

# RETHINKING BARCELONA: URBAN INNOVATION AMID THE HOUSING CRISIS

HOW CAN BARCELONA'S CITY COUNCIL RESPOND TO HIGH RENTS AND OTHER STRUCTURAL DRIVERS OF THE HOUSING CRISIS TO BUILD A MORE EQUITABLE CITY?



FINAL PRESENTATION

**UAB**  
Universitat Autònoma  
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**ECIU**  
university

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# CONTENT

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**CONTEXT**

**ON SITE-FINDINGS**

**MAIN ISSUES**

**OURS SOLUTIONS**

**CONCLUSION**

# AFFORDABLE AND SOCIAL HOUSING ACCESS

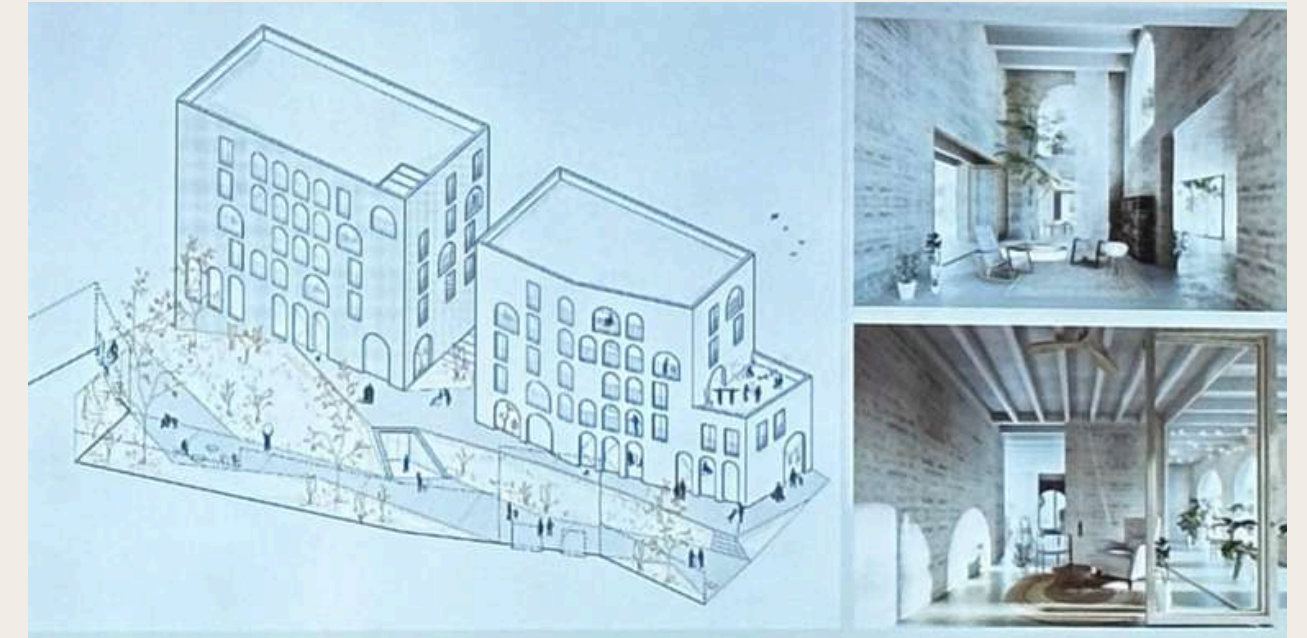
- Very **limited stock of public and affordable housing** compared to demand.
- Rapid **rent increases** make it hard for local families and young people to stay in the neighborhood.
- **Tourist demand** and investor pressure push rents far above local incomes.
- High rents and competition push out low-income, young, and long-term local residents.
- Concentration of ownership accelerates **speculation** and displacement.
- Difficulty in mobilizing **vacant housing**.

# FOCUS ON THE POBLE SEC NEIGHBORHOOD



SostreCívic – CAN70: first senior cooperative housing on municipal land in Catalonia.

