

# Stitching Barcelona Together

Urban Design for Social and Spatial  
Integration in Sant Martí and Beyond



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Barcelona is one of the leading metropolitan cities in Europe well-known for its history, culture vibrancy, architecture and progressive modern developments. Its dynamic role on both the national and international stage is driven by several factors, including its historical development, tourism industry, and a position as 8th in all of Europe and the 1st in southern Europe technological city of the future.

Starting from the beginning of 21st century, these forces shaped the city's socio-economic landscape, bringing significant changes to its urban fabric. Due to them Barcelona shows economic growth and gains global recognition, however it also faces deepening social and spatial inequalities that threaten the city's long-term sustainability and social cohesion.

The rise of the tourism sector, with more than 15 million of visitors per year (Observatori del Turisme a Barcelona, 2023) and only 1.7 million of citizens (Barcelona City Council, 2024), together with initiatives like the 22@ Innovation District (ID), designed to transform post-industrial areas into hubs for technology and knowledge-based industries, has placed pressure on housing markets, driving up property prices, displacing long-standing residents and creating a divide between newly gentrified areas and other, more vulnerable neighborhoods. These developments have contributed to a growing phenomenon of gentrification and segregation across

the city, but perhaps no district exemplifies these tensions more than Sant Martí, and attached to it two neighborhoods La Mina and La Catalana in Sant Adrià de Besòs city.

Once an industrial zone with a working-class population, Sant Martí undergone a rapid urban transformation, driven by the same forces that reshape the rest of the city. Urban regeneration projects and location of 22@ ID, have facilitated gentrification and increased economic disparities within the district. Together with several spatial conditions like inactive post-industrial zone and lack of urban continuity it also created a social and spatial segregation.

The aim of this thesis is to propose urban design strategies that foster inclusive development and long-term spatial cohesion.

The resulting masterplan introduces a framework for densification that doubles the area's built capacity while ensuring housing affordability and social diversity. The strategy includes creating a hierarchy of public spaces that foster interaction; introducing gradual, participatory demolition and redevelopment tactics to minimize displacement; and designing mixed-use building typologies that accommodate both existing and future residents.

Design interventions include reconnecting disjointed street grids, enhancing walkability and public transit, and establishing a clear hierarchy of public spaces that promote cross-

neighborhood interaction. The proposal doubles the area's residential capacity—from 8000 to 16,000 flats—and population, from 23,000 to 46,000 people, by increasing the land cover density.

Rather than treating design as a neutral or aesthetic gesture, the project positions it as a political and social tool—a way to mediate between past neglect and future potential. The proposed urban fabric stitches together a fragmented territory through strategic continuity, landscape integration, and community infrastructure. It offers an alternative to top-down redevelopment models by proposing a phased, adaptable, and inclusive vision for growth. In doing so, the thesis reframes urban design not just as a response to physical conditions, but as a proactive mechanism for social repair and collective future-making.

**Key Words:** gentrification, segregation, urban design, social cohesion

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# 1. problem field

This chapter establishes a contextual framework for addressing the challenges. It begins by examining the issue at a city-wide scale in Barcelona, gradually narrowing the focus to the specific neighborhood of Sant Martí and the project's target area.

The problem analysis concludes with a visual synthesis of the identified challenges, providing a structured guide to the problem statement. Finally, the chapter articulates the central research question, sub-questions and methodology offering a comprehensive foundation for the design development.

# Barcelona

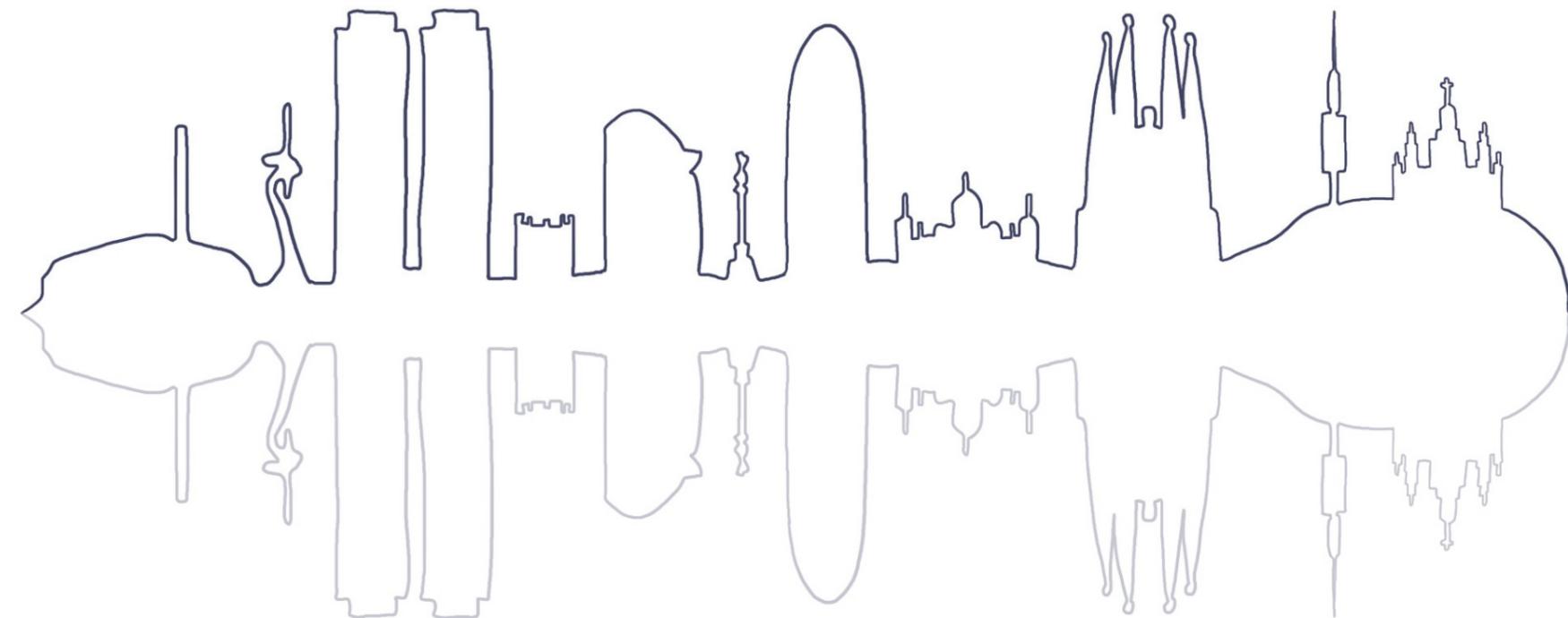
population **1,636,193**

**1st** city in Southern European attractiveness for talent

**4th** region in Europe for people employed in high and medium-high tech manufacturing

**1st** European city with the best strategy of foreign investment attraction

tourists per year **15.6 mil**



**56%** of locals believe that city reached its limit in welcoming tourists

**Barcelona is banning Airbnbs due to housing crisis to free homes for locals**

**36%** of neighborhoods have to pay more than

**50%** of their income to live in **Barcelona**

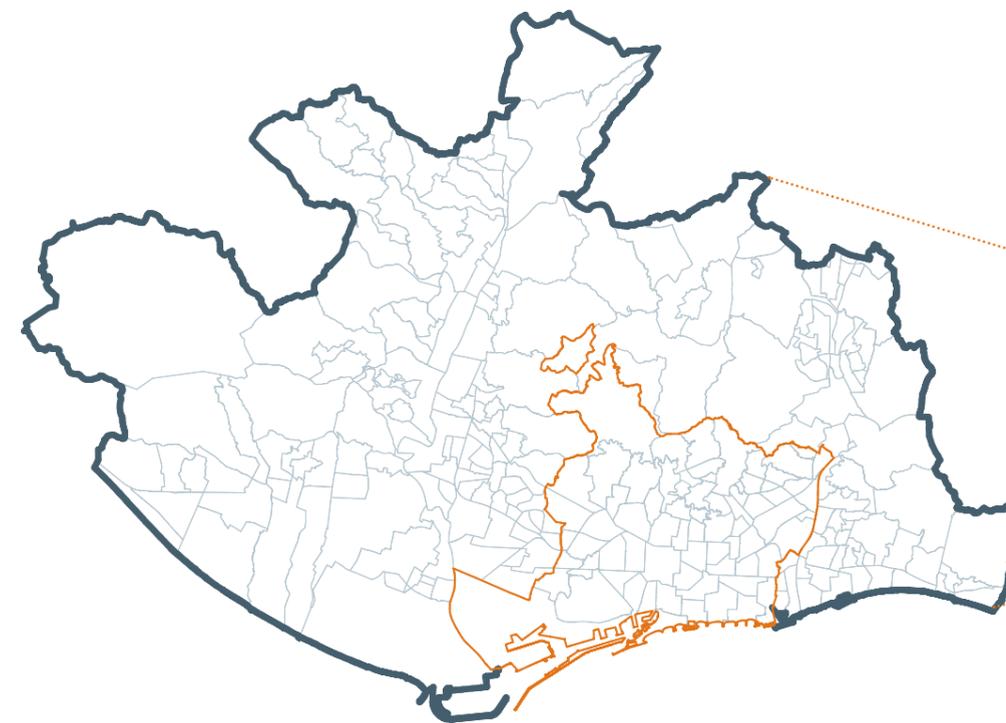
Fig. 1  
Barcelona skyline.  
Data derived from (Ajuntament de Barcelona, 2023)  
Created by author.

1.1 location

XL  
L  
M  
S



**Metropolitan Area of Barcelona (AMB)**



**Barcelona**

Legend

- Barcelona
- AMB
- neighborhoods
- Spain

Fig. 2  
Metropolitan area of Barcelona (AMB).  
Created by author.

1.1 location

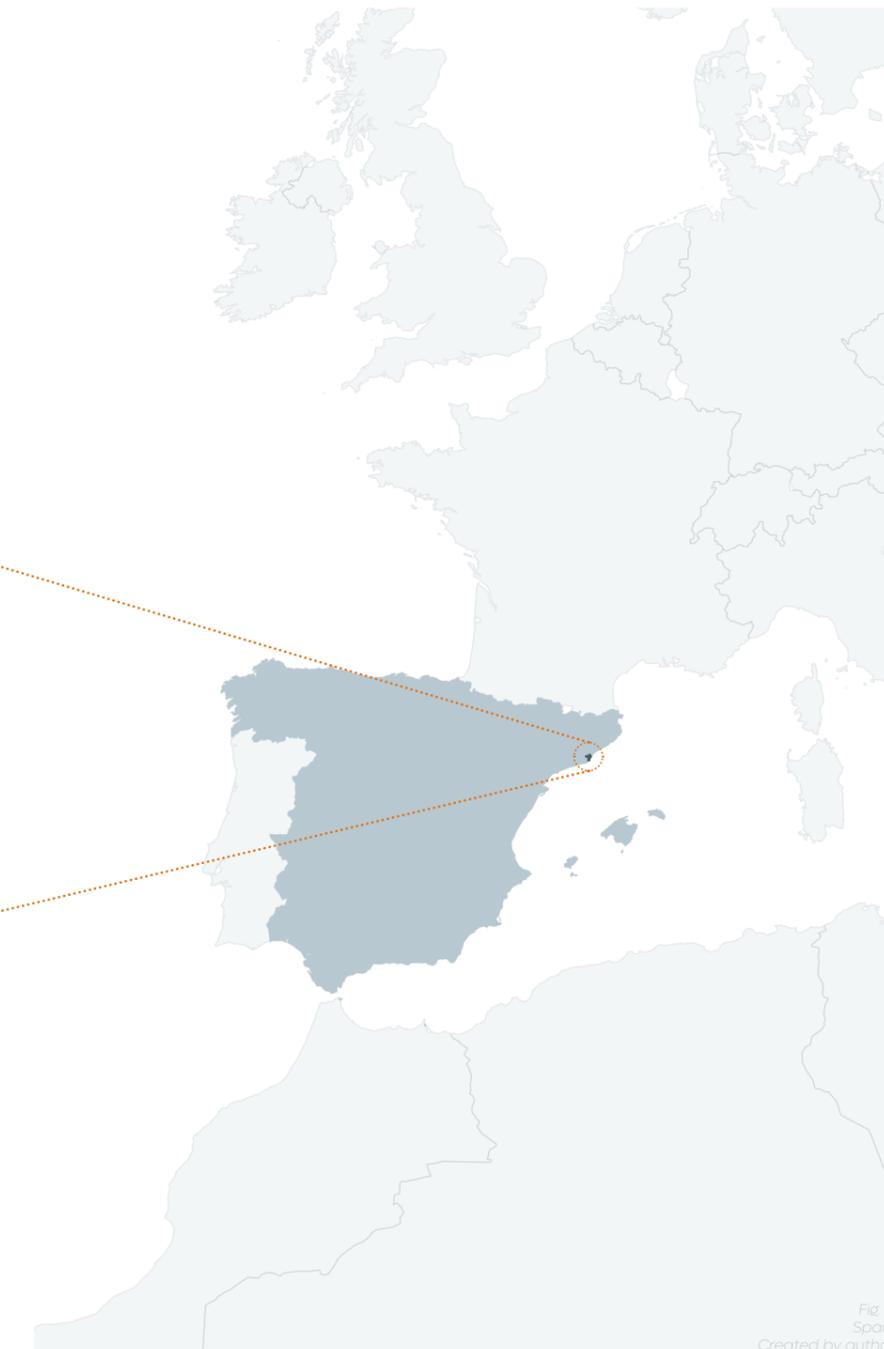
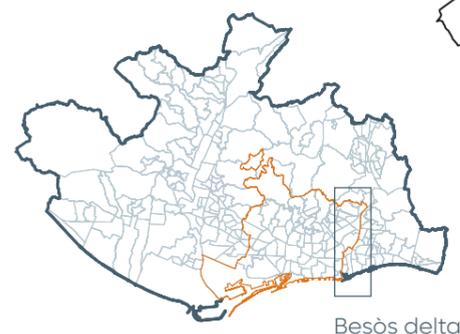


Fig. 3  
Spain.  
Created by author.



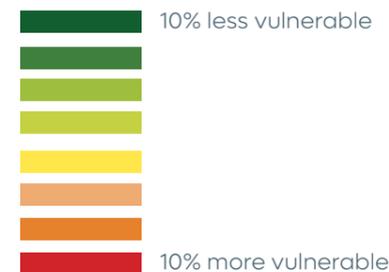
**\* 70% of the most vulnerable neighborhoods in Barcelona metropolitan area are concentrated in the Besòs delta**

In Appendix two maps, Synthetic vulnerability index in the Municipality of Barcelona by Census (p. 116) and Social vulnerability character (p. 117) show in detail the causes and places of vulnerability.



Besòs delta

Fig. 4. Metropolitan area of Barcelona (AMB) with focus area highlighted. Created by author.



**1.2 problem area**

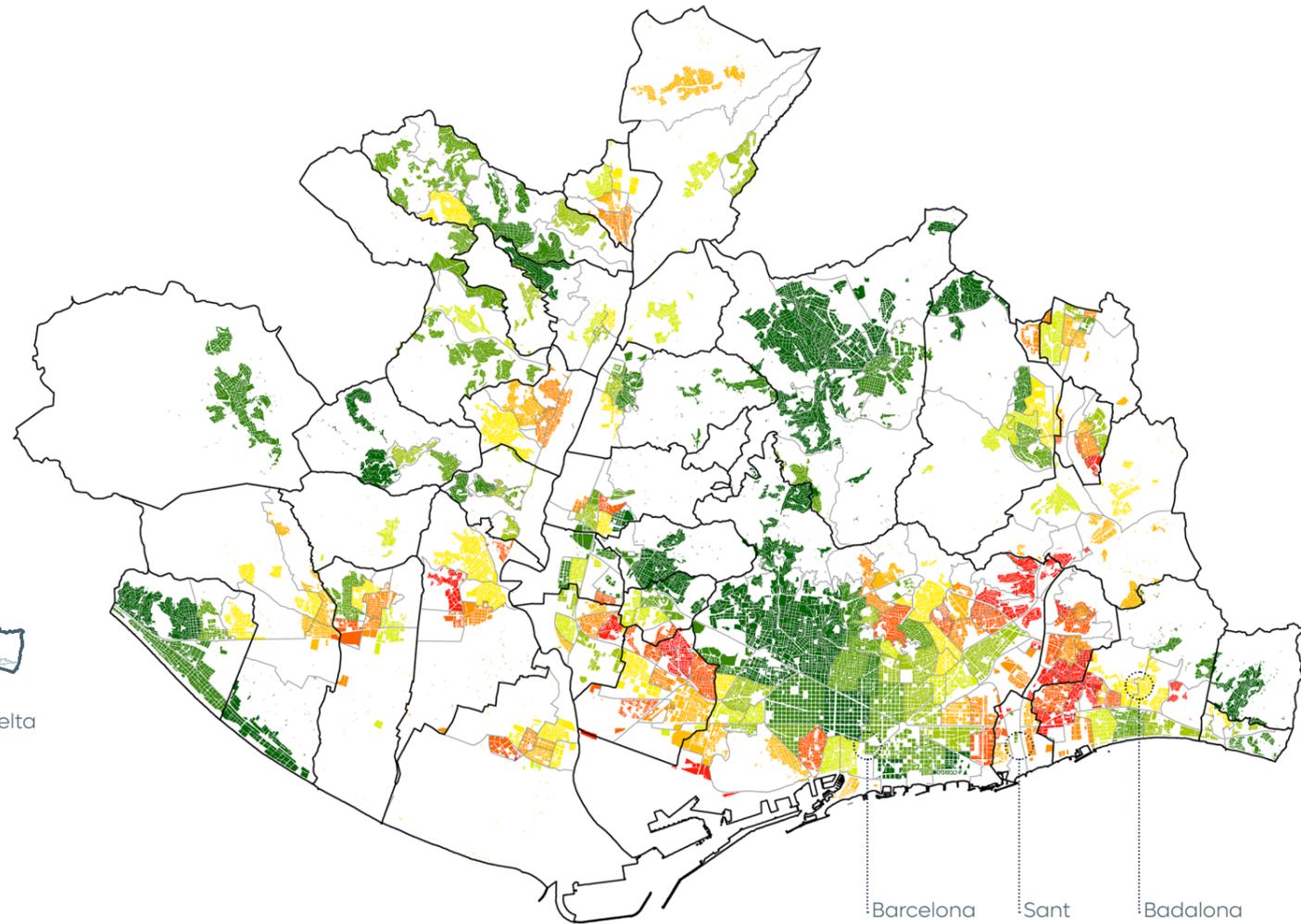


Fig. 5. Urban vulnerability index. (IERMB, 2017)



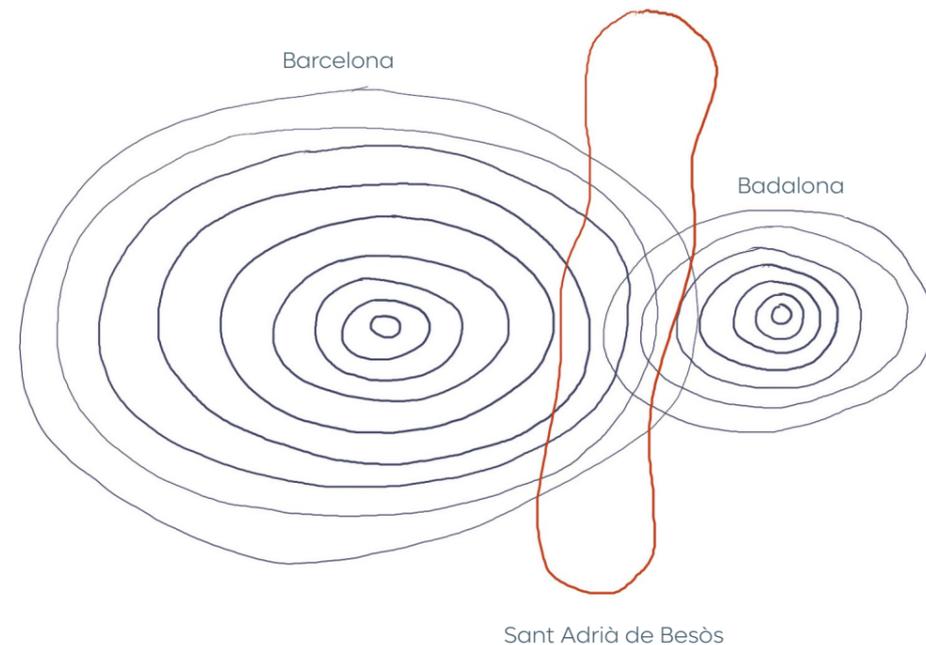
The diagrams provide a simplified idea of the development trajectories of Barcelona and Badalona, highlighting how Sant Adrià de Besòs, city located in Besòs delta between the other two mentioned, historically had the role of a shared "backyard" for both cities. This dynamic is evident in the concentration of industrial activities, amount of amenities and quality of public spaces. Over time, these patterns have reinforced Sant Adrià de Besòs's position as a peripheral zone, characterized by socio-economic vulnerability and spatial segregation.



Barcelona



Badalona



Barcelona

Badalona

Sant Adrià de Besòs

**Sant Adrià de Besòs: backyard of Barcelona and Badalona**

Fig. 6.7. Conceptual schemes of area development. Created by author.

**1.2 problem area**

These maps illustrate the changes in income levels between 2007 and 2022 (Figures 8 and 9), highlighting a decline in income across several districts (see Appendix: income per capita, p. 118). Additionally, the maps show changes in rent levels between 2022 and 2023 (Figure 10 and Figure 11), indicating that rent prices are increasing in nearly all districts.

This analysis reveals vulnerable areas where income is declining while rent continues to rise, exacerbating economic pressures on residents and increasing housing affordability challenges.

**spread of poverty**

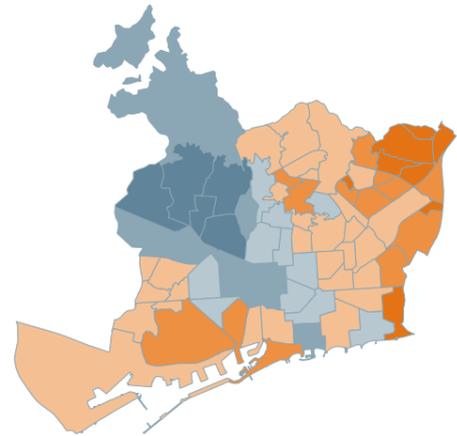


Fig. 8. Average disposable income per capita in Barcelona, 2007. Data derived from Ajuntament de Barcelona Open Data BCN. Created by author.

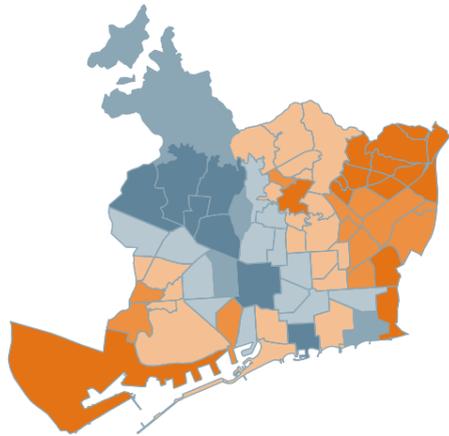


Fig. 9. Average disposable income per capita in Barcelona, 2022. Data derived from Ajuntament de Barcelona Open Data BCN. Created by author.

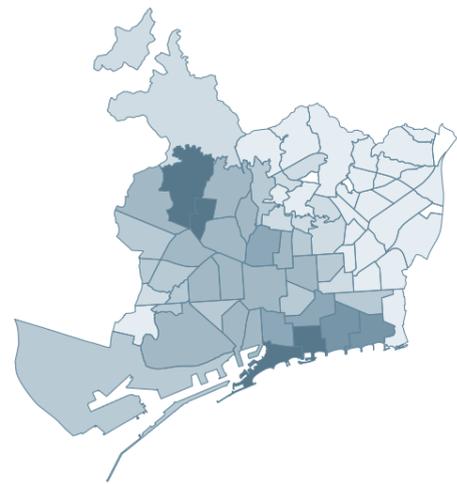


Fig. 10. Average rent price €/m2, 2022. Data derived from Ajuntament de Barcelona Open Data BCN. Created by author.

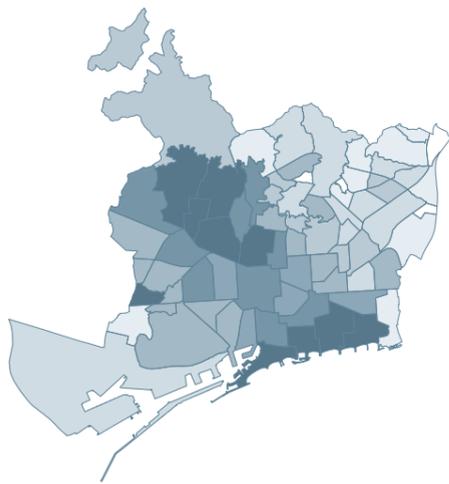


Fig. 11. Average rent price €/m2, 2023. Data derived from Ajuntament de Barcelona Open Data BCN. Created by author.

Legend 1

- areas with high income per capita
- areas with low income

**rent prices increase everywhere**

Legend 2

- average rent price (from low to high)

**1.3 city analysis: income & rent**

Figure 12 illustrates the average annual income in real numbers, highlighting a contrast within Sant Martí district, where one of the wealthiest areas, Vila Olímpica, borders some of the city's poorest neighborhoods such as Besòs i el Maresme. This disparity underscores the socio-economic inequalities present within the district.

While the average income required to live comfortably in Barcelona is approximately 1,500€ per month or 18,000€ per year as for 2022 (Àrea Metropolitana de Barcelona, 2022), the neighborhood of Besòs i el Maresme falls significantly below this threshold, with an average yearly income of just 13,600€. This substantial gap highlights the economic vulnerability of the area and the challenges residents face in meeting basic living standards.

**Sant Martí: where the most expensive neighborhoods share "border" with the most poor areas**

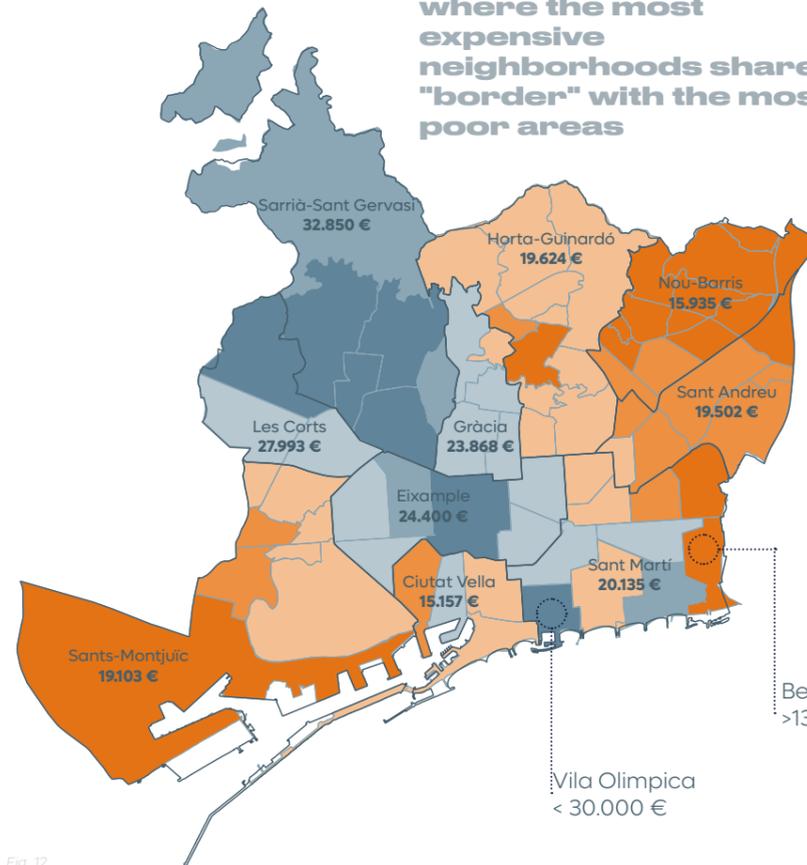


Fig. 12. Average Disposable Income per Capita in Barcelona, 2022. Data derived from Ajuntament de Barcelona Open Data BCN. Created by author.

**1.3 city analysis: Sant Martí**

Figure 13 illustrates the absolute rise in rental prices from 2013 to 2023 (see Appendix: change in rental prices 2013-2023, p. 119), emphasizing that Sant Martí experienced a dramatic increase of over 51%. This significant growth in rental costs places high pressure on residents, particularly in neighborhoods already struggling with below-average incomes, such as Besòs i el Maresme (see Map of Residential Segregation in Appendix, p. 120).

**Sant Martí: district with the most rise in rent prices per last 10 years**

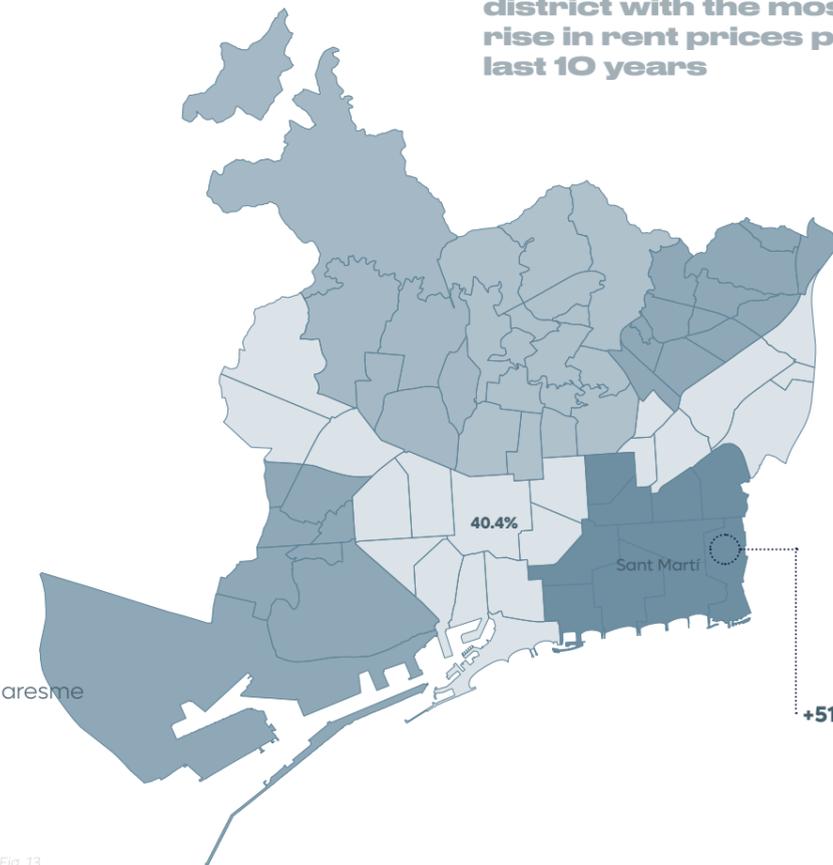


Fig. 13. Average increase in rent price from 2013 to 2023. Data derived from Ajuntament de Barcelona Open Data BCN. Created by author.



The map illustrates the gentrification trends between 1991 and 2016, with Sant Martí experiencing significant changes during this period. This pattern aligns with the previous maps showing a substantial increase in rent prices. These combined factors make the area's population vulnerable, as rising costs and urban transformation lead to displacement and reduced access to affordable housing for long-standing communities.

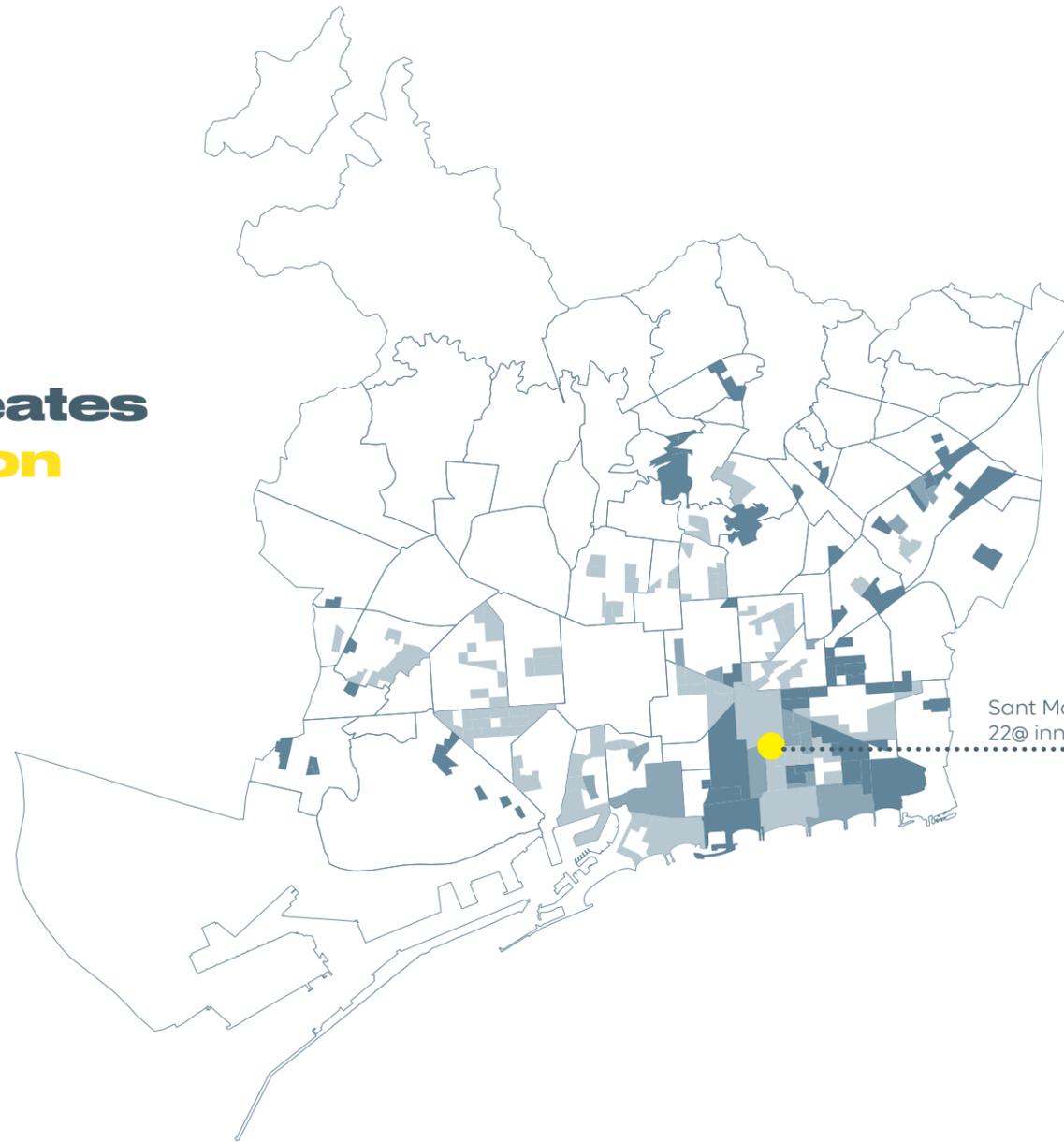
## gentrification creates spatial segregation in Sant Martí



Fig. 14. Sant Martí district within Barcelona borders. Created by author.

### Legend

- Recent gentrification
- Continued gentrification
- Old gentrification



Sant Martí's 22@ innovation district

Fig. 15. Gentrification, 1991-2016. Data derived from Wahlund, 2019. Adapted by author, 2024.

### 1.3 city analysis: gentrified areas

## \* 22@ the innovation district in Sant Martí

The 22@ Plan, approved in 2000, aimed to transform 200 hectares of Poblenou's (neighborhood of Sant Martí) declining industrial land into a hub for economic activity while integrating diverse land uses. This ambitious project brought several positive outcomes, including Barcelona's recognition as a leader in innovation and business attraction, new land for public facilities and green spaces, increased public housing, and the redevelopment of streets and urban spaces.

The transformation was influenced by two major factors at the end of the 20th century: the local need to address the decline of a historically industrial neighborhood and the global rise of information and communication technologies. The plan sought to preserve productive identity of the area while reorienting its economy towards the knowledge sector, emphasizing innovation, design, and decision-making industries. This was achieved by leveraging the area's historical assets, such as Cerdà's urban grid and protected industrial heritage, while adapting these to modern needs.

Despite its successes, the transformation has been uneven across the district. The southern section (120 hectares) has flourished, become a home for 84% of the companies mainly in ICT sector, 85% of the workers, and generating 86% of the gross added value of the 22@ area. Conversely, the northern section (79 hectares) has lagged behind, attracting fewer businesses, primarily in commercial sectors, with stagnating growth.

Another major challenge is the imbalance between housing and employment. While the plan allocated only 25% of the area for housing, job opportunities were projected to increase by 93%, leading to housing shortages and escalating socio-economic disparities within the district. This disparity underscores the need for a more balanced and inclusive approach to urban development (Ajuntament de Barcelona, 2020).

### 1.3 city analysis: 22@

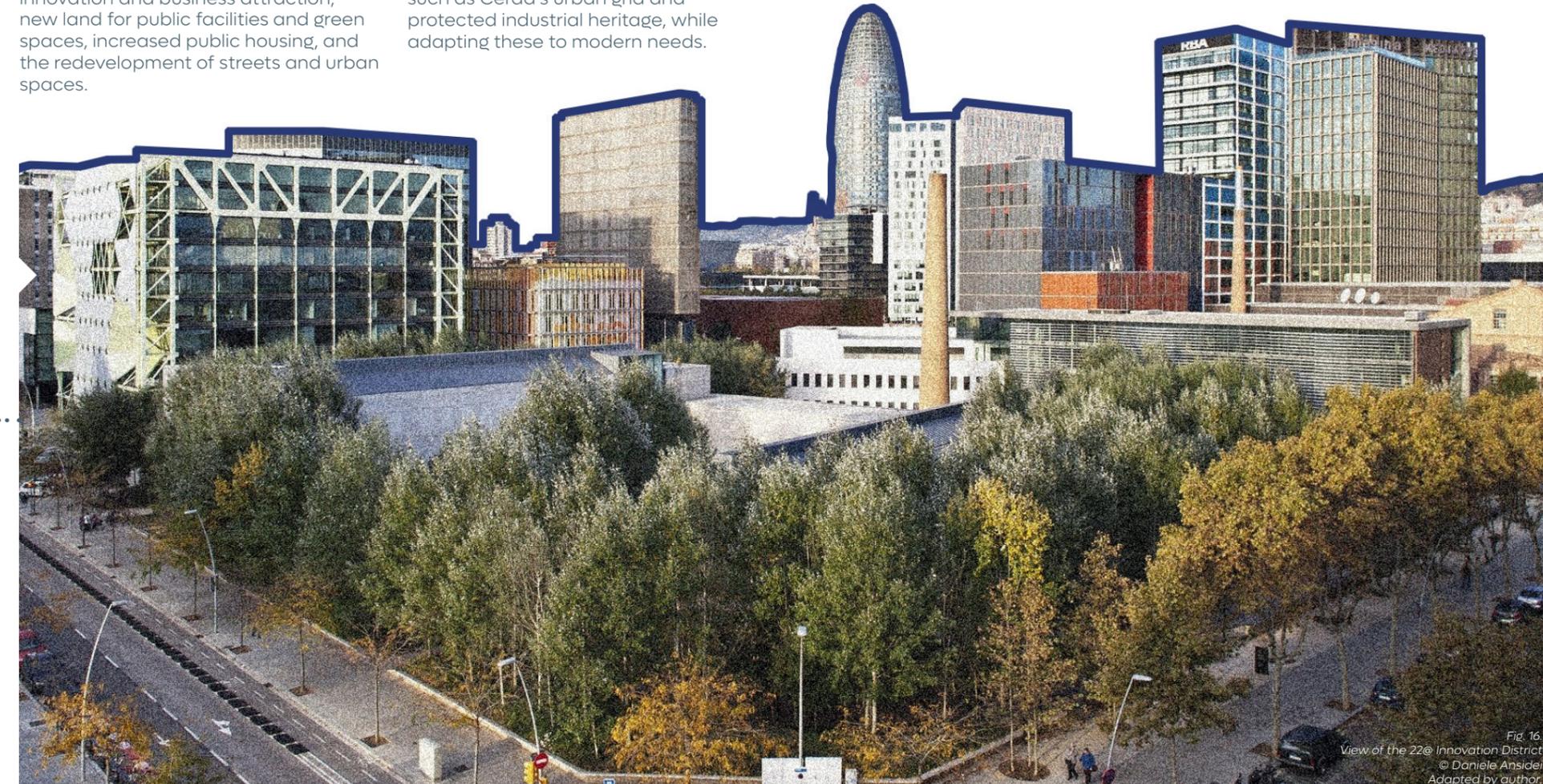


Fig. 16. View of the 22@ Innovation District. © Daniele Ansider. Adapted by author.

Sant Martí district was selected as the focus of this project due to its unique juxtaposition of rapid urban transformation and persistent socio-economic inequalities.

The district's contrasting realities — wealthy areas neighboring some of the city's most vulnerable communities — make it a critical case study for exploring urban design strategies that foster inclusivity, connectivity, and equity. Sant Martí provides an ideal setting to address these pressing urban issues and propose meaningful, scalable solutions.



Fig. 17. Neighborhoods of Sant Martí district. Created by author.

1. El Campo del Arpa del Clot
2. El Clot
3. El Parc i la Llacuna del Poblenou
4. La Vila Olímpica del Poblenou
5. Poblenou
6. Diagonal Mar i el Front Marítim del Poblenou
7. El Besós y el Maresme
8. Provençals del Poblenou
9. San Martí de Provençals
10. La Verneda y la Pau

Legend

- Sant Martí district
- Barcelona

1.3 city analysis: focus area

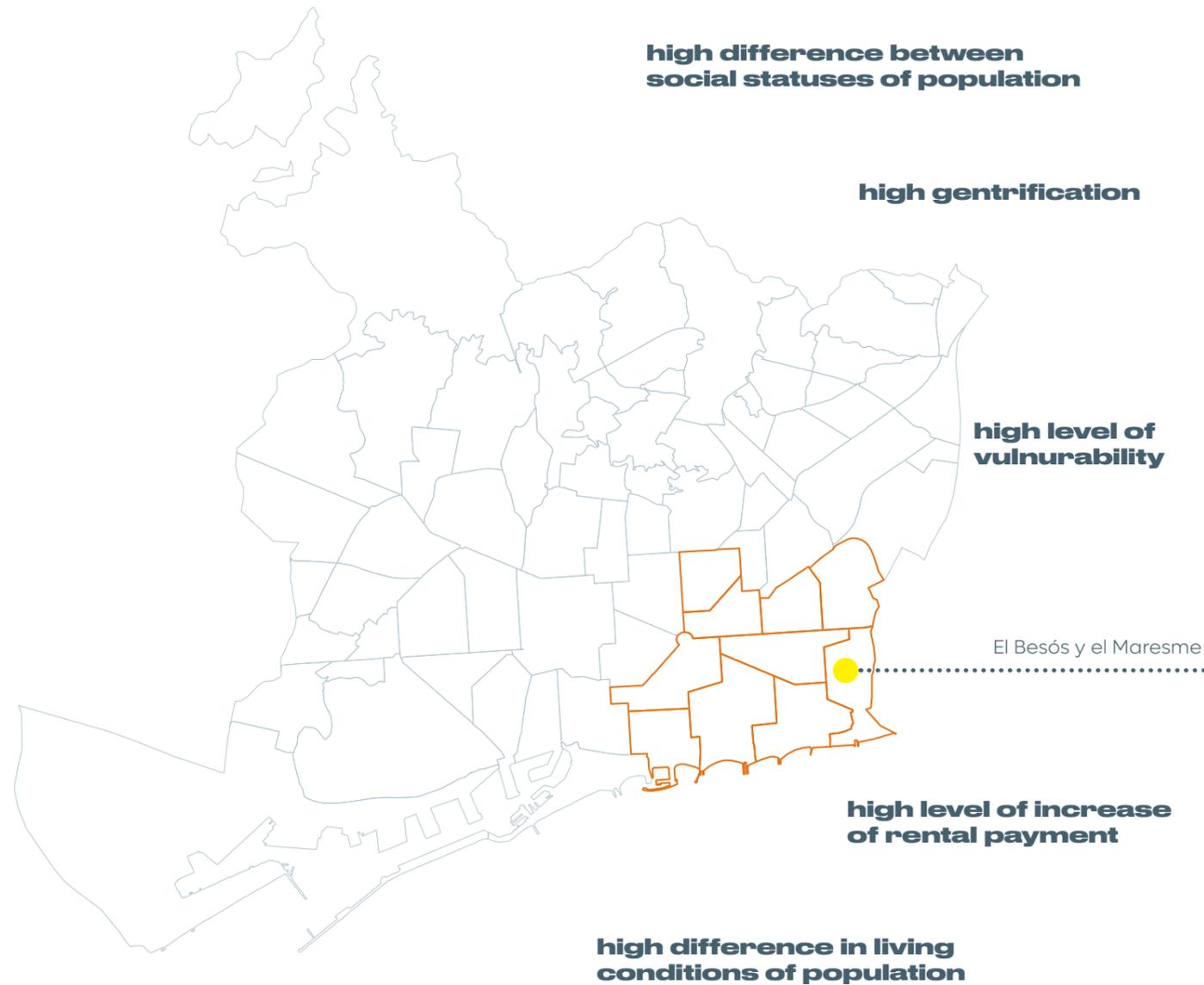


Fig. 18. Neighborhoods of Sant Martí district in Barcelona context. Created by author.

El Besós i el Maresme was initially developed as a residential neighborhood during the mid-20th century, primarily to accommodate a rapidly growing population driven by industrial expansion and migration. The area was characterized by the construction of mass housing, often with minimal attention to quality or long-term urban integration. These housing developments, aimed at addressing immediate needs, led to a dense urban fabric with limited public amenities and infrastructure (MUHBA, n.d.).



Fig. 19. Buildings in the Besós and Maresme neighborhoods. Photo: Twitter (@Bcn\_SantMartí). Adapted by author.

1.3 city analysis: El Besos i el Marisme

two sides of one coin

**“Superstar cities and knowledge hubs are not just the places where inequality is most on display; their success is inextricably tied to the very clustering of talent and firms that shapes the widening gap between rich and poor”**

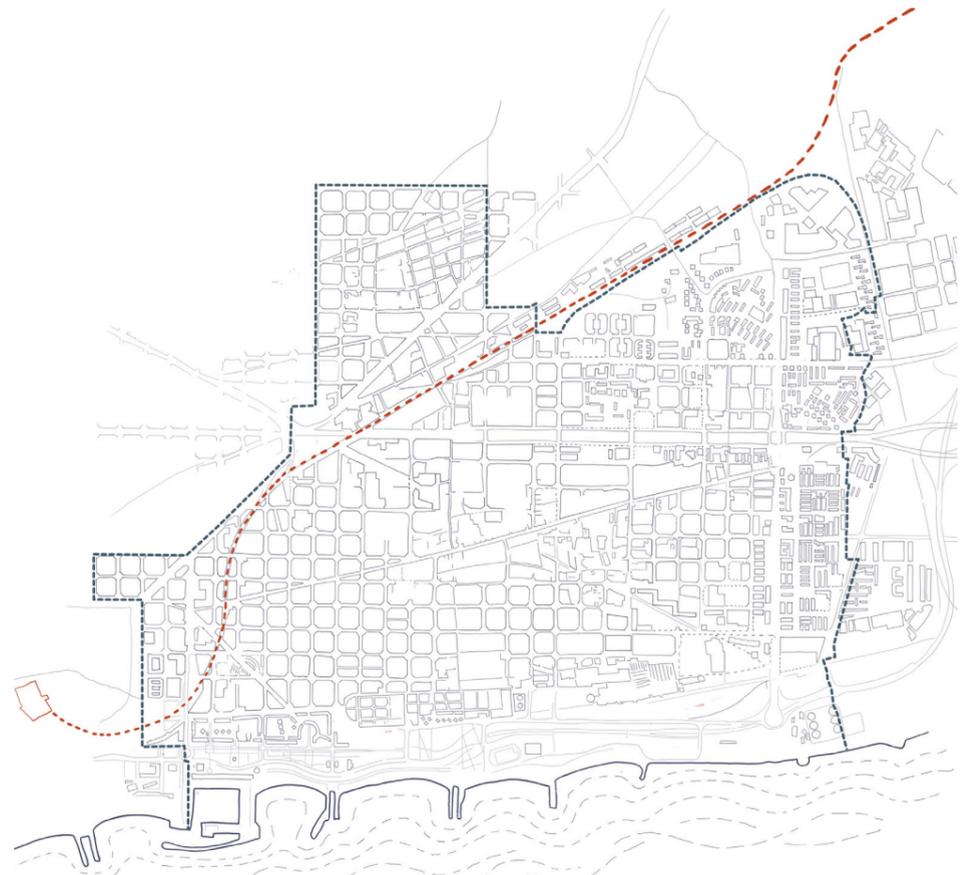
Florida, (2017).

