Urban Transformation: Analyzing the Combined Forces of Vacant Building Occupancy and Socio-Economic Dynamics

Teresa Santos [1,*] and **Filipa Ramalhete** [1,2,3]

1   Interdisciplinary Centre of Social Sciences (CICS.NOVA), Faculty of Social Sciences and Humanities (NOVA FCSH), Universidade NOVA de Lisboa, Av. de Berna, 26 C, 1069-061 Lisboa, Portugal; framalhete@autonoma.pt
2   Centro de Estudos de Arquitetura, Cidade e Território da Universidade Autónoma de Lisboa (CEACT/UAL), Rua Fernando Assis Pacheco, 207, 1350-300 Lisboa, Portugal
3   Centro de Investigação e de Estudos em Belas-Artes (CIEBA), Largo da Academia Nacional de Belas-Arte, 1249-058 Lisboa, Portugal
*   Correspondence: teresasantos@fcsh.unl.pt

Abstract: In the last decades, historic European cities such as Lisbon have faced the challenge of aging dwellings, infrastructures, and a growing number of vacant buildings. These vacant spaces represent both a problem and an opportunity for the cities. While they detract from the city's aesthetics and safety, they also offer a chance for renewal. Strategic reuse can address housing shortages, boost businesses, and revitalize neighborhoods. This study examines Lisbon's efforts to revitalize vacant buildings from 2009 to 2022, with projections extending into the next five to ten years. Analyzing data on building use and reoccupation, the study reveals significant progress. A detailed survey of 1674 vacant buildings in 2009 shows many have been transformed. Then, through a GIS-based analysis, the immediate social and economic impacts of the requalification process are assessed, and two future development scenarios are evaluated. By 2022, 60% of these buildings (999) were reoccupied, expanding housing options and driving economic growth. Shops saw a 166% increase in occupancy, highlighting a thriving commercial sector. Additionally, 27% of the reoccupied buildings now hold tourism activities, including short-rental accommodation and hotels. Short- and long-term scenarios are proposed based on a comprehensive survey that captured the status, function, and preservation conditions of the vacant buildings within the city. These scenarios are planning tools for exploring potential future trajectories of urban development, allowing policymakers to anticipate issues, mitigate risks, and make informed decisions, shaping a more sustainable and resilient Lisbon.

Keywords: urban requalification; vacant buildings; assessment; reuse; retail; tourism; Lisbon

1. Introduction

Across Europe, cities are coping with the challenges of an aging urban fabric [1–5]. Many historic centers face a growing number of vacant buildings and deteriorating infrastructures. This challenge becomes even more pressing in the face of increasing housing needs while, simultaneously, environmental concerns advise against the growing urban expansion, which consumes soil (a scarce resource) and increases CO_2 emissions. In this context, urban requalification has emerged as a transformative approach and a key strategy for revitalizing cities and promoting the return of empty houses to the market [6–8].

As outlined by the Portuguese General Directorate of the Territory—the DGT [9]—urban rehabilitation is a comprehensive strategy that demands coordinated intervention across all elements of the urban fabric—spaces for collective use, infrastructure, and buildings themselves. Building requalification, therefore, is a crucial component within this broader approach. The practice involves the modification, renovation, and modernization of existing structures to optimize their functionality, energy efficiency, and overall liveability [10–13]. This process encompasses various strategies that aim to upgrade building

systems, rejuvenate and repurpose buildings to meet contemporary needs, improve indoor comfort, and revitalize spaces' aesthetic appeal while preserving their architectural integrity. Furthermore, building requalification can either result in new modern buildings or preserve the cultural and historical value of traditional buildings by maintaining the original architectural features. By transforming existing derelict structures into quality living spaces, building requalification projects not only attract new residents, stimulate economic growth, increase public safety and security, and preserve historical heritage but also contribute to the city's sustainable development by making the building stock more energy efficient while minimizing urban sprawl [14–16].

Urban requalification encompasses social, economic, and environmental aspects [17]. The authors of [5] explored housing trends and investment patterns in Sydney's older districts using socio-demographic and development data. A study by [18] investigated vacancy rates in older suburban buildings in New Zealand, examining both the causes and consequences for the area's town center. They employed a mixed-method approach, combining field surveys assessing building conditions with interviews to understand the vacancy drivers. Factors included poor building aesthetics, lack of accessibility, and social/economic challenges like population decline and competition from newer structures and building regulations. Recent research has shed light on the complex relationship between tourism and housing stock requalification in Lisbon. The literature lacks consensus regarding the concepts applied to these processes, also known as rehabilitation, renovation, reutilization, repair, or restoration. Additionally, it sometimes adheres to legal terms that vary across countries. In the following state-of-the-art analysis, the terminology used by the authors was maintained within quotation marks. A study by [19] examined the social and economic impacts of tourism in a Lisbon neighborhood, particularly the connection between short-term rentals and "housing stock rehabilitation". Their survey revealed that "rehabilitated buildings" are either turned into STRs or apartments remain vacant and that Airbnb buy-to-let investment is driving the displacement of an urban community, both tenants and homeowners, contributing to the area's gentrification. Further amplifying these concerns, ref. [20] conducted a geospatial analysis of "renovation permits" and tourism accommodation in Lisbon. Their research revealed those renovations in the historic city center overwhelmingly resulted in hotels or buildings dedicated to short-term rentals. These findings suggest that tourism may be exerting a significant influence on the nature of "housing stock rehabilitation" in Lisbon, potentially at the expense of long-term residents. A study by [21] studied the ties between "urban rehabilitation", social innovation, and new working spaces in Lisbon. The review of governance and urban planning documents, crisscrossing with spatial and statistics analysis, allowed the author to observe that the location of creative industries is mainly connected to the historical center and the "urban rehabilitation areas", clustering with the social innovation-led new working spaces.

The environmental impacts of urban requalification areas, including local weather and air quality [22,23], land resources and biodiversity loss [24,25], reduced energy consumption [7,16,26], and impacts of renewal operations [8,14,27] are also another topic of research. The work of [12] provides the most updated literature review on this topic.

This paper investigates the impact of the building requalification projects undertaken in Lisbon, Portugal, between 2009 and 2022 on the city's socio-economic dynamics. Section 2 details the materials and methods employed in this study. Section 3 is dedicated to the case study, with the current impact assessment of the recent urban transformations on Lisbon's social and economic dynamics and foresight scenarios to estimate potential future impacts on the city's socio-economic fabric. Section 4 provides a discussion of the results. Finally, Section 5 offers concluding remarks, summarizing the key findings of the research and their implications for urban planning and development in Lisbon and potentially other cities facing similar challenges.

2. Materials and Methods

This study starts by assessing the transformations undergone by vacant buildings over the past decade, in Lisbon. Then, the current impact of this urban transformation is mapped and analyzed to discern its social and economic implications, as well as to anticipate its future regenerative potential.

2.1. Study Area

The present study focuses on the urban requalification efforts undertaken in Lisbon, Portugal. Lisbon, the capital city of Portugal, boasts a population of approximately 550,000 residents according to the 2021 census and encompasses an area of 100 square kilometers. Similar to many historic European cities, Lisbon faces the ongoing challenge of revitalizing its urban core, particularly concerning the growing number of vacant buildings.

The city's Municipal Master Plan (PDM—*Plano Diretor Municipal* in Portuguese), implemented in 2012, distinctly favors urban regeneration over new construction on undeveloped land [28]. The PDM categorizes all developed urban areas as historical zones, incentivizing building rehabilitation through financial credits and tax breaks for developers and homeowners undertaking restoration projects. Conversely, the plan imposes penalties on individuals neglecting or allowing the deterioration of their heritage buildings, promoting a sense of shared responsibility for preserving the city's architectural character. Another relevant document is the Strategy for Lisbon Rehabilitation 2011–2024 [29]. This comprehensive document introduces a new framework for urban requalification, aiming to incentivize private developer investment in rehabilitation projects. Notably, the strategy emphasizes the "three R's" approach: reuse of vacant buildings, rehabilitation of deteriorated structures, and requalification of existing urban areas [30]. This political strategy of prioritizing urban rehabilitation was significantly reinforced by a surge in market interest in private building requalification in Lisbon around 2014/2015. This can be largely attributed to a rise in external demand for properties in central areas. Fueled by factors such as tourism growth, an influx of foreign residents, and a thriving higher education sector, the demand for housing in the city's prime locations outpaced supply [31]. With a limited supply of new central properties and a growing demand, existing buildings in need of requalification became attractive investment opportunities. This convergence of factors—increased demand, investment potential, and an encouraging policy framework—created a tipping point for private building requalification in Lisbon.

2.2. Transformative Dynamic of Vacant Buildings over a Decade

The methodology begins by evaluating the transformation of unoccupied structures within the city of Lisbon. The starting point was a list published by the City Hall in 2009, identifying buildings that were totally or partially vacant. The criteria used in this inventory were based on national legislation (Decree-Law No. 159/2006), which establishes as vacant an urban building or autonomous part that has been unoccupied for at least one year.

