



Research Article

Interpretive mapping of potential urban leftover spaces through participatory planning reports: The case of Kadıköy, İstanbul

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ABSTRACT

Urban leftover spaces, excluded from the urban fabric's structural integrity, may become socio-spatial focal points of decline due to their functional and semantic ambiguities. This study examines how these underutilized spaces can be reimagined as potential areas by identifying the problems and needs of their users in the Osmanağa, Caferağa and Rasimpaşa neighborhoods of Kadıköy, which are characterized by excessive and irregular user density and are in a state of constant change. The primary focus of the research is on participatory planning approaches that elevate the user to the status of co-designer in urban interventions. Methodologically, the study involved an analysis of qualitative data sets relating to the participatory planning activities of the İstanbul Metropolitan Municipality (İMM) for the period 2020–2025. Qualitative data from the İMM's participatory planning reports were examined through thematic classification and interpretive spatial visualization to identify physical, social, and administrative problems and potentials in the selected neighborhoods. The findings indicate that commercial pressure, sidewalk occupation, interrupted pedestrian access, insufficient public facilities, and unplanned development may contribute to spatial neglect. When these conditions persist, they may increase the potential for the formation of leftover spaces. By relating the reported problems and recommendations to their approximate spatial references, the study provides a context-specific framework for interpreting conditions associated with spatial neglect and considering possible public-space interventions.

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INTRODUCTION

Urban leftover spaces, variously defined as neglected components of a designed spatial whole [1], undefined areas lacking a sense of belonging [2], or loose spaces hosting unregulated public activities [3], may contribute to the so-

cio-physical decline of their surroundings. These areas fall into dereliction as they lose semantic and functional value, a process fueled by uncontrolled migration, rising population mobility, and shifting consumption habits that rapidly transform spatial functions.

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Uncovering the hidden potential of these areas, frequently characterized in the literature as “*ambiguous*” [4], “*lost*” [5], or “*empty*” [6], demands a rigorous analysis of contextual conditions and user habits. In this regard, the concept of participation [7], representing the democratic expression of urban agency, provides a robust analytical framework. Adopting participatory methods, especially in the regeneration of public spaces, facilitates a transparent identification of needs, thereby directly and positively enhancing post-regeneration usage [8].

Unlike decisions taken only by managers or designers, decisions made in collaboration with users play a critical role in the discovery of leftover spaces [9]. In this context, although it is necessary to identify concrete participation strategies for the construction of a system in which the user is positioned as a ‘co-designer’ [10], this is often disregarded. In the literature, the management of participatory processes begins primarily with the identification of participants and the prioritization and ranking of stakeholders [11, 12]. Processes characterized as pseudo-participation [13] include surveys, neighborhood meetings, and public inquiries conducted to gather ideas. More advanced forms of participation involve sharing authority among urban stakeholders, administrative bodies, and property owners, as well as assuming responsibilities related to decision-making and design [9].

In this direction, the primary objective of this study is to examine the participatory planning reports prepared by the Istanbul Metropolitan Municipality (IMM) Directorate of City and Regional Planning between 2020 and 2025. The reported urban problems and recommendations are interpreted in relation to spatial neglect and the potential formation of leftover spaces in the Osmanağa, Caferağa, and Rasimpaşa neighborhoods of Kadıköy. The study presents a framework for interpreting the current conditions and transformation potentials of the study area. The reported problems were classified by theme and actor group, and their approximate spatial references were represented through interpretive maps. This framework brings together problem themes, potential responses, related typologies, and the suggested order of stakeholder involvement through a context-specific interpretive synthesis. Accordingly, the research questions are as follows:

Q1: What are the main socio-spatial and administrative issues reflected in the IMM’s participatory planning reports in Kadıköy’s most densely populated neighborhoods (Osmanağa, Caferağa, and Rasimpaşa)?

Q2: How can the thematic classification and interpretive spatial visualization of qualitative data obtained from participatory planning processes support the interpretation of conditions associated with the potential formation of leftover spaces?

In this context, the study contributes by treating qualitative data generated through participatory processes con-

ducted by local government actors as an input for interpreting the problems and potentials of urban leftover spaces. This study applies an approach that positions participatory data as a component of the spatial interpretation process in high-density neighborhoods of the Kadıköy district in Istanbul. It contributes to the literature by applying a participatory data-based evaluation approach for the exploration of urban leftover spaces, while also providing a current-state analysis that may inform possible transformation scenarios in the study area.

The research does not treat participatory planning reports merely as administrative documents or records of public opinion; rather, it evaluates the problems, needs, and spatial potentials expressed by different urban actors in these reports as an analyzable data source. In this regard, the classification of qualitative statements into thematic categories and their representation through approximate spatial references and interpretive maps suggests that participatory planning data can complement existing typological and morphological approaches to leftover spaces. In this respect, the study offers a context-specific methodological application by relating user-experience-based spatial knowledge to the processes of exploring, interpreting, and reassessing leftover spaces in high-density urban environments.

THEORETICAL FRAMEWORK

Since the formal equivalents of leftover spaces define the volumetric boundaries of the void, they are significant determinants of how and on what scale transformation planning can take place. For this reason, the formal characteristics of leftover spaces have been examined in literature through different urban typological approaches. In studies where these spaces are discussed within the context of industrial waste [14], positive/negative space [15], building typology [16, 17] and transportation networks [18], these spaces are examined typologically through their formal states within the city. Villagomez’s classification, one of the most comprehensive examples of these formal studies, is used as a guide in this study [19]. According to this study, leftover spaces exist within the city in eight different forms: spaces between, spaces around, rooftops, wedges, redundant infrastructure, oversized infrastructure, void spaces, and spaces below (Fig. 1).