Over time, these shortcomings have contributed to significant socio-economic challenges, including high unemployment, social vulnerability, and poor connectivity with surrounding neighborhoods.

Historically, the focus on housing provision without parallel investment in social or urban infrastructure created a physical and social divide within the city.

# 100 years of the same problem: migration & housing crisis

The maps and timeline illustrate the evolution of the Sant Martí district, highlighting the urban development and significant transformations the area has experienced over the past century.



## Time Line



## Legend

- Sant Martí district
- railway
- ▭ urban fabric

Fig. 20, 21, 22. Historical orthographic maps of Sant Martí. Created by author.

### Post-War Period (1939-1950)

#### → Urban Stagnation:

The early post-war years saw a stagnation in urban development across Spain due to the economic devastation of the Civil War, international isolation, and policies. In Sant Martí, there was little new construction, and the area's pre-war problems of inadequate housing, infrastructure, and services worsened.

#### → Rural Migration:

Despite the lack of development, migration to Barcelona, including Sant Martí, increased as rural populations from poorer parts of Spain sought jobs in the city's still-functioning industries. This migration accelerated the growth of informal settlements and slums, as there was a critical shortage of housing to accommodate newcomers.

### Industrial Recovery and Expansion (1950s)

#### → Industrial Revitalization:

By the early 1950s, Sant Martí began to experience an industrial recovery as Spain shifted toward limited economic liberalization. Factories reopened, and new industries were set up, bringing jobs to the area.

#### → Worker Settlements:

The influx of workers from rural areas increased, and the existing housing stock in Sant Martí was inadequate to meet the demand. As a result, the district saw a rise in barraquismo (shantytowns), informal housing made from makeshift materials. These settlements lacked basic urban services and sanitation (Wynn, 2024).

#### → Proliferation of Low-Quality Housing:

The housing that was built to accommodate the growing population was often of poor quality. The focus was on speed and quantity, rather than quality of life or long-term urban planning.

#### → Infrastructure Deficiencies:

Despite the growing population, basic urban infrastructure was severely lacking. The district faced frequent power shortages, inadequate water supply, poor transportation links, and a lack of paved roads. Public services, including healthcare and education, were severely underdeveloped, creating challenging living conditions for the district's inhabitants.

### Industrial Growth and Urbanization (1960s)

#### → Industrial Growth:

At this time Sant Martí became one of the most important industrial hubs of Barcelona. The expansion of textile factories, metalworking industries, and chemical plants led to rapid urbanization in the district. The increase in industrial activity attracted a large number of workers, which triggered the need for residential developments.

#### → Country Migration:

Massive migration from other parts of Spain, particularly from poorer regions, increased the population. This rapid growth put immense pressure on housing, resulting in dense, often substandard residential areas.

#### → Industrial-Residential Conflict:

The close proximity of factories to residential zones created environmental and social challenges, including pollution, noise, and poor living conditions. The lack of zoning regulations exacerbated these issues.

### Transition Towards Modernization (1970s)

#### → Construction of Public Housing:

Due to the influx of workers, the city focused on building public housing projects, such as the Viviendas Protegidas, to accommodate the growing population.

#### → Development of Working-Class Neighborhoods:

New neighborhoods, like El Clot and La Verneda, were developed during this period, with a focus on providing low-cost housing for the working class. These areas often lacked basic urban amenities and green spaces.

#### → Modernization:

Towards the end of this period, particularly in the 1970s, there were initial steps towards modernizing the district. However, meaningful urban regeneration and improved infrastructure did not begin until later decades, particularly during the 1980s and 1990s, in preparation for the 1992 Olympic Games.

### Olympic Games (1992)

#### → Transformation:

The 1992 Olympic Games marked a turning point for Barcelona, including the Sant Martí district, catalyzing its modernization and urban renewal. Large-scale infrastructure projects, such as the construction of the Olympic Village and improved transportation systems, brought significant investment to the area. This period also saw the transformation of former industrial zones into residential and commercial spaces, enhancing the district's connectivity and international profile.

### International Hub (2000-now)

The post-Olympic era solidified Sant Martí's position as an international hub, particularly with the development of the 22@ Innovation District. The area transitioned from its industrial roots to become a center for technology, media, and knowledge-based industries. This shift attracted global companies, fostering job creation and economic growth. However, the rapid pace of development also led to gentrification,

### Spanish Civil War (1936-1939)

#### → Industrial Disruption:

Sant Martí was already an industrial area by the 1930s, with factories and workshops concentrated there. The Civil War caused a halt to industrial production, with many factories either shutting down or being taken over by workers' collectives.

#### → Bombing and Destruction:

The district suffered damage from bombing raids by Francoist forces, leading to the destruction of some industrial and residential areas.

#### → Communal Urban Management:

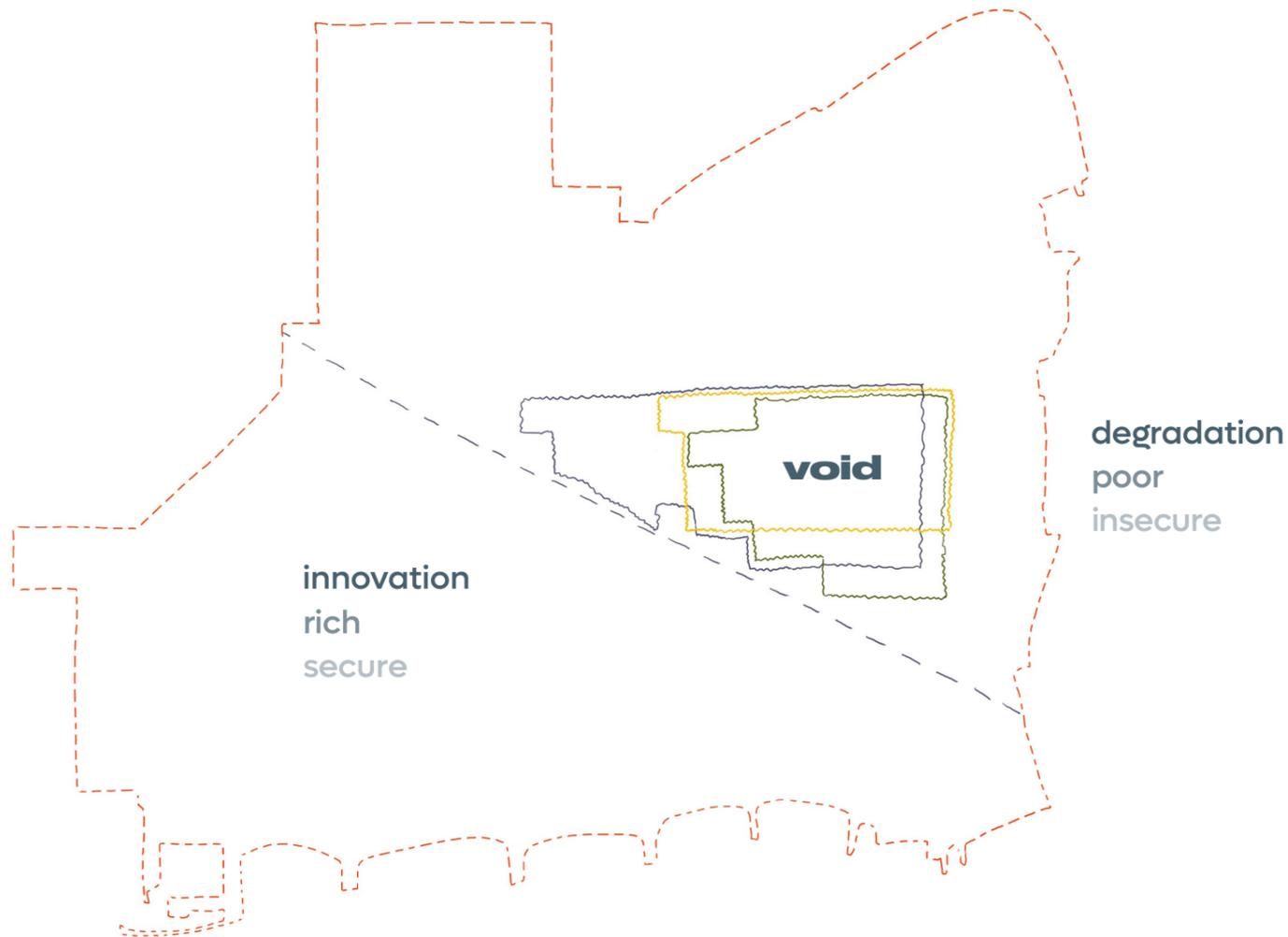
During the war worker collectives took control of industries and even urban planning decisions. There were attempts at communal urban management.

## void in the middle of Sant Martí

Mapping various social and spatial factors across the area revealed a striking contrast: the southern part of the district is undergoing strong gentrification, while the northern side faces significant degradation.

Between these extremes lies a void characterized by multiple deficiencies, including a lack of green spaces, activities, amenities, and people flow shown in the next pages as well as in Appendix (p. 126-129).

Together, these factors contribute to spatial segregation, which in turn exacerbates social segregation.



