



Analysis of Parking Space Needs (Case Study: Selasar Sunaryo Art Space)

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ABSTRACT

Selasar Sunaryo Art Space (SASS) is a non-profit organization that aims to support the practice and study of art and visual culture in Indonesia in Bandung. One of the aspects that needs to be considered for the infrastructure needs implemented by the art gallery is the parking space. This study aims to analyze the need for parking spaces, especially four-wheeled vehicles in Selasar Sunaryo Art Space. The method used is quantitative descriptive. The research variables used in this research are the volume of vehicles entering and exiting and the duration of the vehicle. Based on the recapitulation of the vehicle's exit hours. It can be known that the majority of vehicle exit hours are at 14.00-15.00 and 16.00-17.00, which is 39 vehicles or (19.50%). Meanwhile, the minority at 10.00-11.00 is as many as 9 vehicles or (4.50%). The results of the regression analysis calculation with SPSS, the four-wheeled parking of Selasar Sunaryo Art Space still needs 70.32% for parking lots. Recommendations to the management of Selasar Sunaryo Art Space in order to meet the parking needs at the end of four-wheeled vehicles.

ARTICLE INFO

Article History:

Submitted/Received 5 August 2024

First Revised 18 September 2024

Accepted 11 November 2024

First Available online 1 Dec 2024

Publication Date 1 Dec 2024

Keyword:

parking needs,
parking analysis,
art space
transportation

1. INTRODUCTION

Currently, the enthusiasm, public appreciation and popularity of a work of art is increasing and widely known marked by many exhibitions, auctions and the construction of art galleries. Therefore, there needs to be a forum that can channel the artist's work as a means of promotion, communication that allows visitors to see, hear and feel the work (Satya et al., 2022). The art gallery is one of the public spaces and a forum to exhibit artworks from artists, both in the form of paintings, installations, sculptures and video art (Nabila & Sarihati, 2016).

The city of Bandung gave birth to many artists and was given the nickname Creative City. To celebrate the creativity of artists, nowadays the Bandung art gallery has sprung up in Bandung. One of the art galleries in Bandung is Selasar Sunaryo Art Space (SASS). Selasar Sunaryo Art Space (SASS) is a non-profit organization that aims to support the practice and study of art and visual culture in Indonesia (Hartabela, n.d; Selasar Sunaryo Art Space, 2024). Activities that can be done by visitors inside are dynamic such as viewing works, holding meetings, watching art performances to enjoy culinary at Kopi Selasar. The operating hours of Selasar Sunaryo Art Space are Tuesday-Sunday from 10.00-17.00. The number of visitors in January and February 2024 is 3,746 people (Management Selasar Sunaryo Art Space, 2024).



Figure 1. Selasar Sunaryo Art Space Entrance

Source: koalisiseni.or.id

One of the aspects that needs to be considered for the infrastructure needs implemented by the art gallery is the parking space. The need for parking spaces for vehicles, both private vehicles, public transportation, motorcycles and trucks is very important (Dirjen Perhubungan Darat, 1996). Parking is a state of inactivity of a vehicle and is temporary because the vehicle has left the vehicle (Dirjen Perhubungan Darat, 1996).

Parking facilities need to be organized so that the available space is used effectively and can accommodate more vehicles, thereby ensuring that parking services are high-quality and optimal (Putri & Budiarnaya, 2022). The needs vary and depend on the design characteristics and parking location (Zaenal. T, 2019). Parking characteristics include parking volume, accumulated parking, parking duration, parking capacity, parking index, parking turnover rate and the number of parking spaces (Baiezt et al., 2024).

There are several terms used in the parking characteristics used in this study, namely:

- a. Parking accumulation is the total number of vehicles parked somewhere at a given time divided by the type of trip. Parking load is indicated by the integration of parking accumulation at a given time (Risdiyanto, 2014).
- b. Parking volume is the total number of vehicles entering the parking area plus vehicles that have been parked previously in a certain time (Risdiyanto, 2014)
- c. Parking duration is the length of time used by a vehicle parked on a land obtained from the difference between the time the vehicle exits and the time the vehicle enters (Risdiyanto, 2014).

