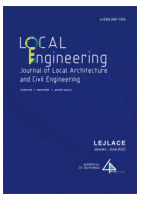
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Evaluating the Performance of Urban Public Spaces Through the Project for Public Spaces Framework: A Case Study of Putri Kaca Mayang Park, Pekanbaru, Indonesia

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A B S T R A C T

Small-scale urban green spaces serve as essential settings for recreational activities and social engagement; however, their overall effectiveness is largely determined by their physical accessibility, environmental conditions, and capacity to accommodate a diverse range of activities. This research examines the quality of public space at Putri Kaca Mayang Park, situated in the urban core of Pekanbaru, Indonesia, through an indicator-based evaluation checklist developed from the four principal dimensions of the Project for Public Spaces (PPS) framework: access and linkages, uses and activities, comfort and image, and sociability. The methodological approach integrates direct site observations, spatial assessments of maps and satellite imagery, and an examination of applicable planning regulations. Among the 38 indicators examined, 29 fulfilled the established assessment criteria, representing an overall achievement rate of 76.3%. Sociability demonstrated the strongest performance, satisfying all nine indicators (9/9), followed by access and linkages (6/8), uses and activities (4/6), and comfort and image (10/15). Despite its considerable social value, the park requires several improvements concerning inclusive pedestrian circulation, parking provision, security arrangements, sanitation facilities, drainage infrastructure, and the availability of diverse activities throughout different periods of the day and during special events. The findings illustrate how a systematic, site-specific assessment approach can establish practical priorities for landscape design and public-space management, particularly in compact urban green spaces located within densely developed urban environments. Nevertheless, because the evaluation relied on field observations undertaken between September and November 2025 and did not incorporate visitor questionnaires or quantitative measurements of actual park utilization, the findings should be understood as diagnostic results derived from the assessment checklist rather than as a comprehensive representation of visitor satisfaction or patterns of public-space use.

INTRODUCTION

Urban green spaces constitute fundamental elements of the built environment because they accommodate recreational pursuits, encourage interpersonal engagement, facilitate human interaction with natural environments, and contribute to improved physical and psychological well-being. Findings from systematic reviews and meta-analytical investigations have established associations between exposure to green environments and various health-related benefits, although the magnitude of these relationships differs depending on the outcomes examined and the methodological characteristics of individual studies (Twohig-Bennett and Jones 2018). Nevertheless, the contribution of urban green spaces should not be evaluated exclusively according to their total land area or the proportion of vegetation they contain. The qualitative characteristics of individual spaces, including accessibility, supporting infrastructure, maintenance conditions, and their capacity to accommodate different recreational activities, may substantially influence whether surrounding communities are willing and able to visit and utilize them. A systematic investigation of green-space quality and its relationship with health further emphasizes that the availability of amenities,

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pedestrian pathways, and seating facilities, together with potential obstacles such as inadequate accessibility, can influence patterns of utilization and the potential benefits derived from green environments (Zhang et al. 2021).

Beyond their environmental and recreational contributions, public spaces fulfill significant social functions by establishing shared settings in which individuals representing different social and cultural backgrounds can encounter and interact with one another. In their systematic review encompassing 63 studies, Qi, Mazumdar, and Vasconcelos (2024) identified several characteristics associated with social interaction and cohesion in public spaces, including accessibility, mixed land-use patterns, street furniture, perceived safety, and emotional attachment to particular places.

Comparable findings were presented by Clarke et al. (2023), who demonstrated that facilities encouraging interpersonal engagement, activities accommodating diverse population groups, safety conditions, and maintenance practices can influence the development of social cohesion within urban green spaces. These findings indicate that the mere presence of social activities cannot independently demonstrate whether a public space operates inclusively or adequately serves the requirements of its entire user population. Although a park may provide opportunities for social encounters, its physical configuration, environmental characteristics, or management arrangements may simultaneously introduce constraints that limit accessibility and discourage certain groups from using the space.

Within the Indonesian context, the provision, planning, and utilization of urban green open spaces are regulated through national legislation and technical planning guidelines, including Law No. 26 of 2007 on Spatial Planning, Minister of Public Works Regulation No. 5 of 2008, and Minister of Agrarian Affairs and Spatial Planning/National Land Agency Regulation No. 14 of 2022. These regulatory instruments establish an essential institutional foundation for the development and management of urban green-space networks. However, achieving green-space provision at the municipal level does not automatically demonstrate that individual parks provide adequate accessibility, environmental comfort, inclusive facilities, or appropriate maintenance. Correspondingly, research examining green-space quality stresses the importance of evaluating the physical and functional characteristics of specific sites instead of depending exclusively on vegetation-related indicators or the overall availability of green areas (Nguyen et al. 2021).

To undertake a systematic examination of these characteristics, the present research employs the Project for Public Spaces (PPS) Place Diagram, which conceptualizes public-space performance through four interconnected dimensions: access and linkages, uses and activities, comfort and image, and sociability (Project for Public Spaces 2009). This conceptual framework provides a structured basis for investigating the relationships between the physical configuration of a particular location, its surrounding urban environment, and its social functions. Its comprehensive orientation corresponds with broader scholarly discussions concerning public-space development, which emphasize the interconnected roles of design quality, accessibility, utilization, and continuous management (Carmona 2019b). Furthermore, the framework is compatible with empirical review findings indicating that accessibility, supporting amenities, perceptions of safety, and opportunities for interpersonal engagement are associated with the capacity of public spaces to facilitate social cohesion (Qi, Mazumdar, and Vasconcelos 2024).

Considering these issues, this study investigates the performance of Putri Kaca Mayang Park, a relatively small urban green space in Pekanbaru, Indonesia, by implementing an indicator-based evaluation checklist derived from the four dimensions of the PPS framework. The investigation is structured around three principal research questions: (1) To what extent does the park satisfy the assessment criteria associated with the four dimensions of public-space quality? (2) Which evaluation indicators have been fulfilled, and which remain insufficiently addressed? and (3) What practical priorities for site-specific landscape design and management can be formulated based on the assessment outcomes? The research provides a structured and context-specific evaluation that differentiates the park's social significance from its physical accessibility, environmental comfort, and operational functionality. Rather than examining the citywide distribution of green spaces or attempting to establish causal relationships between park characteristics and visitor behavior, the investigation demonstrates the applicability of a multidimensional assessment framework for identifying feasible improvement strategies within an existing urban park.

RESEARCH METHODS

Case Study: Putri Kaca Mayang Park

Putri Kaca Mayang Park is situated along Jalan Jenderal Sudirman, within Simpang Empat, Pekanbaru Kota District, Pekanbaru, Riau, Indonesia. Access to the park is available through the Jenderal Sudirman and Sumatra Street corridors. According to the original site description, the Premiere Hotel is positioned to the south, while Tugu Ikan Selais Sepadan and the Pekanbaru Public Service Mall are located on its western side. The KPPN Pekanbaru office borders the northern area, whereas Al-Falah Darul Muttaqin Mosque is situated to the east. The location was selected as the research object because of its strategic position within the city center and its reported popularity as a recreational destination for the surrounding community.