Legend

- - - Sant Martí district
- ~~~~~ activity void
- ~~~~~ green void
- ~~~~~ night movement void

**Rapid urban transformation of Barcelona, driven by the establishment of the 22@ Innovation District, city's booming tourism, has led to significant social, economic, and spatial disparities in Sant Martí district and area of Sant Adrià de Besòs.**

**This shift has deepened divisions between newly developed areas and nearby historically underserved neighborhoods, resulting in a fragmented urban landscape.**

Fig. 23  
Scheme of void location.  
Created by author.

To address these issues and develop effective design strategies, specific methods were employed, which are outlined on this page.

### A. Analytical Methods

#### → GIS Mapping and Spatial Analysis

**Objective:** Identify spatial disparities in green space, connectivity, and income distribution

**Tools:** QGIS

**Outputs:** Maps visualizing inequalities and barriers

#### → Statistical Analysis

**Objective:** Analyze correlations between variables (e.g., income levels, innovation clusters, insecurity rates)

**Tools:** Excel

**Outputs:** Graphs and charts explaining trends and relationships

#### → Literature & Policy Review

**Objective:** Establish theoretical grounding

**Sources:** Academic journals, planning documents, historical texts

**Outputs:** Applied relevant theories and frameworks

#### → Field Observations

**Objective:** Understand how people interact with spaces and identify underutilized areas

**Techniques:** Behavioral mapping, photo documentation

**Outputs:** Visual and qualitative documentation of spatial dynamics

### B. Strategic Design Methods

#### → Metropolitan-Scale Strategies

**Objective:** Reintegrate the project area into the broader urban and ecological system of Barcelona

**Tools:** Diagramming, layered maps

**Outputs:** Spatial concepts

#### → Neighborhood-Scale Strategies

**Objective:** Repair physical and social discontinuities in Sant Martí and surrounding areas

**Tools:** Urban structure mapping, typological studies

**Outputs:** Spatial list of necessary improvement

#### → Tailored Spatial Interventions (Three Focus Areas)

**Objective:** Translate strategic goals into context-specific designs that respond to local conditions and thresholds — addressing density, program, public life, and infrastructure

**Tools:** Axonometric design, master planning, section drawings, typological studies

**Outputs:** Detailed spatial proposals

## How can urban design strategies foster spatial, social and economic connectivity between the 22@, La Mina, and La Catalana, ensuring a cohesive and inclusive urban fabric from Sant Martí to the Besòs River?

### Subquestions:

→ What is the effect of gentrification and segregation in the area?

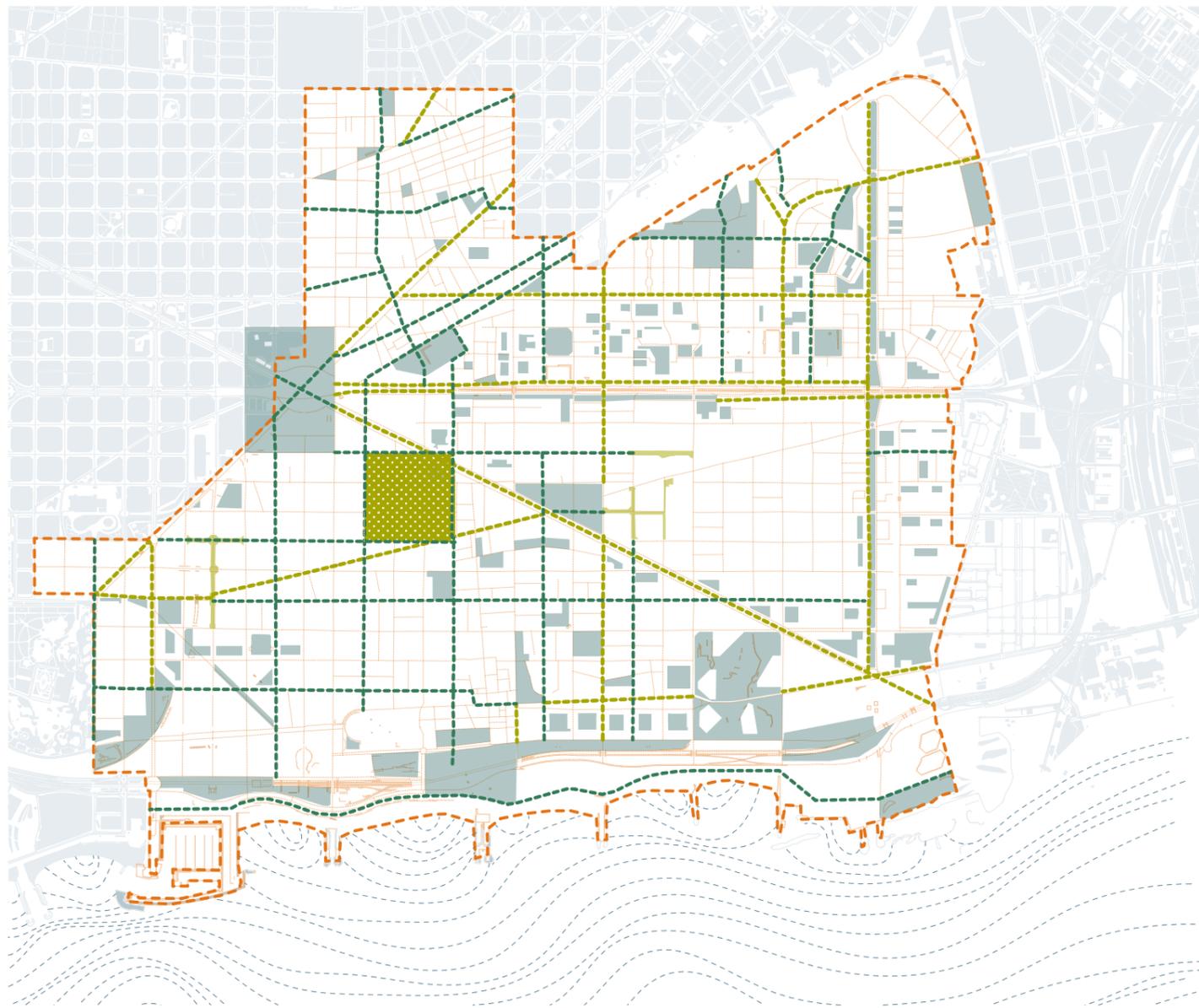
→ How do spatial configurations within the area affect social interaction and accessibility for different social groups?

→ What urban design interventions can reduce the physical, economic and social barriers between redeveloped and traditionally underserved neighborhoods in the area?

→ How can the urban corridor 'the 22@, La Mina, La Catalana' serve as a unifying element between diverse communities, fostering a shared sense of place?

→ What urban planning measures can be implemented to mitigate displacement and enhance community resilience against gentrification in Barcelona?

1.9 district analysis: open spaces



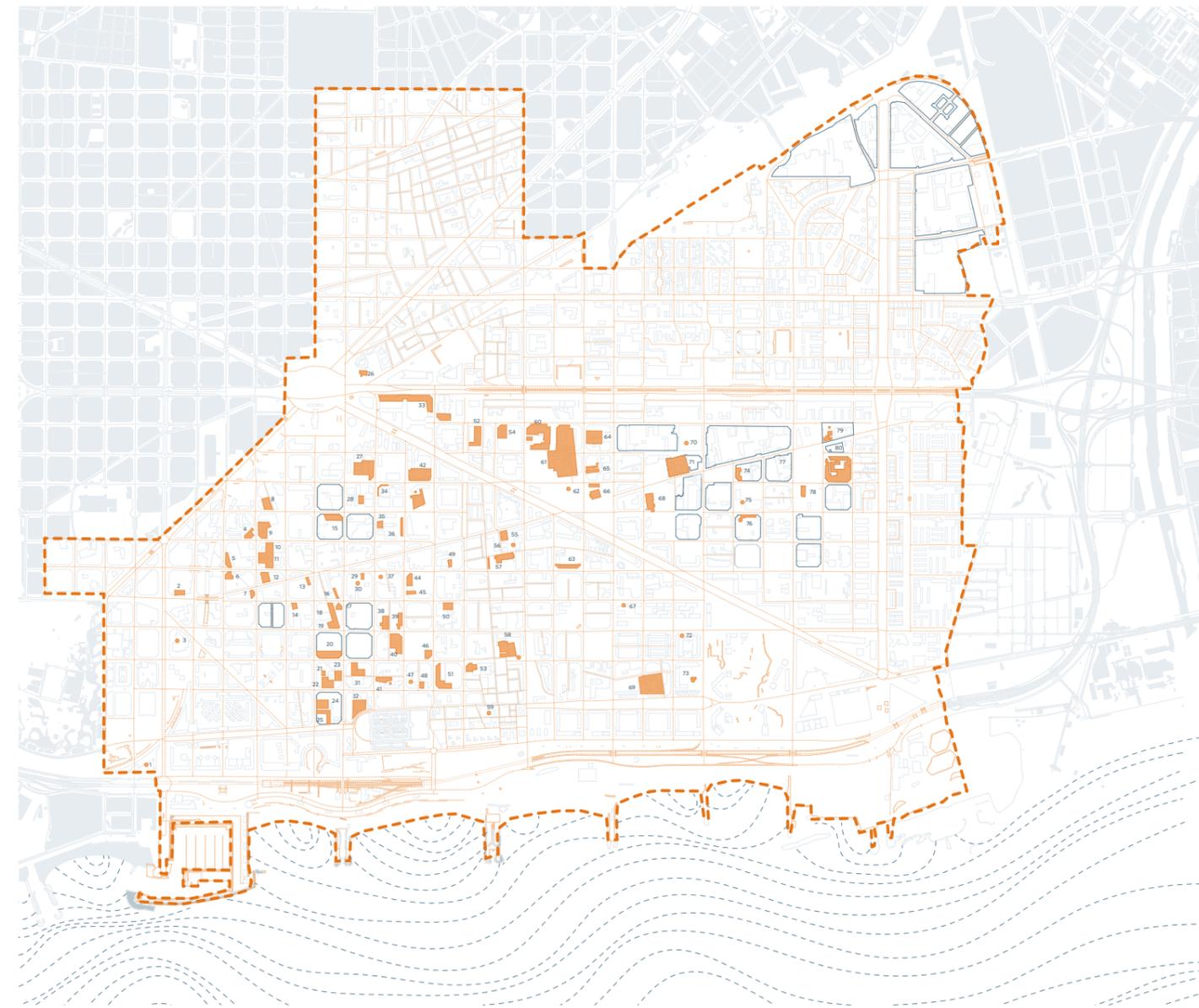
This map illustrates the distribution of major green spaces and green corridors within the district. While Sant Martí is renowned for its innovative green solutions, such as Superblocks and other high-quality green areas, the map highlights specific zones with limited access to natural spaces and weak connectivity between them. Additionally, the central areas of the district benefit from well-developed public spaces, whereas neighborhoods on the eastern side face a significant deficit of green spaces, lack of their accessibility and quality.

- Legend
- Sant Martí district
  - main green corridors
  - extra green corridors
  - green areas
  - Superblock Poblenou

Fig. 24

Open spaces of Sant Martí  
Created by the author, adapted from previous student project work (Deinega, 2023).

1.9 district analysis: industrial heritage



This map highlights the locations of industrial heritage buildings and existing industries in Sant Martí. During the urban transformations of the 19th and 20th centuries, the neighborhood's industrial heritage was often overlooked, resulting in the demolition of many historic industrial structures.

This neglect eventually raised awareness about the historical and architectural significance of these buildings, leading to increased legal protections in recent years (see Appendix: Industrial heritage, p. 122-123).

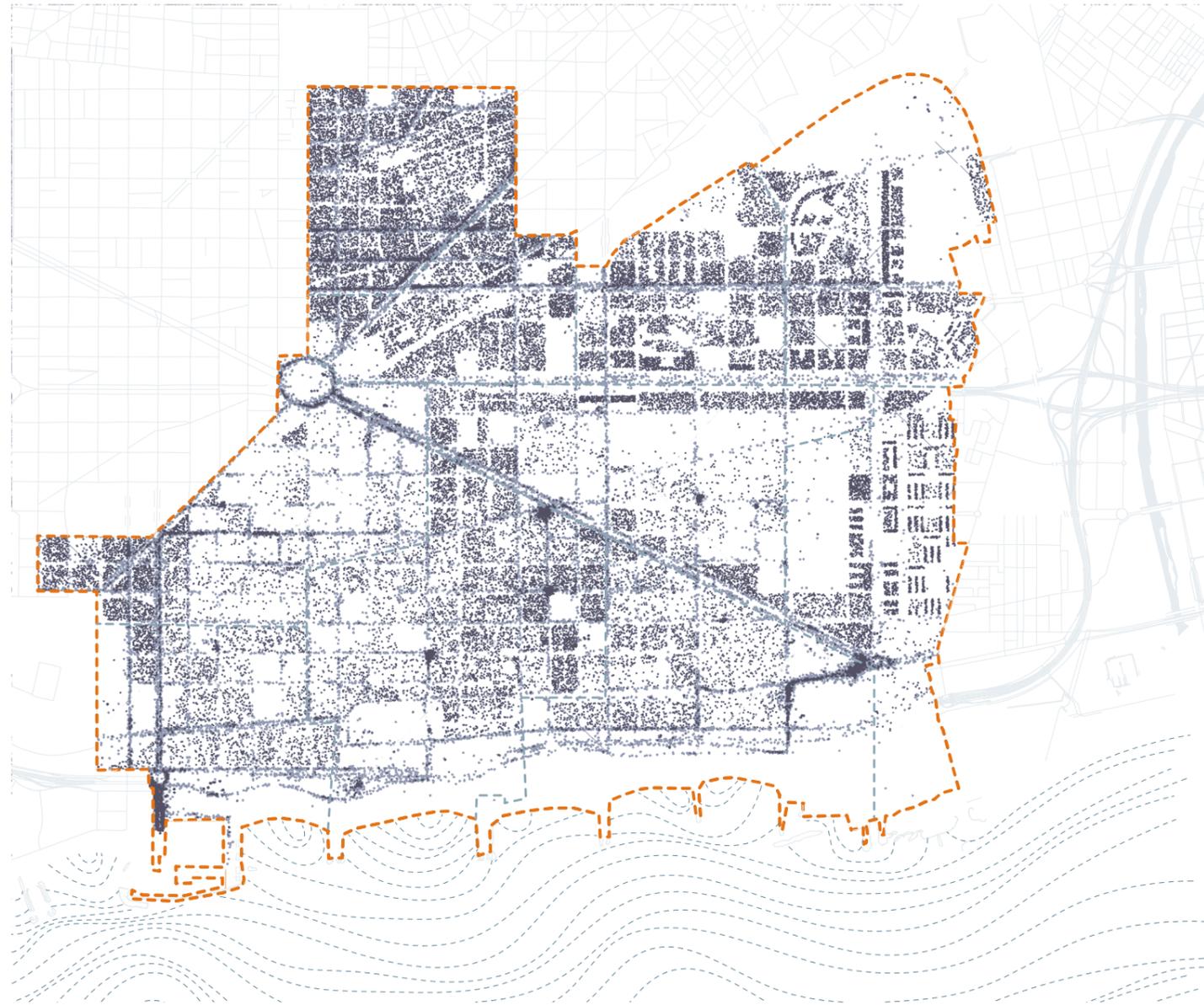
- Legend
- Sant Martí district
  - industrial heritage
  - existing industries
  - 23** names (see Appendix)

Fig. 25

Industrial heritage of Sant Martí  
Data derived from El Globus Vermell, 2019  
Created by the author, adapted from previous student project work (Deinega, 2023).

1.9 district analysis: density of night movement

XL L M S  
 The night movement map of Sant Martí in Barcelona highlights disparities in nighttime activity levels across different parts of the district. The map shows areas with limited nighttime people flow, which may contribute to a sense of unease or insecurity.

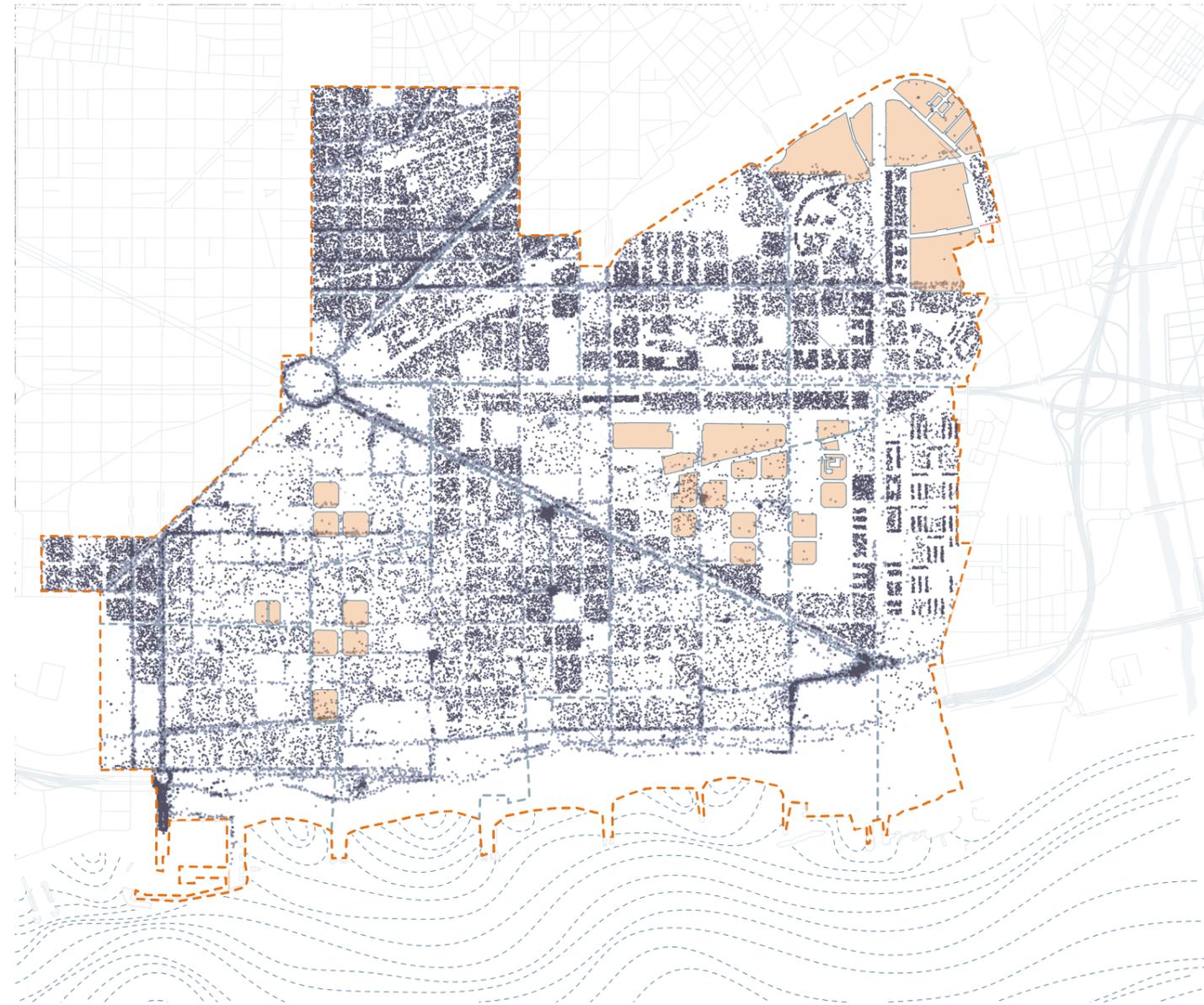


Legend  
 - - - Sant Martí district  
 ●●●●●●●● night movement

Fig. 26  
 Urban movement at night using geolocated taxi data  
 Data derived from atNight, 2013  
 Created by the author, adapted from previous student project work (Deinega, 2023)

1.9 district analysis: density of night movement & industries

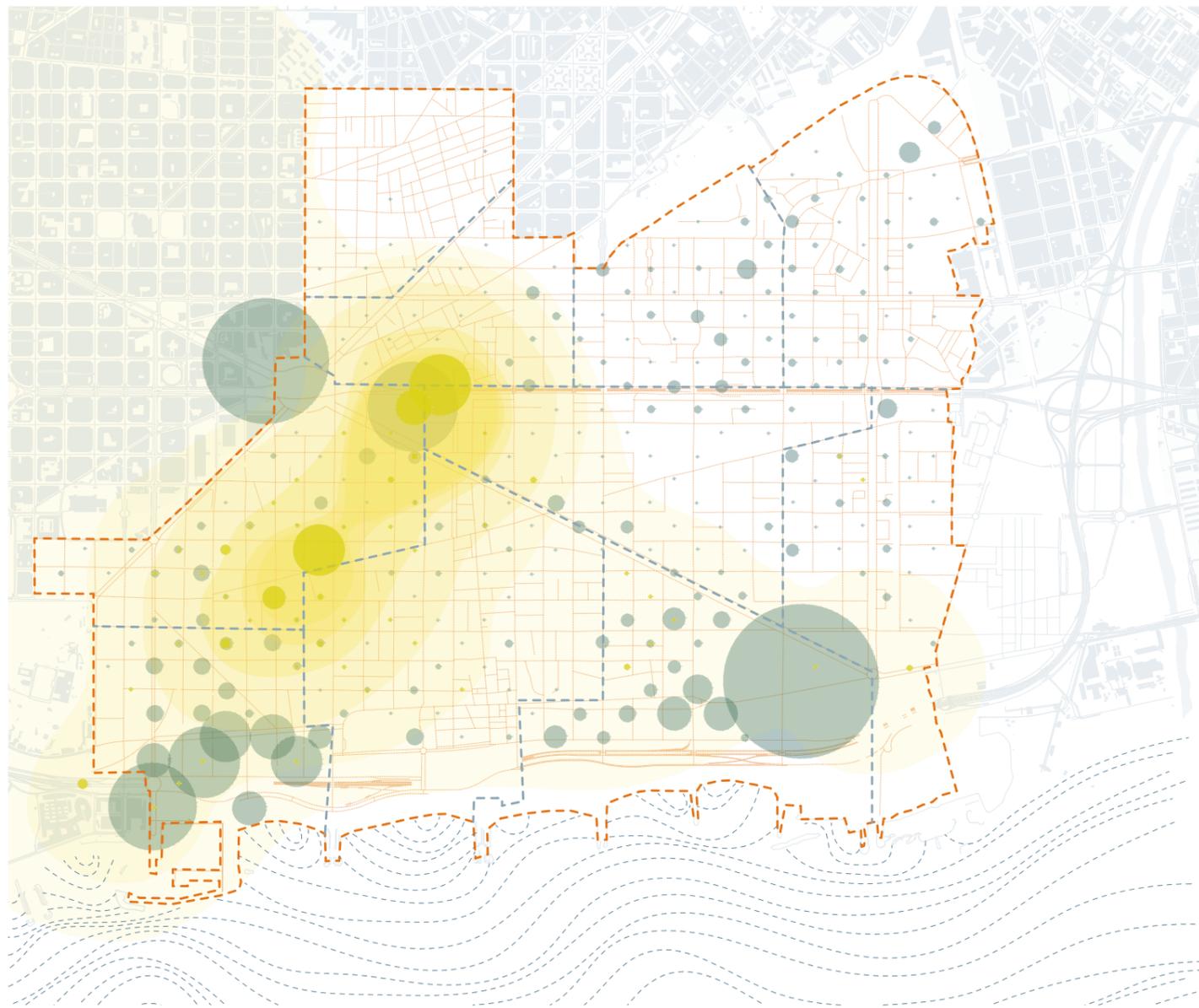
XL L M S  
 The map highlights the correlation between low-density nighttime movement and the ground floor programs dominated by industrial activities in dense clusters.



Legend  
 - - - Sant Martí district  
 ●●●●●●●● night movement  
 ■ industries

Fig. 27  
 Map of night movement density & industries of Sant Martí  
 Created by the author, adapted from previous student project work (Deinega, 2023)

1.9 district analysis: innovation & economy topography



**XL L M S**

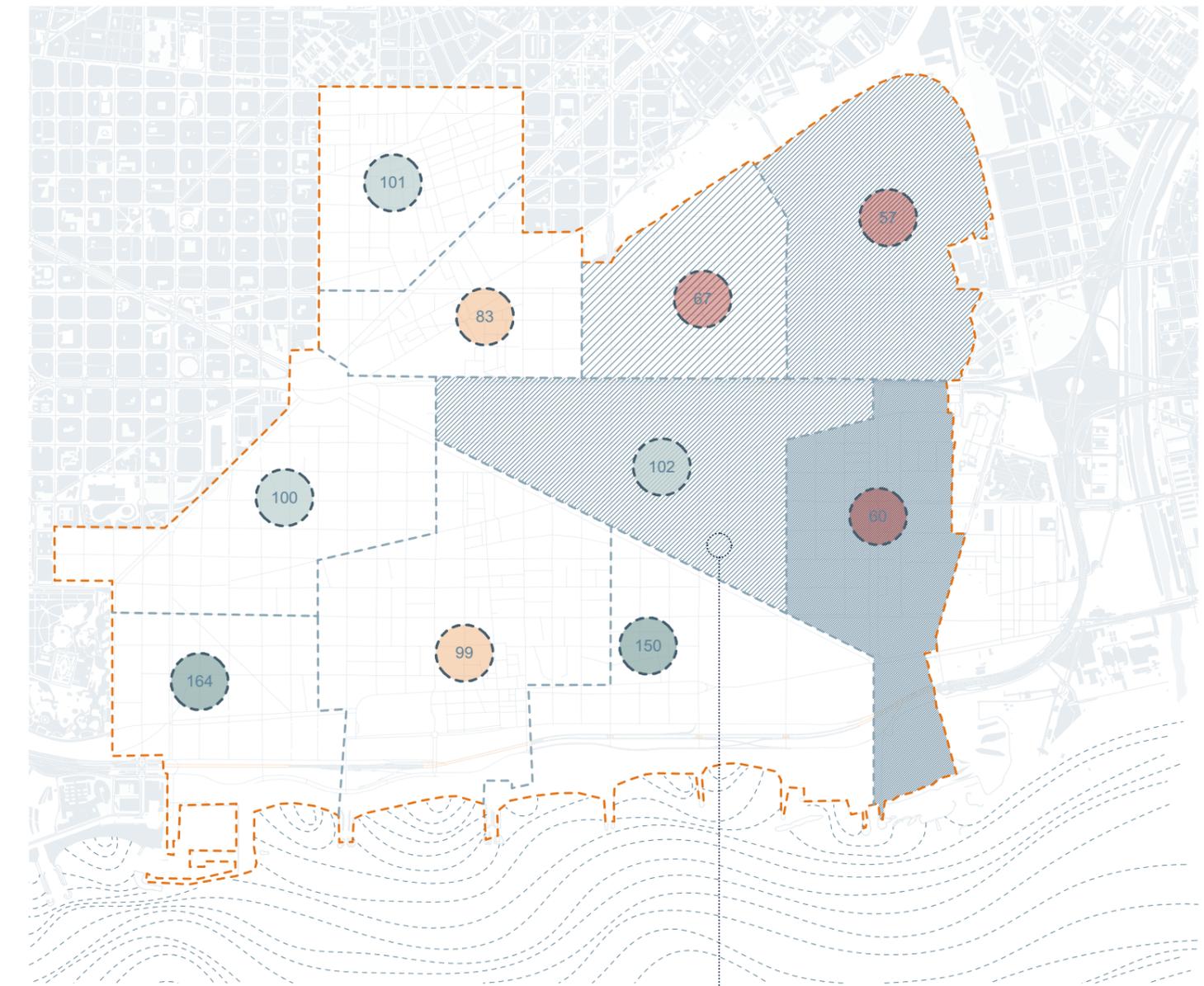
This map illustrates the topography of Sant Martí based on the density of innovative initiatives. The concentration of technology companies and startups has fostered job creation, attracted investments, and stimulated entrepreneurship, driving the growth of the local economy and contributing to the district's overall development.

However, the uneven distribution of innovation has exacerbated pre-existing social segregation, further highlighting disparities between different areas within Sant Martí.

- Legend**
- Sant Martí district
  - innovation topography
  - economic activities
  - innovative clusters

Fig. 28  
Innovation and economy of Sant Martí  
Data derived from 300,000 km/s, 2014  
Created by the author, adapted from previous student project work (Deinega, 2023)

1.9 district analysis: income rate & perceived insecurity



**XL L M S**

The map shows the income rate per neighborhood with the average being 100 in Barcelona and its correlation with perceived insecurity in the district. Provençals del Poblenou neighborhood visually appears as the exception, however, the central and right parts of it are less urbanised and appear as a void for the citizens in terms of urban continuity, which affects the level of perceived insecurity.

- Legend**
- 100 Income rate
  - high perceived insecurity
  - neighborhoods
  - Sant Martí district

Provençals del Poblenou

Fig. 29  
Map of income rate & insecurity of Sant Martí  
Data derived from Ajuntament de Barcelona Open Data BCN, 2024 & POSTC UMH, 2018  
Created by the author, adapted from previous student project work (Deinega, 2023)

# first project area consideration

The initial project area was defined by Barcelona's administrative border.

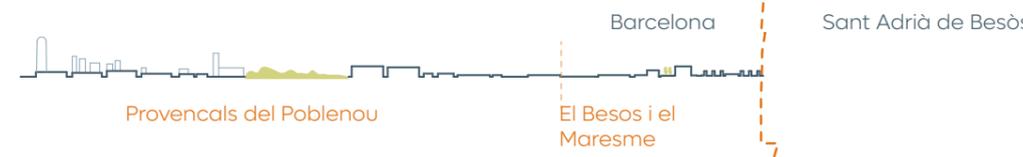
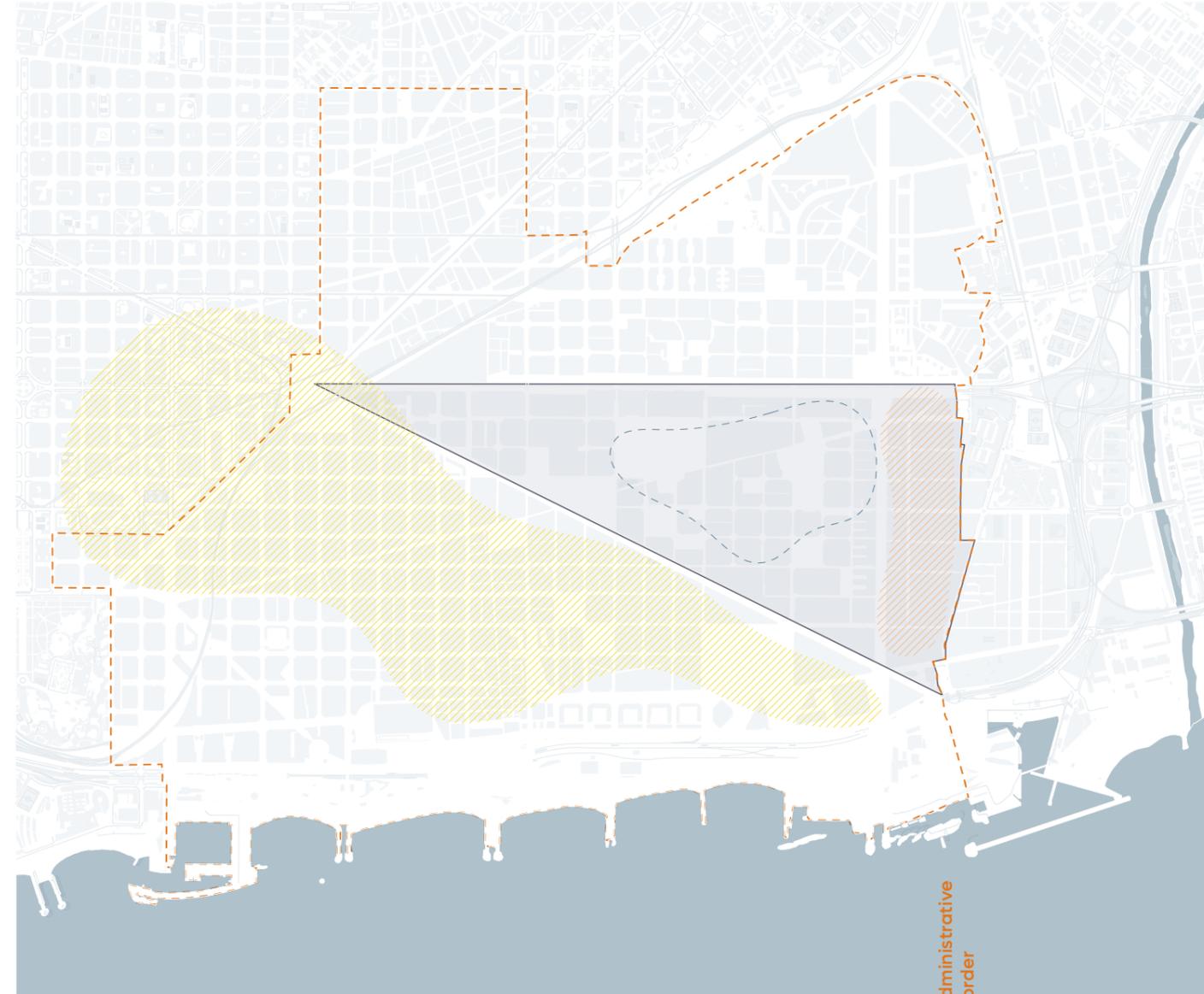


Fig. 30. Project area. Created by author.

- Legend
- - - Sant Martí district
  - - - void
  - █ project area
  - █ problematic area
  - █ successfull area

# final project area selection

However, during the analysis, it became evident that confining the project to this boundary would replicate a key issue found in current proposals by municipality—failing to consider the broader urban context.

Although beyond this border lies a different city Sant Adrià de Besòs, it is urbanistically interconnected with the area and should be treated as part of a unified development strategy. Extending the scope to the physical limits of the urban fabric is essential to address spatial segregation and ensure cohesive and integrated planning.

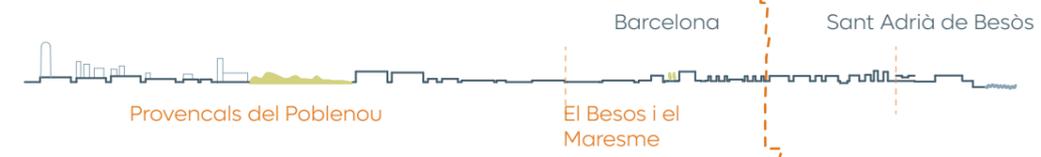
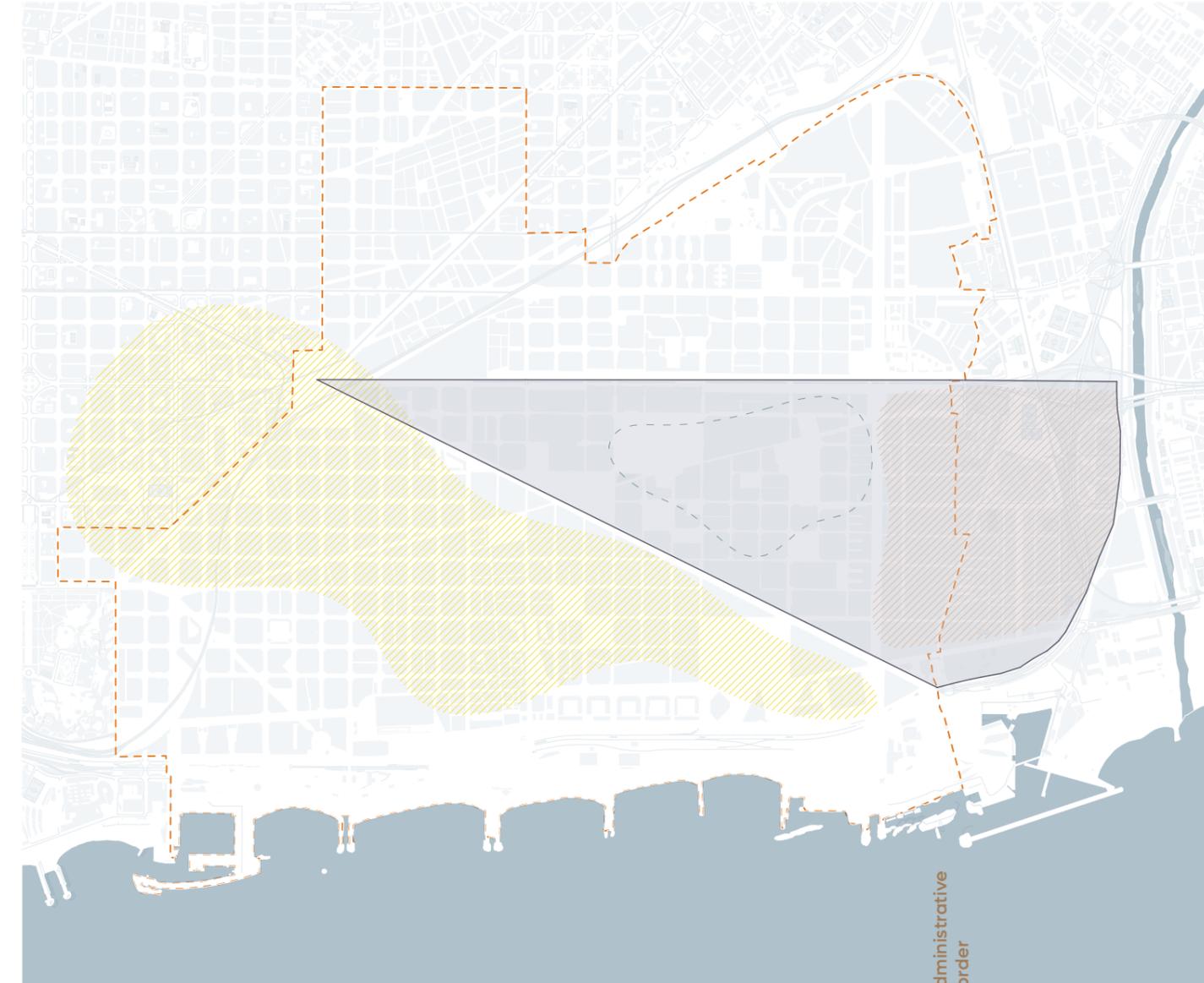


Fig. 31. Project area. Created by author.

- Legend
- - - Sant Martí district
  - - - void
  - █ project area
  - █ problematic area
  - █ successfull area

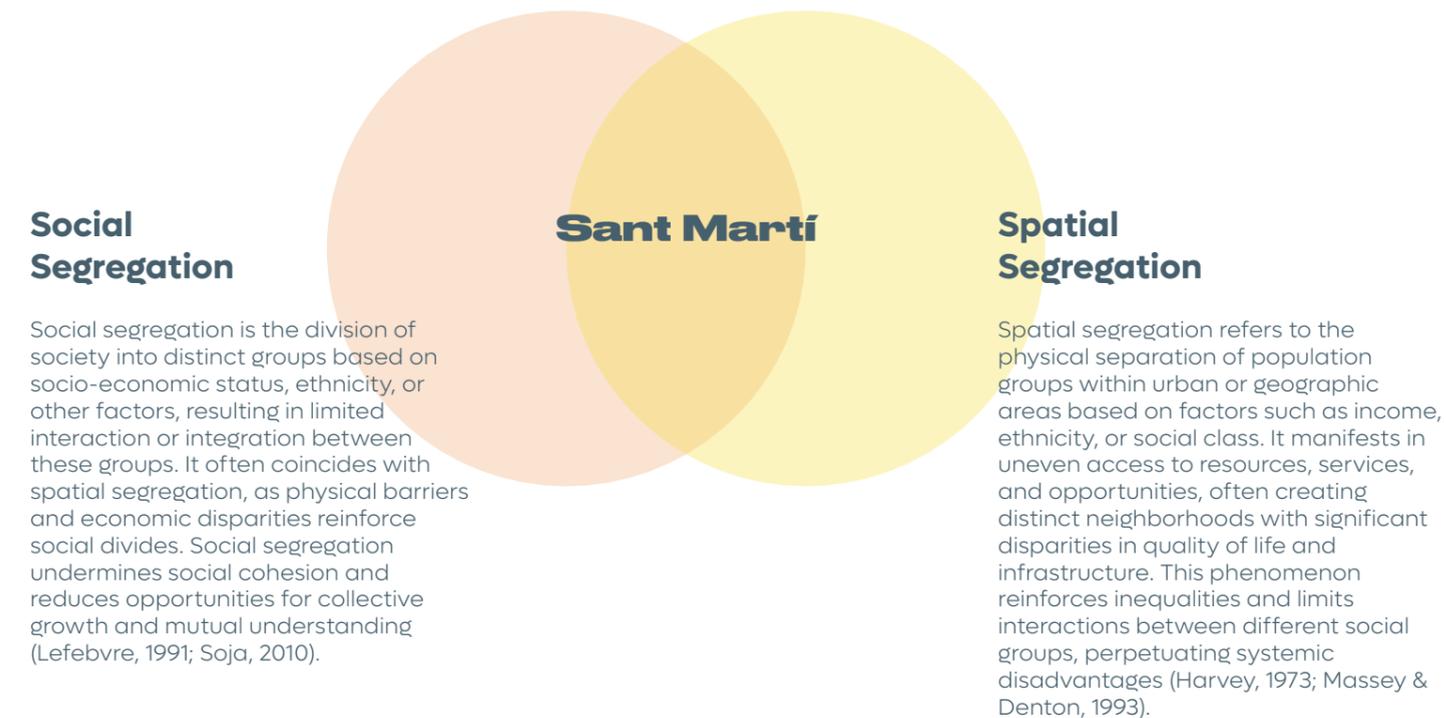
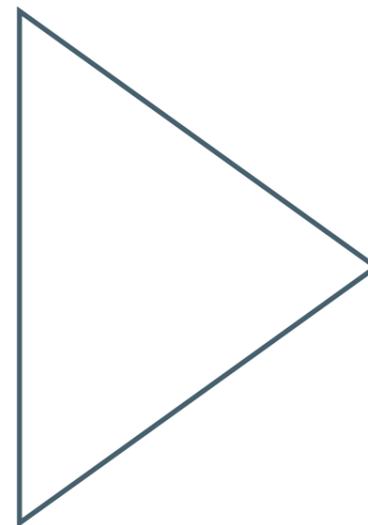
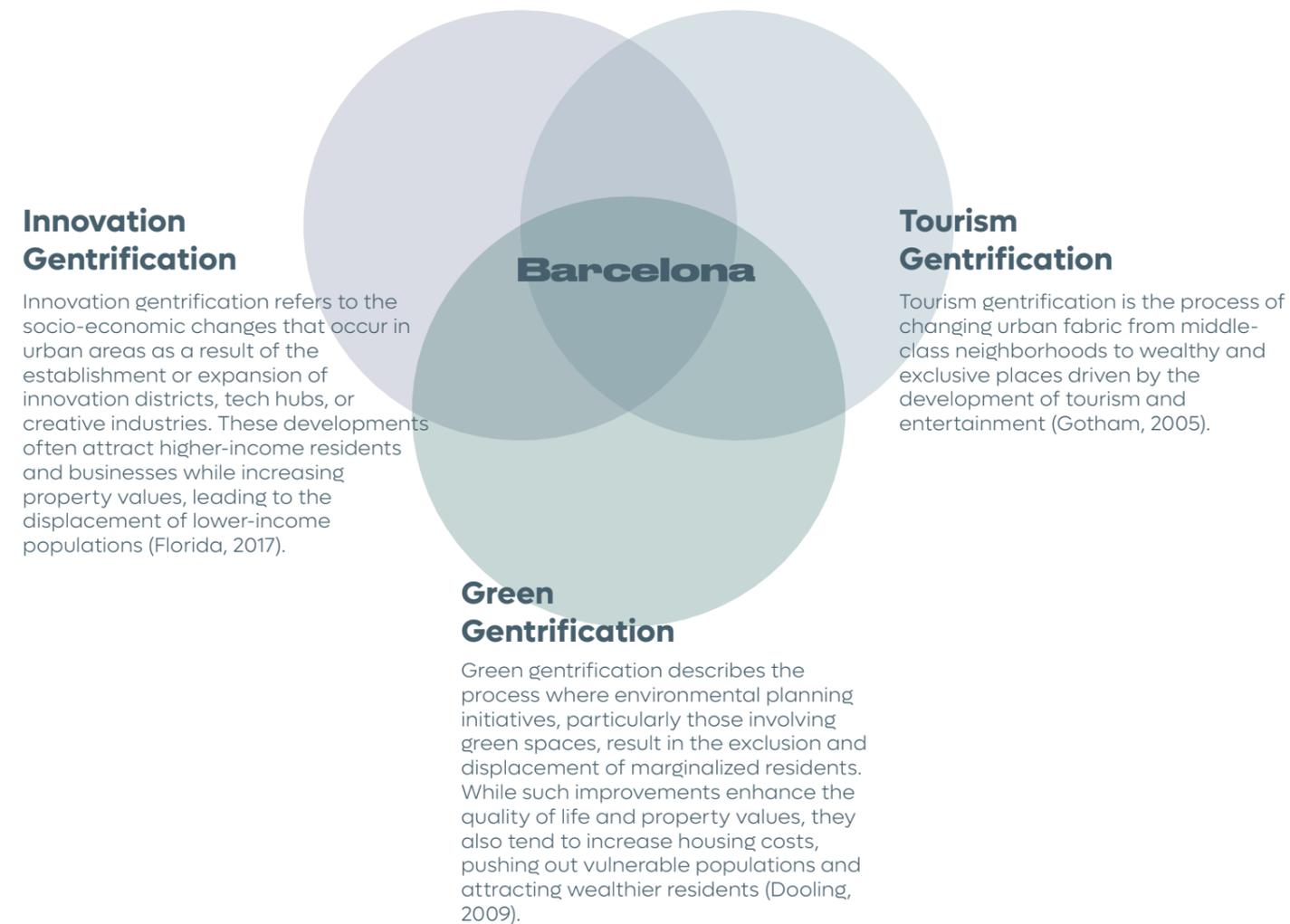


Fig. 32  
 Types of gentrification in Barcelona.  
 Created by author.

Fig. 33  
 Types of segregation in Sant Martí.  
 Created by author.

## socially fragmented urban landscape



The area has diverse social dynamics and varying social conditions, which are crucial to address during the design process. Understanding these complexities ensures that proposed solutions are tailored to the unique needs of each community, fostering inclusivity and equity.

### Legend

- Predominantly young professionals, tech workers, and middle-to-high income groups attracted by innovation-driven industries.
- Area with low-density of population. Mainly old local residents.
- High concentration of low-income residents and immigrant communities and gypsy with high unemployment rates and significant socio-economic challenges.
- Densed area with middle or low-to-middle income.
- Predominantly young couples of middle income.

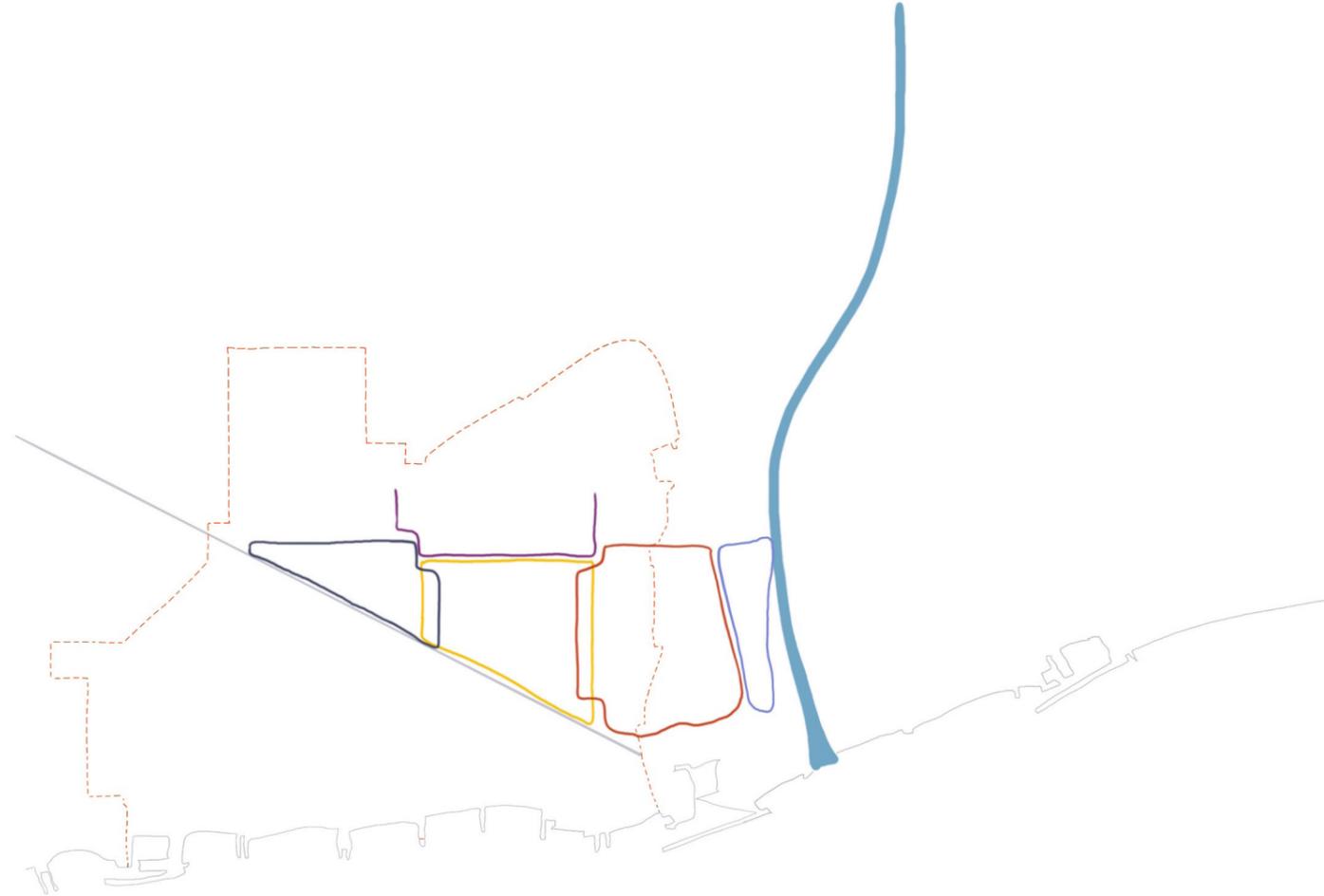


Fig. 34  
Sociodemographic profile of Sant Martí.  
Created by author, 2025.

## spatially fragmented urban landscape



The map illustrates the area in its current state, characterized by numerous physical barriers, including heavy infrastructure and expansive industrial zones. These elements collectively create a fragmented patchwork of disconnected areas, each with distinct and declining social dynamics. This disconnection highlights the urgent need for strategies that promote spatial integration and revitalization. See also Map of Spatial Fragmentation in Appendix p. 124).

### Legend

- physical barriers
- soft barriers
- industries



Fig. 35  
Physical barriers.  
Created by author.

## North 22@

→ **Population:**  
no information as it is part of the neighborhood, not the whole area  
~15,000–25,000 residents

→ **Area:**  
0.68 square kilometers

→ **Strength:**  
- Proximity to central Barcelona and relation to South 22@ enhances connectivity and accessibility

→ **Weaknesses:**  
- Presence of underutilized or vacant spaces that disrupt urban continuity  
- Development may lead to increased property values, potentially displacing long-term residents

→ **Opportunities:**  
- Transforming vacant areas into active spaces  
- Implementing housing projects to maintain socio-economic diversity  
- Involving residents in planning to ensure inclusive development

→ **Threats:**  
- Development favoring higher-income groups may widen socio-economic gaps  
- New developments might overshadow local heritage and community identity

## El Besòs i el Maresme

→ **Population:**  
26,116 residents

→ **Area:**  
1.2 square kilometers

→ **Strength:**  
- Cultural mix and history of the area  
- Access to beaches and maritime activities  
- Active local organizations promoting social cohesion

→ **Weaknesses:**  
- Higher unemployment rates compared to city averages  
- Need for modernization of public facilities and housing  
- Concerns about safety affecting quality of life

→ **Opportunities:**  
- Upgrading housing, facilities and public spaces to improve living standards  
- Promoting area to attract visitors

→ **Threats:**  
- Risk of marginalization without inclusive policies  
- Adjacent developments may increase living costs

## La Mina

→ **Population:**  
10,417 residents

→ **Area:**  
0.5 square kilometers

→ **Strength:**  
- Cultural mix and history of the area

→ **Weaknesses:**  
- Issues like poverty and limited access to education  
- Negative perceptions hindering external investment  
- Shortage of healthcare and recreational facilities  
- Low quality of housing, facilities and public spaces  
- Located near highways that cut the area

→ **Opportunities:**  
- Upgrading housing, facilities and public spaces to improve living standards  
- Connecting La Mina with surrounding prosperous areas  
- Promoting area to attract visitors

→ **Threats:**  
- Physical and social separation from broader urban dynamics  
- Risk of residents being pushed out by external developments  
- Insufficient resources for planned improvements  
- Difficult social mix

## 1.12 project area analysis: swot

### La Catalana

→ **Population:**  
2,500 residents

→ **Area:**  
0.3 square kilometers

→ **Strength:**  
- Situated near key transport routes and the Besòs River  
- Availability of land for new projects

→ **Weaknesses:**  
- Few schools, healthcare centers, and shops  
- Proximity to industrial areas affecting air quality  
- Reliance on neighboring areas for employment  
- Cut from the rest of Barcelona with heavy network of infrastructures

→ **Opportunities:**  
- Mixed-use developments to attract diverse groups  
- Green and recreational projects along the Besòs River  
- Improved transport connections to strengthen accessibility

→ **Threats:**  
- Gentrification and rising housing costs  
- Market-driven developments prioritizing profit over inclusivity  
- Environmental risks like flooding and pollution

## 1.12 project area analysis: orthographic map

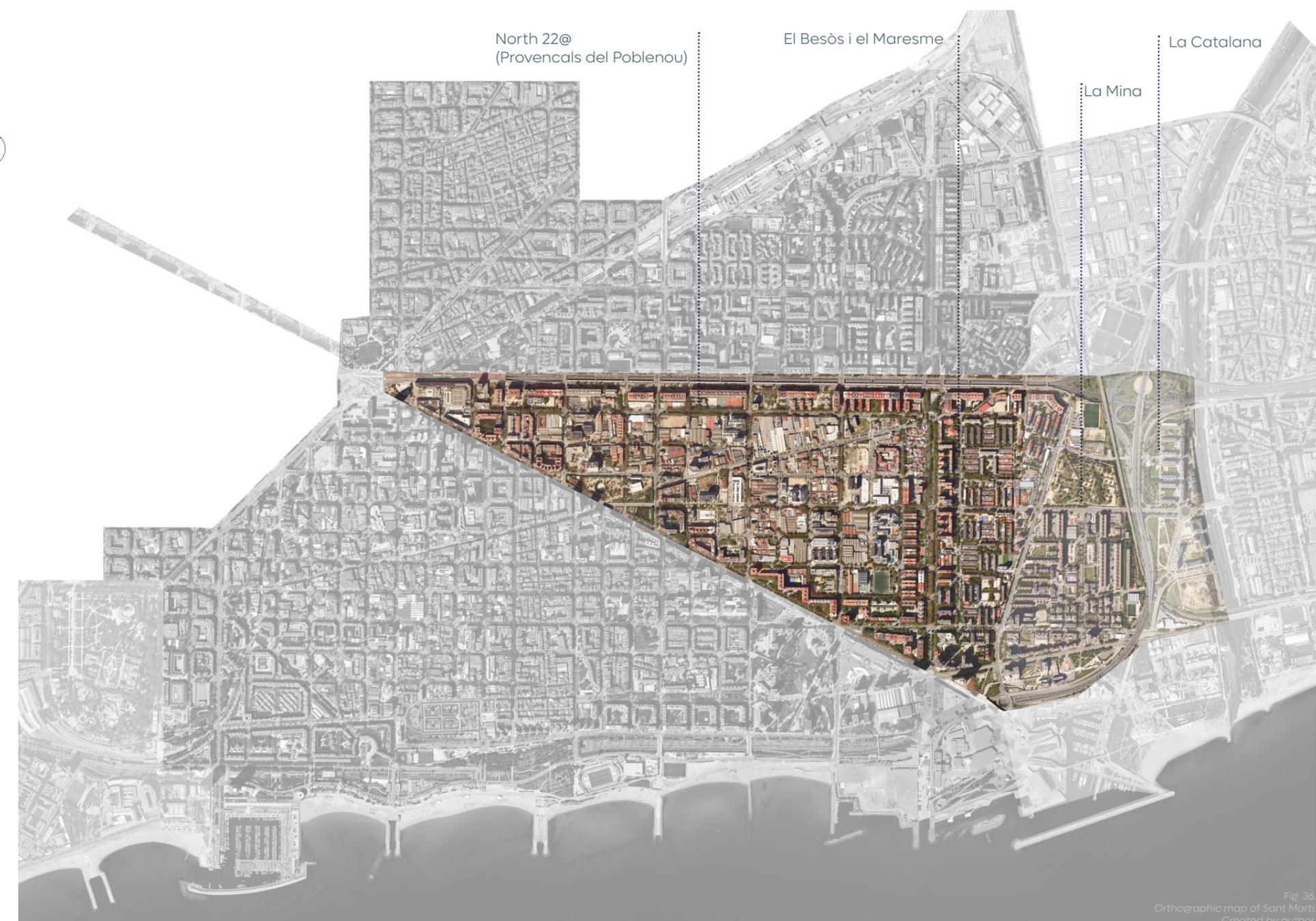


Fig. 36.  
Orthographic map of Sant Martí.  
Created by author.

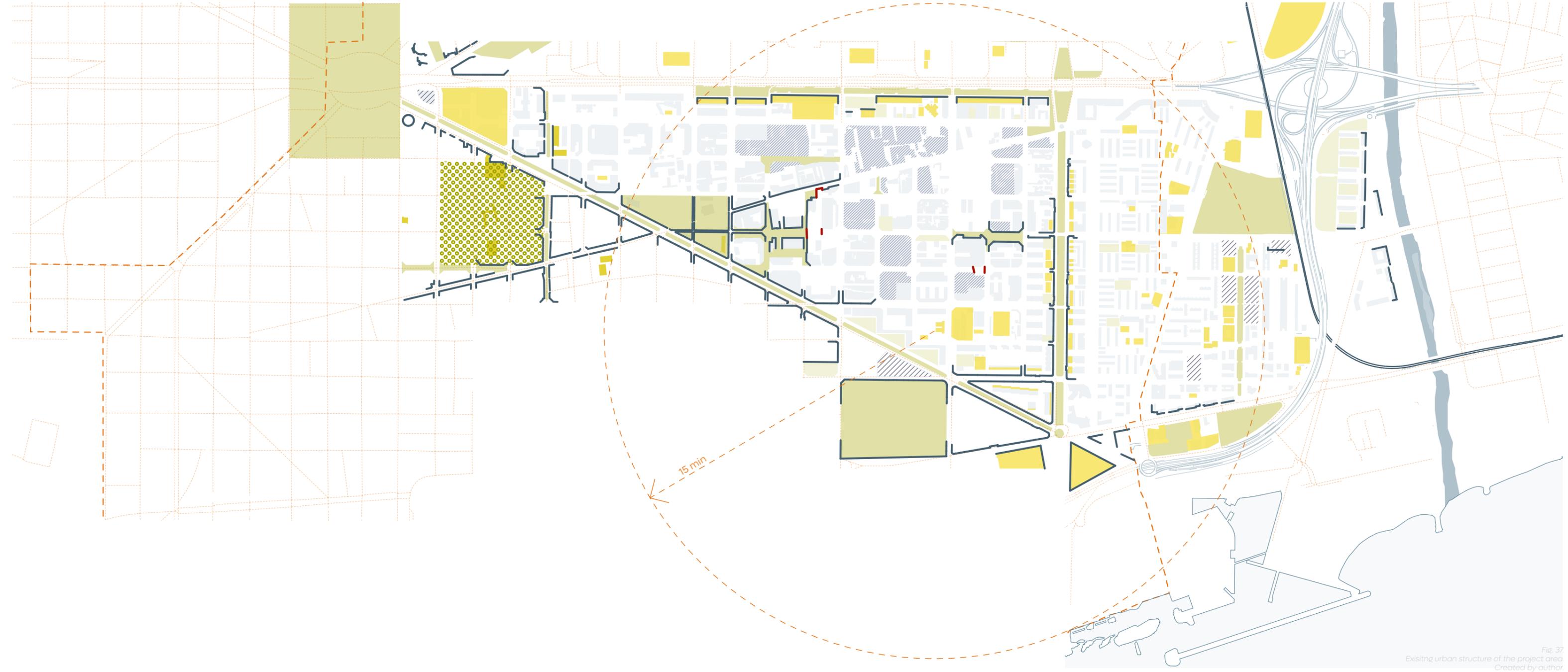
XL L M S

# existing urban structure

The existing urban structure of the project area reveals a fragmented and uneven spatial condition shaped by administrative borders, infrastructure corridors, and historical development patterns. The western edge of the site connects to the structured grid of 22@ and Poblenou, while the eastern half—especially around La Mina and El Besòs—is marked by large-scale housing blocks, undefined voids, and infrastructural barriers.

The contrast between compact, walkable blocks and open, underutilized plots leads to spatial discontinuity and weak urban integration. Several zones are dominated by mono-functional land uses, poor frontage conditions, and vast surface parking, contributing to a lack of public activity and street life.

The absence of strong public space frameworks or mixed-use continuity highlights the need for a new urban logic that stitches these disconnected fragments into a coherent, inclusive, and adaptable urban fabric.



- Legend
- Sant Martí district
  - main urban structure
  - street structure
  - train line
  - amenities

- problematic area
- industry
- parking
- green areas

Fig. 37 Existing urban structure of the project area. Created by author.

## A. Urban Spatial Justice

→ **Key Thinkers:** Henri Lefebvre, David Harvey

→ **Core Idea:** Cities should offer equal opportunities for all residents to access resources, spaces, and opportunities.

→ **Relevant Literature:**

- Lefebvre, H. (1991). *The Production of Space*.
- Harvey, D. (1973). *Social Justice and the City*.
- Soja, E. W. (2010). *Seeking Spatial Justice*.

→ **Application:** Analyze the spatial distribution of green spaces, public amenities, and economic hubs in Sant Martí to assess how urban design impacts equity and inclusion.

## B. Gentrification

→ **Key Thinkers:** Neil Smith, Sharon Zukin

→ **Core Idea:** Urban renewal often leads to displacement, rising property values, and exclusion of vulnerable populations.

→ **Relevant Literature:**

- Smith, N. (1996). *The New Urban Frontier: Gentrification and the Revanchist City*.
- Zukin, S. (2010). *Naked City: The Death and Life of Authentic Urban Places*.
- Lees, L., Slater, T., & Wyly, E. (2007). *Gentrification*.

**Application:** Evaluate the effects of 22@ District developments on housing affordability, displacement in La Mina and La Catalana, and social cohesion.

## 2.1 theoretical framework

## C. Connectivity and Accessibility

→ **Key Theories:** Space Syntax Theory (Bill Hillier), Transit-Oriented Development (TOD)

→ **Core Idea:** Connectivity within urban spaces enhances access to opportunities and fosters integration.

→ **Relevant Literature:**

- Hillier, B., & Hanson, J. (1984). *The Social Logic of Space*.
- Calthorpe, P. (1993). *The Next American Metropolis: Ecology, Community, and the American Dream*.
- Gehl, J. (2011). *Life Between Buildings: Using Public Space*.

→ **Application:** Study how physical barriers and transportation infrastructure impact connectivity and interaction among neighborhoods.

## D. Urban Economy

→ **Key Concepts:** Creative Cities (Richard Florida)

→ **Core Idea:** Innovation hubs and economic growth should benefit all residents, avoiding polarization between high- and low-income groups.

→ **Relevant Literature:**

- Florida, R. (2002). *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life*.
- Evans, G. (2009). *Creative Cities, Creative Spaces, and Urban Policy*. *Urban Studies*, 46(5-6), 1003-1040.

→ **Application:** Assess the role of innovation clusters in Sant Martí and their potential to integrate marginalized areas like La Mina and La Catalana.

## E. Density

→ **Key Concepts:** Compact City, Social Mixing, Inclusive Density

→ **Core Idea:** Increasing urban density can enhance sustainability, accessibility, and vitality—but only if paired with policies and design strategies that promote social equity and cohesion. High density alone does not guarantee integration; social infrastructure and inclusive housing are essential.

→ **Relevant Literature:**

- Dovey, K., & Pafka, E. (2014). *The Urban Density Assemblage: Modelling Multiple Measures*. *Urban Design International*, 19(1), 66–76.

- Talen, E. (2006). *Design for Diversity: Exploring Socially Mixed Neighborhoods*.

- Sennett, R. (2018). *Building and Dwelling: Ethics for the City*.

→ **Application:** Support the strategy of doubling the FAR in La Mina and El Besòs by showing that compact, mid-to-high density urbanism—if paired with mixed-tenure housing, shared amenities, and accessible public space—can foster inclusive communities.

# 3. design vision

This chapter outlines the strategic vision for transforming the fragmented urban landscape between the 22@ North and the Besòs River into a cohesive, inclusive, and resilient part of Barcelona's metropolitan fabric. Grounded in the preceding analysis, the design vision responds to the spatial and social segregation caused by uneven development, obsolete infrastructure, and the legacy of industrial zoning. Rather than allowing gentrification to expand unchecked from the center, the chapter proposes targeted interventions in underperforming areas. These interventions aim to promote balanced densification, improve connectivity, and foster urban and social integration across neighborhoods historically left at the periphery of progress.

## key idea

**To establish a cohesive society and urban space, it is essential to prevent gentrification from spreading uniformly outward from central areas. Instead, targeted interventions should focus on strategic areas in declining neighborhoods, fostering connections and integration across diverse communities.**



The current development of the area acts as a barrier between Barcelona and Sant Adrià de Besòs. This barrier works as a series of gradual transitions, starting in the central part of the area with deteriorating public spaces, declining building quality, and a lack of diverse programming.

Moving eastward, this shifts also into socio-economic challenges in neighborhoods like El Besòs i el Maresme and La Mina, further compounded by the physical and social disruptions caused by heavy traffic infrastructure. This layered complexity underscores the urgent need for interventions that address both spatial and social integration across the area.

