

The Public Space Service System (PSSS) Method. A Systemic, Service-Based and Actor-Oriented Evaluation Framework

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Abstract

This paper presents the PSSS - Public Space Service System method, an innovative approach to assessing and interpreting the value of public space, its services, and systemic features, incorporating stakeholders' perspectives. In recent decades, investment in public spaces has grown in many cities, becoming more important in public policies and in daily users' activities. With recognition comes the need to evaluate the performance of public spaces, whether in decision-making or design contexts. However, public space is inherently complex, diverse, and multifunctional, which complicates the task of defining what makes a good public space. Additionally, different actors view space differently, generating multiple values (sometimes contradictory) rather than a single universal one. To address this, the PSSS method moves away from conventional practices centred on predetermined attributes to acknowledge subjectivity, treating the values generated by public space as context dependent. The method is structured around four fundamental dimensions: System (spatial relations and connections), Service (benefits provided by public spaces), Actors (users, producers, and regulators), and Value (diversity of recognised values). The paper details the method's development, explaining how the main concepts respond to the new assessment demands and how they are applied within the framework and workflow. The practical implementation is illustrated through case studies from diverse urban settings - historic cores, consolidated cities, suburbs, and dispersed areas - in both European and Latin American contexts, demonstrating its adaptability across different geographies, scales, and urban dynamics. The method proposes an interpretive and collaborative process, emphasising problem identification and resolution within a learning-and-transformation logic, combining interests and viewpoints through interdisciplinary dialogue. This approach responds to the complexity and subjectivity inherent in contemporary urbanism by providing tools that facilitate communication, participation, and collaboration among the diverse actors involved in the production, management, and use of public space, thereby fostering more targeted public policies.

Keywords: public space, assessment method, value of space, actor-oriented framework, interdisciplinarity

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Introduction

Interest in public space has been growing because of its importance in improving quality of life, delivering public services, and implementing public policies in social, mobility, and environmental areas. Several projects have achieved political and iconic success, whether in terms of citizen, visitor and investor satisfaction. Typically sustained by images of success - such as vibrancy, vitality, attractiveness, intense socialisation - this practice promotes a notion of public space value based on 'exceptionality' and on universal qualities and criteria, rather than addressing everyday experiences in ordinary public spaces. Although increased awareness has a positive effect on available investment resources and social relevance, mainstream concepts tend to narrow the representation of public space values.

Additionally, the expansion of urban spaces and lifestyles across territories has resulted in a myriad of public space typologies and associated problems, which are not restricted to the city's traditional references (Carmona, 2010). Thus, values will differ across disparate urban contexts and cultures. In complex societies with multiple interests, how can rationales and criteria for evaluating public spaces be identified across various actors? How can an integrated understanding of public space issues be promoted through interpretive and interdisciplinary methods?

In pursuit of these answers, the PSSS Public Space Service System¹ research aimed to develop an assessment method that acknowledges the complexity and context-dependent nature of public spaces. This intention stems from the recognition that, despite widespread acknowledgement of the importance of public space, there is a lack of conceptual tools to engage with the diversity of public space types, their various roles within built environments, and the subjectivity inherent in the evaluation process. Rather than eliminating these multiple perspectives and interpretive readings, they should be rationalised.

To this effect, the PSSS develops an assessment rationale that addresses public space (Brandão and Brandão, 2018, 2019): organised as an urban system; as a service provider responding to ordinary spatial needs; as being subject to the interests of different actors involved in spatial production; and as a generator of plural values. These four dimensions - system, service, actors, values - build the main framework of the method and are operationalised in several analytical steps. Rather than rating the space's performance, the intention is to foster dialogue among the actors involved in an interactive (and iterative) process, enabling all those involved in public space to express their values, issues and concerns. This approach enables a more comprehensive understanding of public space impacts, particularly in supporting context-sensitive policies and planning decisions across diverse urban and territorial settings.

The paper is organised into five sections that detail the method's development and application. The first section explains the rationale behind our approach to public space evaluation, highlighting key problems and opportunities. The second introduces the method's core concepts - system, service, actors, and values - and the third provides a description of the PSSS workflow. The fourth section presents several examples of application. Before the conclusions, we provide a critical discussion of the method, examining its potential, limitations, and pitfalls in relation to the evaluation issues.

¹ Project developed between 2016-2019 at Instituto Superior Técnico, Lisbon University

The purpose of the PSSS Method

Public space has been the object of intense study in academic and professional literature (Madanipour, 2023), reflecting its growing importance for the overall quality of cities (UN-Habitat, 2015), alongside tools and methods for analysing and understanding it. Early studies (Alexander, 1965; Appleyard, 1981; Gehl, 1987; Jacobs, 1961; Lynch, 1960; Whyte, 1980) often start with the question "What attracts people?", seeking to understand users' choices and to identify reasons why some spaces are used while others are not, i.e. 'what works and what doesn't' (Carr et al., 1992; Gehl, 2010). These approaches often use simple tools and methods, such as direct observation, mapping users' activities and behaviours, complemented by interviews and involvement in the space's activities (Gehl and Svarre, 2013), relying on the sense of observers' judgment, to address the setting's complexity and simultaneous activities.

Later, the socio-geographical debate on urban globalisation (Harvey, 1990; Sennett, 1992; Zukin, 1995) brought new insights into the economic and social contradictions surrounding public spaces. As its place in public policy becomes increasingly disputed, research seeks to legitimise its importance in the functioning of cities. Much of the argument focuses on the benefits public spaces deliver, particularly high-quality public spaces, linking them to wealth creation, environmental benefits, social connections, and other positive outcomes. This perspective is supported by analysis on urban design quality and its links to space performance and value generation (CABE, 2001, 2006; McIndoe et al., 2005).

In general, the evaluation of public space aims at comprehensive objectives, seeking to determine "what makes a good public space" (Project for Public Spaces, 2000), addressing its quality through features and assets (usually quite extensive) that a successful public space must have or provide. Drawing from several studies on the matter, Carmona et al. (2008) synthesised a list of universal positive qualities for public spaces: "clean and tidy; accessible; attractive; comfortable; inclusive; vital and viable; functional; distinctive; safe and secure; robust; green and unpolluted". To further the assessment, some approaches turn these qualities into measurements (Southworth, 2003) by decomposing them into identifiable objective quantitative attributes of the built environment² that can be described, quantified and ranked on quantitative (e.g., 0-100, from minimum to maximum) or qualitative scales (e.g., very poor to excellent). Quantification can be useful for comparing various evaluated items: it allows classification based on a given "performance" and aggregates a wider range of determining factors into a single result. However, turning holistic concepts into quantitative measures cannot be accomplished without losing something along the way.

So, although these attributes may express the 'qualities' that a space must satisfy, they do not necessarily work well as performance measures; in the same way, it is not possible to dissociate them from the urban, social, environmental, economic, or other contexts in which they are integrated. This means that a universal understanding of the concept of 'spatial quality' does not exist (Khan et al., 2014), and that "relative judgements about the importance of various qualities are matters of individual perception, and different users will value different qualities more or less highly. Consequently, the emphasis placed on

² In these areas, there is a recent exponential growth of methods that deploy extensive data from social networks, aerial and street imagery, etc, to produce automated research assessments and analysis (Cui et al., 2021; Zhou et al., 2025; Li et al., 2022; Zhu et al., 2025).

different qualities by local public space services will be matters for local judgement” (Carmona et al., 2008: 15).

In this regard, some methods place special emphasis on users' perspectives. Selected approaches focus on the design process and space management, aiming to incorporate aesthetic objectives with economic requirements and users' preferences. These methods combine guidelines and project recommendations with qualitative assessments of the space's success, highlighting stakeholders' engagement, especially users (Brandão et al., 2002; Marcus and Francis, 1998). Others are specifically designed for community users to address public space issues. They are mainly based on on-site diagnostic tools that gather perceptions to initiate debate among diverse actors, to identify problems and seek improvements in spaces (CABE, 2007; Cowan, 2001).