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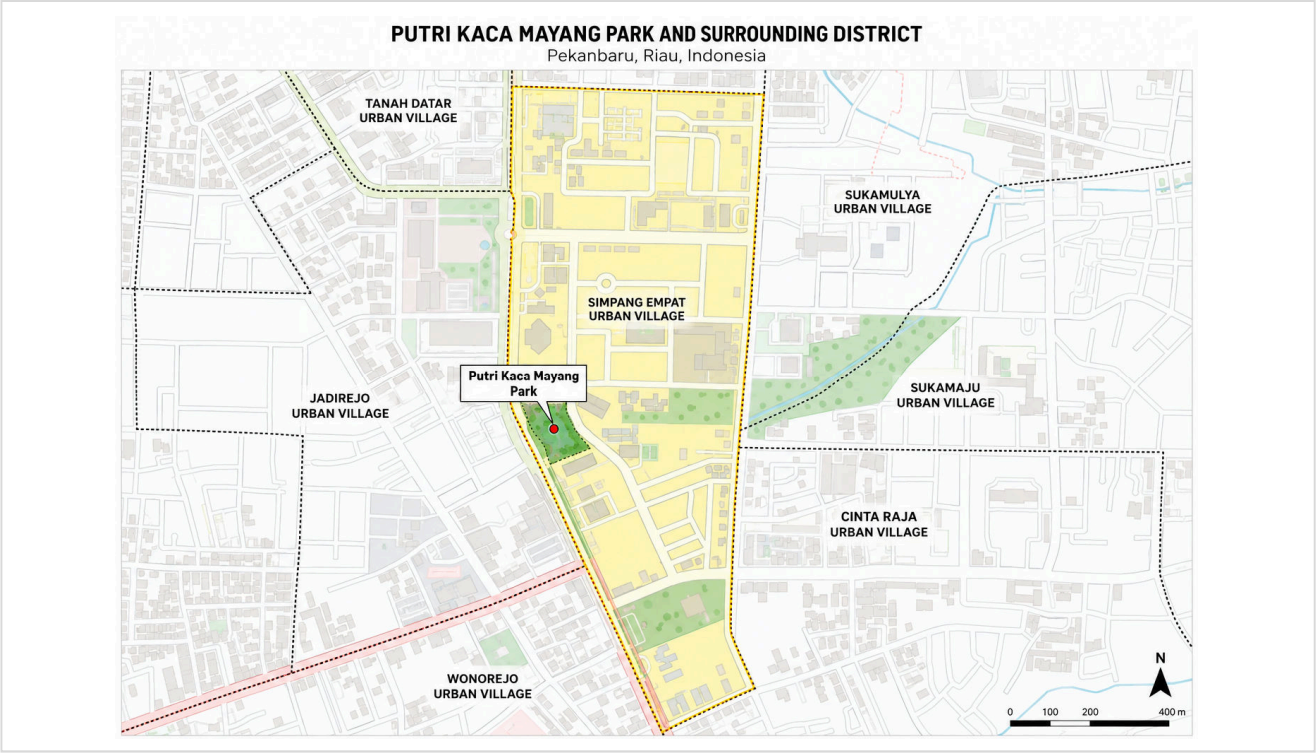


Figure 1. Putri Kaca Mayang Park District Map

According to the original research documentation, the park encompasses approximately 1,398 m², consisting of approximately 393 m² of hardscape and circulation areas (28%) and 1,005 m² of softscape or vegetated surfaces (72%). The recorded site facilities include benches, gazebos, a reading space or library, a foot-reflexology pathway, playground equipment, an amphitheater, public toilets, a security post, and an information center. The initial site inventory additionally identifies various trees and shrubs, together with a water feature that was reportedly inadequately utilized or neglected. The field investigation was documented as having taken place between September and November 2025.

Data sources and collection

The original investigation incorporated several sources of information, including direct site observations, relevant academic literature, spatial maps, satellite imagery, and supplementary spatial data. Information concerning the surrounding spatial context was obtained from the Indonesian geospatial portal, OpenStreetMap, and Google Earth, while applicable governmental regulations were examined to provide the necessary planning and regulatory context. The site inventory documented the park's boundaries, circulation arrangements, landscape composition, available facilities, and observable physical conditions associated with accessibility, recreational activities, environmental comfort, and social interaction. However, the original manuscript does not specify the total number of observation sessions, the particular times at which observations were undertaken, the composition of a structured visitor sample, the procedures used for interviews, the implementation of inter-rater assessments, or the validation process applied to the assessment instrument. Consequently, these methodological details have not been inferred or introduced into the present revised manuscript. Should the original field records, time-stamped photographic documentation, or completed assessment sheets become available, they should be incorporated to provide a more comprehensive and verifiable description of the fieldwork procedures.

Assessment framework and indicators

The assessment instrument was developed by adapting the four principal dimensions of the Project for Public Spaces (2016) Place Diagram into an indicator-based evaluation checklist. Comparable applications of these dimensions have been documented in previous investigations concerning public-space quality and performance (Santos Nouri and Costa 2017; Muminovic 2019). Each assessment indicator was evaluated through a binary classification system, with the corresponding condition categorized as either "achieved" or "not achieved," following the classifications documented in the original assessment. Dichotomous measurement instruments employ two distinct and mutually exclusive response categories and can be appropriate for evaluating clearly identifiable conditions or determining whether specified assessment requirements have been fulfilled (Schaeffer and Dykema 2020; Scientific Reports 2022). Applying this binary classification facilitated a consistent examination of individual indicators and enabled the subsequent consolidation of assessment results within each of the four dimensions.

Table 1. Assessment criteria represented in the four dimensions of the PPS framework

Dimension	Assessment criteria represented in the checklist
Access and Linkages	Pedestrian accessibility to the park; visibility from a distance; availability of parking facilities; accessibility for individuals with special needs or disabilities; physical connections with neighboring buildings; whether pedestrian circulation routes facilitate movement toward intended destinations; availability of alternative transportation modes; and proximity to public transportation stops.
Uses and Activities	Utilization by individuals and groups; continuity of use throughout the day; suitability for accommodating large-scale events; provision for diverse recreational and social activities; utilization by different age groups; and availability of amenities that encourage healthy and physically active lifestyles.
Comfort and image	Perceived safety; suitability for children and older adults; availability of security personnel; adequacy of lighting; provision of an information point for contacting security or emergency services; cleanliness; availability of waste receptacles; maintenance of toilet facilities; drainage performance; environmental impacts on surrounding communities; availability of seating; accessibility for individuals with disabilities; diversity of vegetation; and provision of shade-producing vegetation.
Sociability	Whether the park establishes a pleasant and conducive atmosphere; regular and voluntary utilization; suitability as a meeting destination; accessibility and availability of facilities; adequacy of facilities in relation to community requirements; utilization by visitors representing diverse backgrounds; provision of a secure and welcoming environment; availability of spaces that encourage social interaction; and responses to litter, including whether visitors collect discarded waste.

The aforementioned criteria represent the assessment dimensions employed in the original checklist and should not be interpreted as a newly developed or independently validated measurement instrument. The original assessment tables document nine indicators under the sociability dimension; nevertheless, the broader manuscript and its table organization do not consistently establish the precise wording of every indicator or demonstrate complete consistency between the four dimensions. In particular, certain criteria addressing disability access and the availability of facilities appear to overlap or present potentially conflicting interpretations. Accordingly, the present analysis retains the classifications documented in the original assessment while interpreting their implications with appropriate caution.

Analysis and summary measures

The analytical process consisted of three consecutive stages. Initially, the available spatial maps and site-related documentation were examined to establish an overview of the park's geographical setting, circulation configuration, landscape composition, and supporting facilities. Subsequently, the recorded Yes/No classifications were systematically arranged according to their corresponding categories within the four PPS dimensions. Finally, the number and proportional achievement of the indicators were calculated separately for each dimension and for the entire assessment checklist using the following equation: Achievement rate = (Number of indicators classified as achieved ÷ Total number of indicators within the respective dimension) × 100. The resulting percentages serve exclusively as descriptive representations of the classifications documented in the original assessment. They should not be regarded as independently validated public-space quality indices, weighted measurements of overall spatial performance, or statistical estimates of visitor satisfaction.

RESULTS AND DISCUSSION

Site structure and landscape composition

Putri Kaca Mayang Park represents a relatively compact urban green area embedded within a densely developed central-city environment. The original site documentation records a total area of approximately 1,398 m², comprising 393 m² of hardscape and circulation surfaces alongside 1,005 m² of softscape and vegetated areas. The combination of landscaped elements and recreational facilities establishes the physical foundation for everyday leisure activities and informal community gatherings. Nevertheless, the physical presence of supporting amenities does not necessarily indicate that every facility remains fully operational, universally accessible, or adequately maintained. The assessment findings reveal a notable distinction between the park's established social function and several unresolved limitations concerning physical accessibility and routine environmental comfort.