- Offers affordable, accessible apartments + shared spaces.
- Community-based model → mutual support and healthy, autonomous ageing.



- High rents → People in Barcelona spend more than 40 % of their income on rent
- 83% of youth live in rental housing; buying is often unaffordable.
- Proposed solution: 100% mortgages (no deposit, similar monthly cost to rent).
- Barcelona struggles to mobilise vacant housing. Vacant buildings are around 1.2% of total buildings in the city which is almost 10000 buildings.
- The city builds new public rental housing and also buys private buildings using the right of first refusal.

# TOURISM AND SPECULATION

## WHAT HAPPENS AFTER THE 2028 BAN?

FROM TOURIST RENTALS → BACK TO THE HOUSING MARKET

- BY 2028, ALL TOURIST RENTAL LICENSES WILL DISAPPEAR, MEANING THOUSANDS OF FLATS CURRENTLY USED FOR AIRBNB-STYLE RENTALS MUST RE-ENTER THE RESIDENTIAL MARKET.
- THIS CREATES A UNIQUE OPPORTUNITY: MORE HOUSING SUPPLY FOR RESIDENTS, LOWER PRESSURE ON RENTS, AND RECOVERY OF NEIGHBORHOOD IDENTITY.
- BUT WITHOUT REGULATION, MANY OWNERS MAY SHIFT TO:
  - Medium-term rentals (30–11 months) at very high prices
  - Speculative sales to investment funds

### **The question becomes:**

**HOW DO WE MAKE SURE THESE HOMES ACTUALLY RETURN AS AFFORDABLE, STABLE HOUSING NOT A NEW FORM OF SPECULATION?**



**BANNED**

# SOCIAL INCLUSION

## WHAT WE LEARNED FROM THE DATA

### DEMOGRAPHY & VULNERABILITY:

- 16.6% residents are 65+
- 36% of people aged 75+ live alone
- ~35% residents are migrants

### HOUSING CONDITIONS:

- 64% units built before 1960
- Many buildings lack lifts
- Poor energy efficiency

ACCESSIBILITY CHALLENGES

AFFECTS COMFORT & MOBILITY INDOORS

### GENTRIFICATION IMPACT:

- Renovations without protection displace long-term residents
- Weakened community ties make space less inclusive

## URBAN INCLUSION SOLUTIONS

### Small-Scale Architecture



## WHAT WE SAW IN BARCELONA

- Visible accessibility barriers (stairs, narrow sidewalks, steep routes)
- Strong community identity in some micro-areas (markets, plazas, local shops)
- Ongoing renovations not always meeting accessibility needs

## CORRELATION WITH THE HOUSING CRISIS

### FRAGMENTED PUBLIC SPACE + WEAK ACCESSIBILITY

Increases isolation of older residents  
(Right to Housing Plan)

### GENTRIFICATION & RENOVICATION

Disrupt neighbourhood cohesion, displace long-term residents, weaken community networks  
(Anti-Gentrification Strategies 2023)

### OLD HOUSING STOCK (64% PRE-1960 IN POBLE-SEC)

Lack of lifts, ramps, universal design; limits mobility and use of urban space  
(Sants-Montjuic Report 2024)



# POSSIBLE SOLUTIONS

ENSURING THE RETURNING HOMES BENEFIT RESIDENTS AND SPECULATION IS AVOIDED

## GUARANTEE AFFORDABILITY

- Rent caps or fixed maximum price increases
- Mandatory minimum periods for long-term renting

## INCENTIVIZE OWNERS

- Tax reductions for renting long-term
- Renovation grants
- Faster, simpler rental bureaucracy

## ANTI-SPECULATION MEASURES

- Fines for empty units
- Limits on investment fund purchases
- Preferential purchase rights for residents or the City Council