From the original dataset, only totally vacant buildings were selected for further analysis, and the respective addresses were geo-referenced. The Vacant Buildings Geographic Database was then completed by integrating a set of attributes obtained through a comprehensive survey (Figure 1). The survey retrieved, for each vacant building, the following attributes:

- Intervention

  Changes observed in vacant buildings were categorized as "Requalified" (those that have undergone changes, including operations of maintenance to preserve the building quality, modification, or modernization of existing structures), "Not requalified" (unchanged or unaltered), "Demolished" (former structures entirely removed, resulting in empty lots), and "Under construction" (currently undergoing requalification or development).

- The building's status

Indicates the current condition of the building, whether it is currently "Occupied" (in use), "Vacant", "Under construction," or exists as an "Empty lot".

- The building's preservation state

  The qualitative scale encompassed six classifications: "Good", indicating a well-maintained building with most of its original features intact; "Fair", denoting wear and deterioration, necessitating considerable conservation to maintain architectural character; "Poor", representing neglect, severe deterioration, and significant loss of its original features, demanding extensive restoration for historical integrity; "Ruinous", reflecting advanced decay and structural damage, potentially requiring reconstruction efforts; and "Lost", signifying the absence of the building due to demolition; and finally, "Under construction". This information was collected both for 2009 and 2022.

- Function

  The building's function is categorized as "Residential", "Commercial or Service-oriented", or "Tourism-related". This information was collected for 2009 and 2022. When existing commercial/service activity was at the ground level, the number of different shops was identified. The survey also identified when the former purpose included commercial/service activities and the number of different shops at the ground level. The tourism-related class encompasses two types of accommodation activities: short-term rental accommodations (AL—*alojamento local* in Portuguese) and hotels. The survey also included an evaluation of the historical presence of tourist activity, examining whether tourist-related activities existed in 2009. The evaluation of both commercial and tourist-related uses in 2009 introduces a temporal dimension to the study, providing valuable insights into the evolution and continuity of economic activity within the surveyed buildings over time.
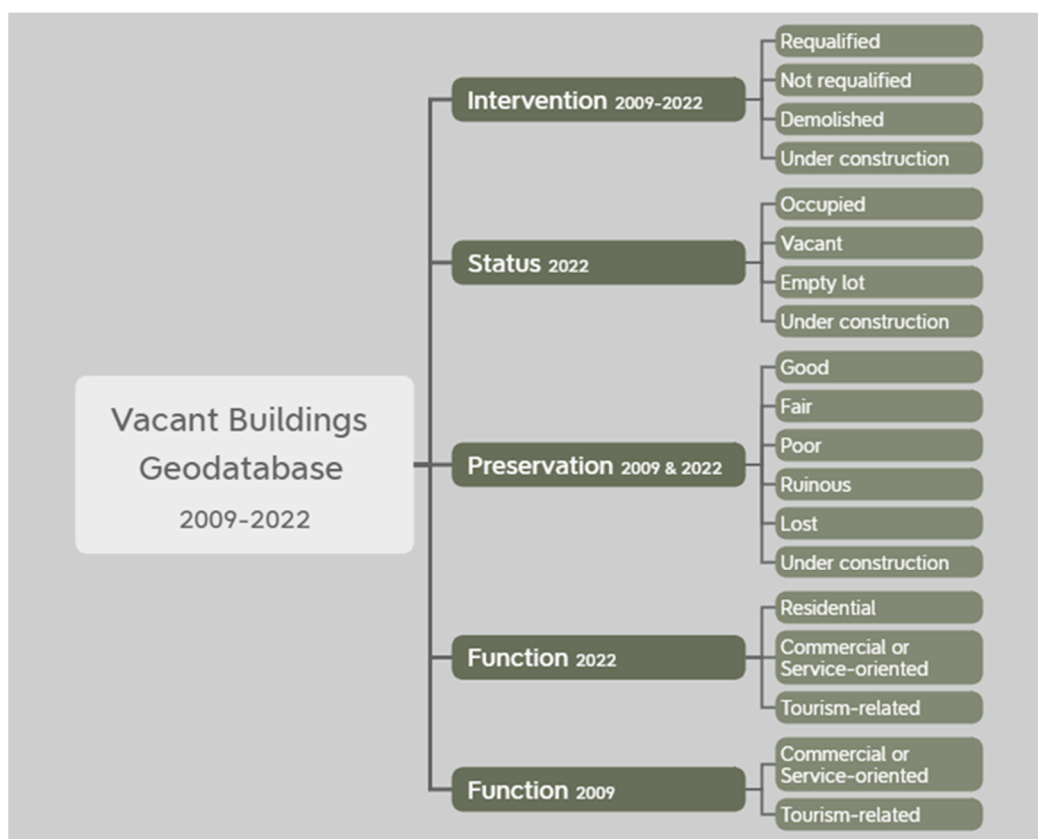
Figure 1. Attributes of the vacant buildings' geodatabase obtained through the survey.

The survey was completed by consulting open data portals, namely:

- Google Street View imagery (2009, 2014, 2018, 2019, 2020, 2022).
- Photographs of buildings, available at the municipal open data portal, LXinterativa (https://websig.cm-lisboa.pt/ (accessed on 11 April 2024)) (several dates).
- Bing imagery (https://bing.com/maps (accessed on 11 April 2024)) (several dates).
- The geodatabase of the National Tourism Register (https://dadosabertos.turismodeportugal.pt/ (accessed on 11 April 2024)) to assess the presence of local accommodation (short-term renting).

2.3. Quantifying Lisbon's Transformation: A Two-Step Approach

After characterizing the transformation that vacant buildings went through, the following methodological step intends to quantify the decade-long transformation that occurred in Lisbon's landscape, considering the residential revival, the commercial and service offerings, and the tourist activity. Employing a two-step approach, the analysis delves into both the immediate impacts and future potential of building requalification (Figure 2).
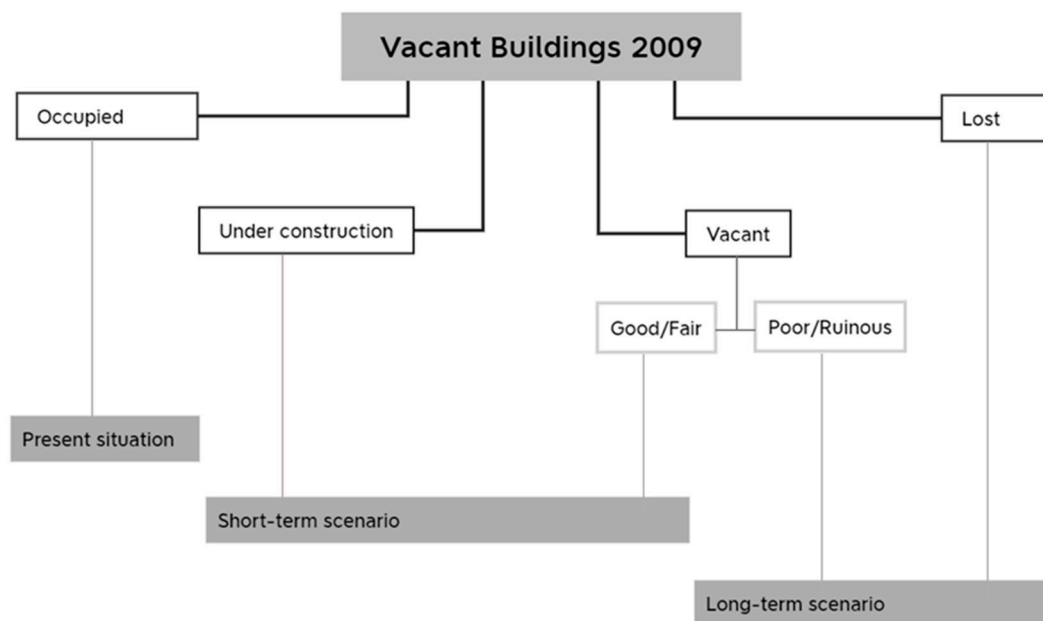
Figure 2. Conceptual framework to evaluate the impact of vacant building requalification in the urban dynamics.

2.3.1. Quantifying Present Impact

The immediate influence of requalified and occupied buildings on the cityscape was evaluated by employing a comprehensive approach to assess their social and economic contributions. For the social dimension, the contribution of requalified residential buildings to the city's social fabric was evaluated by overlaying vacant building transformation data with population variation data.