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Figure 2. Putri Kaca Mayang Park Site Plan

Assesment of the Putri Kaca Mayang Park

Dimension 1: Access and linkages

The evaluation of access and linkages identified six achieved indicators out of eight, corresponding to an achievement percentage of 75.0%. According to the assessment, the park benefits from convenient pedestrian access, adequate visibility from surrounding areas, connections with neighboring buildings, and circulation routes that generally facilitate movement through the site. The location is also accessible through different transportation alternatives and is situated relatively close to public transportation stops. Nevertheless, two indicators were classified as unachieved, namely the adequacy of available parking facilities and the provision of functional access for individuals with special needs or disabilities.

Table 2. Assessment results for access and linkages

No	Sub-aspect	Indicator	Achieved
1	Walkability	Is the location conveniently aaccessible on foot?	Yes
2		Is the park visually identifiable from a distance?	Yes
3		Is there sufficient parking space to accommodate visitors?	No
4		Does the space function for people with special needs?	No
5	Proximity	Are the surrounding buildings effectively connected to the public space?	Yes
6	Circulation	Do the roads and paths through the space take people where they actually want to go?	Yes
7		Are different transportation alternatives available for reaching the location?	Yes
8	Continuity	Are transit stops conveniently located next to destinations?	Yes

The assessment demonstrates that the park's strategic central-city position and its connectivity with the surrounding street network represent significant spatial advantages. However, these characteristics do not necessarily ensure accessibility for every category of visitor. Insufficient parking capacity may generate additional pressure during periods of intensive use, whereas inadequate disability-friendly infrastructure can prevent individuals with mobility limitations from accessing and independently navigating the park. Considering the site's relatively restricted spatial footprint, improvement strategies should emphasize safe pedestrian access and continuous, accessible circulation routes rather than automatically treating the expansion of parking facilities as the principal design solution.

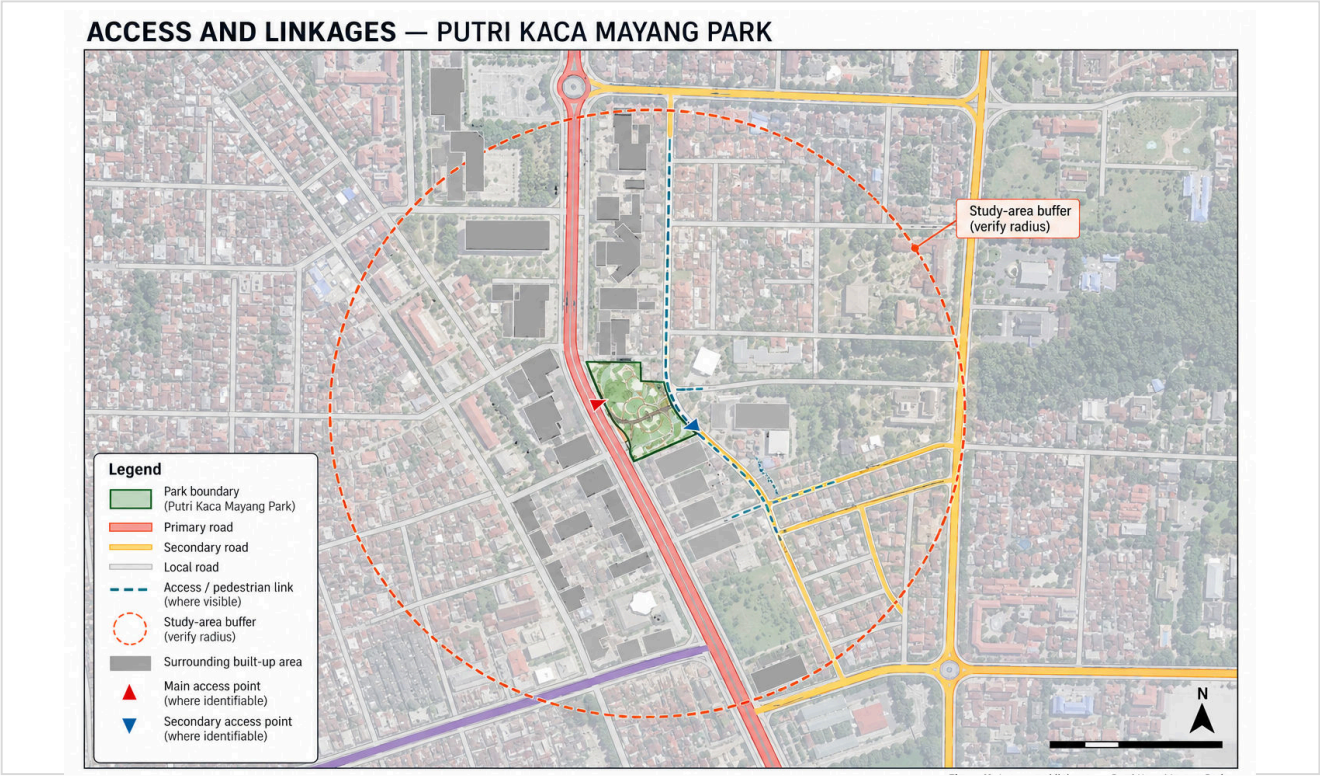


Figure 3. Access and Linkages Map of Putri Kaca Mayang Park

Dimension 2: Uses and activities

The Uses and Activities dimension recorded four achieved indicators from a total of six, producing an achievement rate of 66.7%. The evaluation indicates that the park accommodates both individual and collective activities, provides opportunities for different types of recreation, attracts visitors from various age categories, and contains amenities that encourage healthy and physically active lifestyles. However, two indicators remained unfulfilled: the consistent utilization of the park throughout different periods of the day and its capacity to accommodate large-scale events.

Table 3. Assessment results for uses and activities

No	Sub-aspect	Indicator	Achieved
1	Land use	Can the space accommodate activities undertaken by individuals and groups?	Yes
2		Is the space used throughout the day?	No
3		Can it accommodate large-scale events?	No
4		Can visitors engage in a variety of activities within the space?	Yes
5	Sustainability	Is the space utilized by visitors representing different age groups?	Yes
6		Does the park provide amenities and facilities that promote a healthy and active lifestyle?	Yes

This assessment pattern indicates that the park provides a suitable setting for routine recreational activities and social interaction, although its flexibility in accommodating activities across different time periods and during organized events remains limited. The original descriptive account additionally identifies deteriorating conditions in the amphitheater or plaza area, where accumulated water was reportedly observed on the surface. Such physical deficiencies may diminish the suitability of these areas for organized recreational and community activities. Given the restricted dimensions of the site, improving activity scheduling and maintaining the existing facilities may represent more practical management strategies than attempting to transform the park into a venue for large-scale events.

