghai	Industrie b	Industrie b	BE.BRUSSELS.I	0.014151	0.127115	0.898293	0.89666	0	0	0.1	0.0356	1	0.993566	0	0.019417	1	3.703546
20	804	1	1	804	Gare du midi	Zuidstatior	Zuidstatior	BE.BRUSSELS.I	0.080189	0.003636	0.879445	0.964908	0	0.333333	0	0.5137	0.847345	1	0	0.009709	1	4.167372
21	9	1	1	9	Stalingrad	Stalingrad	Stalingrad	BE.BRUSSELS.I	0.117925	0.239209	0.880512	0.946515	0.304348	0	0	0.4061	1	1	0.5	0.106796	1	4.756215
22	114	1	1	114	Dieweg	Dieweg	Dieweg	BE.BRUSSELS.I	0.018868	0.304664	0.941679	0.537512	0	0	0	0.7219	0.98735	0.604922	0	0.009709	0.370573	3.23446
23	5	1	1	5	Notre-dame aux ne	Onze lieve	O.l.v. ter s	BE.BRUSSELS.I	0.127358	0.275099	0.88478	0.952081	0.130435	0	0.4	1	1	0.381276	0	0.087379	1	4.560982
24	19	1	1	19	Vieux laeken ouest	Oud laken	Oud laken	BE.BRUSSELS.I	0.061321	0.227036	0.90505	0.818248	0	0	0	0.6284	0.642052	0.198794	0	0.126214	1	3.266931
25	1	1	1	1	Grand place	Grote mar	Grote mar	BE.BRUSSELS.I	1	0.350198	0.890114	0.954501	0.347826	0	0.1	0.6089	1	0.609069	0.125	1	1	5.903639
26	109	1	1	109	Observatoire	Observato	Observato	BE.BRUSSELS.I	0.004717	0.271304	0.940967	0.593417	0	0	0	0.3327	0.547815	0.094943	0.125	0	0.248686	2.185099
27	30	1	1	30	Porte tervueren	Tervurense	Tervurense	BE.BRUSSELS.I	0.231132	0.261976	0.902916	0.846563	0.043478	0	0.1	0.5391	0.881717	0.45984	0.375	0.087379	0.224763	3.563444
28	87	1	1	87	Reyers	Reyers	Reyers	BE.BRUSSELS.I	0.018868	0.12917	0.893314	0.712004	0	0	0	0.9437	0	1	0.125	0.029126	5.03E-06	2.806108
29	28	1	1	28	Plasky	Plasky	Plasky	BE.BRUSSELS.I	0.080189	0.238261	0.896871	0.835189	0	0.333333	0	0.7487	0.682632	1	0.25	0.097087	0.231527	3.950614
30	800	1	1	800	Industrie nord	Industrie n	Industrie n	BE.BRUSSELS.I	0.084906	0.057391	0.888336	0.582769	0.086957	0	0.2	0.6815	0.897619	0	0	0.038835	0.041723	2.580307
31	700	1	1	700	Cimetiere de bruxell	Kerkhof br	Kerkhof br	BE.BRUSSELS.I	0.009434	0.174545	0.900071	0.562439	0	0	0	1	0.540404	0.410313	0	0	0.986711	3.278289
32	67	1	1	67	Berchem sainte-aga	Sint-agath	St-agatha	BE.BRUSSELS.I	0.066038	0.247747	0.910384	0.739351	0.043478	1	0.3	0.938	0.420462	0.851963	0.25	0.029126	1	5.034094
33	115	1	1	115	Kalevoet - moensbe	Kalevoet -	Kalevoet -	BE.BRUSSELS.I	0.061321	0.232411	0.929943	0.61302	0.043478	0	0	0.7786	0.943319	0.342324	0.25	0.029126	0.24361	3.190837
34	53	1	1	53	Bizet - roue - ceria	Bizet - rad	Bizet - rad	BE.BRUSSELS.I	0.028302	0.154466	0.905405	0.749032	0	0.666667	0	0.9297	0.944836	0	0.25	0.058252	0	3.400676