If public space itself is rendered as a subject of quality perception, we may ask: are spaces of perceived quality the same everywhere? The variety of spatial contexts is undeniable. The problems affecting public space in African or Latin American cities with high growth rates are certainly different from those affecting public space in hyper populated or hyper-capitalised Asian cities, which in turn differ from those in historic, consumerist European cities. These multiple perspectives demand a more dynamic, context-informed interpretation of public space.

Given this panorama of existing methods, what new perspectives should be included in evaluating public spaces? The PSSS puts forward a hypothesis that:

- ✓ addresses the contextual dependencies and relational character of public space by taking a systemic perspective, in which public space is viewed as a system of places with interactions and interdependence on the built, natural, and social environment;
- ✓ considers public space not in terms of the qualities it should possess, nor in terms of the commodities it could generate, but through the services it provides to its users, taking a multidimensional approach;
- ✓ recognises that public space is the result of different actors, agents, processes, and contexts, sometimes competing, other times collaborating, a dynamic process that can be made more understandable and intelligible;
- ✓ assumes that there is no such thing as “value-free knowledge”, hence the assessment should be an exploratory, learning and knowledge-sharing process between stakeholders, recognising pluralism and negotiating values (Khakee, 2003).

Hence, the PSSS method strives to make public space, its services and values visible, inviting citizens, decision-makers and researchers to engage in a debate supported by a framework for interpretation and evaluation.

PSSS Framework – System, Services, Actors and Values

The rationale for assessing public space is articulated within a framework comprising four key concepts: system, service, actor, and value.

System

Under the concept of 'system', the PSSS inquiries about the relationship between a public space and other spaces. Too often, in assessment frameworks as well as in urban development itself, individual places have become the focus, without considering their context or their integral role in a broader social fabric.

Most definitions of system emphasise a 'complex whole', a 'set of connected things or parts', and a 'group of objects related or interacting so as to form a unity' (McLoughlin, 1969). In this set of interconnected parts, each part can be seen individually and also considered within a wider system. The interaction between different parts and the system's complexity ensures its functioning as “The whole is other than the sum of the parts”. Several references to a systemic approach to cities and urban development can be found, viewing the city as a living organism (Geddes, 1915), or an evolving system (McLoughlin, 1969), understanding urban complexity (McLoughlin, 1969) and studying its functional and spatial structures (Hillier and Hanson, 1984). So, if the city can be understood as a system, then the fundamental structure that ensures relations and dynamics must be public space. For instance, in studies of territorial design, there is a special role for the reading public and open spaces as systems, and for considering them as active agents in the shaping and restructuring of the territory (Santos et al., 2024; Secchi and Viganò, 2011; Tardin, 2008). As a lasting element, the public space system is relational – it establishes relations between other spaces, both public and private, it receives a variety of overlapping functions, from the most functional to the most symbolic, as well as its users. For the PSSS method, public spaces should not be considered as isolated spaces, but as a network of places (Pinto and Remesar, 2015), with a shared set of properties, interdependences and interaction (Figure 1). The system is therefore the object of the evaluation. It comprises two components: anchor spaces, nodes of attraction and focal points that host vital functions and promote urban dynamics; and the public space network, the grid of free-access spaces that are connected and interact with one another. The territorial scope, the scale, and the components to be assessed are not matters of typological selection or limit setting but are contingent on the purpose of the evaluation.

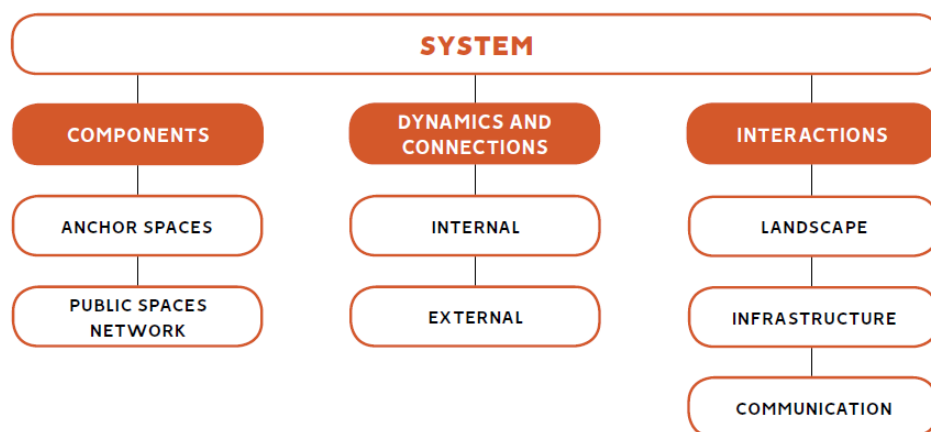


Figure 1. Criteria for public space system identification. Source: Authors

This perspective on public space complexity views it as “a system of systems, where layers of functional networks – infrastructural, cultural, economic, and environmental – intersect and complement each other in a mutually reinforcing and beneficial way” (UN-Habitat, 2015). These interactions, whether physical connections, functional dynamics, or

even meaning relations, may occur either within the system itself (internal dynamics) or between the system and its surrounding environment (external dynamics), and show how the system works.

As an interactive urban element, public space connects and coexists with other urban systems – infrastructure, landscape, communication (Brandão and Brandão, 2017) - integrating hardware and software perspectives. Some examples illustrate this easily: a street is still a public space even if it extends for miles (as in Manhattan, Paris or Barcelona), if it integrates intermodal transport, includes sewage networks, or is a tree-lined street hosting different bird species. Nor do we discard a public space perspective on many transport systems, or on park systems.

So, landscape is addressed as a socio-spatial system sharing elements with public space, both in natural features and life-supporting systems in the city, such as wildlife, watercourses, green structures, pathways and habitats, as well as cultural practices and spatial identity elements present in the urban environment. Infrastructural views of public space include, by definition, the many sectoral systems and utilities that frame and support urban life (such as roads, transport, sewage, drainage, energy, etc.). Communicative elements in public space convey meanings and important messages for symbolic and identity purposes and also shape relationships between people and activities (such as street and traffic signage, official notices, advertising, and civil and political communication).

Service

Under the heading 'service', the method explores the role of public space by questioning its purpose and what it offers to its users. The concept of service stems from an attitude towards public space that underpins its public character - practices and uses enjoyed and shared by all, the common goods of a community. Therefore, it is vital to ask: what services for the community are promoted by urban space? As a collective space open to everyone, public space supports the social usufruct of public assets, where many activities - social, economic, leisure, political, and dislocation - overlap, thus ensuring the services that are essential and valued by all.

The term 'service' is derived from an analogy with the concept of ecosystem services, developed in ecology to conceptualise and highlight the value of natural capital and to create an analytical framework (Costanza et al., 1997), in order to understand the impacts of changes within these systems. For public space services, it recognises the benefits people can gain from the various functions of public spaces, making them more identifiable and simpler to analyse. By using the term service, it is not intended to reduce public space to a narrow, functionalistic view, nor to promote it as a platform for economic value exchange, but to problematise its rationale, shedding light on what might be uncritically assumed or cynically hidden.

Services are benefits that a specific public receives. In this context, the public space system can offer more than one service, resulting in a multidimensional service. Needs and services can be interconnected - a street serves the movement of people, vehicles, and goods, providing mobility and responding to a core need for accessibility. However, streets' public spaces also offer other services, such as shade and climate regulation through their trees, access to commercial areas in surrounding buildings, or access to symbolic features and meanings.

The different roles of public space in urban daily life form the foundation for organising public space services (Figure 2). Recognising that public space must be seen not only as a physical element of urban structures but also as a social and symbolic domain (Carmona et al., 2003; Madanipour, 1996), the framework is organised into three main groups: support services, interaction services, and reference services.

