

Article

From Urban Challenges to “ClimaEquitable” Opportunities: Enhancing Resilience with Urban Welfare

Marsia Marino 

PDTA Department, Sapienza University of Rome, 00196 Rome, Italy; marsia.marino@uniroma1.it

Abstract: From the perspective of the scientific-disciplinary debate within urban planning, this research addresses the theme of the “new urban question” resulting from environmental concerns related to the climate crisis and socioeconomic issues that have now become structural. It then delves into the connection between urban environment quality and quality of life, ultimately questioning the role that territorial governance tools play in positively influencing the perception of well-being in cities. The overall objective of this contribution is to define an interpretative framework for experimental approaches in territorial governance. This overarching objective is articulated in the definition of two specific outcomes, pursued through an inductive methodology. The first one involves establishing an initial set of urban welfare indicators; the second entails defining strategies for planning, designing, and regenerating the public components of the city that could influence the indicators. Both outcomes are designed to be exportable to different territorial contexts.

Keywords: ClimaEquitable planning; local urban plan; new urban question; urban welfare; climate crisis; socioeconomic crisis; urban resilience

1. The New Urban Question: Between Socioeconomic and Environmental Challenges

The discussion surrounding the “new urban question” began in the 1970s when Manuel Castells introduced the concept in his book *The Urban Question: A Marxist Approach* (1979) [1]. Castells identified a so-called “city of well-being” as the central core of this new issue, emphasizing the importance of analyzing the deep-seated causes of urban development rooted in a complex network of economy, politics, and social well-being.

Later, Jacques Donzelot, in his book *Quand le ville se défait. Quelle politique face à la crise des banlieues?* (2008) [2] focused on the “social question,” highlighting how it had long been associated solely with defending wage conditions, excluding the issue of social exclusion within cities from the debate. His investigation traces the “new urban question” back to what he calls the “logic of separation in the city,” which has progressively compromised its capacity to “create society,” leading to three concurrent trends of urban transformation within the same territorial reality: “relegation,” “suburbanization,” and “gentrification.”

Danzelot argues that to ensure genuine social diversity, it is necessary to structurally intervene in inter-neighborhood and inter-municipal mobility to overcome the infrastructural barriers that separate relegated, peri-urban, and gentrified areas. This concept has recently been echoed by Mimar et al. (2022) in the article “Connecting intercity mobility with urban welfare” [3].

Danzelot’s discussion of mobility also connects with what Giuseppe Campos Venuti refers to as “genetic anomalies”, which have characterized the development of Italian cities since the 20th century. Unlike Western European cities that grew in close relation to the railway network, Italian cities developed in a completely subordinate manner in relation to road infrastructure, facilitating a “spread like an oil stain” expansion. Many urban dynamics scholars have attempted over the years to provide a definition for this condition: Francesco Indovina talks about “dispersed city” (1990), “metropolitan archipelago” (2009),



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and “territorial metropolis” (2010), Manuel Castells about “networked city” (2004), Augé about “non-place city” (1992) [4–8].

What differentiates the current urban crisis from the one that originated in the second half of the last century is the emergence of environmental concerns linked to the climate crisis, which add to the socioeconomic issues mentioned so far.

Indeed, «there are not two separate crises, social and environmental, but one complex socio-environmental crisis. To respond to this, we need a comprehensive approach to combat poverty while simultaneously caring for nature» [9], an approach that considers both socioeconomic and environmental demands at the same time.

Almost always, ecological and social issues are addressed at all levels of governance in a distinct manner, even though they are recognized as the two main challenges of contemporary society.

International organizations highlight how the processes of metropolization have, in recent decades, significantly influenced the form and structure of contemporary cities, with well-known consequences in terms of pollution, land consumption, lack of infrastructure, and a general sense of insecurity [10].

In this regard, Khan, Hildingson, and Garting (2020) [11] point out that there is an increasingly concrete risk that efforts to address ecological challenges may have a negative impact on equality and social well-being.

One of the most recent examples of how these closely related issues struggle to find common ground is the limited outcome of COP 27, held in Sharm el-Sheikh from 7–8 November 2022, regarding the establishment of a specific fund to compensate for the impacts of climate change on the territories of the most vulnerable countries.

The need to integrate socioeconomic and environmental demands is also strongly emphasized by the United Nations in the document *Strategy for sustainability management in the United Nations system, 2020–2030 Phase II: Towards leadership in environmental and social sustainability* [12], which builds on two previous reports: *A framework for advancing environmental and social sustainability in the United Nations system* from 2012 and *Advancing the Environmental and Social Sustainability Framework in the United Nations System* from 2014 [13,14].

1.1. Programmatic Measures Introduced by the EU

In this frame of reference, the European Union has implemented various policy-programmatic measures aimed at creating sustainable and inclusive urban communities. These initiatives stem from the thematic priorities outlined in the *European Urban Agenda* [15], addressing critical issues such as migrant inclusion, air quality, urban poverty, and adaptation to climate change.

Heading in the same direction is the *European Green Deal*, which aims to make the EU a zero-emissions society by 2050, balancing environmental and social dimensions, along with the pact *A Strong Social Europe for Just Transitions* and the *Just Transition Fund 2021–2027*, which emphasize themes of employment, equal opportunities, and social protection [16–18].

Furthermore, the COVID-19 pandemic has underscored the importance of “space”—both public and private—for people’s quality of life, a concept emphasized by the *New European Bauhaus* initiative [19]. This initiative seeks to rethink cities and living spaces, making them more aesthetically pleasing, sustainable, and inclusive.

At the national level, Italy first developed its own *Urban Agenda for Sustainable Development* [20], and subsequently, in response to the COVID-19 pandemic, the *National Recovery and Resilience Plan* [21] was introduced to enhance digitization, ecological transition, and social inclusion.

This brief overview provides insight into how the EU and Italy are implementing measures and strategies to address environmental and social challenges, promoting sustainability and social inclusion within urban communities.

1.2. “Right to the Public City” and Urban Welfare

The convergence of socioeconomic and environmental concerns in the “new urban question” refers to what Henri Lefebvre calls the “right to the city.” This encompasses the right to participate in decisions that affect individuals and the city they inhabit, regardless of the level from which the decision originates (central government, local administration, company, international organization, etc.).

The second aspect pertains to the right of city residents to physically access, occupy, and use urban space. Lefebvre’s concept not only applies to existing urban space but also to the right to produce new urban space that meets citizens’ needs. In a way, Lefebvre’s thinking anticipates both the concept of urban welfare and the attribution of social value to urban regeneration. The latter is understood as a strategy for urban planning, social inclusion, economic development, and ecological transformation of territories. It considers the spontaneous nature of metropolization phenomena and is aimed at pursuing a unified and integrated public governance strategy capable of envisioning a new decentralized arrangement of urban structure. This new structure should be polycentric, sustainable, and accessible, aimed at achieving integration between informal and planned cities, as well as the introduction of functions and residences [22].

In this sense, the city becomes the ideal projection of a new urban welfare for communities, aiming to combine quality of life and urban environmental quality.

For these reasons, its definition requires high levels of integration, interdisciplinarity, interscalarism, and iterativity for a recomposition of the physical and socioeconomic components of change [23].

In this frame of reference, the concept of “urban welfare” refers to the ability of an urban system to provide settled inhabitants with an adequate level of well-being through the creation of facilities and spaces of collective interest, integrating the concepts of “urban standards” and “urban facilities” [24].