The proposal reimagines the eastern edge of Barcelona not as a periphery, but as a new point of convergence between cities. By shifting the narrative from "edge" to "centrality," the design introduces spatial and programmatic strategies that unify fragmented neighborhoods, integrate public infrastructure, and enable inclusive urban growth across municipal borders.

**3.1 key concept: new centrality**

**edge of the city**

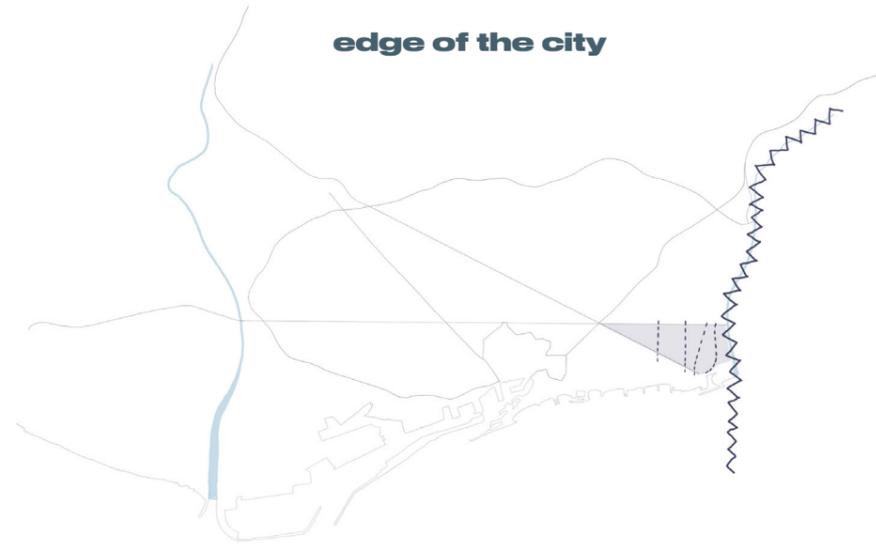


Fig.38. Area as an edge of Barcelona. Created by author.

**new intercity centrality**



Fig. 39. Area as new intercity centrality. Created by author.



**→ Strengths:**

- Promotes social integration and enhances public well-being
- Utilizes natural assets like the Besòs River for ecological and social uses
- Provides opportunities for active and passive recreation in Barcelona (fig. 36)

**→ Weaknesses:**

- Maintenance costs for large recreational areas
- Potential underutilization if access and programming are inadequate
- Limited direct economic returns compared to commercial strategies

**→ Opportunities:**

- Can attract visitors, boosting local economies indirectly
- Strengthens the area's identity as a green and livable urban hub

**→ Threats:**

- Environmental challenges like flooding or degradation of natural spaces
- Possible opposition from developers prioritizing commercial uses

**recreation**

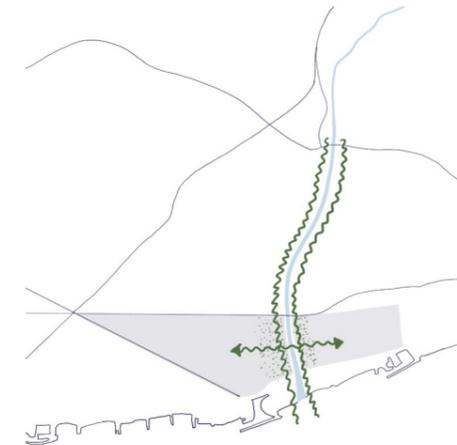


Fig. 40. Recreation concept. Created by author.

**→ Strengths:**

- Enhances urban identity through cultural programming and heritage
- Bridges social divides by celebrating diverse histories and communities
- Attracts cultural tourism and creative industries

**→ Weaknesses:**

- High costs for creating and maintaining cultural spaces
- Cultural facilities may appeal to limited demographics initially
- Risk of commodifying local culture for tourism purposes

**→ Opportunities:**

- Potential to become a cultural area
- Supports creative economies and community engagement

**→ Threats:**

- Competition from existing cultural hubs in the city
- Economic instability affecting funding for cultural programs

**culture**

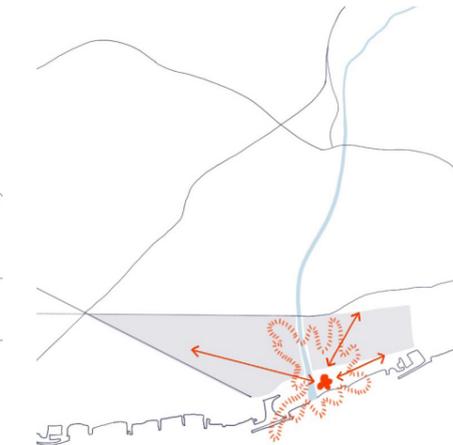


Figure 41. Culture concept. Created by author.

**3.2 strategies**

**→ Strengths:**

- Supports efficient land use
- Enables mixed-use development and vibrant public life
- Justifies investment in infrastructure and public services
- Facilitates social integration

**→ Weaknesses:**

- Risk of displacement or gentrification if not properly managed
- Requires strong regulatory frameworks to ensure social equity

**→ Opportunities:**

- Enables the creation of mixed-tenure
- Activates underutilized plots and promotes urban regeneration
- Can attract investment while offering affordable housing solutions

**→ Threats:**

- Market-driven development may prioritize luxury housing
- Community resistance to densification due to perceived loss of character
- Economic shifts affecting housing affordability

**density**

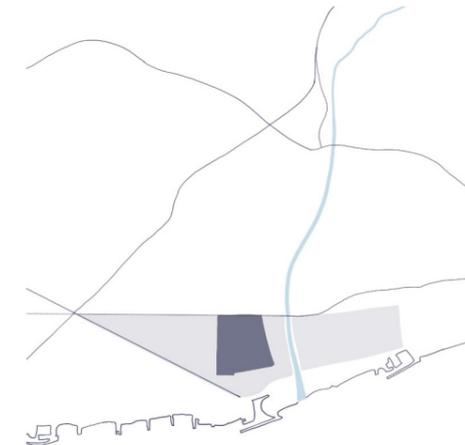


Fig. 42. Density concept. Created by author.

**recreational connection**

Establish connection to recreational area of Besòs River and link this area to a green axis, which can act as a community connector.

**Core idea:** Accessible, well-designed recreational spaces enhance community well-being and attract visitors, fostering social cohesion and urban vitality (Lynch, 1960).



Fig. 43. Recreation concept. Created by author.



Fig. 44. Besòs river. Photo made by author.

**density rise**

Develop a denser, more mixed-use urban fabric that can accommodate population growth while improving spatial quality, public services, and accessibility.

**Core Idea:** Strategic densification enhances the efficiency of land use and infrastructure, creates the conditions for social mixing, and supports long-term urban resilience (Dovey & Pafka, 2014).



Fig. 45. Density concept. Created by author.



Fig. 46. Orthographic view, showing current low density of the area. Created by author.

### cultural attraction

Develop a cultural center to celebrate local histories and bridge social divides between diverse communities.

→ Core Idea: Cultural hub can revitalize neighborhoods by fostering creative economies, preserving heritage, and enhancing urban identity (Zukin, 1995).



Fig. 47  
Culture concept.  
Created by author.



Fig. 48  
Visual rendering of the future Catalunya Media City in the Tres Chimeneas turbine hall.  
Render from Garcés de Seta Bonet & Marvel Architects, 2025.



Fig. 49  
Area of Tres Chimeneas.  
Created by author.

# 4. design elements

**Areas characterized by fragmentation and diverse social, spatial, and economic conditions require tailored strategies for each zone, unified by a cohesive overarching vision to ensure integrated and effective development.**

This chapter translates the design vision into specific spatial strategies that address the identified challenges of segregation, underutilization, and poor connectivity across the project area. It introduces key structuring elements—such as recreation, culture, and density—that guide the transformation of fragmented zones into cohesive, multifunctional urban environments, as well as proposes site-specific interventions for different areas of the project area.

# green lines

Currently, key urban elements such as Avinguda Meridiana, Avinguda Diagonal, and the Besòs River remain poorly connected, despite their strong potential to form a cohesive recreational and ecological loop at the metropolitan scale. These corridors, each with distinct spatial and environmental value, lack integration and continuity, limiting their impact and accessibility.

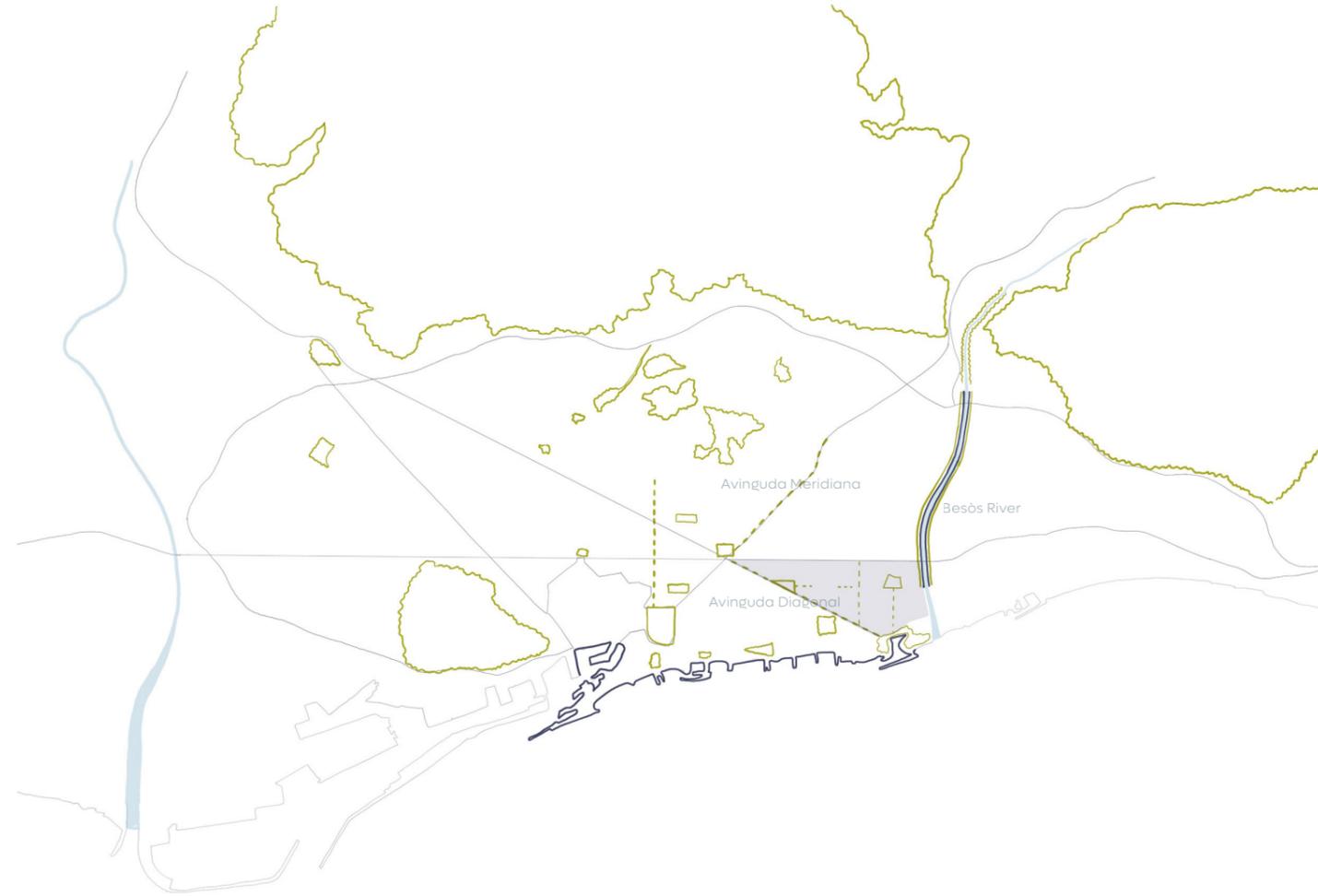


Fig. 50  
Current connectivity of major green & open areas.  
Created by author.

Legend

- green areas
- possible green lines
- project area

# green loop

The proposal aims to transform the currently disconnected urban elements, Avinguda Meridiana, Avinguda Diagonal, and the Besòs River, into a cohesive recreational and ecological loop at the metropolitan scale. By introducing green corridors, enhancing pedestrian and cycling infrastructure, and activating underused public spaces, the project seeks to physically and socially link these major axes. This integrated system strengthens ecological continuity, supports active mobility, and promotes social interaction across neighborhoods. Ultimately, the proposal redefines the urban edge as a vibrant, inclusive, and connected public realm rather than a peripheral boundary.

By aligning with metropolitan-scale ecological and social reconnection goals (see Appendix: opportunities for green spaces improvement, p. 130), the project contributes to restoring environmental quality while also addressing spatial segregation and fostering cohesive, accessible public space networks.

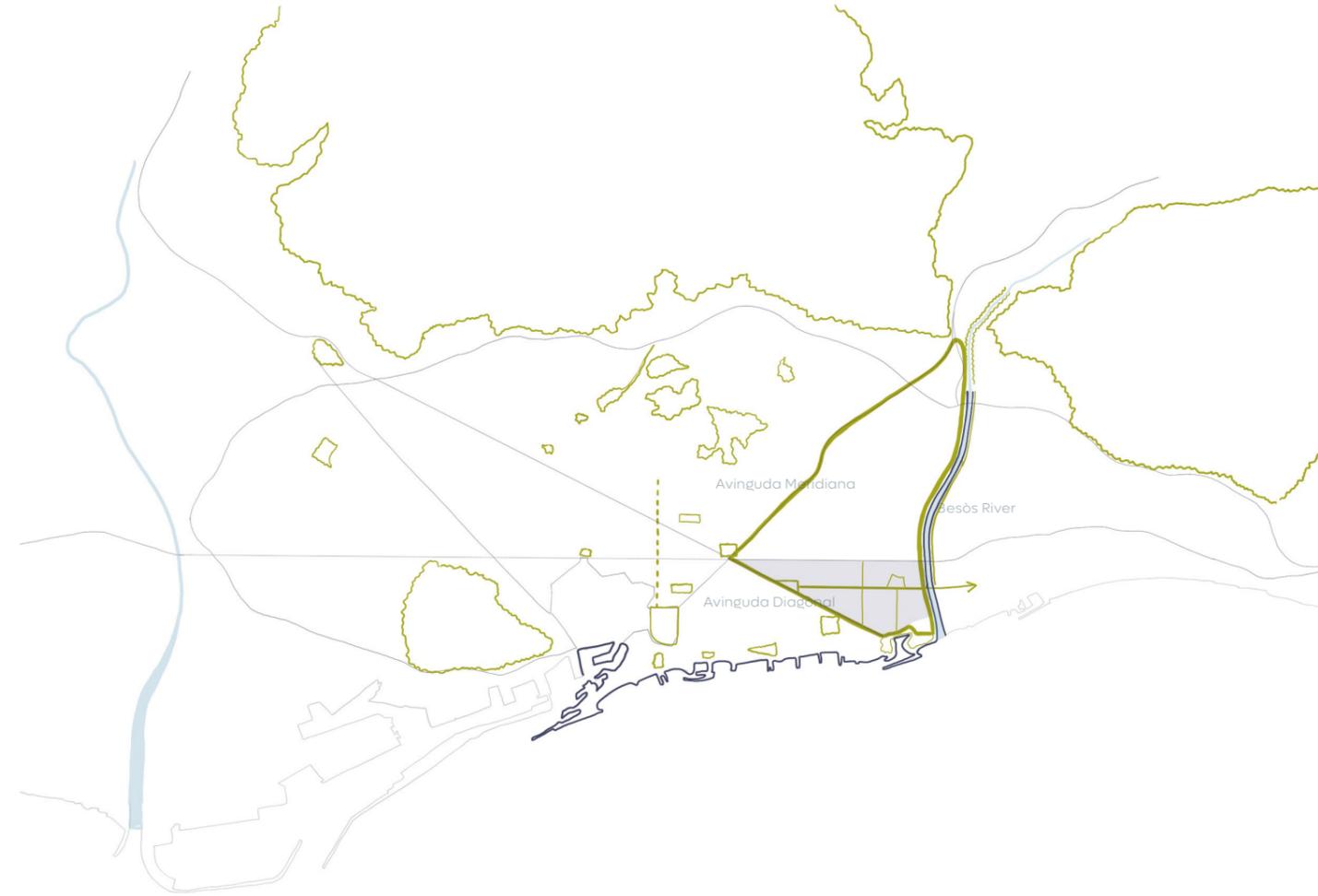


Fig. 51  
Proposed connectivity of major green & open areas.  
Created by author.

Legend

- green areas
- possible green lines
- project area

# discontinuity of open spaces

Currently, there is a significant discontinuity between Parc del Centre del Poblenou, Rambla de Prim, Parc del Besòs, and the Besòs River. This lack of physical and visual connectivity is further reinforced by a noticeable decline in the quality of public spaces along this corridor. Although the Besòs River offers strong potential as a recreational and ecological destination, it remains difficult to access due to fragmented connections and a sense of insecurity particularly in the area surrounding La Mina and El Besòs i el Maresme. This spatial and experiential disconnection limits the riverfront's ability to serve as a unifying element within the district.



Fig. 52  
Current discontinuity of green spaces in project area.  
Created by author.

Legend

- green axis
- green lines with low development
- main green areas
- green areas with low development
- public infrastructure

# possibility for continuous water connection and link between open spaces

The design proposal aims to reconnect these fragmented areas by introducing a continuous green corridor that links Parc del Centre del Poblenou, Rambla de Prim, Parc del Besòs, and the Besòs River, taking into consideration the existing development along Carrer de Cristóbal de Moura.

Moreover, the proposal suggests a better connection between river promenade and sea promenade.

This corridor functions not only as an ecological and recreational spine, but also as a spatial intervention to overcome physical and social barriers by encouraging movement, activity, and interaction across neighborhoods.

By fostering a steady flow of people through the area, the corridor strengthens connectivity, enhances safety, and supports the integration of currently isolated communities.

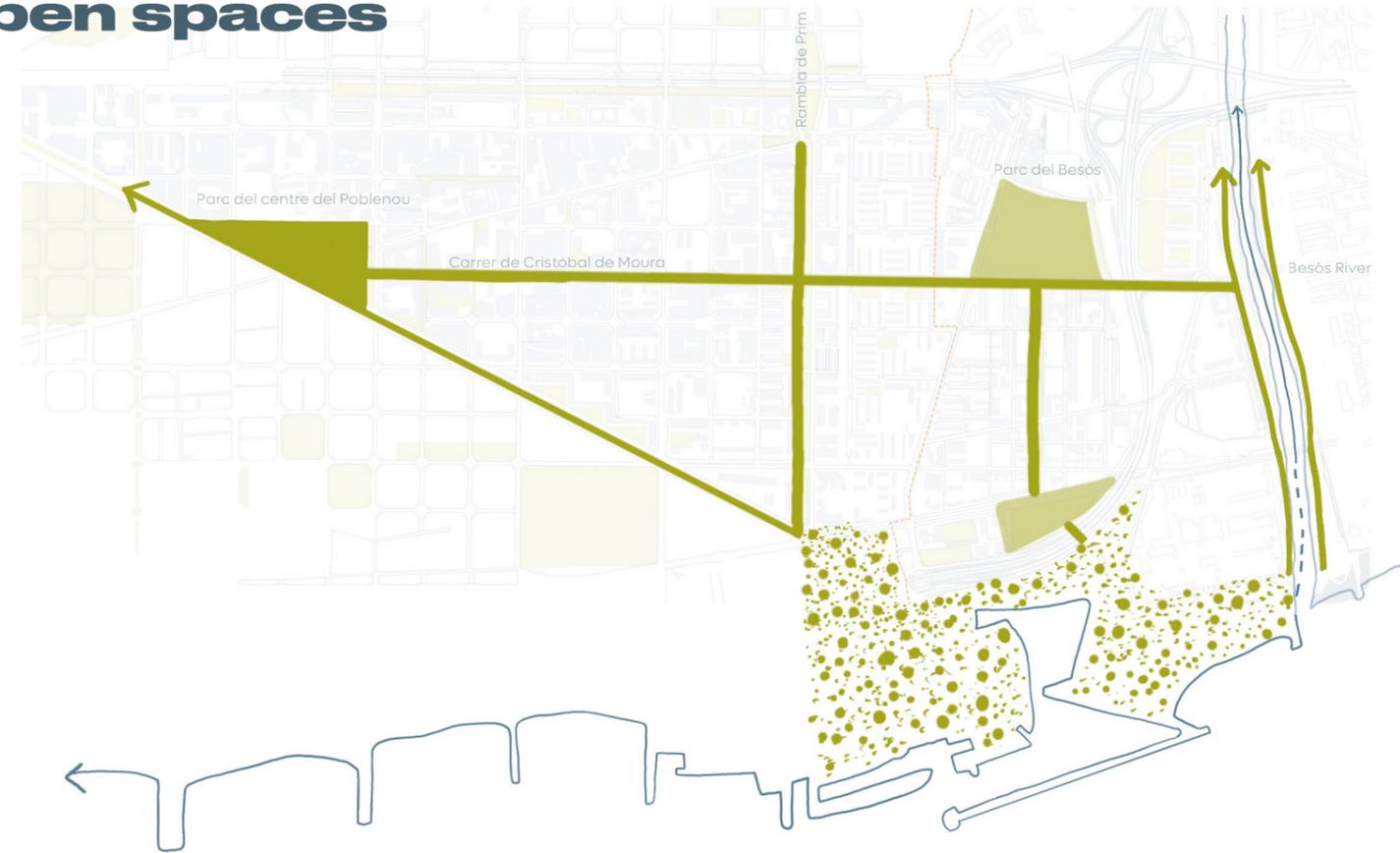


Fig. 53  
Proposed connection & activation of green spaces in project area.  
Created by author.

Legend

- green axis
- green lines with low development
- main green areas
- green areas with low development
- public infrastructure

## city edges divided with highway

Barcelona is encircled by a highway ring that, in certain sections, has been placed underground to reduce its divisive impact on the urban fabric.

A well-known example is the transformation of the coastal highway into a tunnel ahead of the 1992 Olympic Games, which successfully reconnected the city with the sea.

However, despite these interventions, it remains evident that in many peripheral areas, the highway continues to act as a barrier, physically and socially separating neighborhoods and reinforcing the sense of disconnection at the city's edges.

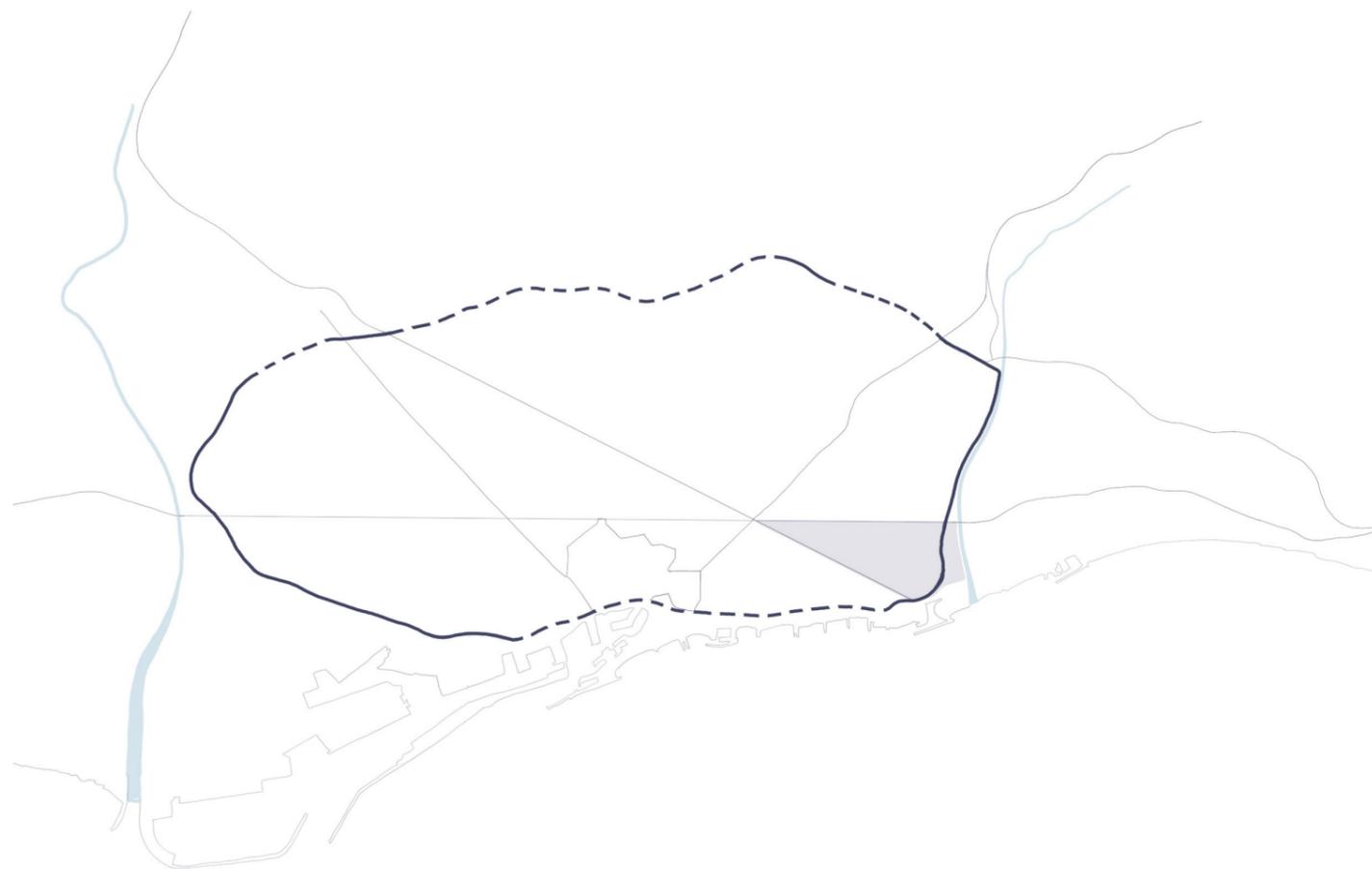


Fig. 54  
Current location of tunnels of the main highway around Barcelona.  
Created by author.

Legend

- — — underground highway
- highway
- project area

## city strategy extended: invisible highway

The design proposes a rethinking of the Ronda Litoral section on the northern edge of the city. The initial approach focuses on enhancing existing crossings by improving their quality, creating pedestrian-friendly tunnels, and activating the surrounding spaces to encourage use and connection.

These interventions aim to soften the barrier effect of the highway and begin stitching the urban fabric back together. In the long term, as the adjacent areas of Sant Adrià de Besòs evolve into a more dynamic and integrated part of the metropolitan core, the city could consider placing this section of the road underground to fully eliminate the physical division and reinforce urban continuity.

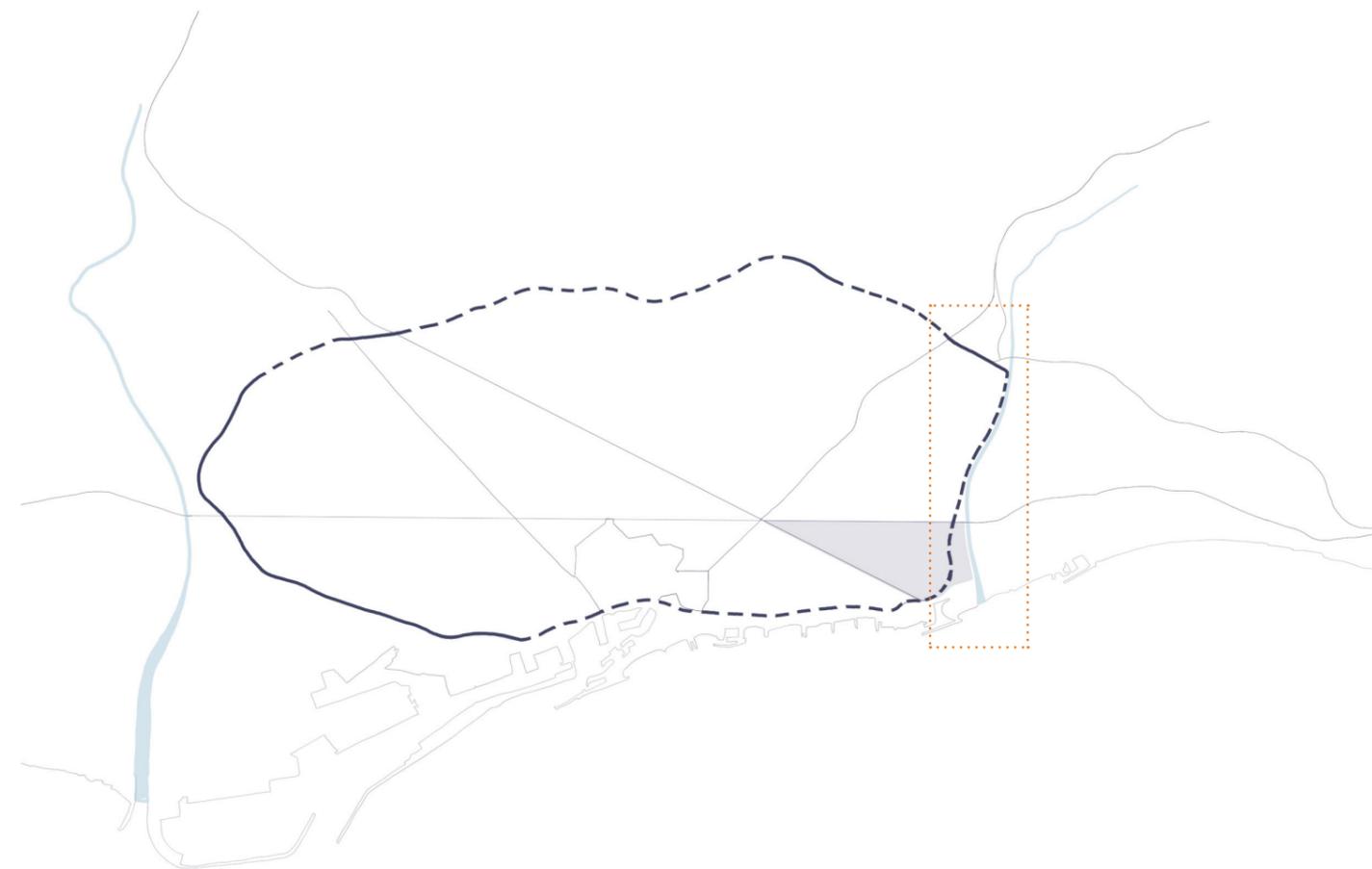


Fig. 55  
Strategic area for arranging the highway into tunnel in the future.  
Created by author.

Legend

- — — underground highway
- highway
- project area

# scary connections

The current infrastructure in the area reinforces fragmentation rather than overcoming it. Major highways cut through neighborhoods, creating physical and psychological barriers that limit movement and discourage pedestrian activity.

The existing underground crossings (shown in yellow) are insufficient in both number and quality, failing to provide safe, accessible, and legible routes between districts. As a result, east-west mobility is severely restricted, weakening social and economic cohesion.



Fig. 56. Current discontinuity between neighborhoods due to infrastructure and low quality of connectors. Created by author.

Legend

- highway in a tunnel
- ground highway
- existing underground connections
- area in decline

# smooth pedestrian connection

The proposal addresses the critical east-west disconnection by enhancing existing underground crossings and introducing 1–2 new ones. These interventions focus on improving safety, visibility, and activation of the spaces surrounding the crossings through lighting, programming, and urban design strategies.

In the short term, the aim is to create a clear and inviting pedestrian network that reconnects neighborhoods currently divided by heavy infrastructure. By transforming these underpasses into legible, accessible, and socially active corridors, the strategy reduces perceived insecurity and supports everyday mobility.

In the long term, once the wider transformation proves successful and financially viable, the plan envisions a more structural solution—placing key highway segments underground. This two-step strategy balances immediate connectivity needs with future resilience, allowing infrastructure upgrades to evolve in parallel with broader urban regeneration.

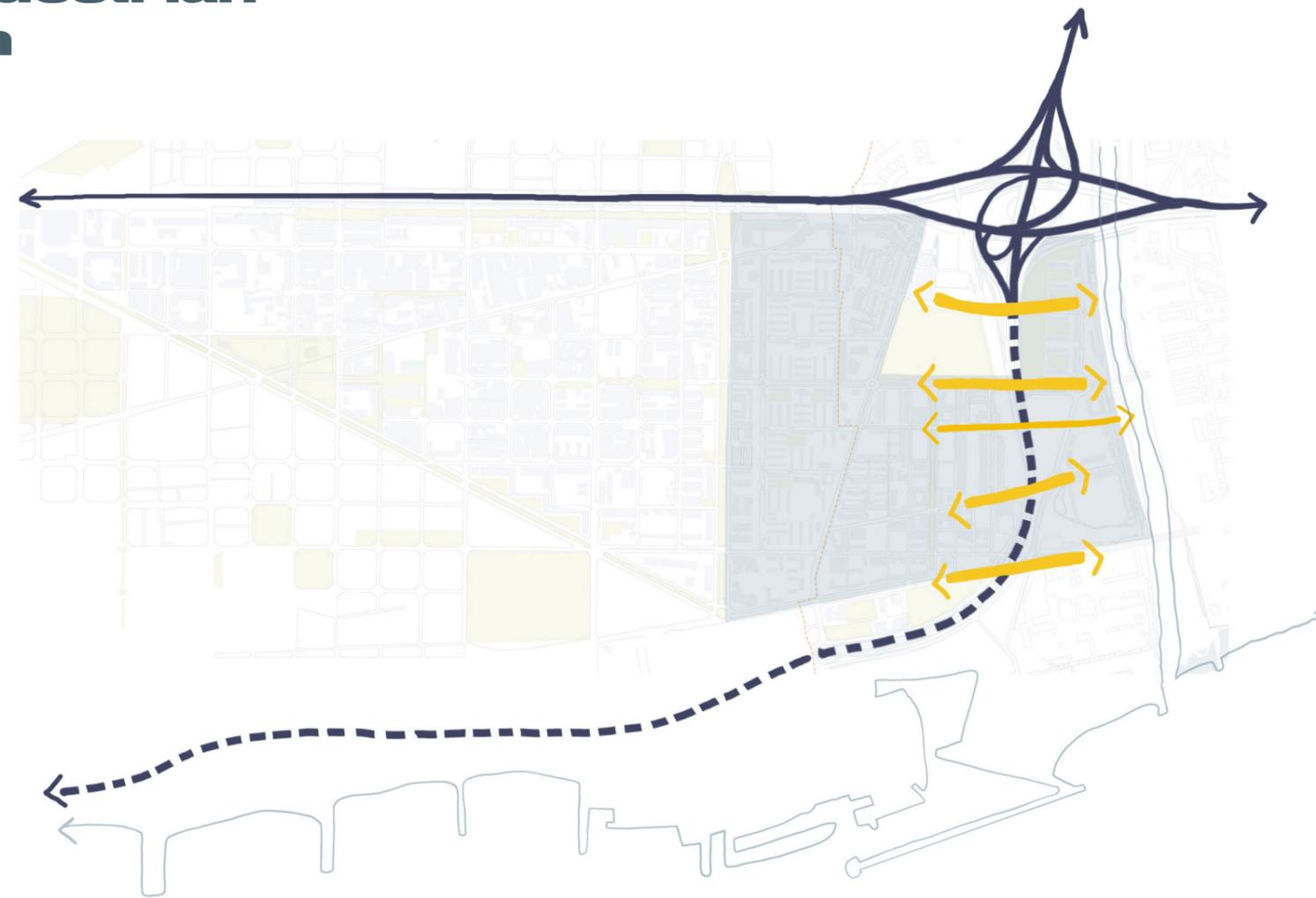


Fig. 57. Proposed connections for improvement. Created by author.

Legend

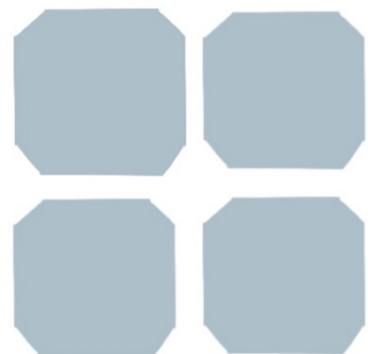
- highway in a tunnel
- ground highway
- improved underground connections
- area in decline

This diagram compares the urban form and Floor Area Ratio (FAR) of three distinct areas in Barcelona: the city center, the 22@ Innovation District, and La Mina. The city center, shaped by Cerdà's Eixample grid, has a high FAR of 4.6, indicating a dense and compact urban structure with well-defined blocks and active street life.

La Mina, with the lowest FAR of 1.9, illustrates a different planning approach. Its layout consists of long, tall residential blocks surrounded by large, undefined open spaces that lack clear function or integration with the surrounding fabric. This spatial configuration results in inefficient land use, reduced urban vitality, and contributes to social isolation, highlighting the shortcomings of mid-20th-century housing developments that prioritized quantity over spatial quality and connectivity.



center of Barcelona



FAR: 4.6



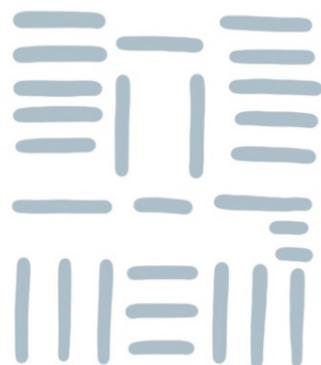
@22 innovation district



FAR: 2.7  
(2 before redevelopment)



El Besòs i El Maresme & La Mina



FAR: 1.9

Fig. 58  
Existing urban fabric.  
Created by author.

## demolition and densification for better quality and housing crisis solutions

The design proposal takes a bold yet strategic approach to reimagining the area by replacing the existing long, monolithic residential blocks with a denser, more integrated urban fabric.

By demolishing the outdated housing structures and introducing a new urban grid with approximately double the current density, the proposal ensures that all existing residents can be rehoused within the neighborhood. At the same time, it creates additional residential and mixed-use space, making the redevelopment economically viable and attractive to new residents. This influx of new inhabitants will help activate the area socially and economically.

The area of densification with proposed building blocks can be found in Appendix: New blocks construction p. 154 & Tables with Calculations, p. 153, 155.



center of Barcelona



FAR: 4.6



@22 innovation district



FAR: 2.7  
(2 before redevelopment)



El Besòs i el Maresme & La Mina



FAR: 4

Fig. 59  
Proposed densification in the area of La Mina and El Besòs i el Maresme.  
Created by author.

## reference: socially conscious development

Brent Cross Town is a significant urban regeneration project in London, aiming to transform a previously underutilized area into a vibrant, mixed-use community.

**FAR:** Planned up to 3.8  
**Population:** 20,000-25,000 residents  
**Density:** 130–150 dwellings/ha  
**Affordable Housing Share:** 45%  
**Height:** Mid-rise to high-rise 5–12 stories  
**Jobs Created:** 25,000

### Mixed Tenure:

A blend of social housing, shared ownership, and market-rate units promotes socioeconomic diversity.

### Amenities:

Investment in parks, schools, and transport links fosters a cohesive community environment.

## Brent Cross Town/ London

### Affordable Housing:

Approximately 3,000 of the planned 6,700 homes are designated as affordable, encompassing social rent, shared ownership, and London Living Rent units.

### Resident Relocation:

Efforts were made to ensure that residents displaced by the redevelopment, particularly from the Whitefield Estate, were offered new homes within the development, maintaining community continuity.



Fig. 60.  
Brent Cross Town Masterplan aerial view.  
Source: Related Argent

## Hammarby Sjöstad, Stockholm

### Access to Public Space:

All residents—regardless of tenure—share access to the extensive waterfront paths, parks, and semi-public courtyards.

### Public Services:

Early delivery of schools, health care, child care, and community centers created social infrastructure before residents fully moved in.

Hammarby Sjöstad is a landmark urban redevelopment project in Stockholm, transforming a former industrial waterfront into a high-density, environmentally sustainable, and socially mixed neighborhood. It exemplifies how thoughtful urban design can integrate housing, public space, and green infrastructure to create a vibrant and inclusive community.

**FAR:** 2.5-3  
**Population:** 25,000 residents  
**Density:** 120–140 dwellings/ha  
**Affordable Housing Share:** 23%  
**Height:** Mid-rise 5–7 stories  
**Jobs Created:** 10,000

### Mixed Tenure:

~55% housing cooperatives (owner-occupied)

~23% municipal/subsidized rental housing (affordable)

~22% private rental housing



Fig. 61.  
View of Hammarby Sjöstad's canal edge.  
Source: Visit Stockholm (2024).

# broken grid

The current urban grid has discontinuity, particularly in the areas of El Besòs i el Maresme and La Mina, where the layout deviates from the more regular structure of the Eixample grid. This fragmentation contributes to spatial isolation and reduced visibility. The lack of connectivity and coherent urban form in these neighborhoods not only limits movement and accessibility but also weakens the social and functional integration of these areas within the wider city.

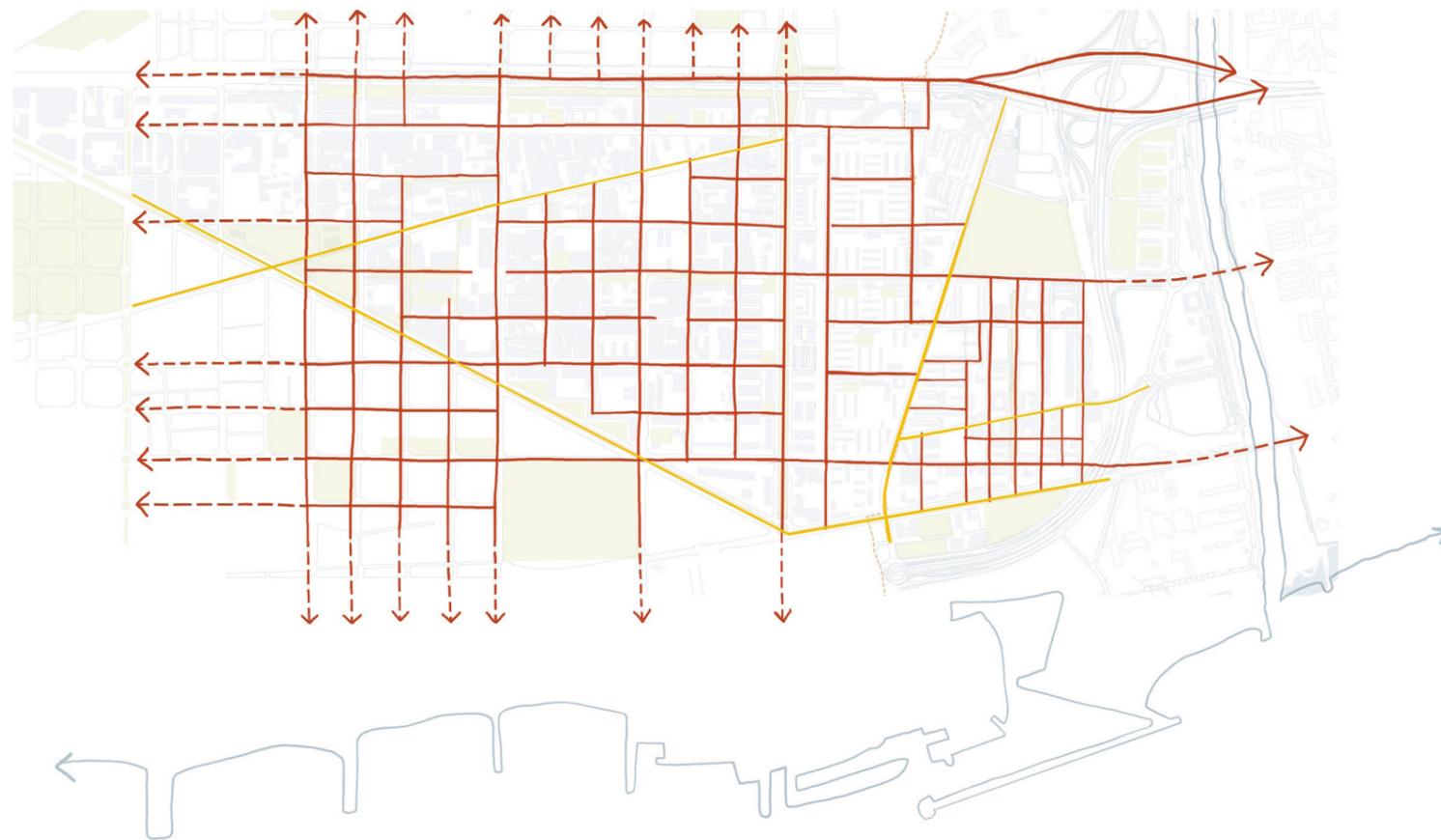


Fig. 62  
Existing structure of the grid  
Created by author

Legend

- - - extended grid
- main grid
- out-of-grid lines
- green areas

# extended grid

Preserving and continuing the logic of the grid is essential for maintaining spatial continuity, improving accessibility, and reinforcing the integration of peripheral neighborhoods into the broader structure of the city.

The design proposal takes into account the presence of newly constructed buildings, which slightly alter the original Eixample grid structure. While the layout is not identical to the historic grid, it still allows for the implementation of similar principles such as permeability, block rhythm, and spatial transparency. This adapted approach maintains the functional and visual coherence of the urban fabric, while responding to the existing built context in a flexible and context-sensitive way.

The status of the buildings is shown on the Map Demolition, Appendix p. 148.



Fig. 63  
Proposed structure of the grid  
Created by author

Legend

- - - extended grid
- main grid
- proposed grid
- out-of-grid lines
- green areas

# break the wall

Certain areas and streets within the project site are defined by physical barriers that disrupt movement and fragment the urban fabric. This is particularly critical where these interruptions occur along the extension of Barcelona's historic grid. Removing these barriers in key locations can restore connectivity and support a more cohesive and navigable urban environment.

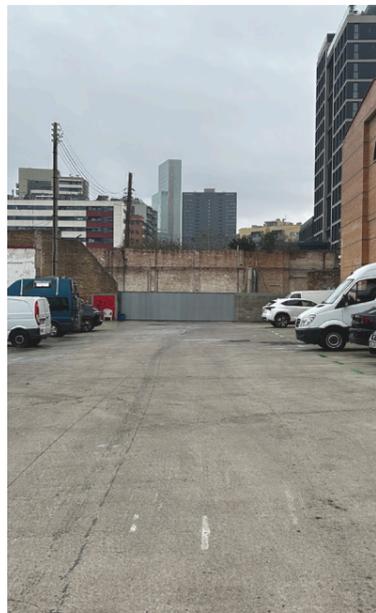


Fig. 64. Wall disturbing the grid. Created by author.



Fig. 65. Areas with physical barriers. Created by author.

Legend

— barriers to destroy

# facade to open

Several buildings in the study area, particularly along the industrial edge feature closed, deteriorated, or inactive facades that contribute to a sense of abandonment and insecurity. Opening up these facades — either through renovation, activation with public or semi-public uses, or architectural interventions — can help create a more inviting and safer urban environment.



Fig. 66. Facades of La Escocesa. Created by author.



Fig. 67. Facades that need to be improved. Created by author.

Legend

— facades to open

# free to fill in

The area presents a significant number of vacant or underused plots, spaces that currently lack clear programming or function.

Strategically filling in these gaps with context-sensitive interventions can improve spatial continuity, provide much-needed public amenities, and foster a sense of place and community safety.



Fig. 68.  
Free areas.  
Created by author.



Fig. 69.  
