

## Site Selection For Recreational Sports In Surabaya

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### ABSTRACT

Surabaya, as one of Indonesia's largest urban centers, has strong potential for developing recreational sports due to its growing infrastructure and rising public awareness of healthy lifestyles. However, rapid urbanization also brings challenges, particularly changes in modern lifestyles that can negatively impact public health. To address this, recreational sports facilities must emphasize accessibility and equitable distribution so all communities can benefit. These facilities should accommodate diverse fitness activities while also serving as spaces for social interaction, supporting productivity and improving overall quality of life. This study aims to identify the most suitable site for designing recreational sports facilities for productive communities in Surabaya. The methodology involves analyzing potential locations based on specific site selection criteria. The evaluation follows standards proposed by Chou, which include physical and environmental conditions, accessibility and mobility, as well as surrounding factors that support operational effectiveness.

**Keywords:** *Recreational Sports, Productive Society, Surabaya, Site Analysis*

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## INTRODUCTION

According to data from the Surabaya City Central Statistics Agency for 2024 (projected for 2025), the city has a population of 3,018,022 with a population density of 8,995 people per square kilometer. Approximately 60% of this population falls within the productive age group—those aged 15 to 59—totaling around 1,810,013 people, the majority of whom are workers, students, or college students. This productive age group maintains a high level of activity and has limited free time, working an average of 8–10 hours per day. This situation is exacerbated by high stress levels resulting from a hectic schedule, performance pressures, and rapid urban development, which increasingly disrupt the balance between physical health, mental well-being, and individual productivity. According to the World Health Organization, it is recommended that every individual engage in at least 150 minutes of moderate-intensity physical activity each week to maintain physical and mental health.

Although Surabaya has great potential for developing sports activities, the condition of sports facilities in the city still faces many challenges that affect public participation, particularly among the productive-age population who have limited time due to their daily work schedules. Most of this productive-age group has limited time between daily activities and after work, coupled with a lack of easily accessible facilities that do not require additional travel time. As a result, the productive age group often neglects exercise, leading to a poor balance between their physical, mental, and productive well-being. To address this, recreational sports facilities are needed to maintain a healthy work-life balance for the community, as an effort to reduce stress and enhance the overall productivity of the productive age group.

**Table 1: Ratio of Sports Facilities**

<b>Ratio Of Sports Facilities To Population In Surabaya</b>			
<b>Surabaya District</b>	<b>Number Of Sports Facilities</b>	<b>Population</b>	<b>Ratio</b>
<b>Center</b>	20	334.533	1 : 17.226
<b>East</b>	80	808.461	1 : 10.105
<b>West</b>	104	518.328	1 : 4.983
<b>North</b>	42	605.225	1 : 14.410
<b>South</b>	112	741.522	1 : 6.620

*Source: Surabaya Department of Culture, Tourism, Youth, and Sports 2024 & Surabaya Central Statistics Agency 2024*

Based on this data, sports facilities are more concentrated in specific areas such as West Surabaya and South Surabaya, where a single sports facility serves a small population, while Central Surabaya, North Surabaya, and East Surabaya have a single sports facility serving a large population. Consequently, this results in an uneven distribution of sports facilities for the residents of Surabaya. This aligns with the Surabaya city government’s commitment to creating a healthy city by prioritizing public spaces that promote a healthy lifestyle among the productive age group.

According to the 2021–2026 Strategic Plan of the Department of Youth, Culture, Sports, and Tourism, the government is making efforts to improve sports infrastructure by adding sports facilities, and the Surabaya Department of Youth, Culture, Sports, and Tourism (Disbudporapar) also acknowledges the uneven distribution of available sports facilities. This supports the Surabaya city government’s commitment to realizing a healthy city by prioritizing public spaces that encourage a healthy lifestyle for the productive age group. (Revised Strategic Plan of the Surabaya Department of Youth, Culture, Sports, and Tourism 2021). This productive age group is the primary driver in the development process, particularly in the economic sector, and is expected to steer development toward a better direction (Aprilina et al. 2024)

Site selection is crucial for the sustainability of a design (Haryono et al. 2025). Therefore, an ideal sports facility is needed—specifically, a recreational sports facility capable of accommodating the productive population to help maintain fitness and reduce stress resulting from the pressures of urban productivity. These recreational sports facilities must prioritize accessibility and ensure equitable distribution of sports facilities for the community. The design must support various fitness activities and serve as a venue for social interaction among the productive community to enhance productivity and quality of life in Surabaya.