Considering the outlined conceptual framework, the primary purpose of this article is to investigate relations and interdependencies between urban life quality and potential innovative strategies for the planning, design, and regeneration of public components within the city (conceived by the author as the most effective reference parameter for assessing the overall health of cities), aimed at constructing a new urban welfare for settled communities. In this context, following a literature review outlined in the subsequent paragraph, the intention is to examine two cities characterized by the highest quality of life in the year 2022, one at an international level and another at a national Italian level, with a dual objective:

- Analyzing the indicators used to determine the ranking, distinguishing between socioeconomic and environmental indicators (considering the outlined thematic framework).
- Verifying the existence, within the local urban plans of the analyzed cities, of specific strategies that may have positively influenced the aforementioned indicators.

The first objective is preliminary to extract primitive urban welfare indicators exportable to other contexts, while the second aims to define strategies for the planning, design, and regeneration of the public city, from which to develop specific criteria and quantifiable parameters exportable in subsequent phases of the research.

The expected outcome of this article is, therefore, to establish a useful theoretical, methodological, and operational reference for applying, in future phases of the research, primitive urban welfare indicators to a sample city in order to assess the quality of life in cities (as perceived by their inhabitants in terms of their relationship with public components) at the time of assessment and after the potential implementation of corrective strategies, also broadly outlined in this paper. This aims to understand how indicators might be affected by the application of specific strategies.

2. Literature Review

The close relationship between quality of life and urban environmental quality is strongly emphasized by the *European Urban Agenda*, launched in Amsterdam in 2016 [15].

The underlying concept is that of a city as a “well-being factory” [25] that places people at the center of urban development processes.

A noteworthy example demonstrating the multidisciplinary nature of the connection between quality of life and urban environmental quality is provided by a study conducted by James F. Sallis, published in 2016 in the international medical journal *The Lancet*. This study offers an objective assessment of the relationship between features of the built environment and the inclination of city inhabitants towards physical activity. It demonstrates that in dense cities with a good presence of green areas (considering their accessibility), the population is encouraged to walk to reach services and activities [26].

Another interesting perspective for understanding the relationship between quality of life and urban environmental quality in a multidisciplinary context is the map of health for human habitat at the local scale [27]. This map provides some intriguing insights for integrating urban planning and health, identifying five areas of consideration:

- Land use and transport planning;
- Social services;
- Economic regeneration;
- Integrated transportation;
- Integrated planning of resources for energy, water, food, waste, etc.

It is necessary to adopt new indicators of vulnerability and sustainability to better comprehend these connections and interdependencies and to define and guide a new model of urban welfare capable of incorporating both socioeconomic and environmental dimensions.

In this regard, the research within which this article is placed has preliminarily analyzed various datasets of socioeconomic and environmental vulnerability and sustainability indicators (Table 1) [28–32].

Table 1. Within the scope of the project “Urban welfare, public city, and rights: Strategies, tools, mechanisms for innovation in the local plan within a climate-resilient perspective” (within which this contribution is inserted), the author analyzed various datasets containing indicators of socioeconomic and environmental vulnerability and sustainability.

Characteristics of the Analyzed Indicator Sets	Sets of Analyzed Indicators					
	ISTAT (2017)	“Territori civili” (Legambiente e Caritas Italiana, 2020)	SDGs Measures on a Regional Scale (Istat, 2022)	BES Report 2021	Global Liveability Index 2022 (EIU)	33rd Survey on Quality of Life (Sole 24 Ore, 2022)
Scope of Application	Italian national, urban scale	Regional	Regional	National, urban scale	International, urban scale	National, urban scale
Structure	Eight reference domains with 27 specific indicators (mainly socioeconomic)	40 social indicators and 30 environmental indicators, divided into various dimensions	Over 200 indicators defined by the Inter-Agency Expert Group on SDG (Sustainable Development Goals) Indicators	Integrated analysis of economic, social, and environmental phenomena divided into 12 domains	Five main categories with various specific indicators (both socioeconomic and environmental)	Six synthetic indicators are divided into sub-indicators (including both socioeconomic and environmental aspects)
Main focus	Exposure to socioeconomic vulnerabilities of the analyzed cities, with specific reference to peripheral areas.	Relationship between fragility and socioeconomic and environmental resources of Italian regions.	Monitoring progress towards Sustainable Development Goals	Evaluation of the well-being, defined as fair and sustainable, of Italian cities	Evaluation of the city with the best quality of life on a global scale.	Evaluation of the city with the best quality of life on a national scale in Italy.

Based on the analysis conducted and for the purposes of this research, which aims to connect the quality of life in cities with the quality of the urban environment, it was deemed appropriate to consider the two datasets explicitly intended to assess the quality of life in major international and Italian cities. Indeed, thanks to the *Global Liveability Index* (by The Economist Group–Economist Intelligence Unit) [33] and the *33rd Survey on Quality of Life* by Il Sole 24 Ore [34] it has been possible to identify Vienna (AT) and Bologna (IT) as the cities with the best quality of life for the year 2022, the former at an international level and the latter at a national Italian level. These cities were therefore selected for more specific analyses to investigate the connections and interdependencies between innovative strategies for planning, designing, and regenerating urban components (primarily public ones)–envisaged by the respective local planning instruments–and the quality of life.

2.1. The International Context: The Global Liveability Index (2022)

Every year, the Economist Intelligence Unit (EIU) compiles the *Global Liveability Index* to determine the most liveable city in the world out of 172 cities assessed. This assessment is based on various indicators aimed at investigating political stability, culture, environment, education, and infrastructure.

The set of indicators proposed by the EIU is divided into five main categories, each of which carries a different weight (expressed in percentage) in the total evaluation. Each category is defined by various specific indicators that provide both quantitative and qualitative insights [33].

From the data analysis, it is interesting to note that the impact of restrictions implemented in response to the COVID-19 pandemic has significantly influenced the considered values. The results for 2022 closely approach those from pre-pandemic times (2019) and see the city of Vienna reclaiming the top position, which it held in 2018 and 2019 but lost in 2020 and 2021 because of the health crisis.

Generally, the greatest progress is observed in cities in Western Europe, while the worst rankings are held by cities experiencing armed conflicts. In fact, many African cities occupy the lowest positions, and Damascus ranks last out of all cities, at 172nd place, due to the decade-long war in Syria.

The top ten cities in the rankings, in order, are: Vienna (Austria); Copenhagen (Denmark); Zurich (Switzerland); Calgary (Canada); Vancouver (Canada); Geneva (Switzerland); Frankfurt (Germany); Toronto (Canada); Amsterdam (Netherlands); Osaka (Japan); Melbourne (Australia).

2.2. The Italian National Context: 33rd Survey on Quality of Life (2022)

The *33rd Survey on Quality of Life* by Il Sole 24 Ore in 2022 extensively addresses the repercussions of major shocks on the territory in recent years: the pandemic, the war in Ukraine, high energy costs, and inflation. Once again, a categorization is proposed, encompassing both synthetic indicators and sub-indicators.

Overall, the analysis for 2022 indicates an increasing gap between the regions of Southern and Northern Italy. Bologna emerges as the city with the highest quality of life; this marks the fifth occurrence, following 2000, 2004, 2011, and 2020. Bolzano and Florence secure the second and third positions, respectively.