Open spaces without program.  
Created by author.

Legend

free areas

# industry to attract

Many industrial buildings in the area remain in a state of neglect, with underutilized facades and deteriorating structures. Yet these sites hold potential to be reimagined as vibrant elements of public infrastructure. By refurbishing key industrial units and integrating them into mixed-use or cultural programs, it is possible to preserve their historical value while stimulating economic activity and urban vibrancy.

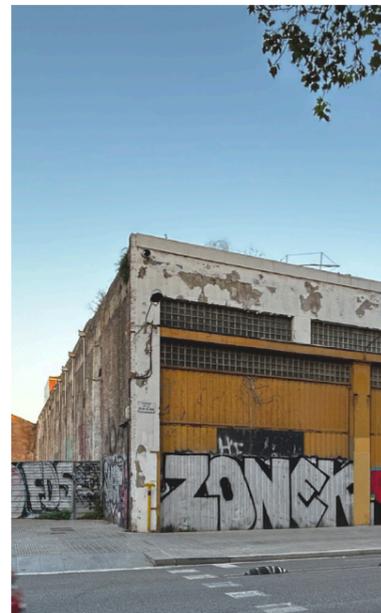


Fig. 70.  
Conditions of facades of industries.  
Created by author.



Fig. 71.  
Industries that can be a part of public infrastructure.  
Created by author.

Legend

industries to refurbish

# demolish for better

The area is characterized by outdated housing blocks that lack integration with the urban fabric and contribute to social isolation. The proposal envisions a transformation through demolition and densification. The strategy guarantees housing for current residents while attracting new populations and investment, leading to greater social and economic vitality.



Fig. 72  
State of buildings in La Mina.

Legend

free areas



Fig. 73  
Area of densification.  
Created by author.

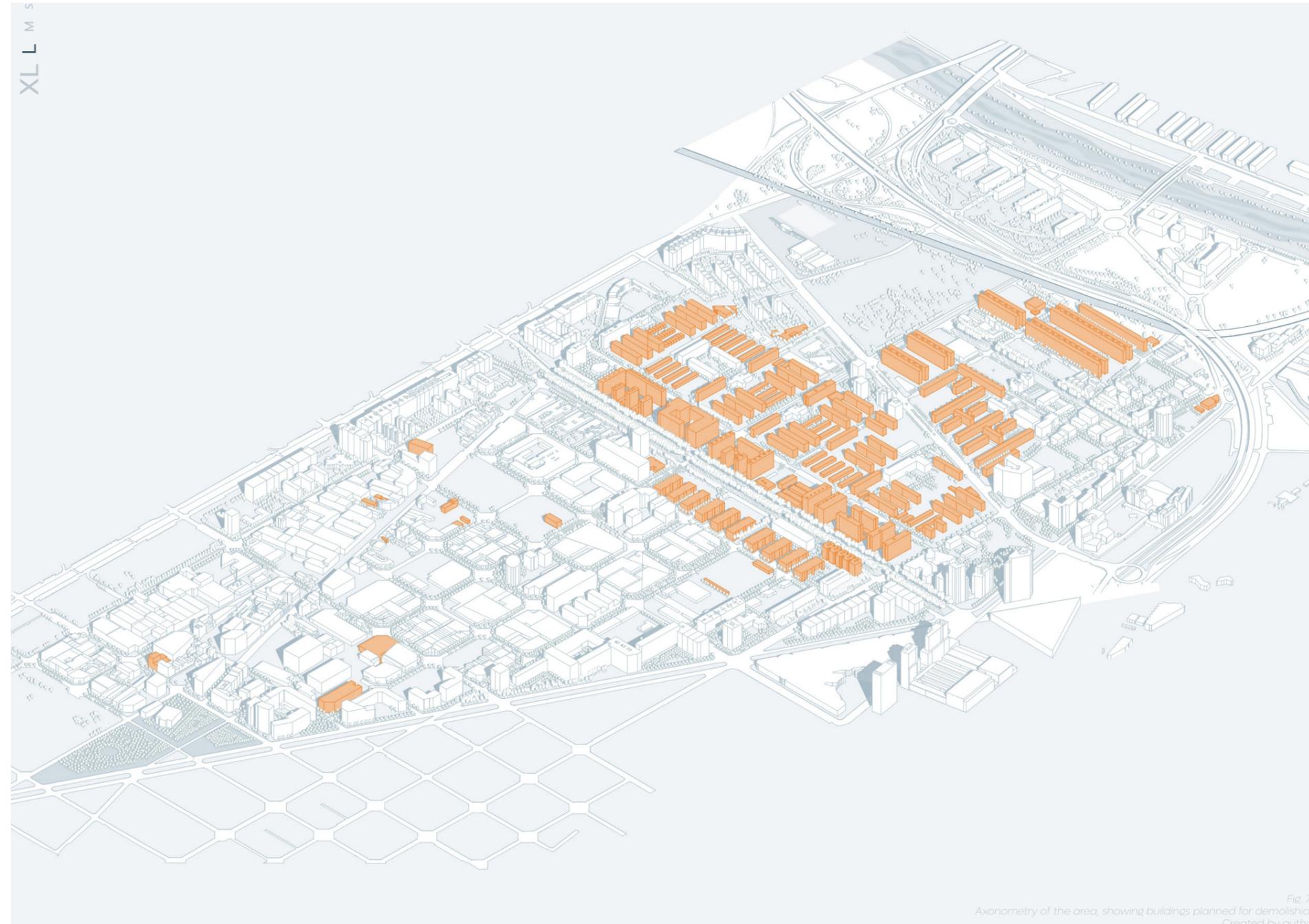
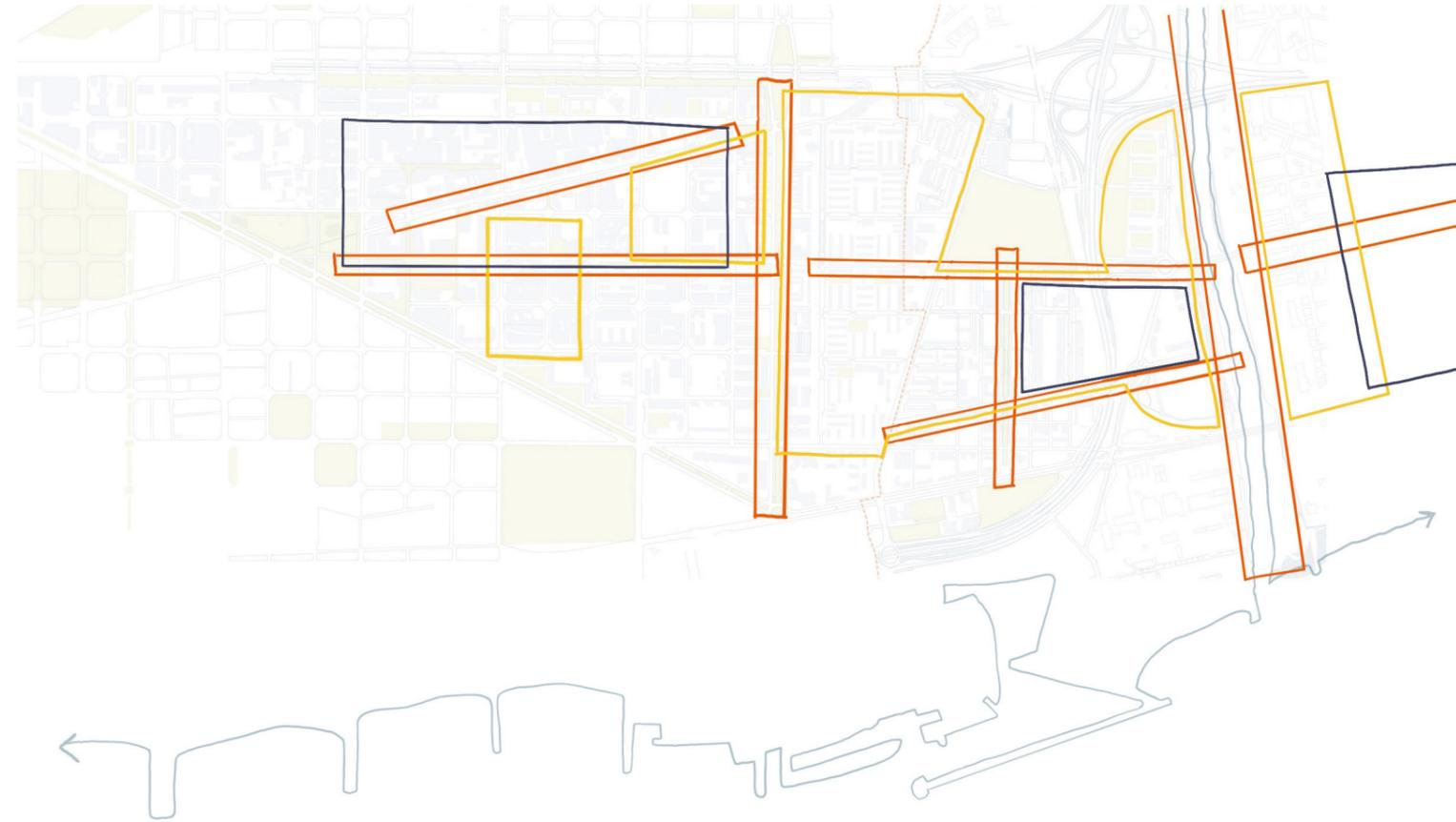


Fig. 74  
Axonometry of the area, showing buildings planned for demolition.  
Created by author.



4.3 design elements summary: program



Legend

- housing area
- centralities/active areas
- water contour
- work areas

Fig. 75  
Proposed program.  
Created by author.



The proposed network of centralities introduces strategic nodes and connectors that link key public spaces and institutional anchors. These reinforce connecting corridors and improve access across both sides of the river, transforming isolated areas into active, interconnected sites.



Fig. 76  
Proposed centrality grid.  
Created by author.

The housing strategy focuses on replacing outdated buildings with new, higher-density blocks while also adding residential areas along Pere IV.



Fig. 77  
Proposed areas for housing.  
Created by author.

4.3 design elements summary: program

New work zones are defined to diversify the local economy, with dedicated areas for office use and spaces adaptable to creative or light industrial functions. These are distributed to complement housing and centralities, creating a mixed-use urban structure that supports daily life locally.



Fig. 78  
Proposed areas for work.  
Created by author.

# proposed urban structure



The map represents the overlap of all the interventions explained before.

The proposed masterplan envisions a transformation of the urban fabric through the replacement of outdated housing with a denser, mixed-use development.

In return, the plan introduces 1.2 million m<sup>2</sup> of new residential construction, increasing total capacity to 16,000 flats for up to 46,000 inhabitants—doubling the current population. A total of 23,000 current residents are planned to be rehoused to new apartments.

This is achieved through a higher average floor count and efficient use of land.

The urban grid is restructured in a way to extend the existing Barcelona grid.

**Inhabitants to relocate**

**23000 people**

**Living area to demolish**

**600.000m<sup>2</sup>**

**N of flats to demolish**

**8000**

**m<sup>2</sup>/person**

**25**

**Average N of floors**

**5**

**Inhabitants old+new**

**46000 people**

**Living area to build**

**1.200.000m<sup>2</sup>**

**N of flats to rebuilt**

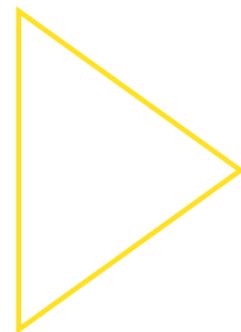
**16000**

**m<sup>2</sup>/person**

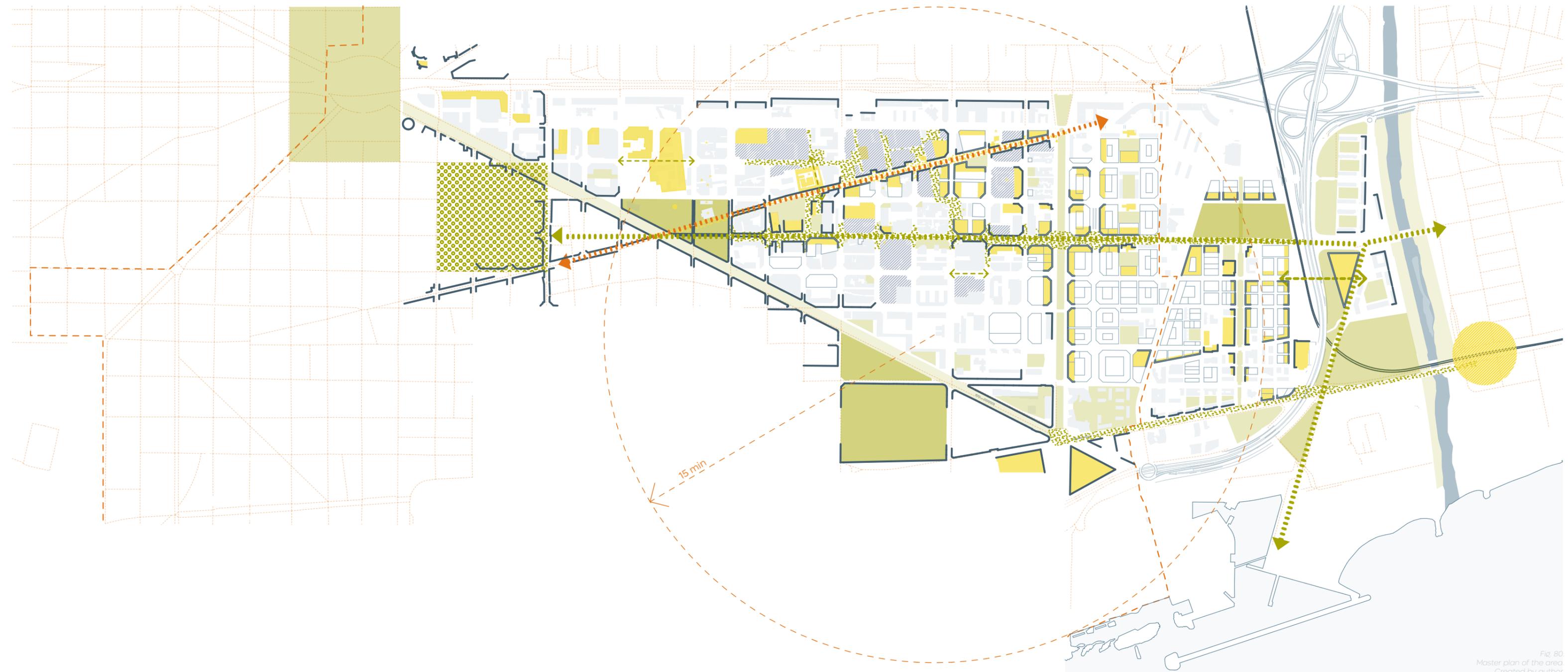
**26**

**Average N of floors**

**GF+6**



XL L M S  
**proposed urban structure**



- Legend
- Sant Martí district
  - main urban structure
  - street structure
  - train line
  - amenities
  - problematic area
  - ▨ industry
  - ▨ parking
  - green areas

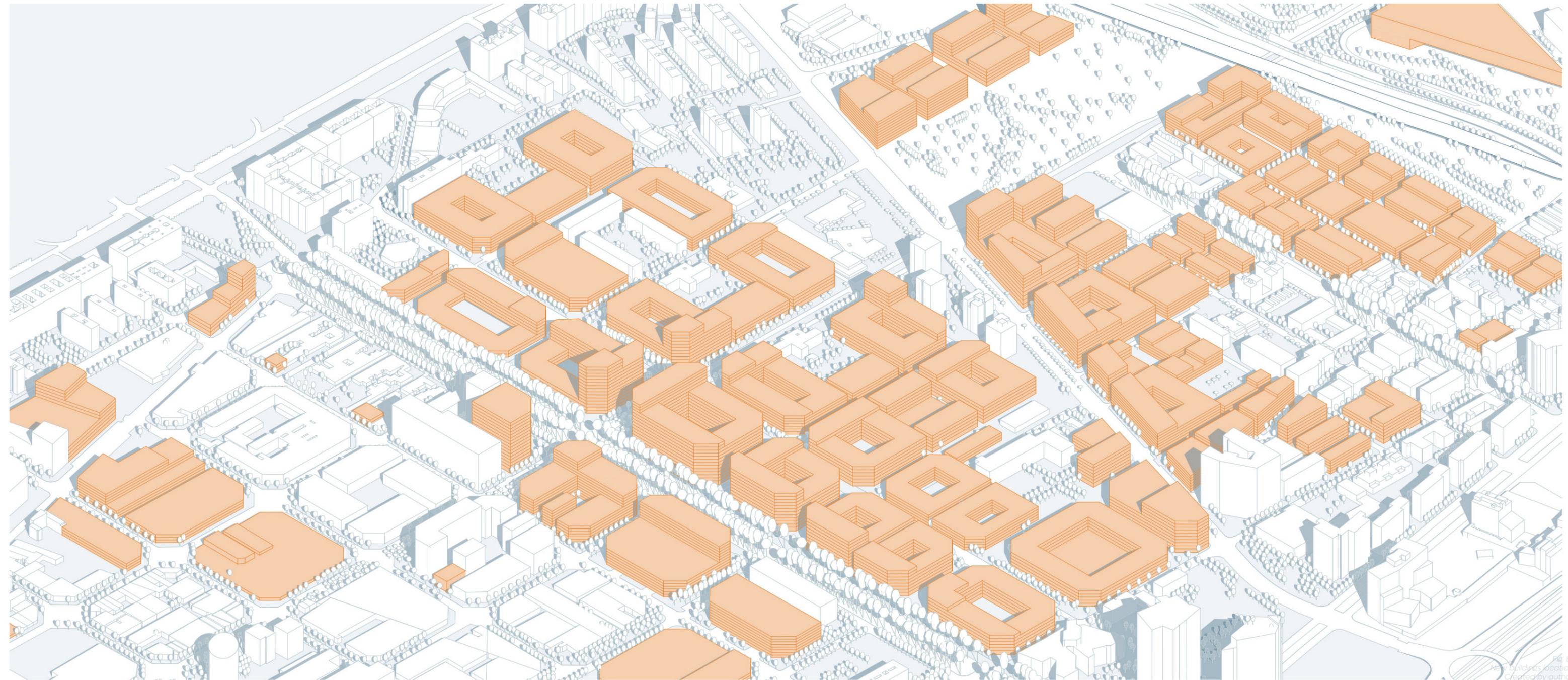
Fig. 80  
Master plan of the area  
Created by author

## new development

This axonometric view illustrates the densification strategy.

The proposed development is strategically distributed to repair gaps in the urban fabric, replace obsolete structures, and intensify underused land—particularly where surface parking, monofunctional slabs, and infrastructural voids currently dominate. New volumes are carefully integrated to create active frontages, define public space, and ensure a legible hierarchy between streets, courtyards, and open spaces.

The form and scale of the new buildings are adapted to each local condition: stepping up where urban intensity is desired, and stepping down near existing low-rise neighborhoods. The mix includes residential, productive, educational, and cultural uses, with ground floors activated by shared community programs.



# 5. design: three areas

This chapter translates the strategic masterplan into three detailed area-scale proposals, each responding to distinct local conditions within the broader project site. While unified by the overall goals of social integration, densification, and spatial cohesion, each area presents unique challenges and opportunities—from industrial reuse and infrastructure barriers to low-quality housing and disconnected public space.

The chapter explores how tailored interventions at different scales can activate underused assets, strengthen community life, and realize the vision of a connected, inclusive urban corridor between North 22@ and the Besòs River.

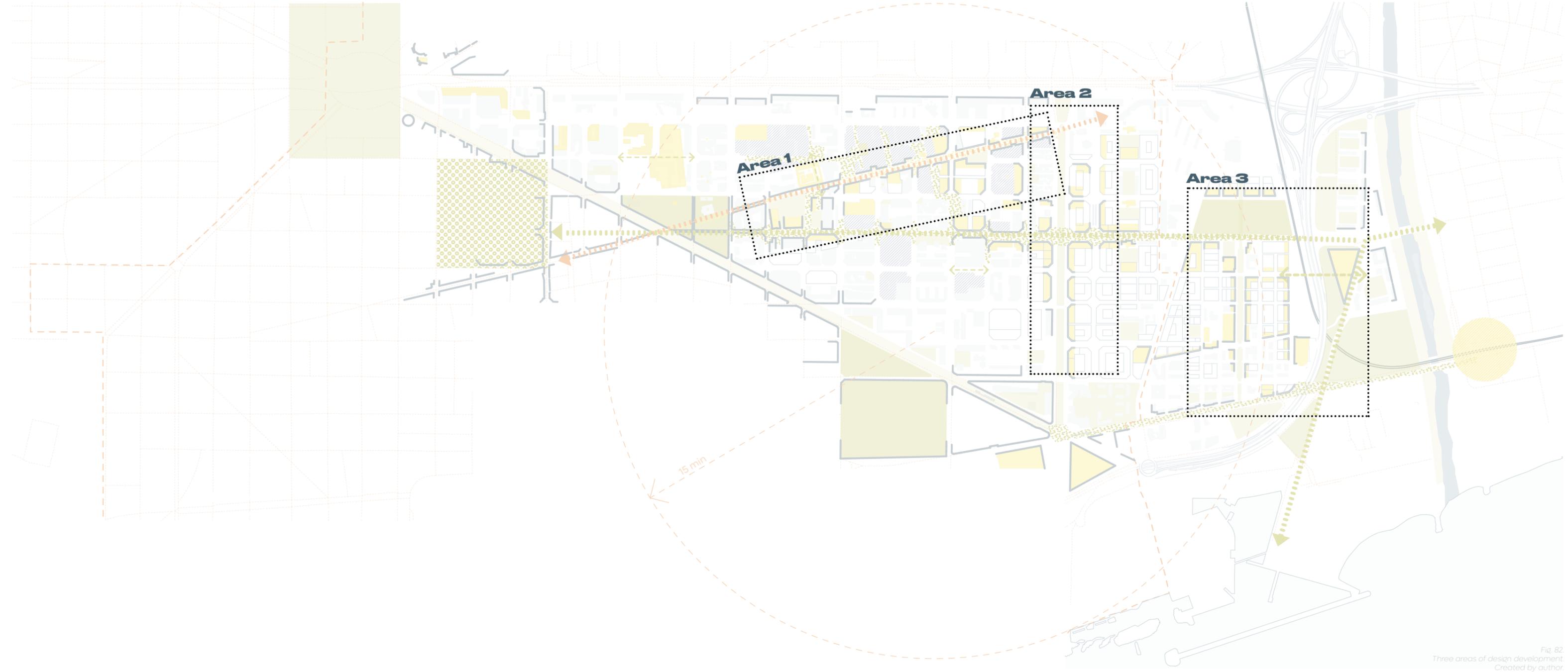


Fig. 82  
Three areas of design development.  
Created by author.

# area ONE: old bricks, new tricks



Area One reimagines Pere IV street by building upon its industrial legacy. The proposal focuses on preserving the identity and productivity of the area by retaining functioning factories and integrating them with a new layer of maker spaces, creative workshops, and community-oriented programs. Rather than replacing the existing uses, the strategy supports coexistence—encouraging synergies between industry, culture, and local life.

A key aspect of the intervention is the improvement of building facades, transforming inward-facing industrial blocks into permeable, active edges. These upgrades enhance spatial quality, increase visibility, and encourage engagement with the surrounding neighborhoods.

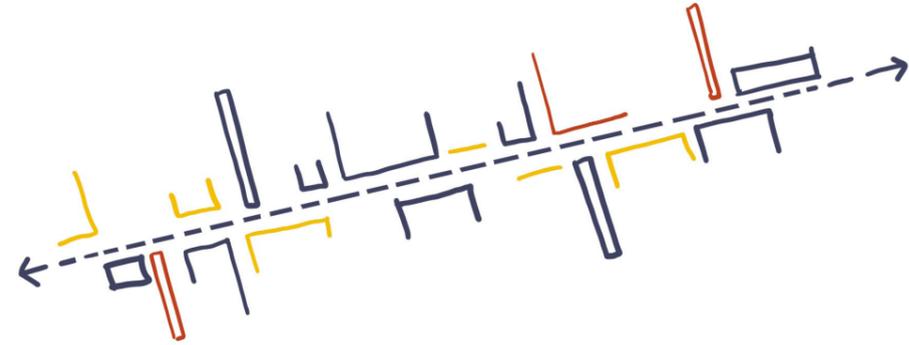
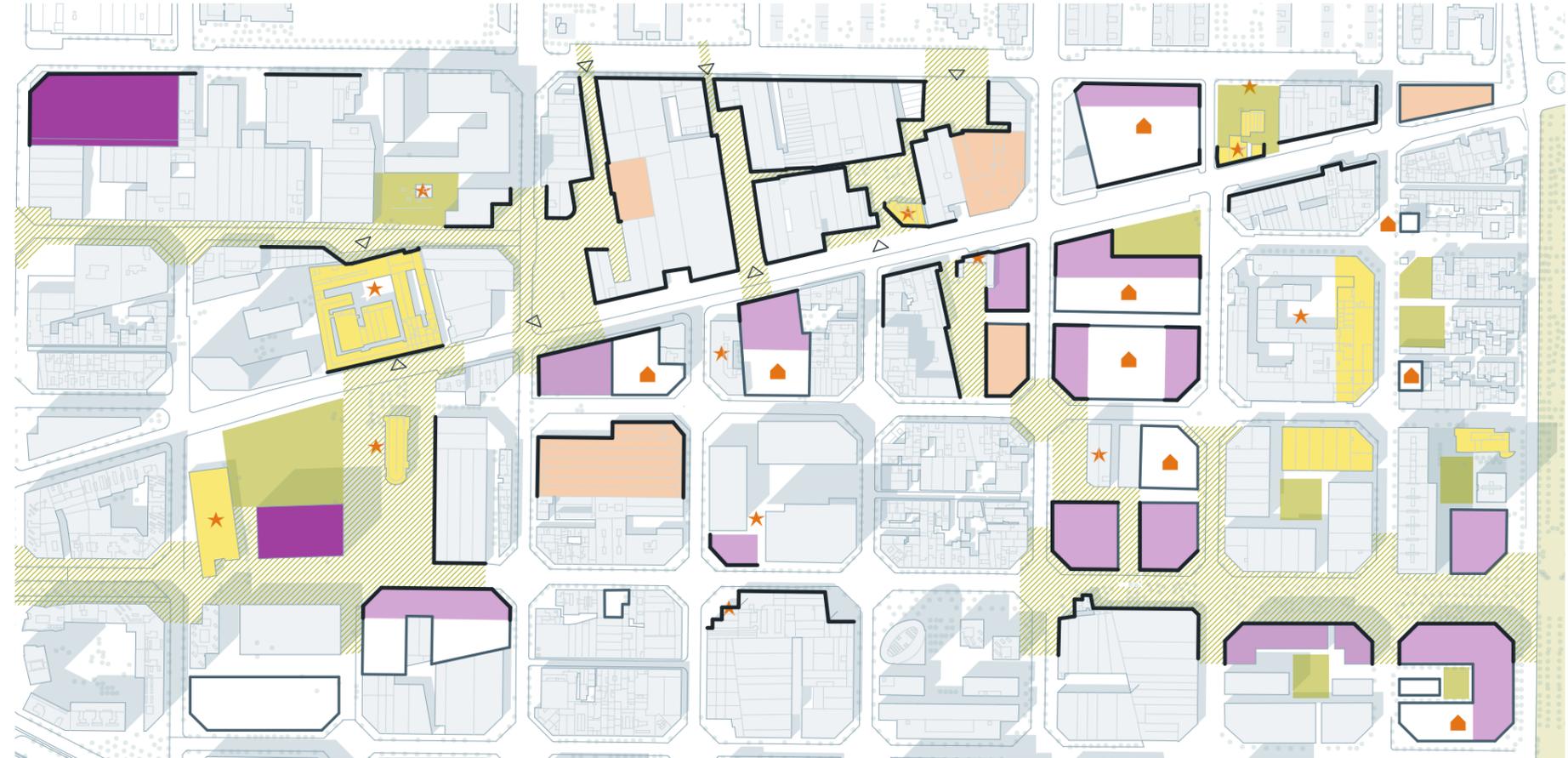


Fig. 84  
Conceptual scheme of the area  
Created by author

# area ONE



Legend

- extended grid
- pedestrian spaces
- economic activities
- culture spots
- key green areas
- industrial heritage
- housing
- amenities

Fig. 85  
General master plan of the area  
Created by author

# area ONE

## 5.2 area one: green spaces



This map shows how public realm is reimagined through a fine-grained system of green pockets, adaptive reuse, and targeted facade interventions. By integrating small-scale open spaces within the existing industrial fabric, the proposal creates a network of diverse everyday activities that encourage interaction, visibility, and inclusivity.

Each intervention corresponds to a use with a focus—to play, to rest, to wait, to buy, to see art, and to produce—allowing the area to serve a broader range of community needs. These activities not only animate currently underused zones but also provide clear spatial programming along key routes, improving safety and comfort.

Fig. 86  
Map of program of open areas.  
Created by author

# area ONE

## 5.2 area one: facades

### 1 To play



Fig. 87  
Superkilen by BIG in Copenhagen.  
Photo by Iwan Baan.

### 2 To rest



Fig. 88  
Ca l'Alier, renovated industrial building and green areas in Barcelona.  
Source: Ajuntament de Barcelona (2023). Retrieved from [https://www.barcelona.cat/surveyfotografic/en/project/ca\\_lalier.html](https://www.barcelona.cat/surveyfotografic/en/project/ca_lalier.html)

### 3 To wait

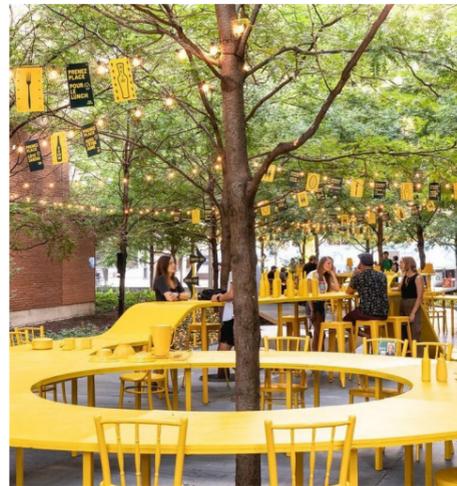


Fig. 89  
Example of dynamic waiting area.  
Photo by Raphael Thibodeau.

### 4 To buy



Fig. 90  
Example of public activities integrated into industrial urban fabric.  
Rendering: Courtesy of Wire Park

### 5 To see art



Fig. 91  
Example of pop-up exhibition.  
Source: Unknown.

### 6 To produce



Fig. 92  
Example of public garden.  
Photo by Julia Sherman.

# area ONE

This image captures a typical street-facing facade in Area One, where the presence of historic industrial buildings is marked by vacant frontages, degraded surfaces, and minimal public engagement.

While these structures carry architectural and cultural value, their current state—defined by closed gates, graffiti, and lack of transparency—contributes to a sense of neglect and detachment from the surrounding urban life. Revitalizing these facades—through adaptive reuse, transparency, and programmed public edges—is a key step in transforming Area One into a vibrant, inclusive urban quarter.



Fig. 93  
Inactive facades and low maintenance of the area.  
Photo made by author.

This image captures the contrasting urban character of the area surrounding La Escocesa, where newly constructed buildings rise in sharp juxtaposition to decaying older structures. While the new development introduces density and architectural clarity, the public realm remains harsh and unresolved, with inactive ground floors, wide traffic lanes, and limited

pedestrian infrastructure.

Improving this interface requires a coherent façade strategy, activation of ground floors, and the design of walkable, engaging public space that can tie together historic identity and future growth

Fig. 94  
Area near La Escocesa  
Photo made by author



# area ONE

This image captures a typical street-facing facade in Area One, where the presence of historic industrial buildings is marked by vacant frontages, degraded surfaces, and minimal public engagement.

Green roofs

Sun protection

Green elements

Detail



Fig. 95  
Facade at Carrer de Pere IV.  
Photo made by author.

## Proposed facade



Apartments with residents

Open facades with diverse activities

Street furniture

Fig. 96  
Existing facades  
Created by author.

## Existing facade



Abandoned apartments

Poorly maintained coatings of the facades

Visible installations with messy arrangement

Ininactive ground floor with closed openings

Fig. 97  
Existing facade  
Created by author.

## area ONE

This perspective illustrates a revitalized passage within Area One, where former industrial facades are preserved and activated through subtle architectural interventions.

Existing brick structures are retrofitted with large glazed openings, signage, greenery, and warm lighting elements, creating a welcoming atmosphere. The narrow street becomes a shared social space, lined with small-scale uses like cafés, workshops, and studios, encouraging pedestrian activity and local engagement.

The scene captures the essence of adaptive reuse—retaining character while introducing vibrant, everyday life.

Open facades with visible maker spaces

Street lighting



Fig. 98  
Revitalized industrial passage with mixed-use activation.  
Created by author.

### 5.2 area one: views

## area ONE

This view illustrates a key intervention in Area One, where the space in front of the church is reimagined as a public art plaza, creating a cultural dialogue with La Escocesa, a nearby creative hub. This open space acts as a focal point for community gathering and artistic expression, strengthening the area's identity as a place of production and exchange.

The upper-left block has been partially opened to break its insular layout, introducing new pedestrian accesses that improve permeability and interaction between surrounding buildings. The redesign emphasizes active edges, softens the boundaries between public and private, and establishes a more porous and connected urban fabric.

Together, these interventions enhance visibility, encourage movement, and support a more vibrant, inclusive public realm.

Opened block with industrial and public program

Carrer de Pere IV

La Escocesa

Plaça artística  
La Escocesa

The Social Hub

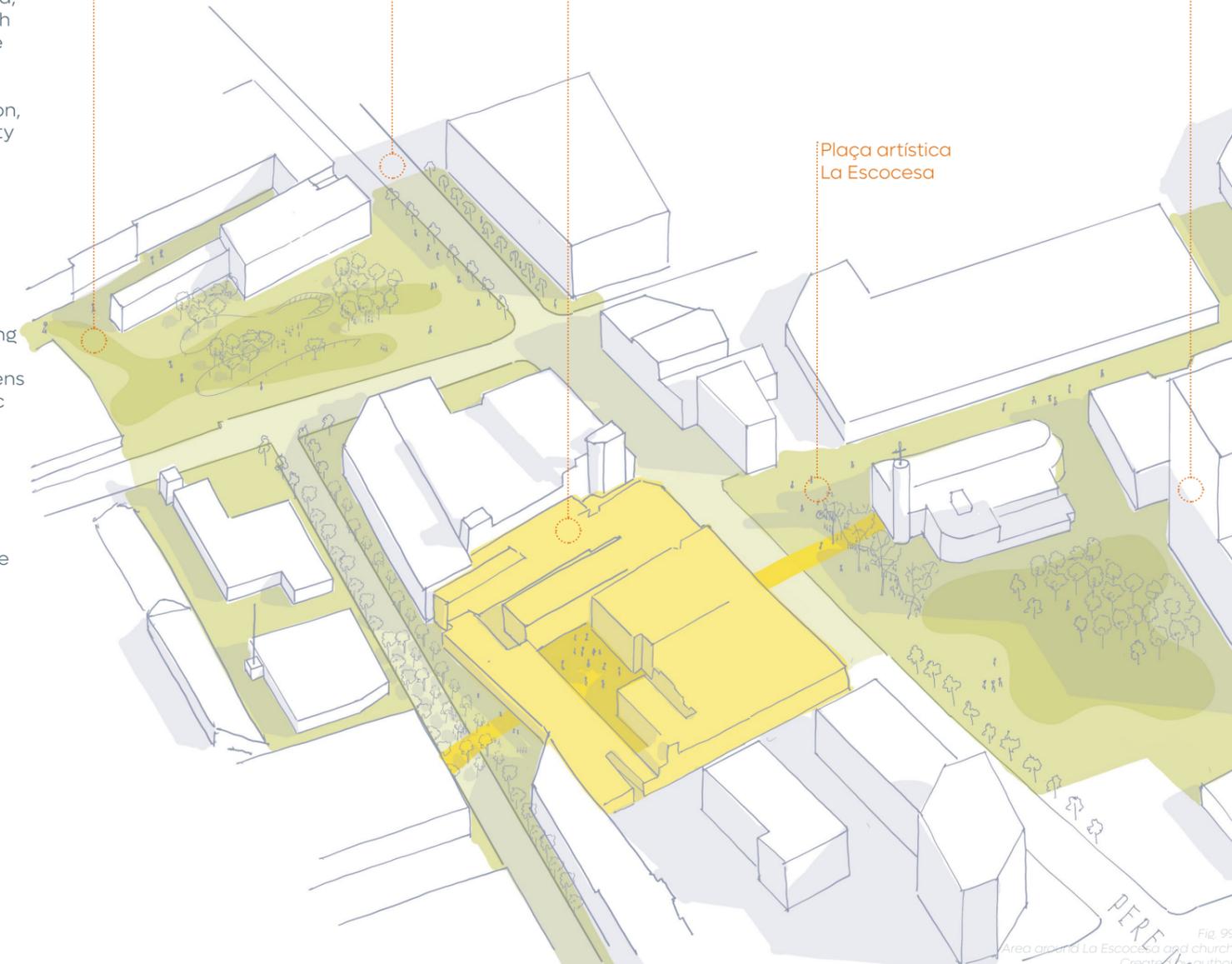


Fig. 99  
Area around La Escocesa and church.  
Created by author.

### 5.2 area one: facades

# area TWO: transparent streets for citizens, **not for cars**



Fig. 100  
Conceptual rendering of the design proposal.  
Created by author with the use of Midjourney

## 5.3 area two: concept

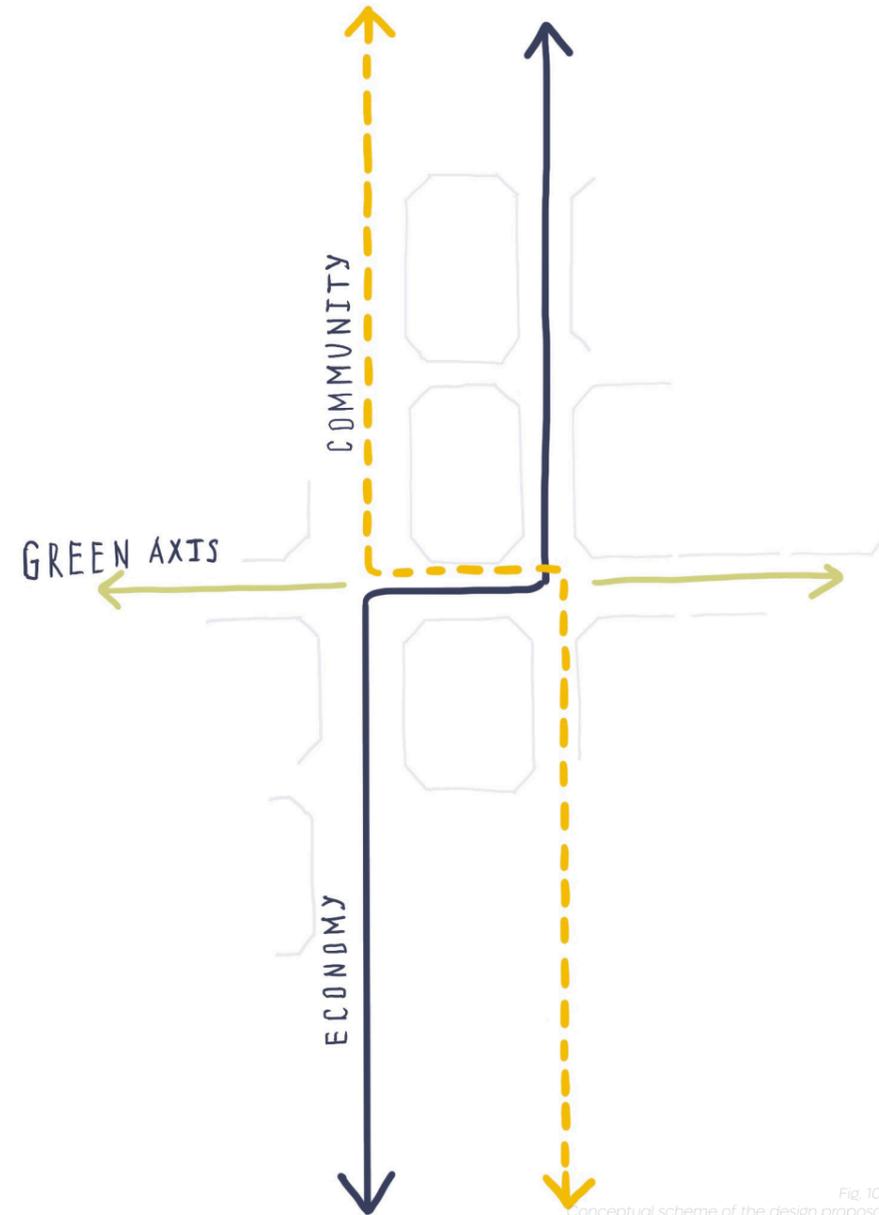


Fig. 101  
Conceptual scheme of the design proposal.  
Created by author

# area TWO

While Rambla de Prim remains as a central spine, its function shifts along its length: the southern section becomes more economically active, supporting small businesses, productive spaces, and commercial programming; the northern section, closer to areas of low-rise housing, emphasizes community life, with calm, green, and inclusive spaces.

This adaptive transformation is supported by a subtle redirecting of pedestrian flow toward Carrer d'Alfons el Magnànim, where mobility infrastructure already exists. This shift allows for a more coherent integration of movement, access, and programming, while reducing pressure on the Rambla itself.

Importantly, the green axis shown on the diagram corresponds to Carrer de Cristóbal de Moura—an ecological corridor elaborated in the previous pages of this report. The interplay between these axes—the historic Rambla, the newly emphasized Carrer d'Alfons el Magnànim, and the green east-west connection—creates a layered, people-oriented street network that responds to the varied social and economic conditions across the site.

### Legend

- extended grid
- pedestrian spaces
- economic activities
- culture spots
- key green areas
- industrial heritage
- housing amenities

## 5.3 area two: master plan

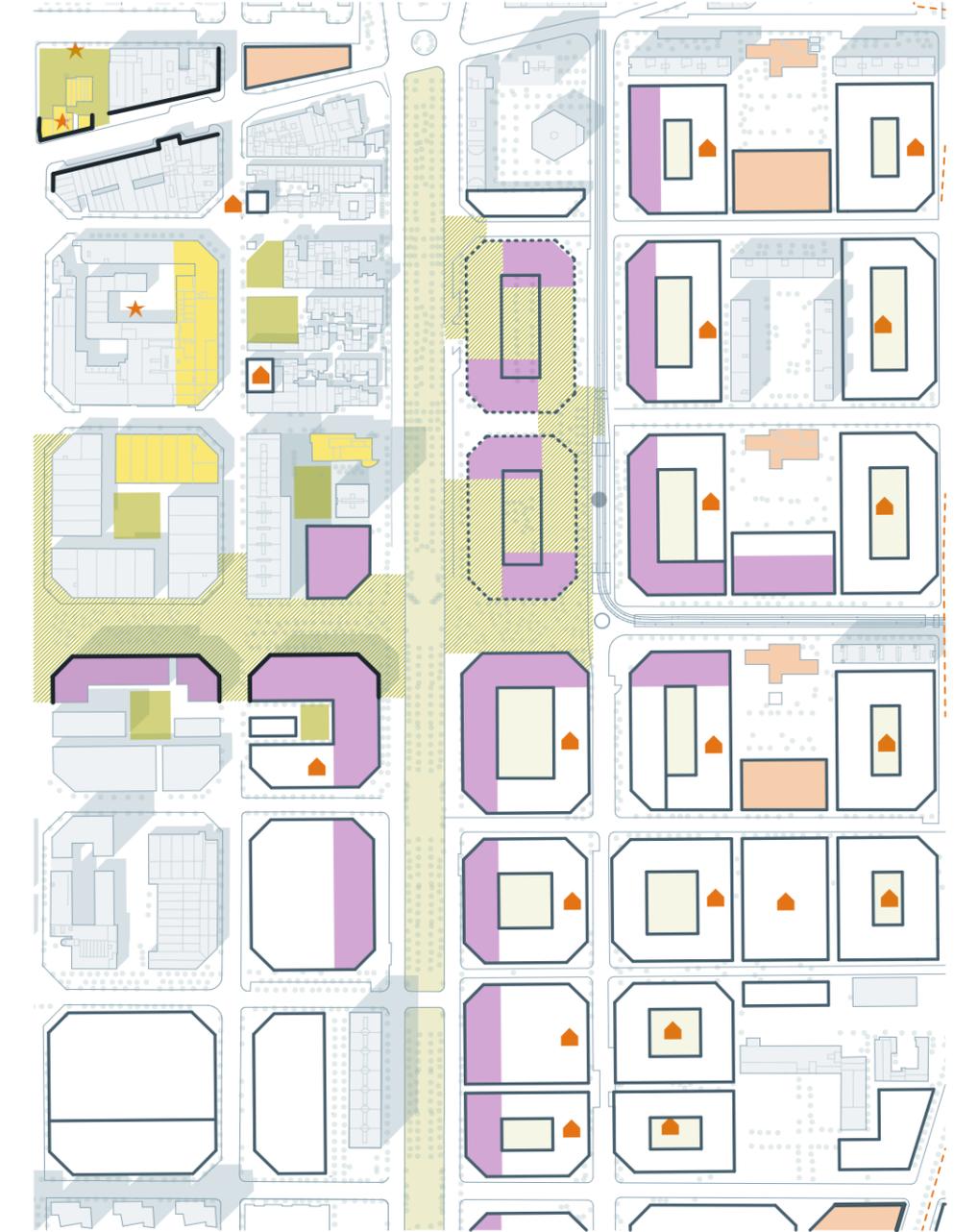


Fig. 102  
General master plan of the area.  
Created by author

area TWO

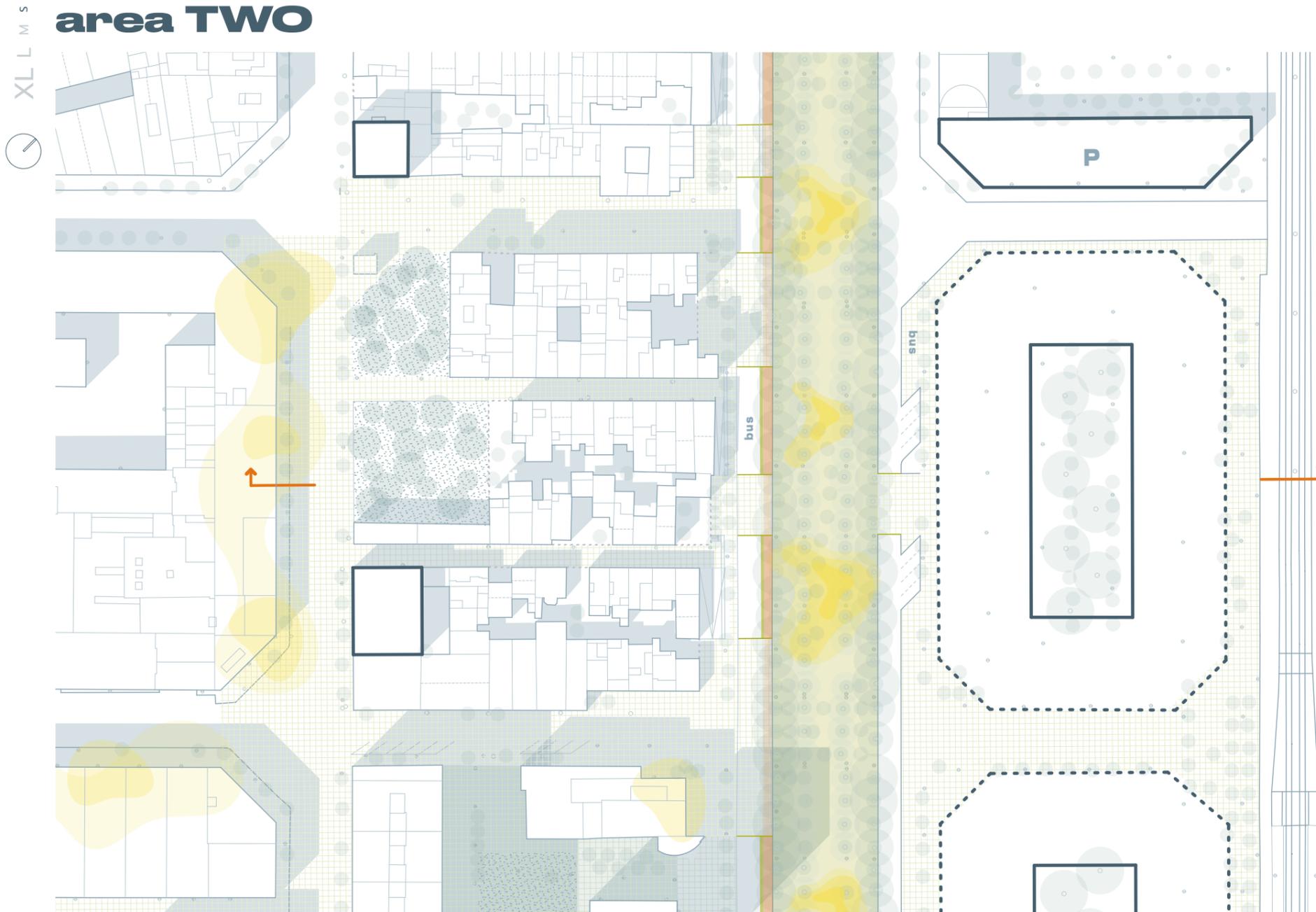


Fig. 103  
Detailed plan of selected part of the area two.  
Created by author.

area TWO

While Rambla de Prim remains the central spine of the area, its role is redefined through a gradual shift in character. The southern segment becomes an active urban edge, supporting small businesses, workshops, and commercial life, creating opportunities for economic exchange and productivity. In contrast, the northern segment, adjacent to low-rise housing, is reoriented toward community use, prioritizing calm, green, and inclusive public space for everyday life.

New buildings along the corridor are designed to gradually increase in height, responding to the existing low-rise fabric on the west side while transitioning smoothly toward denser development on the east. This tapered massing avoids abrupt height differences and preserves sunlight and spatial continuity across the Rambla.

In key locations—particularly near the green corridor (Carrer de Cristóbal de Moura) and mobility interchanges on Carrer d'Alfons el Magnànim—selected ground floors remain unbuilt or open, creating visual and physical permeability through the blocks. These passages connect the Rambla with the adjacent street network, inviting pedestrian movement, improving accessibility, and reinforcing the link between transit, greenery, and local life.

Proposed profile

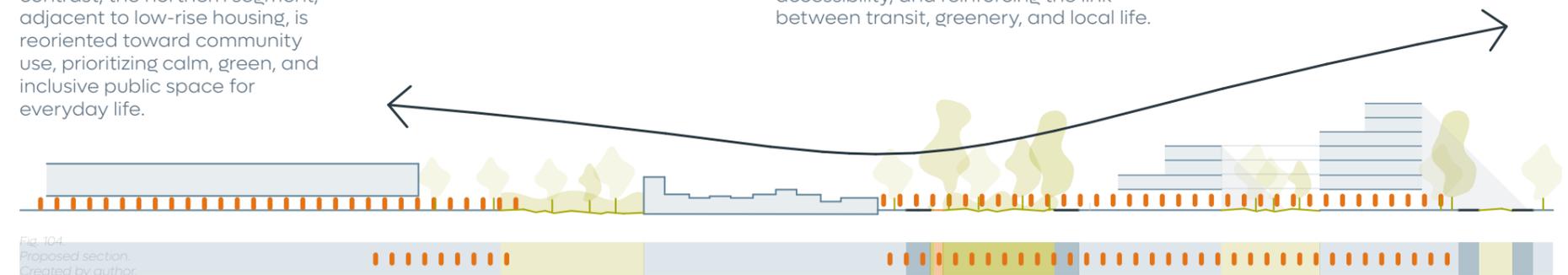


Fig. 104  
Proposed section.  
Created by author.

Today, Rambla de Prim acts as a dividing line rather than a shared urban space.

Its uniform profile lacks variation and fails to respond to the differing needs of surrounding areas. The result is a corridor dominated by traffic and infrastructure, with limited pedestrian activity and fragmented public life.

Existing profile

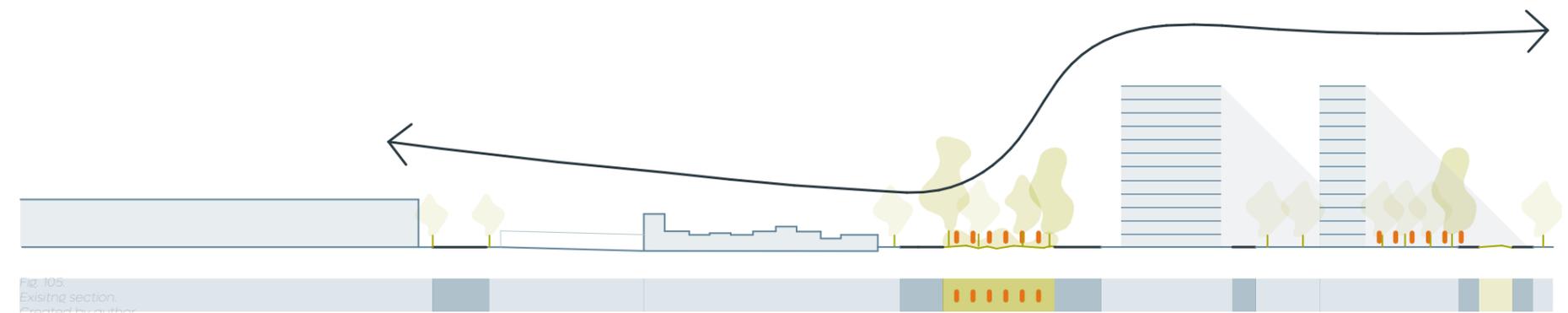


Fig. 105  
Existing section.  
Created by author.

# area TWO

Although officially designated as a Rambla, this section of Rambla de Prim functions more like an infrastructural corridor than a civic space. Its current layout is dominated by vehicular traffic and surface parking, with minimal regard for pedestrian comfort or cross-street connectivity. The vast majority of its width is allocated to cars, leaving little space or quality for public life.

The street edges are inactive and uninviting, with few transparent or engaging ground-floor uses to animate the public realm. As a result, the Rambla acts as a barrier rather than a bridge—dividing neighborhoods on either side and reinforcing physical and social separation.

Rather than fulfilling its potential as a vibrant, shared space, the Rambla lacks spatial identity, walkability, and human scale.

5.3 area two: street view section, existing

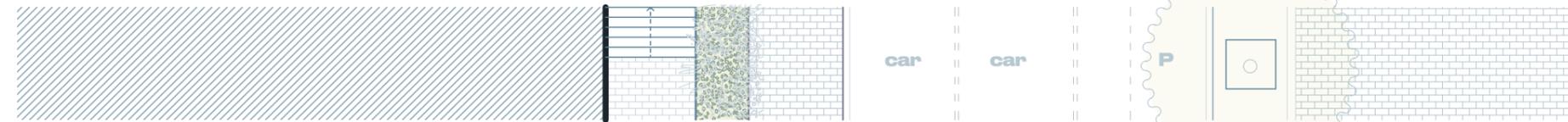
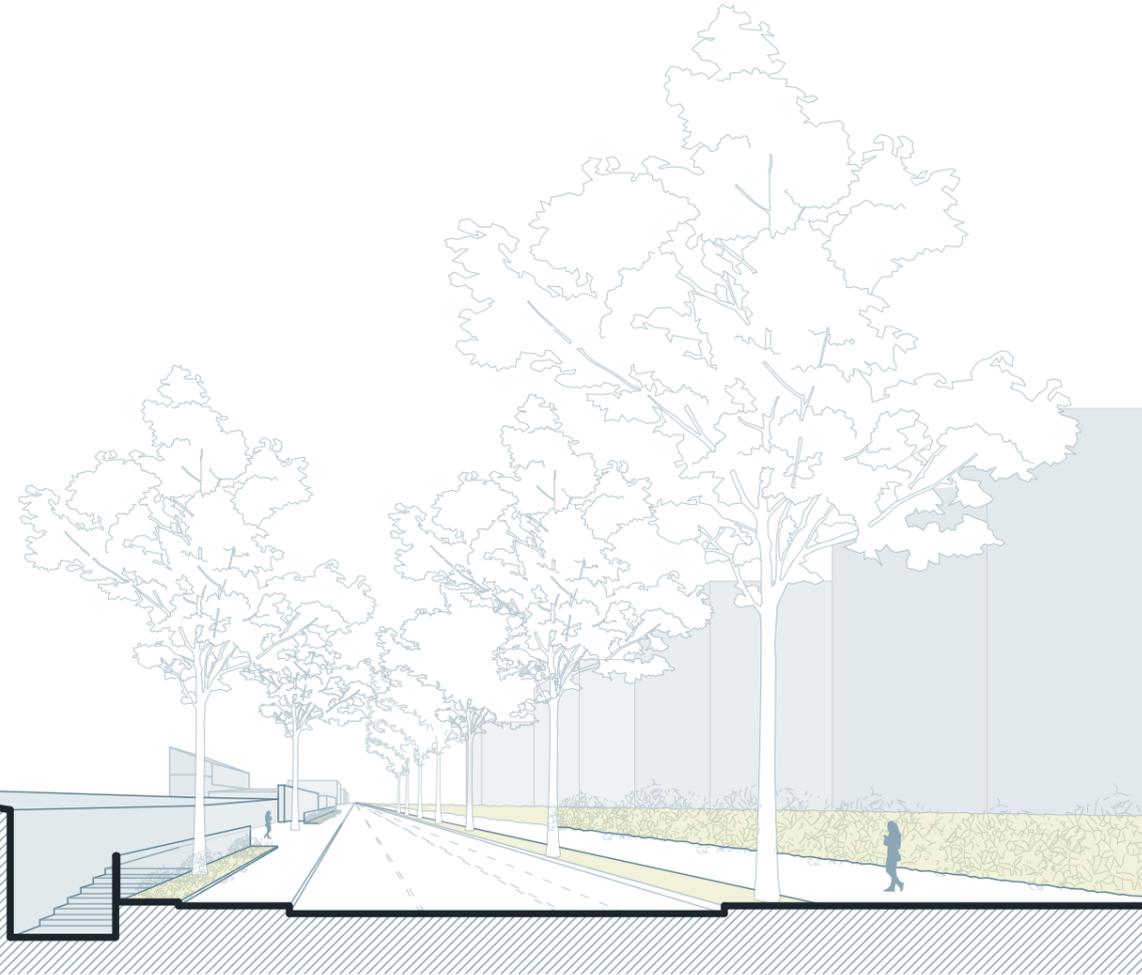


Fig. 106 Existing section of the street. Created by author.

# area TWO

5.3 area two: street view section, proposal

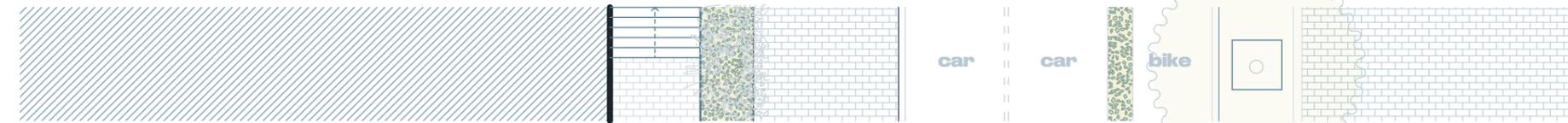
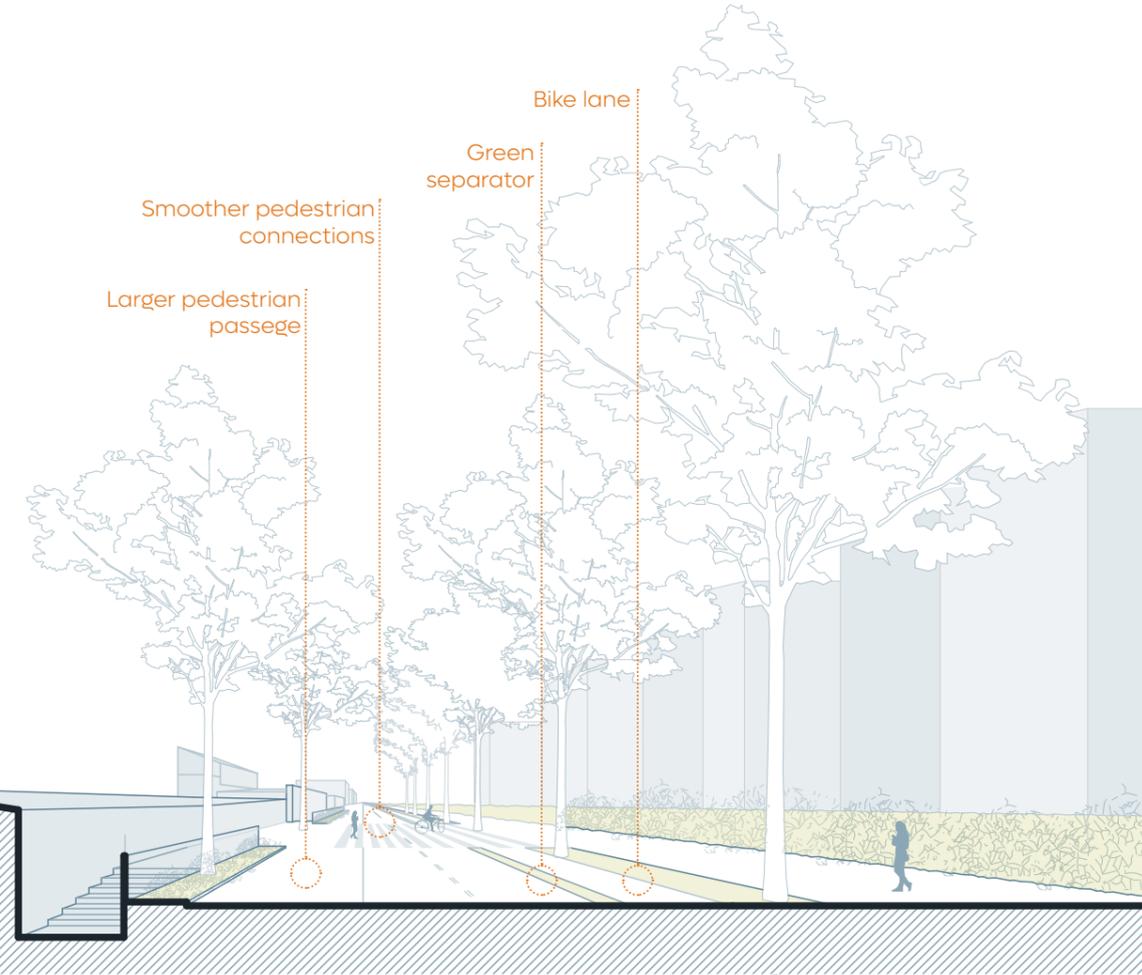


Fig. 107 Proposed section of the street. Created by author.

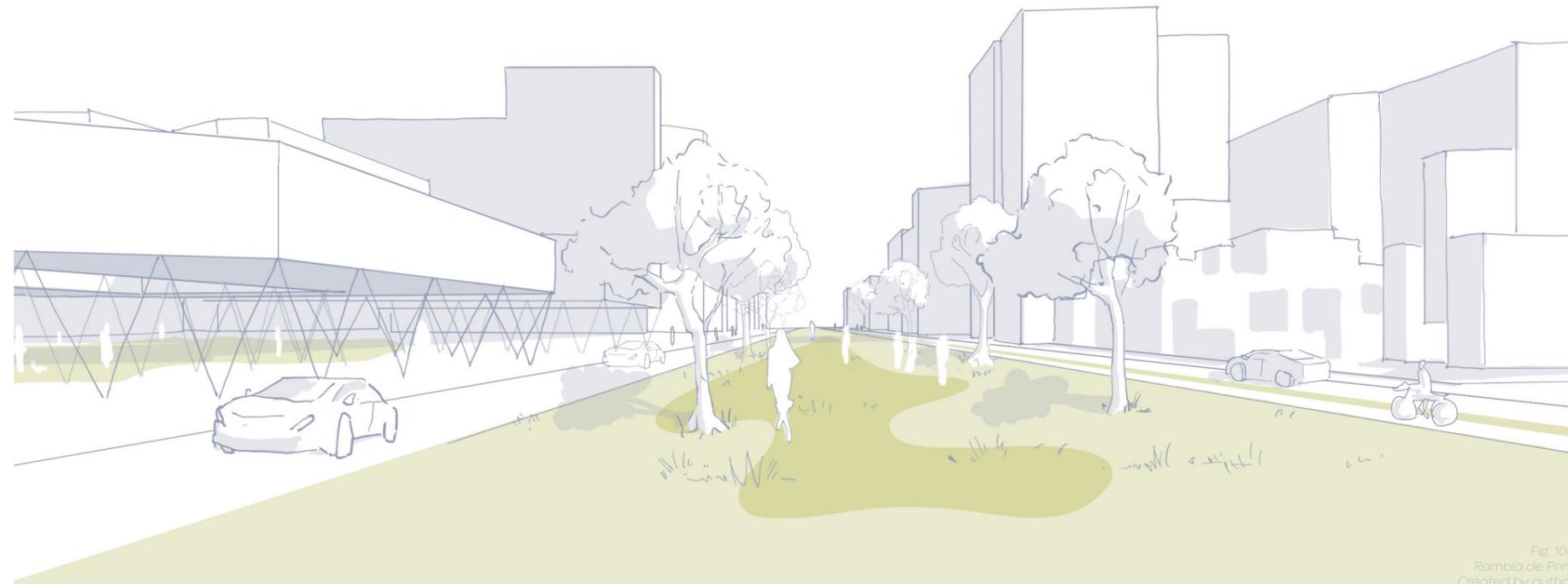
## area TWO

This visual illustrates the transformation of Rambla de Prim into a vibrant, human-scaled public space that prioritizes pedestrians, greenery, and community use.

On the left, a new covered structure with open edges and flexible use beneath (e.g., markets, events, public amenities) helps activate the street, while framing the adjacent vehicular lane.

The ground floor of this building is intentionally left open, enhancing visual permeability and providing a direct spatial connection to the mobility street behind. This gesture not only improves orientation and safety, but also weaves together both sides of the block, transforming the building into a threshold between active movement and community life.

To the right, residential blocks are complemented by wide sidewalks and a dedicated cycle path, improving both comfort and mobility choice.



### 5.2 area two: views

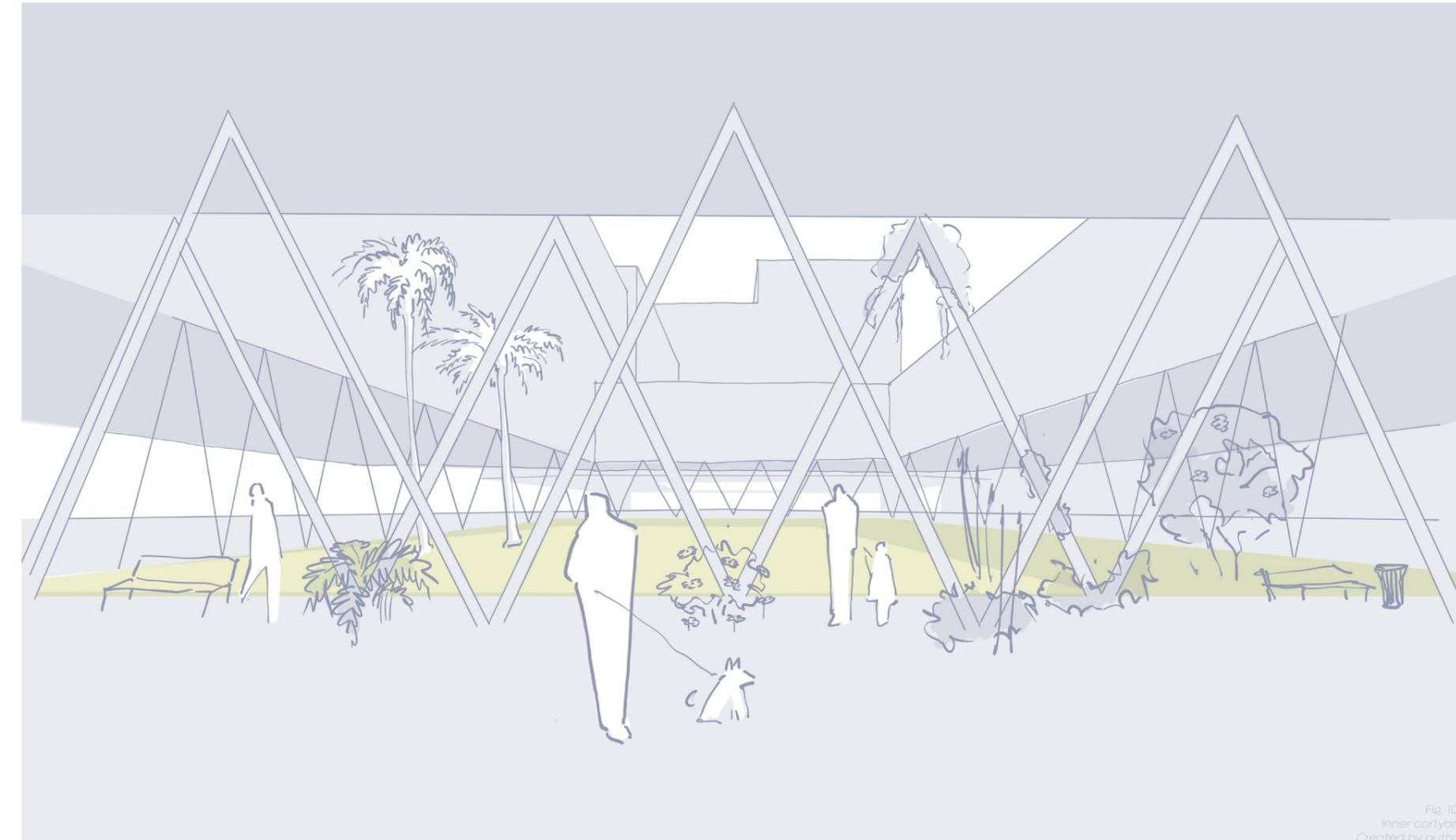
## area TWO

This image shows the interior courtyard of the multifunctional building situated along the redesigned Rambla de Prim.

Enclosed by a lightweight, transparent structure, the space becomes an urban room—a covered yet open-air environment designed to foster community interaction, visual permeability, and climate comfort.

The courtyard serves as an extension of the public realm, accessible from multiple directions and visually connected to the Rambla and the adjacent mobility corridor.

It provides a sheltered setting for relaxation, socializing, informal events, and everyday gathering, with soft landscaping, benches, and shaded vegetation offering a welcoming atmosphere.



## area TWO

This image illustrates the proposed transformation, where the new building layout draws inspiration from the Cerdà block typology while responding to the site's contemporary needs. The geometry, rhythm, and massing of the blocks evoke the clarity and permeability of the Eixample grid, introducing a familiar urban logic into an area currently marked by fragmentation and disconnection.

The buildings are arranged to define clear edges, semi-public courtyards, and street-front activity, creating a human-scale environment that balances density with livability. Building heights follow a stepped profile—lower along key public corridors and higher at the center of blocks—to ensure sunlight access and visual coherence.

A defining feature is the reconfiguration of Rambla de Prim, which becomes a green urban spine, fully integrated with the new block system. Lined with trees and fronted by active ground floors, this renewed boulevard becomes a legible, walkable, and vibrant public space that organizes mobility, ecology, and everyday life.

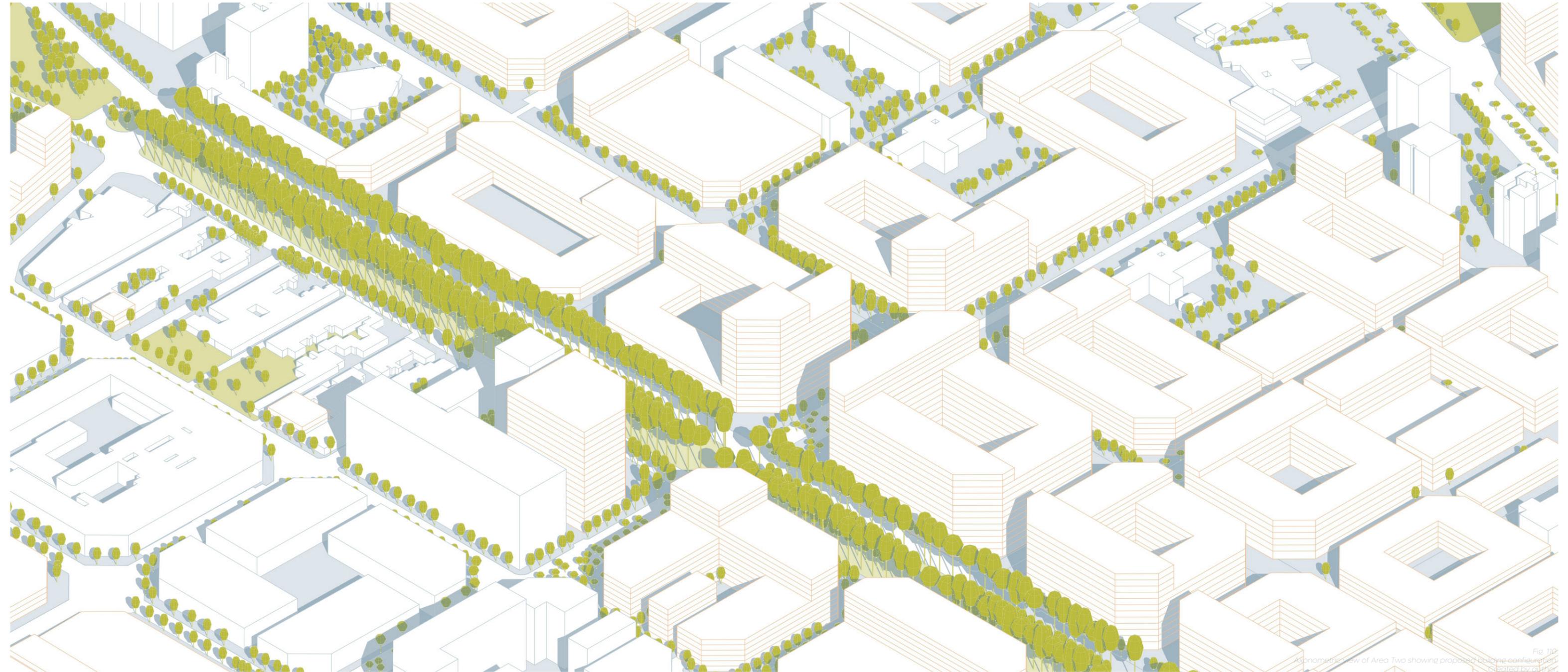


Fig. 119  
Axonometric view of Area Two showing proposed building configuration.  
Created by allner.

# area THREE:



This area is defined by heavy infrastructure and disconnected urban voids. Elevated highways cut across the site, creating physical and social barriers that isolate neighborhoods and weaken community ties.

The concept for this area transforms these limitations into opportunities by introducing a new east-west axis that connects education, community life,

## 5.4 area three: concept



and recreation. This axis activates underused spaces—such as the one beneath the highway—through public programs, green infrastructure, and accessible design.

Fig. 112  
Conceptual scheme of the area.  
Created by author.