To assess the population dynamics, distribution, and trends within the Lisbon municipality, census information from 2011 and 2021 was analyzed within a Geographic Information System (GIS) environment. This enables the visualization and spatial exploration of population data. The census blocks utilized in this study were sourced from the National Statistical Institute of Portugal (INE), which oversees the decadal population censuses. These data are generated within compact statistical zones, specifically statistical sections and subsections, delineated by polygons within a GIS. The analysis focused exclusively on subsections, which are the smallest homogeneous areas within the GIS framework. These subsections are particularly significant, as they correspond to individual blocks within urban areas, providing a micro-level perspective on demographic dynamics within the larger context of the Lisbon municipality.

Utilizing resident population data from both 2011 and 2021, a variation rate was calculated for each of the 3623 urban blocks in the city of Lisbon, revealing which parts of the city lost population and which parts witnessed population growth. Then, the economic impacts were assessed by considering the function of occupied buildings: new commerce and services or tourism-related activities.

2.3.2. Exploring Future Potential

Moving beyond the present, the analysis further explores the underlying potential of currently unoccupied, under construction, and vacant buildings through two future scenarios. The first scenario represents a short-term situation (1 to 5 years), including vacant buildings in good or fair conditions, as well as those under construction. The second scenario describes a long-term impact assessment (5 to 10 years) and includes vacant buildings in poor or ruinous conditions along with those that have been demolished. All of these constitute potential future assets that can further contribute to the revitalization of the city.

3. Results

The initial dataset, encompassing a total of 4692 addresses, comprised buildings with distinct vacancy statuses. This included properties that were partially or fully vacant. To ensure a focused analysis on entirely vacant structures, a subset of 1674 addresses was extracted, exclusively containing buildings that were totally vacant at the time of data collection. This dataset forms the basis for further characterization and analysis following the scheme presented in Section 2.

3.1. Vacant Building Transformative Dynamics

The evaluation of transformative dynamics relies on the Vacant Buildings Geographic Database. The results are structured around the buildings' intervention, status, functionality, preservation conditions, and interventions carried out.

3.1.1. Preservation Conditions and the Types of Interventions in Vacant Buildings

A comprehensive assessment of the vacant buildings' preservation conditions was conducted, comparing their state in 2009 (before their potential requalification) with their current condition in 2022 (Table 1). This analysis reveals an interesting initial finding: despite being vacant in 2009, a significant portion (42%) of the buildings were categorized as "good" or "fair" in terms of their preservation status. This segment likely included properties undergoing requalification or newly constructed buildings awaiting sale, high-lighting the diverse nature of vacant buildings within the dataset. However, most vacant buildings in 2009 (44%) were in poor or ruinous conditions or no longer existed (classified as "lost"). These conditions underwent significant improvement by 2022, with a substantial increase in the proportion of buildings classified as "good" or "fair" (1144 buildings or 68%). Conversely, the percentage of buildings in poor or ruinous conditions or no longer existing decreased to 26%. This significant improvement suggests that the requalification efforts may have played a role in enhancing the overall building stock and reducing the prevalence of derelict structures in Lisbon.

The evaluation of the interventions on vacant buildings was categorized into the following groups: "requalified", "not requalified", "demolished" (resulting in an empty lot), or "under construction". The survey revealed a significant trend: most vacant buildings (58%) show evidence of intervention (Table 2). However, it is important to note that a substantial portion (27%) remains unaltered. As previously mentioned, a significant fraction (42%) of the vacant buildings in 2009 were categorized as "good" or "fair" in terms of their preservation condition. These buildings may have included recently constructed structures awaiting occupancy or properties that were newly renovated. Consequently, they were not necessarily prioritized for intervention during the analyzed period. This initial condition explains the presence of 1144 buildings classified as "good" or "fair" in 2022, despite only

978 undergoing interventions during 2009–2022. This observation suggests that some buildings in good or fair condition may not have required significant intervention to be reoccupied or repurposed.

Table 1. Buildings' preservation conditions in 2009 and 2022.

Preservation Condition	Buildings in 2009		Buildings in 2022	
	Number	%	Number	%
Good	240	14	970	58
Fair	455	27	174	10
Poor	621	37	183	11
Ruinous	122	7	101	6
Lost	38	2	158	9
Under construction	81	5	84	5
Not perceptible *	117	7	4	0
Total	1674		1674	

* Buildings unable to be assessed in the open data portals used for visual inspection.

Table 2. Buildings' type of intervention between 2009 and 2022.

Type of Intervention 2009–2022	Buildings	
	Number	%
Requalified	978	58
Not requalified	445	27
Demolished	158	9
Under construction	84	5
Not perceptible *	4	0
Total	1674	

* Buildings unable to be assessed in the open data portals used for visual inspection.

3.1.2. Status and Function of Vacant Buildings in 2022

The survey findings offer insights into the current state of building occupancy within the studied area. Notably, 60% of the surveyed buildings are currently occupied, indicating a significant portion of housing residents or fostering active businesses (Table 3). This information provides a snapshot of the city's current utilization of existing structures. However, the analysis extends beyond simply identifying occupied spaces. It also sheds light on the remaining structures, highlighting that 24% remain vacant. While this might seem like a substantial portion, it is crucial to consider the 14% of buildings currently undergoing construction or that were demolished. This presence of ongoing activity suggests potential future occupancies within these sites, potentially impacting the overall occupancy rates shortly.

Table 3. Buildings' status in 2022.

Status in 2022	Buildings	
	Number	%
Occupied	999	60
Vacant	402	24
Empty lot	158	9
Under construction	84	5
Not perceptible *	31	2
Total	1674	

* Buildings unable to be assessed in the open data portals used for visual inspection.

Upon examining the preservation versus building status data for the year 2022 (Table 4), it becomes evident that the majority of occupied buildings, totalling 997 out

of 999, are in either good or fair condition. Conversely, as anticipated, vacant buildings predominantly exhibit poor or ruinous conditions, with 279 out of 402 falling into this category (69%). However, it is noteworthy that a significant proportion, comprising 123 out of 402 vacant buildings (31%), are found to be in good or fair condition. These include structures designated for commercial activities, historical buildings repurposed for institutional uses such as schools or public services, as well as buildings available for sale.

Table 4. Buildings' status and preservation in 2022.

Building's Status	Preservation Condition in 2022						
	Good	**Fair**	**Poor**	**Ruinous**	**Lost**	**Under Construction**	**Not Perceptible**
Occupied	947	50	2	0	0	0	0
Vacant	15	108	178	101	0	0	0
Under construction	0	0	0	0	0	84	0
Lost	0	0	0	0	158	0	0
Not perceptible *	8	16	3	0	0	0	4
Total	970	174	183	101	158	84	4

* Buildings unable to be assessed in the open data portals used for visual inspection.

The functional classification of all vacant buildings in 2009 included the "residential", "commercial or service-oriented", and "tourism-related" categories. While the complete dataset encompassed buildings across all three categories, it is noteworthy that only 50 buildings exhibited characteristics of all three functional types. This finding highlights the diverse nature of vacant buildings within the dataset.

Further insights are presented in Table 5, which details the distribution of building functions according to the status. Upon analysis, it becomes evident that residential buildings constitute the most prevalent functional type among the surveyed structures, accounting for 58% of the total number of vacant buildings investigated. Among these, 774 are currently occupied. This finding suggests a significant potential for addressing housing needs or revitalizing residential areas. Following residential in prevalence are commercial/service-oriented buildings, indicating the potential for economic activity and job creation through the revitalization of these structures. Additionally, the presence of empty lots suggests further opportunities for development and densification within the study area. Finally, the survey results highlight a subset of 263 occupied buildings (16% of the total) with tourist activities.

Table 5. Buildings' status and function in 2022.

Building's Status	Building's Function	Number	%
Occupied	Residential	511	31
	Residential and Commercial or Service-oriented	117	7
	Residential and Tourism	96	6
	Residential and Commercial or Service-oriented and Tourism	50	3
	Commercial or Service-oriented	108	6
	Tourism (Short-term rental or Hotel)	102	6
	Commercial or Service-oriented and Tourism	15	1
Vacant	Residential	279	17
	Residential and Commercial or Service-oriented	46	3
	Residential and Tourism	0	0
	Residential and Commercial or Service-oriented and Tourism	0	0
	Commercial or Service-oriented	76	5
	Tourism	0	0
	Commercial or Service-oriented and Tourism	1	0

Table 5. *Cont.*

Building's Status	Building's Function	Number	%
	Under construction	84	5
No function	Empty lot	158	9
	No function perceptible *	31	1
Total		1674	

* Buildings unable to be assessed in the open data portals used for visual inspection.

The economic activity within vacant buildings was characterized by an analysis encompassing various facets, including the count of buildings, the number of shops per building, occupancy rates, and shifts in operational status over time. Additionally, the tourist activity within these spaces was also examined.