However, evaluating leftover spaces solely through their morphological or typological characteristics may remain insufficient for explaining their social and experiential dimensions [20]. This is because the perception of a space as leftover depends not only on its physical form, but also on users’ experiences, everyday practices, needs, and the problems they encounter in daily urban life [17]. The same physical void may carry different meanings for different actors; while it may be perceived by one user as inaccessible or unsafe, it may be evaluated by another actor as econom-

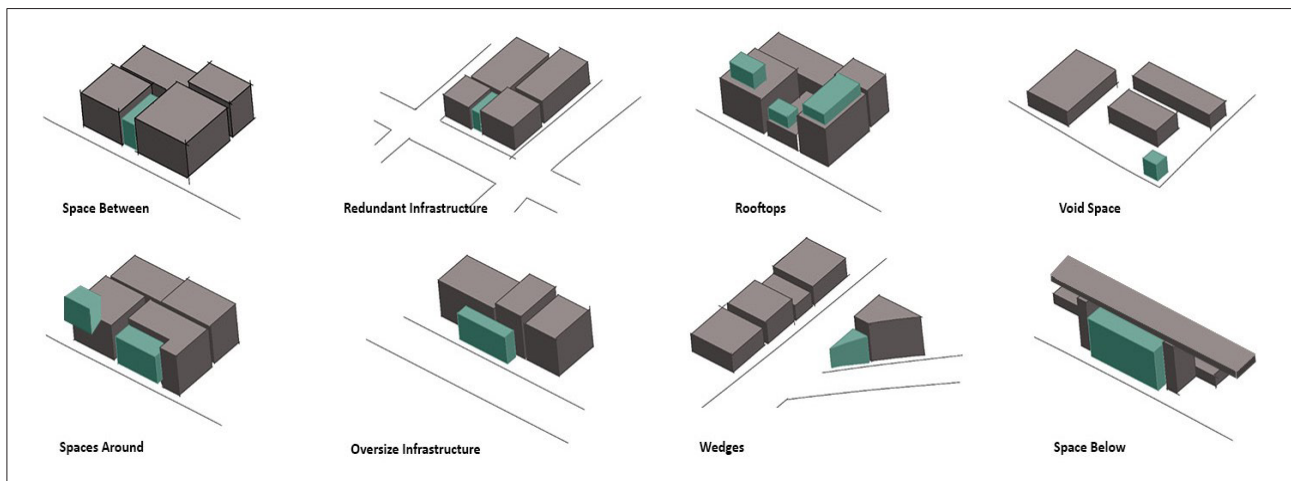


Figure 1. Typological equivalents of leftover spaces [19]. (Adapted by the authors from: Villagomez E. Claiming residual spaces in the heterogeneous city. In: *Insurgent Public Space*. Routledge; 2010.)

ic potential, a temporary use area, or a ground for public encounter. Therefore, user-based spatial knowledge should be considered in the processes of exploring and reassessing leftover spaces [21].

Previous studies associate leftover spaces not only with residual spatial form but also with neglect, declining use, functional ambiguity, and weakened relations between a place and its urban context [17, 20, 21]. From this perspective, pressures related to accessibility, mobility, commercial use, and tourism may contribute to spatial neglect when they restrict public use, reduce functional continuity, or weaken the social meaning of a place. Such conditions do not necessarily constitute leftover space. However, their persistence may create conditions in which a place becomes underused, disconnected, or functionally ambiguous. This process may increase the potential for the formation of leftover spaces. This process-oriented understanding guides the interpretation of the urban problems examined in the study.

At this point, participatory urban design and co-design approaches make it possible to address leftover spaces not merely as physical problems identified by experts, but as urban potentials shaped by user experiences [10]. The participatory planning literature emphasizes that users should be positioned not only as passive actors who express opinions, but also as knowledge producers who contribute to decision-making and design processes. This approach enables user needs, local knowledge, and everyday experiences to be incorporated into planning processes, particularly in the reorganization of public spaces and urban regeneration practices. Thus, participation can be considered not only as a means of democratic representation, but also as an analytical input that helps make spatial problems visible [22, 23].

Recent studies indicate that data produced by users in participatory design processes have become increasingly important for public space design and urban regeneration

decisions. Spatial knowledge produced by users, as the primary actors of urban spaces, makes everyday experiences, needs, and perceptions of space visible. Especially in ambiguous, temporary, undefined, or transformable areas such as leftover spaces, such data can reveal social and functional problems that cannot be easily identified through physical analyses alone [23]. Therefore, participatory reports, meeting notes, workshop outputs, and user opinions can be considered not only as administrative documents or outputs of consultation processes, but also as qualitative data sources that can be used in spatial interpretation [23].

In this study, Villagomez's typological framework (Fig. 1) is used together with participatory spatial data to evaluate not only the formal characteristics of leftover spaces, but also the problems, needs, and potentials expressed by different urban actors.

METHODOLOGICAL FRAMEWORK

This study examines the reported urban problems and recommendations in the Osmanağa, Caferağa, and Rasimpaşa neighborhoods of the Kadıköy district in relation to spatial neglect and the potential formation of leftover spaces. Kadıköy was selected as the study area due to its high user circulation and continuous spatial transformation. The temporal scope of the study covers the period from 2020 to 2025, during which the reviewed participatory studies were conducted.