## METHOD

This study employs a three-stage approach based on data regarding the existing conditions of the site, calculations based on land criteria, and an evaluation of site selection for recreational sports design in the city of Surabaya. The variables for land selection criteria in recreational sports design, according to Chou (2024), are as follows: first, physical and environmental aspects—namely, current conditions with long-term potential and the economic income of users in the vicinity of the site. Second, ease of access around the site. Third, factors supporting operations around the site, such as the availability of labor and operational costs in the vicinity. The site selection assessment is as follows:

**Table 2: Site Selection Criteria**

No.	Criteria	Score Range		
		1	2	3
1.	Physical and Environmental Aspects	>Good	Fairly Good	Very Good
2.	Accessibility	>Supportive	Fairly Supportive	Very Supportive
3.	Operations Around the Site	>Meets Requirements	Fairly Meets Requirements	Very Meets Requirements

*Source: Author's Analysis, 2025*

### Notes :

Score Range 0-3

Number of Criteria : 3

Formula : B x N

## FINDING AND DISCUSSION

### RESEARCH RESULT

Site planning, as part of efforts to organize the functional and physical aspects of the planned area, is carried out in collaboration with the community (Ngasem et al. 2025) Definitions of Recreational Sports according to various sources:

1. According to Ramdan (2018), recreational sports refer to forms of physical activity performed during free time or leisure (Jasmani, Keguruan, and Suryakencana 2018)
2. According to Nurlan Kusmaedi (2002:2), recreational sports are activities to spend free time that involve physical, mental, and social aspects with the aim of relieving various stresses arising from daily activities (Faisal, Agus, and Sugiyanto 2017)
3. According to Law No. 3 of 2005 on the National Sports System, physical activities undertaken by the public are based on interests and abilities that develop in accordance with the conditions and cultural values of the local community, for the sake of health, fitness, and enjoyment. (Indonesia 2005)
4. The concept of recreation refers to types of physical activities performed during leisure time or in a relaxed state (Jasmani, Keguruan, and Suryakencana 2018). Recreational sports have become a significant necessity for urban communities constantly preoccupied with their daily routines, serving as a method to refresh the body and mind after work and mental exertion (Alam 2003). Through recreational sports activities, individuals can achieve physical health in an enjoyable way, experience joy from various physical activities, and foster the idea that exercising can be entertaining (Devid Mulyo Kuncoro and Rahayu 2023).

Based on several definitions of Recreational Sports, it can be said that Recreational Sports are physical activities that are not competition-oriented and serve as entertainment during leisure time.

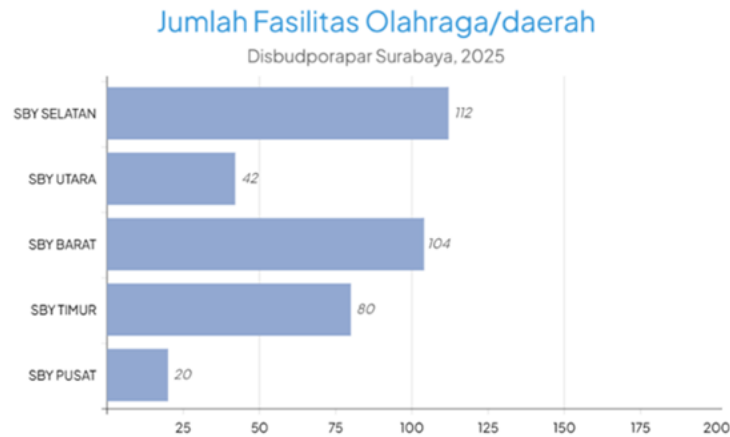
#### A. Site Selection Criteria

According to Rukayah in Ulil Albab et al., site planning is an art form that creates space in the form of an external physical environment to support human behavior. (Ulil Albab, Suko Istijanto, Febby Rahmatullah Masruchin 2025)