35	54	1	1	54	Vogelenzang - eras	Vogelenza	Vogelenza	BE.BRUSSELS.I	0.051887	0.140395	0.909317	0.669652	0.043478	0	0	0.7333	1	0	0.125	0.019417	0	2.630891
36	105	1	1	105	Dries	Dries	Dries	BE.BRUSSELS.I	0.033019	0.242846	0.955548	0.667473	0.043478	0	0	0.8415	0.542594	0	0.125	0	0.527736	2.796753
37	38	1	1	38	Hopital etterbeek -	Hospitaal (	H. etterbe	BE.BRUSSELS.I	0.061321	0.307668	0.91643	0.791384	0.043478	0	0	0.8866	0.989238	1	0	0.048544	0.974423	4.389498
38	106	1	1	106	Boondael	Boondael	Boonda(a)	BE.BRUSSELS.I	0.070755	0.257391	0.935989	0.717086	0	0	0	0.9648	0.620503	0	0.125	0.145631	0	2.700501
39	37	1	1	37	Flagey - malibran	Flagey - m	Flagey - m	BE.BRUSSELS.I	0.301887	0.289802	0.909317	0.843175	0.217391	0	0.2	0.9067	0.740699	0.862039	0.125	0.291262	1	4.917877
40	96	1	1	96	Saint-paul	Sint-paulu	St-paul(us	BE.BRUSSELS.I	0.042453	0.230198	0.951636	0.555663	0	0	0	0.8734	0.708267	0.652682	0.375	0.009709	0.22269	3.298687
41	102	1	1	102	Transvaal	Transvaal	Transvaal	BE.BRUSSELS.I	0.014151	0.292964	0.996088	0.532914	0	0	0	0.9858	0.900986	0.740901	0.125	0.019417	0.83215	3.905082
42	44	1	1	44	Churchill	Churchill	Churchill	BE.BRUSSELS.I	0.075472	0.314466	0.923186	0.756292	0.043478	0	0.1	0.9136	0.784702	0	0.125	0.067961	0.327761	3.145911
43	40	1	1	40	Louise - longue hai	Louiza - la	Louiza - la	BE.BRUSSELS.I	0.169811	0.342767	0.898293	0.86423	0	0	0.2	0.71	0.787169	0.46805	0.5	0.07767	1	4.285733
44	901	1	1	901	Parc josaphat	Josaphatp	Josaphatp	BE.BRUSSELS.I	0.004717	0.108933	0.889758	0.810745	0	0	0	1	1	0.322753	0	0.048544	1	3.732482
45	49	1	1	49	Bosnie	Bosnie	Bosnie	BE.BRUSSELS.I	0.033019	0.317945	0.899004	0.826476	0.086957	0	0.3	0.7469	0.008533	1	0.25	0.029126	1	3.981563
46	63	1	1	63	Karreveld	Karreveld	Karreveld	BE.BRUSSELS.I	0.028302	0.240316	0.90256	0.849952	0	0.666667	0	0.9423	0.982706	0.975959	0.125	0.067961	0.972007	4.975931
47	10	1	1	10	Anneessens	Anneesser	Anneesser	BE.BRUSSELS.I	0.061321	0.23747	0.877312	0.928606	1	0	0.4	0.6144	1	0.478508	0.125	0.029126	1	5.138568
48	907	1	1	907		Ter kamer	Ter kamer	BE.BRUSSELS.I	0.018868	0.129802	0.935989	0.523233	0	0	0	0	0.977391	0	0	0.019417	0	1.812057
49	915	1	1	915	Parc elisabeth	Elisabethp	Elisabethp	BE.BRUSSELS.I	0.014151	0.063241	0.897226	0.848015	0	0.333333	0.1	0	0.398643	0.700733	0.125	0.019417	1	3.261389
50	33	1	1	33	Chasse	Jacht	Jacht / che	BE.BRUSSELS.I	0.146226	0.293597	0.916074	0.779919	0.043478	0.333333	0.2	0.9188	0.675227	1	0.125	0.106796	1	4.81575