## PUBLIC ACQUISITION

- Convert a portion of returning tourist flats into social or affordable housing

## REGULATE MEDIUM-TERM RENTALS

- Avoid the shift from Airbnb → overpriced seasonal stays

## NEIGHBORHOOD PROTECTIONS (POBLE-SEC)

- Local rent caps
- Support for community housing projects
- Policies to preserve identity and prevent displacement



BARCELONA NO ESTÀ EN VENDA

# SOLUTION AND SMALL ARCHITECTURE

## 1. IMPROVE ACCESSIBILITY FOR THE ELDERLY:

- Ensure wide, flat sidewalks with tactile paving for wheelchair users and visually impaired pedestrians.
- Barrier-free circulation (ramps, elevators, gentle slopes, non-slip surfaces)
- Install ramps, handrails, and automatic doors in older buildings.
- Add public elevators on steep streets
- Increase shaded resting areas with benches every 100–150 meters.
- Introduce “safe walking routes” for seniors with improved lighting.

## 2. SMALL-SCALE INTERVENTIONS IN PUBLIC SPACE (MICRO-ARCHITECTURE):

- Pocket parks in unused corners
- Good lighting for safety and visibility
- Street furniture designed for seniors (ergonomic benches, rails)
- Community gardens on leftover plots
- Shared outdoor tables to support intergenerational encounters
- Noise-controlled relaxation zones away from tourist flows
- Water fountains & shaded pergolas

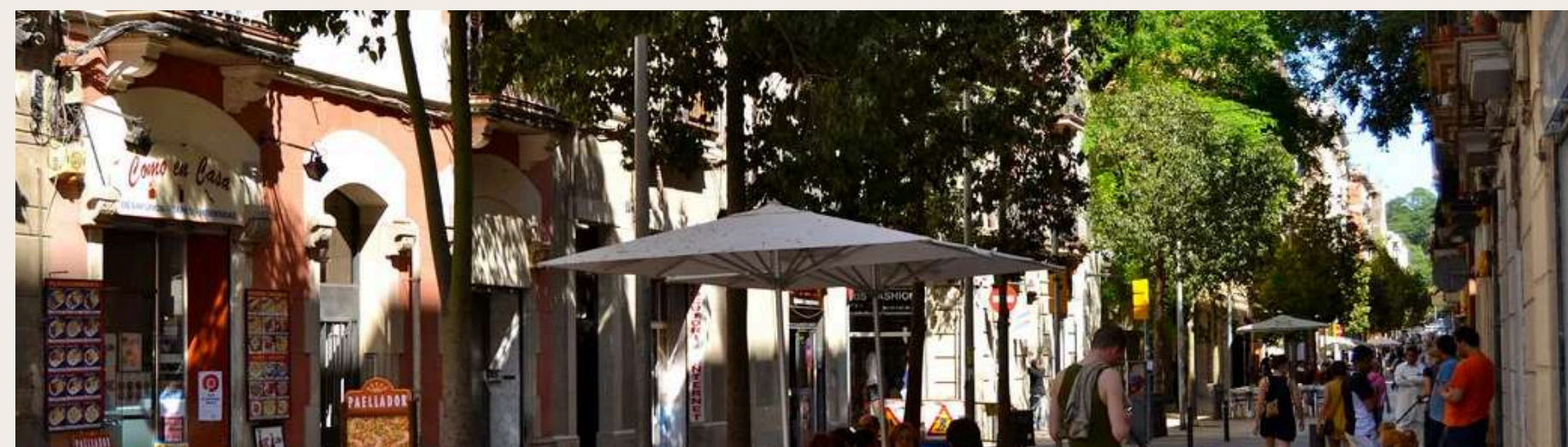
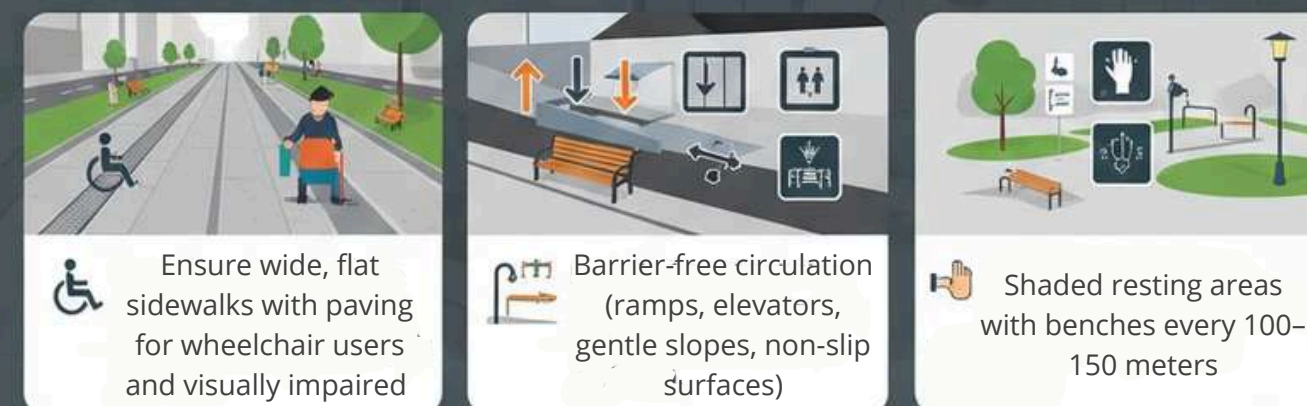
## 3. INTEGRATE HOUSING & PUBLIC SPACE POLICIES