#### B. Selection Analysis

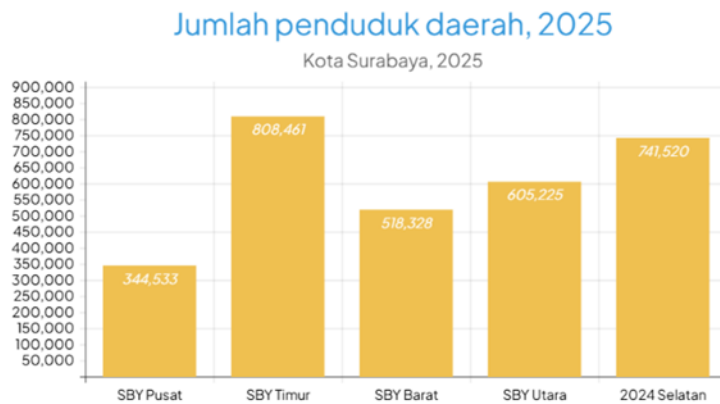


**Figure 1:** Land Use Map of Surabaya  
Source: Surabaya Land Use Map



**Figure 2:** Number of Sports Facilities by District in the City of Surabaya  
Source: Surabaya Department of Culture, Tourism, Youth, and Sports, 2024

Among the districts in Surabaya, Central Surabaya has the fewest public sports facilities, with 20, followed by North Surabaya with 42.



**Figure 3:** Population of the Surabaya Region, 2024  
Source: Surabaya Central Statistics Agency (BPS), 2024

**Table 3: Ratio of Sports Facilities**

Ratio Of Sports Facilities To Population In Surabaya			
Surabaya District	Number Of Sports Facilities	Population	Ratio
Center	20	334.533	1 : 17.226
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According to the data, a lower ratio indicates better facility conditions (one facility serving fewer residents), while a higher ratio indicates poorer conditions (one facility serving more residents). Therefore, the areas most in need of new sports facilities for the community are Central Surabaya and North Surabaya.

Both Central Surabaya and North Surabaya have their own strengths and weaknesses.

Their strengths and weaknesses are as follows:

a. Central Surabaya

Advantages:

1. Close to major transit hubs.
2. Business, Government, and Education Hub
3. Iconic landmarks of Surabaya
4. Generous local community

Disadvantages:

1. Heavy traffic during rush hour
2. Very high land prices
3. Limited Green Open Spaces (GOS)
4. Strict Building Regulations

b. North Surabaya

Advantages:

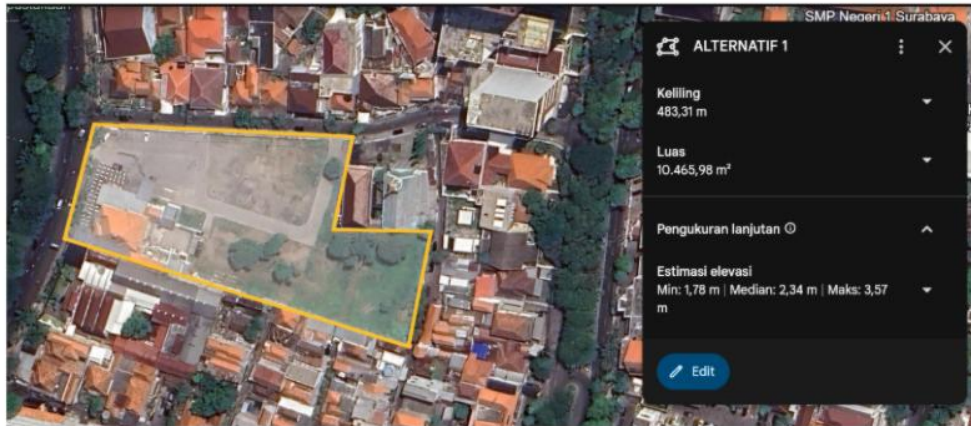
1. Relatively affordable and spacious land
2. Less generous community

Disadvantages:

1. Limited public transportation
2. Historical conservation area
3. Far from the city center

The ideal location for designing recreational sports facilities for the working-age population in Surabaya is "Central Surabaya." This is because, in addition to being the area with the fewest sports facilities, this location is easily accessible from all parts of Surabaya. Central Surabaya is also close to office districts, commercial areas, educational institutions, public service centers, and more. Therefore, Central Surabaya is well-suited as the location for designing recreational sports facilities for the working-age population. Surabaya Pusat consists of 4 subdistricts, namely Genteng Subdistrict, Bubutan Subdistrict, Tegalsari Subdistrict, and Simokerto Subdistrict. For the design of recreational sports facilities for the working-age population in the city of Surabaya, two alternative locations have been selected: Genteng Subdistrict and Bubutan Subdistrict.