In 2009, the initial dataset of 1674 vacant buildings included 440 buildings housing a total of 523 shops (Table 6). However, only a limited number (114, or 26%) remained operational, with 138 shops still active. Fast forward to 2022, while the overall number of vacant buildings and shops remained comparable to 2009, a crucial shift occurred in the occupancy rate. The number of buildings actively containing shops rose significantly, from 114 to 290. This trend is mirrored in the number of occupied shops, rising from 138 to 372, reflecting a growth of 166%. This surge signifies a notable increase in the number of shops, underscoring a considerable growth in the city's commercial activity throughout the period from 2009 to 2022.

Table 6. Characterization of commercial activity within the vacant buildings.

Number of Shops Per Building	Buildings with Commercial/Service-Oriented Shops in 2009		Buildings with Commercial/Service-Oriented Shops in 2022	
	Total	Occupied	Total	Occupied
1	376	97	348	231
2	50	11	61	44
3	9	5	12	10
4	5	1	4	2
5	0	0	3	3
Total buildings	440	114	428	290
Total shops	523	138	537	372

The survey identified a subset of 263 occupied buildings, constituting 26% of the total occupied ones, that incorporate tourist activities in 2022 (Table 5). These buildings either function as mixed-use spaces with a tourist component (161) or are dedicated solely to tourist purposes (102). In 2009, tourist activity was limited to a solitary vacant building, which coupled a pension with a commercial store. This status did not change within the period of analysis, and the building remains vacant. Concerning the type of accommodation found in the 263 occupied buildings with tourist activity, the predominant category was short-term rentals (Table 7). Among these, 102 buildings are exclusively dedicated to this activity. Also, a notable portion of the vacant buildings from 2009 is now dedicated to hotel activity, totalling 38 new hotels, with 30 buildings exclusively serving as hotels and an additional 8 buildings located within mixed-use structures.

Table 7. Buildings' type of touristic use in 2022.

Touristic Use in 2022	Occupied Buildings	
	Number	%
Short-term rental accommodation	225	23
Hotel	38	4
Total	263	

The concentration appears to be highest in two distinct areas (Figure 3):

- Baixa Downtown Area (South): a central hub often considered the city's beating heart, naturally attracts tourists. Its historical significance and potential proximity to renowned landmarks, from the scenic riverside to acclaimed cultural attractions, make it a prime destination. Furthermore, this area has a land use plan that defines the rules for conservation and building requalification [32].
- Belém Neighborhood (West): The presence of museums in the Belém neighborhood suggests a focus on cultural tourism. The revitalization of vacant buildings for tourist-related purposes within this area likely strengthens the appeal of the neighborhood for visitors interested in these cultural institutions.
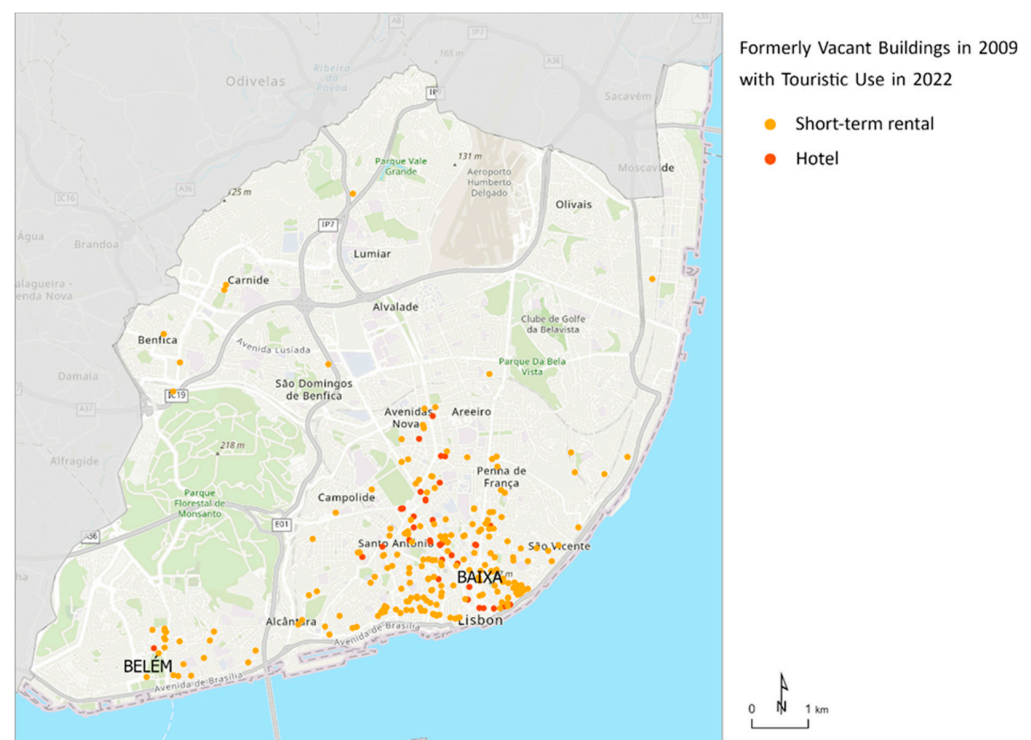
Figure 3. Localization of the vacant buildings in 2009 that have a touristic use in 2022.

By analyzing the spatial distribution of requalified buildings for tourist activities, we reveal a strategic relationship between their location and existing tourist amenities. This means vacant buildings situated closer to popular attractions, museums, or historical sites hold greater potential for successful revitalization into tourist-oriented ventures.

3.2. Urban Transformation and Social and Economic Dynamics

3.2.1. Present Impact of Urban Requalification

To assess the full social and economic impacts of the urban transformation that occurred in the last decade, all buildings that transitioned from a vacant status in 2009 to an occupied status in 2022 were investigated. The current scenario encompasses a total of 999 buildings, reflecting a notable requalification effort within the city.

The 2009 vacant building transformation's present-day social impact assessment focuses on analyzing population dynamics within Lisbon over the past decade. Utilizing comprehensive census data, the resident population variation rate between 2011 and 2021 for each urban block was calculated. This analysis adhered to the administrative boundaries established in 2011, as illustrated in Figure 4. The findings revealed a population decline of 7662 inhabitants during the specified timeframe, translating to a variation rate of −1.25% (Table 8). This constatation aligns with a broader trend of depopulation that was initiated in 1981 when the city's population peaked at 807,900 inhabitants. Subsequently, the population experienced a

drastic decline, dropping to 540,071 inhabitants by 2021. Notably, the historic center emerged as a focal point, where this decline was most pronounced and visually evident.
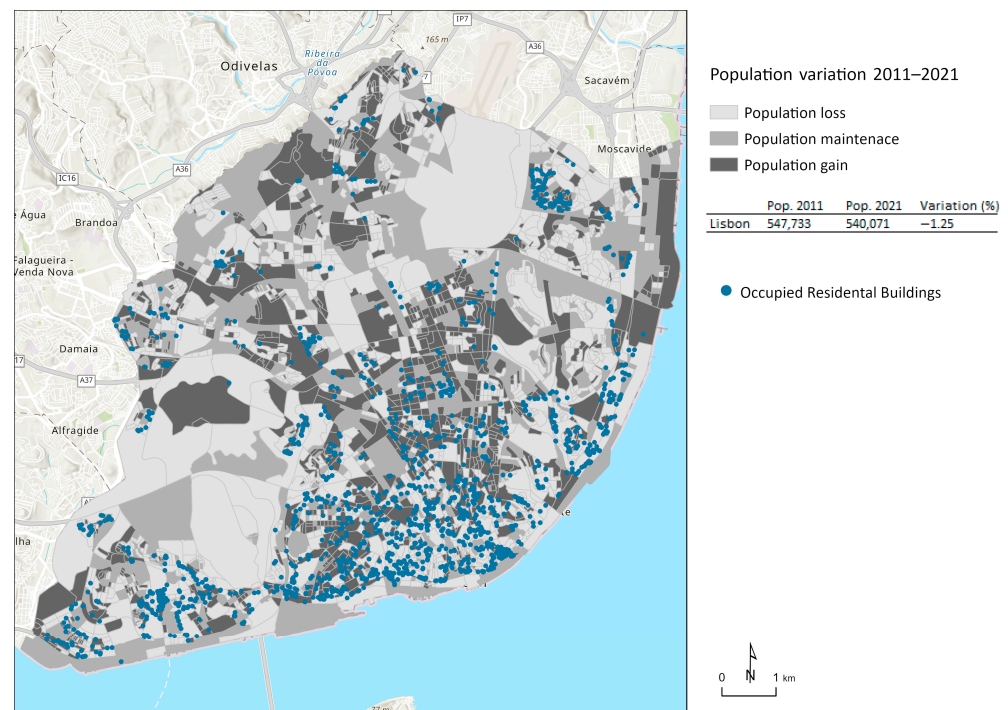
Figure 4. Population variation in Lisbon based on census data from 2011 and 2021, considering the 2011 administrative limits and vacant buildings in 2009 that are occupied and have a residential function in 2022.