51	103	1	1	103	Boitsfort centre	Bosvoorde	Bosvoorde	BE.BRUSSELS.I	0.051887	0.25581	0.985775	0.634802	0	0	0.1	0.9973	0.947192	0.665897	0.25	0.038835	0.996651	4.251539
52	82	1	1	82	Terdelt	Terdelt	Terdelt	BE.BRUSSELS.I	0.023585	0.225613	0.889403	0.719748	0.043478	0	0	0.9982	0.687555	0.284697	0.125	0	1	3.569179
53	104	1	1	104	Watermael centre	Watermaa	Waterma(a	BE.BRUSSELS.I	0.061321	0.293123	0.955903	0.655615	0.043478	0	0.2	0.9109	0.78079	0.060672	0.125	0.019417	0.725542	3.435061
54	80	1	1	80	Helmet	Helmet	Helmet	BE.BRUSSELS.I	0.084906	0.201897	0.886558	0.731849	0.043478	0	0.1	0.8607	0.757922	0.240001	0.125	0.038835	0.921739	3.57733
55	64	1	1	64	Hopital francais	Frans hosp	Frans hosp	BE.BRUSSELS.I	0.028302	0.227668	0.906117	0.821394	0.043478	0	0	0.9701	0.399127	0.220579	0.125	0	1	3.369801
56	108	1	1	108	Montjoie - langeve	Montjoie -	Montjoie -	BE.BRUSSELS.I	0.014151	0.312569	0.931366	0.620039	0.130435	0	0	0.6391	0.838379	0.055819	0.25	0.029126	0.274278	2.893241
57	116	1	1	116	Globe	Globe	Globe	BE.BRUSSELS.I	0.122642	0.313834	0.927098	0.700629	0	0	0.1	0.8394	0.932629	0.759406	0.375	0.019417	0.998867	4.372511
58	48	1	1	48	Porte de hal	Hallepoort	Hallepoort	BE.BRUSSELS.I	0.207547	0.272885	0.885491	0.958616	0.478261	0.666667	0.6	0.9583	0.876631	1	0.375	0.135922	1	6.33517
59	117	1	1	117	Vossegat - roosend	Vossegat -	Vossegat -	BE.BRUSSELS.I	0.014151	0.256126	0.922475	0.599226	0	0	0	0.7553	0.841421	0.891202	0.375	0.009709	1	4.05676
60	904	1	1	904	Parc leopold	Leopoldpa	Leopoldpa	BE.BRUSSELS.I	0	0.195731	0.902916	0.829138	0	0	0	1	0	0	0	0.029126	1	3.525689
61	99	1	1	99	Chant d'oiseau	Vogelzang	Vogelzang	BE.BRUSSELS.I	0.051887	0.334229	0.937411	0.655373	0.043478	0	0	0.8778	0.257976	0.601084	0.125	0.019417	0.823871	3.373954
62	50	1	1	50	Bas forest	Laag vorst	Laag vorst	BE.BRUSSELS.I	0.108491	0.172174	0.902916	0.843417	0.26087	0	0.2	0.5846	0.823737	0.711604	0.25	0.097087	0.924533	4.311693
63	45	1	1	45	Moliere - longcham	Moliere - l	Moliere - l	BE.BRUSSELS.I	0.084906	0.342767	0.916785	0.813166	0.043478	0	0.1	0.8066	0.861992	0.025648	0.25	0.048544	1	3.743213
64	47	1	1	47	Haut saint-gilles	Hoog sint-	Hoog st-g	BE.BRUSSELS.I	0.127358	0.294545	0.904339	0.877299	0.043478	0.333333	0.3	0.8656	0.776192	0.705941	0.125	0.300971	1	4.857689
65	917	1	1	917	Parc baudouin - die	Boudewijn	Boudewijn	BE.BRUSSELS.I	0.004717	0.198893	0.912162	0.650774	0	0	0	1	1	0.955666	0.125	0	0.973003	4.224688
66	85	1	1	85	Gare josaphat	Josaphat s	Josaphat s	BE.BRUSSELS.I	0.033019	0.174862	0.892248	0.728461	0	0	0	0.9999	0.280466	0.722555	0	0.009709	0.492311	3.13912
