# State of Maintenance in Relation to Property Regime, Tenancy and Uses of a Large Sample of Residential Buildings Located in the Most Vulnerable Areas of the City of Barcelona

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## **1** Introduction

In a context of downturn of public investment, an increase of social and economic inequality takes place. Socio-residential vulnerability is intensified in certain urban areas where processes of socioeconomic regression are related with the resident population difficulties to access resources for the maintenance of an aging residential building stock that gradually decays.

Mediterranean cities in Southern Europe and precisely the city of Barcelona face the added difficulty of counting with a residential built stock of mostly private property, accounting many situations of horizontal property in which each building is managed by a community of owners who are not necessary householders and users. The present study aims to describe and analyse the relation between the state of maintenance of residential buildings and the property regime, tenancy and uses, based on the observation of a large sample of buildings located in five of the most vulnerable areas of the city of Barcelona (Figure 1).



Figure 1. Different type of buildings of the five analysed neighbourhoods. From left to right: El Raval (R), La Barceloneta (Ba), Ciutat Meridiana (CM), El Besòs (Be) and Trinitat Vella (TV).

## 2 Methodology

The applied methodology consists of a cross-analysis of some socioeconomic variables describing the property regime, the risk of residential exclusion and the occupancy and uses in relation to the type of damages and state of maintenance observed in studied buildings.

#### **3** Results

The paper provides an insight on the building pathology of the studied areas in relation to its state of maintenance and conservation described by qualitative indicators. There is a clear relation between the abundance of most observed damages in common elements and spaces of buildings and the lack of ordinary or extraordinary maintenance actions. Only few of the observed damages have a mechanic structural origin, while around 60% of buildings present damages that can be related to a poor state of conservation. Results regarding the qualitative indicators of the state of maintenance and conservation confirm a low percentage of buildings that need an urgent intervention of rehabilitation, while the proportion of cases in which the state of maintenance is not adequate is considerable.

Secondly, the fragmentation of the analysed sample of 2434 buildings according to the property regime, provides results on the impact of horizontal property, vertical property, and the specific regimes of vertical property owned by legal entities or natural persons. There is a higher proportion of observed damages and a lower state of maintenance in the case of privately-owned buildings with a horizontal structure of property. A fact that confirms the consequences of the difficulty to carry out maintenance and rehabilitation actions with the added difficulty of a fragmented privately-owned form of property. Moreover, results of the cross-analysis of building pathology and state of maintenance in relation to tenancy and eviction highlight the importance of variables related with the risk of residential exclusion. The clear impact confirms how socioeconomic difficulties and residential instability often related to tenancy are also explanatory factors of the gradual decay of the residential building stock.

Finally, results regarding the correlation between building pathology, state of maintenance and lack of activity, as well as those relating the different uses of the ground floors according to different contexts and neighbourhoods provide relevant information on the impact of activity and ground floor uses in the state of maintenance of the residential building stock. The high correlation between the existence of empty premises both in residential and ground floors and the accumulation of severe damages and a poor state of maintenance explains the high impact of a usually prolonged lack of activity.

### 4 Conclusions

In conclusion, the design and management of public programs that aim to improve the maintenance of the residential built stock must take into account the repercussion of particularities in property regimes, tenancy and uses, especially when it refers to common spaces and elements of residential buildings. This contribution can provide tools to further consider the impact of this socioeconomic aspects on the issue of obsolescence and it aligns with the aim of the Council of Barcelona to foster the design of specific integral public rehabilitation programs that can support the most vulnerable tenants and householders to access maintenance and improvement actions at present and in long term.

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