Like the *Global Liveability Index*, the survey by Il Sole 24 Ore notes a decline in some metropolitan cities, notably Milan, which ranked second in 2021 but has dropped to eighth place this year. This is primarily attributed to the “Wealth and Consumption” indicator, which records higher values for mid-sized cities in 2022. Despite this decline, Milan still leads in the “Business and Employment” indicator but is penalized by the high percentage (over 60% in the city) of rental fees in relation to average income.

Rome experiences a drop of 18 positions, landing at 31st place, just below Genoa (27th). Turin follows at 40th place (down 9 from 2021), affected by poor air quality and a high incidence of reported crimes. Palermo ranks at 88th, while Naples is at 98th due to higher population density and perceived street-level insecurity [34].

From the analysis of the two datasets, it emerges that Vienna and Bologna are the cities with the highest quality of life for the year 2022, internationally and nationally, respectively. In examining these cities, it was initially interesting to scrutinize the socioeconomic and environmental vulnerability and sustainability indicators used to determine their top positions in the rankings. Subsequently, the focus shifted to investigating whether the territorial governance tools of these cities provide indications, guidelines, and strategies for planning, designing, and regenerating urban components (primarily public ones) that positively influence the well-being perception of their inhabitants.

It is important to highlight the diversity among the analyzed datasets, one at an international level and the other at a national level within Italy, which leads to the utilization of distinct indicators. Indeed, indicators and categories are different, and the results on the liveability of cities are the result of the indicators applied. This is also due to the different application scales of the datasets. The author, through the direct comparison of these indicators (Section 3.1), has chosen to harness this differing scope between the analyzed datasets (on an international and national scale) as an opportunity to integrate two distinct perspectives for a more comprehensive understanding of urban dynamics in their entirety.

3. Methodology

As previously mentioned, the overarching aim of this research is to ascertain whether there are connections between innovative territorial governance methods achieved through the establishment of guidelines and specific strategies for planning, designing, and regenerating the urban components (primarily public ones) outlined in local planning instruments and the excellent results attained by the two cities under examination (Vienna and Bologna) in international rankings assessing quality of life. The goal is to outline theoretical-methodological and operational references that can be applied to different urban contexts and to experiment with a “Clima-Equitable” innovation in the local urban plan as future developments of the research.

This objective materializes in the articulation of two distinct outcomes (target):

- Definition of an initial set of urban welfare indicators—exportable to different territorial contexts—to assess the quality of components of the city (primarily public ones) and how they impact the well-being of settled inhabitants.
- Definition of general strategies for the planning, designing, and regenerating of these components, also exportable to different territorial contexts.

To achieve these two targets, the research adopts an inductive methodology structured into two main phases (Figure 1):

- Phase 1 | Synthesis and categorization of only the indicators referring to urban structure and components, adapted from the two datasets referenced in Sections 2.1 and 2.2.
- Phase 2 | Analysis of the structure of local plans of the analyzed cities to bring out elements useful for defining strategies for the planning, designing, and regenerating urban components—primarily public ones.

3.1. Phase 1 | Synthesis and Categorization of Indicators Related to Urban Structure and Components

This paragraph provides a comparative analysis (Table 2) of only the indicators showing explicit relationships with urban components. The indicators have been synthesized and categorized based on those used in the two datasets mentioned in Section 2.1, *The Global Liveability Index* (column “EIU indicators” in Table 1), and Section 2.2, *The 33rd Survey on Quality of Life* (column “S24O indicators” in Table 1).

Once the suitable indicators were selected (highlighted in green in Table 1)—through an inductive approach—each of them was classified into reference macro-categories (conceptualized by the author to be exportable to different territorial contexts) to obtain useful references for defining new urban welfare indicators.

Specifically, each indicator was classified into a general category (in the “Gen. Cat.” column of Table 2), to which, in turn, an explicit impact on the urban structure was associated (in the “Impact U.S.” column of Table 2). Subsequently, the type of indicator was also

Table 2. Cont.

Gen. Cat.	Impact U.S.	EIU Indicators	Indicator Typologies		System			S24O Indicators	Indicators		System		
			SE	EN	E.S	S.S	MS.S		SE	EN	E.S	S.S	MS.S
Health care	Coverage and quality of healthcare facilities	Availability of private healthcare facilities	✓					✓					
		Evaluation of private healthcare facilities	✓					✓					
		Availability of public health facilities	✓					✓					
		Evaluation of public health facilities	✓					✓					
Instruction	Coverage and quality of school facilities	Availability of private school facilities	✓					✓					
		Evaluation of private school facilities	✓					✓					
		Availability of public school facilities	✓					✓					
		Evaluation of public school facilities	✓					✓					
Culture and free time	Coverage and quality of cultural and leisure venues	Availability of cultural facilities/places	✓					✓				✓	
		Availability of restaurants (including mobile catering)						✓				✓	
		Availability of museum heritage						✓				✓	
		Availability of agritourism companies						✓				✓	
		Availability of libraries						✓				✓	
		Bar availability						✓				✓	
Sport	Coverage and quality of facilities equipped for sports	Availability of sports equipment/facilities	✓					✓				✓	
		Availability of gyms, swimming pools, wellness centers and spas						✓				✓	
Environment	Effects of climate change on urban climate	Humidity/temperature		✓	✓			Consecutive days without rain		✓	✓		
		Perception of discomfort about the climate		✓	✓			Energy consumption	✓	✓	✓		
		Air quality						✓		✓			
	Green mobility	Motorization rate (cars in circulation per 100 inhabitants)						✓		✓			
		Pedestrian areas						✓		✓			
		Presence of cycle paths						✓		✓			
Infrastructural accessibility	Mobility infrastructure	Road quality	✓					✓					
		Quality of public transport	✓	✓				✓					
		Quality of connections to and from the city	✓					✓					

Table 2. Cont.

Gen. Cat.	Impact U.S.	EIU Indicators	Indicator Typologies		System			S24O Indicators	Indicators		System		
			SE	EN	E.S	S.S	MS.S		SE	EN	E.S	S.S	MS.S
Building heritage	Public and private residences	Availability of good quality residential accommodation	✓			✓		Average rental rates	✓			✓	
		Average home sales price						✓				✓	
		Living space (average surface area calculated on the basis of the average family members)						✓				✓	
		Burglaries at home						✓				✓	✓
		Population density (residents per km ²)	✓	✓				✓	✓			✓	✓
		Legally resident immigrants	✓					✓				✓	

The comparative analysis presented in Table 2 reveals that the *Global Liveability Index* dataset, used to determine the city with the best quality of life, relies almost exclusively on socioeconomic vulnerability/sustainability indicators. On the other hand, the dataset from the *33rd Survey on Quality of Life* includes several environmental vulnerability/sustainability indicators. However, the latter has a significant gap in evaluating healthcare and educational facilities compared to the former, while it provides a more detailed breakdown of indicators related to real estate assets [33,34].

3.2. Phase 2 | Analysis of the Local Urban Plans of Vienna and Bologna

3.2.1. Vienna–SPTEP 2025

The approach of Vienna’s local plan is encapsulated in its description: «The task for the future which Vienna is facing now is, to put it in simple terms, to create adequate living space, jobs as well as infrastructure to ensure local supplies, education, and recreation. “Adequate” does not only mean appropriate in quantitative terms but also adjusted to the needs of a city that has emerged as the most liveable city—or, in the ‘worst case’ as one of the most liveable cities—in the world in all international rankings for many years. Hence, Vienna is also challenged in qualitative terms» [35].