67	35	1	1	35	Quartier europeen	Europawijk	Europawijk	BE.BRUSSELS.I	0.268868	0.181186	0.885846	0.971442	0	0	0.9	1	0.999996	0.204805	0.375	0.184466	1	5.059177
68	79	1	1	79	Paix	Vrede	Vrede / pa	BE.BRUSSELS.I	0.070755	0.170593	0.88798	0.68393	0	0	0.2	1	0.951295	0.820505	0.125	0.009709	0.982281	4.297903
69	21	1	1	21	Quartier nord	Noordwijk	Noordwijk	BE.BRUSSELS.I	0.165094	0.126008	0.881935	0.861084	0.391304	0	0.3	0.6708	0.948133	0	0.625	0.097087	0.938974	4.355446
70	98	1	1	98	Auderghem centre	Oudergem	Oudergem	BE.BRUSSELS.I	0.09434	0.197945	0.961593	0.71515	0	0	0.3	1	0.999965	0.164509	0.125	0.038835	1	4.013238
71	70	1	1	70	Basilique	Basiliek /	Basiliek / t	BE.BRUSSELS.I	0.042453	0.214071	0.898649	0.889884	0.130435	0	0	0.7832	0.600575	0.907946	0	0.029126	1	4.023101
72	20	1	1	20	Vieux laeken est	Oud laken	Oud laken	BE.BRUSSELS.I	0.410377	0.193676	0.898293	0.767425	0	0.333333	0.1	0.6983	0.949696	0	0.375	0.291262	0.157998	3.730715
73	71	1	1	71	Woeste	Woeste	Woeste	BE.BRUSSELS.I	0.122642	0.249012	0.903983	0.772265	0.043478	0.333333	0	0.675	0.540658	0.623438	0.25	0.07767	1	4.045791
74	72	1	1	72	Jette centre	Jette centr	Jette centr	BE.BRUSSELS.I	0.183962	0.236522	0.907895	0.795499	0.521739	0.333333	0.2	0.9318	0.779396	1	0.125	0.242718	1	5.454231
75	14	1	1	14	Duchesse	Hertogin	Hertogin /	BE.BRUSSELS.I	0.014151	0.221186	0.888336	0.89545	0	0	0	0.4015	1	0.98879	0.125	0.019417	1	4.023655
76	75	1	1	75	Houba	Houba	Houba	BE.BRUSSELS.I	0.179245	0.22751	0.907183	0.760649	0.043478	0	0.1	0.8418	0.986441	0.234545	0.375	0.15534	0.386069	3.717624
77	18	1	1	18	Quartier maritime	Havenwijk	Havenwijk	BE.BRUSSELS.I	0.169811	0.153992	0.889758	0.808325	0.478261	0.333333	0.1	0.4052	0.978444	0.453391	0.625	0.145631	0.770547	4.654756
78	13	1	1	13	Kureghem rosee	Kureghem	Kureghem	BE.BRUSSELS.I	0.037736	0.226877	0.890825	0.785334	0	0	0.5	0.2701	1	0.534418	0	0.029126	1	3.820775
79	46	1	1	46	Altitude 100	Hoogte 10	Hoogte 10	BE.BRUSSELS.I	0.023585	0.343557	0.91643	0.700629	0	0	0	0.9074	0.634255	0.253625	0.125	0	1	3.466294

ogc_fid	urbis_id	versionid	mdrc	name_fr	name_nl	name_bil	inspire_id	stores and markets	noise level	air quality (PM2.5)	transport infrustructure	health care, food, hygiene service	police station	community center	green area	blue area	Educational institution	religious space	entertainment amanity	governance institution	
								0.845	0.61	0.61	0.755	0.98	0.835	0.795	0.755	0.755	0.82	0.615	0.67	0.7	VALUE
