# The Identification of Visitor Activities at Nostalgia Park, Kupang

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#### ABSTRACT

Nostalgia Park, the first planned public open space in Kupang, was designed to serve as a representative recreational area for the city's residents. Since its inauguration in 2011, it has become a focal point for recreational activities within Kupang. Since the space has been open for 13 years, it is essential to define visitor activities before determining the necessary facilities. To develop a comprehensive understanding of the facility requirements necessary to improve the quality of Nostalgia Park as a public space, this research examined fundamental inquiries regarding existing visitor activities. The study used behavioural mapping with a place-centered approach, observing specific zones and periods to identify user activity locations and types. The findings of the survey were subjected to descriptive analysis to inform the formulation of facilities. The research, conducted over two weeks, yielded an overview of the condition of the Nostalgia Park. The highest density of activity was observed in zone B, while zone A exhibited the lowest activity. The majority of visitors are present on weekends and holidays, with the highest concentration of activity occurring in the afternoon, between 15:00-17:00 WITA. Based on these findings, the necessary facilities for each zone have been identified, with their distribution adjusted to accommodate the activity levels.

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## 1. INTRODUCTION

The existence of public space in a city is an indicator of the quality of life, which in turn affects the level of happiness and social sustainability of its citizens [1]. In addition to its role as a facilitator, a good quality of life in cities is also closely interconnected with the quality of urban design and the mental health and well-being of the surrounding community [2]. The configuration of this public space is largely influenced by the pattern and arrangement of the built environment [3]. In general, public open space in urban areas can be classified into two categories: green open space and non-green open space [4].

Nostalgia Park, the first planned park and principal public space in Kupang, was inaugurated on February 8, 2011, by President Soesilo Bambang Yudhoyono. Originally constructed as a site for the Gong Perdamaian Nusantara (GPN) Monument of Kupang City [5] [6]. The 13-year-old park has evolved into the preeminent public space in Kupang, offering a multitude of activities. The park is strategically situated close to El Tari Street, the city's primary thoroughfare, ensuring convenient accessibility from all parts of the city. Nostalgia Park is under the purview of the government and is accessible to the public at all times without restrictions on visiting hours. The park offers a multitude of facilities for the community, including socialization spaces, exercise areas, recreational facilities, play equipment for children, and commercial stalls.

The park offers a variety of activities, including opportunities for relaxation, soccer, jogging, recreation, and trading [7]. Moreover, Nostalgia Park serves as a venue for public events, such as national anniversaries, which are typically held with a series of competitions and other forms of entertainment.

As the primary public space in operation for 13 years, Nostalgia Park requires an evaluation of its functionality in both the physical aspects of design and management, as well as other factors, including user behaviour. This evaluation is necessary to identify the extent to which the public space is fulfilling its role as a space for all. The identification of visitor behaviour in Nostalgia Park was conducted through the use of behavioural mapping techniques, employing public space quality indicators [8]. Behaviour mapping is a technique used to map human or user behaviour in a specific space or location, thereby facilitating the visualization of activity distribution within the physical environment [9]. The application of behavioral mapping is also employed to ascertain the output of a given design by analyzing the pattern of human behavior or activity, that enables the creation of a design that can meet the needs of its users [10]. This distribution of activities can then be employed to identify the utilisation of space in the process of designing quality, effective, and efficient solutions [11].

Several studies have been conducted on Nostalgia Park, particularly concerning its architectural features. These include investigations into the quality of function, physical quality and the role of the park as a public space that has declined in significance [12], the significance and utilisation of Nostalgia Park [7], and studies into the comfort of vegetation about temperature and humidity [13]. Other studies have focused on the quality of facilities in supporting activities that occur in Nostalgia Park [14] Additionally, studies that examined park user profiles, with a particular emphasis on distance and mode of transportation used [15] and, research have been conducted on the sustainability of green open space development in Nostalgia Park, employing sustainable development indicators [16]. Behavioural mapping research has been conducted in Nostalgia Park, focusing on movement patterns (person-centred mapping) to analyze the use of space and enhance the mental health of its users [17].