Table 8. Lisbon population variation between 2011 and 2021 census.

	Pop. 2011	Pop. 2021	Variation (Number)	Variation (%)
Lisbon	547,733	540,071	7662	−1.25

The social impact analysis is concluded by overlaying the occupied residential buildings with the population dynamics observed between 2011 and 2021. It is noted that a total of 774 previously vacant buildings are presently utilized for residential purposes (Table 5).

Remarkably, upon comparing the population variance at the block level with the presently occupied residential buildings, a notable similarity in distribution emerges: the number of reoccupied residential units is consistent across both blocks that experienced population loss and blocks that gained population (Table 9; Figure 4). This spatial analysis suggests that the reoccupation of residential units did not impact the population shift observed between 2011 and 2021.

Along with the social impact, the revival of these buildings also signifies the creation of new tourist-oriented activities, commercial spaces, or the return of existing businesses, driving economic activity and promoting job opportunities. Among these 999 occupied buildings, there are 774 buildings where residence is the principal function, 108 dedicated to commercial or service activities, 72 exclusively dedicated to short-term rental accommodations, and 30 exclusively dedicated to hotels (the other eight new hotels are in mixed-use buildings) (Table 10, Figure 5). While residential use takes the lead (77% of the occupied buildings), the presence of commercial or service-oriented buildings (11%) indicates economic activity within the revitalized areas. These buildings likely cater to the needs of residents and potentially contribute to the vitality of the neighborhoods. Additionally, the emergence of short-term rentals (6%) and hotels (4%) suggests a growing tourist sector

within the city, potentially attracting visitors and contributing to the local economy. These findings are in line with the tourist statistics. Data from Turismo de Portugal [33] reveals a significant increase in hotel supply within Lisbon between 2009 and 2022. During this period, 165 new hotels opened, representing a total addition of 258 units. Similarly, the registry of short-term rentals shows 1009 licenses in 2014, when it was created, but this number grew to >19,000 in 2019.

Table 9. Classes of population variation observed between the 2011 and 2021 censuses in Lisbon, along with the corresponding number of affected blocks and occupied buildings.

Population Variation	Number of Blocks		Occupied Residential Buildings
	Total	With Occupied Residential Buildings	
Pop. Gain	1185	229	349
Pop. Loss	1937	280	385
Pop. Maintenance	501	30	40
Total	3263	539	774

Table 10. Quantification of the present impact of urban transformation of Lisbon based on the number of occupied buildings in 2022 and their respective functions.

Scenario	Function	Occupied Buildings
	Residential	511
	Residential and Commercial or Service-oriented	117
	Residential and Tourism	96
Present situation	Residential and Commercial or Service-oriented and Tourism	50
	Commercial or Service-oriented	108
	Short-term rental	72
	Hotel	30
	Commercial or Service-oriented and Tourism	15
Total		999
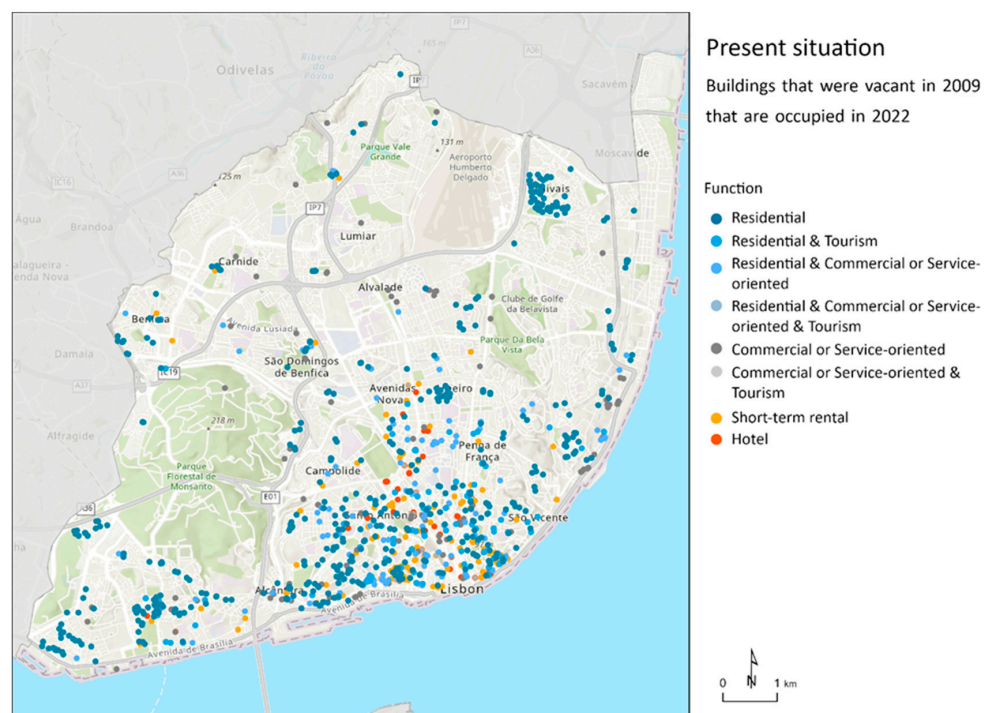
Figure 5. Present situation with the formerly vacant buildings that are now occupied according to the function.

3.2.2. Future Potential of Urban Requalification

Exploring future potential scenarios, as outlined previously, allows us to envision an even more comprehensive picture of the long-term impact and potential future directions for urban development. The formulation of the future scenarios relies on the status and preservation conditions of buildings.

In the short-term scenario, emphasis is placed on selecting buildings that remain vacant but are in good or fair condition, along with those currently under construction (Table 11, Figure 6). The city's ongoing transformation is set to continue with the availability of 207 buildings within the next 1 to 5 years. This anticipated growth encompasses 80 new residential units and 43 commercial or service-oriented buildings, along with 84 more with yet-to-be-determined functions.

Table 11. Quantification of the impact of urban transformation of Lisbon in the short-term, based on the number of vacant buildings in 2022, their respective functions, and preservation conditions.

Scenario	Function	Preservation	Vacant Buildings
Short-term scenario	Residential	Good or fair	63
	Residential and Commercial or Service-oriented	Good or fair	17
	Commercial or Service-oriented	Good or fair	43
	Under construction		84
Total			207
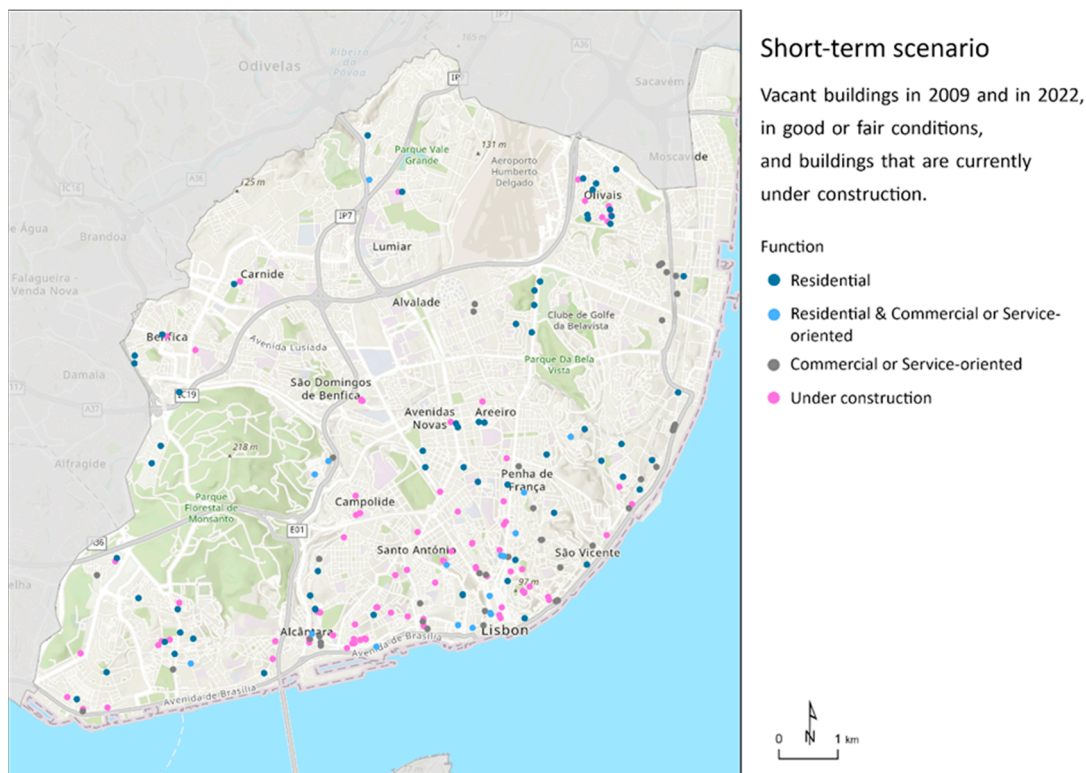
Figure 6. Short-term situation with the formerly vacant buildings that remain vacant but are in good or fair preservation condition and buildings under construction.