### C. Alternative Site A



**Figure 4:** Site Plan Alternative A  
Source: google.com

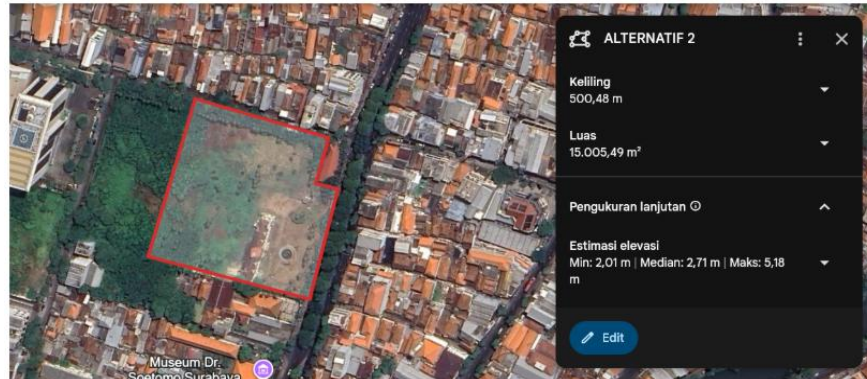
- Site Location: Jimerto Street, Genteng District, Surabaya City, East Java.
- Land area: ±10,465 m<sup>2</sup>
- Ownership status: Private
- Land use: Commercial and service zone
- Category: High-density
- Activities (Permitted): Sports management

**Table 4: Site A Assessment Analysis**

Site A Evaluation				
No.	Site Criteria	Bobot (B)	Nilai (N)	Hasil
1.	Physical and Environmental Aspects	35%	3	1.05
2.	Accessibility	40%	2	0.8
3.	Operations in the Vicinity of the Site	25%	1	0.25
	Total	100%		2.1

Source: Author's Analysis, 2025

#### D. Alternative Site B



**Figure 5: Alternative Site 2**

Source: earth.google.com

- Location : Jalan Bubutan, Bubutan District, Surabaya City, East Java.
- Land area : ±15,005 m<sup>2</sup>
- Ownership status : Private
- Land use : Commerce and services zone
- Category : High-density.
- Activities (Permitted) : Sports Management

**Table 5: Site B Assessment Analysis**

Site B Assessment				
No.	Site Criteria	Weight (W)	Score	Result
1.	Physical and Environmental Aspects	35%	3	1.05
2.	Accessibility	40%	3	1.05
3.	Operations in the Vicinity of the Site	25%	2	0.5
<b>Total</b>		<b>100%</b>		<b>2.6</b>

Source: Author's Analysis, 2025

Based on the two site alternatives, the results of the evaluation analysis are as follows :

**Table 6: Assessment Results for Sites A and B**

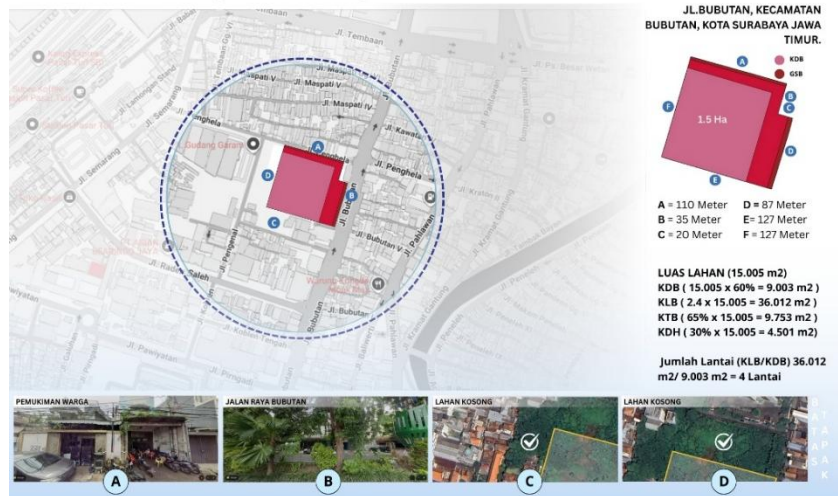
No.	Site Criteria	Wight	Site Alternatives	
			Site A	Site B
1.	Physical and Environmental Aspects	35%	1.05	1.05
2.	Accessibility	40%	0.8	1.05
3.	Operations in the Vicinity of the Site	25%	0.25	0.5
<b>Total</b>		<b>100%</b>	<b>2.1</b>	<b>2.6</b>