A review of previous studies reveals that, despite similarities in the research method, namely behavioural mapping, there are notable differences in the objectives and results achieved. The research observed movement patterns to identify activity categories that could be utilized to improve the quality of life in urban areas. The objective of this research is to identify the activities of visitors to Kupang Nostalgia Park through the use of place-centred mapping, intending to formulate the requirements for the development of public space facilities within the park.

## 2. METHOD

The objective of this research was to address fundamental inquiries about the prevailing patterns of visitor conduct and to develop a comprehensive understanding of the facility requirements necessary to enhance the quality of Nostalgia Park in Kupang City as a public space. Accordingly, this research employs qualitative methods to gain insight into social phenomena from the perspective of the participants [18]. Behavioural mapping is a qualitative method that involves describing interactions and activities in a particular environment. This allows researchers to gain insight into behavioural patterns and contribute to a comprehensive understanding of user interactions with the built environment [19]. In the context of behavioural mapping, there are two principal approaches to mapping behaviour [20]. The first is place-centred mapping, which focuses on the mapping of behaviour based on the specific location in question. The second is personcentred mapping, which is concerned with mapping behaviour based on the movement of individuals within a given area over a defined period. Accordingly, this research employs the technique of place-centered mapping.

Behavioural mapping is a method of systematic observation of behaviour in a specific location over some time. The results of these observations are presented in the form of a map, which serves as a visual representation that facilitates analysis of the observed behaviours. The research location is the Nostalgia Park Public Space in Kupang City Center. To identify visitor behaviour in the Nostalgia Park, observations were conducted on weekdays and holidays (weekends) at specific times. The survey concentrated on visitor behaviour in terms of the type of activity, the number of activities, and the location of activities. Researchers observed and recorded data during the collection process of all visitors during the specified period. Intensive surveys and observations were conducted over two weeks, encompassing weekdays and weekends. The

research was conducted from Friday, June 14, to Wednesday, A review of data on visitor behavior in Nostalgia Park, revealed that the park still requires additional facilities to accommodate visitor behavior and activities on June 26, 2024, at locations divided into four time periods. Each morning period spanned from 06:00 to 08:00 WITA, while the afternoon periods were from 11:00 to 13:00 WITA, 15:00 to 17:00 WITA, and 19:00 to 21:00 WITA, respectively.

The methodology used is divided into two stages. Stage one comprises observations of place-based activities in Nostalgia Park Kupang, conducted to map the types and frequencies of behaviour observed in a given space. Stage two involves the analysis of the results of these observations following the objectives of qualitative research. This analysis aims to elucidate the social phenomena occurring in Nostalgia Park, with a particular focus on the activities observed. The number of visitors and their activities are recorded manually by surveyors in each zone. This understanding, in turn, will inform the decision-making process regarding the necessity for facilities in this public space.

## 3. RESULTS AND DISCUSSION

#### 3.1. Existing Conditions of the Research Location

Nostalgia Park is located on El Tari Street, in the Kelapa Lima District of Kupang City, East Nusa Tenggara. The park holds historical significance as a key part of Kupang's urban heritage, covering an area of approximately 49,483 m² (4.9 hectares). It serves as the primary public open space within the city, facilitating community interaction and serving as a vital urban amenity. The park is situated in the city centre, close to some strategic facilities, including Lippo Mall, the Finance Building, and the area occupied by the Kupang Mayor's Office. Its location and accessibility have contributed to its status as a prominent public open space.

The park, which was established 13 years ago, has become the primary public space in Kupang, hosting a multitude of activities. The park is strategically situated near El Tari Street, the city's primary thoroughfare, ensuring convenient accessibility from all parts of the city. Nostalgia Park is under the purview of the government and is accessible to the public at all times without restrictions on visiting hours. This park offers a multitude of facilities for the community, including socialization spaces, exercise areas, recreational facilities, play areas for children, and commercial stalls. The park offers a variety of activities, including opportunities for relaxation, soccer, jogging, recreation, and commerce.