Conversely, the long-term scenario focuses on the selection of buildings that remain vacant and exhibit poor or ruinous conditions, as well as those that have been demolished (lost) (Table 12, Figure 7). This scenario accounts for 282 buildings and 158 empty lots. Due to their compromised preservation conditions, it is difficult to predict their future function

at this stage. Nevertheless, this scenario represents an opportunity for further strategic planning and designation based on future needs and evolving market trends.

Table 12. Quantification of the impact of urban transformation of Lisbon in the long-term, based on the number of vacant buildings in 2022, their respective functions, and preservation conditions.

Scenario	Function	Preservation	Vacant Buildings
Long-term scenario	Residential	Poor or ruinous	216
	Residential and Commercial or Service-oriented	Poor or ruinous	29
	Commercial or Service-oriented	Poor or ruinous	34
	No function perceptible		3
	Empty lot		158
Total			440
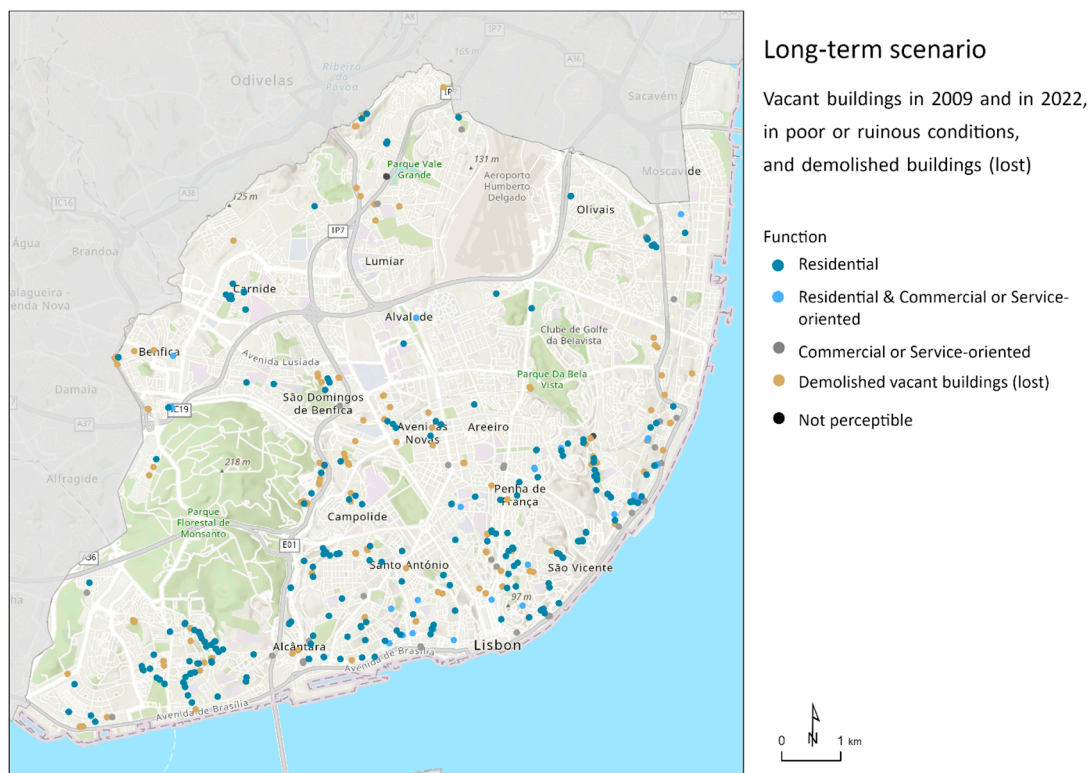
Figure 7. Long-term situation with the formerly vacant buildings that remain vacant but are in poor or ruinous preservation conditions and buildings that were demolished.

4. Discussion

According to our findings, Lisbon's vacant buildings underwent a notable requalification process during the last decade (2009–2022). As anticipated, this led to improvements in the quality of the building stock and decreased the prevalence of structures in poor or dilapidated conditions. Moreover, this revitalization effort has not only led to the reintroduction of residential units into the local housing market but has also contributed to the establishment of a greater number of commercial or service-oriented establishments alongside the emergence of new tourist-related activities. These emerging economic activities have implications for the overall quality of public spaces. By fostering a mix of residential, commercial, and leisure activities, requalified buildings contribute to the overall diversity of streets and neighborhoods.

The survey also revealed that, while the predominant use of occupied buildings is for residential purposes, followed by commercial or service-oriented activities, tourist-related activities are found in a notable portion of these buildings. This fact underscores the role of tourism in the local economy and the potential impact it had in the requalification of vacant buildings within the city. Nevertheless, the impacts of tourist-oriented repurposed buildings in old cities can be two-folded. Tourist-oriented buildings can significantly contribute to the local economy by generating income for businesses (e.g., restaurants, shops, etc.) and property owners [34,35]. Additionally, they create employment opportunities in the hospitality, retail, and transportation sectors, improving the city's tax base [36–38]. This increased revenue allows for further investment in infrastructure, public services, and future urban development projects [39,40]. Tourist activity can also revitalize previously neglected areas of the city and encourage investment in the surrounding zones. This can lead to improved public spaces, infrastructure upgrades, and a reduction in crime rates often associated with abandoned buildings. However, some negative impacts can occur. An influx of tourists and catering businesses can drive up property values and rents, leading to gentrification, studentification, and displacement [19,20,41]. This can force long-time residents out of their neighborhoods, disrupting the social fabric and potentially causing resentment towards tourists [42–44]. Additionally, increased tourist activity can put a strain on existing infrastructure, such as water supply, waste management systems, and public transportation [45–47]. This may necessitate the city to further invest in upgrades to ensure access to necessary services. The maintenance of the city's social and economic diversity can be compromised as overreliance on tourism and can lead to a homogenization of the city's character, with shops and services catering primarily to tourist preferences. This can result in the loss of local businesses and unique features like historical or traditional shops [48,49]. Furthermore, tourist hotspots can become overcrowded, creating disturbances for residents and impacting their quality of life. This can manifest as noise pollution, congested streets, and difficulty accessing amenities [46,50].

By carefully managing the development of tourist-oriented repurposed buildings, cities can maximize the positive economic and cultural benefits while mitigating the potential negative impacts. Strategies like mixed-use development, zoning regulations (e.g., limiting the number of short-rental accommodations), and promoting responsible tourism practices can help ensure that revitalization efforts lead to a more inclusive and sustainable urban environment.

The social impacts of building requalification are evident through the predominant residential function observed in 77% of the occupied buildings. Nonetheless, through analyzing the spatial dispersion of these buildings and their influence on population dynamics at the block level, the findings suggest that the presence of residential units does not significantly mitigate the modest population decline experienced by Lisbon over the past decade. Upon closer examination of the blocks that experienced a population decrease, it becomes apparent that alongside the reintroduction of requalified residential buildings, there has been a proliferation of short-term rental accommodations. For instance, in one block that witnessed a 19% decline in residents between 2011 and 2021, there was a reintroduction of four requalified residential buildings and 213 beds allocated for rental purposes. This constatation is in line with other studies that concern the impact of short-term rentals on population loss in Lisbon [41].

Through the geographic modeling of future urban development scenarios, based on the present status and preservation conditions of remaining vacant buildings, city planners can make informed decisions regarding the optimization of land use zoning, strategic infrastructure investments, and targeted community development initiatives. By thoroughly analyzing the spatial distribution and condition of these vacant properties, planners gain valuable insights into the potential opportunities and challenges they present for the city's growth and sustainability. This data-driven approach to urban planning, informed by the geographic modeling of vacant buildings, allows to prioritize areas for revitalization or redevelopment, taking into account factors such as their proximity to

existing amenities, transportation networks, environmental considerations, and community needs. By strategically allocating resources and incentives, planners can encourage the adaptive reuse of vacant buildings, promoting infill development and minimizing urban sprawl. Furthermore, among the vacant buildings, some are historical landmarks, such as palaces or industrial sites with significant heritage value. Requalifying these buildings for contemporary use not only preserves their historical value but also revitalizes surrounding neighborhoods. Moreover, repurposed historic buildings serve as magnets for cultural tourism, attracting visitors eager to explore the city's heritage. Likewise, the remaining vacant sites can be revitalized through temporary uses, such as small-scale projects like pop-up gardens, playgrounds, or marketplaces. These initiatives foster social innovation, strengthen community cohesion, and generate environmental benefits by repurposing underutilized spaces for public enjoyment and engagement [51,52]. In addition to social benefits, temporary revitalization efforts also generate environmental advantages. Pop-up gardens and green spaces contribute to urban biodiversity, improve air quality, and mitigate the heat island effect. By introducing vegetation into vacant lots, these projects help reduce stormwater runoff, enhance soil health, and create habitats for local wildlife [53,54]. Additionally, these temporary uses can serve as incubators for larger, more permanent redevelopment projects, allowing city planners and local stakeholders (schools, NGOs, groups of citizens, etc.) to test ideas, gather feedback from the community, and assess the viability of future interventions. In this context, these spaces may contribute to the discussion of the productive role of the city, both for food and for clean industrial production ([55,56]). Overall, temporary revitalization efforts contribute to the vitality, resilience, and sustainability of urban spaces while enhancing the quality of life for residents.