Support services regard the physical and morphological dimensions of public space, provided by natural or built structures, as a frame and support for urban life and basic needs. Interaction services include the usages and multidimensional relationships that public space facilitates, serving as a place for social practices, encounters, and movement. Reference services convey a sense of place, ownership, and belonging, enabling cultural expression and the display of meaning, relating to subjective and intangible aspects of public life.

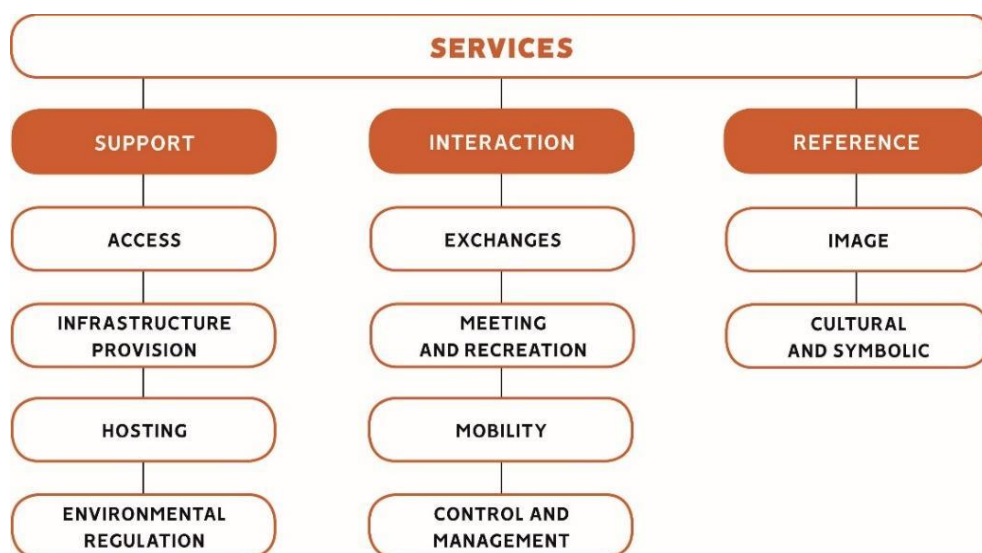


Figure 2. Public space services framework. Source: Authors

Actors

Under the question of 'actor', the analysis recognises the diversity of agents and stakeholders who participate in the production, management, and use of public space, recognising that the uses and values of public space cannot be separated from who perceives it and that "making places is everyone's job" (Friedmann, 2017). In this sense, production means not just the building of physical spaces but also social production (Lefebvre, 1974). Dealing with this multiplicity in assessment means integrating diverse groups and their perspectives rather than reducing them to a single point of view, signalling who takes place in how space is conceived, in the actual spatial practices, and in how it is directly lived by users.

In general, judgements concern the interests or benefits arising from public space. Personal and collective interests depend not only on the characteristics of the space itself but also on the actors themselves, their needs, and perceptions of the space's performance, being socio-spatially and socio-ecologically embedded (Khan et al., 2014). Additionally, this implies the ability to deal with subjectivity: what may be important to

one actor may be irrelevant to others; this is not a matter of imprecision but of diverse opinions.

These actors may be organised by their role in the urban development process (Madanipour, 2006) – users, producers, and regulators –, distinguishing patterns of interest and dynamics in public space, even though each category encompasses various groups of actors. They include, first and foremost, those who make direct use of the space – because they live, work, have fun, visit, or provide services in or near their surroundings – holding a wide variety of stakes depending on the way space meets their particular objectives (Carmona et al., 2002). They may be those who best know and understand how public spaces function, having important knowledge gained through use. However, the connection to public space is not merely instrumental; it also includes important social and symbolic meanings.

Producers play a role in the (physical) production, building public space, either directly or indirectly. They include those involved in its construction – developers, professionals such as designers and engineers, construction companies and workers, etc. – as well as those with decision-making capacity and the ability to influence public opinion. As for regulators, they manage and control space intervening in the planning, licensing, supervision and/or management of these spaces.

Addressing the needs, interests, and even the expectations of different actors, and understanding the broad context in which these differences of opinion and values emerge (Khan et al., 2014), makes them readable. The method proposes an inclusive process that exposes their perspectives and roles, the causes they advocate for, and how they may overlap or collide, bringing to light the conflicts or alliances inherent in public spaces.

Table 1. Types of Actors related to public space. Source: Authors

Users	Producers	Regulators
Residents	Designers	Parish councils
Traders, Workers	Developers and investors	City councils
Customers	Contractor's and builders	Regional administrations
Visitors and tourists	Property owners	Ministries
Associations and civil society groups (residents, sports, religious, NGO's....)	Real estate agents	Public institutes
Equipment, infrastructure, and service managers	Politicians, Political party organisations	District management organisations
Drivers, pedestrians, cyclists	Public or Collective services companies	Civil protection and police authorities
Age or gender groups	(transport, parking, water, sanitation, energy, communication, waste, ...)	Private administrators of collective spaces
Media		
...		

Values

Finally, under the heading of 'value', the method draws attention to the range of values that public space may hold, expressing directly one of the aims of an evaluation process – to appraise the worth of something. We adopt the definition of value as a 'disciplined representation of meaning,' which means it acts as a tool that enables the communication

and understanding of what is important and relevant about public spaces, articulating it and making it visible (Keeney, 1992).

In this perspective, value only exists when it is recognised by someone (Munn, 1986 apud. Graeber, 2001); it does not reside in the object being evaluated (it is not inherent to it), but in the mind of the person assigning value to it. Therefore, who makes the assessment is also a key factor in the valuation, reflecting their system of preferences, depending on their age, social status, life experience, or economic, cultural, or educational background, etc.

The idea that space generates value is widely assessed in terms of its economic value, meaning calculating the (economic) benefits a given space generates, which may be expressed in terms of exchange value or return value, always monetary, but may also refer to use value. Other notions of value do not come from a quantitative approach but have more qualitative or symbolic characteristics. For the PSSS approach, different types of value were considered useful (CABE, 2001, 2004, 2006; Woolley, 2003):

- ✓ Economic value (as exchange) - a measure of the benefit (expressed in monetary units) that public space provides, as it can involve important investments and generate economic returns, capital gains and competitiveness for agents.
- ✓ Use value - public space's ability to satisfy the needs of its users and its appropriateness for the functioning of the city.
- ✓ Social value - public space benefits towards the welfare, the satisfaction of collective needs or the development of communities.
- ✓ Environmental value - public space contribution for the environment, especially that related to natural systems.
- ✓ Cultural value - public space participates both relationally and physically in the expression and construction of identity and in the promotion of a culture shared by a community.
- ✓ Image value - public space contributes to conveying a message of distinction that is recognisable, memorable, and understandable.

Hence, the value of public space is not limited to a single number or outcome; it extends well beyond economic factors, encompassing both tangible and intangible aspects, including (and not reducing to) different types of socially constructed values, which may often be contradictory and conflictual, expressing its relevance to stakeholders and society at large. Thus, one objective of accepting the diversity of values present in a given process must be to make explicit and rationalise the implicit interests and meanings (and how they relate to one another).

Assessing Public Space through the PSSS method

The next stage in the development of the method involved creating a workflow to enable the practical application of the conceptual framework. This stage included several cycles of empirical, trial studies of public spaces, alongside theoretical discussions among the research team, aimed at refining and fine-tuning the method. These studies were instrumental in developing the different stages of the process, translating them into accessible guidelines, and testing the empirical applicability of the method's underlying concepts.