80	113	1	113	Saint-job kauwberg	Sint-job k	St-job kau	BE.BRUSSELS.I	0.04717	0.292174	0.954836	0.452565	0.086957	0	0	0.7251	0.750711	0	0	0.009709	0	2.348181
81	51	1	51	Van volxem - van h	Van volxer	Van volxer	BE.BRUSSELS.I	0.04717	0.228933	0.911451	0.819458	0.086957	0	0	0.7172	0.789763	0.890984	0.125	0.029126	1	4.104155
82	84	1	84	Avenue leopold iii	Leopold iii	Avenue leo	BE.BRUSSELS.I	0.014151	0.146245	0.89367	0.697967	0	0	0.1	0.9484	0.555589	0.779694	0.125	0	0.999076	3.80386
83	12	1	12	Cureghem veterinai	Kuregem v	Kuregem \	BE.BRUSSELS.I	0.023585	0.204901	0.892248	0.800339	0.347826	0	0.4	0.9873	0.868181	0.996631	0.125	0.009709	1	4.95382
84	69	1	69	Ganshoren centre	Ganshorer	Ganshorer	BE.BRUSSELS.I	0.04717	0.212806	0.904339	0.761133	0	0.333333	0.2	1	0.629833	0.945625	0.25	0.029126	1	4.612507
85	36	1	36	Matonge	Matonge	Matonge	BE.BRUSSELS.I	0.386792	0.298972	0.895804	0.934656	0.304348	0	0.3	0.9525	0.861781	0.183917	0.25	0.252427	1	4.84155
86	62	1	62	Machtens	Machtens	Machtens	BE.BRUSSELS.I	0.033019	0.231462	0.904694	0.819942	0	0	0	0.868	0.639423	0.126583	0	0.038835	0.163658	2.722496
87	900	1	900	Domaine royal laeke	Koninklijk	Koninklijk	BE.BRUSSELS.I	0.014151	0.163162	0.898293	0.53001	0	0	0	0.6232	1	0	0.125	0.048544	0.000233	2.394681
88	39	1	39	Etangs d'ixelles	Vijvers van	Vijvers van	BE.BRUSSELS.I	0.04717	0.205534	0.912873	0.799855	0	0	0.2	0.9627	0.991272	0.716262	0.25	0.019417	0.559716	4.106121
89	42	1	42	Chatelain	Kastelein	Kastelein /	BE.BRUSSELS.I	0.221698	0.295652	0.904339	0.831801	0	0.333333	0.1	0.7228	0.744852	0.087415	0.25	0.349515	1	4.172855
90	11	1	11	Cureghem bara	Kuregem t	Kuregem t	BE.BRUSSELS.I	0.141509	0.245217	0.886202	0.957406	0.173913	0.333333	0.2	0.5861	0.999993	0.506782	0.375	0.087379	1	4.742581
91	22	1	22	Quartier brabant	Brabantwij	Brabantwij	BE.BRUSSELS.I	0.259434	0.220237	0.890469	0.848258	0.434783	0.333333	0.4	0.5902	0.715703	0.027433	0.375	0.067961	1	4.544218
92	902	1	902	Botanique	Kruidtuin	Kruidtuin /	BE.BRUSSELS.I	0.009434	0	0.862731	1	0	0	0	1	1	0.100359	0	0.019417	1	3.594542
93	7	1	7	Sablon	Zavel	Zavel / sat	BE.BRUSSELS.I	0.141509	0.263241	0.880868	0.930058	0.347826	0	0	0.8721	1	0.988504	0.5	0.203883	1	5.228656
94	118	1	118	Saint-denis - neerst	Sint-denijs	St-deni(j)s	BE.BRUSSELS.I	0.108491	0.230514	0.916785	0.754356	0	0	0.2	0.9782	0.845682	0.851864	0.25	0.058252	0.984948	4.477868