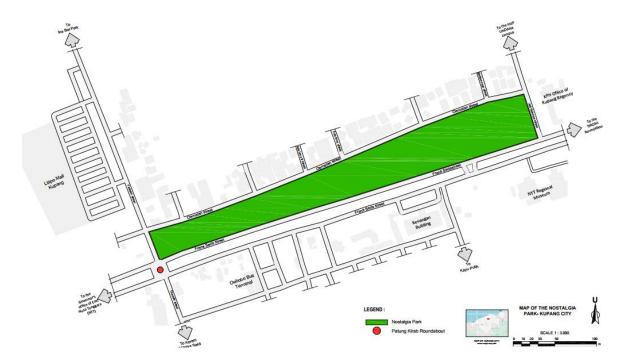


Figure 1. Research Location of Nostalgia Park in Kupang, East Nusa Tenggara (source: author)



Figure 2. Facilities at Nostalgia Park (source: author)

## 3.2. Identification of Visitor Behaviour in Nostalgia Park

The objective of visitor behavior identification is to ascertain the activities engaged in by visitors in public open spaces. The categorization of visitor activities is based on the theoretical framework proposed by Zhang and Lawson in 2008 [21], which classifies public space activity patterns into three main categories: process activities, physical activities, and transition activities. Process activities are defined as those carried out between two activities with a discernible purpose. Subsequently, physical activity is defined as any activity that occurs when two or more individuals interact in a public setting. In contrast, transitional activities are actions undertaken by visitors without a discernible objective, typically executed in isolation [22]. The initial surveys and observations were conducted over two weeks, spanning both weekdays and weekends. The research was conducted from Friday to Wednesday, June 14-26, 2024, at locations divided into four time periods each morning (06.00-08.00 WITA), afternoon (11.00-13.00 WITA), afternoon (15.00-17.00 WITA), and evening (19.00-21.00 WITA). Each public open space area is subdivided into distinct zones, each of which is characterized by a specific activity pattern. This section presents a discussion of the following topics: zone division, data on visitor behavior and visitor characteristics, and the relationship between behavior and public open space arrangement.

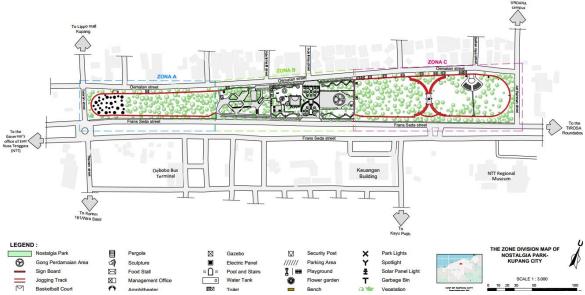


Figure 3. Division of Observation Zones in Nostalgia Park (source: author)

The data on the distribution of visitors who engaged in activities at Nostalgia Park during the survey period are presented in the following table and graph, based on the observation results.

Table 1. Data on Visits to Nostalgia Park Per Day (source: author)

Day	Survey Date	Data on visits/Zone			D-4
		Zone A	Zone B	Zone C	Data on visits/day
1	Friday, 14 June 2024	251	917	518	1686
2	Saturday, 15 June 2024	200	852	507	1559
3	Sunday, 16 June 2024	151	713	476	1340
4	Monday, 17 June 2024*	196	655	457	1308
5	Tuesday, 18 June 2024*	206	688	447	1341
6	Thursday, 20 June 2024	154	524	451	1129
7	Friday, 21 June 2024	173	577	404	1154
8	Saturday, 22 June 2024	137	702	471	1310
9	Sunday, 23 June 2024	174	851	484	1509
10	Monday, 24 June 2024	148	612	450	1210
11	Tuesday, 25 June 2024	165	528	420	1113
12	Wednesday, 26 June 2024	185	487	428	1100
	Number of visitors	2140	8106	5513	15759
	Average visitors	178	676	459	5253

Remarks: \*Holiday

The results of the survey indicate a marked increase in the number of visitors to Nostalgia Park on weekends (Friday through Sunday) and holidays. This increase is likely attributable to the availability of activities designed for families and communities during weekends and holidays, which may serve to occupy the time of those who are not at work. The mean visit data and visitor distribution graph are presented in Table 2 and Figure 4.