5. Conclusions

This study presented a comprehensive analysis of the revitalization efforts undertaken for vacant buildings in Lisbon, Portugal, from 2009 to 2022, with projections extending into the future. The findings offer valuable insights and recommendations applicable to the broader context of urban regeneration.

According to our study, significant progress has been made in transforming a substantial portion of vacant buildings into occupied spaces, primarily addressing residential needs. The requalified buildings now offer a diverse mix of functionalities, including commercial/service-oriented establishments, short-term rentals, and hotels, alongside residential units. This functional diversification not only stimulates economic activity by catering to various needs but also contributes to the city's overall growth and dynamism. The study also examined future potential development plans and the long-term vision for remaining vacant buildings. While their current condition presents challenges, these structures offer unique opportunities for strategic planning and designation based on evolving market trends and future needs. Two key areas will guide future research endeavors. The first area will focus on a rigorous evaluation of how increasing municipal property tax impacts derelict building renovation in Lisbon. The second area will involve a deeper analysis of the commercial dynamics resulting from these renovation projects.

The findings of this study offer crucial insights for other cities contemplating similar revitalization initiatives. Prioritizing housing through the transformation of vacant buildings can be an effective strategy for fostering urban growth and meeting the needs of a growing population. This approach promotes sustainability by maximizing the use of existing structures, reducing the need for new construction and the associated environmental impact. Furthermore, incorporating green spaces and amenities into these revitalization plans is crucial. Carefully designed courtyards, rooftop gardens, and strategically placed parks can enhance residents' quality of life, promote social interaction, and contribute to a more sustainable urban environment [54,57]. Additionally, promoting functional diversification within revitalized spaces can stimulate economic activity, cater to various needs, and contribute to the vitality of surrounding neighborhoods [58]. Finally, engaging in comprehensive planning for the future utilization of vacant buildings, considering both

immediate and long-term needs, is essential for maximizing their long-term impact and ensuring sustainable urban development.

Author Contributions: Conceptualization, T.S. and F.R.; methodology, T.S.; formal analysis, T.S.; investigation, T.S. and F.R.; writing—original draft preparation, T.S.; visualization, T.S.; supervision, T.S.; project administration, T.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research was financed by national funds through the FCT—the Foundation for Science and Technology, I.P., within the scope of the project "UIDB/04647/2020" of CICS.NOVA—Interdisciplinary Centre of Social Sciences of Universidade Nova de Lisboa. The first author was financed by national funds through the FCT under the Norma Transitória—DL57/2016/CP1453/CT0004 (https://doi.org/10.54499/DL57/2016/CP1453/CT0004).

Institutional Review Board Statement: Not applicable.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The datasets presented in this article are not readily available because the data are part of an ongoing study.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Alves, S.; Azevedo, A.B.; Mendes, L.; Silva, K. Urban Regeneration, Rent Regulation and the Private Rental Sector in Portugal: A Case Study on Inner-City Lisbon's Social Sustainability. *Land* **2023**, *12*, 1644. [CrossRef]
2. Tavakoli, H.; Marzbali, M.H. Urban Public Policy and the Formation of Dilapidated Abandoned Buildings in Historic Cities: Causes, Impacts and Recommendations. *Sustainability* **2021**, *13*, 6178. [CrossRef]
3. Shahraki, A.A. Renovation Programs in Old and Inefficient Neighborhoods of Cities with Case Studies. *City Territ. Archit.* **2022**, *9*, 28. [CrossRef]
4. Ho, D.C.W.; Yau, Y.; Poon, S.W.; Liusman, E. Achieving Sustainable Urban Renewal in Hong Kong: Strategy for Dilapidation Assessment of High Rises. *J. Urban Plan. Dev.* **2012**, *138*, 153–165. [CrossRef]
5. Randolph, B.; Freestone, R. Housing Differentiation and Renewal in Middle-Ring Suburbs: The Experience of Sydney, Australia. *Urban Stud.* **2012**, *49*, 2557–2575. [CrossRef]
6. Fonseca, F.; Ramos, R.A.R. Vacant Industrial Buildings in Portugal: A Case Study from Four Municipalities. *Plan. Pract. Res.* **2019**, *34*, 239–254. [CrossRef]
7. Lima, P.; Baptista, P.; Gomes, R. Framework for Quantifying Energy Impacts of Rehabilitation of Derelict Buildings: Assessment in Lisbon, Portugal. *Energies* **2023**, *16*, 3677. [CrossRef]
8. Vilches, A.; Garcia-Martinez, A.; Sanchez-Montañes, B. Life Cycle Assessment (LCA) of Building Refurbishment: A Literature Review. *Energy Build.* **2017**, *135*, 286–301. [CrossRef]
9. Direção-Geral Do Território-DGT Renovação Urbana. Available online: https://www.forumdascidades.pt/content/renovacao-urbana (accessed on 15 March 2024).
10. Langston, C.; Wong, F.K.W.; Hui, E.C.M.; Shen, L.-Y. Strategic Assessment of Building Adaptive Reuse Opportunities in Hong Kong. *Build. Environ.* **2008**, *43*, 1709–1718. [CrossRef]
11. Neto, L.; Pinto, N.; Burns, M. Evaluating the Impacts of Urban Regeneration Companies in Portugal: The Case of Porto. *Plan. Pract. Res.* **2014**, *29*, 525–542. [CrossRef]
12. de Oliveira, A.M.C.P.; Lanzinha, J.C.G.; Kern, A.P. Building Rehabilitation: A Sustainable Strategy for the Preservation of the Built Environment. *Sustainability* **2024**, *16*, 553. [CrossRef]
13. da Silva Costa, T.M.; Cabral, N.R.A.J.; da Silva, A.C.; Mota, F.S.G.; da Silva Diógenes, L. Analysis of the Contribution of Building Rehabilitation to the Achievement of SDG 11. *J. Build. Rehabil.* **2023**, *8*, 70. [CrossRef]
14. Munarim, U.; Ghisi, E. Environmental Feasibility of Heritage Buildings Rehabilitation. *Renew. Sustain. Energy Rev.* **2016**, *58*, 235–249. [CrossRef]
15. Almeida, C.P.; Ramos, A.F.; Silva, J.M. Sustainability Assessment of Building Rehabilitation Actions in Old Urban Centres. *Sustain. Cities Soc.* **2018**, *36*, 378–385. [CrossRef]
16. Power, A. Does Demolition or Refurbishment of Old and Inefficient Homes Help to Increase Our Environmental, Social and Economic Viability? *Energy Policy* **2008**, *36*, 4487–4501. [CrossRef]
17. Zheng, H.W.; Shen, G.Q.; Wang, H. A Review of Recent Studies on Sustainable Urban Renewal. *Habitat. Int.* **2014**, *41*, 272–279. [CrossRef]
18. Esther Yakubu, I.; Egbelakin, T.; Dizhur, D.; Ingham, J.; Sungho Park, K.; Phipps, R. Why Are Older Inner-City Buildings Vacant? Implications for Town Centre Regeneration. *J. Urban Regen. Renew.* **2017**, *11*, 44–59.
19. Cocola-Gant, A.; Gago, A. Airbnb, Buy-to-Let Investment and Tourism-Driven Displacement: A Case Study in Lisbon. *Environ. Plan. A* **2021**, *53*, 1671–1688. [CrossRef]