In determining parking requirements, three methodological approaches can be employed (Pradana et al., 2018):

- a. A method based on vehicle ownership, which assumes a relationship between the size of the parking area and the number of vehicles registered in the city center. As the population grows, the demand for parking space increases due to a rise in vehicle ownership.
- b. A method based on floor area, which assumes that the need for parking space is linked to the volume of activities—expressed in terms of the floor area of the buildings where these activities take place (e.g., retail, offices, etc.).
- c. A method based on the maximum difference between vehicle arrivals and departures, where parking requirements are determined by calculating the peak accumulation of vehicles over a specific observation period. Parking accumulation refers to the total number of vehicles parked at a given location during a specific time interval.

It is important to consider the needs of parking users who adapt different types of vehicles to meet the needs of parking users effectively and optimally (Baiezt et al., 2024). The word optimal has the best meaning, the highest. The parking space must be used optimally in order to meet the needs of the parking infrastructure (Syamsurizal et al., 2013). This research aims to analyze the need for parking space, especially four-wheeled vehicles in *Selasar Sunaryo Art Space*.

2. RESEARCH METHODS

This study uses quantitative descriptive approach. This study also employs a survey, which is conducted to examine and analyze data from a sample drawn from a population, thereby identifying relative occurrences, distributions, and relationships between variables (Agung & Zarah, 2016). In this context, the research utilizes primary data and secondary data. Primary data was obtained through direct observation to object study and conduct in-depth interviews with security and management Selasar Sunaryo Art Space. The primary data needed in this study is the number of vehicles and the duration of vehicle parking. Meanwhile, secondary data is obtained through a study of theory, literature, and several sources from previous studies in the form of journals, proceedings seminars and parking lot plans. This study approach uses a quantitative approach because it uses numbers starting from data collection, interpretation and the appearance of the results.

The regression model is a statistical method that aims to predict or estimate the value of a variable variable called an unknown dependent variable and in relation to satau or some other known variable (Sugiyono, 2014). Regression analysis aims to examine the influence relationship between one variable and another (Fitriyansah et.al, 2020). The research variables used in this research are the volume of vehicles entering and exiting and the duration of the vehicle.



Figure 2. Research stages

2.1 Location and Time of Research

The location of the research was carried out at *Selasar Sunaryo Art Space* which is located in Bukit Pakar Timur No. 100, Bandung. Its construction began in 1994 for approximately 4 years. The construction of SSAS covers a land area of 5,000 square meters which is the result of a collaboration between Sunaryo and architect Baskoro Tedjo. *Selasar Sunaryo* has 10 main rooms, namely Room A, Room B, Wing Room, Amphitheater, Bale Handap, Bale Tonggoh, Kopi Selasar, Cinderamata Selasar, Pustaka Selasar and Bamboo House. The research was conducted for 6 days from Tuesday to Sunday starting from 10:00 – 17.00.



Figure 3. Location of *SelasarSunaryo Art Space*
Source: Author Data, 2024



Figure 4. Front View of *SelasarSunaryo Art Space*
Source: Author Data



Figure 5. Situation of *SelasarSunaryo Art Space*
Source: Author Data

3. RESULTS AND DISCUSSION

3.1 Parking Existing Analysis

At the observation and initial survey stage, it was known that the parking lot of Selasar Sunaryo Art Space is located in the area in front of the entrance of Selasar (figure 4). The area is used for parking four- wheeled vehicles for both visitors and employees. The existing conditions of the four-wheeled parking of Selasar Sunaryo Art Space are as follows:

1. The parking capacity for four-wheeled cars is around 17 cars with the standard Parking Space Unit (SRP) for second-class four-wheelers of 2.5 m x 5 m.
2. Parking model according to the parking angle 900

The researcher recorded the identity of the four-wheeled vehicle and calculated the duration for each vehicle entering and exiting. From this observation, it can be found out the condition of four-wheeled parking, parking patterns that are in accordance with the management standards of the Land Transportation Office.