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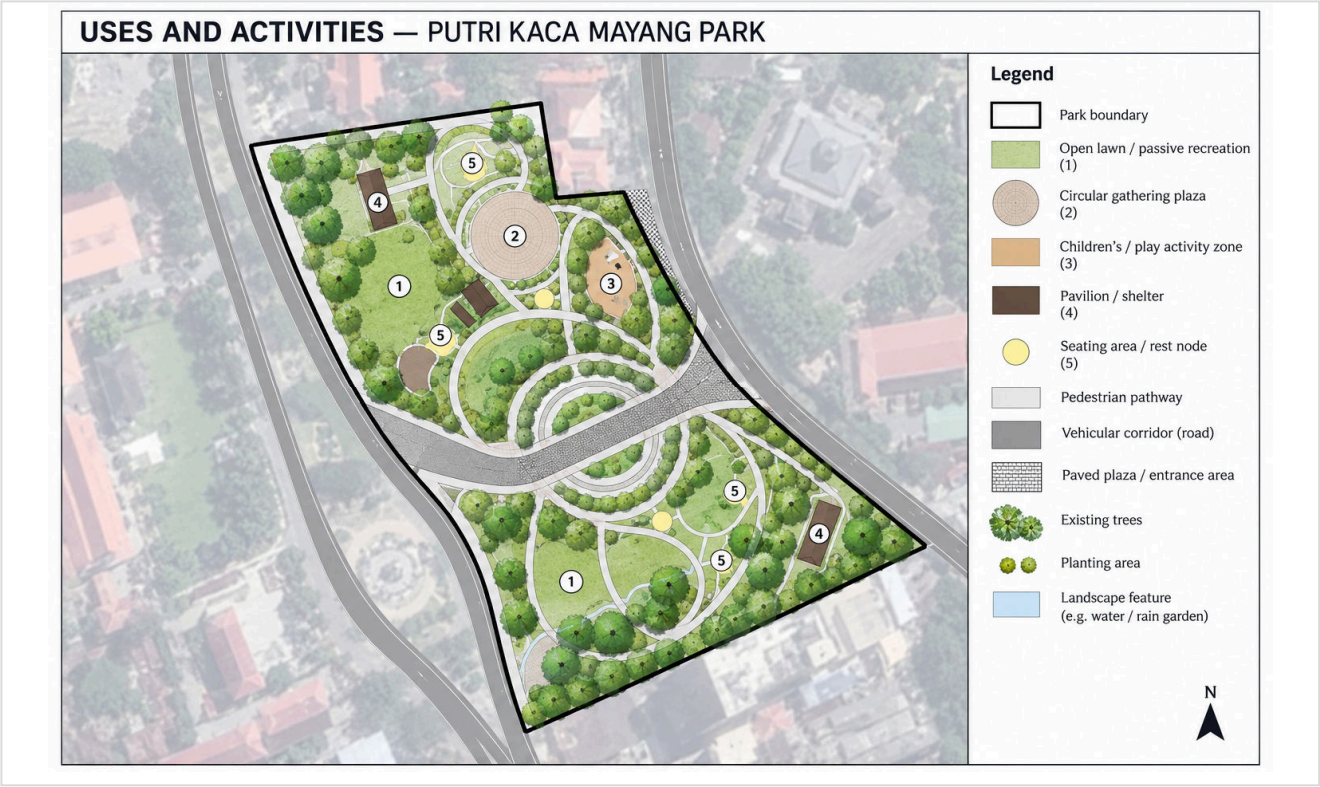


Figure 4. Putri Kaca Mayang Park Activity Plan

Dimension 3: Comfort and image

The assessment of Comfort and Image recorded ten achieved indicators out of fifteen, equivalent to an achievement percentage of 66.7%. The positively classified criteria included general perceptions of safety, adequate lighting, cleanliness of open areas, the provision of waste receptacles and seating facilities, vegetation diversity, shade-producing plants, and the park's perceived contribution to the surrounding community. The original checklist also identifies an environmental-impact criterion as achieved, although its precise meaning remains unclear and should be more explicitly defined in any subsequent assessment instrument.

Table 4. Assessment results for comfort and image

No	Sub-aspect	Indicator	Achieved
1	Safety	Does the surrounding environment provide visitors with a sense of security?	Yes
2		Are the park's physical conditions suitable for children and older adults?	No
3	Security	Is there a security presence within the park?	No
4		Does the park have proper lighting?	Yes
5		Is there a park information center that can help visitors contact security or emergency services?	No
6	Sanitation	Are the public areas maintained in a clean condition and free from litter?	Yes
7		Is there a garbage bin available in the park?	Yes
8		Are the public toilet facilities regularly maintained and kept hygenic?	No
9	Environmental aspect	Does the park benefit the surrounding community?	Yes
10		Is the drainage system adequate?	No
11		Does the park avoid causing odour and noise problems for surrounding areas?	No
12		Are adequate seating facilities available within the park?	Yes
13		Can individuals with physical disabilities conveniently access the park?	No
14	Vegetation	Are there various types of plants in the park?	Yes
15		Are there shade-providing plants?	Yes

Five indicators were identified as unachieved, encompassing the suitability of the park for children and older adults, the availability of visible security personnel, the presence of an information facility for contacting security or emergency services, the cleanliness and maintenance of public toilets, and the adequacy of the drainage infrastructure. Accessibility for individuals with disabilities was also classified as insufficient under the Access and Linkages dimension. The original descriptive findings further identify water accumulation, restricted or inadequate drainage channels, and exposed tree

roots that may interfere with safe pedestrian movement. Collectively, these conditions demonstrate that environmental comfort is influenced not only by the visual quality of landscape elements but also by the effectiveness of routine maintenance and the detailed configuration of the physical environment.

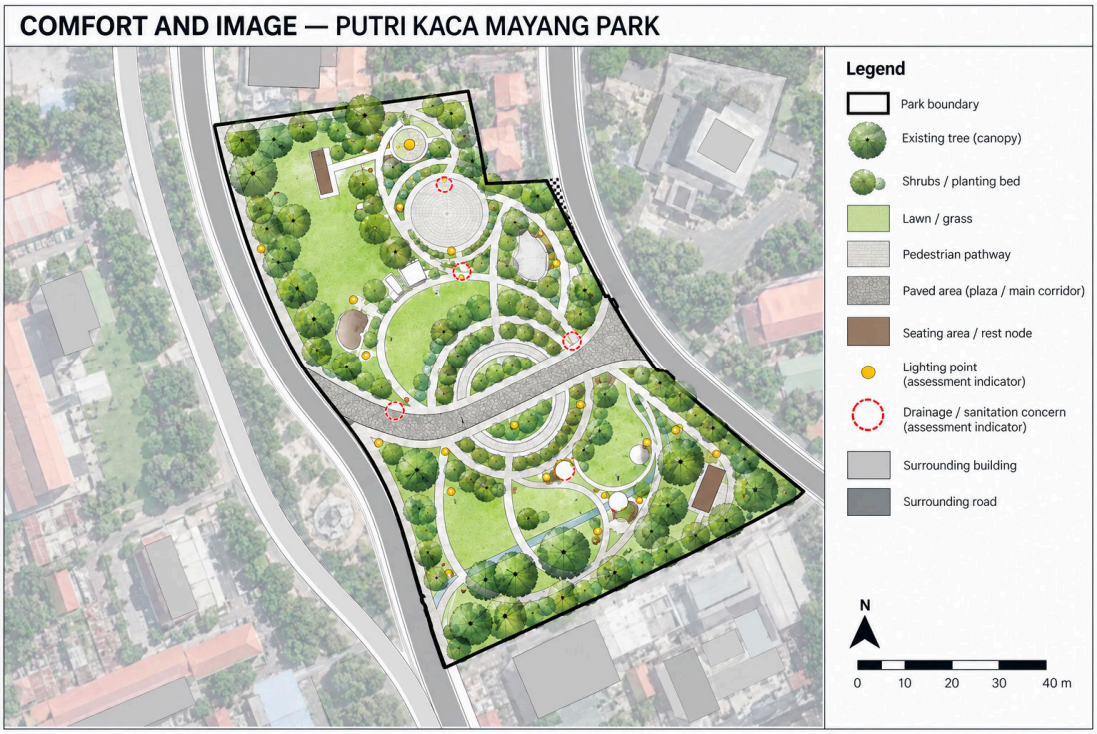


Figure 5. Comfort and image Park Plan

Dimension 4: Sociability

All nine indicators within the Sociability dimension were classified as achieved, resulting in a perfect assessment score of 100%. The evaluation portrays the park as a socially conducive environment in which visitors voluntarily gather, establish interpersonal connections, and spend time together. According to the original descriptive findings, seating facilities, various recreational activities, and the presence of informal vendors contribute to opportunities for everyday social encounters. The assessment checklist further identifies the park as an inviting public environment frequented by individuals from different social backgrounds.