The workflow was designed to align with the research's positioning on evaluation and assessment methods, i.e., an open process to better understand and interpret public spaces, accessible to anyone interested. Rather than following a linear procedure, the method proposes a flexible workflow organised into four main phases, which can be developed sequentially or iteratively, depending on the context and emerging insights. These phases are not rigid: while identifying the system or characterising actors, for example, aspects relevant to other parts of the analysis may emerge immediately. Continuous interaction with the site and the actors ensures the process remains dynamic, responsive, and context sensitive.

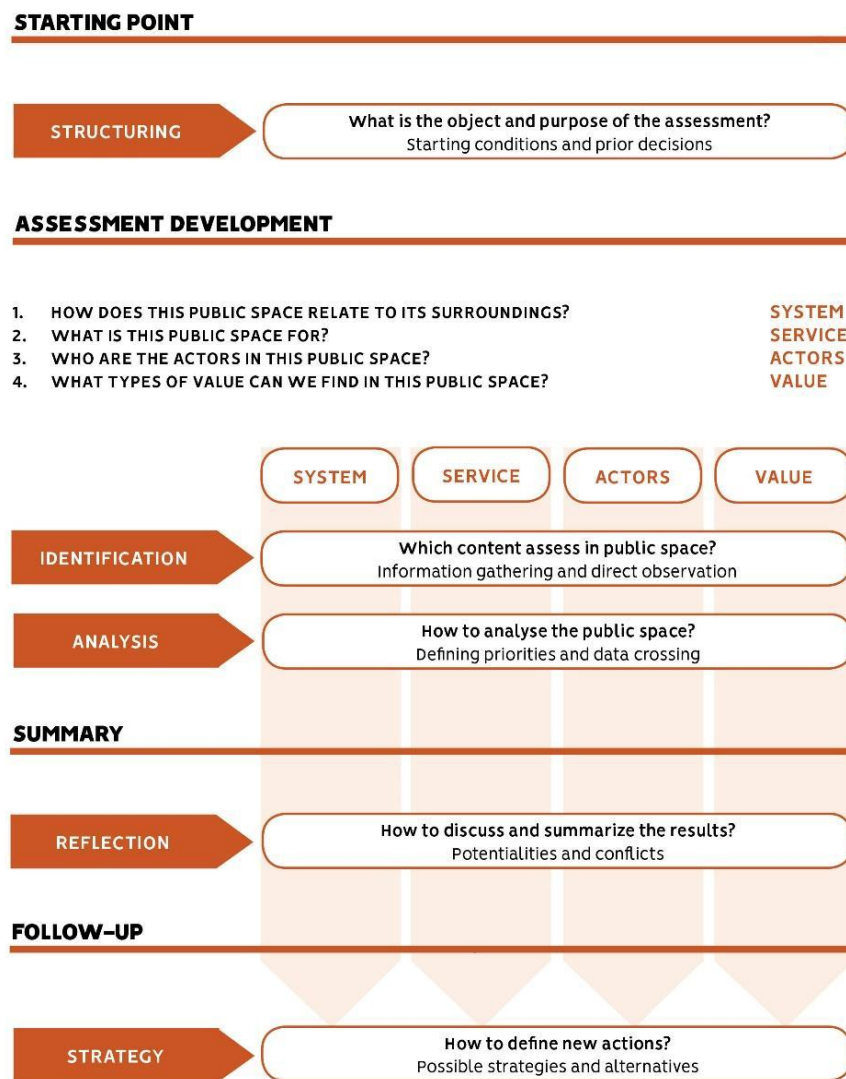


Figure 3. PSSS Roadmap. Source: Authors

The method (Brandão and Brandão, 2018) includes two complementary elements:
(1) a roadmap (Figure 3), which outlines the overall framework, phases, and content of the assessment; and

- (2) guidelines, which provide detailed descriptions of essential content, practical recommendations for addressing each issue, and a definition of the concepts applied. Each guideline specifies the objectives of the stage, the tasks to perform or questions to consider, and the underlying concept(s) being addressed.

Workflow Phases³

The roadmap organises the assessment into four main phases, each comprising one or more stages: (1) Starting Point, (2) Assessment Development, (3) Summary and (4) Follow-up.

1. Starting Point structures the assessment by defining: the object - what is being assessed; the purpose - why the assessment is conducted; and the conditions - how the assessment will take place.

2. Assessment Development forms the core of the method and begins with four guiding questions derived from the PSSS rationale:

1. System. How does this public space relate to its surroundings?
2. Service. What is this public space for?
3. Actors. Who are the actors in this public space?
4. Value. What types of value can be found in this public space?

These kick-off questions are applied across two stages: identification and analysis.

The identification stage involves recognising and describing the elements that respond to the four main concepts. Detailed knowledge of the assessment object is required, and data are collected through quantitative and qualitative methods, including observation, interviews, mapping, and other techniques.

System ID.

Assessment begins with identifying and characterising the public space system: its constituent elements (anchor spaces and public space network); how they function (internal and external connections), and their interactions with other systems (landscape, infrastructure, communication). The surrounding urban context and its evolution over time are also considered, thereby situating the assessment's purpose in time and space.

Service ID.

The assessment then focuses on how the public space “serves”, with a description and mapping of the services provided, including support, interaction and reference services. Characterisation should specify not only what services are offered, but also where, how and when they are provided, who can enjoy them, and how intensely. While some services may be evident to all stakeholders, others may only be recognized by a few.

Actors ID.

This stage identifies actors relevant to that specific public space system, bringing multiple perspectives into the assessment process. They may have either a visible presence or

³ This section succinctly outlines the phases and stages of the PSSS method in the context of this paper. However, more detailed guidelines are available (Brandão and Brandão, 2018) and should be preferred when applying the method to assessment cases.

more subtle ties and connections to the space; they may engage with the entire system, or just a part of it. Categorisation may follow a functional or sector-based approach and should cover both their interests and points of view.

Values ID.

Finally, the recognition of values derives from both physical/tangible qualities and how spaces are perceived. In this sense, the identification of these values encompasses different types (economic, use, social, environmental, cultural, image), the spatial components linked to each, as well as the actors who recognise them and with what intensity.

The analysis stage focuses on determining the most significant aspects to interpret and on fine-tuning an analytical framework for the case at hand. Establishing priorities should align with the assessment's original purpose and the actors' expectations. In this light, the collected data is analysed by addressing the four topics simultaneously, seeking links and implications among them. It may also be grouped by dominant themes, scanned for major flaws and examined for signs of symbiosis or contradictions. Specific dimensions – diversity, connectivity, forms of interaction, scales of influence, intelligibility – are suggested, not as qualities that the public spaces must attain, but as lenses that steer the analytical process, reflecting the different aspects of the public space system.

3. Summary

This phase entails a holistic synthesis of the process, combining the previously analysed parts and dimensions to evaluate the whole. The analysis results are discussed in terms of how they align with the initially defined purposes and the variety of value judgements identified. The synthesis addresses: conflicts and problems encountered; aspects requiring improvement; potential for development; and who benefits from the generated values. At the end of the stage, from a reflexive perspective, it is important to consider whether the assessment met its intended purpose.

4. Follow-up

This phase corresponds to an optional development of the process. If appropriate, recommendations and possible actions can be put forward based on what has been learnt. With a more strategic focus, possibilities, resources and actors can be identified, thus ensuring their relevance to any subsequent action and interaction. The aim is to close the cycle by re-evaluating the strategy and emphasising the importance of learning through continuous and pluralistic experimentation.

Demonstrating the method – results from multiple cases

During the method development and after its completion, the PSSS was used in assessment cases across a variety of urban contexts to test the tool's versatility and usability. In this section, we present several of these experiences by (1) describing the full process and the results of the application of the method in a suburban area outside Lisbon; and by (2) depicting its adaptability to different realities and contexts through specific, briefly outlined examples.