Table 2. Data on Average Visits to Nostalgia Park (source: author's data)

-	Visitors/day					Visitors/	Average/		
Zone	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Day
A	171	186	185	154	212	169	163	1239	177
В	634	608	487	524	747	777	782	4559	651
C	454	434	428	452	461	489	480	3197	457
Number of visitors	1258	1227	1100	1130	1420	1435	1425	8994	1285

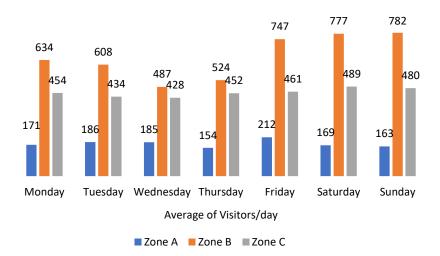


Figure 4. The Graph of Visitors Distribution Per Zone in Nostalgia Park (source: analyzed by author)

Regarding the distribution of activities across the park, the survey data indicated that the majority of visitor activities occurred in Zone B, which is characterized by a greater density of facilities and activity spaces. These spaces are adaptable to accommodate a diverse range of activities and groups, including those with varying age demographics. Zone A is typically characterized by a tranquil atmosphere, with visitors engaging in activities such as jogging or leisurely walking. This is a plausible assumption given that the zone in question lacks a plethora of supplementary facilities, except jogging tracks and parks. Zone C is home to a diverse range of visitors, given the expansive area and the variety of facilities available, including an Amphitheatre. The primary activities observed in the park are jogging and leisurely walking, as well as sitting. The distribution of activities in Nostalgia Park is illustrated in the following maps.

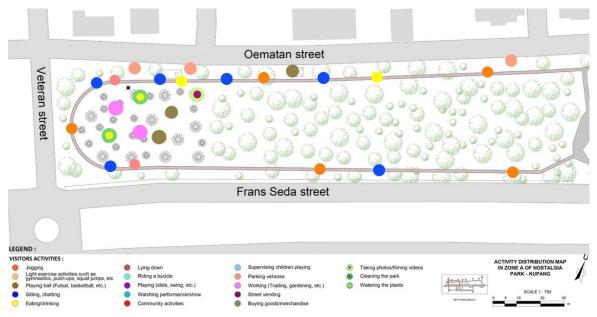


Figure 5. Distribution of Visitors Activities in Zone A (source: author)

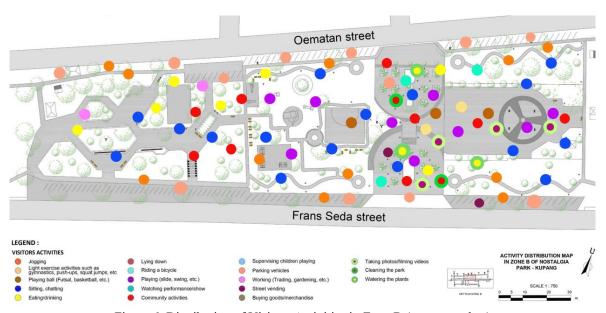


Figure 6. Distribution of Visitors Activities in Zone B (source: author)