The qualitative dataset summarized in Table 1 [24-39] was used in the thematic classification and interpretive spatial visualization stages shown in Figure 2.

Data Collection

The study used publicly available participatory planning reports published by the Istanbul Metropolitan Municipality Directorate of Urban Planning. The document search covered the period from 2020 to 2025. Reports were

Table 1. Analysis of reports on participatory process activities, workshops, and surveys conducted by the Istanbul Metropolitan Municipality in Kadıköy

STUDY CONTENTS SUMMARY				PARTICIPATION METHOD	IMPLICATIONS REGARDING LEFTOVER SPACES	
TITLE	STAKE-HOLDERS	DATE	TOPIC		CURRENT SITUATION	RECOMMENDATIONS
Meetings with Mukhtars [24]	1. IMM Participation Coord. 2. Caferağa, Rasimpaşa, and Osmanağa Mukhtars	26.06.2022-05.10.2022	. Requests Received by Village Offices . Future Projects	Focused Interview	. The Kadıköy Meydan-Festival Park project's increase in current density . The occupation of unused areas . The invasion of motorcycle couriers on sidewalks (Halitağa St.) . Lack of oversight regarding tourism licenses	. Registration of commercial areas that require protection . Taking measures against sidewalk encroachments . The need for green spaces along the waterfront . Preventing security issues in the parks of the Rasimpaşa neighborhood . Designating the area between the waterfront and Yoğurtçu Park for public use
Kadıköy Community Association [25]	1. IMM Participation Coord. 2. Kadıköy Community Association 3. BİMTAŞ	16.09.2022	Assessment of the 1/5000 Master Plan	Focused Interview and Survey	. A lack of public space and changes to social fabric. . In the Festival Park area excessive overcrowding, uncontrolled growth and rapid urbanization. . Disaster risk and difficulty accessing assembly points due to narrow streets.	. Accessible squares . In the landscape designs carried out within the Kurbağalı Dere Life Valley, Kuşdili Meadow Landscape Design, Yoğurtçu Park Landscape Design, Haydarpaşa Station Project, Söğütlüçeşme Terminal Park Project and Fikirtepe Urban Regeneration Project, issues such as transport, green spaces and conservation
Kadıköy Traders' Association (KADIDER) [26]	1. IMM Participation Coord. 2. IMM Planning Group 3. KADIDER	21.09.2022	Assessment of the Revised 1/5000 Master Plan	Focus Interview	. The decline in residential use in Kadıköy Çarşı	. With the designation of the Çarşı area as an 'Urban Tourism Zone', the diversification of urban development activities and the preparation of an urban design guide
Kadıköy Historic Bazaar Preservation and Beautification Association [27]	1. IMM Participation Coord. 2. BİMTAŞ 3. Kadıköy Historic Bazaar Preservation and Beautification Association	28.09.2022	Discussion of Planning Processes for the Kadıköy Historic Bazaar Area	Focus Interview	. The increasing number of visitors . The decline of the master-apprentice tradition in the bazaar . Problems with pedestrian flow . The lack of a visual design guide	. Reuse of the empty space behind Barış Manço. . Resolving parking issues by organizing shuttle services from Salı Pazarı
Kadıköy Initiative [28]	1. IMM Participation Coord. 2. BİMTAŞ 3. Kadıköy Initiative	28.09.2022	Current Issues in Kadıköy Centre and the Söğütlüçeşme Project	Focus Interview	. The spatial abandonment that began on Kadife Street and has since spread, driven by unqualified commercial licenses	. The desire for more transparent management of building and planning licenses processes

Table 1. Continued

STUDY CONTENTS SUMMARY				PARTICIPATION METHOD	IMPLICATIONS REGARDING LEFTOVER SPACES	
TITLE	STAKE-HOLDERS	DATE	TOPIC		CURRENT SITUATION	RECOMMENDATIONS
TMMOB Chamber of City Planners [29]	1. IMM Participation Coord. 2. TMMOB Chamber of City Planners	27.10.2022	Urban Regeneration and Resilience, Trade and Economy, Transportation	Focus Interview	. The "Superblock" method creates irregular residual spaces	. An examination of how demographic change urban identity . The creation of identity zones within building blocks
Bariş Manço Cultural Centre [30]	1. IMM Part. Coord. 2. BİMTAŞ 3. Bariş Manço Cultural Cen.	03.11.2022	Information Sharing of the Revised 1/5000 Master Plan	Focus Interview	. Changes to the user profile . The relocation of established and traditional trades . Lack of street furniture	. Establishment of tourism information and safety points . Incorporation of urban design and landscaping initiatives
Süreyya Opera House [31]	1. IMM Part. Coord. 2. Süreyya Opera House	03.11.2022	Information Sharing of the Revised 1/5000 Master Plan	Individual Interview	. Users aged 55 and over struggle to access theatre venues . Despite the increasing number of theatres in Kadıköy, insufficient infrastructure	. Ensuring that the waterfront serves not only commercial activities but also recreational activities . Resolving access issues to the theatres clustered along Bahariye Street
Playing Workshop [32]	2. IMM Part. Coord. 2. Playing Workshop	03.11.2022	Assessment of the Revised 1/5000 Master Plan	Individual Interview	. The security concerns that arise at night between Ayvalıtaş Square and Yoğurtçu Park	. Cultural guidance on the Rıhtım-Söğütlüçeşme route . Traffic restrictions on busy days
The Traders of Akmar Arcade [33]	1. IMM Part. Coord. 2. BİMTAŞ 3. The Traders of Akmar Arcade	07.11.2022	The planning of field activities taking place and planned in the center of Kadıköy	Focus Group Interview	. Commercial monopolization . The closure of REXX and Haldun Taner . Pavement encroachments . Inadequate infrastructure	. The need to increase social events for local users
Moda Sports Club [34]	1. IMM Part. Coord. 2. IMM Plan Team 3. BİMTAŞ 4. Moda Sports Club	22.11.2022	1/5000 Master Plan	Individual Interview	. The lack of a sufficient number of high-quality sports facilities in neighborhoods	No solution has been suggested.
Traders of Antique Street [35]	1. IMM Part. Coord. 2. BİMTAŞ 3. Traders of Antique Street	05.01.2023	1/5000 Master Plan	Individual Interview	. Occupation of sidewalks . Constantly changing and increasing numbers of users and safety issues	. Preparation of a design guide for Antique Street . Street-specific street furniture and landscaping support
Justice in Space Association (Mekânda Adalet Derneği) [36]	1. IMM Part. Coord. 2. IMM Plan Team 3. Justice in Space Ass.	28.02.2023	Participatory Planning Events and the Accommodation Problem	Focus Interview	. The social and cultural identity eroded by building-based regeneration	. A holistic approach to urban regeneration processes