# area THREE

The master plan for Area Three introduces a new urban structure that carefully responds to existing conditions while addressing the area's fragmented and underutilized fabric. Rather than imposing a new logic, the design extends the finer-grained grid already emerging in the southern part of the site.

A series of mid-rise blocks are inserted within this grid, promoting a compact, walkable, and mixed-use urban form. These buildings create clear spatial edges and define new public spaces, courtyards, and active frontages that enhance the sense of neighborhood and urban continuity.

The plan also introduces green connectors that link this area to the Besòs River, adjacent educational institutions, and the Carrer de Cristóbal de Moura green axis, creating a continuous ecological and social framework. Underused or disconnected open spaces—especially around major roads and railways—are reprogrammed into recreational areas, plazas, and mobility nodes.

The existing large-scale park in the northern section is modified. While part of the green space is retained and improved as recreational landscape, the upper portion of the park is restructured to introduce new buildings. This also strengthens the park's integration with adjacent uses and transforms it from an isolated void into a well-connected, multifunctional urban asset.

### Legend

- economic activities
- culture spots
- green areas
- amenities
- pedestrian spaces
- extended grid
- housing



Fig. 113  
General master plan of the area.  
Created by author.

# area THREE

This image captures one of the existing tunnels in La Mina, currently one of the few pedestrian connections under the major infrastructure separating the neighborhood from adjacent areas. While functional, the space is poorly maintained, visually uninviting, and lacks safety features and spatial quality.

Reclaiming and reactivating this space is a key part of the design strategy for Area Three. Through lighting, art, vegetation, open sightlines, and improved programming, these tunnels can become meaningful connectors—linking education, recreation, and community life across previously divided zones.



Fig. 114  
Area near the tunnel connection.  
Created by author.



This photo captures a central perspective of one of La Mina's iconic residential corridors, defined by two long, repetitive housing slabs facing each other. While the open space in between is expansive, it lacks definition, program, and active ground-floor uses—creating an environment that

feels more like a void than a vibrant public realm.

Revitalizing this space means breaking down its rigidity—introducing mixed uses, finer-grained urban forms, and active edges that encourage community life.

Fig. 115  
Underused public space between buildings in La Mina.  
Created by author.

## 5.4 area three: existing conditions

The proposed section introduces a more porous and layered urban structure, replacing monolithic housing blocks with a series of mid-rise mixed-use buildings that improve accessibility, connectivity, and livability.

A key intervention is the creation of a new pedestrian tunnel, which links the currently isolated neighborhood with the educational center on the opposite side of the corridor. This tunnel provides a safe, direct route for students and residents, enhancing daily routines and reinforcing connections between learning, living, and public space.

The new urban layout integrates a fine-grained network of open space and street life. Instead of isolated superblocks, the design emphasizes continuous public access, active frontages, and a more generous ground-level experience.

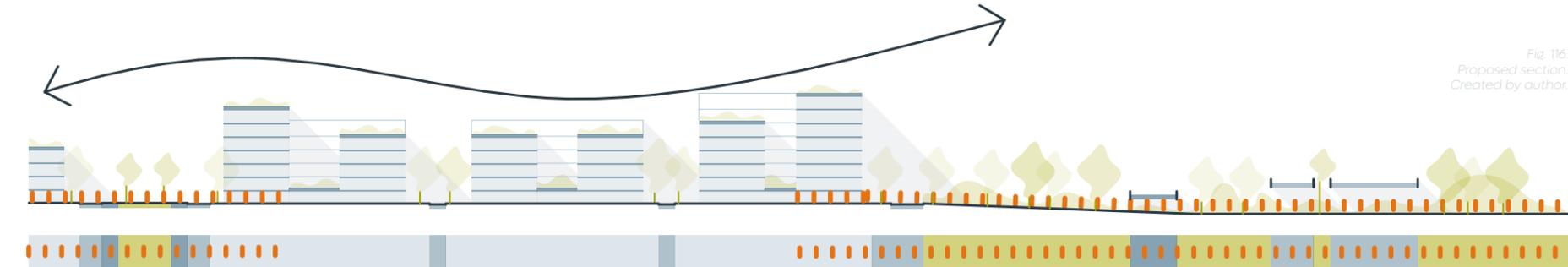


Fig. 116  
Proposed section.  
Created by author.

The current section reflects the La Mina urban planning typology: tall, repetitive residential slabs arranged in large, undefined voids. These spaces are poorly maintained, offering little in terms of community infrastructure or active ground-level engagement.

This configuration results in an inactive and fragmented urban fabric, where the distance between buildings and the lack of ground-floor uses discourage walkability, safety, and social interaction.

A large portion of the available open space is currently occupied by surface parking lots, reducing opportunities for meaningful public life. These asphalt-covered areas dominate the streetscape, contribute to heat island effects, and prioritize cars over pedestrians and green infrastructure.

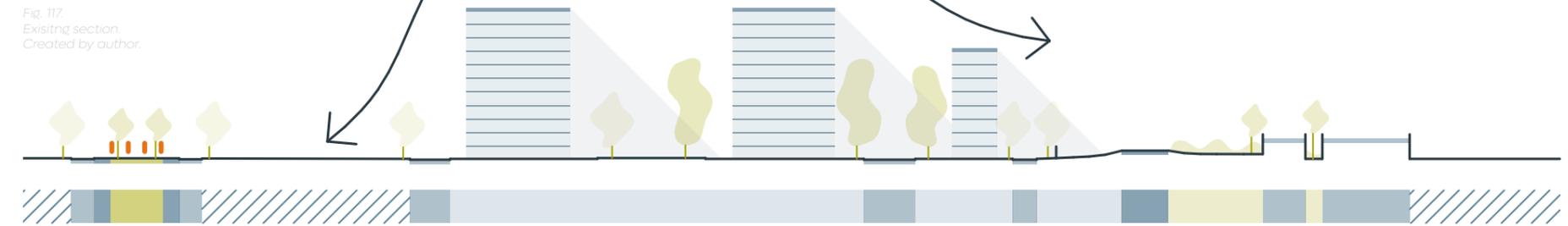


Fig. 117  
Existing section.  
Created by author.

## 5.4 area three: sections

### Proposed profile

### Existing profile

## area THREE

This image presents a redesign of one of La Mina's existing underpasses, transforming a neglected infrastructure space into a safe, accessible, and welcoming pedestrian corridor.

The redesign introduces terraced vegetation, new public steps, and shaded areas that make the space more inviting and visually rich. On both sides of the tunnel, plantings and open edges create a smoother transition between the infrastructure and the public realm, while also improving ecological performance.



Fig. 118  
Reimagined area around the tunnels.  
Created by author.



This sketch illustrates a reimagined space beneath a highway is transformed into an active public realm. Instead of remaining a lifeless buffer, the underpass is integrated into a wider landscape and educational axis, connecting communities and redefining the perception of infrastructure as a barrier.

On the right, a new school building anchors the space, facing an open, green forecourt that invites students, families, and neighbors to gather, move, and interact.

Fig. 119  
Intervention under infrastructure.  
Created by author.

## area THREE

The Besòs River forms the eastern boundary of the project area—an ecological and recreational asset that remains underutilized due to poor physical connections and fragmented edges. The current barriers, including highways, rail infrastructure, and isolated green pockets, limit both visual access and everyday use.

The proposed design addresses this by introducing clear, continuous pedestrian and cycling paths that connect the riverfront directly with the urban grid. These access points are supported by gentle landscape gradients, open sightlines, and programmed green areas that invite informal recreation, sports, and gathering.

By softening the transition between built environment and river edge, the intervention transforms the Besòs into a community connector—not just a boundary. The result is a more active and inclusive riverfront, encouraging environmental awareness, social cohesion, and urban vitality.



Fig. 120  
Besòs river.  
Created by author.



Fig. 121  
Axonometric view of the existing situation.  
Created by author.



Fig. 122  
Axonometric view of the proposal  
Created by author.

Ajuntament de Barcelona. (2023). Barcelona in figures 2023: Main economic indicators of the Barcelona area.

Ajuntament de Barcelona. (2020). Government measure: A boost to 22@: Towards a Poblenou with a more productive, more inclusive and more sustainable 22@.

Ajuntament de Barcelona. Open Data BCN: The open data portal of the Barcelona City Council. <https://opendata-ajuntament.barcelona.cat/>

Anguelovski, I., Connolly, J., Oscilowicz, E., Lewartowska, E., Levitch, A., Luger, J., Hajtmarova, S., O'Neill, E., & Planas Carbonell, A. (2021). Policy and planning tools for urban green justice: Fighting displacement and gentrification while improving accessibility and inclusiveness to green amenities. Barcelona Lab for Urban Environmental Justice and Sustainability (BCNUEJ).

Àrea Metropolitana de Barcelona. (2022). Salari mensual de referència metropolità 2022 [Infographic]. AMB.

Àrea Metropolitana de Barcelona. Propostes del PDU metropolità. Smart City AMB. <https://smartcity.amb.cat/portal-pdu/propostes>

atNight. (2013). Movement vs. Density – Barcelona [Interactive map]. atNight. <http://atnight.ws/cartographies.php>

Calthorpe, P. (1993). The next American metropolis: Ecology, community, and the American dream. Princeton Architectural Press.

Centro Nacional de Información Geográfica (CNIG). (2017). Índice de vulnerabilidad: Ciudad de Barcelona (Mapa) [Map]. <https://centrodedescargas.cnig.es/>

CentroDescargas/búsquedaRedirigida.do?ruta=PUBLICACION\_CNIG\_DATOS\_VARIOS/aneTematico/Barcelona\_Indice-de-vulnerabilidad.-Ciudad-de-Barcelona\_2017\_mapa\_18011\_spa.zip

Dooling, S. (2009). Ecological Gentrification: A Research Agenda Exploring Justice in the City. *International Journal of Urban and Regional Research*, 33(3), 621–639. [https://doi.org/10.1111/j.1468-2427.2009.00860.x:contentReference\[oaicite:27\]{index=27}](https://doi.org/10.1111/j.1468-2427.2009.00860.x:contentReference[oaicite:27]{index=27})

Dovey, K., & Pafka, E. (2014). The urban density assemblage: Modelling multiple measures. *Urban Design International*, 19(1), 66–76. <https://doi.org/10.1057/udi.2013.16>

El Globus Vermell. (2019). El patrimoni industrial del Poblenou, Barcelona [Map]. Ajuntament de Barcelona & BIT Habitat. <https://www.elglobusvermell.org>

El País. <https://elpais.com/espana/catalunya/2025-03-29/el-futuro-hub-audiovisual-de-las-tres-chimeneas-estara-en-marcha-en-2028.html>

Florida, R. L. (2017). The new urban crisis: How our cities are increasing inequality, deepening segregation, and failing the middle class—and what we can do about it. Basic Books.

Garcés de Seta Bonet, & Marvel Architects. (2025). Visual rendering of the future Catalunya Media City in the Tres Chimeneas turbine hall [Digital image]. Gotham, K. F. (2005). Tourism Gentrification: The Case of New Orleans' Vieux Carre (French Quarter). *Urban Studies*, 42, 1099-1121. <https://doi.org/10.1080/00420980500120881>

Gehl, J. (2011). Life between buildings: Using public space (6th ed.). Island Press. (Original work published 1971)

Gotham, K.F. Tourism gentrification: The case of New Orleans' vieux carre (French Quarter). *Urban Stud.* 2005, 42, 1099–1121.

Harvey, D. (1973). Social justice and the city. Edward Arnold.  
Hernández Falagán, D., & Nicolau, M. R. (2024). A brief history of social housing in Spain: Residential architecture and housing policies in the 19th and 20th centuries. *Histories*, 4(3), 326–345. <https://doi.org/10.3390/histories4030016>

Hillier, B., & Hanson, J. (1984). The social logic of space. Cambridge University Press.

Institut d'Estudis Regionals i Metropolitans de Barcelona (IERMB). (2017). Dimensió de vulnerabilitat social. Àrea metropolitana de Barcelona, 2017 [Map]. In *Índex de Vulnerabilitat Urbana*. <https://iermb.cat/>

Lees, L., Slater, T., & Wyly, E. (2007). Gentrification. Routledge.

Lefebvre, H. (1991). The production of space (D. Nicholson-Smith, Trans.). Blackwell. (Original work published 1974)

Massey, D., & Denton, N. A. (1993). American apartheid: Segregation and the making of the underclass. Harvard University Press.

MUHBA – Museu d'Història de Barcelona. (n.d.). La ciutat dels polígons: Un itinerari pel Besòs. MUHBA, Ajuntament de Barcelona.

Poblenou Urban District. (2022). Map & guide SS22. Poblenou Urban District Association. <https://poblenouurbandistrict.com>

Related Argent. (n.d.). Brent Cross Town masterplan [Image]. Retrieved May 30, 2025, from <https://brentcrosstown.co.uk/about>

Smith, N. (1996). The new urban frontier: Gentrification and the revanchist city. Routledge.

Soja, E. W. (2010). Seeking spatial justice. University of Minnesota Press.

POSTC UMH. (2018). Proporción de población que se siente insegura (estimación para cada barrio), Barcelona [Map]. Observatorio de la Vulnerabilidad Urbana. <https://postc.umh.es/minipapers/el-estudio-sobre-la-percepcion-de-inseguridad-en-los-barrios-de-barcelona/>

Visit Stockholm. (2024, August 22). Discovering Hammarby Sjöstad on a bike. <https://www.visitstockholm.com/eat-drink/restaurants/discovering-hammarby-sjostad-on-a-bike/>

Wahlund, M. (2019, February). Gentrification in Barcelona 1991–2016: SSE hotspots and coldspots [Map]. Based on data from BCNUEJ and Ajuntament de Barcelona.

Wynn, M. (2024). The lost shantytowns of Barcelona. *Encyclopedia*, 4(1), 444–477. <https://doi.org/10.3390/encyclopedia4010030>

Zukin, S. (2010). Naked city: The death and life of authentic urban places. Oxford University Press.

300.000 km/s. (2014). Geographies of innovation: Topography according to the density of innovative initiatives [Map]. In V. Guallart (Ed.), *Geographies of Innovation*. UrbanNext. <https://urbannext.net/geographies-of-innovation/>





The Synthetic Vulnerability Index for Barcelona, as detailed by the Instituto Geográfico Nacional (IGN), is a composite measure designed to assess the relative vulnerability of urban areas based on key socioeconomic indicators. This index aids in identifying neighborhoods that may require targeted social policies or urban regeneration efforts.

The index is constructed using five primary variables:

**Average Income per Capita:** Lower income levels indicate higher vulnerability.

**Unemployment Rate:** Higher unemployment rates contribute to increased vulnerability.

**Population Receiving Welfare Benefits:** A greater proportion of residents on welfare suggests higher vulnerability.

**Population Without Formal Education:** A higher percentage of residents without formal education correlates with increased vulnerability.

**Foreign-born Population:** A higher proportion of foreign-born residents may indicate greater vulnerability.

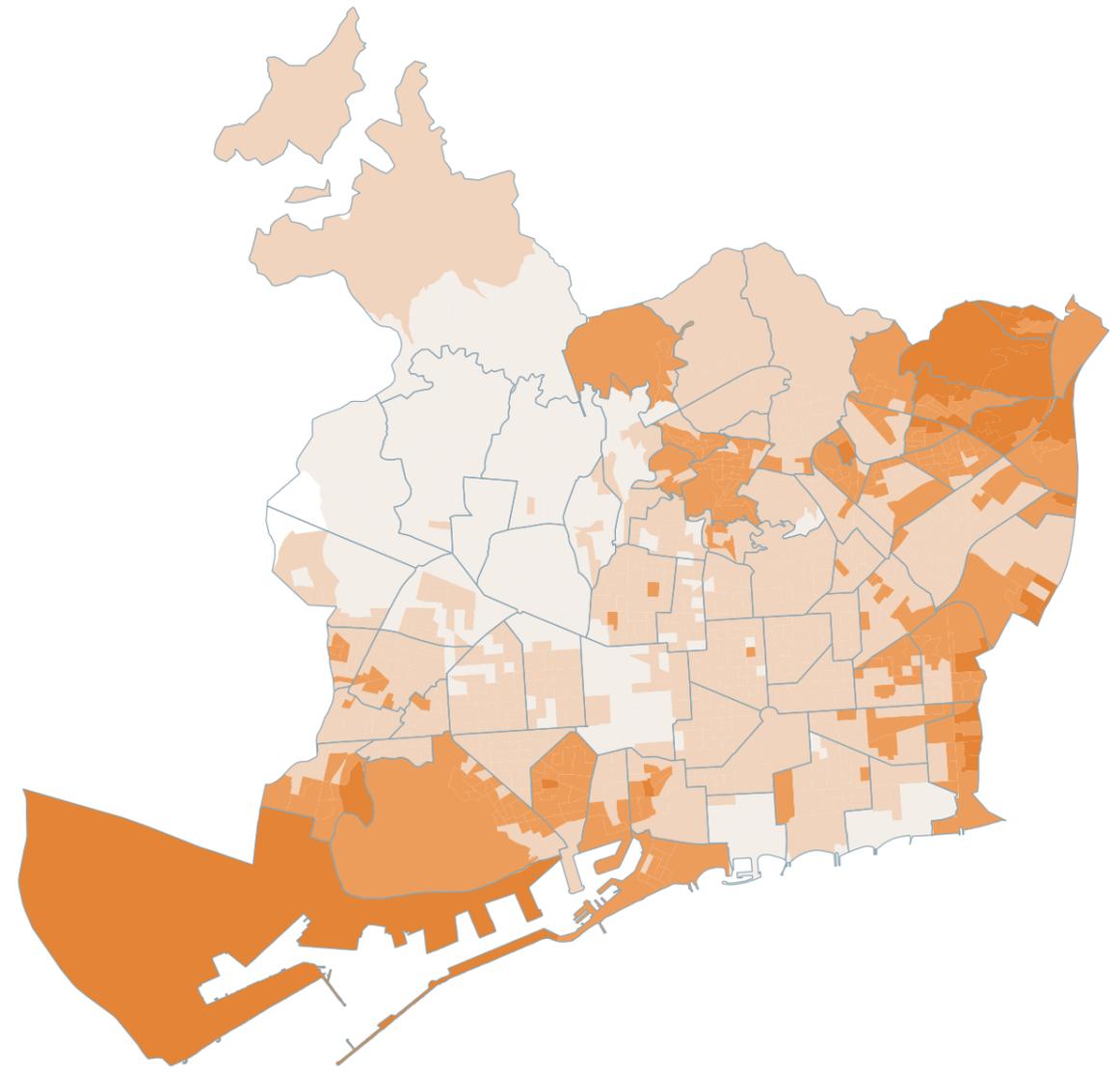
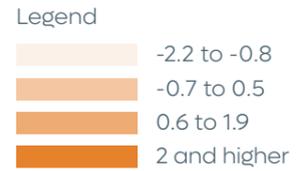


Fig. 123  
Synthetic Vulnerability Index in the Municipality of Barcelona (2017). Data derived from Instituto Geográfico Nacional (2024). Redrawn by author.

**A: synthetic vulnerability index**



This map illustrates the distribution of social vulnerability across urban fabrics in the Barcelona Metropolitan Area. It categorizes census sections based on factors such as aging population, new immigration, and low income either independently or in combination and highlights areas where these factors accumulate to a critical level, indicated by a Social Vulnerability Index (IVS) of 4 or higher.

The map provides a critical spatial insight into the unequal distribution of social vulnerabilities, particularly in neighborhoods such as El Besòs i el Maresme and La Mina. These areas stand out for having overlapping layers of disadvantage, reinforcing their marginalization.

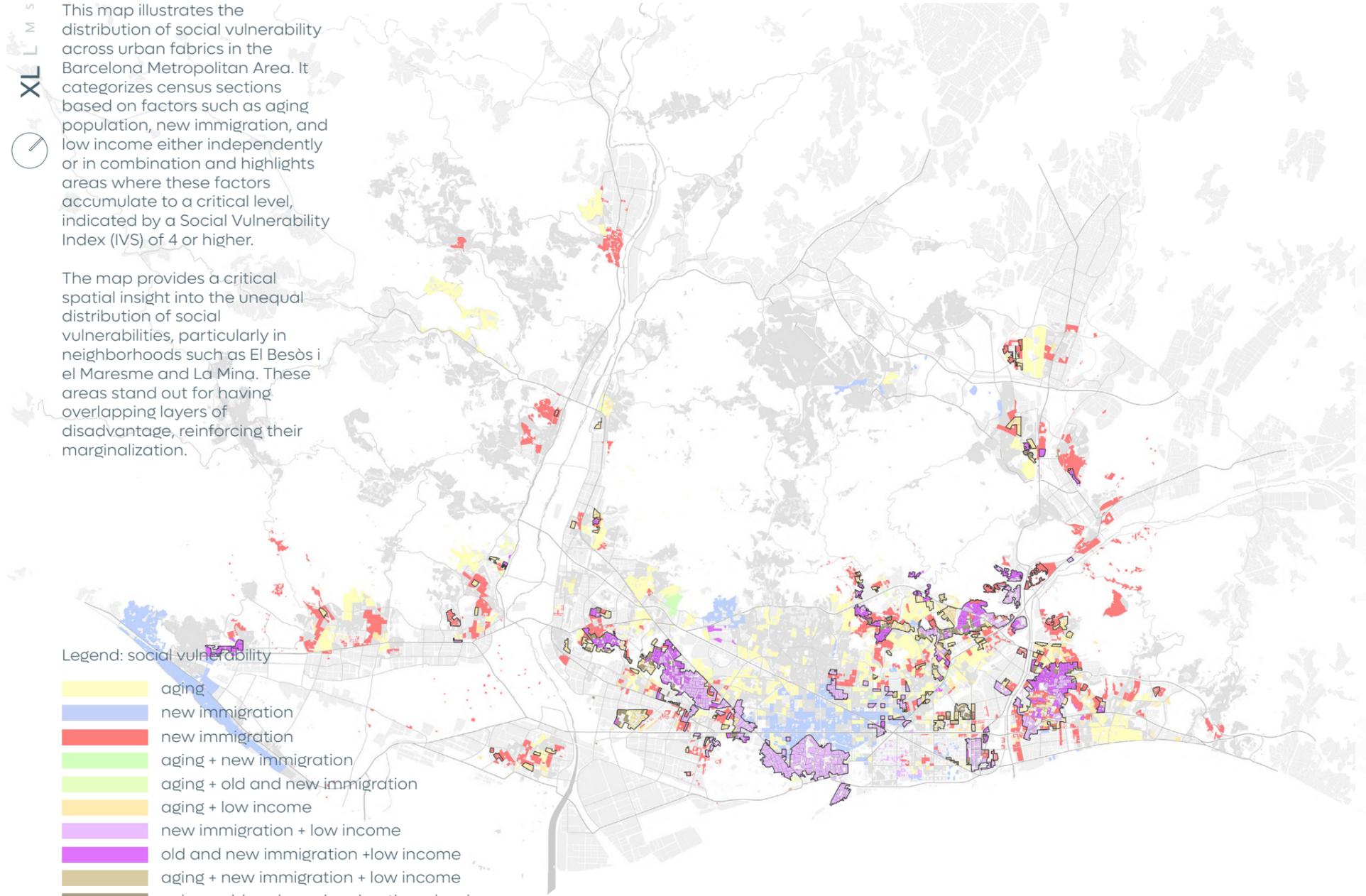
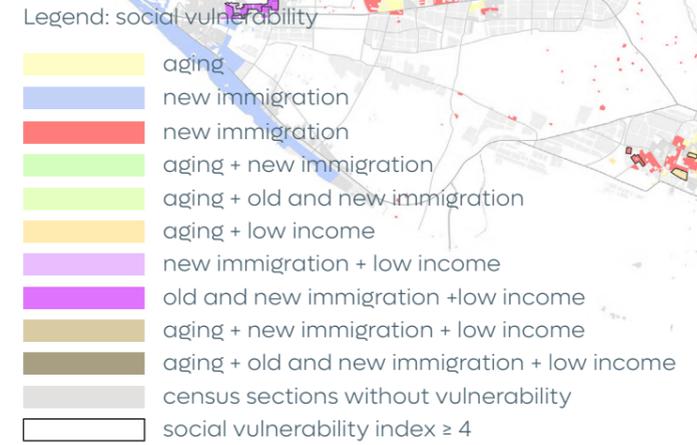


Fig. 124  
Social vulnerability in the urban fabric of the Barcelona Metropolitan Area. Vulnerabilitat social en els teixits urbans (Àrea Metropolitana de Barcelona, 2023).

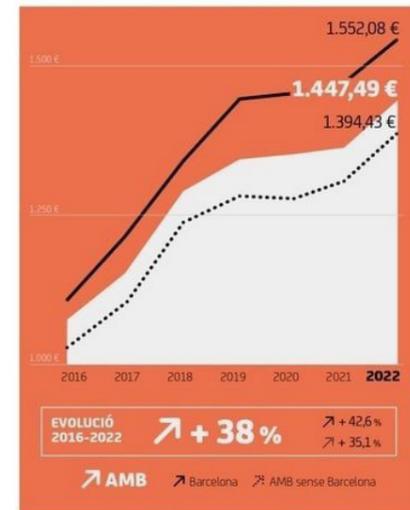
**A: social vulnerability character**

\* **48 out of 73 neighborhoods, which is 55% of population, has the income below the base index (100)**

## SALARI MENSUAL DE REFERÈNCIA METROPOLITÀ



### Salari mensual de referència per territori



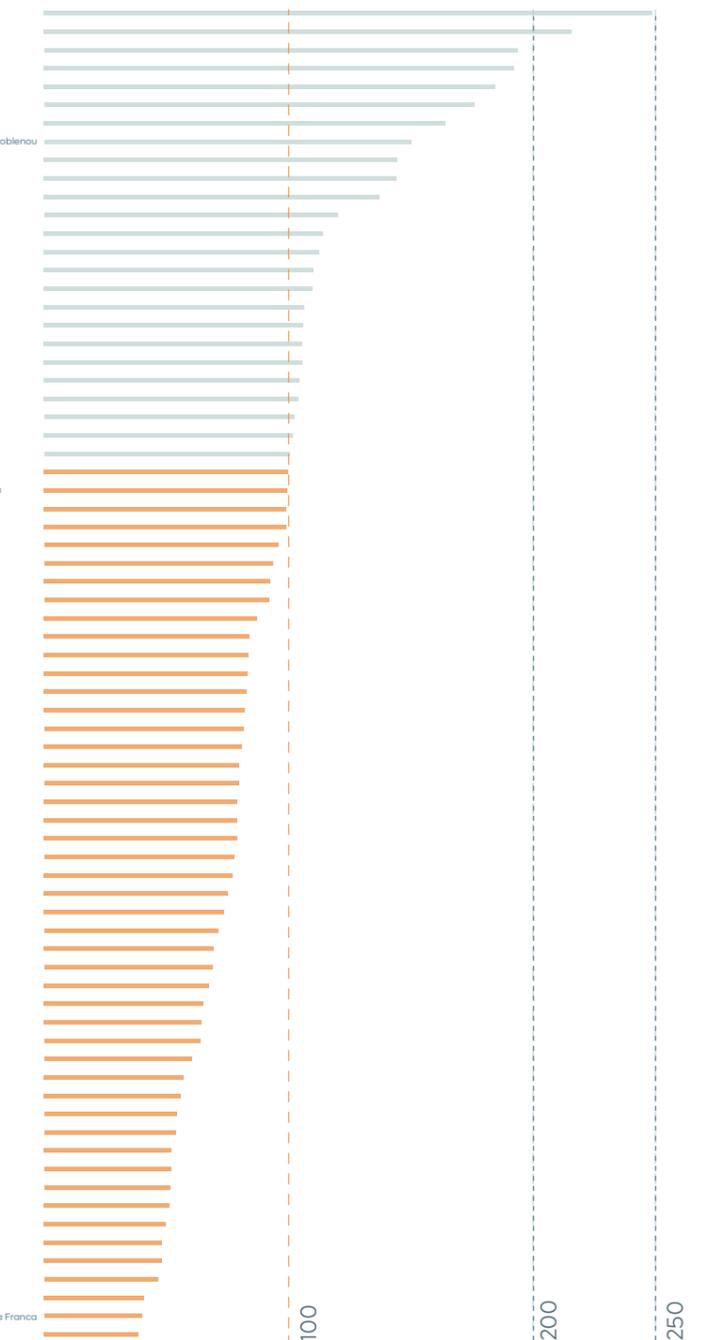
### Tipus de llars



Fig. 125. Monthly reference salary by household type in the Barcelona Metropolitan Area (2022). Retrieved from Àrea Metropolitana de Barcelona (AMB), Salari mensual de referència metropolità 2022.

Fig. 126. Available family income per capita. Data derived from Ajuntament de Barcelona, 2025. Created by author.

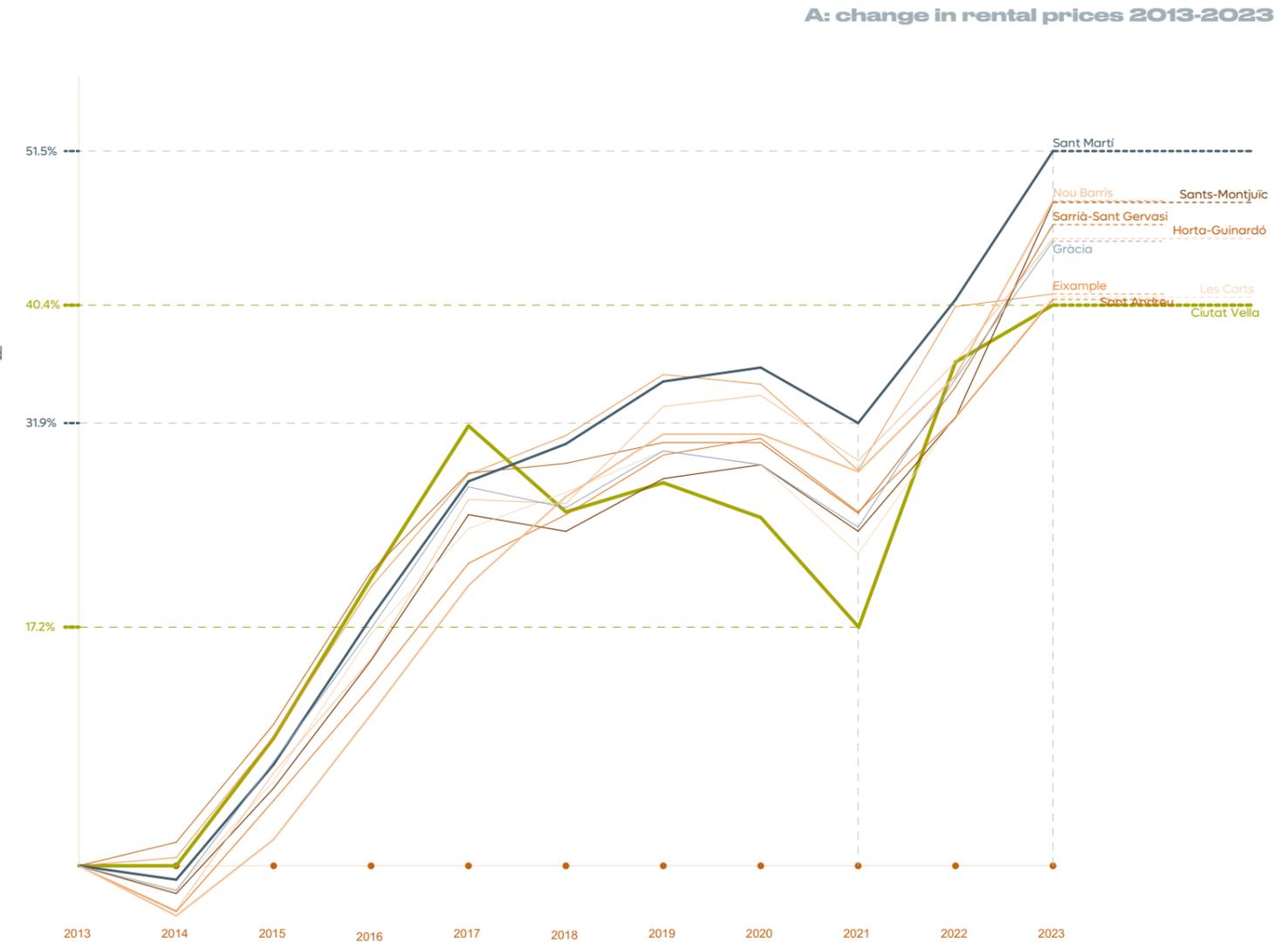
- Pedralbes
- Les Tres Torres
- Sarrià
- Sant Gervasi - Galvany
- Sant Gervasi - la Bonanova
- La Dreta de l'Eixample
- La Vila Olímpica del Poblenou
- Diagonal Mar i el Front Marítim del Poblenou
- El Putxet i el Farró
- Valldorera, el Tibidabo i les Planes
- L'Antiga Esquerra de l'Eixample
- Les Corts
- La Maternitat i Sant Ramon
- Vallecarlos i els Penitents
- La Nova Esquerra de l'Eixample
- La Salut
- El Fort Pienc
- El Barri Gòtic
- El Camp d'en Grassot i Gràcia Nova
- El Camp de l'Arpa del Clot
- La Vila de Gràcia
- Sant Antoni
- Provençals del Poblenou
- La Sagrada Família
- El Parc i la Llacuna del Poblenou
- el Poblenou
- Sant Pere, Santa Caterina i la Ribera
- Hortafrancs
- Sants
- la Vall d'Hebron
- la Clota
- la Font d'en Fargues
- el Baix Guinardó
- el Coll
- Sant Genís dels Agudells
- el Clot
- Can Baró
- la Font de la Guatlla
- el Poble Sec - AEI Parc Montjuïc
- Navas
- Sants - Badal
- Montbau
- Horta
- la Barceloneta
- el Guinardó
- la Bordeta
- Sant Andreu
- la Sagrera
- el Congrés i els Indians
- la Teixonera
- el Raval
- la Marina de Port
- Baró de Viver
- Sant Martí de Provençals
- el Bon Pastor
- Porta
- Vilapicina i la Torre Llobeta
- el Besòs i el Maresme
- la Verneda i la Pau
- la Prosperitat
- el Carmel
- la Guineueta
- Canyelles
- el Turó de la Peira
- Can Peguera
- Verdun
- les Roquetes
- la Trinitat Nova
- la Trinitat Vella
- Torre Baró
- Vallbona
- la Marina del Prat Vermell - AEI Zona Franca
- Clutat Meridiana



A: income per capita

This graphic shows the change in rental prices by district in Barcelona between 2013 and 2023. Each line traces the price evolution over time, highlighting both the overall increase and the differences between districts.

Sant Martí stands out with the highest increase in rental prices at 51.5%, driven largely by redevelopment projects such as the 22@ Innovation District. This rise reflects growing demand and gentrification pressures in what was historically a more industrial and working-class area.



A: change in rental prices 2013-2023

Fig. 127. Changes in rental prices in Barcelona. Data derived from Ajuntament de Barcelona, 2013-2023. Created by author.

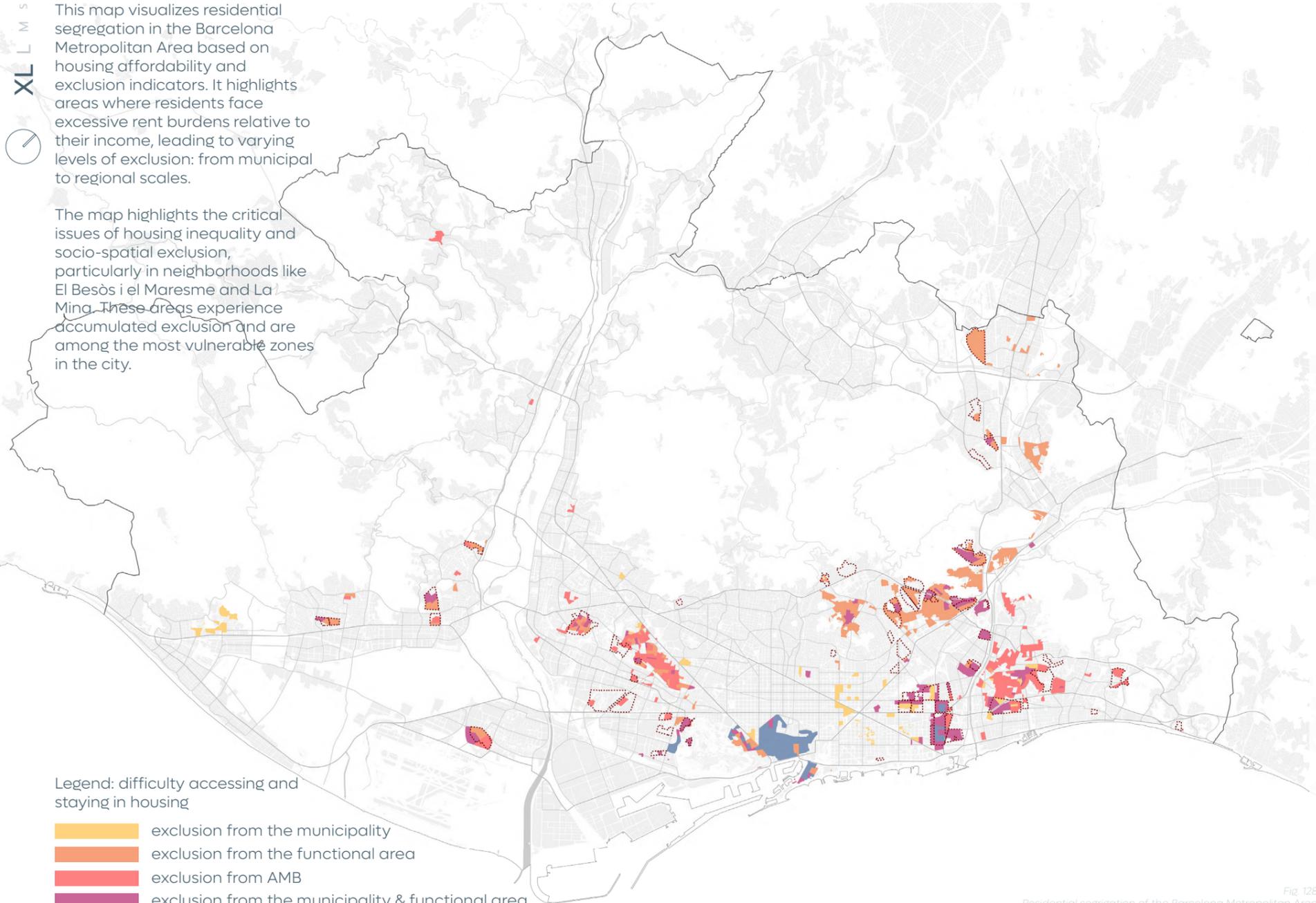
**A: residential segregation**

XL  
L  
M  
S



This map visualizes residential segregation in the Barcelona Metropolitan Area based on housing affordability and exclusion indicators. It highlights areas where residents face excessive rent burdens relative to their income, leading to varying levels of exclusion: from municipal to regional scales.

The map highlights the critical issues of housing inequality and socio-spatial exclusion, particularly in neighborhoods like El Besòs i el Maresme and La Mina. These areas experience accumulated exclusion and are among the most vulnerable zones in the city.



Legend: difficulty accessing and staying in housing

- exclusion from the municipality
- exclusion from the functional area
- exclusion from AMB
- exclusion from the municipality & functional area
- accumulated exclusion

Fig. 128  
Residential segregation of the Barcelona Metropolitan Area  
Segregació residencial  
(Àrea Metropolitana de Barcelona, 2023)



Fig. 129 Industrial heritage elements in Poblenou (El Globus Vermell, 2019)

- 01 CHIMENEA DE CAN FOLCH MUSTEROS**  
Pempina 88-90 • Pallars  
Josep Pansas i Coll (F), Inicò  
REFORMA: Josep M. Fargas, 1955  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica. Actualment, covering  
de sigarettes i fabricació  
de fums de tabac.
- 02 L'EDINA**  
Pujades 26  
Salvador Espriu, 1985  
NIVEL DE PROTECCIÓ: C  
Indústria tèxtil. Actualment,  
són tres.
- 03 CHIMENEA**  
Jardins Margalida i Comas  
Lluís 92 • Joan Puig i Soler 31 •  
Ramon Turró 24  
NIVEL DE PROTECCIÓ: D
- 04 LA UNIÓN METALÚRGICA**  
Pempina 103-105 •  
Amargós 110-123  
Josep Planas i Arigona, 1914  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i cel·lulosa  
i altres productes químics  
metàl·lics. Actualment, edifici  
de oficines.
- 05 CALDERERIA DE JOAN FEINER**  
Ramon Pujades 19-46  
NIVEL DE PROTECCIÓ: C  
Atorga i taller de caldereria  
i maquinària. Actualment,  
Cofinsa Rega.
- 06 NAVES INDUSTRIALS ADOSADAS**  
Zamorà 72-76 • Pujades 102-108  
Josep Puig i Riba, 1909  
NIVEL DE PROTECCIÓ: C  
Zoològic de les aus i altres de  
muntanya.
- 07 CAN PICÓ / BICICLOT**  
Can Picó 9-10 • Pempina 71-73  
Josep Mascló, 1907  
REFORMA: Daniel Molina  
(Som Habitatge), 2018  
NIVEL DE PROTECCIÓ: C/D  
Atorga i taller de bicicletes  
i altres productes metàl·lics  
i plàstics.
- 08 CUNILL ORFEBRES**  
Pujades 1-9 • Sanchó  
de Vila 41-45  
1985  
NIVEL DE PROTECCIÓ: C  
Fàbrica de orfèvres. Actualment,  
Can i Hija (Jordi i Maria)  
Can i Hija (Jordi i Maria)  
una granja de ramaderia  
i altres (oficina).
- 09 GALLETAS VIÑAS, «LA GALLETAS»**  
Pempina 95-104  
Joan Barba, 1988  
NIVEL DE PROTECCIÓ: C  
Fàbrica de galetes. Actualment,  
oficina de galetes i altres  
en aquell.
- 10 CURAÇAN MOTORS / RAZZAN MATZ**  
Lluís 123-130  
Lluís Baró i Baró, 1957  
NIVEL DE PROTECCIÓ: C  
Fàbrica de motors. Actualment,  
sala de partides i altres  
de Ramatraz.
- 11 FÀBRICA DE ALBERT MUSTEROS**  
Pempina 88-90 • Pallars  
Josep Pansas i Coll (F), Inicò  