- Renovations must include:
- Accessible entrances
- Communal courtyards
- Shared rooftop spaces

### (Micro-Architecture & Social Spaces)



### (Accessibility for the Eldedly)



# SOCIAL INCLUSION

THE POBLE SEC CURRENT ISSUES

**HOUSING INSTABILITY & GENTRIFICATION**  
THIS IS THE MOST CRITICAL ISSUE, DRIVEN BY HIGH DEMAND AND SPECULATIVE INVESTMENT.

**SOCIAL FRAGMENTATION**  
POBLE SEC IS HIGHLY DIVERSE, BUT THIS DOES NOT GUARANTEE TRUE INCLUSION.

**DEMOGRAPHIC VULNERABILITY**  
SPECIFIC GROUPS FACE ISOLATION FROM ESSENTIAL SERVICES AND COMMUNITY LIFE.

THE POBLE SEC CHALLENGE

**Proactive Housing Model for the Elderly!**  
Shift from traditional dependency to active aging through communal living. **Senior co-housing** (e.g., Can 70 concept).  
Elderly residents collectively own and manage their building and shared spaces, creating an integrated, supportive environment that inherently combats loneliness and promotes long-term independence.

**Combating the Physical Isolation**

**Baixem al carrera (Let's Go Down to the Street) — Community Initiative**  
Volunteers and specialized equipment (e.g., portable stairlifts) assist homebound seniors in getting out, reversing the isolation caused by architectural barriers

KEY ACTIONS

Pillar	Strategic Goal	Key Actions (Architectural & Social)	Key Actions (Architectural & Social)
Housing Stability	Combat Gentrification and secure affordable, non-speculative homes.	<ol style="list-style-type: none"> <li>1. Expand the Cooperative Housing stock (Cessió d'Ús).</li> <li>2. Mandate Shared Spaces (courtyards, communal kitchens) in new builds for elderly.</li> <li>3. Target allocation to displaced/vulnerable and elder residents.</li> </ol>	Economic Inclusion (Affordability) and Population Stability.
Inclusive Urban Space	Transform the neighborhood into a cohesive, accessible 15-Minute City.	<ol style="list-style-type: none"> <li>1. Develop new Central Plazas and Pedestrian Corridors with ease access.</li> <li>2. Create Multi-Functional Facility Hubs (blending health, civic, education).</li> <li>3. Design Intergenerational Green Spaces (shade, accessibility and seating).</li> </ol>	Physical Inclusion (Accessibility) and Inter-Group Encounter.
Community & Governance	Strengthen democratic participation and intercultural cohesion.	<ol style="list-style-type: none"> <li>1. Establish permanent Neighborhood Co-Design Committees.</li> <li>2. Fund Bottom-Up Cultural Programs for social inclusion of the elders</li> <li>3. Expand Digital Inclusion training for the elderly/immigrants.</li> </ol>	Social Inclusion (Belonging) and Elderly Democratic Ownership.