Source: Author's Analysis, 2025



## Site Boundary Analysis

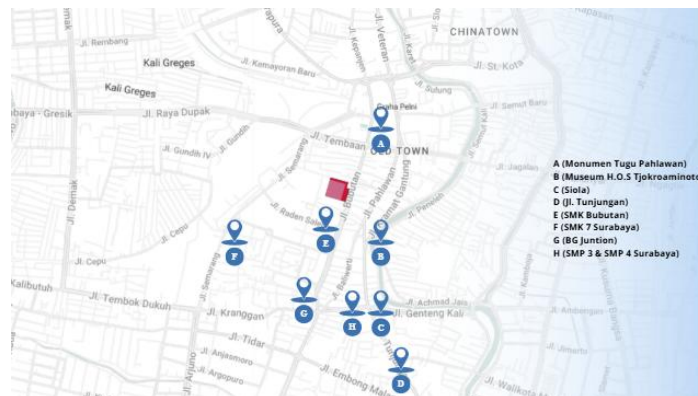
ANALISA TAPAK TERPILIH (ALTERNATIF TAPAK 1)



**Figure 7: Site Boundary**  
 Source: Author's Analysis, 2025

- North : Residential Area
- South : Vacant Lot
- East : Bubutan Highway
- West : Vacant Lot

### A. Accessibility Analysis of the Surrounding Site



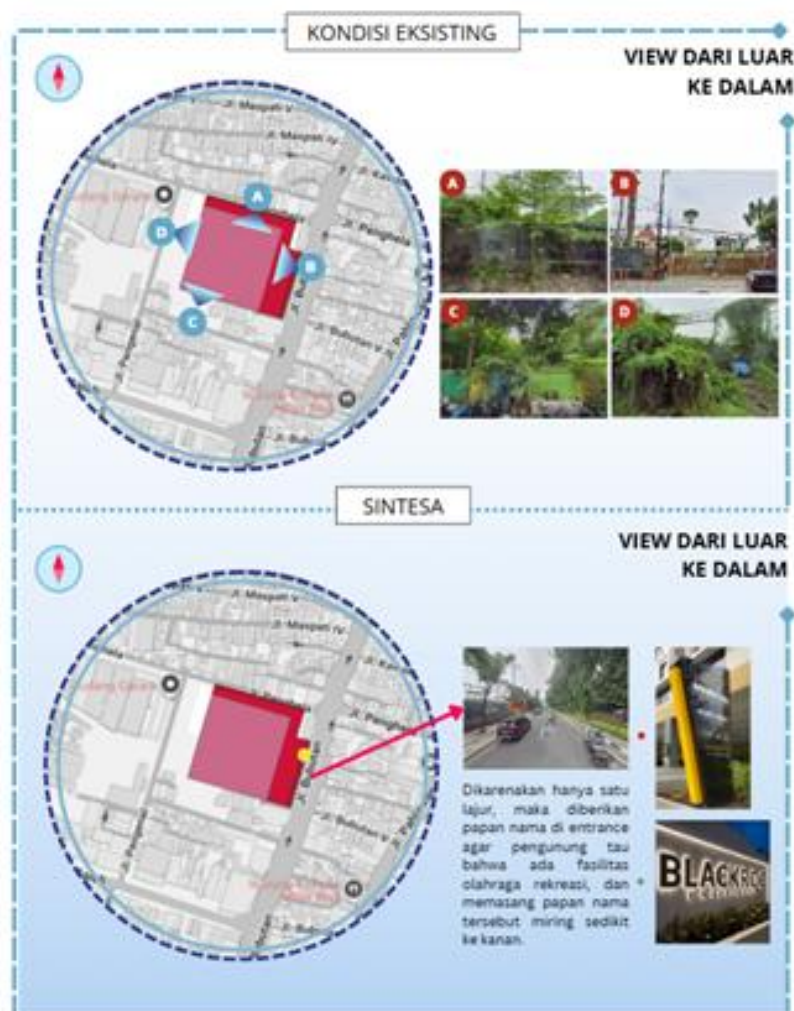
**Figure 8: Accessibility around the site**  
 Source: Author's analysis, 2025

The analysis of the accessibility of supporting facilities around the site aims to determine how easily users can reach the facilities located near the site, thereby supporting the site's primary function and ensuring the comfort and efficient mobility of visitors to the main facility.