The Urban Development Plan of Vienna 2025 (from here on abbreviated as STEP 2025) is strongly oriented towards the public dimension of the city, especially in relation to three key points, closely interconnected with each other, the efficiency of which—as emphasized in the Plan—is directly proportional to the quality of life of the inhabitants:

1. Housing: great attention is paid to the provision of subsidized housing and social mix.
2. Green and open spaces: significant focus on the “undeveloped” space of the city, understood as public space (including the road network) and green areas.
3. Mobility: public mobility is understood as the backbone of the city—great attention is paid to green and cycle-pedestrian mobility.

The Plan is structured into four thematic areas:

1. Vienna: setting the stage, which defines the vision of the Plan.
2. Vienna: building the future, which provides general guidelines for the quality of the urban structure.
3. Vienna: reaching beyond its borders, in which the terms of urban development are defined from the perspective of a regional metropolis.
4. Vienna: networking the city, which outlines the principles related to mobility, social infrastructure, public spaces, and green areas.

For the purposes of this research, thematic areas 2, “Vienna: building the future,” and 4, “Vienna: networking the city,” are particularly interesting. These are the areas in which guidelines and strategies for the planning, designing, and regeneration of city components (housing, mobility, public spaces, and green areas) are explicitly detailed, determining urban welfare and the high quality of life in Vienna.

It should be noted that the STEP 2025 Plan delegates the definition of these strategies (and also some specific criteria/parameters) to detailed prescriptive documents, one for the “historic and consolidated city,” another for the “urban expansion areas,” and another for the “transformation or underutilized areas.”

For the sake of brevity, in Appendix A, some interesting strategies and quali-quantitative references for the planning and regeneration of city components (predominantly public ones) of the historic city are provided, synthesized from the detailed document attached to the STEP 2025 Plan, Gründerzeit Action Plan (2018) [36].

3.2.2. Bologna–PUG 2021

Bologna is one of the first municipalities in the Emilia-Romagna region to approve the General Urban Plan (from here on, abbreviated as PUG) in 2021, as required by the new regional law 24 of 2017.

The new PUG of the Municipality of Bologna was finally approved on 26 July 2021, after being adopted on 7 December, 2021, and identifies three thematic priorities:

1. Quality of the environment.
2. Quality of life.
3. Quality of infrastructure.

The Plan is structured around three general objectives (“Resilience and Environment,” “Habitability and Inclusion,” “Attractiveness and Employment”), each of which is articulated into urban strategies (a total of 12) and specific actions that define priorities and establish guidelines for urban policies and regulations for urban and building interventions in the city’s transformation. The first objective, “Resilience and Environment,” focuses on the recovery and redevelopment of existing areas rather than expansion beyond urban space.

The second, “Habitability and Inclusion,” aims to improve the quality of life both in the city center and in the suburbs to build a liveable and inclusive city.

The third, “Attractiveness and Employment,” aims to implement and strengthen the most important infrastructure as a driving force for urban regeneration.

Furthermore, the Plan identifies 24 territorial frameworks within the municipal territory, corresponding to parts of the city defined as “urban areas” by regional law (art.34 new regional law 24 of 2017). Each part of the city is characterized by recognizable spatial, functional, and environmental relationships and constitutes a shared reference for those who live in that area.

Through local strategies, the Plan pursues specific objectives of urban and ecological-environmental quality and identifies specific actions, interventions, or policies to be implemented in subsequent phases of planning and implementation.

For each urban area, the following is specified:

- The location of major public interventions, either underway or already included in planning instruments.
- Opportunities and issues.
- Functional and meaningful connections.

Unlike the Vienna STEP 2025 Plan, the Bologna PUG defines some guidelines—useful for defining strategies for the planning, design, and regeneration of city components—already in the definition of “specific actions” while leaving detailed elements to establish rules for the application of these guidelines to specific “fields of application” [37–48].

In Appendix B, a summary of the study of the PUG is proposed to extract connections and interdependencies between the excellent perception of the inhabitants' quality of life and innovative methods of territorial governance.

4. Results

4.1. Target 1 | Urban Welfare Indicators

Based on the comparative analysis presented in Table 2 (Section 3.1), it was possible to synthesize an initial set of urban welfare indicators that can be applied to different territorial contexts. This allows for the assessment of the quality of urban components and how they impact the well-being of settled inhabitants (Target 1).

The indicators from the two analyzed datasets were grouped together. Also, in this case, each of them was linked to a "Reference System" and a "Reference Category."

For each indicator, the "Impact on the urban structure" was highlighted, and it was indicated whether it was more appropriately considered a socioeconomic and/or environmental indicator (Table 3).

Table 3. Initial categorization of urban welfare indicators exportable to different territorial contexts.

Urban Welfare Indicators					
Reference System	Reference Category	Impact on the Urban Structure	Indicators	Indicator Typologies	
				SE	EN
Environmental system	Climate change	Effects of climate change on urban climate	Humidity/Temperature		✓
			Perception of discomfort about the climate		✓
			Consecutive days without rain		✓
			Energy consumption	✓	✓
			Air quality		✓
	Sports and health	Coverage and quality of sports facilities	Availability of sports equipment/facilities	✓	
			Availability of gyms, swimming pools, wellness centers and spas	✓	
Settlement-morphological system	Social stability	Perception of public space	Presence of petty crime	✓	
			Presence of violent petty crime	✓	
			Crime index-total number of crimes reported	✓	
			Robberies on public streets	✓	
			Perception of fear	✓	
			Sustainable public lighting	✓	
			Presence of disorders	✓	
			Availability of good quality residential accommodation	✓	
			Population density (Residents per km ²)	✓	✓
			Home burglaries	✓	
Building heritage	Public and private residences	Average rental rates	✓		
		Average home sales price	✓		
		Living space (average surface area based on average family members)	✓		
		Legal resident immigrants	✓		

Table 3. Cont.

Urban Welfare Indicators								
Reference System	Reference Category	Impact on the Urban Structure	Indicators	Indicator Typologies				
				SE	EN			
Health care	Coverage of healthcare facilities		Availability of private healthcare facilities	✓				
			Availability of public health facilities	✓				
			Evaluation of private healthcare facilities	✓				
			Evaluation of public health structures	✓				
	Quality of healthcare facilities			Availability of private school facilities	✓			
				Availability of public school facilities	✓			
				Evaluation of private school facilities	✓			
				Evaluation of public school facilities	✓			
	Instruction	Coverage of school facilities		Availability of private school facilities	✓			
				Availability of public school facilities	✓			
		Quality of school facilities			Evaluation of private school facilities	✓		
					Evaluation of public school facilities	✓		
Mobility and service system	Culture and free time	Coverage and quality of cultural and leisure venues	Availability of cultural facilities/places	✓				
			Cultural offer (shows per thousand inhabitants)	✓				
			Availability of sports equipment/facilities	✓				
			Availability of restaurants (including mobile catering)	✓				
			Availability of museum heritage	✓				
			Availability of agritourism companies	✓				
			Availability of libraries	✓				
			Bar availability	✓				
			Availability of gyms, swimming pools, wellness centers and spas	✓				
			Road quality	✓				
			Infrastructural accessibility	Mobility infrastructure		Quality of public transport	✓	✓
						Quality of connections to and from the city	✓	
Green mobility	Coverage, quality and use of green mobility infrastructure		Pedestrian areas		✓			
			Presence of cycle paths		✓			
			Motorization rate (Cars in circulation per 100 inhabitants)		✓			

4.2. Target 2 | Strategies for the Planning, Design, and Regeneration of the Urban Components

Based on the analysis of the local urban planning tools of the two analyzed cities, which highlight guidelines and strategies for the planning, design, and regeneration of the city components (Appendices A and B), it was possible to synthesize and categorize some general and exportable strategies, as required by Target 2 (Table 4).