Table 5. Assessment results for sociability

No	Sub-aspect	Indicator	Achieved
1	Function	Does the park create a conducive atmosphere?	Yes
2		Do visitors regularly choose to spend time in the park voluntarily?	Yes
3		Is this a place where you would choose to meet your friends?	Yes
4	Facility	Are the facilities accessible and available for use by all individuals at any time?	Yes
5		Are Park facilities adequate to meet the needs of the community?	Yes
6	Friendliness	Do visitors come from various backgrounds?	Yes
7		Does the environment provide a welcoming atmosphere and a sense of security?	Yes
8	Interactive space	Does the park provide designated areas that facilitate activities involving social interaction?	Yes
9		Do visitors tend to pick up litter when they see it?	Yes

Accordingly, sociability constitutes the most prominent strength identified through the assessment. Nevertheless, this result represents the classifications recorded in the original checklist rather than a quantitatively established description of actual visitor behavior. Certain indicators within this dimension, particularly the assumption that facilities remain accessible to all individuals at any time, appear inconsistent with the documented limitations in disability access and the maintenance deficiencies identified under other assessment categories. This inconsistency emphasizes the importance of developing more precise indicator definitions and verifying the assessment outcomes through systematic observations and feedback obtained directly from park users.

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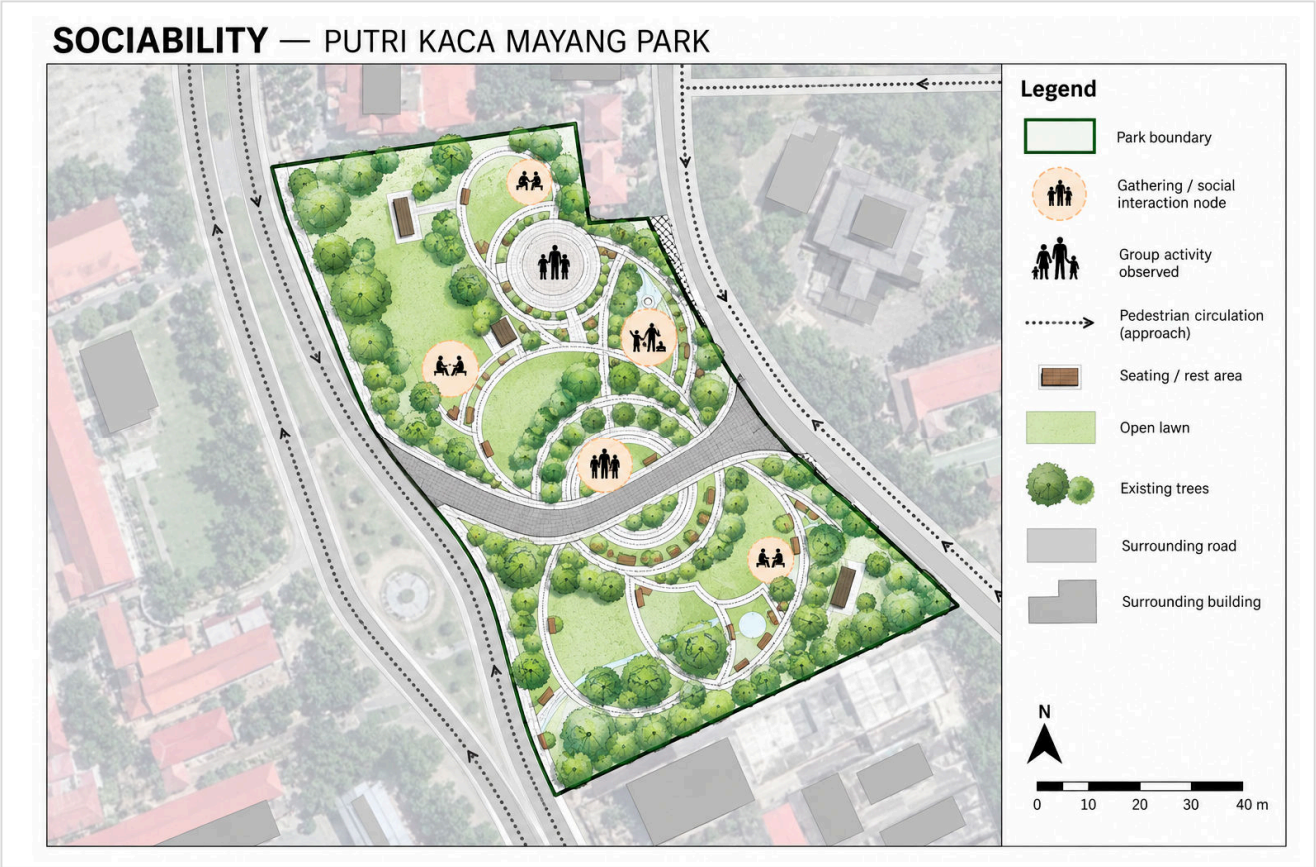


Figure 6. Sociability Map of Putri Kaca Mayang Park

Summary of assessment results

The consolidated assessment demonstrates differences in the performance of Putri Kaca Mayang Park across the four dimensions of public-space quality. Sociability obtained the highest achievement, satisfying nine out of nine assessment indicators (100%), indicating that every criterion assigned to this dimension was classified as achieved. Access and Linkages subsequently recorded six achieved indicators out of eight (75%), demonstrating that several aspects of connectivity and accessibility require further attention, particularly proximity and continuity, each of which contributed one point. Uses and Activities achieved four out of six indicators (66.7%), reflecting a moderate level of performance concerning land-use functionality and sustainability. Meanwhile, Comfort and Image obtained the lowest proportional result, with eight achieved indicators out of fifteen (53.3%). Within this dimension, sanitation and vegetation each contributed two points, whereas safety, security, environmental considerations, and comfort each accounted for one point. Overall, these results indicate that improving the environmental comfort and physical image of the park should receive the greatest attention, followed by interventions addressing activity provision and accessibility, while preserving the positive social characteristics already demonstrated by the site.