Table 1. Continued

STUDY CONTENTS SUMMARY				PARTICIPATION METHOD	IMPLICATIONS REGARDING LEFTOVER SPACES	
TITLE	STAKE-HOLDERS	DATE	TOPIC		CURRENT SITUATION	RECOMMENDATIONS
Public Meeting [37]	1. IMM 2. Kadıköy Municipality 3. Urban User	30.03.2023	1/5000 Master Plan 1/1000 Application Plan	Forum	. Noise and congestion in Caferağa . Lost gathering spaces due to the Söğütlüçeşme Project	. The use of Kuşdili Meadow as a green space rather than a car park . Freeing pavements from vehicle encroachment . Accessible seaside areas
Urban Diagnosis Workshop [38]	1. IMM Part. Coord. 2. TAK Kadıköy 3. Urban Users	08.04.2023	To determine the problems women, experience in their daily lives and develop solutions	Physical Workshop, Fieldwork Observation	. Unsuitable coastal use . Insufficient pavement widths on Söğütlüçeşme Street . Overlapping of commercial and pedestrian routes on Bahariye Street . Inadequate lighting and sports facilities around Yoğurtçu Park and Moda Park	. Traffic management between Kadıköy Quay and Moda . Creation of a cycle path between Moda and Yeldeğirmeni . Reorganization between Söğütlüçeşme and Boğa Square . Addition of sports areas and street lighting from Bahariye to Yoğurtçu Park
Resilience Workshop [39]	1. IMM 2. Kadıköy Municipality 3. Urban User	13.04.2023	Inclusive and Democratic Kadıköy	Physical Workshop	. The inability to use back gardens . The lack of spaces where older people and families with children can spend time for free . The degeneration caused by entertainment venues	. Planning to allow planting in the back gardens of apartment blocks in Yeldeğirmeni . Reviewing the accessibility of parks, social and sports facilities and increasing their number

included if they concerned Kadıköy and contained spatially relevant information obtained through participatory activities. The final dataset included 16 participatory studies concerning the Osmanağa, Caferağa, and Rasimpaşa neighborhoods.

The reviewed studies used different participation methods. These included individual interviews, focused interviews, focus group interviews, surveys, public forums, workshops, fieldwork, and observation. At the report level, participants included local representatives, civil society

organizations, professional organizations, traders, arts and cultural organizations, and urban users. Table 1 presents the title, date, participants, participation method, and subject of each study.

The reports did not provide a standardized dataset. Therefore, the relevant sections of each report were read in full. Content referring to current spatial conditions, urban problems, user needs, recommendations, or potential interventions was identified. This content was summarized as concise analytical statements and manually recorded in

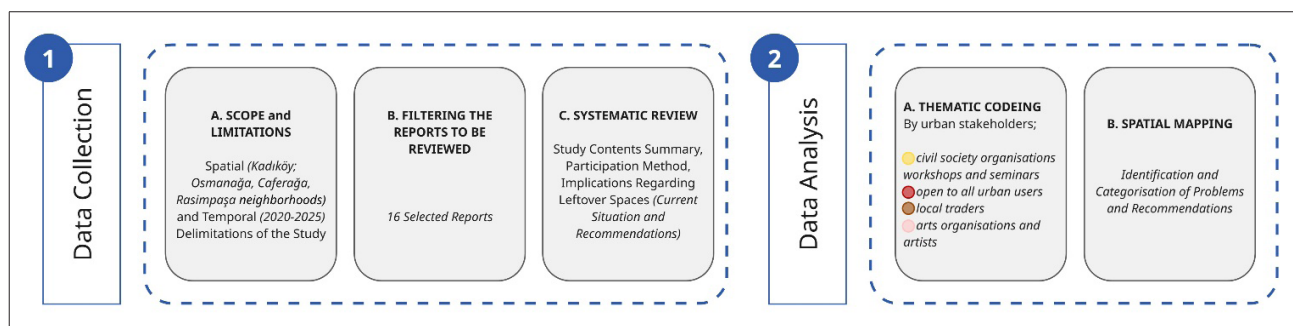


Figure 2. Methodological framework diagram.

a structured Microsoft Excel spreadsheet. The statements were not treated as direct quotations. Their original meaning and spatial references were preserved during summarization.