The method in practice. The case of a new suburban centrality in Agualva-Cacém, Portugal

Part of Lisbon's suburbs, the city of Agualva-Cacém experienced rapid, dense and partly deregulated growth spurred by road and railway connections to central areas, functioning as a commuter town. Built in rugged terrain with little consideration for environmental features and a deeply disordered urban structure, the area presented a rundown urban image, with a lack of public spaces and public facilities. At the beginning of the 2000s, it was selected as one of the projects from the POLIS programme, a state-led nationwide initiative for urban and environmental regeneration. The urban project focused on developing a new central area. Actions such as the environmental restoration of the Jardas stream and the creation of an urban park, the restructuring of the road network, the redesign of ordinary public spaces and the upgrading of existing facilities, such as the public transport hub, and the old public market into a Citizen Service Centre⁴, had positive effects in linking the city spaces and improving liveability in terms of the environment and urban experiences.

This case was selected for its opportunity to assess the results of a large-scale redevelopment in a peripheral, yet ordinary context. The complexity of the area, with multiple built and natural structures intertwined, posed a challenge for the systemic approach, while the considerable effects of the regeneration project feed the discussion on the creation of new services, the increase in diverse values, and the positioning of different actors.

The assessment process took place over a period of two months and was carried out by a team of six members. Following an initial insight into the study area, the team decided that the evaluation would focus on understanding the effects of the POLIS programme, with the question: Did the POLIS intervention lead to the restructuring of urban systems and the creation of a new centre? This completed the Starting Point phase.

Entering Phase 2, in the identification stage, specific guiding questions, linked to the assessment goal, were raised to collect and then organise the information:

- ✓ How are public spaces organised and connected?
- ✓ What are the main flows and connections?
- ✓ Which spaces are used most frequently and why?
- ✓ Which locations are key reference points for users?
- ✓ What are the perceptions of the various stakeholders regarding the interventions under the POLIS programme?

An initial site visit, led by the coordinating team of the urban project, was complemented by documentary and cartographic collection and analysis. This was followed by office-based working sessions and on-site observation visits, accompanied by team meetings. The fieldwork involved direct observation (at different times of day and week), photographic records, and flow mapping. The process also involved interaction with local stakeholders: a survey of local traders aimed at the impact on the local economy of the POLIS; a survey of urban park users collected the reasons for using the space and its importance in daily life; informal conversations with the Citizen Service Centre and the interface users pointed out the usability and the scale of its reach. Finally, interviews with the regulators' agents gathered their perceptions and expectations about the project outcomes.

⁴ A one-stop shop for public and collective services.

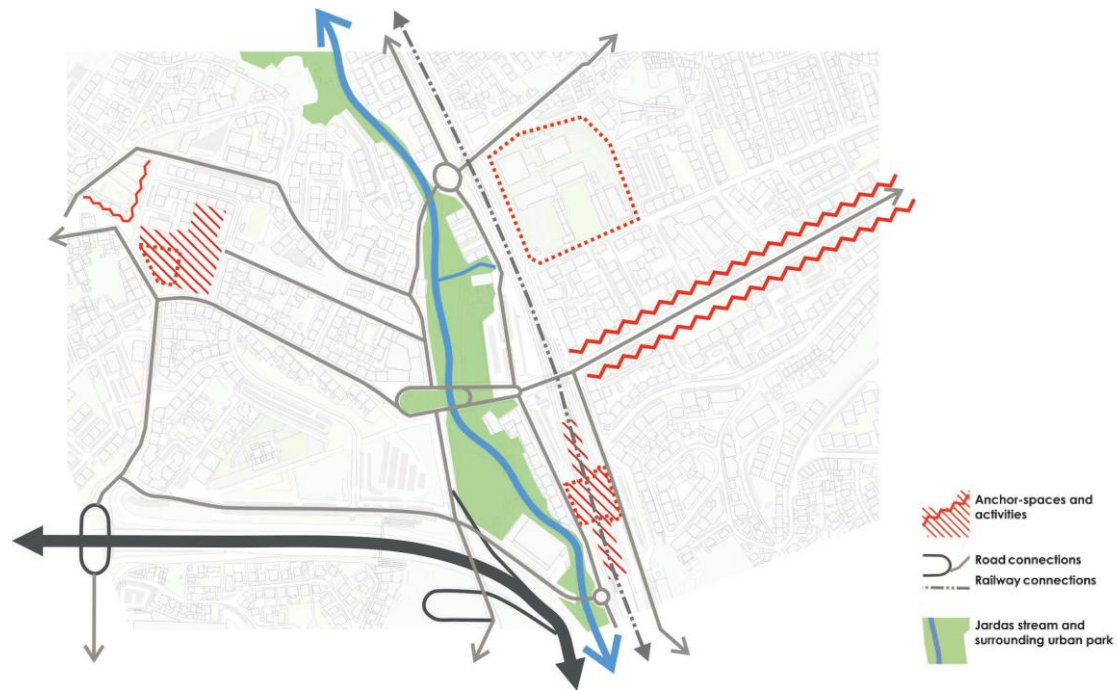


Figure 4. POLIS project system components and dynamics scheme. Source: Authors
By linking the system and service components, spaces were identified whose services, diversity, and functions (retail, services, transport, socialising, environment, recreation, and leisure) linked to central functions, and their usage dynamics and flows were examined (Figure 4).

Key stakeholders were identified across the park, the transport interface, and the commercial areas, including users, regulatory entities, and service providers such as traders and public transport companies. At a broader level, the Sintra City Council, the parish council, and the police play central roles in regulating public space. From the stakeholder's perspective, the project incurred high costs but generated limited economic and real estate value, with no significant impact on local economic dynamics. However, it enhanced social and use value by enabling diverse activities, highlighting the park as a social space, bringing together diverse publics and generations, and delivering important environmental benefits (climate and flood risk mitigation) through the restoration of the Jardas stream. Additionally, the intervention improved the area's image value, reinforcing its role as a local reference point. During the analysis, the different centrality areas were characterized: the urban park, as a link between the different components of the system and a key hub for socialising and leisure; the public transport hub as a reference point with a diverse range of users; the Citizen Service Centre, a hub for commerce and services; and Bons Amigos Avenue as an reference axis with important crossing and passage flows. All of these are key spaces that are heavily used and, in the opinion of their users, have contributed to improving the city's image and urban environment.



Figure 5. Agualva-Cacém main centrality areas: urban park and transport interface. Source: Authors

By engaging with different stakeholders, the assessment revealed differing perspectives on the effects of the POLIS project, in terms of safety perceptions - non-users of the park identify the lack of safety of this space, its users consider it a safe place; and in terms of the expectations regarding the initiative - users and regulatory bodies refer to the benefits, while shopkeepers stress disappointment.

In summary, the POLIS project had positive effects on restructuring the urban system, reconciling environmental, infrastructural, and social components, with the space being valued and widely recognised by users, thereby enhancing the city's image. However, some constraints to the fulfilment of the new centrality were also identified, evident in unfinished spaces and temporary solutions.

The follow-up phase addressed the “incomplete” centrality, looking for how current development is addressing it. As efforts focus on urban rehabilitation and improving connectivity within the ecological system, it remains uncertain whether these actions will address existing shortcomings. Future interventions require coordinated public and private investment, as well as effective management of expectations. Here, the method proved useful in linking the results of the post-occupancy evaluation of the urban project to the openness of future interventions.

The scope of the method's applicability. Examples from various urban settings.

The PSSS method was designed to evaluate any type of public space, whether a local street or square, or larger places or combinations of places, such as a neighbourhood or a system of parks. In all cases, small or large, the method will look for systemic connections, meaning no space is viewed in isolation.