REFORMA: Josep M. Fargas, 1955  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica. Actualment, covering  
de sigarettes i fabricació  
de fums de tabac.
- 12 OLIS PALLARÉS**  
Pen IV 63-67 • Pallars 122-128  
Josep A. Capdevila (F),  
Inicò i XX  
NIVEL DE PROTECCIÓ: C  
Actualment, una indústria i/o  
oficina.
- 13 COOPERATIVA LA FLOR DE MAIG (SUCURSAL)**  
Pen IV 92  
NIVEL DE PROTECCIÓ: C  
Suport de la cooperativa i/o  
i altres productes químics  
metàl·lics i plàstics.
- 14 CALDERERIA METALÚRGICA DE LLUIS SABALA PALOMÀ / IAACA**  
Pujades 102  
Català Ferrer i Ferrer, 1959  
NIVEL DE PROTECCIÓ: C  
Actualment, taller de IAACA  
(Institut de Recerca i  
Anàlisi de Catalunya).
- 15 INDUSTRIALS METALÚRGICAS DE LLUIS SABALA PALOMÀ / IAACA**  
Sanchó de Vila 90-108 •  
C 101-107-109-110-111  
NIVEL DE PROTECCIÓ: C  
Indústria de diverses empreses  
de fabricació.
- 16 NAVE INDUSTRIAL MODERNISTA**  
Pujades 79  
Companys i Companys, 1907  
NIVEL DE PROTECCIÓ: C  
Atorga i taller de IAACA  
(Institut de Recerca i  
Anàlisi de Catalunya).
- 17 CASINO FAMILIAR «LA GALLETAS»**  
Finalet s. XX  
NIVEL DE PROTECCIÓ: C  
Companys i Companys, 1907  
Actualment, oficina de  
en venda de sigarettes.
- 18 ALMACÉN DE TRAPIS DE FRANCISCO DE MONNÉ I BAO**  
Pujades 118 • Lluís 111  
Finalet s. XX i principis s. XX  
NIVEL DE PROTECCIÓ: C  
Fàbrica de trapis i altres  
de fabricació.
- 19 PASTAS MAGNÀ QUER**  
Lluís 109  
Josep M. Planas i Coll (F),  
Inicò i XX  
NIVEL DE PROTECCIÓ: C  
Fàbrica de pastes alimentàries  
per a pastes, actualment, sala de  
varies empreses.
- 20 INDUSTRIALS WALDES**  
Baldotx 45-47 • Ramon Turró  
111-129 • Vila 42-46  
Danilo Daura, 1919  
NIVEL DE PROTECCIÓ: B  
Almacens i magatzams. Dada  
1929, gran edifici industrial  
(empreses de foment de metal·les).
- 21 GALLETAS Y CHOCOLATE SOLSONA Y RIUS**  
Avia 34 • Montora s/n  
(entrada per Vila 32)  
NIVEL DE PROTECCIÓ: C  
Fàbrica de galetes i altres  
de fabricació.
- 22 NAVES DE LA FAMILIA AMETLLER**  
J. Domènec, 1917  
REHABILITACIÓ: GSB, 2008  
NIVEL DE PROTECCIÓ: C  
Almacens i magatzams. Dada  
(Indústria de foment de metal·les).
- 23 FÀBRICA DE HIELO SANT ANTONI**  
Baldotx 29-33  
Francisc de Puig i Vilatorrada  
Carmena, 1907  
Fàbrica de gel i altres  
de fabricació.
- 24 LA SIBERIA LA FIBRERIA**  
Avia 14-22 • Dr. Trueta 120-138  
1910  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 25 INDUSTRIALS DESLITE**  
Avia 10 • Baldotx 5-7 •  
E. J. Rey Fàbregas, 1957  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 26 HARINERA SANT JAUME I LA HARINERA DEL CIÓT**  
Gran Via 83  
Josep M. Carles, 1908-1914  
REFORMA: Ferrer i Ferrer  
i Josep Abadal, 1985  
NIVEL DE PROTECCIÓ: B  
Fàbrica de farina i altres  
de fabricació.
- 27 CAN TIANA / ILS (UB)**  
Ciutat de Granada 127 • Tànger  
81-91 • Bolívar 60-68  
G. Guitiérrez, 1989-1914  
REFORMA: Lluís de Miquel Roca  
i Josep Graner • Ramon Ribera  
i Josep Mascló • Jordi Segur,  
1998  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 28 FÀBRICA DE LORENÇ PONS I CLERCH**  
Sanchó de Vila 105-111  
REFORMA: Lluís de Miquel Roca  
i Josep Graner, 1985  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 29 ALMACÉN**  
Pallars 162  
c. 1894  
NIVEL DE PROTECCIÓ: E  
Almacens i magatzams.
- 30 CHIMENEA**  
Pallars 160  
c. 1894  
NIVEL DE PROTECCIÓ: C  
Indústria tèxtil. Actualment,  
oficina de fabricació.
- 31 EL SUCRE**  
Pje. Mas de Roca 5-7 •  
Ramon Turró 140-146  
c. 1904  
NIVEL DE PROTECCIÓ: C  
Indústria de sucre i altres  
de fabricació.
- 32 CAN GILI NOU**  
Dr. Trueta 104 • Taulat 9-13 •  
Ciutat de Granada 1-5  
1976-1980  
REFORMA: Santiago Burgas  
i Josep M. Carles, 2010  
NIVEL DE PROTECCIÓ: B  
Indústria de paper i altres  
de fabricació.
- 33 HISPANO OLIVETTI**  
Gran Via 850-888 • Llacuna 157-  
161, 156-182 • Pen IV 39-49  
Josep Soler i Mascló i Italo  
Lauri, 1942  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 34 METOL**  
Baldotx 49-108 • Ciutat  
de Granada 127-129  
Santiago Burgas i Ferrer,  
1959  
REFORMA I AMPLIACIÓ:  
Santiago Burgas i Ferrer,  
1982 • Baldotx 10-12  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 35 COCHERAS DE TMB**  
Ciutat de Granada 112  
Josep Amarny, 1928  
NIVEL DE PROTECCIÓ: C  
Entrepàssos i altres  
de fabricació.
- 36 LA CIUTAT GROGA**  
Roc Boronat 99-115 •  
Almogàvers 201  
Josep Amarny, 1928  
NIVEL DE PROTECCIÓ: C  
Edifici de oficines i altres  
de fabricació.
- 37 FONERIA DE LA FOMERIA GIRALT**  
Ciutat de Granada 66 •  
Pallars 172-174  
Segunda dècada s. XX  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 38 GALLETAS Y CHOCOLATE SOLSONA Y RIUS**  
Avia 34 • Montora s/n  
(entrada per Vila 32)  
NIVEL DE PROTECCIÓ: C  
Fàbrica de galetes i altres  
de fabricació.
- 39 FÀBRICA DE ALBERT MUSTEROS**  
Pempina 88-90 • Pallars  
Josep Pansas i Coll (F), Inicò  
REFORMA: Josep M. Fargas, 1955  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica. Actualment, covering  
de sigarettes i fabricació  
de fums de tabac.
- 40 LA SIBERIA LA FIBRERIA**  
Avia 14-22 • Dr. Trueta 120-138  
1910  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 41 CAN GILI VELL**  
Ciutat de Granada 128-16 •  
Pje. Mas de Roca 22-36  
1977-1980 (Chimenea)  
REFORMA: Lluís de Miquel Roca  
i Josep Graner, 2008  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 42 CAL 'ARANYÓ**  
Llacuna 125-135 • Roc Boronat  
330-340 • Tànger 117-115  
Primer Smith & Son i Josep  
Amarny, C. 1972  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 43 CAN FRAMIS / FUNDACIÓ VILA CASAS**  
Ciutat de Granada 127 • Tànger  
81-91 • Bolívar 60-68  
G. Guitiérrez, 1989-1914  
REFORMA: Lluís de Miquel Roca  
i Josep Graner • Ramon Ribera  
i Josep Mascló • Jordi Segur,  
1998  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 44 CAN CULLERES**  
C. de la Marina 198-199  
Josep Valls i Comas, 1987  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 45 EDIFICI DEL RELOJ**  
Roc Boronat 127 • Maria Aguiló  
130E (Inicò i XX) (Comedor)  
REFORMA: Josep Lluís Mares,  
1981  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 46 HILATURA EL CÀMEH**  
Joan Barba i, 1980  
REFORMA: Jordi Pila, 2013  
NIVEL DE PROTECCIÓ: C  
Història de la indústria  
i altres (CUES).
- 47 VAPOR LLULL**  
Lluís 122-135 • Pje. Mascló 29-25  
AMPLIACIÓ: Josep M. Ros Vila,  
1942  
REFORMA: Cristian Cid  
i Carles Baró, 1986  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 48 COOPERATIVA LA FLOR DE MAIG**  
Lluís 122-135 • Pje. Mascló 29-25  
1985  
REFORMA: 2018  
Cooperativa oberta. Actualment,  
oficina de fabricació.
- 49 FÀBRICA DE JOAN GUELL**  
Pallars 217  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 50 CENTRE MORAL DEL POBLENU**  
Pujades 176-178  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 51 HILATURA EL CÀMEH**  
Llacuna 10-20 • Dr. Trueta 201-  
209 • Ramon Turró 196-202  
Josep Planas i Arigona, 1917  
REFORMA: Lluís de Miquel Roca  
i Josep Graner, 2008  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 52 CAN JAUMANDREU, «VAPOR DE LA LANA»**  
Roc Boronat 46 •  
Ramon Turró 208  
Amargós i Ferrer, 1909  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 53 CASINO L'ALIANÇA DEL POBLENU**  
Roc Boronat 46 •  
Ramon Turró 208  
Amargós i Ferrer, 1909  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 54 CHIMENEA**  
Ferrovia 51. Vialla des de  
Sant Francesc i Ferrer  
272-276  
1914-1911 • Bolívar  
1882  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 55 COCHERAS DE TMB**  
Ciutat de Granada 112  
Josep Amarny, 1928  
NIVEL DE PROTECCIÓ: C  
Entrepàssos i altres  
de fabricació.
- 56 TALLERS OLIVARTES**  
Parque del Centre del Poblenou  
1928-1930 • Esporriada  
Ciutat de Granada 127 • Tànger  
81-91  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 57 CAN FELIPA**  
Can Antic de Vallada 26-40  
• Pallars 219-277 • Maria Aguiló  
130E (Inicò i XX) (Comedor)  
REFORMA: Josep Lluís Mares,  
1981  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 58 CHIMENEA DE LA RAM**  
Bac de Roca 52-64  
NIVEL DE PROTECCIÓ: D  
Segunda dècada s. XX  
NIVEL DE PROTECCIÓ: D  
Fàbrica de paper i altres  
de fabricació.
- 59 CHIMENEA**  
Ferrovia 51. Vialla des de  
Sant Francesc i Ferrer  
272-276  
1914-1911 • Bolívar  
1882  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 60 FRIGO / FARRA**  
Pen IV 100-106 • Bolívar 140-156 •  
Bolívar 143-163  
Joan Barba, 1919  
NIVEL DE PROTECCIÓ: B/D  
Fàbrica de paper i altres  
de fabricació.
- 61 CAN RICART**  
Parque del Centre del Poblenou  
(Diagonal) • Vialla 30  
Lluís de Miquel Roca, 1989  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 62 CHIMENEA DE BUIGAS I SANSÓ**  
Parque del Centre del Poblenou  
(Diagonal) • Vialla 30  
Lluís de Miquel Roca, 1989  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 63 CHIMENEA DE CAN CULLERES**  
C. de la Marina 198-199  
Josep Valls i Comas, 1987  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 64 ADICIÓN RICARD AMETLLER I HORTA**  
Sanchó de Vila 90-108 •  
C 101-107-109-110-111  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 65 ANTIGUO MATADERO**  
Esporriada 156  
1997 (de Esporriada) • 1919  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 66 TALLERS OLIVARTES**  
Parque del Centre del Poblenou  
1928-1930 • Esporriada  
Ciutat de Granada 127 • Tànger  
81-91  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 67 CHIMENEA DE LA RAM**  
Bac de Roca 52-64  
NIVEL DE PROTECCIÓ: D  
Segunda dècada s. XX  
NIVEL DE PROTECCIÓ: D  
Fàbrica de paper i altres  
de fabricació.
- 68 CAL L'ALIER**  
C. de la Marina 198-199  
Josep Valls i Comas, 1987  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 69 PALO ALTO**  
Palmer 30 • Ferrer 11  
Amargós i Ferrer, 1909  
NIVEL DE PROTECCIÓ: B/D  
Fàbrica de paper i altres  
de fabricació.
- 70 CHIMENEA DE TALLADA I LORA**  
Lluís 247-261  
Segunda dècada s. XX  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 71 LA ESCOCESA**  
Ferrovia 51. Vialla des de  
Sant Francesc i Ferrer  
272-276  
1914-1911 • Bolívar  
1882  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 72 CHIMENEA DE CAN GIRONA - MACOSA**  
Ferrovia 51. Vialla des de  
Sant Francesc i Ferrer  
272-276  
1914-1911 • Bolívar  
1882  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 73 TORRE DE LAS AGUAS DEL BESÓS**  
Ferrovia 51. Vialla des de  
Sant Francesc i Ferrer  
272-276  
1914-1911 • Bolívar  
1882  
NIVEL DE PROTECCIÓ: C  
Indústria de paper i altres  
de fabricació.
- 74 ALMACÉN DEL BANCO HISPANO AMERICANO**  
Ferrovia 51. Vialla des de  
Sant Francesc i Ferrer  
272-276  
1914-1911 • Bolívar  
1882  
NIVEL DE PROTECCIÓ: E  
Indústria de paper i altres  
de fabricació.
- 75 FÀBRICA DE LA CIBERCA HUBIOLA**  
Ciutat de Granada 113-129 •  
Taulat 92  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.
- 76 YORVA ADICIÓN RICARD AMETLLER I HORTA (ANTES APRESTO DE SIEDERAS)**  
Sanchó de Vila 90-108 •  
C 101-107-109-110-111  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 77 COLORES HISPANIA**  
Esporriada 156  
1997 (de Esporriada) • 1919  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 78 ACABADOS, TINTES Y ESTAMPADOS**  
Esporriada 156  
1997 (de Esporriada) • 1919  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 79 FÀBRICA VALLS, TEIXIDOR Y JORDANA**  
Pen IV 475-495 • Pujades  
134-141  
Enric Ullastres, 1909  
NIVEL DE PROTECCIÓ: C/D  
Fàbrica de paper i altres  
de fabricació.
- 80 CAL 'ILLA**  
Bolívar 310-362 • Pujades  
132-138 • Marquès 20-26 •  
Pujades 125-131  
NIVEL DE PROTECCIÓ: C  
Fàbrica de paper i altres  
de fabricació.

**A: spatial fragmentation**

XL  
L  
M  
S



This map shows the territorial fragmentation within the Barcelona Metropolitan Area caused by major road, rail, and service infrastructures. It identifies areas where these infrastructures intersect with residential neighborhoods, green spaces, and economic zones—creating physical and functional disconnections across the urban landscape.

The map highlights the fragmented condition of the Besòs area, where highways, rail lines, and service corridors act as barriers between neighborhoods. These spatial discontinuities contribute to social isolation and hinder ecological and urban connectivity.

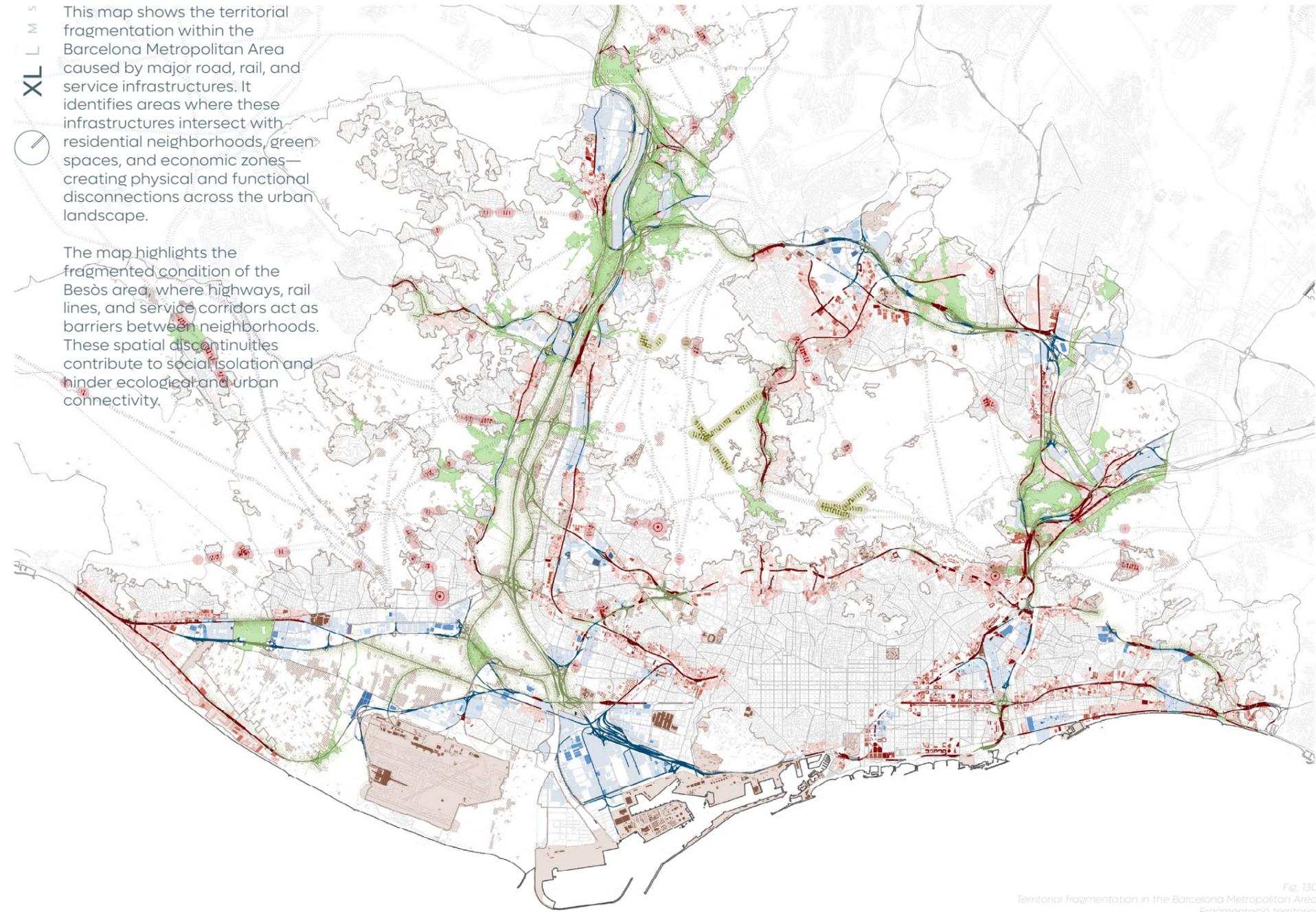
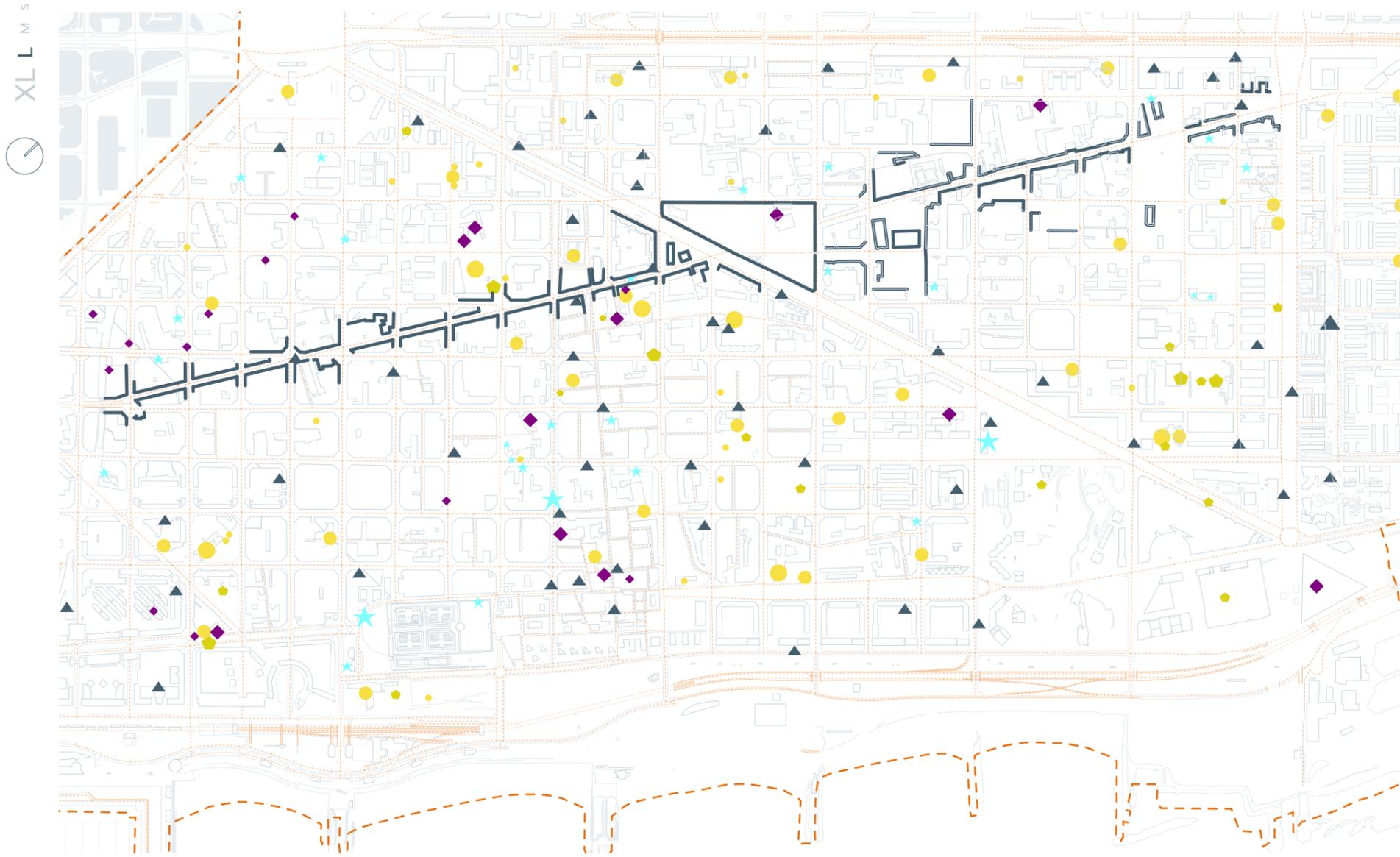


Fig. 130  
Territorial fragmentation in the Barcelona Metropolitan Area  
Fragmentació territorial  
(Àrea Metropolitana de Barcelona, 2023)

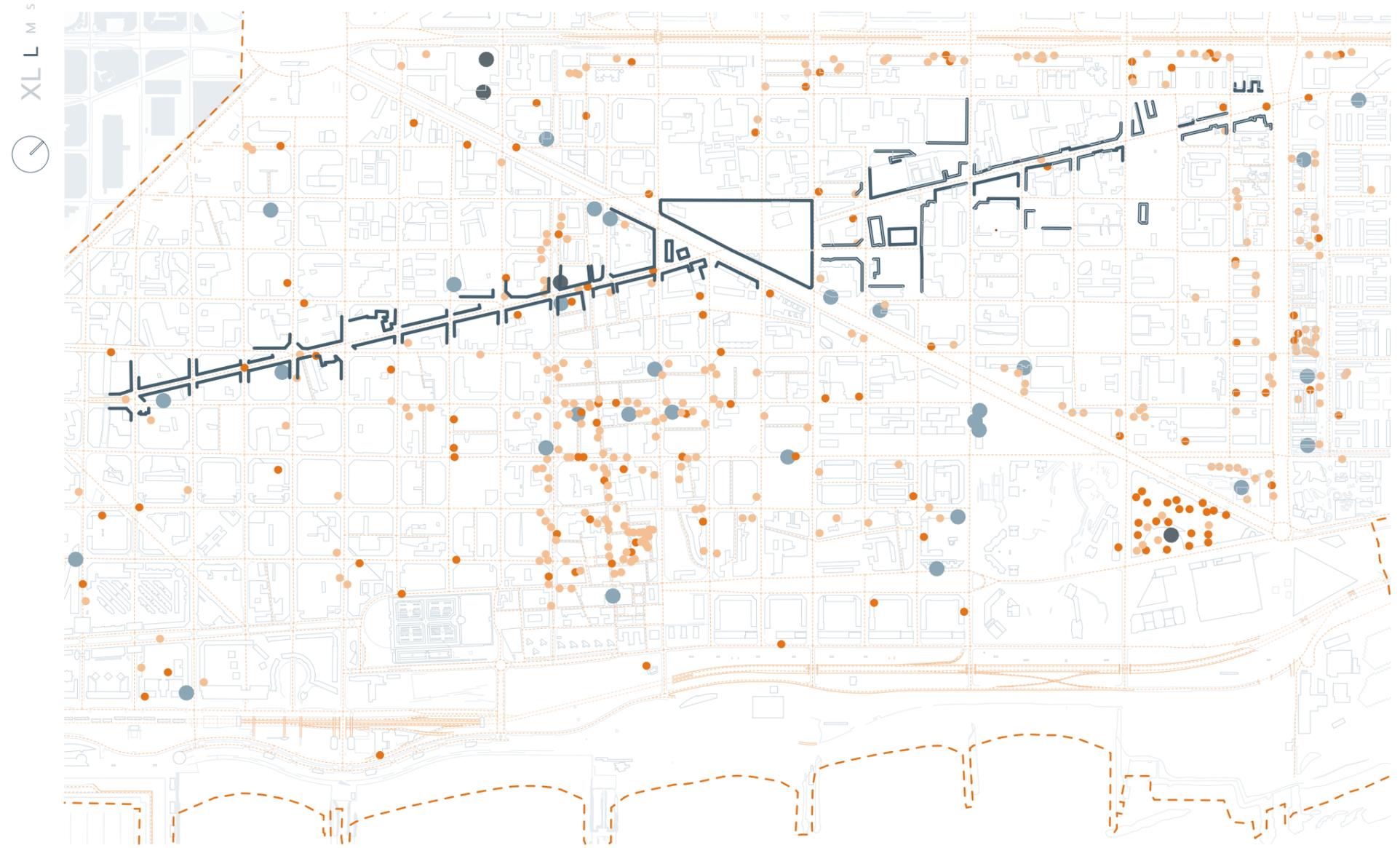
A: equipment



- education
- ◆ social activities
- sport
- ★ civic centers
- ▲ medical centers/pharmasies

Fig. 131  
Location of amenities in the area  
Created by the author, adapted from previous student project work (Deinega, 2023)

A: commerce



- hypermarkets
- supermarkets
- small grocery shops
- small shops

Fig. 132  
Location of commercial activities in the area  
Created by the author, adapted from previous student project work (Deinega, 2023)



Fig. 133  
Location of cultural activities in the area  
Adapted from Map & Guide SS22 (Poblenou Urban District Association, 2022)

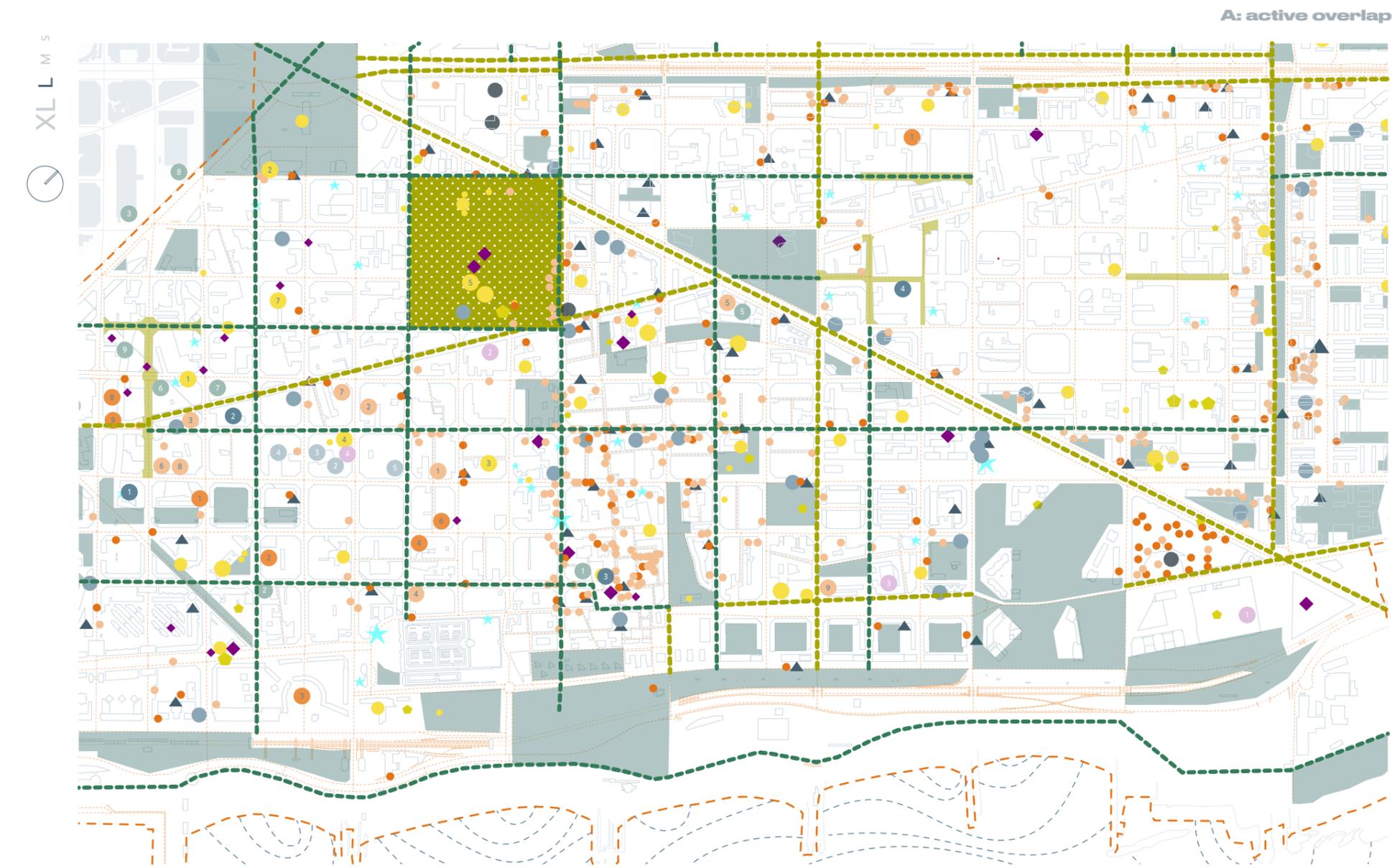


Fig. 134  
Overlap of commercial activities, green spaces, amenities and cultural spots  
Created by the author, adapted from previous student project work (Deinega, 2023)

**A: opportunities for green space improvement**

XL  
L  
M  
S



This map identifies opportunities for improving green infrastructure and ecological connectivity across the Barcelona Metropolitan Area. It highlights key ecological corridors, degraded areas with potential for restoration, and zones where social reconnection is needed.

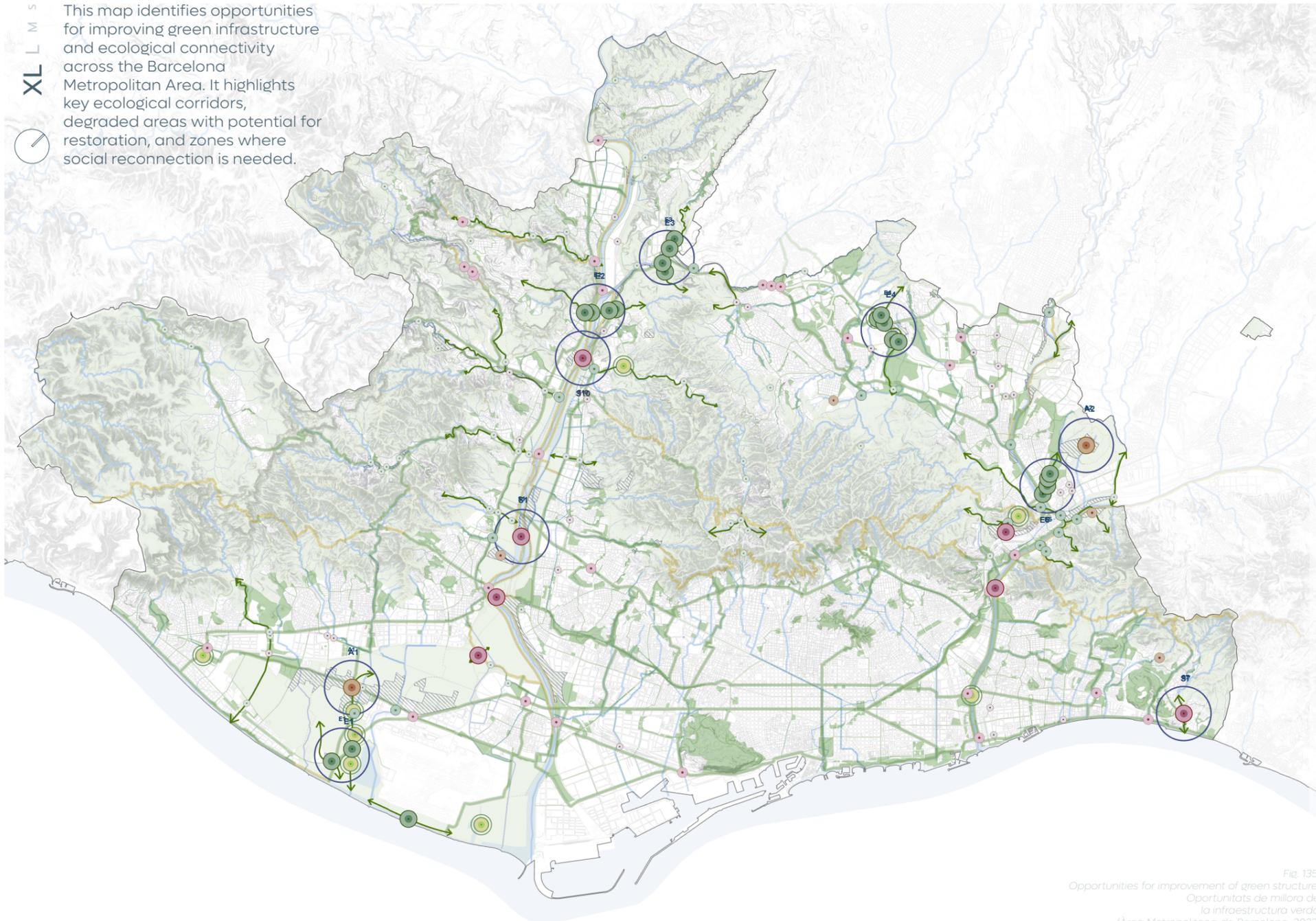


Fig. 135  
Opportunities for improvement of green structure.  
Oportunitats de millora de  
la infraestructura verda  
(Àrea Metropolitana de Barcelona, 2023)

The Synthetic Vulnerability Index (Índice Sintético de Vulnerabilidad) for Barcelona, as detailed by the Instituto Geográfico Nacional (IGN), is a composite measure designed to assess the relative vulnerability of urban areas based on key socioeconomic indicators. This index aids in identifying neighborhoods that may require targeted social policies or urban regeneration efforts.

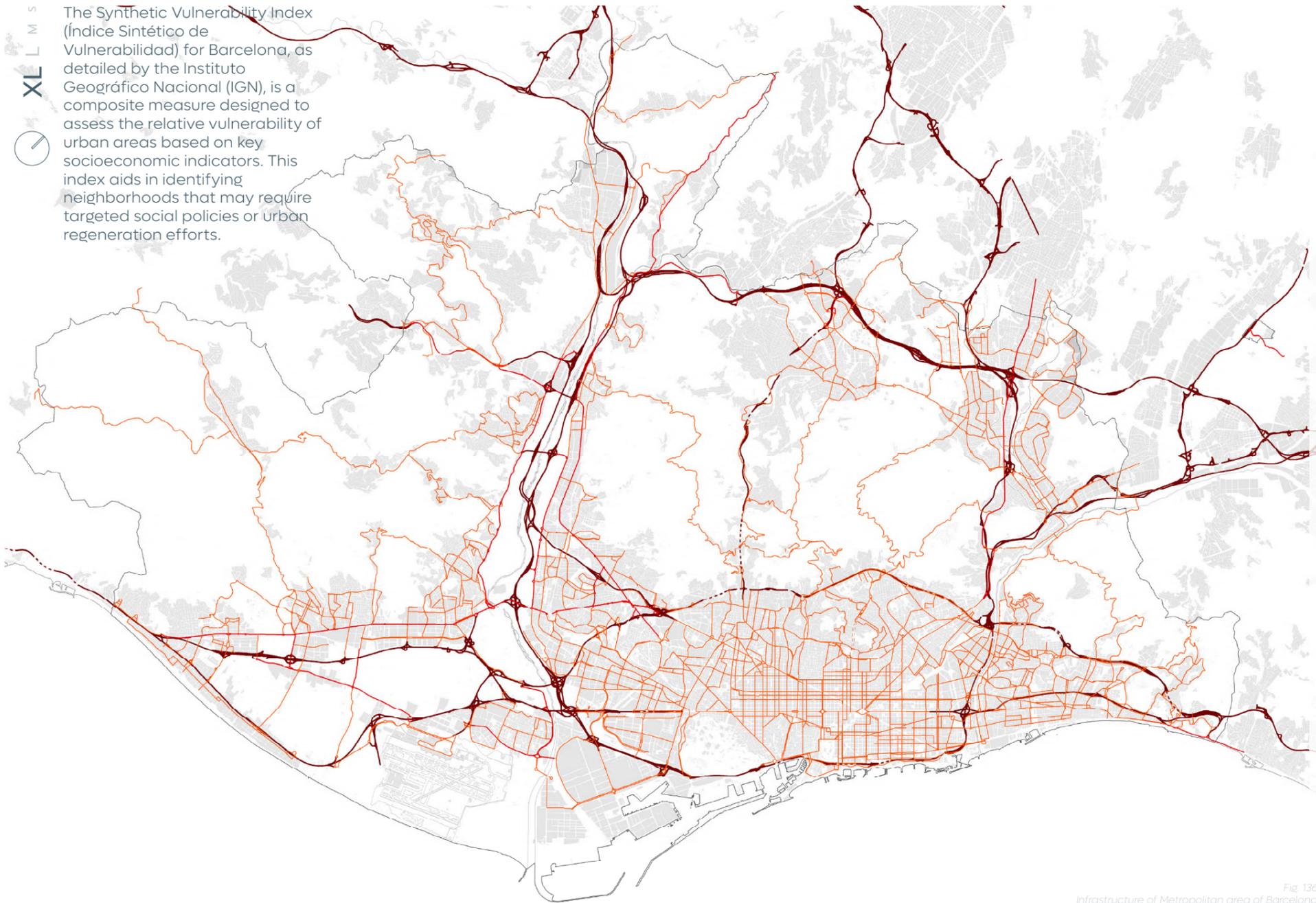


Fig. 136  
Infrastructure of Metropolitan area of Barcelona  
Infraestructures de mobilitat i transport  
(Àrea Metropolitana de Barcelona, 2023)

**A: mobility infrastructure**

This map visualizes the level of accessibility to public transport across the metropolitan area, based on proximity and service frequency.



Central Barcelona and parts of Sants-Montjuïc show dense, high-performing coverage, while outer neighborhoods and peripheral municipalities such as San Martí and San Adrià de Besòs experience lower accessibility.

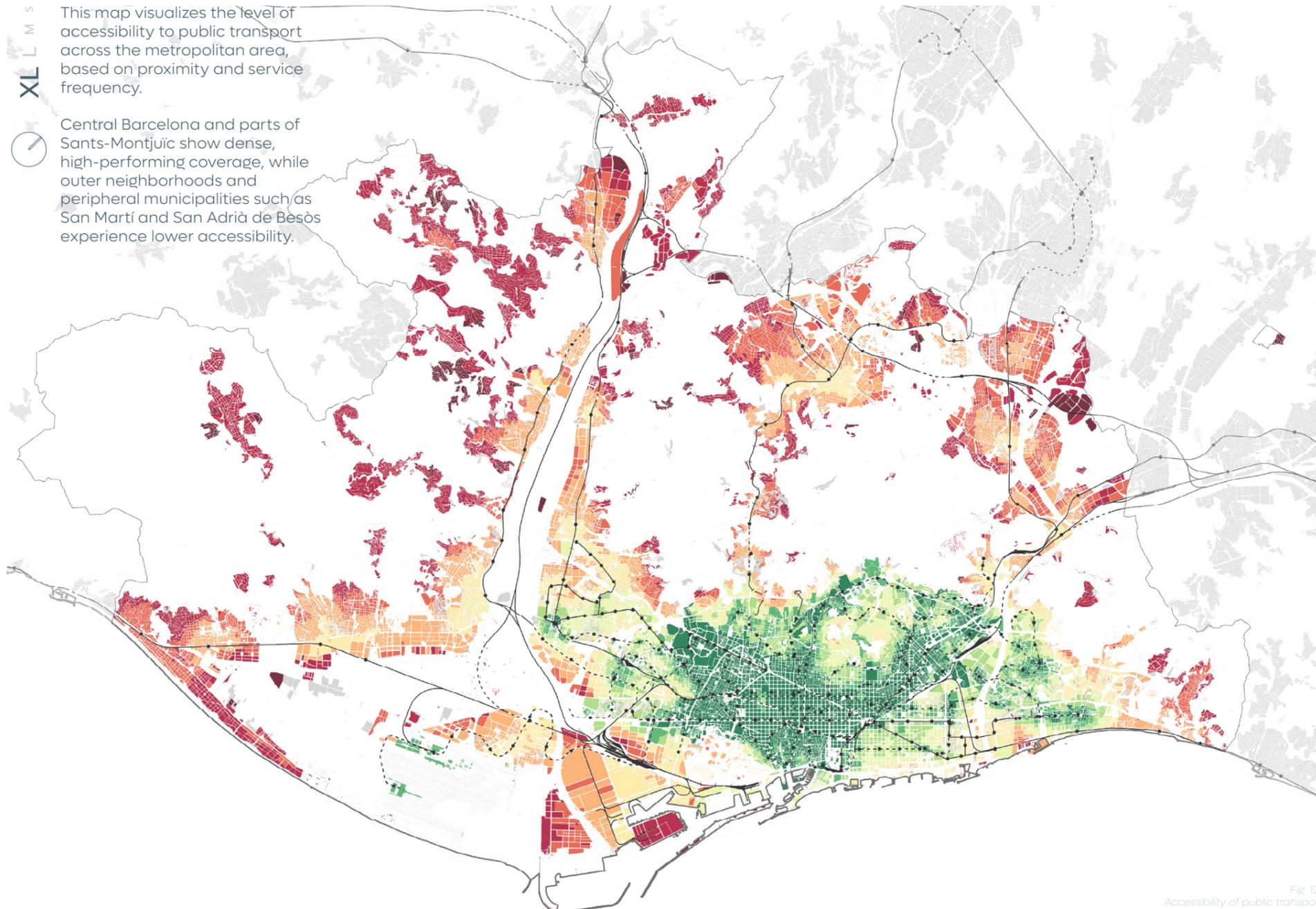


Fig. 137  
Accessibility of public transport  
Accessibilitat en transport públic  
(Àrea Metropolitana de Barcelona, 2023)

**A: public transport accessibility**

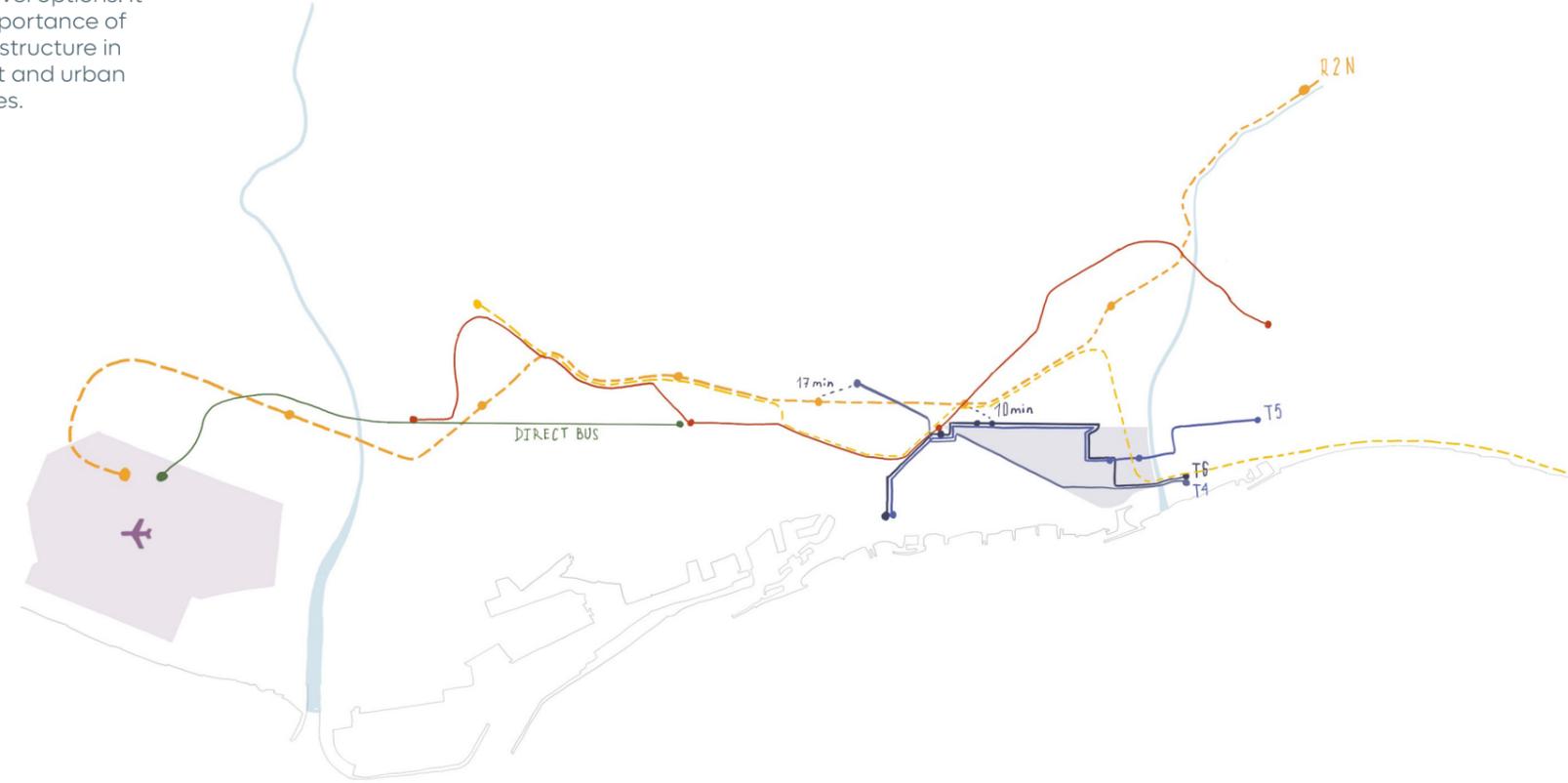
**A: district analysis: mobility**

XL  
L  
M  
S

This diagram presents an overview of key transportation connections linking the project area to the broader metropolitan and regional context.



This integrated mobility network positions the site as a well-connected node, with the potential to support increased density, regional economic links, and sustainable travel options. It underscores the importance of leveraging this infrastructure in future development and urban integration strategies.

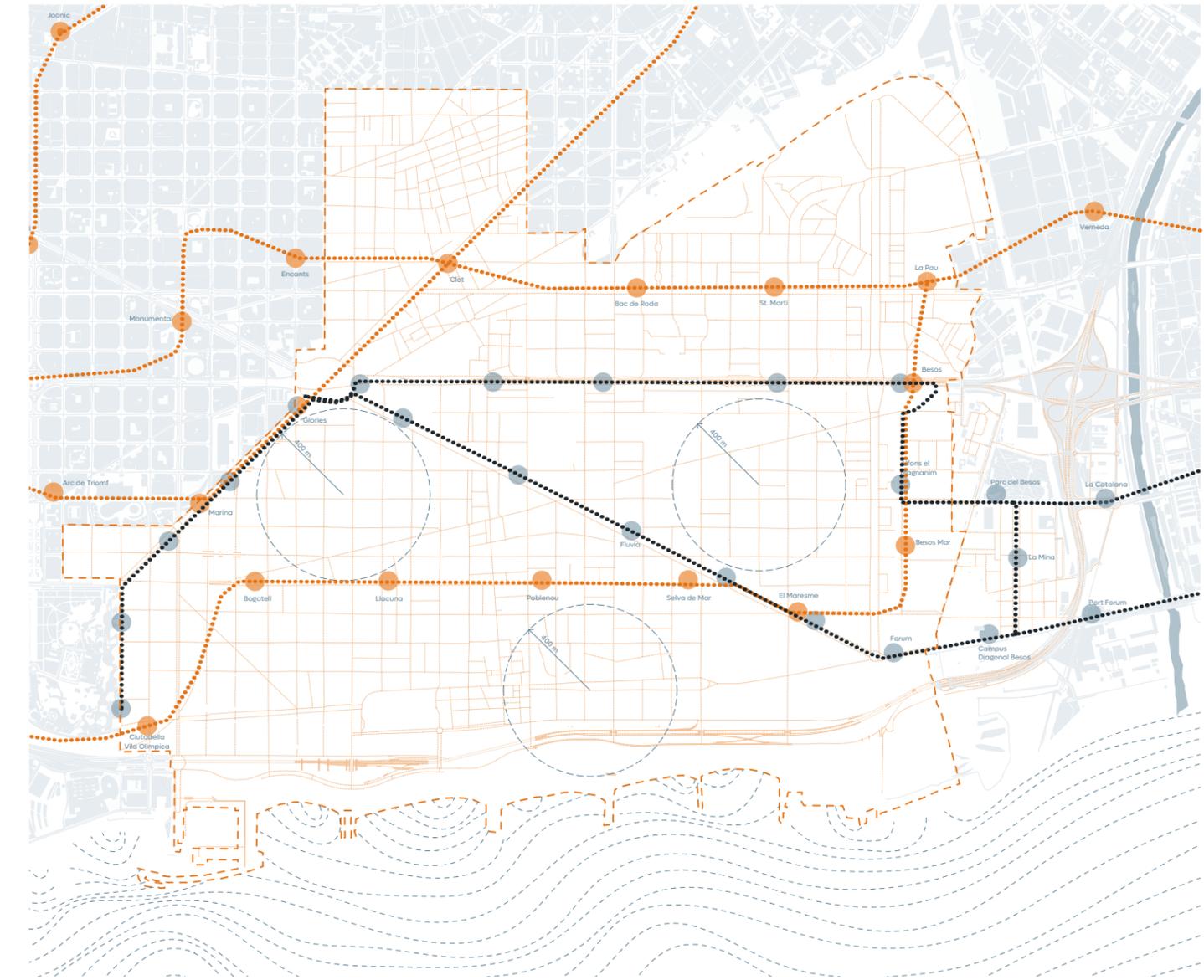


- bus line
- train lines
- metro lines
- tram lines
- project area
- airport

Fig. 138  
Mobility scheme: Connections related to the area of the project.  
Created by author.

XL  
L  
M  
S

This map visualizes the existing public transportation such as metro and tram networks, as well as their accessibility.



- Legend
- Sant Martí district
  - metro lines
  - tram lines
  - tram stops
  - metro stops

Fig. 139  
Mobility map of Sant Martí.  
Created by author.

XL  
L  
M  
S  
This map illustrates the public transport network serving the project area, highlighting its strategic location at the intersection of multiple transit systems.

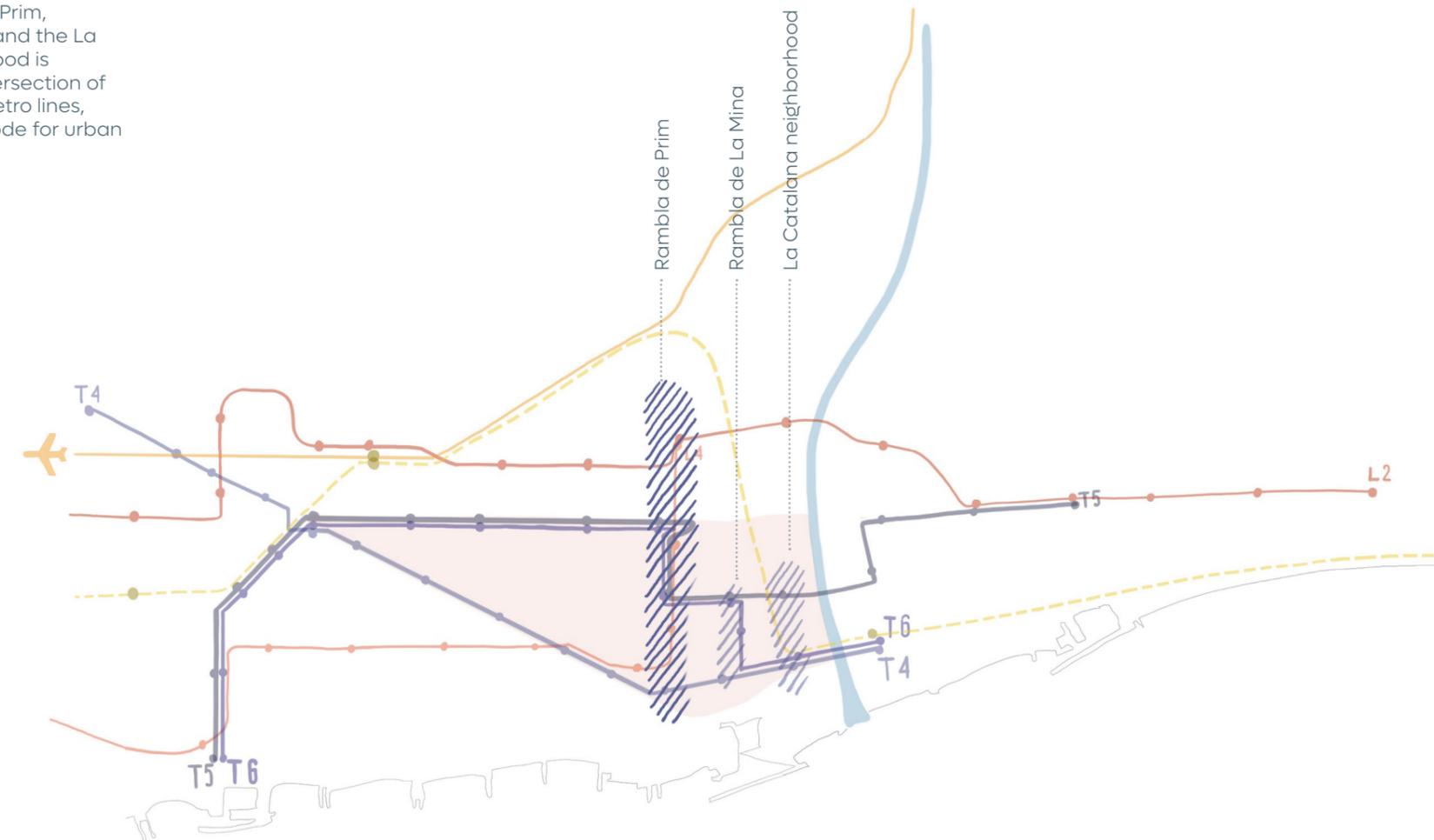


Legend

- - - train lines
- metro lines
- tram lines
- project area

Fig. 140.  
Mobility scheme of Sant Martí in relation to Sant Adrià de Besòs.  
Created by author.

XL  
L  
M  
S  
This diagram identifies key centrality opportunities within the project area, using mobility infrastructure as a structural driver. Highlighted in cross-hatching, the central zone between Rambla de Prim, Rambla de La Mina, and the La Catalana neighborhood is positioned at the intersection of multiple tram and metro lines, making it a critical node for urban transformation.



Legend

- - - train lines
- metro lines
- tram lines
- /// centrality opportunities

Fig. 141.  
Scheme of centrality opportunities in relation to mobility.  
Created by author.



This map visualizes the density of sport-related movement—such as running, cycling and walking—across the metropolitan area of Barcelona, based on data from Strava. The darker and thicker the line, the more frequently a route is used by individuals for exercise and recreation.

The central districts, especially along the seafront, major boulevards, and mountain edges, show the highest concentration of activity, highlighting their strong integration of natural landscapes, urban infrastructure, and accessibility. In contrast, areas like Sant Adrià de Besòs and the eastern edge of Sant Martí reveal noticeably lower usage, reflecting disconnected public space networks, infrastructure barriers, and a lack of inviting routes for active mobility.

This map supports the need to activate underused zones, particularly along the Besòs River and between La Mina and La Catalana, by enhancing green corridors, continuous bike paths, and recreational infrastructure that support health, movement, and urban vitality.



Legend

intensity of sport activities registered with Strava

Fig. 142. Innovation and economy of Sant Martí. Retrieved from Strava, 2025.

# hypothesis of the strategies for each zone

## North 22@

→ Focus entirely on tech and innovation, attracting global companies with state-of-the-art office spaces and shared

→ Maintain office dominance but add some student housing for nearby universities

→ Transition some free spaces into cultural venues (museums, galleries, event spaces)

→ Create mixed-use program with emphasis on social housing & education and culture & maker spaces

## El Besòs i el Maresme & La Mina

### Rehabilitation

→ Transform into an arts and crafts district, offering live-work units for artists and makers

→ Densify through new apartment complexes, emphasizing affordable housing

→ Develop boutique hotels and cultural spaces to attract visitors

→ Rehabilitation of public spaces and living conditions

### Demolition

→ Rebuild as a nature-focused residential area with pedestrian-friendly layouts

→ Rebuild entirely, prioritizing affordable housing, schools, and healthcare facilities

→ Rebuild with upscale housing and shopping centers to attract affluent residents

→ Rebuild as a residential hub for tech workers, incorporating affordable housing

## La Catalana

→ Create eco-friendly, mid-rise developments with green roofs and urban farming spaces

→ Create a dense, mixed-use neighborhood with parks connecting to the Besòs River

→ Develop a compact, high-rise residential and commercial area

→ Create family-friendly housing with equipment

→ Focus on tourism-related amenities, such as riverfront cafes and markets

→ Create a waterfront luxury district, hotels, and high-end retail

→ Develop cultural marketplaces and performance spaces to host city-wide events

# scenario one

**La Catalana:**  
mixed use area + river front commerce

**El Besòs i el Maresme & La Mina:**  
rebuild entirely, prioritizing affordable housing, schools & healthcare facilities with density

**Noth 22@**  
mixed use program with emphasis on social housing & education and culture & maker spaces

## Social Integration

→ Inclusivity and Equity:

→ Community Engagement:

→ Social Infrastructure:

## Economic Criteria

→ Profitability:

→ Local Economic Impact:

## Spatial Connectivity

→ Urban Connectivity:

→ Mixed-Use Development:

→ Density Optimization:



## scenario two

**La Catalana:**  
middle class housing + work

**El Besòs i el Maresme & La Mina:**  
rehabilitation of public spaces and living conditions