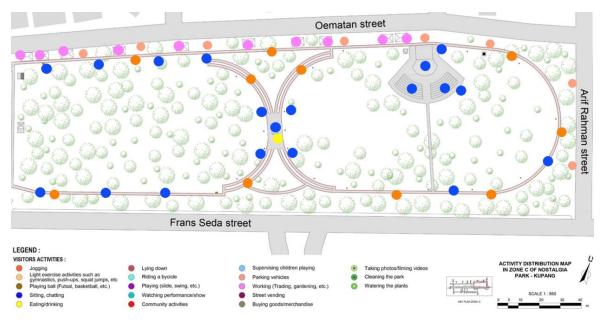


Figure 7. Distribution of Visitors Activities in Zone C (source: author)

The analysis of visitor behavior indicates that the distribution of activities is influenced by several factors. These include the presence of zones that are visited by a significant number of visitors, the availability of supporting facilities (such as benches, play areas, traders, and dining and drinking establishments), and the overall visual appeal of the area. Conversely, zones that appear tranquil are attributed to a dearth of facilities, including inadequate illumination and the absence of supplementary amenities. Besides this, zones that are less frequently visited are situated at a considerable distance from parking or drop-off areas. In general, the level of activity in the Nostalgia Park is observed to increase during the morning and evening periods. The Number of Visitors to Nostalgia Park During Each Period is in Table 3 and Figure 8.

Table 3. Number of Visitors to Nostalgia Park During Each Period (source: author)

Zone		Da	Numbers of		
	20110	Zone A	Zone B	Zone C	Visitors/day
Morning	06: 00 – 08:00	68	165	135	368
Afternoon	11:00 - 13:00	16	112	110	238
Evening	15:00 - 17:00	68	250	146	464
Night	19:00 - 21:00	25	124	65	215
Numb	per of visitors	177	651	457	1285

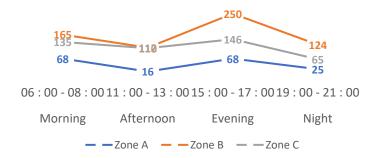


Figure 8. Graph of Visitors to Nostalgia Park During Each Period (source: analyzed by author)

The morning period (06:00-08:00 WITA) is predominantly marked by the presence of joggers and individuals participating in leisure walking. The highest levels of activity are observed during the afternoon

hours (17:00-19:00 WITA). Visitor numbers tend to decline during daylight hours, primarily due to the high temperatures in the area. Additionally, the number of visitors decreases at night, which can be attributed to the absence of adequate lighting at the location. The following findings emerge from an analysis of visitor behavior in the three zones of Nostalgia Park:

#### 3.2.1. Zone A

The zone is equipped with a variety of facilities, including a jogging track, parking lot, flower garden, and dining area. The flower garden, situated at the center of the zone, is not active in the conventional sense. Rather, it is a plot of land utilized by the private sector for the storage of a collection of plants intended for sale. Consequently, this area is not intended to be accessed by visitors. The primary activities engaged in by visitors are jogging and leisurely walking along the periphery of the zone. A privately owned restaurant is situated on the northern side of the park, yet it is seldom frequented by visitors. This zone is observed to be active during the morning and afternoon hours. Due to the absence of illumination, the area is devoid of activity during nocturnal hours. The zone lacks the requisite park benches and other amenities, thereby rendering it less conducive to visitor comfort. Additionally, this zone is in a state of disrepair, as evidenced by the dilapidated jogging track and the presence of accumulated waste in various parts of the park.