This perspective was examined in Baixa-Chiado, Lisbon's historic centre's Enlightenment district, which is benefiting from public and private investment in urban regeneration, reversing a long period of decline. At the historic district level, i.e. encompassing the network of different public space types, the assessment looked at the new activities and use patterns accompanying this revival, questioning the dominance of tourism, leisure, and consumption activities and their impact on public space use. It addressed how these consumerist activities benefit from public space systems connectivity, linking local and city-wide structures and how they shape the place's liveability by exposing conflictual views from public space users, residents vs tourists (Brandão and Negrão, 2018).



Figure 6. Intense tourist activities in Baixa. Source: Authors

In Vila Nova de Gaia, a city just across the river from Oporto, whose territory is composed of many disconnected urban structures, the method addressed an even wider territorial scope, an entire municipality. By taking the case of blue and green infrastructures, specifically the stream systems flowing to the river and seafront, the assessment focused on the existing and potential public space usage of these structures, fostering urban connections. This approach discussed a multi-scale perspective on public space, linking metropolitan, city-wide and local views of these ecological structures and showcasing the conditions for alignment between environmental and use values.

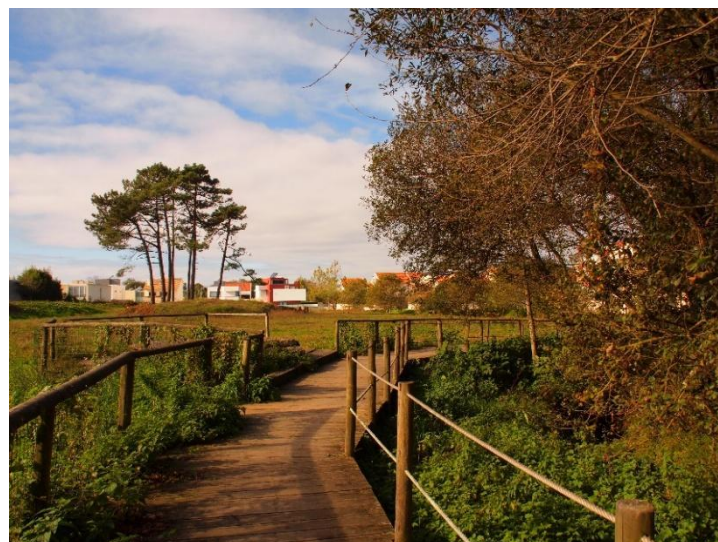


Figure 7. A walkway along a recovered stream in Vila Nova de Gaia. Source: Authors

A broad appreciation for what is considered public space is also at the heart of what was the method's development - the core of social space, a space of co-presence and a

defining element of society as a whole, defined by its accessibility (Madanipour, 2023). This means recognising and assessing spaces based on their free access, shared use, and meanings, even if they don't conform to typical representations.

In the Portuguese Northwest, where dispersed urbanisation is typical, the method was used to identify which elements make up the public space system. In two parishes of Santo Tirso, Burgães and Rebordões, urban living coexists alongside agricultural and industrial areas and the everyday practices associated with them. In this case, the method's openness to different spatial configurations was determinant. In an apparently uniform urban fabric, the study found a system made of points – the churchyard, the school, the café, the crossroads, the annual festival at the top of the hill, the urban park - linked by the road network or the ecological system, frequently featuring a basic layout, but ensuring a diffuse provision of services.



Figure 8. Near an intersection, a small public space in Rebordões. Source: Authors.

The case of Antofagasta in northern Chile, a port and mining city situated between the Atacama Desert and the Pacific coastline, showcased how public space delivers services in informal development settings. Despite its intense economic activity, the city is spatially and socially segregated, with the migrant population living mostly in *campamentos* in the upper part of the city. In the absence of properly designed spaces and infrastructure, these communities take matters into their own hands and build solutions for accessibility, water and energy provision, socialisation, street-vending and even natural risk mitigation. Rather than focusing on their non-compliance with design standards the method captured how these spaces are most important for the functioning and liveability of these areas. Although highly precarious in their physical condition, they provide a wide range of public space support and interaction services: basic access and infrastructure provision, exchange, meeting, and recreation.



Figure 9. Informal public space with water and energy provision and play area. Antofagasta, Chile. Source: Authors.

Public spaces do not merely have a physical dimension; they also encompass symbolic and referential aspects, memories and meanings, whether contentious or consensual. These are intangible elements of the public spaces system that can be represented in various forms (monuments, rituals, place names, etc.), as elements of perception and meaning within an urban cognitive map.

This issue was the focus of the assessment of Francoist memory spaces in Barcelona.

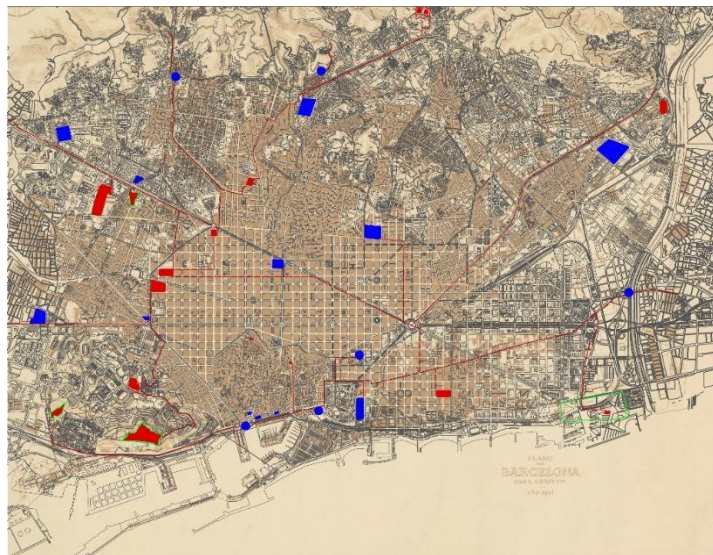


Figure 10. Barcelona map of repression spaces. Source: Authors

During the dictatorship, a network of spaces functioned as a system of social and political repression, strategically located in the city's fabric, affecting different areas of daily life, lasting until the 1978 democratic elections, and then replaced or forgotten over time. The

study questioned whether these spaces could initiate a public communication system that conveys and interprets the memory of this historical period, making it accessible to everyone. The assessment engaged with both physical and symbolic places, in the system's comprehension and in its significance. Results show how historic and traumatic memories can be expressed in public space, bringing together past events and the creation of new meanings, and communicated through rituals (anniversaries, tributes), itineraries (signage, and placenames) and landmarks (heritage, monuments).

The adaptability of the method concerns not only its application across a wide range of urban and geographic contexts but also the prioritisation of the assessment's specific goal; i.e., the method defines the evaluation purpose within its workflow, allowing it to be applied to various public space issues and approaches.

Ponta Grossa, in the southern state of Paraná, is a Brazilian medium-sized city whose urban development was influenced by its strategic geographic location, intense hydrographic network, and rugged terrain (Madalozzo, 2022; Madalozzo and Monastirsky, 2016) resulted in scattered, disconnected urban patterns and unequal spatial distribution of the population. The method was used in case studies across the city to capture differences in low-density urban areas with significant social and cultural differences, which are missed by social indicators from existing traditional quantitative surveys. While the official neighbourhood boundaries follow spatial landmarks such as waterbodies and infrastructure, they disregard urban dynamics and informal occupation patterns. In a primarily horizontal occupation, where informal housing is interspersed in middle-class areas, this means that neighbourhood units in official surveys may include completely different patterns; there are clearly data invisibilities. PSSS has proven effective as a potential complementary source of official records, specifically by identifying different user groups and the way they value spaces, leading to more informed, targeted public policies.



Figure 11. Contrasts. Informal housing area and high-rise residential buildings, Ponta Grossa, Brazil.
Source: Authors.

Discussing the relevance and limitations of the PSSS method – when and why to use it, and what it is not for

At this stage, a critical reflection about the adequacy of the method is due. To do this, we return to the discussion of the purpose of evaluating public spaces to frame the method's limits and potentials (Silva, 2019).