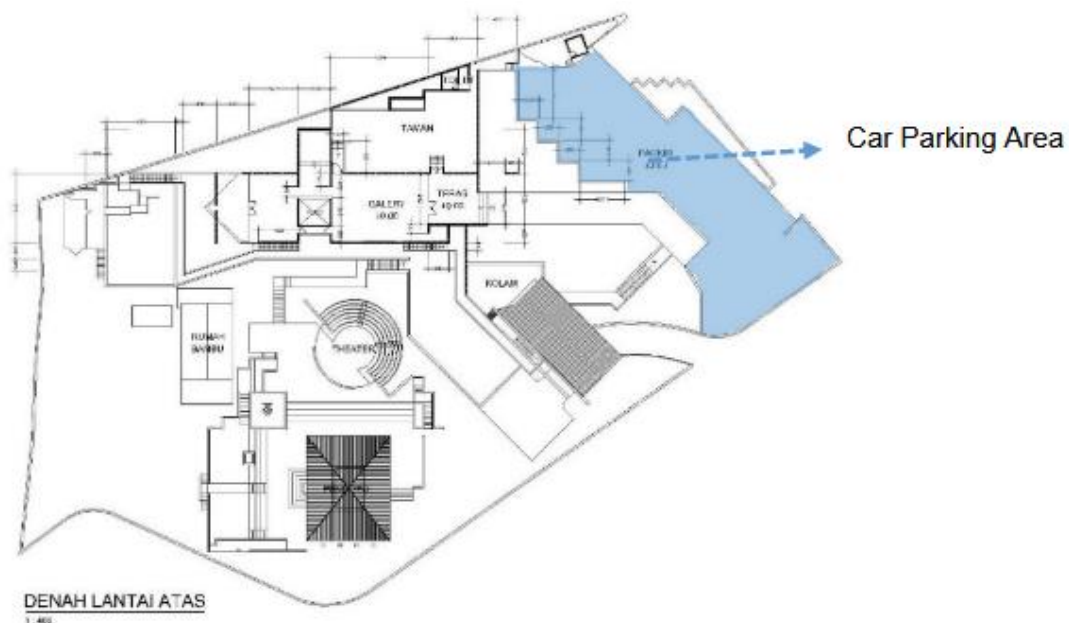


Figure 6. Site Plan Selasar Sunaryo Art Space
Source: (Management Selasar Sunaryo Art Space, 2024)



Figure 7. Parking of Selasar Sunaryo Art Space
Source: Author Data



Figure 8. Parking of Selasar Sunaryo Art Space
Source: Author Data

3.2 Analysis of Vehicle Entry Variables

The following are the results of the recapitulation regarding vehicle entry hours.

Table 1. Recapitulation of Vehicle Entry Hours

Hours	Vehicle Entry	Percentage
10.00-11.00	38	19,00%
11.00-12.00	34	17,00%
12.00-13.00	36	18,00%
13.00-14.00	27	13,50%
14.00-15.00	22	11,00%
15.00-16.00	16	8,00%
16.00-17.00	27	13,50%
Sum	200	100,00%

Source: Author Analysis

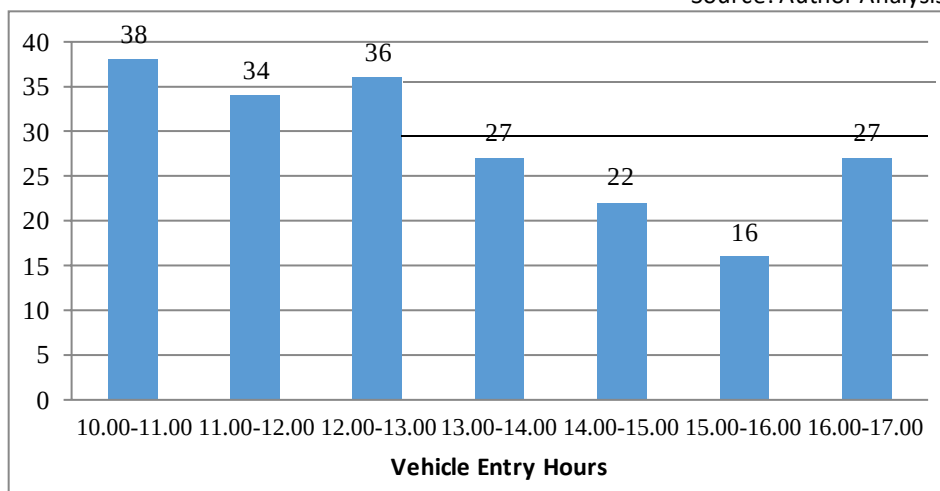


Diagram 1. Recapitulation of Vehicle Entry Hours

Source: Author Analysis

Based on the table and figure 4.1 regarding the recapitulation of vehicle entry hours. It can be known that the majority of vehicle entry hours are at 10.00-11.00, which is as many as 34 vehicles or (17.00%). While the minority at 15.00-16.00 is as many as 16 vehicles or (8.00%).