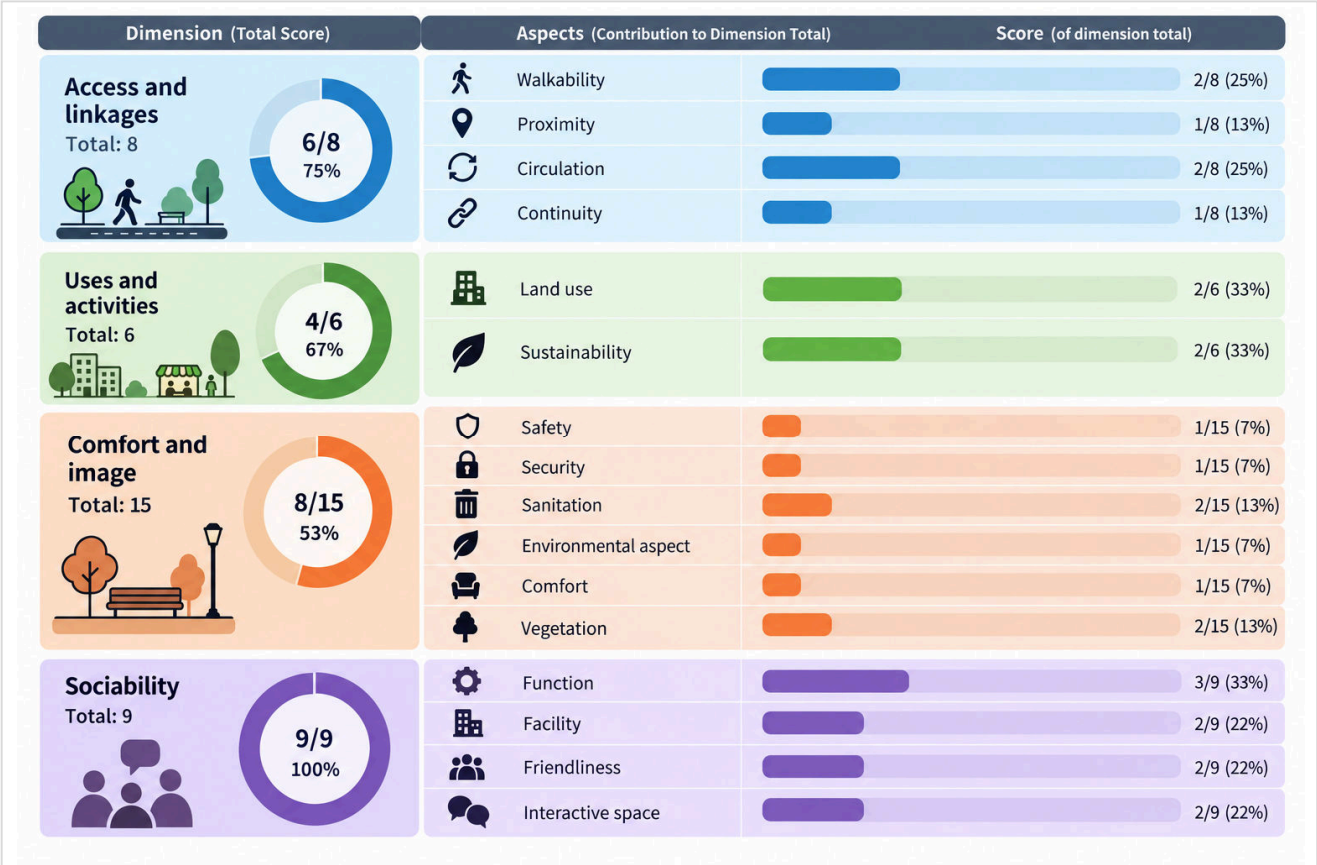


Figure 7. Urban dimensions score

Discussion

Social value does not guarantee inclusive usability

The assessment findings demonstrate considerable variation in the performance of Putri Kaca Mayang Park across the four dimensions of public-space quality. Sociability fulfilled all nine assessment criteria (9/9), whereas Access and Linkages achieved six out of eight indicators (6/8), Uses and Activities fulfilled four out of six (4/6), and Comfort and Image achieved eight out of fifteen (8/15). Although the overall achievement of 29 out of 38 indicators (76.3%) suggests that the majority of the evaluated criteria were satisfied, this consolidated percentage conceals substantial differences between individual dimensions. Consequently, it should not be interpreted as an absolute or definitive representation of the park's overall quality. The Project for Public Spaces (PPS) framework conceptualizes successful public environments through four complementary characteristics: access and linkages, uses and activities, comfort and image, and sociability. Each dimension represents a different aspect of spatial functionality and user experience; therefore, strong performance in one category cannot necessarily compensate for shortcomings in another (Project for Public Spaces 2009; Carmona 2019b).

The maximum achievement recorded under the Sociability dimension indicates that every assessed criterion associated with social interaction and the social functionality of the site was classified as fulfilled. However, this outcome should be understood within the methodological boundaries of the assessment checklist rather than treated as conclusive evidence that the park provides equivalent accessibility and a welcoming experience for every category of user. The quality of public environments is determined not only by the opportunities they provide for interpersonal interaction but also by the physical conditions that enable individuals to approach, navigate, and comfortably occupy those environments. Within the PPS conceptual framework, sociability and accessibility are recognized as separate yet mutually supportive dimensions of successful public-space performance (Project for Public Spaces 2009).

Accordingly, an urban park may function effectively as a gathering destination and facilitate social engagement while simultaneously retaining physical barriers that disadvantage individuals with disabilities, children, older adults, and other visitors with particular mobility or environmental-comfort requirements. In a similar context, the World Health Organization emphasizes that accessible pedestrian infrastructure, safe walking routes, sufficient resting areas, environmental cleanliness, and properly maintained recreational facilities are fundamental components supporting older adults' mobility, personal independence, and participation in community activities (World Health Organization 2007).

The comparatively lower achievement under Comfort and Image further illustrates the distinction between the existence of social activities and the environmental conditions required to maintain inclusive and sustainable public-space utilization. This dimension achieved only eight out of fifteen indicators (53.3%), identifying

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safety, security, sanitation, environmental conditions, physical comfort, and vegetation as areas requiring additional attention. More specifically, deficiencies involving sanitation and comfort-related facilities may influence visitors' willingness to remain within the park for extended periods, although the present investigation did not directly measure this potential relationship. Research on public-space planning and design similarly emphasizes that perceived security, physical comfort, appropriately distributed amenities, and effective maintenance arrangements are essential considerations in developing inviting and functional public environments (Carmona 2019b).

Likewise, the World Health Organization (2007) identifies secure pedestrian infrastructure, accessible recreational amenities, hygienic surroundings, and adequate resting facilities as essential characteristics of age-friendly urban environments. Taken together, these perspectives indicate that enhancing public-space quality requires more than simply encouraging social interaction. It also necessitates improvements to the physical and environmental conditions that allow individuals from different population groups to participate comfortably and independently in public life.

Implications for landscape design and management

The assessment outcomes provide a foundation for establishing focused landscape-design and management interventions instead of immediately undertaking a comprehensive physical redevelopment of the entire park. The relatively limited achievement within Comfort and Image (8/15; 53.3%), followed by Uses and Activities (4/6; 66.7%) and Access and Linkages (6/8; 75%), indicates that improvement strategies should address both the existing physical deficiencies and the management practices necessary to maintain the park's functionality. This perspective corresponds with Carmona's (2019a; 2019b) research on public-space quality, which underscores the interdependent contributions of spatial design, accessibility, maintenance, management, and the broader urban setting. Additional research has established that the quality of public spaces is associated with various health-related, social, economic, and environmental outcomes, further demonstrating the importance of evaluating multiple dimensions rather than depending on a single consolidated assessment score (Carmona 2019b).

First, the development of inclusive pedestrian infrastructure should be established as a primary design priority. Appropriate interventions should incorporate continuous and unobstructed pedestrian routes, manageable surface gradients, ramps at changes in elevation, and stable, firm, slip-resistant paving materials. Tree roots and other landscape components should also receive appropriate maintenance and spatial treatment to minimize potential obstructions while preserving existing vegetation wherever technically and environmentally feasible. Such improvements would facilitate more independent movement for individuals with disabilities, older adults, caregivers accompanying children in strollers, and other visitors experiencing mobility-related constraints. In their systematic review, Qi, Mazumdar, and Vasconcelos (2024) identify accessibility as one of the physical characteristics potentially associated with social interaction and the development of social cohesion within public environments.

The World Health Organization (2007) similarly highlights the significance of accessible pedestrian infrastructure and safe, well-maintained walking surfaces in the development of age-friendly urban settings. Nevertheless, a comprehensive accessibility audit remains necessary to identify the precise locations, pathway widths, surface gradients, and pavement conditions requiring improvement. This requirement is particularly important because the existing checklist does not provide detailed dimensional measurements or technical assessments of accessibility. Therefore, the proposed interventions should be interpreted as preliminary design recommendations and not as verified evidence of compliance with particular accessibility regulations or technical standards.