The analytical statements were divided into two groups. The first group described the current situation and existing urban problems. The second group included recommendations and potential interventions. Both groups are presented in Table 1.

Data Analysis

The data were examined through two stages: thematic classification and interpretive spatial visualization (Fig. 2). The unit of analysis was a summarized analytical statement. A total of 69 analytical statements were generated from the 16 participatory studies presented in Table 1. Of these, 37 concerned the current situation and 32 concerned recommendations.

The analytical statements were manually recorded in a structured Microsoft Excel spreadsheet. Each statement was assigned a unique identification number. Its source report, date, participating stakeholders, participation method, and statement type were also recorded. The spreadsheet was used to organize the dataset and document the classification process. No automated text-mining or computer-assisted qualitative data-analysis software was used.

The problem themes were not predetermined. They were developed inductively through repeated reading and comparison of the 37 current-situation statements. Statements describing similar urban problems were grouped under the same theme. This process resulted in eight problem-oriented thematic categories: (1) insufficient social infrastructure, (2) increasing tourism demand, (3) urban mobility problems, (4) underuse of public spaces, (5) disaster risks, (6) environmental pollution, (7) security risks, and (8) aesthetic problems. No additional level of subcoding was applied. For example, statements concerning sidewalk occupation, insufficient pavement width, and interrupted pedestrian movement were classified under urban mobility problems. Statements concerning the lack of public, social, or sports facilities were classified under insufficient social infrastructure. The identified problems were not treated as direct evidence of leftover spaces. They were included in the analysis when they indicated conditions that could contribute to spatial neglect, such as declining use, restricted public access, functional ambiguity, or weakened spatial continuity.

The 32 recommendation statements were examined separately from the current situation statements. They were interpreted as potential responses or interventions related to the identified problem themes. This procedure preserved the distinction between existing urban problems and proposed interventions.

The statements were also classified according to the actor group represented in each source report. Four main

actor groups were used: non-governmental organizations, workshops and seminars open to urban users, tradesmen groups, and art organizations and artists. The same classification was used in the tables and figures. Non-governmental organizations were represented in yellow, workshops and seminars open to urban users in red, tradesmen groups in brown, and art organizations and artists in pink. The actor groups and analytical statements were not assigned numerical weights. The reports did not consistently provide comparable information on participant numbers or the frequency of individual opinions. Therefore, the actor-based classification indicates the source and diversity of the reported perspectives rather than their relative representativeness or priority. Because the thematic categories were developed inductively, no formal codebook was established before the analysis. The final thematic structure and the classification of each current-situation statement were documented in the structured spreadsheet.

The first author conducted the initial extraction and classification. Both authors then reviewed the dataset and the thematic groupings. Ambiguous statements were discussed and reconsidered. Final classifications were reached through consensus between the authors. The authors did not classify the dataset independently. Therefore, statistical intercoder reliability was not calculated.

In the second stage, the statements were examined according to their spatial references. Each statement was checked for references to a neighborhood, street, square, park, waterfront, cultural facility, commercial area, or public focal point. Statements containing an identifiable spatial reference were associated with the corresponding location in Osmanağa, Caferağa, or Rasimpaşa. These references included Halitağa Street, Bahariye Street, Yoğurtçu Park, Kadıköy Quay, Kadıköy Bazaar, Söğütluçeşme, and the waterfront.

The reports did not contain coordinates, parcel-level information, or measurable geographic boundaries. Therefore, the spatial references were represented according to their approximate locations and contextual relationships. The resulting maps are interpretive spatial visualizations. They should not be understood as coordinate-based measurements or spatial statistical analyses. Figure 3 presents the spatial references associated with the current situation. Figure 4 presents the spatial references associated with recommendations.

FINDINGS

Current Situation

The problems reported in the participatory studies were associated with their spatial references and represented on the study area map. The colored bars accompanying the statements indicate the actor groups. The map does not define these locations directly as leftover spaces. Instead, it shows where reported urban problems may contribute to

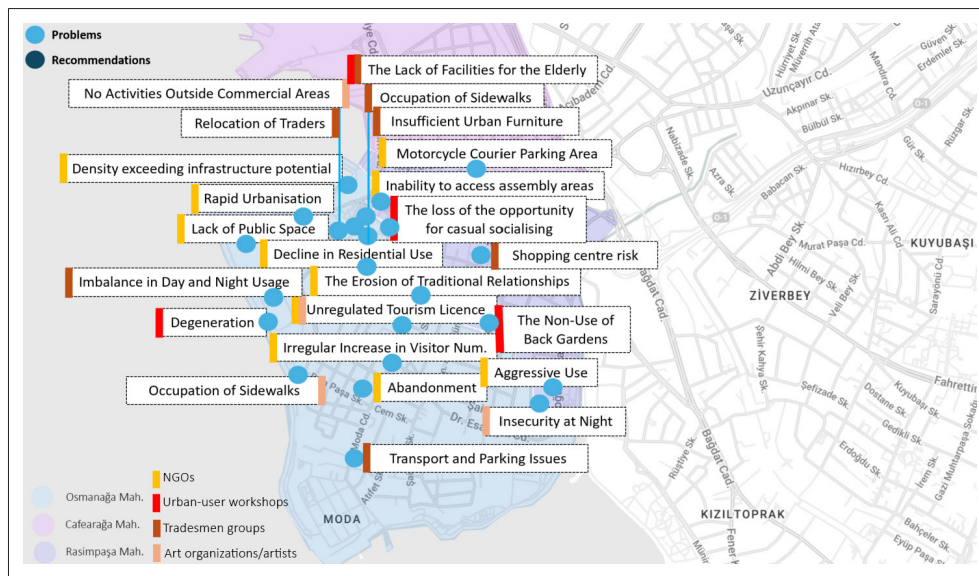


Figure 3. Interpretive map of reported urban problems. (Light-blue markers represent the approximate spatial references of reported problems. Colored bars distinguish the four actor groups, while the shaded areas indicate the three neighborhoods.)

spatial neglect and increase the potential for the formation of leftover spaces. The current situation analysis map visualizes the approximate spatial references of the problems reported for Osmanağa, Caferağa, and Rasimpaşa (Fig. 3).