#### 3.2.2. Zone B

This zone is distinguished by the greatest number of facilities and serves as the epicenter of activity. The existing facilities include Gong Perdamaian and the surrounding functional spaces, a park, a sports field (for basketball), a children's playground, a jogging track, a gazebo, seating, and parking. Additionally, the zone contains a multitude of shade-producing plants, thereby ensuring a comfortable environment for visitor activities during daylight hours. In addition to the aforementioned facilities, the zone also encompasses a Salome food stall, which is a popular destination for visitors. Consequently, the northern side of the zone also serves as a location for visitors to repose. A variety of activities are conducted within this zone throughout the day, by a diverse range of visitors, including children and the elderly. The activities observed included recreation, sitting, eating, playing, sports (futsal, basketball, jogging, and leisurely walking), and the implementation of community activities. Community activities are concentrated in the Gong Perdamaian open space and the shady area on the west side of the zone. The zone in question is a locus of considerable activity, not only due to its status as the primary entrance and exit point but also because of the diversity of facilities available. Furthermore, the zone's accessibility and the presence of adequate parking areas on either side contribute to its high level of activity. The availability of lighting in the zone allows for visitor activity to extend into the evening hours. However, the lighting is uneven some of it is in poor condition and certain sections of the zone appear to be lacking in adequate illumination during nocturnal hours. Besides the issue of limited lighting, the zone faces a significant challenge around facility maintenance. A considerable number of facilities, including playground equipment, sports facilities, and park benches, have been subjected to damage and have not been duly repaired. The zone still lacks adequate activity support facilities, including benches that are both comfortable and accessible to all groups. Additionally, there is a dearth of lighting, coupled with concerns regarding maintenance and cleanliness, as well as parking management.

#### 3.2.3. Zona C

This zone is the largest in terms of area and offers a variety of amenities, including a jogging track, Amphitheatre, gazebo, and park benches. The primary activities observed in this area are the exercise of jogging and leisurely walking by visitors during the morning and evening hours. There are locations where individuals engage in passive recreation, such as sitting and leisurely activities. The distribution of shade trees in this zone provides comfort for daytime activities but results in darkness at night due to the absence of lighting, which in turn limits nighttime activity. This condition also presents the potential for negative activities to occur at night, which may lead to significant concerns regarding security and comfort for visitors. This area also has a space in the centre and tends to be poorly maintained. The lack of supporting facilities, such as trash bins, causes the area to become dirty as visitors discard their trash indiscriminately. This area could be optimized for other public facilities if properly arranged.

# 3.3. Relationship between Behaviour and Public Space Arrangement in Nostalgia Park

Visitor behaviour data revealed the need for additional facilities in Nostalgia Park. Table 4 shows references data on the facility needs per zone.

Table 4. Facility Needs Based on Activities Per Zone in Nostalgia Park (source: analysis by the author)

Zone	Initial Function	Existing Activity	Facility Needs
Zone A	Parking Area	Parking the Vehicle	<ul> <li>The creation of parking lots with clearly defined parking patterns and boundaries is essential.</li> <li>The installation of lighting at night around the parking lot is recommended.</li> <li>Ornamental vegetation: The incorporation of plants with aesthetic appeal is advised</li> </ul>
	Jogging Track	Jogging, walking and sitting	<ul> <li>The necessity for the repair of the damaged jogging track has been identified. The recommended solution is the installation of paving blocks.</li> <li>The park area would benefit from the addition of seating</li> <li>The installation of lighting at night along the jogging track and park area</li> <li>Plants that serve an aesthetic purpose</li> </ul>
	Places to Eat	Preparing food, buying and eating food	Plants that serve an aesthetic purpose
	Flower Garden	Planting flowers, caring for flowers, selling flowers and buying flowers	<ul> <li>It is recommended that parking lots be created with clearly defined parking patterns and boundaries.</li> <li>The installation of lighting at night around the perimeter of the parking lot is recommended.</li> <li>Plants that serve an aesthetic purpose</li> </ul>
Zone B	Visitors parking	Visitors parking, sports, recreation, relaxing	<ul> <li>The parking lot surfaces should be improved and more durable asphalt or paving layers should be added.</li> <li>Parking markers and clear road markings should be installed to regulate vehicle parking.</li> <li>Transparent demarcation between distinct parking zones and other areas is recommended.</li> </ul>
	Pedestrian/Jogging track	Exercise, relaxation	<ul> <li>The jogging track will undergo a comprehensive renovation, during which it will be repaved with more durable materials.</li> <li>Additionally, lighting will be installed along the track to enhance user safety and convenience.</li> </ul>
	Sports field	Sports, recreation, leisure	Installing additional lighting on the sports field will improve user comfort.
	Pond and Passive Garden	Sports, recreation, leisure, community activities, park care and maintenance	<ul> <li>The incorporation of ornamental flora and fauna can enhance the aesthetic appeal and comfort of the landscape.</li> <li>The repair and reuse of the pond can contribute to water conservation in the garden.</li> <li>The installation of lighting</li> </ul>
	Open space and area around Gong Perdamaian	Sports, recreation, leisure, community activities, park care and maintenance	Addition of seating facilities and lighting
	Gong Perdamaian Basement Sculpture	Recreation, leisure, garden care and maintenance	The renovation of the basement is intended to transform it into a functional space.