95	801	1	801	Industrie otan	Industrie n	Nato / ota	BE.BRUSSELS.I	0.051887	0.119051	0.895804	0.582769	0	0	0	0.3719	0.239854	0.192347	0	0	0.409832	2.009377
96	8	1	8	Marolles	Marollen	Marolle(n)	BE.BRUSSELS.I	0.174528	0.253439	0.87909	0.934656	0.73913	0.333333	0.2	0.4769	1	1	0.375	0.320388	1	5.78601
97	58	1	58	Anderlecht centre -	Anderlecht	Anderlech	BE.BRUSSELS.I	0.150943	0.254387	0.907183	0.835915	0	0	0.2	0.9753	0.687028	0.894714	0.375	0.058252	0.45301	4.201705
98	97	1	97	Putdaal	Putdaal	Putdaal	BE.BRUSSELS.I	0.009434	0.234625	0.964794	0.593417	0	0	0	0.8661	0.799767	0	0	0	0.922391	3.09105
99	88	1	88	Georges henri	Georges h	Georges h	BE.BRUSSELS.I	0.132075	0.224506	0.905405	0.804695	0.304348	0	0.2	0.7497	0.618328	0.771345	0.25	0.058252	0.842265	4.313384
100	32	1	32	Saint-pierre	Sint-pieter	St-pieter /	BE.BRUSSELS.I	0.160377	0.321265	0.914296	0.841239	0.043478	0	0.7	0.9913	0.547191	0.901985	0.125	0.126214	1	4.886082
101	90	1	90	Roodebeek - conste	Roodebeel	Roodebee	BE.BRUSSELS.I	0.15566	0.177233	0.910384	0.756292	0.043478	0.333333	0.2	0.9935	0.641302	0.904986	0.25	0.038835	0.94442	4.663149
102	31	1	31	Saint-michel	Sint-michi	St-mich(l)(	BE.BRUSSELS.I	0.028302	0.263557	0.915363	0.880445	0	0	0.1	0.6923	0.554868	0.402039	0.125	0.067961	0.842445	3.470697
103	2	1	2	Dansaert	Dansaert	Dansaert	BE.BRUSSELS.I	0.29717	0.267194	0.881223	0.903921	0.73913	0.666667	1	0.6099	1	0.222001	0.5	0.436893	1	6.407851
104	3	1	3	Beguinage - dixmu	Begijnhof	Begijnhof	BE.BRUSSELS.I	0.080189	0.24664	0.877312	0.952807	0.478261	0	0.3	1	1	0.178728	0.25	0.213592	1	4.833349
105	4	1	4	Martyrs	Martelaars	Martelaars	BE.BRUSSELS.I	0.382075	0.312095	0.885491	0.901985	0.086957	0	0.1	0.7793	0.998387	0	0.125	0.23301	1	4.174242
106	17	1	17	Koekelberg	Koekelber	Koekelber	BE.BRUSSELS.I	0.056604	0.226719	0.897226	0.9303	0	0.333333	0	0.9935	0.891961	1	0.125	0.048544	1	4.767069
107	25	1	25	Saint-josse centre	Sint-joost	St-joost c	BE.BRUSSELS.I	0.179245	0.287115	0.887269	0.919894	0.217391	0.333333	0.5	0.8227	0.964622	0.999989	0.625	0.194175	1	5.835123
108	57	1	57	Scherdemael	Scherdem	Scherdem	BE.BRUSSELS.I	0.042453	0.19747	0.912518	0.676186	0.043478	0	0	1	0.663823	0	0	0.009709	0	2.528785
109	910	1	910	Parc des etangs	Vijverspark	Vijverspark	BE.BRUSSELS.I	0	0.045375	0.909317	0.740803	0	0	0	0	1	0	0	0	0	1.896669
110	26	1	26	Dailly	Dailly	Dailly	BE.BRUSSELS.I	0.150943	0.269407	0.895804	0.825266	0.043478	0	0.1	0.708	0.955912	1	0.375	0.135922	0.988871	4.673666