The interpretive map indicates that the reported problems are associated with several locations in the study area. If these conditions persist, they may contribute to spatial neglect and increase the potential for leftover-space formation. In this context, reported problems include sidewalk occupations and insufficient sidewalk widths that restrict pedestrian accessibility, side streets and backyards that have fallen out of use, the departure of resident users and tradesmen from the district, the exclusion of the elderly population from public spaces, and the lack of continuity in pedestrian circulation.

Furthermore, the lack of functional diversity in public spaces, the dominance of singular food-and-beverage-oriented uses, and the prevalence of invasive uses are among the conditions that may weaken the socio-spatial quality of the area. Additionally, irregular spatial gaps resulting from parcel-based urban transformation practices, access restrictions in disaster situations due to the narrow street fabric, insufficiency of public open spaces, and the loss of the residential fabric emerge as physical and structural conditions that may deepen spatial neglect and weaken the relationship between these spaces and the surrounding urban fabric.

Recommendations

The reviewed reports also included recommendations developed through participatory processes. The requests and needs reported by different stakeholder groups were represented according to their approximate spatial references (Fig. 4). The map presents the approximate locations associated with the reported recommendations.

The reported recommendations include increasing urban furniture and landscaping elements in street fabrics, creating public activity areas for local users and the elderly population, designing recreative spaces, preventing the occupation of sidewalks by commercial uses, and strengthening pedestrian-oriented transportation systems. Furthermore, developing alternative transportation solutions such as ring services for the parking problem, making public spaces accessible again, conducting planning processes transparently, and taking spatial measures to protect urban identity are among the other recommendations reported in the participatory processes.

When considered together, the two interpretive maps suggest that the potential formation of urban leftover spaces is a multidimensional process. It involves not only physical gaps but also user experiences, psychosocial needs, and administrative conditions. Considering the current situation and recommendation maps together allows the participatory data to be interpreted through their approximate spatial references. This combined reading provides a framework for examining conditions associated with spatial neglect and the potential formation of leftover spaces.

When the findings are evaluated by actor group, different types of urban concerns are associated with different stakeholder perspectives. Reports representing tradesmen groups include concerns related to commercial use, licensing inspections, sidewalk occupation, monopolization, and transportation and parking. Reports representing non-governmental organizations and art communities include concerns related to the insufficiency of public space, urban identity, and changes in the social structure. In user-based participatory processes, including workshops, reported

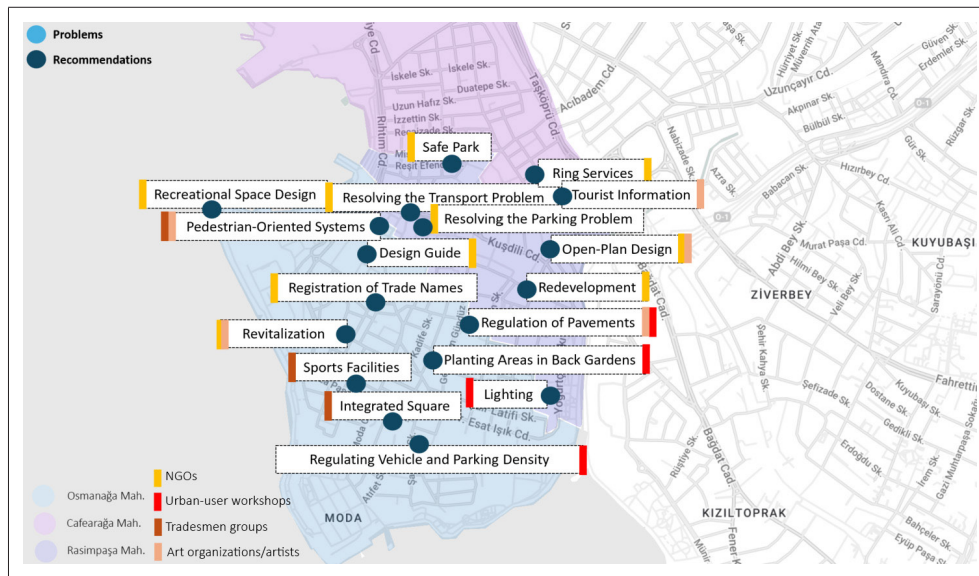


Figure 4. Interpretive map of reported recommendations. (Dark-blue markers represent the approximate spatial references of reported recommendations. Colored bars distinguish the four actor groups, while the shaded areas indicate the three neighborhoods.)

concerns include safety, accessibility, and the everyday use of waterfronts and public spaces.