# URBAN REGENERATION

## Policy

Policy codifies design intentions into **accessibility, affordability** and **energy efficiency**. Design alone cannot count for adequate housing or urban regeneration measures.

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## Design

The right to **affordable** and **good quality housing** starts from the actual design of the building. In the current era of climate insecurity, it is imperative to introduce **carbon neutrality** in all steps of the building design process. Coupling this with policy can ensure **sustainability** and **social inclusivity**.

## Urban Renewal

Focus on **renewal** that actively combats gentrification

Create a **climate centric approach** to renewal, particularly for disadvantaged communities



NATURE BASED SOLUTIONS

## Modularity and Sustainability

Fostering a **retrofit** approach from facade to building systems

Introduce strategies for **decarbonisation** for retrofit elements and approaches



WOODEN MODULES

## Inclusive regeneration

Creation of a **participatory plan** for building renovations in Poble-Sec

Identify most **vulnerable user** groups as having more considerations



PARTICIPATORY PROCESS

## Land use reform

Incentivize **reuse** of abandoned plots for private developers

Introduce tax **incentives** for reclaimed or greener buildings



PARTICIPATORY PROCESS

# GREEN BONDS - FUNDING OF RENOVATIONS

## MAIN IDEA

Green bonds = loans from investors used only for environmental projects; Investors earn stable returns.  
Renovation target: 30 – 60% lower energy use and CO<sub>2</sub> emissions.

## STAKEHOLDERS

- City government – planning, rules, guarantees.
- Building owners – manage properties.
- Investors – finance projects (Pension funds, banks, insurance companies, Green investment funds, European institutions (e.g. EIB)).
- Banks – issue & sell bonds.
- Construction & energy firms – renovate the building.
- Residents – live in the renovated buildings.

## KEY STEPS

1. Identify buildings needing renovation
2. Calculate energy savings and CO<sub>2</sub> reduction
3. Prepare a green financing plan
4. Get green certification (EU Taxonomy / ICMA)
5. Choose bond issuer (city, public agency, bank, etc.)
6. Find investors and issue the bond
7. Renovate buildings and report results

## RESIDENT PROTECTION MEASURES

- Rent caps
- Pay only from actual energy savings
- Priority for social housing
- Transparency and relocation support



# DIGITAL PLATFORM FOR TRANSPARENT GOVERNANCE

## MAIN IDEA

The housing crisis is not only about the lack of housing. How we make use of the actual resources matters as much or more, but to do so, we need as much information as we can gather, which, with the actual system it can be an issue. So we will improve the system.