111	16	1	16	Molenbeek historiq	Historisch	Historisch	BE.BRUSSELS.I	0.117925	0.233202	0.885846	0.924976	0.217391	0.333333	0.1	0.4443	0.923061	1	0.625	0.07767	1	5.04027
112	6	1	6	Quartier royal	Koningswij	Koningswi	BE.BRUSSELS.I	0.283019	0.229881	0.885846	0.99274	0	0	0	0.9999	1	0.449772	0.375	0.31068	1	4.686781
113	91	1	91	Val d'or	Gulledelle	Gulledelle	BE.BRUSSELS.I	0.061321	0.14087	0.907539	0.670136	0	0	0	0.8584	0.764465	0.465434	0	0.029126	0.402308	3.105346
114	92	1	92	Kapelleveld	Kapellevel	Kapellevel	BE.BRUSSELS.I	0.066038	0.167115	0.918919	0.75	0.043478	0.333333	0	0.9981	0.811545	0	0.375	0.116505	0.274507	3.472595
115	27	1	27	Josaphat	Josaphat	Josaphat	BE.BRUSSELS.I	0.089623	0.198577	0.89367	0.768877	0	0	0	1	0.993217	0.976814	0.125	0.067961	0.920539	4.395157
116	65	1	65	Korenbeek	Korenbeek	Korenbeek	BE.BRUSSELS.I	0.009434	0.302767	0.912162	0.729429	0.130435	0	0	0.7618	0.477251	0.270369	0	0	1	3.284809
117	66	1	66	Potaarde	Potaarde	Potaarde	BE.BRUSSELS.I	0	0.271146	0.916785	0.597531	0	0	0	0.7225	1	1	0	0	1	3.996262
118	73	1	73	Heymbosch - az-jet	Heymbosc	Heymbosc	BE.BRUSSELS.I	0.042453	0.214704	0.911451	0.661181	0.086957	0	0	0.8553	0.949911	0.352742	0	0.038835	0.384485	3.254579
119	908	1	908	Parc wolvendael	Wolvenda	Wolvenda	BE.BRUSSELS.I	0.004717	0.200791	0.934922	0.649806	0	0	0	1	1	1	0	0.019417	1	4.230384
120	100	1	100	Chaussee de wavre	Waversestwg	- st-juliaan / chee	de	0	1	0	0	0	0	0	0	1	0	0	0	0.943015	1.270111
121	95	1	95	Sainte-alix - joli bo	Sinte-aleis	St-aleidis	BE.BRUSSELS.I	0.033019	0.198419	0.965861	0.45789	0	0	0.1	0.9621	0.329263	0.9455	0.125	0.019417	0	3.003492
122	107	1	107	Universite	Universitei	Universitei	BE.BRUSSELS.I	0.25	0.241739	0.92532	0.733301	0	0	0.3	0.8692	0.704792	0.779076	0	0.203883	0.711865	4.177412
123	802	1	802	Delta	Delta	Delta	BE.BRUSSELS.I	0	0.131383	0.936344	0.81728	0	0	0	0	0.972815	0.518375	0	0	0.055592	2.466818
124	68	1	68	Villas de ganshoren	Villa's van	Villa's van	BE.BRUSSELS.I	0	0.20917	0.908962	0.699661	0	0.333333	0	0.9992	0.930008	0.818177	0.125	0	1	4.39297
125	89	1	89	Gribaumont	Gribaumor	Gribaumor	BE.BRUSSELS.I	0.042453	0.243636	0.915718	0.832043	0	0	0.1	0.7151	0.998254	0.014099	0.125	0.029126	0.987054	3.543241
126	93	1	93	Boulevard de la wol	Woluwela	Bd. woluw	BE.BRUSSELS.I	0.075472	0.183874	0.923542	0.708858	0	0.333333	0.4	1	1	0.025263	0.25	0.048544	1	4.287808
127	29	1	29	Squares	Squares	Squares	BE.BRUSSELS.I	0.099057	0.256285	0.894737	0.879235	0.043478	0	0.2	0.7777	1	1	0.125	0.15534	0.977862	4.678876