20. Estevens, A.; Cocola-Gant, A.; López-Gay, A.; Pavel, F. The Role of the State in the Touristification of Lisbon. *Cities* **2023**, *137*, 104275. [CrossRef]
21. Morgado, S. Urban Rehabilitation, Social Innovation, and New Working Spaces in Lisbon. *Sustainability* **2021**, *13*, 11925. [CrossRef]
22. Collier, C.G. The Role of Micro-Climates in Urban Regeneration Planning. *Proc. Inst. Civ. Eng. Munic. Eng.* **2011**, *164*, 73–82. [CrossRef]
23. Pugh, T.A.M.; MacKenzie, A.R.; Davies, G.; Whyatt, J.D.; Barnes, M.; Hewitt, C.N. A Futures-Based Analysis for Urban Air Quality Remediation. *Proc. Inst. Civ. Eng. Eng. Sustain.* **2012**, *165*, 21–36. [CrossRef]
24. Long, X.; Ji, X.; Ulgiati, S. Is Urbanization Eco-Friendly? An Energy and Land Use Cross-Country Analysis. *Energy Policy* **2017**, *100*, 387–396. [CrossRef]
25. Wei, Y.D.; Ewing, R. Urban Expansion, Sprawl and Inequality. *Landsc. Urban Plan.* **2018**, *177*, 259–265. [CrossRef]
26. Gregório, V.; Seixas, J. Energy Savings Potential in Urban Rehabilitation: A Spatial-Based Methodology Applied to Historic Centres. *Energy Build.* **2017**, *152*, 11–23. [CrossRef]
27. Itard, L.; Klunder, G. Comparing Environmental Impacts of Renovated Housing Stock with New Construction. *Build. Res. Inf.* **2007**, *35*, 252–267. [CrossRef]
28. Câmara Municipal de Lisboa PDM em Vigor. Available online: https://www.lisboa.pt/cidade/urbanismo/planeamento-urbano/plano-diretor-municipal/pdm-em-vigor (accessed on 20 March 2024).
29. Câmara Municipal de Lisboa Estratégia de Reabilitação Urbana de Lisboa. Available online: https://www.lisboa.pt/fileadmin/cidade_temas/urbanismo/reabilitacao_Urbana/documentos/estrategia_reabilitacao.pdf (accessed on 11 April 2024).
30. Barata-Salgueiro, T.; Guimarães, P. Public Policy for Sustainability and Retail Resilience in Lisbon City Center. *Sustainability* **2020**, *12*, 9433. [CrossRef]
31. Santos, T.; Pereira, M.; Velez, S.; Álvaro, C. Dinâmicas de Reabilitação Em Edifícios Devolutos Públicos Na Cidade de Lisboa (2009–2018). In Proceedings of the Península Ibérica no Mundo: Problemas e Desafios par Auma Intervenção Ativa da Geografia, Lisboa, Portugal, 5–7 November 2018; pp. 206–214.
32. Câmara Municipal de Lisboa Baixa Pombalina, Plano de Pormenor de Salvaguarda. Available online: https://www.lisboa.pt/cidade/urbanismo/planeamento-urbano/planos-de-pormenor/detalhe/baixa-pombalina (accessed on 11 April 2024).
33. Turismo de Portugal Turismo de Portugal—Dados Abertos. Available online: https://dadosabertos.turismodeportugal.pt/ (accessed on 3 April 2024).
34. World Travel and Tourism Council. *Travel & Tourism Economic Impact 2018*; World Travel and Tourism Council: Lisboa, Portugal, 2018.
35. Zavaleta Chavez Arroyo, F.O.; Sánchez Pantaleón, A.J.; Aldea Roman, C.E.; Esparza-Huamanchumo, R.M.; Álvarez-García, J. A Structural Analysis of the Economic Impact of Tourism and the Perspective of Tourism Providers in Kuélap, Peru. *Land* **2024**, *13*, 120. [CrossRef]
36. Ahirwar, V.; Gupta, R.; Kumar, A. Impacts of Tourism on Development of Urban Areas in Indian Cities: A Systematic Literature Review. *J. Environ. Manag. Tour.* **2023**, *14*, 2993. [CrossRef]
37. Carrascal Incera, A.; Fernández, M.F. Tourism and Income Distribution: Evidence from a Developed Regional Economy. *Tour. Manag.* **2015**, *48*, 11–20. [CrossRef]
38. Gemar, G.; Soler, I.P.; Moniche, L. Exploring the Impacts of Local Development Initiatives on Tourism: A Case Study Analysis. *Heliyon* **2023**, *9*, e19924. [CrossRef]
39. Comerio, N.; Strozzi, F. Tourism and Its Economic Impact: A Literature Review Using Bibliometric Tools. *Tour. Econ.* **2019**, *25*, 109–131. [CrossRef]
40. Marcia Sakai Public Sector. Investment in Tourism Infrastructure. In *International Handbook on the Economics of Tourism*; Edward Elgar Publishing Limited: Cheltenham, UK, 2006; pp. 266–280. ISBN 978-1-84376-104-4.
41. Sequera, J.; Nofre, J. Touristification, Transnational Gentrification and Urban Change in Lisbon: The Neighbourhood of Alfama. *Urban Stud.* **2020**, *57*, 3169–3189. [CrossRef]
42. Bertocchi, D.; Camatti, N.; Giove, S.; van der Borg, J. Venice and Overtourism: Simulating Sustainable Development Scenarios through a Tourism Carrying Capacity Model. *Sustainability* **2020**, *12*, 512. [CrossRef]
43. Hernandez-Maskivker, G.; Fornells, A.; Teixido-Navarro, F.; Pulido, J. Exploring Mass Tourism Impacts on Locals: A Comparative Analysis between Barcelona and Sevilla. *Eur. J. Tour. Res.* **2021**, *29*, 2908. [CrossRef]
44. González-Reverté, F. The Perception of Overtourism in Urban Destinations. Empirical Evidence Based on Residents' Emotional Response. *Tour. Plan. Dev.* **2022**, *19*, 451–477. [CrossRef]
45. Santos, T.; Deus, R.; Rocha, J.; Tenedório, J.A. Assessing Sustainable Urban Development Trends in a Dynamic Tourist Coastal Area Using 3D Spatial Indicators. *Energies* **2021**, *14*, 5044. [CrossRef]
46. Koens, K.; Postma, A.; Papp, B. Is Overtourism Overused? Understanding the Impact of Tourism in a City Context. *Sustainability* **2018**, *10*, 4384. [CrossRef]
47. Capocchi, A.; Vallone, C.; Pierotti, M.; Amaduzzi, A. Overtourism: A Literature Review to Assess Implications and Future Perspectives. *Sustainability* **2019**, *11*, 3303. [CrossRef]
48. Rozmiarek, M.; Malchrowicz-Mośko, E.; Kazimierczak, M. Overtourism and the Impact of Tourist Traffic on the Daily Life of City Residents: A Case Study of Poznan. *J. Tour. Cult. Chang.* **2022**, *20*, 718–734. [CrossRef]

49. Jover, J.; Díaz-Parra, I. Who Is the City for? Overtourism, Lifestyle Migration and Social Sustainability. *Tour. Geogr.* **2022**, *24*, 9–32. [CrossRef]

50. Fedyk, W.; Sołtysik, M.; Olearnik, J.; Barwicka, K.; Mucha, A. How Overtourism Threatens Large Urban Areas: A Case Study of the City of Wrocław, Poland. *Sustainability* **2020**, *12*, 1783. [CrossRef]

51. Galdini, R. Temporary Uses in Contemporary Spaces. A European Project in Rome. *Cities* **2020**, *96*, 102445. [CrossRef]

52. Ribeiro, A.; Carvalho, R.; Madureira, L. Establishing Urban Gardens on Vacant Land While Considering International Good Practices: A Legal Case Study from Portugal. In *Sustainability and Law: General and Specific Aspects*; Mauerhofer, V., Rupo, D., Tarquinio, L., Eds.; Springer International Publishing: Cham, Switzerland, 2020; pp. 729–752. ISBN 978-3-030-42630-9.

53. Santos, T.; Silva, C.; Tenedório, J.A. Promoting Citizens' Quality of Life Through Green Urban Planning. In *Geographical Information Systems Theory, Applications and Management*; Ragia, L., Laurini, R., Rocha, J.G., Eds.; Communications in Computer and Information Science; Springer: Cham, Switzerland, 2019; pp. 153–175. ISBN 978-3-030-06010-7.

54. Santos, T.; Tenedório, J.A.; Gonçalves, J.A. Quantifying the City's Green Area Potential Gain Using Remote Sensing Data. *Sustainability* **2016**, *8*, 1247. [CrossRef]

55. Herrmann, C.; Juraschek, M.; Burggräf, P.; Kara, S. Urban Production: State of the Art and Future Trends for Urban Factories. *CIRP Ann.* **2020**, *69*, 764–787. [CrossRef]

56. Delgado, C. The Role of Land as the Central Piece to Sustainable Food Systems: Lessons Learned from Portugal National Food-Related Policies. *Geogr. Sustain.* **2023**, *4*, 84–90. [CrossRef]

57. Reyes-Riveros, R.; Altamirano, A.; De La Barrera, F.; Rozas, D.; Vieli, L.; Meli, P. Linking Public Urban Green Spaces and Human Well-Being: A Systematic Review. *Urban For. Urban Green.* **2021**, *61*, 127105. [CrossRef]

58. Santos, T.; Ramalhete, F.; Julião, R.P.; Soares, N.P. Sustainable Living Neighbourhoods: Measuring Public Space Quality and Walking Environment in Lisbon. *Geogr. Sustain.* **2022**, *3*, 289–298. [CrossRef]