3.3 Vehicle Exit Variable

The following are the results of the recapitulation regarding the exit hours of the vehicle.

Table 2. Recapitulation of Vehicle Exit Hours

Hours	Vehicle Exit Hours	Percentage
10.00-11.00	9	4,50%
11.00-12.00	27	13,50%
12.00-13.00	32	16,00%
13.00-14.00	31	15,50%
14.00-15.00	39	19,50%
15.00-16.00	23	11,50%
16.00-17.00	39	19,50%
Sum	200	100,00%

Source: Author Analysis

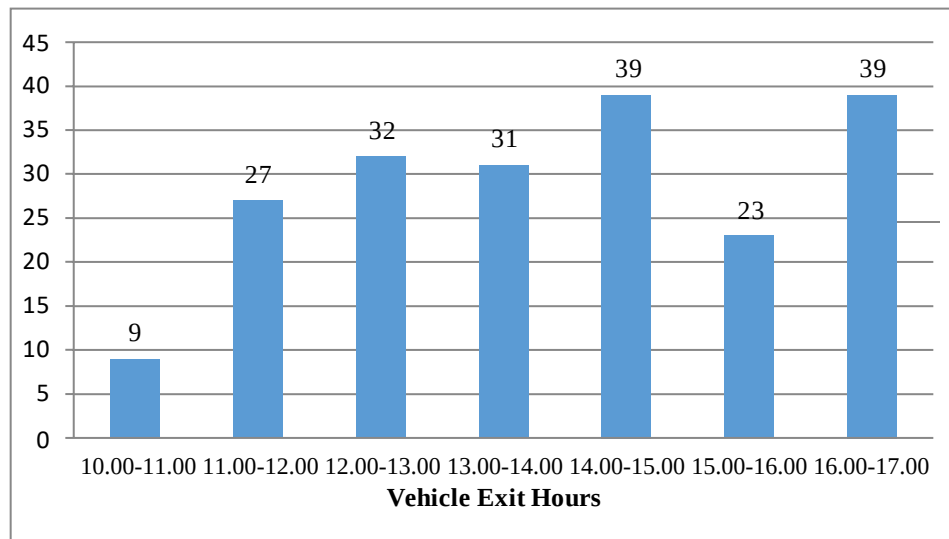


Diagram 2 Recapitulation of Vehicle Exit Hours
Source: Author Analysis

Based on the table and figure 4.2 regarding the recapitulation of vehicle exit hours. It can be known that the majority of vehicle exit hours are at 14.00-15.00 and 16.00-17.00, which is 39 vehicles or (19.50%). Meanwhile, the minority at 10.00-11.00 is as many as 9 vehicles or (4.50%).

3.4 Inferential Analysis: The Relationship Between Vehicle Exit and Entry

The following are the results of the analysis of the Spearman Rank correlation between Vehicle Exit and Entry.

Table 3. Spearman Rank Correlation Analysis

Correlations			Entry Parking	Exit Parking
Spearman's rho	Parkir Masuk	Correlation Coefficient	1.000	-.300
		Sig. (2-tailed)	.	.513
		N	7	7
	Parkir Keluar	Correlation Coefficient	-.300	1.000
		Sig. (2-tailed)	.513	.
		N	7	7

Source: Author Analysis

Based on table 4.3 regarding the correlation analysis of Rank Spearman. It can be known that the correlation coefficient value is -0.300, meaning that there is a low relationship between vehicle entry and exit.

$$t = \frac{r_s \sqrt{n-2}}{\sqrt{1-r_s^2}} = -70.32\% \frac{(-0,300)\sqrt{7-2}}{\sqrt{1-(-0,300)^2}} = \frac{-0,67}{0,95}$$

Based on the calculation above, it can be concluded that another 70.32% is needed for parking lots.

4. CONCLUSION

Based on the recapitulation of the vehicle's exit hours. It can be known that the majority of vehicle exit hours are at 14.00-15.00 and 16.00-17.00, which is 39 vehicles or (19.50%). Meanwhile, the minority at 10.00-11.00 is as many as 9 vehicles or (4.50%). The results of the regression analysis calculation with SPSS, the four-wheeled parking of Selasar Sunaryo

Art Space still needs 70.32% for parking lots. Recommendations to the management of Selasar Sunaryo Art Space in order to meet the parking needs at the end of four- wheeled vehicles.

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