The supporting facilities are as follows:

1. The site is located near office buildings, educational institutions, and commercial areas, making it accessible to its target users—the working-age population. Consequently, after work or during breaks, the working-age population can utilize these recreational sports facilities.
2. The site is located in the heart of Surabaya, making it highly strategic for supporting accessibility for users from various areas across Surabaya, thereby maximizing visitor numbers.

## B. Analysis View



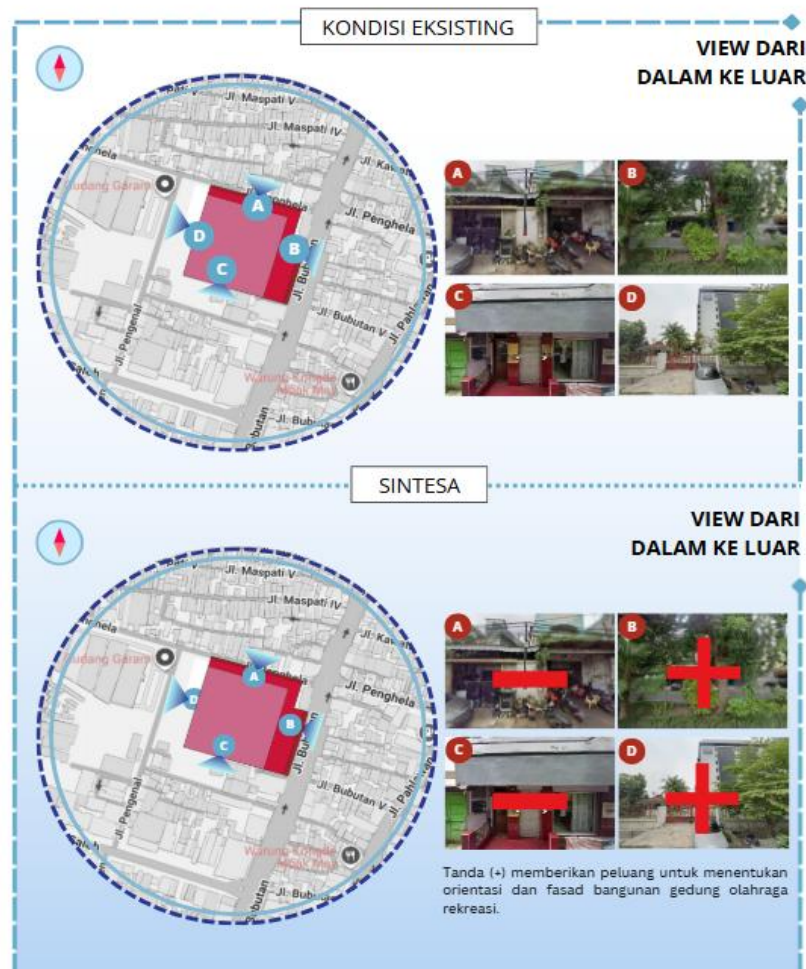
**Figure 9:** Analysis of the Site from the Outside In  
Source: Author's Analysis, 2025

The analysis of the site from the outside in aims to determine the orientation of the building's facade, so that users can identify the building's main entrance and attract visitors to the site.

**Table 7: Analysis of the Site from the Exterior to the Interior**

Category	Current Conditions	Summary
<b>Analysis of the Site from the Exterior to the Interior</b>	<ul style="list-style-type: none"> <li>- Code A is the view from the residential area into the site</li> <li>- Code B is the view from Bubutan Highway to the site</li> <li>- Code C is the view from the residential area into the site</li> <li>- Code D is the view from the residential area into the site</li> </ul>	<ul style="list-style-type: none"> <li>- Position the entrance to face the main road.</li> <li>- The side facing the residential area is lined with dense vegetation to maintain the residents' privacy.</li> </ul>