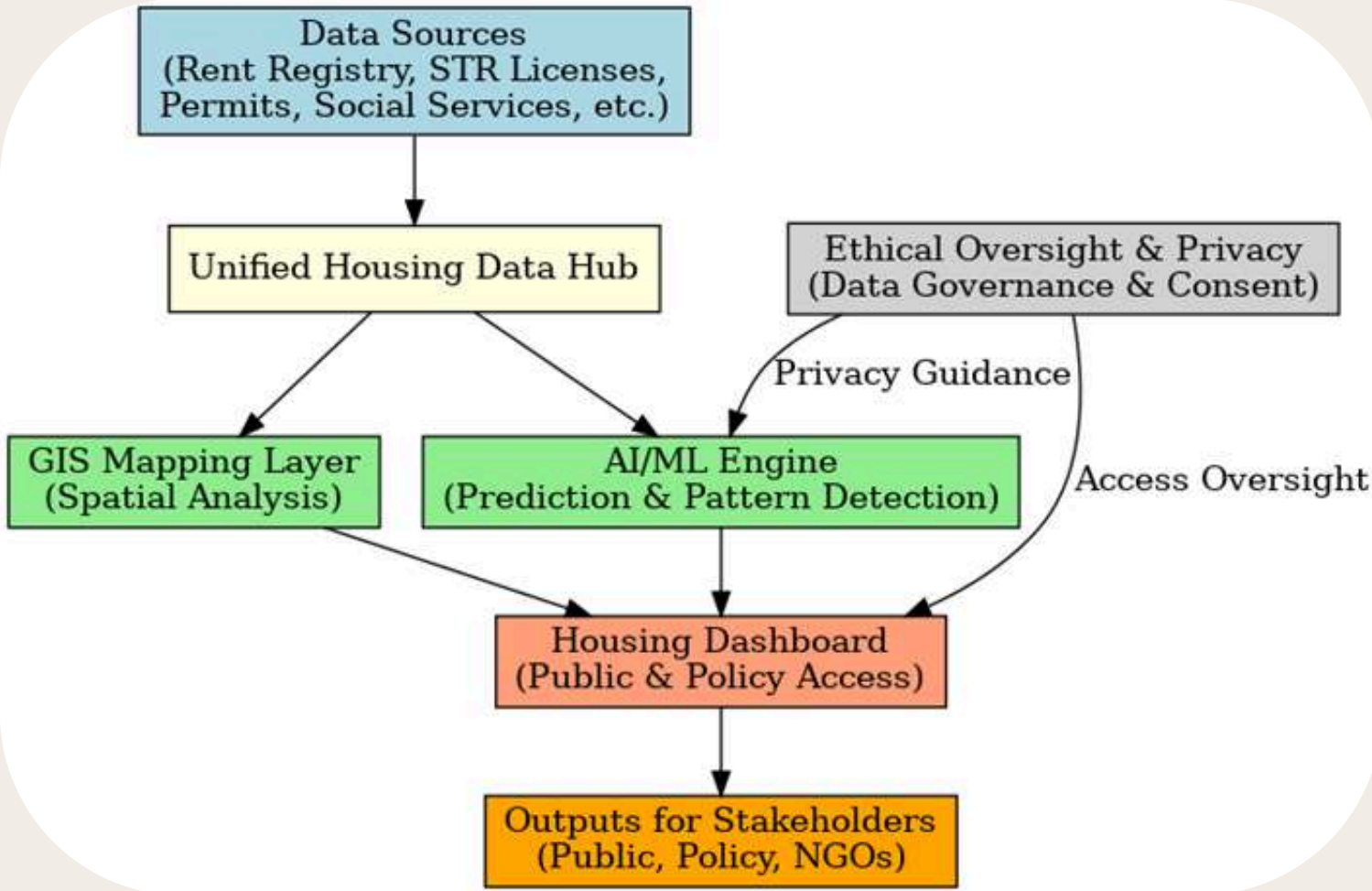
## WHAT WILL WE DO?

We will integrate the fragmented data from multiple sources like Observatori Metropolità de l'Habitatge (O-HB) and the Open Data BCN, and others. This new database enables data-driven decision-making to spot critical points in real time.

- All the recured code for the decision making would be open soruce. Also, be as transparent as possible in all senses.
- It will be anonymous and compliant with the Reglamento general de protecció de datos (GDPR).
- This new database will also feed a GIS mapping tool that visually shows the rent pressure and multiple other metrics.