DISCUSSION

The participatory planning reports prepared by the IMM Directorate of City and Regional Planning between 2020 and 2025 were examined in relation to the Osmanağa, Caferağa, and Rasimpaşa neighborhoods of Kadıköy. The thematic classification identifies recurring types of reported problems and recommendations, while the interpretive spatial visualizations relate these statements to their approximate spatial references. In relation to the first research question (Q1), these themes include insufficient social infrastructure, increasing tourism demand, urban mobility problems, underuse of public spaces, disaster risks, environmental pollution, security risks, and aesthetic problems. This multidimensional understanding is consistent with studies that associate leftover spaces not only with residual urban form but also with declining use, spatial neglect, and weakened relationships between a place and its wider urban context [17, 20]. The findings extend this discussion by showing how such conditions are reflected in participatory planning reports through the experiences and concerns of different urban actors.

When the approximate spatial references of these problems are considered, the potential formation of urban leftover spaces appears to involve not only physical conditions but also social, functional, and administrative dynamics. Examining how these problems may contribute to spatial neglect is important for considering the transformation potential of the affected locations [40]. Previous studies similarly emphasize that the reassessment of leftover spaces

requires attention to user needs, everyday practices, and contextual relationships alongside their physical characteristics [8, 20]. Villagomez's typological framework [19], in contrast, provides a formal classification of the different spatial configurations in which leftover spaces may occur. In this study, the formal characteristics of the referenced locations were therefore interpretively compared with Villagomez's typological categories. This comparison does not imply that every problematic location is a leftover space. Rather, it provides a formal reference for interpreting conditions in which spatial neglect may increase the potential for leftover space formation.

In relation to the second research question (Q2), the findings suggest that the thematic classification and interpretive spatial visualization of qualitative participatory data can support the interpretation of conditions associated with spatial neglect and the potential formation of leftover spaces. The findings indicate how reported problems and recommendations relate to their approximate spatial references. Previous studies have demonstrated the value of user-generated knowledge and collaborative processes in public-space design and urban regeneration [10, 22, 23]. In line with these studies, the present findings suggest that participatory data can be considered not merely as descriptive content but also as an input to spatial interpretation. However, unlike studies based on direct participatory research or co-design processes, this study re-examines previously published municipal reports as secondary qualitative data sources. Since these reports do not provide coordinate-based or parcel-level information, the resulting maps represent interpretive spatial visualizations rather than precise cartographic outputs.

Furthermore, the actor-based classification indicates that different types of urban concerns are associated with different stakeholder groups. Reports representing tradesmen groups include concerns related to commercial use, access, and parking. Reports representing non-governmental organizations and art organizations and artists include concerns related to public space, urban identity, and changes in the social structure. Reports based on workshops and seminars open to urban users include concerns related to safety, accessibility, and everyday spatial practices. These findings are consistent with participatory planning studies that emphasize the importance of including diverse forms of knowledge and multiple stakeholder perspectives in urban regeneration processes [11, 23]. However, the actor-based classification identifies the sources and diversity of the reported concerns; it does not establish their relative priority or representativeness. The findings therefore support the consideration of multiple stakeholder perspectives when interpreting conditions associated with the potential formation and reassessment of leftover spaces.

Beyond the specific case of Kadıköy, the findings suggest that participatory reports can function not only as records of stakeholder opinions but also as qualitative data sources that may inform future planning discussions in similar high-density urban environments. In areas characterized by intense user circulation, overlapping functions, and continuous spatial transformation, such reports can indicate where urban problems are reported, which concerns are associated with different actor groups, and which locations may have transformation potential. Previous studies on leftover-space and public-space regeneration similarly

emphasize the importance of user needs, contextual conditions, and adaptable interventions in the reassessment of underused urban spaces [8, 21, 22]. Consistent with these studies, the combined use of actor-based classification, thematic classification, and interpretive spatial visualization offers a context-specific framework for interpreting reported problems and informing more inclusive and user-oriented regeneration discussions.

In this context, actor diversity should be considered not only at the level of representation but also in decision-making processes. Fung's participation framework suggests that modes of involvement and levels of influence may shape how different forms of knowledge enter planning decisions [11]. Although the present study does not assess stakeholder influence, its findings highlight the value of considering multiple actor perspectives in the interpretation of reported spatial concerns.

An interpretive synthesis was developed by combining the empirical findings with the authors' assessments. The problem themes were formulated by grouping similar problems identified in the reports. The potential responses were synthesized from recurring recommendations reported for these areas. The approximate spatial references of the problem themes were then compared with the formal characteristics of Villagomez's typological categories [19]. These typological associations represent the authors' interpretive assessment rather than a classification produced by spatial analysis. Finally, the suggested order for stakeholder involvement was determined according to the level of authority and responsibility required to initiate and implement each intervention. This order does not represent participant frequency or statistical weighting (Fig. 5).

PROBLEM THEME	POTENTIAL RESPONSE	RELATED TYPOLOGIES	SUGGESTED ORDER STAKEHOLDER INVOLVEMENT
Insufficient Social Infrastructure	Reassessment of Referenced Locations as Squares, Parks, and Sports Areas	Void Spaces, Wedges	Administrator-Designer-User
Increasing Tourism Demand	Preventing Sidewalk Occupation by Commercial Uses; Increasing Public Spaces	Void Spaces, Wedges, Spaces Around, In-between Spaces, Spaces Below	User-Designer-Administrator
Urban Mobility Problems	Increasing Pedestrianization; Reorganizing Parking Areas	Void Spaces, Wedges, Spaces Around, Under-spaces	Administrator-User-Designer
Underuse of Public Spaces	Creating Spaces that Strengthen Neighborhood Relations	In-between Spaces, Spaces Around	User-Designer-Administrator
Disaster Risks	Using Open Spaces as Emergency Assembly Points	In-between Spaces, Spaces Around, Empty Spaces, Wedges	Administrator-Designer-User
Environmental Pollution	Introducing Ecological Gardens and Noise-Reducing Street Furniture	In-between Spaces, Spaces Around, Void Spaces, Wedges	Designer-User-Administrator
Security Risks	Improving Lighting in Public Spaces; Preventing Invasive Uses	In-between Spaces, Void Spaces, Wedges	Designer-User-Administrator
Aesthetic Problems	Integrated Design of Streets, Sidewalks, and Street Furniture	In-between Spaces, Void Spaces, Wedges, Spaces Around, Rooftops	Designer-User-Administrator

Report-Based Findings
Interpretive Assessment

Figure 5. Interpretive synthesis of the findings. (Solid purple outlines indicate report-based findings, while dashed blue outlines indicate the authors' interpretive assessments.)