Second, improvements to drainage infrastructure, sanitation facilities, and surface maintenance should be implemented through a systematic management approach. The assessment identifies sanitation and environmental comfort as important aspects requiring further intervention. Where surface-water accumulation occurs, it may interfere with the functional use of paved areas and introduce potentially slippery conditions. Nevertheless, the actual performance of the drainage network and the extent of water accumulation require further confirmation through detailed site inspections. A comprehensive drainage evaluation should examine surface runoff patterns, pavement gradients, drainage inlet conditions, and possible obstructions before determining the most appropriate engineering interventions. Similarly, public toilets and other shared facilities should be maintained through scheduled cleaning programs, periodic condition assessments, clearly designated maintenance responsibilities, and an accessible mechanism through which visitors can report operational problems. These proposed measures are consistent with Carmona's (2019a) emphasis on the close relationship between the physical quality of public environments and the continuous management practices required to sustain their functionality. Furthermore, Han et al. (2022), through their systematic review of objective environmental characteristics influencing behavior in public open spaces, demonstrate the importance of examining measurable physical and environmental conditions alongside patterns of human behavior. Accordingly, maintenance should be regarded as an ongoing operational responsibility rather than an isolated activity undertaken only after deficiencies have been identified.

Third, matters concerning safety, security, and spatial orientation should be addressed through coordinated physical-design and management strategies. The assessment identifies deficiencies involving the presence of security personnel and the availability of visitor information facilities, despite recording adequate lighting and generally favorable perceptions of safety. This distinction indicates that subjective feelings of security and

access to formal assistance mechanisms should be evaluated as separate considerations. Potential design and management interventions may include clearly legible directional and interpretive signage, prominently displayed emergency and assistance contact information, easily recognizable entrances and circulation pathways, and a documented security or monitoring arrangement appropriate to the relatively small dimensions of the park. Qi, Mazumdar, and Vasconcelos (2024) identify perceptions of safety and visual characteristics among the factors potentially influencing the relationship between public spaces and social cohesion. However, the absence of documented security personnel should not automatically be interpreted as evidence that the park is actually unsafe. Instead, the proposed measures should be understood as possible responses to the criteria that were not fulfilled in the original checklist, with their necessity, prioritization, and implementation determined through consultation with relevant park administrators and users.

Fourth, recreational programming should be developed in accordance with the spatial limitations of the park and the patterns of its everyday utilization. Although the Sociability dimension recorded complete achievement (9/9; 100%), this result does not establish that the site necessarily requires additional large-scale events or that social interactions occur consistently across all periods of the day and among every category of visitor. Management strategies should preserve existing opportunities for informal gatherings, interpersonal interaction, and routine recreational activities while considering the introduction of smaller community-based programs where spatial capacity, pedestrian circulation, and available facilities permit. Such programming should account for pedestrian movement, universal accessibility, potential noise disturbances, and conflicts that may emerge when multiple activities take place simultaneously. Qi, Mazumdar, and Vasconcelos (2024) demonstrated that accessibility, mixed land-use configurations, street furniture, and other physical characteristics may facilitate social interaction. Similarly, Clarke et al. (2023) emphasized the significance of appropriate amenities and opportunities for activities involving diverse population groups in strengthening social cohesion within urban green environments.

These findings support the continuation of the park's established social function while highlighting the importance of improving its physical characteristics and functional performance. Conducting systematic observations at different times of the day and on various days of the week would provide a stronger empirical basis for determining whether additional recreational programming or changes to existing activity arrangements are necessary.

Collectively, these recommendations demonstrate that improving the quality of Putri Kaca Mayang Park does not necessarily depend on extensive physical expansion or comprehensive reconstruction. Rather, a more targeted improvement strategy should concentrate on pedestrian accessibility, sanitation, drainage performance, visitor information, and routine maintenance while retaining the existing social qualities that contribute to the park's value. The prioritization of individual interventions should consider the seriousness of identified deficiencies, their potential consequences for different user groups, technical feasibility, and long-term operational and maintenance requirements. Subsequent evaluations could then determine whether the implemented interventions have improved the specific conditions identified through the original assessment checklist. This strategic orientation is consistent with Carmona's (2019a) argument that successful public-space planning requires simultaneous consideration of physical design characteristics and the institutional arrangements responsible for maintaining their long-term performance.

Interpreting area and regulatory context

Covering approximately 1,398 m², the investigated site occupies a comparatively limited area and appears to operate primarily as a neighborhood-scale public environment rather than as an extensive urban park. Nevertheless, its formal spatial classification should not be established exclusively on the basis of its total land area. The appropriate designation must also consider the applicable spatial-planning framework, the official legal status of the site, its intended service population, and the relevant regulatory provisions governing public green spaces. Furthermore, it is essential to distinguish between the functional performance of an individual public space and its compliance with formal spatial-planning requirements. A particular site may provide substantial recreational and social benefits to its surrounding community without necessarily satisfying every technical or administrative requirement associated with a specific green-space classification.

In Indonesia, Minister of Agrarian Affairs and Spatial Planning/National Land Agency Regulation No. 14 of 2022 establishes a regulatory framework for the provision and utilization of green open spaces (Ruang Terbuka Hijau, RTH). The regulation addresses several important functions, including ecological protection, water infiltration, social interaction, cultural activities, aesthetic enhancement, and disaster mitigation. Before assigning a formal regulatory classification to Putri Kaca Mayang Park or determining whether its existing area falls below a prescribed minimum requirement, the relevant regulatory provisions must be examined against the original legal document and the parks officially designated status. The evaluation should additionally differentiate between the requirements applicable to an individual park and the broader obligations governing the provision of public and privately owned green open spaces throughout an administrative jurisdiction.

The physical dimensions of the park should also be examined in relation to its surrounding urban morphology and spatial context. Although a relatively small public park may provide meaningful opportunities for everyday recreation and interpersonal interaction, it cannot necessarily fulfill the broader recreational or ecological responsibilities associated with an

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entire city. Consequently, its contribution should be evaluated in relation to its immediate service catchment, surrounding land-use characteristics, pedestrian connectivity, and spatial relationships with other public environments. This contextual approach corresponds with Carmona's (2019b) examination of place value, which associates the quality of the built environment with broader social, economic, health-related, and environmental outcomes.

Additionally, the systematic review conducted by Ramos-Vidal and de la Ossa (2024) identified associations between perceived public-space quality, pedestrian accessibility to public environments, and residents' sense of community. These findings reinforce the importance of evaluating neighborhood connectivity and accessibility alongside the physical dimensions of individual sites. Finally, the present investigation does not establish the extent to which Putri Kaca Mayang Park contributes to the overall green-space requirements of Pekanbaru. Calculating such a contribution would require a verified measurement of the relevant administrative area's total land extent, updated spatial information concerning existing public and private green open spaces, and an explicitly defined regulatory basis specifying which categories of land should be included in the calculation. Without these supporting data, the proportional contribution of the park to the city's total green-space provision cannot be determined reliably. Therefore, a more methodologically defensible interpretation is to regard the park as one component of a wider urban public-space network, assessing its localized social significance and potential for physical improvement in conjunction with broader municipal green-space planning objectives.

Research limitation

Several methodological and analytical limitations should be acknowledged when interpreting the findings of this investigation. First, the application of a dichotomous evaluation scale, consisting of the classifications "achieved" and "not achieved," facilitates a relatively straightforward and systematic assessment but does not capture variations in performance quality or the differing levels of importance associated with individual indicators. Accordingly, the consolidated achievement percentage represents the proportion of fulfilled checklist criteria rather than a comprehensive measurement of overall public-space quality.

Second, the evaluation primarily examines observable physical and environmental conditions within the site and does not incorporate structured visitor questionnaires, systematic pedestrian-volume measurements, or empirical data concerning users' perceptions and experiences. Consequently, the potential relationships between the park's physical characteristics, individual visitor experiences, and actual patterns of spatial utilization cannot be conclusively established through the available evidence.

Third, the original research documentation does not provide detailed technical audits of accessibility and drainage infrastructure, comprehensive maintenance records, or inter-rater reliability assessments that could independently verify the observed conditions and consistency of the recorded classifications. Future investigations should therefore incorporate standardized assessment indicators, repeated field observations, technical evaluations, and direct feedback from visitors representing diverse demographic and mobility groups. Integrating these complementary methods would strengthen the methodological reliability, inclusiveness, and broader applicability of the proposed public-space evaluation approach.