128	34	1	34	Jourdan	Jourdan	Jourdan	BE.BRUSSELS.I	0.113208	0.274783	0.90825	0.829864	0.086957	0	0.2	1	0.88522	0.690488	0.125	0.106796	1	4.526046
129	77	1	77	Heembeek	Heembeek	Heembeek	BE.BRUSSELS.I	0.099057	0.194941	0.895092	0.482333	0.043478	0.333333	0.2	0.9997	0.826745	0	0.125	0.097087	0	3.113616
130	86	1	86	Paduwa	Paduwa	Paduwa	BE.BRUSSELS.I	0.099057	0.168063	0.89936	0.719022	0	0	0	0.9992	0	0.362894	0.25	0.029126	0.199612	2.642655
131	803	1	803	Industrie sud	Industrie z	Industrie z	BE.BRUSSELS.I	0.023585	0.086324	0.904339	0.711036	0	0.333333	0	0.3169	0.905265	0.17838	0	0.067961	0.348006	2.797544
132	906	1	906	Foret de soignes	Zonienwo	Zonienwo	BE.BRUSSELS.I	0.018868	0.255336	1	0.128025	0	0	0	1	0.318027	0.015598	0	0.019417	0.172556	2.020058
133	78	1	78	Haren	Haren	Haren	BE.BRUSSELS.I	0.018868	0.084427	0.894737	0.582285	0	0.333333	0.1	0.9162	0.162265	0.011933	0.125	0.029126	0.047529	2.364377
134	74	1	74	Heysel	Heizel	Heizel / he	BE.BRUSSELS.I	0.075472	0.188617	0.910384	0.678122	0.173913	0	0	0.7754	0.934411	0.028346	0.25	0.087379	0.064395	2.988102
135	76	1	76	Mutsaard	Mutsaard	Mutsaard	BE.BRUSSELS.I	0.179245	0.206008	0.902205	0.608906	0	0	0	0.9818	0.503948	0	0.125	0.048544	0	2.518335
136	23	1	23	Colignon	Colignon	Colignon	BE.BRUSSELS.I	0.245283	0.202846	0.890825	0.826234	0.217391	0	0.1	0.866	0.465876	0	0.25	0.097087	1	3.715119
137	61	1	61	Moortebeek - peter	Moortebe	Moortebe	BE.BRUSSELS.I	0.04717	0.162846	0.912162	0.680542	0	0	0.2	0.9575	0.23918	0	0.125	0.009709	0	2.355296
138	914	1	914	Scheutbos	Scheutbos	Scheutbos	BE.BRUSSELS.I	0	0.273518	0.917141	0.520087	0	0	0	0.9564	1	0.000512	0	0	0.165129	2.71206
139	916	1	916	Bois du laarbeek - p	Laarbeekb	Laarbeekb	BE.BRUSSELS.I	0	0.187036	0.909673	0.553969	0	0	0.1	0.9581	0.995081	0.172518	0	0	0.391888	3.057176
140	94	1	94	Stockel	Stokkel	Stokkel / s	BE.BRUSSELS.I	0.132075	0.218656	0.93101	0.582285	0.347826	0	0	0.7769	0.304756	0.352808	0.25	0.019417	0.104071	2.938957
141	111	1	111	Vivier d'oie	Diesdelle	Diesdelle /	BE.BRUSSELS.I	0	0.310672	0.978307	0.301791	0	0	0	0.5377	0.543261	0	0.125	0	0	1.90713
142	112	1	112	Kriekenput - hombo	Kriekenput	Kriekenput	BE.BRUSSELS.I	0.004717	0.274466	0.952347	0.470716	0	0	0	0.9503	0.772557	0.091368	0.125	0.009709	0	2.566792
143	55	1	55	Neerpede	Neerpede	Neerpede	BE.BRUSSELS.I	0	0.185613	0.919986	0.25847	0	0	0.1	0.4717	0.872961	0	0.125	0.009709	0	2.047659
144	56	1	56	Bon air	Goede luc	Goede luc	BE.BRUSSELS.I	0.009434	0.117628	0.915718	0.599226	0	0	0	0.9802	0.715517	0	0.125	0	0	2.44787