Source: Author's Analysis, 2025



**Figure 10: Analysis of the Site View from Inside to Outside**

Source: Author's Analysis, 2025



## D. Wind Analysis

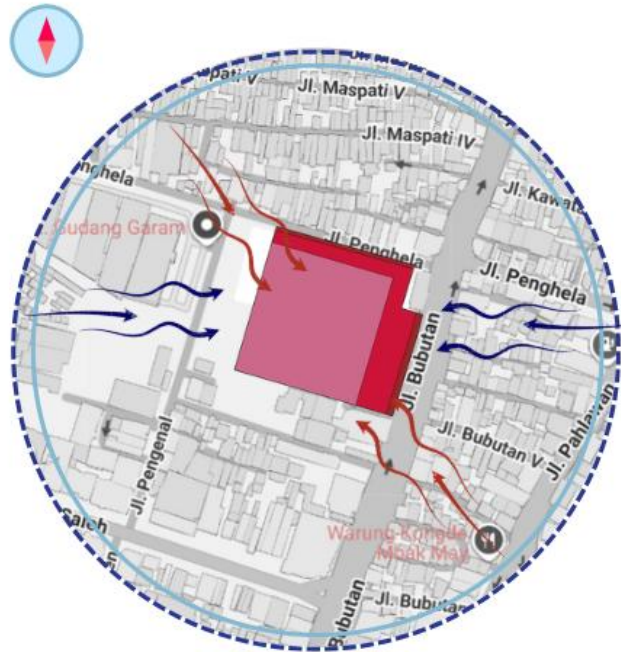


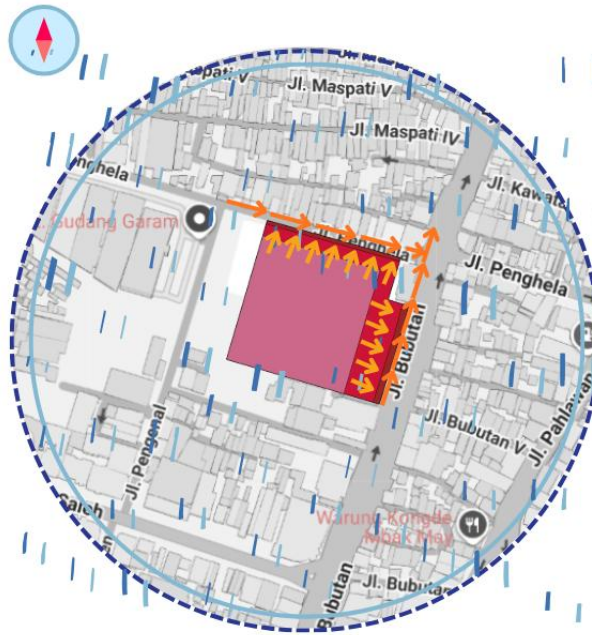
Figure 12: Solar Analyst  
Source: Author's Analysis, 2025

**Tabel 10 : Analisa Matahari**

Category	Current Conditions	Summary
<b>Wind</b>	<ul style="list-style-type: none"> <li>- The most common wind direction is from the east, with an average speed of 4.2 knots.</li> <li>- The second most common wind direction is from the southeast, with an average speed of 6 knots.</li> </ul>	<ul style="list-style-type: none"> <li>- Provide cross-ventilation from the east side of the building toward the west</li> <li>- Create a curved shape in the building to deflect the wind.</li> </ul>

Source: Author's Analysis, 2025

## E. Rain Analysis



**Figure 13: Rainfall Analysis**  
Source: Author's analysis, 2025

**Table 11: Rainfall Analysis**

Category	Current Conditions	Summary
Rain	<ul style="list-style-type: none"> <li>- The highest average rainfall occurs in January, at 277 millimeters.</li> <li>- August records the lowest rainfall, with an average of just 8 millimeters.</li> </ul>	<ul style="list-style-type: none"> <li>- Install infiltration wells on the site to temporarily store rainwater.</li> <li>- Construct drainage channels on the site before directing the water into the municipal sewer system.</li> </ul>

Source: Author's analysis, 2025

## CONCLUSION

Site selection is a crucial element in designing recreational sports facilities in Surabaya, particularly to address the uneven distribution of facilities in the western and southern parts of the city and to meet the needs of the working-age population (15–59 years) who face high stress levels and time constraints. By identifying an ideal location, it is hoped that work-life balance, social interaction, and community productivity can be enhanced. The criteria used to select the location include physical and environmental dimensions, ease of access, and operational aspects. Based on the analysis conducted, the recommended location is Alternative B, located on Jalan Bubutan in Bubutan District, Surabaya, with an area of approximately 15,005 m<sup>2</sup>. This location offers good access, a

supportive atmosphere, and potential for future development. An analysis has been conducted on the site boundaries, accessibility, and existing conditions to inform the design and support efforts to create a healthy city in Surabaya.

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