The interpretive synthesis indicates that several problem themes are associated with similar leftover-space typologies. Insufficient social infrastructure, urban mobility problems, and security risks were associated with spaces between, wedges, and other related typological categories. The synthesized responses mainly involve increasing public use, improving pedestrian accessibility, and enhancing spatial quality. These relationships provide an interpretive framework for considering problem themes, potential responses, spatial typologies, and stakeholder involvement together.

Limitations

This study has several limitations. First, it relies on secondary documents published by the Istanbul Metropolitan Municipality. The authors did not have access to raw interview transcripts, survey responses, workshop records, or participant-level data. The reports may reflect institutional selection, summarization, or editorial filtering. As official institutional documents, they may also be influenced by administrative priorities or political filtering. Some social groups may therefore be underrepresented, while the views of people who did not participate are not included in the dataset. Accordingly, the analytical statements represent the content reported by the municipality rather than the complete views of all participants.

The reports provide limited information about participant selection and demographic characteristics. Participation methods and participant numbers also differ across the reviewed studies. A public meeting, an individual interview, and a focus group interview may represent different levels of participation. The statements were not weighted according to participant numbers or participation methods. Their occurrence in the dataset should not be interpreted as a measure of statistical prevalence or public support.

The initial extraction and classification were conducted by the first author. Both authors subsequently reviewed the dataset and reached consensus on the final classifications. However, the dataset was not coded independently by both authors. Therefore, statistical intercoder reliability could not be calculated. The thematic classification retains an interpretive element despite the joint review process.

The reports did not contain coordinates or parcel-level spatial data. The maps are based on neighborhood-, street-, and place-level references. The maps therefore represent interpretive spatial visualizations rather than precise cartographic outputs. The study does not include density estimation, network analysis, spatial statistics, or other GIS-based analytical procedures.

Finally, the findings are specific to the reviewed reports and the selected neighborhoods of Kadıköy. They cannot be generalized to all residents of Kadıköy or to other urban contexts. The proposed approach may nevertheless provide a basis for similar studies using participatory planning documents.

CONCLUSION

This study examined the spatial, functional, social, and administrative problems reported in the participatory planning documents. The findings suggest that persistent urban problems may contribute to spatial neglect. Over time, this process may weaken public use, functional continuity, and the relationship between a place and its urban context. These conditions may increase the potential for the formation of leftover spaces. The analyses and evaluations conducted in the case of Kadıköy further suggest that the reported problems are associated with certain spatial references and may indicate conditions related to spatial neglect and urban fragmentation.

The findings suggest that the interpretive spatial visualization of qualitative participatory data offers a perspective for examining conditions associated with spatial neglect and the potential formation of leftover spaces. This approach demonstrates that data based on user thoughts and experiences can be evaluated not merely as discursive content, but as an analytical tool that can be integrated into spatial interpretation and decision-making processes. Furthermore, the actor-based classification indicates that different stakeholder groups report different types of urban concerns, supporting the consideration of multiple perspectives in inclusive planning processes.

The interpretive synthesis developed through the relationship between problem themes, potential responses, related typologies, and the suggested order of stakeholder involvement offers a framework for considering the findings together. By relating the needs expressed in the reports to the formal characteristics of the referenced locations, this framework may inform the future reassessment of urban leftover spaces.

In conclusion, the consideration of user-experience-based data may contribute to more transparent and inclusive planning discussions concerning the future reassessment of urban leftover spaces. The thematic classification and interpretive spatial visualization of these data help relate reported problems, recommendations, and actor perspectives to their approximate spatial references. This combined reading supports the consideration of social, functional, administrative, and formal conditions together. Future studies may combine participatory planning reports with primary user research, field observations, and coordinate-based spatial data. They may also examine the applicability of this interpretive framework in different urban contexts. In this respect, participatory planning reports can provide a bridge between documented urban experiences and the context-sensitive reassessment of spaces at risk of becoming leftover.

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AUTHORSHIP CONTRIBUTIONS

Concept: Lütfiye Yılmaz, Design: Lütfiye Yılmaz, Supervision: Feride Pinar Arabacıoğlu, Data: Lütfiye Yılmaz, Analysis: Lütfiye Yılmaz, Literature search: Lütfiye Yılmaz, Writing: Lütfiye Yılmaz, Critical revision: Feride Pinar Arabacıoğlu.

DATA AVAILABILITY STATEMENT

The analytical statements used in this study are presented in Table 1. The coding and classification table is available from the corresponding author upon reasonable request.

STATEMENT ON THE USE OF ARTIFICIAL INTELLIGENCE

The authors used OpenAI's ChatGPT for language refinement under full author oversight; no AI was used for data generation, analysis, or interpretation.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

ETHICS

There are no ethical issues with the publication of this manuscript.

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