## HOW IT WORKS?

To ensure privacy, different techniques would be used, including k-anonymity. or differential privacy. On the the hand, the decision-making is based on AI/ML engines with the final decision remainin in a designed ethical oversight person by the government. The final pipeline of the proposal:



## THREE-TIER HOUSING DATA DASHBOARD FOR BARCELONA

**Tier 1 — Public Dashboard (Transparency)**

Users - Citizens, tenants, youth, journalists

Shows

- Rent trends (€/m<sup>2</sup>)
- Rent-to-income ratio
- STR density maps
- Public housing status
- Vacant land (aggregated)
- Privacy: Aggregated only , k-anonymity, No personal data

**TIER 3 — RESEARCH DASHBOARD (EVALUATION & INNOVATION)**

Users - Universities (UAB/UB/UPF/ETSAB), research labs

Shows -

- De-identified datasets
- Neighborhood-level time series
- Policy impact indicators
- Predictive model outputs
- Privacy:  $k \geq 10$  anonymization, No re-identification

**TIER 2 — POLICYMAKER DASHBOARD (REGULATION & ACTION)**

Users - Ajuntament, Generalitat, IMHAB, Social Services

Shows

- Real rental contracts
- Ownership patterns
- Legal vs illegal STRs
- Eviction filings & causes
- Public housing pipeline
- Land suitability for housing
- Privacy: Restricted access, Role-based permissions, GDPR compliant

## HOW THE DASHBOARD IS BUILT (DATA SOURCES)

### OPEN DATA BCN (AJUNTAMENT DE BARCELONA)

- Rent prices & contracts
- Short-term rental (STR) licenses
- Urban permits & building registry
- Energy certificates

### OBSERVATORI METROPOLITÀ DE L'HABITATGE (O-HB)

- Rent vs income indicators
- Affordability & eviction trends
- Social housing data

### AMB GEOPORTAL

- Vacant & underused land
- Transport accessibility
- Urban zoning & infrastructure layers

### WHAT THE DASHBOARD SHOWS

- Rent pressure & affordability by neighborhood
- STR impact on housing availability
- Eviction risk (aggregated & anonymized)
- Public housing pipeline status
- Vacant land suitable for housing reuse



BENEFITS BEYOND HOUSING (CROSS-SECTOR IMPACT)

 **TOURISM**

- Balance STRs and long-term housing
- Prevent over-tourism in high-pressure areas
- Support fairer tourism regulation

 **YOUNG PEOPLE**

- Identify affordable areas for students & young workers
- Track access to public or cooperative housing
- Reduce forced displacement to city outskirts

 **SUSTAINABILITY**

- Prioritize energy-inefficient buildings for retrofitting
- Promote compact development near public transport
- Reduce emissions through data-led urban planning

 **VACANT PLACES**

- Public GIS-based vacant land register
- Identify sites for modular, social, or cooperative housing
- Reduce speculation and underused urban space



# FINAL PROPOSAL

## CREATION OF A SOCIAL RENTAL LOAN

WHO WOULD HAVE ACCESS TO IT?

**Everyone.**

ELIGIBLE OPERATIONS

- **The acquisition or construction of rental housing.**
- **The acquisition of premises or buildings not used for residential purposes and their conversion into housing.**
- **Requirement to rent to low-income households for the entire duration of the loan.**

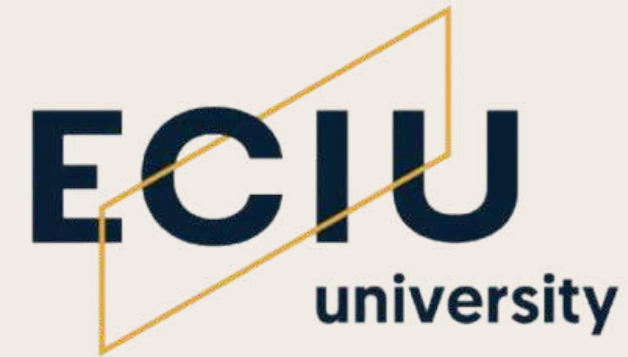
BENEFITS FOR LANDLORD

- **Low interest rate.**
- **100% of the down payment financed by the government.**
- **Access to homeownership for low-income groups**

BENEFITS FOR BARCELONA CITY COUNCIL

- **Rapid increase in the social housing stock.**

# THANK YOU !



## QUESTIONS ?

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