CONCLUSION

This research examined the quality and functional performance of Putri Kaca Mayang Park in Pekanbaru, Indonesia, through the application of four principal dimensions derived from the Project for Public Spaces framework. Based on the Yes/No classifications documented in the original assessment, 29 out of 38 indicators were achieved, representing an overall achievement rate of 76.3%. Sociability emerged as the strongest dimension, satisfying all nine assessment indicators (9/9), while Access and Linkages fulfilled six out of eight criteria (6/8), Uses and Activities achieved four out of six (4/6), and Comfort and Image satisfied ten out of fifteen indicators (10/15).

The principal strength of the park lies in its established role as a socially valued public environment that accommodates interpersonal encounters and everyday recreational activities within a strategically located central-city setting. Nevertheless, the documented deficiencies primarily concern inclusive pedestrian accessibility, parking availability, consistent utilization throughout the day, suitability for large-scale events, security arrangements and visitor information, maintenance of public toilet facilities, and drainage performance. Addressing these shortcomings requires prioritizing continuous and accessible pedestrian pathways, improving sanitation management and the maintenance of paved activity areas, conducting a comprehensive assessment of drainage conditions, providing more effective visitor information facilities, and organizing recreational activities that correspond with the site's relatively limited spatial capacity.

Overall, the findings demonstrate that a structured, multidimensional assessment can establish practical priorities for improving existing urban green spaces without necessarily requiring extensive physical redevelopment. Maintaining the park's established social function while progressively addressing its accessibility, environmental comfort, and operational limitations represents an important direction for future landscape-design interventions and public-space management.

REFERENCES

Carmona, Matthew. 2019a. “Place Value: Place Quality and Its Impact on Health, Social, Economic and Environmental

Outcomes." *Journal of Urban Design* 24 (1): 1–48. https://doi.org/10.1080/13574809.2018.1472523.

Carmona, Matthew. 2019b. "Principles for Public Space Design, Planning to Do Better." *URBAN DESIGN International* 24 (1): 47–59. https://doi.org/10.1057/s41289-018-0070-3.

Clarke, Mysha, Stephanie Cadaval, Charles Wallace, Elsa Anderson, Monika Egerer, Lillian Dinkins, and Ricardo Platero. 2023. "Factors That Enhance or Hinder Social Cohesion in Urban Greenspaces: A Literature Review." *Urban Forestry & Urban Greening* 84 (June):127936. https://doi.org/10.1016/j.ufug.2023.127936.

Gökhan Uşma, Ö.Y. 2022. "An assessment of spatial quality in public space: A case study." *Online Journal of Art and Design* 11: 236–251.

Han, Shuyan, Yu Ye, Yifan Song, Shurui Yan, Feng Shi, Yuhao Zhang, Xiaodong Liu, Hu Du, and Dexuan Song. 2022. "A Systematic Review of Objective Factors Influencing Behavior in Public Open Spaces." *Frontiers in Public Health* 10 (May):898136. https://doi.org/10.3389/fpubh.2022.898136.

Handoyo, F. Hakim, L. and Leksono, A.S. 2016. "Analisis potensi ruang terbuka hijau Kota Malang sebagai areal pelestarian burung." *J-Pal* 7: 86–95.

Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional. 2022. *Peraturan Menteri Agraria dan Tata Ruang/Kepala Badan Pertanahan Nasional Nomor 14 Tahun 2022 tentang Penyediaan dan Pemanfaatan Ruang Terbuka Hijau*.

Law of the Republic of Indonesia No. 26 of 2007 concerning Spatial Planning.

Ministry of Public Works of the Republic of Indonesia. 2008. *Regulation No. 5/PRT/M/2008 concerning Guidelines for the Provision and Utilization of Green Open Space in Urban Areas*.

Muchlis, I. 2021. "Daya tarik ruang terbuka hijau (RTH) Putri Kaca Mayang Kota Pekanbaru" (Doctoral dissertation, Universitas Islam Riau).

Muminovic, Milica. 2019. "Place as Assemblage: Abstracting, Diagramming and Mapping." *Athens Journal of Architecture* 5 (1): 61–76.

Nguyen, Phi-Yen, Thomas Astell-Burt, Hania Rahimi-Ardabili, and Xiaoqi Feng. 2021. "Green Space Quality and Health: A Systematic Review." *International Journal of Environmental Research and Public Health* 18 (21): 11028. https://doi.org/10.3390/ijerph182111028.

Noer Aini, L., Heri Isnawan, B., and Ridwan Saleh, E. 2015. "Evaluasi ruang terbuka hijau di Kota Pekanbaru." *Planta Tropika: Journal of Agro Science* 3: 41–51. https://doi.org/10.18196/pt.2015.038.41-51

Project for Public Spaces. 2009. "What Makes a Successful Place?" https://www.pps.org/article/grplacefeat.

Project for Public Spaces. 2016. "Placemaking: What If We Built Our Cities Around Places."

Putra, G.A., and Wahyono, D.T. 2020. "Observations of spatial and physical characteristics in the public space environment as a measurement parameter of visual comfort (case study: Singha Park)." *ESE International Journal (Environmental Science and Engineering)* 3: 23–26.

Qi, Jie, Suvodeep Mazumdar, and Ana C. Vasconcelos. 2024. "Understanding the Relationship between Urban Public Space and Social Cohesion: A Systematic Review." *International Journal of Community Well-Being* 7 (2): 155–212. https://doi.org/10.1007/s42413-024-00204-5.

Ramos-Vidal, Ignacio, and Elsy Domínguez de la Ossa. 2024. "A Systematic Review to Determine the Role of Public Space and Urban Design on Sense of Community." *International Social Science Journal* 74 (252): 633–55. https://doi.org/10.1111/issj.12472.

Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency of the Republic of Indonesia No. 14 of 2022 concerning the Provision and Utilization of Green Open Space.

Rivera-Garrido, N., Ramos-Sosa, M. P., Accerenzi, M., et al. 2022. "Continuous and binary sets of responses differ in the field." *Scientific Reports* 12: 14376. https://doi.org/10.1038/s41598-022-17907-4

Santos Nouri, A., and João Pedro Costa. 2017. "Placemaking and Climate Change Adaptation: New Qualitative and Quantitative Considerations for the 'Place Diagram.'" *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* 10 (3): 356–82. https://doi.org/10.1080/17549175.2017.1295096.

Schaeffer, Nora Cate, and Jennifer Dykema. 2020. "Advances in the Science of Asking Questions." *Annual Review of Sociology* 46 (1): 37–60. https://doi.org/10.1146/annurev-soc-121919-054544.

Sukmanaputra, G., Adriyanti, D., and Naiem, M. 2022. "Evaluasi kesesuaian pohon penyusun di ruang terbuka hijau Putri Kaca Mayang Pekanbaru" (Bachelor's thesis, Universitas Gadjah Mada). (Verify authorship and publication details.)

Tarigan, D.S., Semarajaya, C.G.A., and Pradnyawathi, N.L.M. 2022. "Evaluasi kesesuaian elemen lanskap Taman Balekambang sebagai ruang publik di Kota Surakarta, Jawa Tengah." *Jurnal Arsitektur Lanskap* 8(2): 1. https://doi.org/10.24843/jal.2022.v08.i02.p01

Twohig-Bennett, Caoimhe, and Andy Jones. 2018. "The Health Benefits of the Great Outdoors: A Systematic Review and Meta-Analysis of Greenspace Exposure and Health Outcomes." *Environmental Research* 166 (October):628–37. https://doi.org/10.1016/j.envres.2018.06.030.

World Health Organization. 2007. "Global Age-Friendly Cities: A Guide." WHO Publication Record. 2007. https://www.who.int/publications/i/item/teams/social-determinants-of-health/demographic-change-and-healthy-ageing.

World Health Organization. 2007. Global age-friendly cities: A guide. World Health Organization. https://iris.who.int/handle/10665/43755