Zone	Initial Function	<b>Existing Activity</b>	Facility Needs
	Gazebo	Recreation, leisure, community activities	Additional lighting for visitor safety and comfort
	Seating	Recreation, leisure	<ul> <li>The seating design was altered and additional seating was installed in locations deemed optimal for the intended use.</li> <li>The seating was crafted from durable and comfortable materials.</li> </ul>
	Children's play area	Children's play area, relax, sit.	<ul> <li>The addition of a neat and interactive setting has the potential to influence children's cognitive development during play. The space can be reorganized in terms of zones, colours, and the placement of facilities, which can be varied and comfortable.</li> <li>The incorporation of play facilities and the utilisation of durable materials</li> </ul>
	Location Marker / Landmark	Relaxation, eat, drink, light exercise.	The installation of additional seating and the provision of lighting are intended to enhance the safety and comfort of visitors.
	Plaza	Plaza, Coffee stalls, Coconut ice stalls	<ul> <li>The implementation of additional and strategically positioned waste receptacles is recommended.</li> <li>The provision of illumination is advised for the safety and comfort of visitors.</li> </ul>
	Green Area	Green Area	<ul> <li>The arrangement of vegetation plays an important role in the aesthetic value and functionality of an area.</li> <li>The addition of vegetation can enhance the visual appeal of an environment, while also providing practical benefits such as delineating boundaries, creating shade, and providing directional cues.</li> </ul>
Zone C	Jogging Track	Jogging, Walking, Sitting	<ul> <li>Garbage bins</li> <li>Lighting facilities to enhance user safety and convenience</li> </ul>
	Road Buffer	Parking, angkringan	<ul> <li>Garbage bins</li> <li>Lighting facilities to enhance user safety and convenience</li> <li>Parking area</li> <li>Adjustment of food stall area</li> </ul>
	Gazebo	Sitting, eating, drinking, lying down	<ul> <li>Garbage bins</li> <li>Lighting facilities to enhance user safety and convenience</li> </ul>
	Amphitheater	Sitting, eating and drinking, lying down, exercise	<ul> <li>Garbage bins</li> <li>Lighting facilities to enhance user safety and convenience</li> </ul>
	Sitting bench	Sitting	<ul> <li>Garbage bins</li> <li>Lighting facilities to enhance user safety and convenience</li> </ul>

#### 4. CONCLUSION

The survey and analysis of visitor behavior revealed that activities in Nostalgia Park are distributed unevenly, correlating with the availability of facilities. Zone B exhibited the highest levels of activity due to its vibrant appearance and numerous amenities, while Zone A showed the lowest, attributed to insufficient facilities such as lighting and seating. Safety and security concerns, particularly at night due to limited lighting, require significant attention, especially in Zone A and Zone C, to ensure visitor comfort and well-being.

Activity levels were highest during the morning (06:00–08:00 WITA) and evening (17:00–19:00 WITA), with jogging and leisure walking most common in the morning. Afternoon activity decreased due to high temperatures.

These findings highlight the need to tailor facilities to each zone-specific activity pattern. Additional research is necessary to understand visitor characteristics and the overall quality of Nostalgia Park to develop facilities that meet user needs and enhance its functionality as an inclusive public space.

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