As in the case of Table 3, the strategies derived from the two local plans were grouped together. Since the aim is to allow a comparison between urban welfare indicators and city components to enable their monitoring and evaluation, for each criterion, the most relevant “Reference System” and “Reference Category” have also been specified. The

expected impact of each action on the urban structure has also been explicitly stated. In this case, the nature of the strategies (socioeconomic and/or environmental) has also been explicitly mentioned.

Table 4. Initial categorization of strategies for the planning, design, and regeneration of city components—mostly public ones—exportable to different territorial contexts.

Strategies for Planning, Designing, and Regenerating Urban Components (Predominantly Public)						
Reference System	Reference Category	Impact on the Urban Structure	Strategies	Criteria/Parameter Typologies		
				SE	EN	
Environmental system	Climate change	Effects of climate change on urban climate	Promote the recovery and upgrading of existing building heritage		✓	
			Complete the parts of the city where transformation is not yet complete	✓	✓	
			Promote reuse and urban regeneration of built areas and anthropized land	✓	✓	
			Envision interventions for the unsealing and depavement of soil		✓	
			Safeguard biodiversity and the main ecosystem services of hills and plains		✓	
			Improve the quality of surface waters		✓	
			Maintain natural watercourse flows and reduce withdrawals from groundwater		✓	
			Enhance the quality of surface waters		✓	
			Ensure the regular flow of water in the mouths of streams and culverts		✓	
			Mitigate the urban heat island effect and introduce measures for building climate adaptation	✓	✓	
			Reduce the population’s exposure to pollution and anthropogenic risks	✓	✓	
			Promote and incentivize various forms of energy efficiency and equitable access to low-impact energy services	✓	✓	
			Plan the deployment of energy production plants from renewable sources by creating local distribution networks	✓	✓	
			Connection between city and countryside	Promote innovative practices in peri-urban agriculture	✓	✓
				Enhance peri-urban parks, improving their accessibility for tourism	✓	✓
Develop networks of safe paths and trails connected to national and European tourist routes	✓	✓				

Table 4. Cont.

Strategies for Planning, Designing, and Regenerating Urban Components (Predominantly Public)					
Reference System	Reference Category	Impact on the Urban Structure	Strategies	Criteria/Parameter Typologies	
				SE	EN
Settlement-morphological system	Social stability	Perception of public space	In case of elevation, ensure it is proportional to the street width	✓	
			Promote practices for regenerating public space along the street (creating parklets)	✓	
			Construct open spaces and public buildings with high architectural and environmental quality	✓	
			Renew the street space in terms of formal and environmental quality, accessibility, and safety	✓	✓
			Preserve the habitability and characteristics of the historic city	✓	
			Enhance the specialized fabrics of the historic city	✓	
	Building heritage	Public and private residences	Guarantee the conservation of architectural and cultural heritage of historical interest	✓	
			Promote the refunctionalization of the ground floor of buildings	✓	
			Ensure social diversity through the integration of rent-controlled housing units in buildings designated for private residences and the juxtaposition of new social housing structures with buildings designated for private residences	✓	
			In case of elevation, ensure it is proportional to the street width	✓	
			Promote the shared use of semi-public spaces in residential buildings (understood as a “common room”)	✓	
			Promote the recovery and improvement of existing building heritage	✓	✓
			Complete the parts of the city where transformation is not yet complete	✓	✓
			Promote the increase and innovation of rental housing supply	✓	
			Promote the increase of social housing supply	✓	
			Experiment with new forms of housing	✓	
Introduce functional and typological mixes in specialized areas near residential fabrics	✓				

Table 4. Cont.

Strategies for Planning, Designing, and Regenerating Urban Components (Predominantly Public)					
Reference System	Reference Category	Impact on the Urban Structure	Strategies	Criteria/Parameter Typologies	
				SE	EN
Mobility and service system	Culture and free time	Coverage and quality of cultural and leisure venues	Support a balanced spread of spaces for culture	✓	
			Promote local services and commercial activities	✓	
	Infrastructural accessibility	Mobility infrastructure	Implement, where possible, a hierarchical mobility system (Woonerf)	✓	
			Strengthen the rail network	✓	✓
	Green mobility	Coverage, quality, and use of green mobility infrastructure	Integrate alternative mobility models in public spaces (e.g., charging stations for electric cars)		✓
			Enhance urban green infrastructure	✓	✓
			Create urban blue infrastructures	✓	✓
			Extend and integrate the main framework of the urban and extra-urban cycling network	✓	✓

5. Discussion

The results presented in Tables 3 and 4 correspond to the two explicit outputs, namely:

- Definition of a preliminary set of urban welfare indicators—exportable to different territorial contexts—to assess the quality of city components (mostly public ones) and how they impact the well-being of settled inhabitants.
- Defining some strategies for the planning, designing, and regenerating of these components, which are also exportable to different territorial contexts.

To demonstrate the relationship between the summarized results in Tables 3 and 4, this paragraph presents a reflection on some urban regeneration strategies envisaged by the local plans of the two analyzed cities. These strategies have contributed to attaining the top position in international quality of life rankings or are anticipated to strengthen this standing in the near future.

For the sake of brevity, only a few indicators from Table 3 (at least one from each of the three identified reference systems: environmental, settlement-morphological, and mobility systems) have been selected. These are then correlated with some strategies (belonging to the same reference systems) chosen from Table 4. This relationship is clearly depicted in Table 5.

Regarding the Environmental System, “Perception of discomfort about the climate” and “Air quality” are two indicators referenced from the two analyzed datasets (the first in the EIU dataset, the second in the S24O dataset) and included in Table 3, “Initial categorization of urban welfare indicators.” These indicators fall under the “Climate Change” category and measure the impact of climate change on urban structures. Among the strategies identified in the local plans of Vienna and Bologna and summarized in Table 4, “Mitigate the urban heat island effect” and “Envision interventions for the unsealing and depavement of soil” were the most effective in improving these two indicators [49,50].

Regarding the Settlement-morphological System, “Perception of fear” is an indicator found in both the EIU and S24O datasets, also included in Table 3, “Initial categorization of urban welfare indicators.” This indicator belongs to the “Social stability” category and measures the population’s “Perception of public space.” Among the strategies outlined in

the local plans of Vienna and Bologna and synthesized in Table 4, “Renew the street space in terms of formal and environmental quality, accessibility, and safety” appears to be the most impactful in improving this indicator.

Table 5. Relations and interdependencies between Indicators and Strategies.