In this regard, it is important to understand what it means to evaluate, or, more specifically, why to evaluate. From a simplistic perspective, to evaluate means choosing from a set of alternatives, sorting into categories, ranking according to preferences, or, conversely, rejecting the worst alternative. More complex approaches view evaluation as a process of: (1) portfolio reasoning, selecting a subset of alternatives, taking into consideration their synergies and interaction; (2) design, seeking, identifying or creating new alternatives; (3) description or learning, intending at a greater understanding of what can and cannot be achieved (Belton and Stewart, 2002; Keeney, 1992).

For PSSS, evaluation is not just about effectiveness and performance, but a learning process, "a form of interactive discourse where all those involved can explain their values, problems and concerns" (Khakee, 2003: 347). This approach to evaluation aligns with other planning and design debates, regarding planning as a process of mutual learning (Friedmann, 1973), and later evolving to a process of communication (Innes, 1995) and negotiation (Healey, 1997). Specifically, it speaks to the urban design process itself: "Urban design is not ever a singular value, or even a set of values about complex issues held by one person, but a configuration of values held by multi-stakeholders ('people') about multiple complex issues ('place')" (Chiaradia et al., 2017). Evaluation is seen as a tool for understanding the public space, for identifying and solving problems, and for building new knowledge that can be used to define new creative actions rather than being closed in itself.

In this sense, the method can (and should) be included within other planning and design processes, as part of official planning and design actions (policies, plans, projects, programs), at different scopes from the regional design (Neuman and Zonneveld, 2018), to local design schemes, participatory endeavours, collaborations between stakeholders, community or civil society actions and even insurgent practices.

However, some of the method characteristics can be viewed as limitations. The first relies on flexibility; the method was developed as a process that can be tailored to situations and resources. This may lead to adaptations that deviate from the original conceptual rationale and dismiss the critical thinking essential to the assessment. Also, comparing results from independent assessments may be inappropriate.

The second is linked to its "methodological openness"; the set of guidelines is designed to inform a structured discussion about public spaces, rather than as a step-by-step methodology for retrieving and processing information, which may weaken its reproducibility, namely in scientific studies. In this matter, even if the method itself does not specify tools for data collection and spatial analysis, their incorporation is straightforward and welcomed.

The third is linked to the incorporation of subjectivity and differing views into the process, which, if not critically examined, can disrupt it. On the one hand, this can lead to an opportunistic takeover of the assessment by an interest group, imposing their view; on the other hand, it may lead to an inconsequential process in which all points of view are valid but evened out.

In summary, the PSSS method, while not aiming to develop a comprehensive, hyper-descriptive evaluation framework, encourages holistic, interpretive assessment. While it may be impossible to know everything about a public space, it is essential to have a good understanding of what constitutes it, how it works, and how it should work, based on judgments from those linked to it, and to hold convictions about how to act in it.

Conclusion

“To think about the city is to hold and maintain its conflictual aspects: constraints and possibilities, peacefulness and violence, meetings and solitude, gatherings and separations, the trivial and the poetic, brutal functionalism and surprising improvisation.” (Lefebvre, 1996)

The paper introduced the PSSS method, a novel framework for evaluating public spaces that incorporates subjectivity, context, and the diversity of actors involved in creating, regulating, and inhabiting these spaces. It addresses the need for tools that engage with the increasing complexity of urban environments and public spaces, intertwined with urban, economic, and social dynamics on which they rely and also sustain. Public space is too significant and contested to be evaluated by a single measure or from just one perspective.

In this regard, the method is structured around four mutually reinforcing concepts, system, service, actors, and value, which together offer an integrated reading of public space: situating any given place within a broader spatial network, identifying the range of benefits it provides to its communities, recognising the diverse agents who shape and use it, and articulating the multiple, often competing values attached to it. The method is designed more as a ‘way of thinking and discussing’ than as a ‘way of doing’, treating assessment not as a scoring exercise but as a process of inquiry, dialogue, and collective learning.

The practical applicability of the method has been demonstrated across urban settings, both geographically and typologically. The case studies show the method’s capacity to surface issues - spatial disconnections, unrecognised services, marginalised actors, latent values - and to adapt to specific contexts in order to engage meaningfully with the diversity of contemporary urban conditions.

Looking ahead, further advance ments may include: the development of a toolbox to supplement the assessment guide, with techniques useful for data collecting and processing in the evaluation, to strengthen its operational guidance; the application within design and planning processes, in participatory arenas or post-occupancy monitoring to inform project, management, and policy decisions; and the use by communities wanting to raise awareness and discuss the adequacy of their surrounding public spaces.

Lefebvre’s injunction - to hold the city in all its contradictions - captures something essential about the spirit of this method. The PSSS does not seek to resolve the tensions inherent in public space, but rather to make them legible and to create conditions for collective, constructive engagement. To create truly public spaces, the legitimacy of design or management choices cannot stem solely from formal aspects, metrics or political decisions, but also requires tools that facilitate communication, participation and collaboration. In this sense, the method is as much a contribution to the practice of urban governance as it is to the theory of spatial evaluation. Public space belongs to everyone; its assessment should too.

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References

- Alexander, C. (1965) A City is Not a Tree. In: Tiesdell S and Carmona M (eds) *Urban Design Reader*. Routledge.
- Appleyard, D. (1981) *Livable Streets*. Berkeley, California: University of California Press.
- Belton, V. and Stewart, T. (2002) *Multiple Criteria Decision Analysis: An Integrated Approach*. Springer Science & Business Media.
- Brandão, A. and Brandão, P. (eds) (2018) *COMMON PLACES Guide for the Assessment and Interpretation of Public Space*. Lisboa: IST-ID, Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento. Available at: <https://scholar.tecnico.ulisboa.pt/records/UCemvw8N8ZPmjVIAcsYDD-5IgUahYbD5PbyO>
- Brandão, A. and Brandão, P. (eds) (2019) *O LUGAR DE TODOS Interpretar o Espaço Público Urbano*. Livraria Tigre de Papel.
- Brandão, A. and Negrão, R. (2018) Welcome, Willkommen, Bienvenut, Bienvenidos to Baixa Pombalina: a review of Baixa Pombalina recent transformation. In: *Third International Conference of Young Urban Researchers*, Lisboa, 2018, pp. 86–108. Available at: <http://hdl.handle.net/10071/17801>.
- Brandão, A. L. and Brandão, P. (2017) Public Space, Infrastructure, Landscape: an interdisciplinary matrix for urban spatial continuity. *The Journal of Public Space* 2(1): 123–134.
- Brandão, P., Águas, S. and Carrelo, M. (2002) *O Chão Da Cidade: Guia de Avaliação do Design de Espaço Público*. Lisboa: Centro Português de Design.
- CABE (2001) *The Value of Urban Design*. London: Commission for Architecture and the Built Environment. Available at: http://www.designcouncil.org.uk/sites/default/files/asset/document/the-value-of-urban-design_0.pdf.
- CABE (2004) *The Value of Public Space: How High Quality Parks and Public Spaces Create Economic, Social and Environmental Value*. London: Commission for Architecture and the Built Environment. Available at: <http://discovery.ucl.ac.uk/92861/>.
- CABE (2006) *The Value Handbook: Getting the Most from Your Buildings and Spaces*. London: Commission for Architecture and the Built Environment. Available at: <http://www.designcouncil.org.uk/sites/default/files/asset/document/the-value-handbook.pdf>.
- CABE (2007) *Spaceshaper: A User's Guide*. London: Commission for Architecture and the Built Environment.
- Carmona, M. (2010) Contemporary Public Space, Part Two: Classification. *Journal of Urban Design* 15(2): 157–173.
- Carmona, M., De Magalhães, C. and Edwards, M. (2002) Stakeholder Views on Value and Urban Design. *Journal of Urban Design* 7(2). Taylor & Francis Group: 145–169.
- Carmona, M., Heath, T., Oc, T., et al. (2003) *Public Places - Urban Spaces: The Dimensions of Urban Design*. Oxford; Boston: Architectural Press.
- Carmona, M., Magalhães C. de and Hammond, L. (2008) *Public Space: The Management Dimension*. London ; New York: Routledge.
- Carr, S., Francis, M., G. Rivlin, L., et al. (1992) *Public Space*. Cambridge: Cambridge University Press.
- Chiaradia, A. J. F., Sieh, L. and Plimmer, F. (2017) Values in urban design: A design studio teaching approach. *Design Studies* 49: 66–100.