**Noth 22@**  
focus entirely on tech and innovation, attracting global companies with state-of-the-art office spaces

### Social Integration

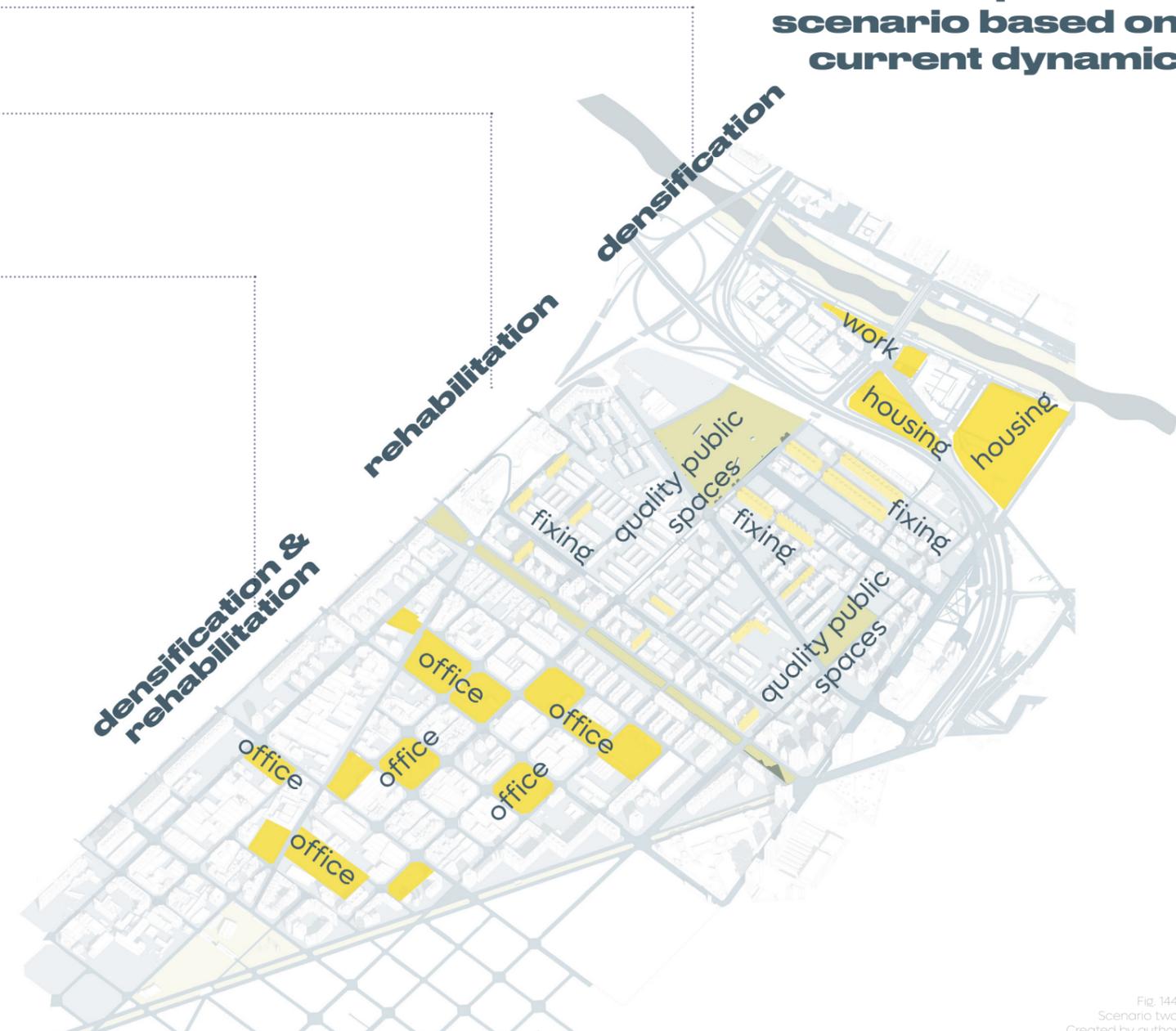
- Inclusivity and Equity:
- Community Engagement:
- Social Infrastructure:

### Economic Criteria

- Profitability:
- Local Economic Impact:

### Spatial Connectivity

- Urban Connectivity:
- Mixed-Use Development:
- Density Optimization:



A: scenarios

\* less preferable but possible scenario based on current dynamic

Fig. 144. Scenario two. Created by author.

## scenario three

**La Catalana:**  
middle class housing + infrastructure for local tourism

**El Besòs i el Maresme & La Mina:**  
rebuild with upscale housing and commerce areas to attract affluent residents

**Noth 22@**  
maintain office dominance but add some social housing, improve maker spaces

### Social Integration

- Inclusivity and Equity:
- Community Engagement:
- Social Infrastructure:

### Economic Criteria

- Profitability:
- Local Economic Impact:

### Spatial Connectivity

- Urban Connectivity:
- Mixed-Use Development:
- Density Optimization:



A: scenarios

Fig. 145. Scenario three. Created by author.

## scenario four

**La Catalana:**  
development of quality green areas in relation to existing housing + commercial activities with equipments for eco tourism

**El Besòs i el Maresme & La Mina:**  
diverse housing + equipment + commerce

**Noth 22@**  
mixed use program with emphasis on social housing & education and culture & maker spaces

### Social Integration

- Inclusivity and Equity:
- Community Engagement:
- Social Infrastructure:

### Economic Criteria

- Profitability:
- Local Economic Impact:

### Spatial Connectivity

- Urban Connectivity:
- Mixed-Use Development:
- Density Optimization:



Fig. 146. Scenario four. Created by author.

## scenario five

**La Catalana:**  
with the high-rise residential and commercial area

**El Besòs i el Maresme & La Mina:**  
develop boutique hotels and cultural spaces + tech offices

**Noth 22@**  
mixed use program with emphasis on social housing & education and culture & maker spaces

### Social Integration

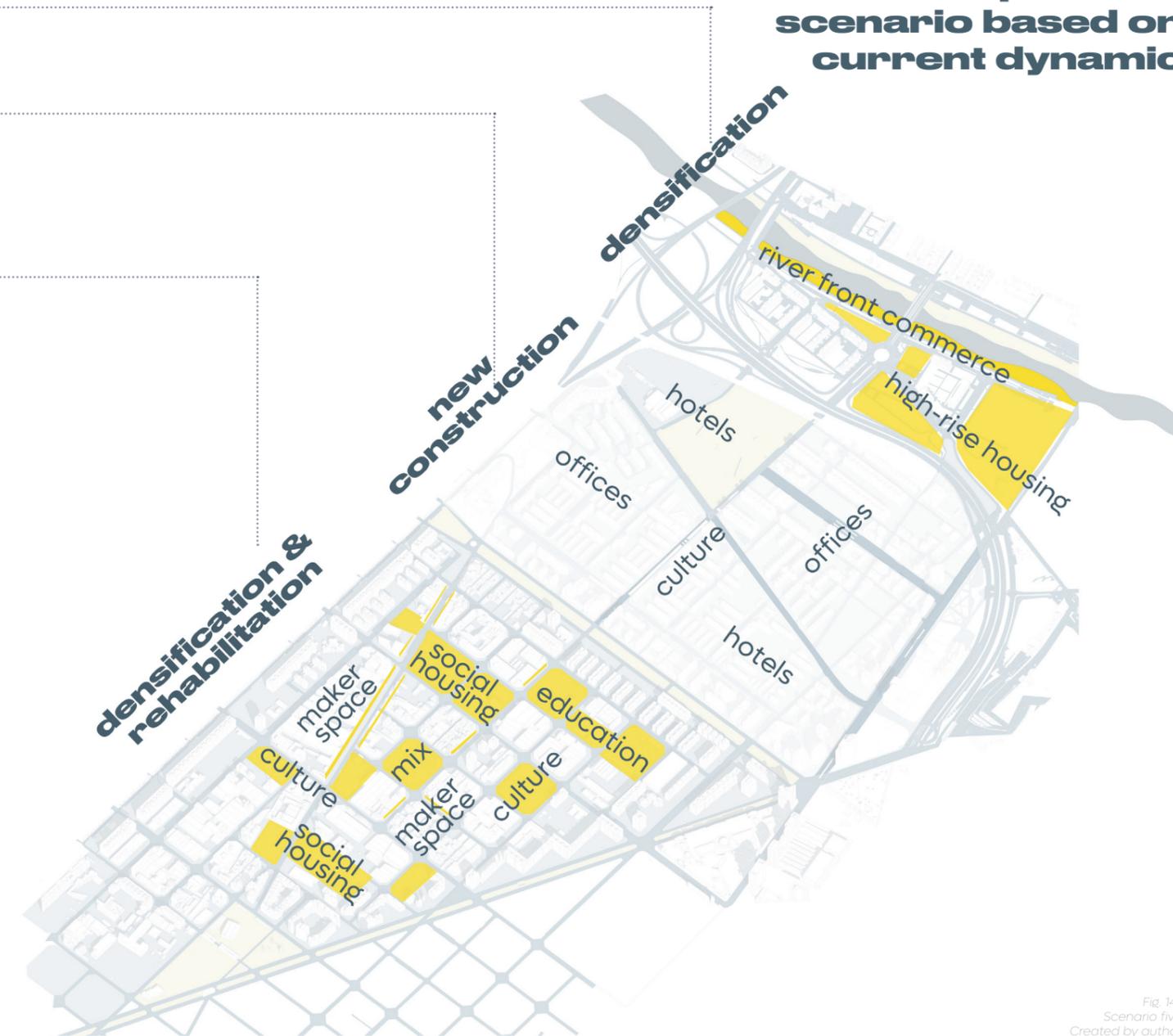
- Inclusivity and Equity:
- Community Engagement:
- Social Infrastructure:

### Economic Criteria

- Profitability:
- Local Economic Impact:

### Spatial Connectivity

- Urban Connectivity:
- Mixed-Use Development:
- Density Optimization:



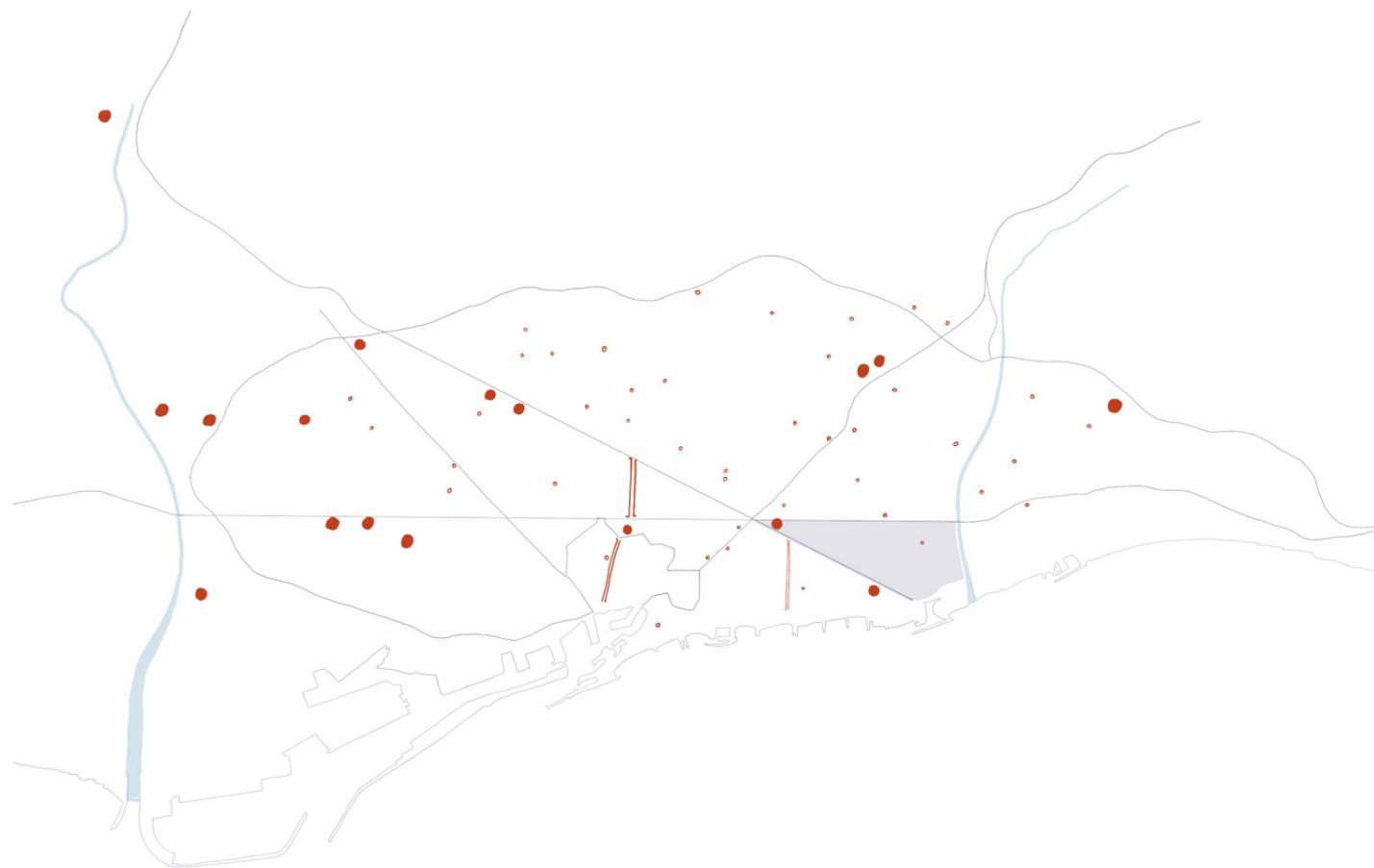
\* not preferable but possible scenario based on current dynamic

Fig. 147. Scenario five. Created by author.

This map presents the spatial distribution of large-scale commercial nodes (red dots) and linear commercial axes (red lines) across the metropolitan context, with the project area shaded in grey.



The data reveals a clear concentration of retail activity along major corridors and intersections—mostly outside the project area—leaving zones like La Mina, La Catalana, and adjacent areas under-served in terms of formal commercial infrastructure.



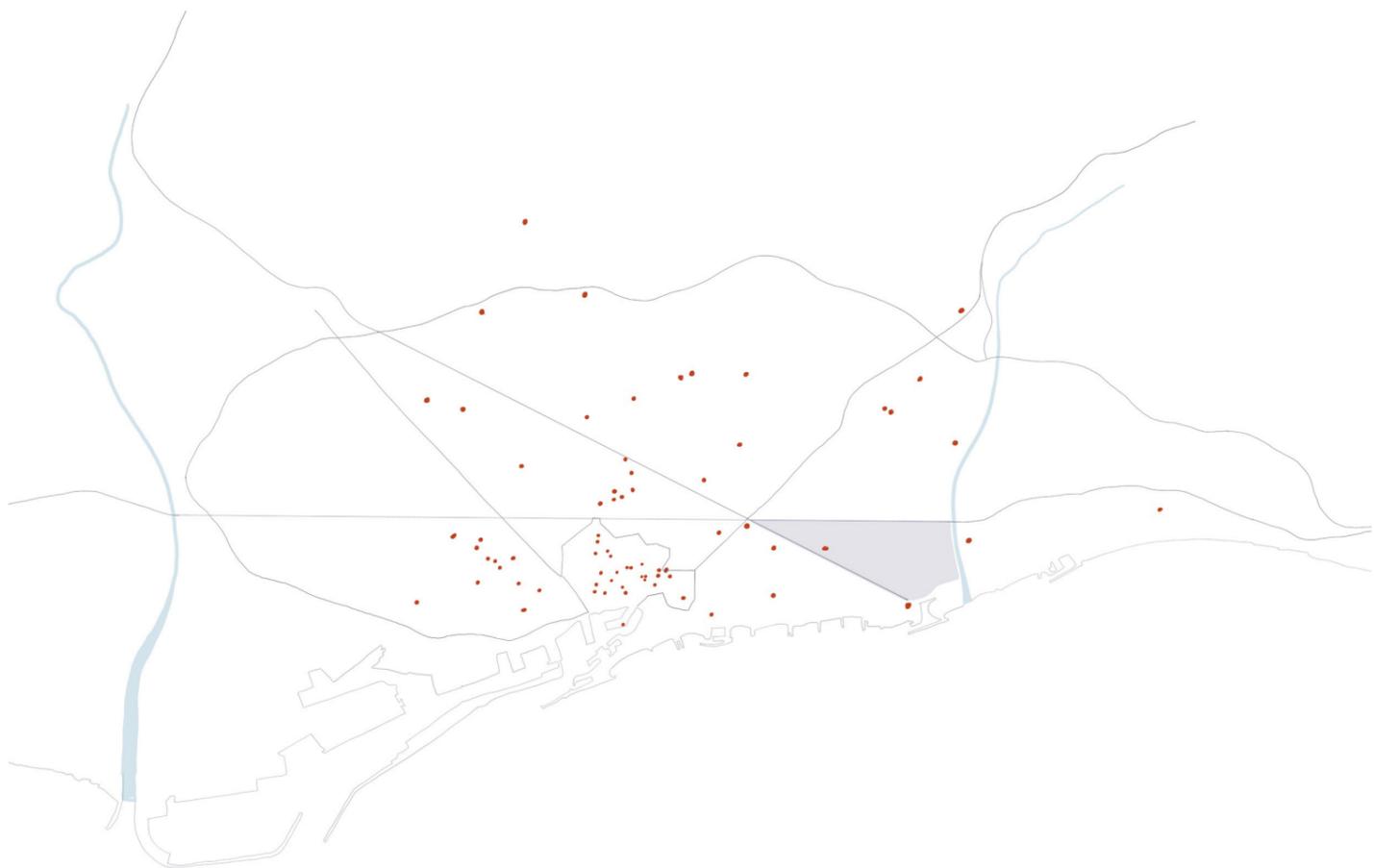
Legend

- large commerce
- commercial axes
- project area

**A: commerce locations**

Fig. 148  
Location of commercial spaces, 2025  
Created by author

This map shows the geographic distribution of cultural institutions and venues (red dots) in relation to the project area (shaded in grey). The visual data reveals a dense cluster of cultural spaces in central Barcelona, with a gradual decline in both number and density toward the northeastern periphery, including Sant Adrià de Besòs and La Mina.



Legend

- culture
- project area

**A: culture locations**

Fig. 149  
Location of culture spaces, 2025  
Created by author



A: demolition plan



- Legend
- need of referbeshment
  - 3rd stage of demolition
  - 2nd stage of demolition
  - 1st stage of demolition
  - new construction

Fig. 150.  
Demolition plan.  
Created by author.

**A: calculations of current status**

N	GF Area m2	Number of floors	Total FA m2	Living Floor Area m2	Number of flats	Number of inhabitant	Proposal status	m2/person
1	1897	11	20872	18974	240	792	Demolishon	24
2	1863	11	20495	18632	240	792	Demolishon	24
3	938	6	5629	4691	60	198	Demolishon	22
4	428	6	2570	2142	30	99	Demolishon	22
5	1389	6	8336	6947	90	297	Demolishon	23
6	427	6	2559	2133	30	99	Demolishon	22
7	449	6	2694	2245	30	99	Demolishon	23
8	428	6	2570	2141	30	99	Demolishon	22
9	385	1	385				Demolishon	
10	1212	6	7274	6062	80	264	Demolishon	23
11	614	6	3683	3069	40	132	Demolishon	23
12	471	6	2824	2353	30	99	Demolishon	24
13	437	6	2619	2183	30	99	Demolishon	22
14	1507	6	9042	7535	100	330	Demolishon	23
15	905	6	5427	4523	60	198	Demolishon	23
16	962	5	4810				Demolishon	
17	1052	3	3156				Demolishon	
18	714	3	2141				Demolishon	
19	465	6	2793	2327	30	99	Demolishon	24
20	1277	14	17675	16598	80	264	Demolishon	63
21	991	4	3984	2973	32	106	Demolishon	28
22	399	5	1984	1595	20	79	Demolishon	20
23	678	6	4070	3392	30	99	Demolishon	34
24	1080	3	3271	2181	36	119	Demolishon	18
25	616	6	3684	3079	48	158	Demolishon	19
37	1879	17	31937	30058	368	1214	Demolishon	25
38	1775	9	15976				Demolishon	
39	725	6	4351	3626	30	99	Demolishon	37
41	655	7	4582	3928	42	139	Demolishon	28
42	280	6	1683	1402	20	66	Demolishon	21
43	342	6	2049	1708	20	66	Demolishon	26
44	525	6	3152	2627	50	165	Demolishon	16
45	388	6	2330	1942	30	99	Demolishon	20
46	392	8	3137	2744	28	92	Demolishon	30
47	465	7	3258	2792	24	79	Demolishon	35
48	205	6	1228	1023	15	50	Demolishon	21
49	1023	5	5114	4092	24	79	Demolishon	52
50	434	7	3041	2606	36	119	Demolishon	22
51	378	7	2646	2268	36	119	Demolishon	19
52	310	5	1549	1239	22	73	Demolishon	17
53	401	5	2005	1604	20	66	Demolishon	24
54	5131	1	5131				Demolishon	
55	4745	13	61681	56937	240	792	Demolishon	72
56	4786	13	62213	57427	480	1584	Demolishon	36
57	1847	8	14778	12931	168	554	Demolishon	23
58	381	5	1903	1523	24	79	Demolishon	19
59	395	5	1973	1579	12	40	Demolishon	40
60	789	6	4734	3945	24	79	Demolishon	50
61	2573	2	5146				Demolishon	
62	498	2	996				Demolishon	
63	885	4	3539	2654	36	119	Demolishon	22
64	2305	2	4611	6903	59	195	Demolishon	35
65	1726	5	8629				Demolishon	
66	499	2	998				Demolishon	
67	1979	11	21774	19795	240	792	Demolishon	25
68	794	2	1588				Demolishon	
69	351	2	702				Demolishon	
1.1	1470	12	17640	16170	110	293	Demolishon	55
1.2	1485	12	17620	16335	110	327	Demolishon	50
1.3	1474	12	17688	16214	132	333	Demolishon	49
1.4	1472	12	17664	16192	132	367	Demolishon	44
1.5	1428	12	17136	15708	132	378	Demolishon	42
1.6	1030	12	12360	11330	132	359	Demolishon	32
1.7	928	2	1856				Demolishon	
1.8	943	2	1886				Demolishon	
1.9	451	4	1804				Demolishon	
1.10	916	4	3664				Demolishon	
1.11	524	2	1048				Demolishon	
1.12	553	12	6656	6083	220	405	Demolishon	15
1.13	1458	12	17496	16038	440	687	Demolishon	23
1.14	1266	2	2532				Demolishon	
1.15	253	12	3036	2783	88	184	Demolishon	15
1.16	250	12	3000	2750	88	184	Demolishon	15
1.17	2374	7	16618	14244	192	617	Demolishon	23
1.18	2327	7	16289	13962	192	517	Demolishon	27
1.19	1058	12	12696	11638	352	555	Demolishon	21
1.20	279	12	3348	3069	88	135	Demolishon	23
1.21	402	2	804				Demolishon	
1.22	276	12	3312	3036	88	135	Demolishon	22
1.23	407	2	814				Demolishon	
1.24	262	12	3144	2882	88	135	Demolishon	21
1.25	702	12	8424	7722	220	323	Demolishon	24
1.26	1147	4	4588				Demolishon	
1.27	710	6	4260				Demolishon	
1.28	876	2	1752				Demolishon	
1.29	903	9	8127	7224	160	250	Demolishon	29
1.30	769	4	3076				Demolishon	

Table 11  
Created by author

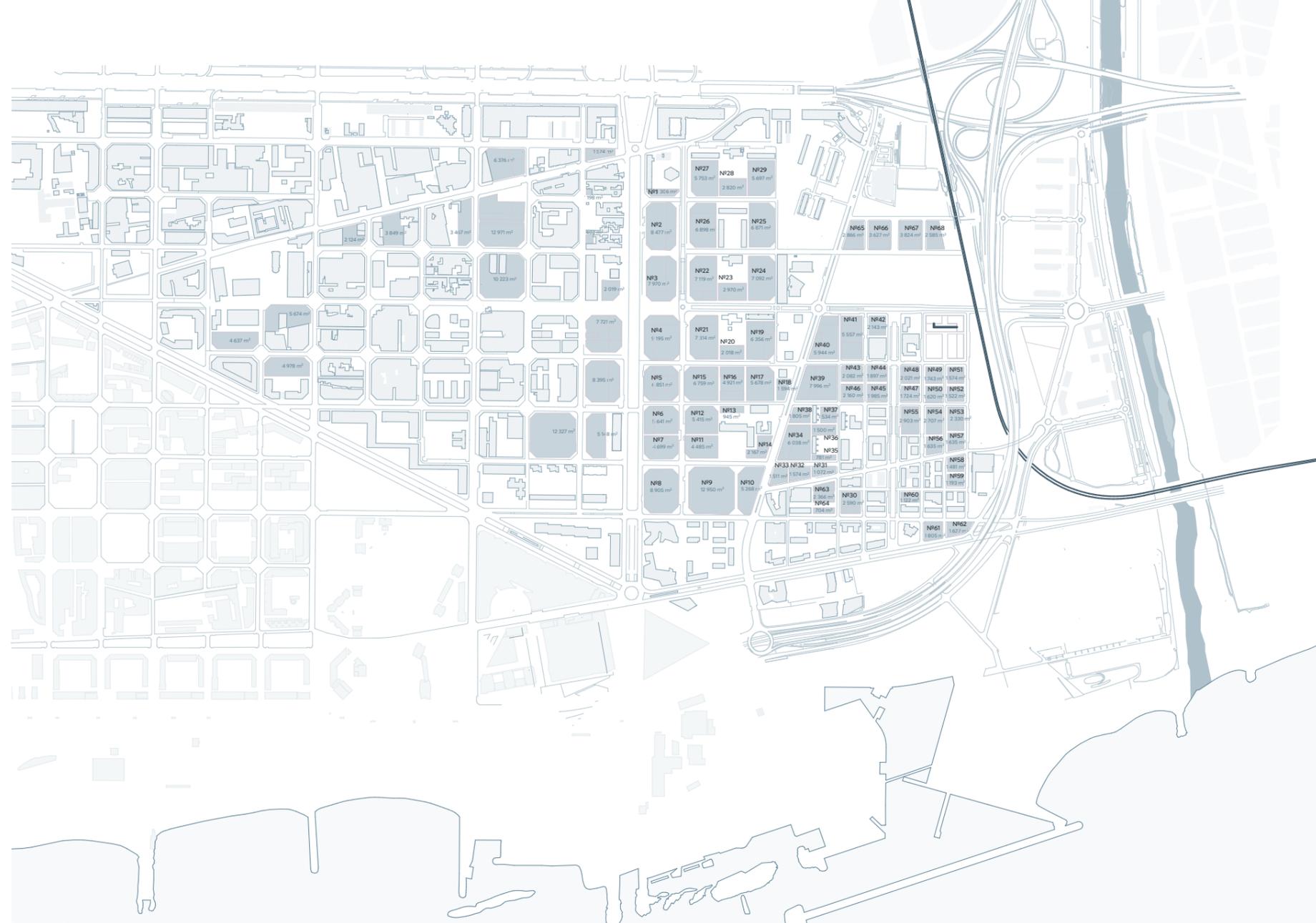
**A: calculations of current status**

N	GF Area m2	Number of floors	Total FA m2	Living Floor Area m2	Number of flats	Number of inhabitant	Proposal status	m2/person
1.31	902	9	8118	7216	160	248	Demolishon	29
1.32	874	6	5244	5244	72	217	Demolishon	24
1.33	876	6	5256	5256	72	230	Demolishon	23
1.34	869	6	5214	5214	72	217	Demolishon	24
1.35	488	2	976	976	16	36	Demolishon	27
1.36	485	2	970	970	16	36	Demolishon	27
1.37	487	2	974	974	16	38	Demolishon	26
1.38	873	6	5238	5238	72	223	Demolishon	24
1.39	860	6	5160	5160	72	230	Demolishon	22
1.40	585	2	1170	1170	16	62	Demolishon	19
1.41	597	2	1194	1194	16	63	Demolishon	19
1.43	616	2	1232	1232	16	49	Demolishon	25
1.44	613	2	1226	1226	16	47	Demolishon	26
1.45	908	6	5448	5448	75	217	Demolishon	25
1.46	897	6	5382	5382	75	217	Demolishon	25
1.47	916	6	5496	5496	75	147	Demolishon	37
1.48	583	2	1166	583	16	50	Demolishon	12
1.49	588	2	1176	588	16	30	Demolishon	20
1.50	595	2	1190	595	16	40	Demolishon	15
1.51	594	2	1188	594	16	58	Demolishon	10
1.52	591	2	1182	591	16	49	Demolishon	12
1.53	565	6	3390	2825	100	151	Demolishon	19
1.54	918	4	3672				Demolishon	
1.55	562	6	3372	2810	100	61	Demolishon	46
1.56	200	1	200				Demolishon	
1.57	207	1	207				Demolishon	
1.58	667	6	4002	4002	72	234	Demolishon	17
1.59	662	6	3972	3972	72	300	Demolishon	13
1.60	660	6	3960	3960	72	365	Demolishon	11
1.61	549	2	1098	1098	16	35	Demolishon	31
1.62	554	2	1108	1108	16	68	Demolishon	16
1.63	546	2	1092	1092	16	63	Demolishon	17
1.64	658	6	3948	3948	72	387	Demolishon	10
1.65	663	6	3978	3978	72	402	Demolishon	10
1.66	654	6	3924	3924	72	370	Demolishon	11
1.67	656	6	3936	3936	72	205	Demolishon	16
1.68	785	4	3140	2355	70	176	Demolishon	13
1.69	893	6	5358	4465	100	261	Demolishon	17
1.70	206	2	412				Demolishon	
1.71	207	2	414				Demolishon	
1.72	877	6	5262	5262	72	213	Demolishon	25
1.73	879	6	5274	5274	72	282	Demolishon	19
1.74	876	6	5256	5256	72	269	Demolishon	20
1.75	494	2	988	988	16	63	Demolishon	16
1.76	491	2	982	982	16	63	Demolishon	15
1.77	500	2	1000	1000	16	39	Demolishon	26
1.78	685	6	4110	4110	72	135	Demolishon	30
1.79	701	6	4206	4206	72	248	Demolishon	17
1.80	695	6	4170	4170	72	304	Demolishon	14
1.81	406	9	3654	3248	40	126	Demolishon	26
1.82	398	9	3582	3184	40	126	Demolishon	25
1.83	402	9	3618	3216	40	126	Demolishon	26
1.84	563	2	1126	1126	16	58	Demolishon	19
1.85	559	2	1118	1118	16	49	Demolishon	23
1.86	553	2	1106	1106	16	42	Demolishon	26
1.87	565	2	1130	1130	16	46	Demolishon	25
1.88	644	6	3864	3220	100	230	Demolishon	14
1.89	656	6	3936	3936	72	306	Demolishon	13
1.90	664	6	3984	3984	72	255	Demolishon	16
1.91	661	6	3966	3966	72	390	Demolishon	10
1.92	440	6	2640	2640	72	132	Demolishon	20
1.93	482	6	2892	2892	72	163	Demolishon	18
1.94	402	9	3618	3216	40	126	Demolishon	26
1.95	872	8	6976	6104	64	240	Demolishon	25
1.96	640	6	3940	3200	65	240	Demolishon	13
1.97	207	2	414				Demolishon	
1.98	215	2	430				Demolishon	
1.99	656	6	3936	3936	72	239	Demolishon	16
1.100	651	6	3906	3906	72	293	Demolishon	13
1.101	652	6	3912	3912	72	281	Demolishon	14
1.102	2238	4	8952				Demolishon	
1.103	745	2	1490				Demolishon	
1.104	649	6	3884	3894	72	297	Demolishon	13
1.105	178	1	178				Demolishon	
1.106	204	2	408				Demolishon	
1.107	214	2	428				Demolishon	
1.108	600	2	1200	1200</				





**A: new construction plan**



Legend  
 new construction

Fig. 151  
 New construction plan.  
 Created by author

**A: calculations of proposal**

Building Number	Plot Area m2	Construction Coefficient	Building GFA m2	Average number of floors	FA m2
1	1306	10%	1175.4	4	4701.6
2	8389	40%	5033.4	6	30200.4
3	7954	40%	4772.4	6	28634.4
4	9195	30%	6436.5	6	38619
5	6851	30%	4795.7	6	28774.2
6	5810	20%	4648	6	27888
7	4633	20%	3706.4	6	22238.4
8	8905	30%	6233.5	6	37401
9	12778	30%	8944.6	6	53667.6
10	5268	15%	4477.8	6	26866.8
11	4485	15%	3812.25	6	22873.5
12	5575	15%	4738.75	6	28432.5
13	2061	15%	1751.85	6	10511.1
14	2222	15%	1888.7	6	11332.2
15	6759	20%	5407.2	6	32443.2
16	4921	10%	4428.9	6	26573.4
17	5678	15%	4826.3	6	28957.8
18	1594	10%	1434.6	6	8607.6
19	6356	20%	5084.8	6	30508.8
20	2018	15%	1715.3	6	10291.8
21	7314	20%	5851.2	6	35107.2
22	7119	20%	5695.2	6	34171.2
23	2970	15%	2524.5	6	15147
24	7092	20%	5673.6	6	34041.6
25	7092	20%	5673.6	6	34041.6
26	7119	20%	5695.2	6	34171.2
27	5753	20%	4602.4	6	27614.4
28	2820	15%	2397	6	14382
29	5697	20%	4557.6	6	27345.6
30	2590	15%	2201.5	6	13209
31	1072	15%	911.2	6	5467.2
32	1574	15%	1337.9	6	8027.4
33	1511	15%	1284.35	6	7706.1
34	6038	30%	4226.6	6	25359.6
35	781	15%	663.85	6	3983.1
36	1500	15%	1275	6	7650

**Note 1:** For Building Number reference see plan New Construction

**Note 2:** Calculations are produced only for the area after Rambla Prima and doesn't include calculations for some other new built buildings

Building Number	Plot Area m2	Construction Coefficient	Building GFA m2	Average number of floors	FA m2
37	1534	15%	1303.9	6	7823.4
38	1805	15%	1534.25	6	9205.5
39	7996	20%	6396.8	6	38380.8
40	5944	30%	4160.8	6	24964.8
41	5557	30%	3889.9	6	23339.4
42	2143	15%	1821.55	6	10929.3
43	2082	15%	1769.7	6	10618.2
44	1897	15%	1612.45	6	9674.7
45	1985	15%	1687.25	6	10123.5
46	2160	15%	1836	6	11016
47	1724	15%	1465.4	6	8792.4
48	2021	15%	1717.85	6	10307.1
49	1743	15%	1481.55	6	8889.3
50	1620	15%	1377	6	8262
51	1574	15%	1337.9	6	8027.4
52	1522	15%	1293.7	6	7762.2
53	2330	20%	1864	6	11184
54	2707	20%	2165.6	6	12993.6
55	2903	20%	2322.4	6	13934.4
56	1635	15%	1389.75	6	8338.5
57	1635	15%	1389.75	6	8338.5
58	1481	15%	1258.85	6	7553.1
59	1193	15%	1014.05	6	6084.3
60	1280	15%	1088	6	6528
61	1805	20%	1444	6	8664
62	1627	30%	1138.9	6	6833.4
63	2366	20%	1892.8	6	11356.8
64	704	10%	633.6	6	3801.6
65	2886	20%	2308.8	6	13852.8
66	3627	20%	2901.6	6	17409.6
67	3824	20%	3059.2	6	18355.2
68	4318	20%	3454.4	6	20726.4
			<b>Total GFA</b>		<b>Total FA</b>
	260428		<b>203895</b>		<b>1221017.7</b>

**Note 3:**  
**GFA:** Ground Floor Area  
**FA:** Total Floor Area of the building  
**Total GFA:** Total Ground Floor Area of the area  
**Total FA:** Total Floor Area of the buildings of the area

Table 3  
 Created by author

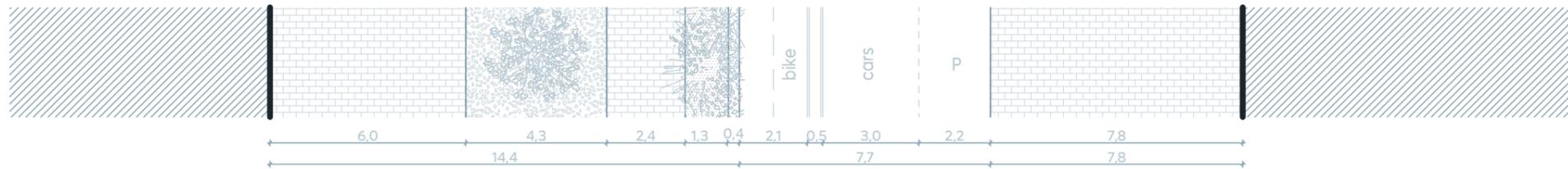


Fig. 152  
Existing section of Carrer Pere IV  
Created by author

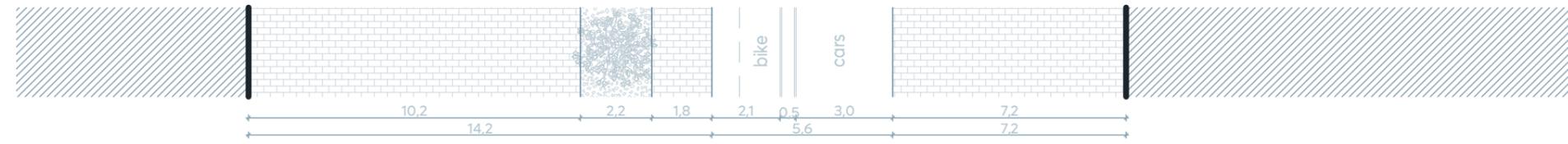


Fig. 153  
Existing section of Carrer Pere IV  
Created by author

## Personal reflection

Working on my thesis, has been one of the most formative experiences of my academic journey. It not only allowed me to deepen my understanding of urban complexity but also challenged my approach to design and representation at every scale.

Barcelona itself, a city I know well, provided a rich context. My understanding of its social and historical fabric shaped many of the choices I made, even if political mechanisms were not my central focus. The city's spatial inequalities and fragmented neighborhoods directly informed my approach to connectivity, open space, and housing typologies.

One of the most significant learning moments was understanding how to transition effectively between different design scales—from the metropolitan level to architectural interventions. This was not just a technical skill but also a conceptual shift: I had to learn to frame problems differently at each scale and use diagrams to communicate ideas without overwhelming detail. For someone used to drawing with precision and control, stepping back to think in systems and abstractions was a challenge — and a breakthrough. It taught me the value of clarity over perfection, especially in the early stages of design.

Through this thesis, my understanding of urban design evolved dramatically. I now see it less as a matter of producing solutions and more as a process of negotiating competing forces — social, spatial, political, and economic. There is no singular or “correct” outcome; rather, good urban design mediates between complexity and clarity. The

project made me more attuned to this balance—particularly when facing the controversial decision to propose demolition in socially sensitive areas. Initially, I was hesitant to propose demolishing large-scale housing blocks, especially given my awareness of the gentrification risks such interventions often carry. However, I came to understand that, if done carefully and critically, such an intervention could offer a new model for socially conscious gentrification. By doubling the density and redesigning the urban grid while ensuring that existing residents can remain in place, I proposed a more inclusive form of urban transformation — one that actively addresses segregation and urban inequality rather than simply displacing it.

Although I didn't experience radical shifts in approach during the process, the project's scope pushed me to adapt constantly. The most difficult part was navigating the mid-scale stage — where regional analysis meets local design. It was precisely this ambiguity that taught me to embrace uncertainty and build structure through iteration and synthesis.

If I were to start again, I would begin the design development earlier to leave more room for iteration and detail. Yet, the process — even in its ambiguity— taught me how to construct a coherent proposal from a web of analysis, intention, and intuition.

Looking ahead, I see myself as a designer who moves fluidly between the abstract and the grounded, capable of framing complex urban problems without losing sight of human-scale impacts. This project has not just shaped my skills but clarified my identity as someone committed to socially engaged, context-sensitive urbanism — willing to challenge norms, but always with care.

## Ethical reflection

My thesis critically engages with the ethical responsibilities of urban design in the face of growing socio-spatial inequalities. Working in the context of Barcelona's Sant Martí district—where the 22@ Innovation District stands in stark contrast to marginalized neighborhoods like La Mina and La Catalana—I was constantly confronted with the tension between economic development and social justice.

At the heart of this project lies a fundamental question: How can urban design be leveraged not just to reshape space, but to rebalance power? The area's history of speculative development, public-private partnerships, and fragmented governance created a layered landscape of exclusion, which made the ethical dimension of design unavoidable. I had to grapple with the possibility that design interventions, even those well-intentioned, can accelerate gentrification or displace the very communities they aim to support.

To address this, I adopted an approach grounded in social integration and spatial equity, while also ensuring the economic feasibility of the proposed interventions. I proposed strategies that prioritize connectivity—not only in terms of physical infrastructure, but also in fostering social relationships and economic opportunity across boundaries. The demolition strategy I explored was not taken lightly; it raised serious ethical concerns about memory, displacement, and consent. I approached it as a tool to enable inclusive transformation, paired with mechanisms for resident retention, phased development, and cultural preservation.

## Social relevance

This thesis addresses pressing social challenges at the intersection of urban transformation, inequality, and displacement. In Barcelona's Sant Martí district, the contrast between the innovation-driven 22@ development and the adjacent under-resourced neighborhoods such as La Mina and La Catalana exemplifies the fragmentation that many global cities face.

By focusing on strategies that foster social and spatial integration, the project aims to contribute to more inclusive urban futures. It highlights the need to reconcile economic development with the rights and needs of existing communities, advocating for urban design that not only creates physical connections but also bridges social and economic divides.

In doing so, the thesis contributes to broader debates around socially just urban regeneration, equitable access to resources, and the role of designers in shaping cohesive and resilient communities.

## Scientific relevance

This thesis contributes to the growing body of research on socially inclusive urban regeneration by bridging theoretical frameworks of spatial justice, connectivity, and integrated urban design. It offers a multi-scalar methodology that links macro-level with micro-scale spatial strategies, emphasizing the role of design in addressing structural inequalities.

By critically analyzing the transformation of the 22@ Innovation District in relation to adjacent marginalized areas, the project challenges conventional regeneration models and introduces alternative approaches to densification, connectivity, and socio-economic integration.

The thesis also contributes to scientific discourse by testing design as a research method. In doing so, it advances the role of urban design not only as a technical discipline, but as a mediating practice capable of shaping equitable and resilient urban environments.

This thesis marks the culmination of my Master's studies at TU Delft, and I would like to take this opportunity to express my sincere gratitude to everyone who supported me along the way.

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