Relations and Interdependencies between Indicators and Criteria/Parameters						
Indicators from Table 3	Strategies from Table 4	Reference System	Reference Category	Impact on the Urban Structure	Typologies	
					SE	EN
Perception of discomfort about the climate (EIU) and Air Quality (S24O)	Mitigate the urban heat island effect and envision interventions for the unsealing and depavement of soil	Environmental	Climate change	Effects of climate change on urban climate		✓
Perception of fear (EIU and S24O)	Renew the street space in terms of formal and environmental quality, accessibility, and safety	Settlement-morphological	Social stability	Perception of public space	✓	
Road quality (EIU) and Presence of cycle paths (S24O)	Implement, where possible, a hierarchical mobility system (Woonerf)	Mobility	Infrastructural accessibility	Mobility infrastructure	✓	

Concerning the Mobility System, “Road quality” and “Presence of cycle paths” are two indicators referenced from the two analyzed datasets (the first in the EIU dataset, the second in the S24O dataset) and included in Table 3 “Initial categorization of urban welfare indicators.” These indicators belong to the “Infrastructural accessibility” category and measure the quality of “Mobility Infrastructure.” Among the strategies outlined in the local plans of Vienna and Bologna and synthesized in Table 4, “Implement, where possible, a hierarchical mobility system (Woonerf),” “Integrate alternative mobility models in public spaces (e.g., charging stations for electric cars),” and “Enhance urban green infrastructure” appear to be the most effective in improving these indicators.

6. Conclusions

It should be specified that both results are preliminary considerations that represent a reference from a methodological perspective. The overall goal of the contribution was to provide theoretical, methodological, and operational references for innovating the local urban plan with a climate-equitable approach, i.e., oriented toward sustainable urban development from both an environmental and socioeconomic standpoint.

In this sense, the aim was to demonstrate, starting from virtuous best practices, an explicit relevance between quality of life and quality of the urban environment, made evident by the fact that both the city of Vienna and Bologna (the two cities with the best quality of life for the year 2022) contain explicit references, strategies, criteria, and parameters within their local planning instruments aimed at ensuring the quality of urban components.

Furthermore, it was intended to show how it is possible to deduce, from these best practices, both exportable urban welfare indicators and strategies for a climate-equitable innovation of local planning instruments through the definition of guidelines for the planning, design, and regeneration of urban components.

Certainly, both the indicators presented in Table 3 and the strategies in Table 4 should be seen as initial results, subject to improvement and integration. Indeed, there are numerous datasets on socioeconomic and environmental vulnerability and sustainability from

which further references can be deduced to investigate connections between quality of life and quality of the urban environment (both at the international and Italian national levels). An interesting development in research could involve integrating specific indicators selected from the datasets mentioned in Table 1:

- ISTAT Dataset (2017) prepared for the Commission of Inquiry on the Degradation of Cities and Suburbs [45].
- Dataset prepared by Legambiente and Caritas Italiana for the report “Territori civili. Indicators, maps, and best practices towards integral ecology” (2020) [46].
- Statistical measures for monitoring the SDGs at the regional level [47].
- BES Report (2021) [48].

Regarding the result presented in Table 4, it might be interesting, in future developments of the research, to differentiate the strategies based on the field of application. This would involve defining specific and differentiated guidelines for urban regeneration interventions within the historic and consolidated city, planning and design for urban expansion and transformation areas.

In conclusion, this research aimed to emphasize the importance of considering the quality of urban components and the urban environment in general as a determining factor in citizens’ perception of well-being. Additionally, it laid the groundwork for future developments in two directions:

- Implementation of both urban welfare indicators and strategies through the definition of specific criteria/parameters for the planning, design, and regeneration of urban components with a climate-equitable approach;
- Validation and verification of urban welfare indicators in disadvantaged contexts and the application of criteria to delineate site-specific and climate-equitable urban regeneration interventions.

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Appendix A

Table A1. Quali-quantitative parameters derived from the local urban plan of Vienna (STEP 2025–Annex: Gründerzeit Action Plan).

<i>Quali-quantitative parameters: The “parterre street” and the “common room”</i>
<p>The Gründerzeit Action Plan (2018) highlights two fundamental characteristics that the public and semi-public spaces of Vienna’s historic and consolidated city should incorporate in order to ensure urban quality:</p> <ul style="list-style-type: none"> • The street is understood as a “parterre.” • Public and semi-public spaces as a “common room.” <p>From the study of the Gründerzeit Action Plan (2018) [31], it is evident that both of these characteristics are closely connected to the morphology and typological-functional division of the buildings. Below are some qualitative-quantitative parameters identified by the Plan for achieving the concepts of “parterre street” and “common room.”</p>

Table A1. Cont.

The “parterre street”	
<p>It has been verified that the heights of the buildings comprising a “Superblock” (morphological configuration of the districts in Vienna’s historic and consolidated city) are all equal and not proportionate to the width of the street each one faces. For this reason, the plan provides precise indications regarding the possibility of elevation (Parameter 1) in relation to the width of the streets on which the buildings face, differentiating, in this way, the street fronts proportionally, with particular emphasis on the corners (only those facing squares or public spaces that are intended to be emphasized) (Figure A and B). In the elevation process, the social mix is taken into account, providing for certain housing units and rent control prices (the private sector is encouraged in this practice through volumetric bonuses or through the possibility of changing land use). There is also the possibility of integrating new social housing buildings into the existing fabric (Figure C). Furthermore, in the characterization of high-quality public space, mobility plays a fundamental role (Parameter 2); therefore, STEP 2025, in general, and the Gründerzeit Action Plan in particular, place great emphasis not only on concepts of alternative mobility—such as, for example, car sharing (Figure D)—but also on a hierarchy of flows in urban regeneration interventions, envisioning green and slow mobility within the superblock (woonerf model) and a drivable one between one superblock and another (Figure E).</p>	
Parameter 1: Building Upward	
<p>Figure A. Possible building upward in relation to the road width. Source: Gründerzeit Action Plan (2018).</p>	<p>Figure B. Indications relating to possible building upward. Source: Gründerzeit Action Plan (2018).</p>
<p><i>Description of Figure A:</i> This action allows for the possibility of adding extra floors to the buildings that make up the perimeter of the superblock. The aim is to meet the increasing demand for housing while ensuring urban quality (and thus managing the transformation) and preserving social diversity within the same residential building. The action provides four possibilities for adding extra floors based on the building/public space relationship:</p> <ul style="list-style-type: none"> • Elevation of street wings: There is the possibility of adding extra floors to the parts of the building facing wider streets. However, any extra floors must take into account shading to avoid negatively affecting the apartments on the first floors of the buildings in front; • Emphasis on corners: There is the possibility of adding extra floors to the corners of some superblocks, but only in cases where it is necessary to enhance or emphasize the public space in front; • Defining the space: In some cases, adding extra floors is possible to better define the public space, with the intention of giving it greater spatial recognition. Again, special attention will be paid to shading to avoid negatively impacting the public space. A predominantly shaded public space throughout the day is less attractive; • Adapting the existing city: In cases where a building protrudes beyond the perimeter of the superblock and thus narrows the sidewalk, an increase in building volume is not desirable. In this case, compensation may be provided to discourage this practice, such as increasing the building’s classification. 	<p><i>Description of Figure B:</i> The image provides a detailed description of the possibility of adding extra floors, quantifying it in relation to the width of the street on which the building faces:</p> <ul style="list-style-type: none"> • Buildings facing the street, each with a width of 16 m on a street of approximately 22 m possibility of adding extra floors up to 21 m for XL type superblocks, up to 19 m for M type superblocks; • Buildings facing the street, each with a width of 10 m on a street of approximately 15 m possibility of adding extra floors up to 14 m for M and XL type superblocks.