- Costanza, R., d'Arge, R., de Groot, R., et al. (1997) The value of the world's ecosystem services and natural capital. *Nature* 387(6630). Nature Publishing Group: 253–260.
- Cowan, R. (2001) *Arm Yourself with a Placecheck: A User's Guide*. 2nd ed. London: Urban Design Alliance.
- Cui, N., Malleson, N., Houlden, V., et al. (2021) Using VGI and Social Media Data to Understand Urban Green Space: A Narrative Literature Review. *ISPRS International Journal of Geo-Information* 10(7). Multidisciplinary Digital Publishing Institute: 425.
- Friedmann, J. (1973) *Retracking America. A Theory of Transactive Planning*. Garden City, N.Y.: Anchor Press.
- Friedmann, J. (2017) Place and Place-Making in Cities: A Global Perspective. *Planning Theory & Practice* 11(2): 149–165.
- Geddes, P. (1915) *Cities in Evolution. An Introduction to the Town Planning Movement and to the Study of Civics*. London: Williams.
- Gehl, J. (1987) *Life between Buildings: Using Public Space*. New York: Van Nostrand Reinhold.
- Gehl, J. (2010) *Cities for People*. Island Press.
- Gehl, J. and Svarre, B. (2013) *How to Study Public Life*. Washington: Island Press.
- Graeber, D. (2001) *Toward An Anthropological Theory of Value: The False Coin of Our Own Dreams*. 2001 editi. New York: Palgrave Macmillan.
- Harvey, D. (1990) *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford England ; Cambridge, Mass., USA: Wiley-Blackwell.
- Healey, P. (1997) *Collaborative Planning: Shaping Places in Fragmented Societies*. Vancouver: UBC Press.
- Hillier B and Hanson J (1984) *The Social Logic of Space*. Cambridge; New York: Cambridge University Press.
- Innes, J. E. (1995) Planning Theory's Emerging Paradigm: Communicative Action and Interactive Practice. *Journal of Planning Education and Research* 14(3). Sage PublicationsSage CA: Thousand Oaks, CA: 183–189.
- Jacobs, J. (1961) *The Death and Life of Great American Cities*. New York: Random House.
- Keeney, R. L. (1992) *Value-Focused Thinking: A Path to Creative Decisionmaking*. Revised ed. Cambridge, Mass.: Harvard University Press.
- Khakee, A. (2003) The Emerging Gap between Evaluation Research and Practice. *Evaluation* 9(3): 340–352.
- Khan, A. Z., Moulaert, F., Schreurs, J., et al. (2014) Integrative Spatial Quality: A Relational Epistemology of Space and Transdisciplinarity in Urban Design and Planning. *Journal of Urban Design* 19(4). Routledge: 393–411.
- Lefebvre, H. (1974) *La Production de L'espace*. Paris: Anthropos.
- Lefebvre, H. (1996) *Writings on Cities* (eds E Kofman and E Lebas). Cambridge, Mass.: Wiley-Blackwell.
- Li, S., Ma, S., Tong, D., et al. (2022) Associations between the quality of street space and the attributes of the built environment using large volumes of street view pictures. *Environment and Planning B: Urban Analytics and City Science* 49(4). SAGE Publications Ltd: 1197–1211.
- Lynch, K. (1960) *The Image of the City*. Cambridge, Massachusetts: MIT Press.
- Madalozzo, N. (2022) *Rio e Ferrovia: A Produção Social Do Espaço Urbano Em Ponta Grossa - PR*. Porto Alegre, RS: Editora Fi. Available at: <https://www.editorafi.org/ebook/459nisiane>.
- Madalozzo, N. and Monastirsky, L. B. (2016) Memória social e cidade contemporânea: o velho centro ferroviário de Ponta Grossa – PR. *Patrimônio e Memória* 12(2). Universidade Estadual Paulista: 232–253.
- Madanipour, A. (1996) *Design of Urban Space: An Inquiry into a Socio-Spatial Process*. Chichester, New York: Wiley.
- Madanipour, A. (2006) Roles and Challenges of Urban Design. *Journal of Urban Design* 11(2). Taylor & Francis Group: 173–193.
- Madanipour, A. (2023) *Rethinking Public Space*. Edward Elgar Publishing.

- Marcus, C. C. and Francis, C. (eds) (1998) *People Places: Design Guidelines for Urban Open Space*. 2nd ed. Van Nostrand Reinhold.
- McIndoe, G., Chapman, R., McDonald, C., et al. (2005) *The Value of Urban Design The economic, environmental and social benefits of urban design*. Wellington, New Zealand: Ministry for the Environment.
- McLoughlin, J. B. (1969) *Urban and Regional Planning: A Systems Approach*. Faber & Faber.
- Neuman M and Zonneveld W (2018) The resurgence of regional design. *European Planning Studies* 26(7). Routledge: 1297–1311.
- Pinto, A. J. and Remesar, A. (2015) Urban Cohesion. A Public Space Network Assessment. *On the Waterfront* 39(2). Universitat de Barcelona.
- Santos JR, Da Costa AB and Silva MM (2024) A territorial design toolbox for metropolitan public space. *Towards a Metropolitan Public Space Network: Lessons, Projects and Prospects from Lisbon*. Taylor and Francis: 233–270.
- Secchi, B. and Viganò, P. (2011) *La Ville Poreuse : Un Projet Pour Le Grand Paris et La Métropole de l'après-Kyoto*. Métispresses.
- Sennett, R. (1992) *The Fall of Public Man*. New York ; London: W. W. Norton & Company.
- Silva, J. B. e (2019) Avaliar e interpretar o método: sobre a complexidade do espaço público. In: Brandão A and Brandão P (eds) *O LUGAR DE TODOS Interpretar o Espaço Público Urbano*. Livraria Tigre de Papel, pp. 134–139.
- Southworth, M. (2003) Measuring the Liveable City. *Built Environment* 29(4): 343–354.
- Tardin, R. (2008) *Espaços Livres: Sistema e Projeto Territorial*. Rio de Janeiro: 7letras. Available at: <https://doi.org/10.13140/RG.2.1.4311.8802>.
- UN-Habitat (2015) *Global Public Space Toolkit: From Global Principles to Local Policies and Practice*. Nairobi (Kenya): UN-Habitat. Available at: [https://unhabitat.org/wp-content/uploads/2015/10/Global Public Space Toolkit.pdf](https://unhabitat.org/wp-content/uploads/2015/10/Global-Public-Space-Toolkit.pdf).
- Whyte, W. H. (1980) *The Social Life of Small Urban Spaces*. New York: Project for Public Spaces.
- Woolley, H. (2003) *Urban Open Spaces*. London: Spon Press.
- Zhou, Y., Thill, J-C., Liu, X., et al. (2025) Measuring and understanding changes in the physical built environment of cities with street view images. *Urban Informatics* 4(3). Springer.
- Zhu, Y., Zhang, Y. and Biljecki, F. (2025) Understanding the user perspective on urban public spaces: A systematic review and opportunities for machine learning. *Cities* 156(105535). Pergamon.
- Zukin, S. (1995) *The Cultures of Cities*. Oxford: Blackwell.