Table A1. Cont.

	<p><i>Description of Figure C:</i> Due to the increasing demand for housing, there is a growing trend of buying and constructing apartments for investment purposes. This trend negatively impacts the social mix within residential buildings. Therefore, if a building undergoes actions aimed at improving the quality and value of its apartments (such as through increased volume or changes in use), it is suggested that a portion of the apartments be offered at controlled rental prices. The possibility of establishing agreements in this regard with social associations or organizations is also envisaged. Additionally, where possible, there should be provisions for integrating new constructions with dedicated units for socioeconomically vulnerable groups or those in need. Furthermore, for new constructions, a minimum quota of social housing should be considered in relation to the size of the project.</p>
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Figure C. Social mixité through the integration of housing at controlled prices in buildings used for private residences and the combination of new social housing structures with buildings used for private residences. Source: Gründerzeit Action Plan (2018).

Parameter 2: Mobility

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Figure D. Integration of alternative mobility models in public space. Source: Gründerzeit Action Plan (2018).

Figure E. Woonerf. Source: Gründerzeit Action Plan (2018).

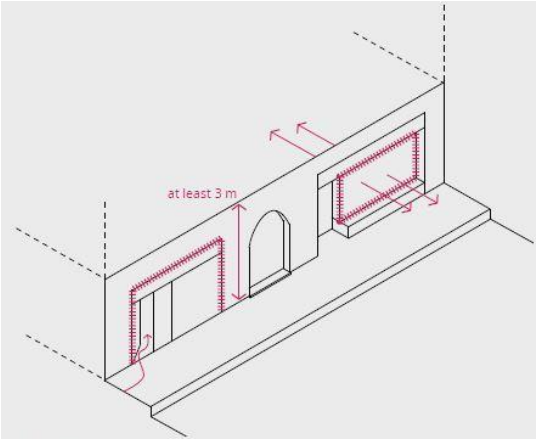
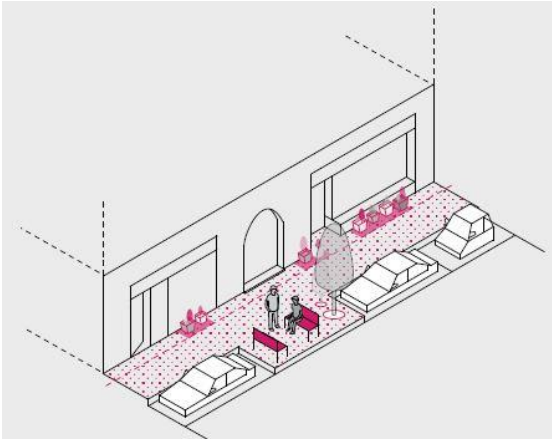
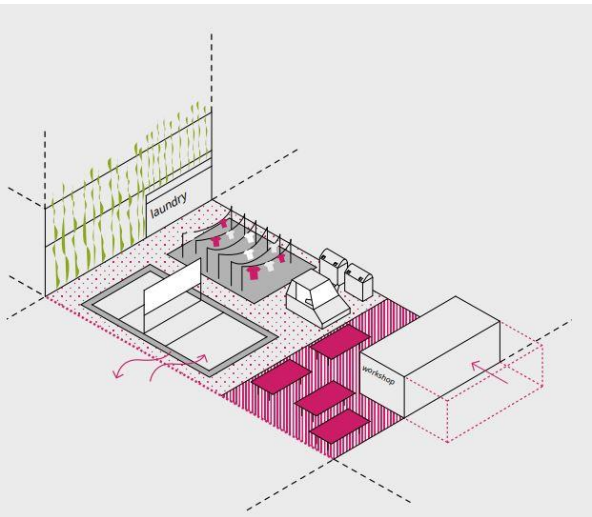
Description of Figure D:
 Alternative mobility measures (such as car sharing) have a dual benefit: on the one hand, they have a lower impact in terms of pollution, and on the other, they lead to a reduction in parking spaces, allowing for increased space for pedestrians and bike lanes. Encouraging a form of condominium or neighborhood car sharing is also recommended. Furthermore, a reduction in parking spaces is planned, with the number of spaces being reduced based on the number of units per individual building. Exceptions may be made as a form of compensation for the creation of additional quality.

Description of Figure E:
 The extension of the restricted traffic zone is planned for secondary streets (inside the superblock), where the concept of a “woonerf” can be implemented.

Public and semi-public space as a “common room”

Another aspect to consider in order to ensure a quality public space is the function of the ground floor of buildings (Figure F). This is considered particularly important because it influences both the space in front (public space) and the inner courtyard of the building block (semi-public space). In this sense, the ground floor of buildings in the Gründerzeit area should accommodate functions related to the building, such as bicycle parking (to free up the backyard) and commercial functions (Parameter 1). Furthermore, the emphasis that the Vienna city administration puts on the role of private individuals in managing the public space in front of their property is particularly relevant. This should include the possibility of a social and shared use of the sidewalk (Figure G). As for the semi-public space (backyard), great importance is attributed to its potential role in social aggregation aimed at strengthening neighborly relations. To this end, Parameter 2 is aimed at avoiding privatization initiatives and encouraging the shared use of spaces (Figure H).

Table A1. Cont.

Parameter 1: Social and Shared Use of the Sidewalk	
	
<p>Figure F. Guidelines for the design and refunctionalization of the ground floor of buildings. Source: Gründerzeit Action Plan (2018).</p> <p><i>Description of Figure F:</i> In addition to contributing to the social use of the sidewalk as a common and shared space, the function of the ground floor also plays a fundamental role in the criterion of the “street parterre.” To this end, for new constructions, it will be necessary for the spaces located on the ground floor to have a minimum height of 3 m in order to promote the social use of the spaces, such as playrooms, playgrounds, and commercial functions. Currently, the low heights of these spaces favor secondary uses, such as storage and garages, which do not encourage positive interaction with the public space in front. It is also desirable to provide for a flexible use of the ground floor premises, including through the design of an open structure.</p>	<p>Figure G. Suggestions for the regeneration of public space facing the street (parklet). Source: Gründerzeit Action Plan (2018).</p> <p><i>Description of Figure G:</i> The use of the ground floor of buildings is also connected to the management of the public space in front. The Gründerzeit Action Plan (2018) encourages private individuals to take responsibility for the care, maintenance, and animation of the public space, also through initiatives like “Street Life Wien,” which aims to involve and encourage citizens to use the streets and public spaces as a “common room” [51].</p>
Parameter 2: Backyard Function as a Social Gathering Space	
	<p><i>Description of Figure H:</i> In order to promote the use of semi-public spaces as a “common room,” the regeneration of these spaces is encouraged by clearing them of bicycles and recycling bins (for example, by allocating some ground floor areas for this purpose) and by promoting common and shared activities such as laundry, workshops, and playgrounds. For new constructions, it is preferable to limit vertical partitions in order to favor spacious and shared areas.</p>
<p>Figure H. Suggestions for the regeneration of semi-public space within the building blocks (backyard). Source: Gründerzeit Action Plan (2018).</p>	

Appendix B

Table A2. Guidelines and quali-quantitative parameters derived from the local urban plan (PUG) of Bologna: Explanation of “Objectives,” “Urban Strategies,” “Specific Actions,” and “Fields of Application”.

Objectives	Urban Strategies	Actions	Field of Application	
Resilience and Environment	Promote the regeneration of anthropized soils and counteract soil consumption	Promoting the recovery and improvement of existing building heritage	Urbanized territory Rural territory	
		Completing unfinished parts of the city where transformation is not complete	Incomplete city parts	
		Promoting interventions for the reuse and urban regeneration of built-up areas and anthropized soils	Historic city	
			Planned parts with implementing urban planning tool	
			City parts under construction	
		Including measures for the de-sealing and de-pavement of soils	Municipal territory	
			River areas	
		Develop the urban eco network	Protect biodiversity and the main ecosystem services of the hills and plains	Hill rural territory
				Plain rural territory
			Strengthen urban green infrastructure	Urbanized territory perimeter
	Municipal territory			
	Building a blue urban infrastructure		Bodies of water in major basins	
			Active riverbeds and bodies of water in basins	
	Maintain natural flows in the riverbed and reduce withdrawals from aquifers		Municipal territory	
			Primary non-potable water networks	
			Channels to be restored-areas 20 m away	
	Improve the quality of surface waters		Minor hydrographic network areas 50 m away	
		Covered network areas 100 m away		
		Municipal territory		
	Prevent and mitigate environmental risks	Contain natural risks	Areas in distress	
Areas of possible evolution and influence of distress				
Ensure regular drainage of water in the entrances of streams and covered ditches		Areas with an inclination for territorial transformation		
		Inlets of hillside streams and culverted hillside ditches/upstream area		
Mitigate the urban heat island effect		Inlets of hillside streams and culverted hillside ditches/first 150 m from the upstream area		
		Areas of microclimatic fragility		
Reduce the population’s exposure to pollution and anthropogenic risks		Municipal territory		
		Areas with high noise pollution/areas facing the main infrastructures		
Support the energy transition and circular economy processes		Promote and incentivize various forms of energy efficiency and ensure equitable access to low environmental impact energy services.	Areas with high noise pollution/areas underlying the nominal routes	
			Municipal territory	
	Plan the deployment of energy production facilities from renewable sources by creating local distribution networks.	Municipal territory		
		Promote the circular economy of construction and excavation materials.	Municipal territory	
Increase recycling and reduce waste production	Municipal territory	Municipal territory		
		Collection and reuse centers for urban waste-first 100 m		

Table A2. Cont.

Objectives	Urban Strategies	Actions	Field of Application
Habitability and inclusion	Extend access to the house	Promote the increase and innovation of rental housing supply	Urbanized territory
		Promote the increase of social housing supply.	Areas where to increase the supply of ERS
		Experiment with new forms of housing.	Municipal territory
		Introduce functional and typological mixes in specialized areas near residential fabrics.	Specialized areas near residential fabrics
	Ensure the creation of a balanced network of quality equipment and services	Promote the redevelopment and establishment of territorial amenities	Areas at risk of social marginality Municipal territory
		Support a balanced distribution of spaces for culture	Perimeter of the urbanized territory Municipal territory
		Foster local services and commercial activities	Perimeter of the urbanized territory
		Promote sustainable urban logistics	Municipal territory Perimeter of the urbanized territory
	Redesign spaces and equipment	Make the city universally accessible	Municipal territory
		Create open spaces and public buildings of high architectural and environmental quality	Areas at risk of social marginality Perimeter of the urbanized territory
		Renew the street space in terms of formal and environmental quality, accessibility, and safety	Municipal territory Accessibility to the backbone network of local public transport
		Preserve the habitability and characteristics of the historic city	Fabrics of the historic city-nucleus of ancient formation Fabrics of the historic city-garden neighborhoods Fabrics of the historic city-compact fabric Buildings without particular interest in the fabrics of the historic city (ES)
	Preserve the characteristics of the historic urban landscape by renewing its role	Enhance the specialized fabrics of the historic city	Buildings facing Via dell'Indipendenza, Via Ugo Bassi, and Via Rizzoli Fabrics of the historic city-specialized
		Ensure the conservation of the architectural and cultural heritage of historical significance	Point elements of interest
			Arcades
			Parks of historical interest
			Historical and urbanistic relevance
		Buildings of cultural and testimonial interest	
		Buildings of historical and architectural interest	
		Buildings of historical and architectural interest of the Modern era	
Enhance the architecture and cultural and testimonial agglomerates of the Second Half of the Twentieth Century	Agglomerations of cultural and testimonial interest of the Second Twentieth Century Buildings of interest and pertinence—buildings of cultural and testimonial interest of the Second Twentieth Century		

Table A2. Cont.

Objectives	Urban Strategies	Actions	Field of Application
Attractiveness and work	Support overall urban reinfrastructure	Reconstruct the unified map of infrastructure networks, nodes, intersections, and managers	Urbanized territory
		Ensure the improvement of urban infrastructure with urban and building transformation interventions	Perimeter of the urbanized territory
		Promote the distribution and coordination of digital infrastructure	Perimeter of the urbanized territory
		Qualify the role and visibility of the city's access gates and create a system of mobility centers	Mobility centers and priority areas of metropolitan urban regeneration City access gates
		Improve the functionality of the highway-ring road system, mitigating impacts and redeveloping contact areas with the city	Areas affected by the enhancement project within the highway-ring road system Highway-ring road system areas 100 m away
		Build the urban tram network	Urbanized territory
		Extend and integrate the backbone of the urban and extra-urban cycling network	Municipal territory
		Promote the widespread establishment of economic activities in conditions of environmental compatibility	Ensure existing businesses have regulatory and procedural flexibility
	Identify new production needs, directing them toward the reuse and regeneration of urbanized areas		Planned production areas Perimeter of urbanized territory
	Promote innovation in planned production areas through the diversification of uses		Planned production areas
	Foster the establishment of innovative companies and the promotion of innovation centers		Areas near innovation centers Technopole
			Perimeter of urbanized territory
	Support the qualification of metropolitan hubs integrated into living places inserted in the context	Bologna Guglielmo Marconi Airport: support a development that is mindful of its relationship with the city	Bologna Guglielmo Marconi Airport
		Bologna Centrale Railway Station and Bologna Bus Station: integrate access, transit, and parking areas with quality urban functions	Bologna Central Railway Station and Bus Station
		University of Bologna-Alma Mater Studiorum: enhance and connect the campus facilities	Campus of Alma Mater Studiorum University of Bologna
		Healthcare Centers of Excellence: support the process of adapting facilities to social and environmental changes, improving accessibility conditions	Centers of excellence in healthcare
Bologna Trade Fair: develop the multifunctionality of the hub, improving access methods at different scales		Bologna Fair	
Renato Dall'Ara Stadium: regenerate the facility and its relationships with the city		Renato Dall'Ara Stadium	
North-East District (CAAB, FICo Eataly World, Meraville, Business Park, University): integrate components and implement new infrastructure for access		Northeast District	
Qualify the relationship between urban territory and extra-urban territory	Promote innovative practices of peri-urban agriculture	Hillside rural territory	
		Plain rural territory	
	Enhance peri-urban parks, improving their usability for tourism	Periurban parks Cycling and pedestrian tourist routes	
	Develop networks of safe routes and paths connected to national and European tourist itineraries	Hiking trails	
		Hillside rural territory Plain rural territory	

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