

## THE PERCEPTION STUDY IN KALI BESAR CORRIDOR LANDSCAPE, KOTA TUA JAKARTA

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### ABSTRACT

Organizational activities are influenced by buildings that function as corporate facilities in the Kota Tua area along the Kali Besar corridor, both in the East and West. Apart from the potential for the surrounding buildings in the big river, the open corridor space has not been optimally utilized. Particular problems in the research location, both physical and non-physical, require revitalization. The purpose of this study is to determine the public perceptions of the functions of the activity spaces on the pedestrian path towards the Kali Besar corridor landscape. This investigation employs a qualitative and descriptive model, where the relevant data are obtained using questionnaires. The forms are distributed to various site users with distinct activities, official responsibilities, recreational and commercial interests. Subsequently, the resulting data are carefully analyzed and grouped, before representing the outcomes in tables and graphs. The results show that the user's perception of the Kali Besar corridor landscape is relatively valuable, as evidenced by the responses to the revitalization efforts from 96% of the total respondents. Furthermore, the majority of the visitors were known to support the site restructuring by considering users' interests.

**Keywords:** Kali Besar; Revitalization; Perception; Corridor Landscape; Kota Tua

## INTRODUCTION

The Kali Besar corridor is a canal that empties into Jakarta bay and also extends towards Kota Tua. This waterway served as a large office and business district in the colonial era. In addition, Kali Besar and Fatahillah park possess minimal and high historical values. However, the current city development efforts are prone to impact the existing ancient standards that need to be sustained as the old city's core zone (Lutfiana, *et al.*, 2019). Several obsolete buildings with high aesthetics as extraordinary assets continue to exist. As a consequence, the area has become the primary revitalization target after Taman Fatahillah. More importantly, the rapid expansion of cities worldwide has generally exacerbated the state of landscape fragmentation in urban greenery, particularly for certain developing countries (Wanghe *et al.*, 2019). Furthermore, comprehensive spatial planning of the corridor network is threatened by limited resources in urban areas (Zhang *et al.*, 2019). Several studies quantitatively estimated the corridors' connectivity and priority, using the gravity model (Kong *et al.*, 2010, Rudd *et al.*, 2002, Yang *et al.*, 2017, Zhang *et al.*, 2019, Zhao *et al.*, 2019). However, spatially explicit pathway designs generally play a significant role in urban planning (Pelorosso, *et al.*, 2016, Rocha & Ramos, 2012). Based on the prevalent potentials, the corridor is expected to serve as the high street for Kota Tua, Jakarta (Guidelines for Kota Tua, 2007).

The Kota Tua core zone is the Fatahillah field ahead of the Jakarta History Museum building known as the Fatahillah Museum. Environmental similarities in this area have been unfamiliar, based on the listed zones in the old city guidelines (Ulyaa, *et al.*, 2017). Modernization in urban development and poor spatial management continues to threaten the old city's existence. As a historic territory, Kota Tua is currently in a relatively deficient condition with several physical and non-physical loopholes, instigating a significant decline in quality. In terms of tourism, its growth from the Colonial Age is attributed to the influence of Kampung Kota. Therefore, there is a crucial need to commence the development towards a more advanced tourist center. Kampung Kota is known to, directly and indirectly, serve as a supporting area for tourism activities in the old city (Chasia & Anggraini, 2019). As a result of the diminishing quality of the city's outer space, the image of Kota Tua is perceived as a slum and unsafe community (Putri, 2019). Conversely, Kota Tua demonstrates great potentials with pending developmental actions, using the principles of Transit Oriented Development (TOD). This approach focuses on transforming an area into a central transit point (Firdaus *et al.*, 2018). Several buildings were neglected but were eventually restored. The application of adaptive reuse in selected structures tends to serve as a reference for the subsequent implementation

(Saputra & Purwantiasning, 2020). DKI Jakarta government is currently pursuing the 2007 Old Jakarta Master Plan for revitalization and conservation purposes, as one of the strategies in the development effort to attract more visitors and establish various activities in Kota Tua as one of Jakarta's past legacies. These variations possibly influence the activities in the city's inland functions and the surrounding area. Also, Kota Tua exhibits several factors that affect the events related to land-use constraints. Corporate activities are greatly influenced by buildings that function as commercial facilities and are concentrated along the Kali Besar corridor in both the East and West. Apart from the potentials for surrounding structures in the big river, the open corridor spaces have not been optimally utilized. Each user's activity tends to influence the public open space in the Kali Besar corridor and the user interests to produce landscape designs are based on tourists' perceptions. Therefore, the probability to employ visitors' knowledge and experience as the basis for measuring the space requirements of each activity in Kali Besar Corridor, Kota Tua, appears very high. The purpose of this research is to determine public perceptions of the functions of activity spaces on the pedestrian path towards the Kali Besar corridor landscape.

## **RESEARCH METHODS**

### **The research Location and Time**

The Kali Besar corridor in Kota Tua, Pinangisia, Tamansari, West Jakarta City, DKI Jakarta, served as the research location. This structure possesses a height of 7 m above sea level, with an area of 5.2 Ha.

### **Data Collection**

Primary and secondary data were employed in this study, and the data collection techniques involved the use of questionnaires. These documents were comprised of the research questions related to variables to assess visitors' knowledge and experience on the activities and space utilization of the Kali Besar corridor, using a Likert scale of 1-5 (1 = Strongly disagree and 5 = strongly agree). The secondary data was obtained from relevant literature on perceptions, behaviours, activities and landscape architecture. Previous research journals related to the study of the opinion of pedestrian space events were also evaluated.

### **The Data Analysis Method**

The resulting data were subsequently analyzed using a qualitative and descriptive approach. In addition, the applied analysis steps, include displaying the data after obtaining

inputs from a closed questionnaire that used a score from a Likert scale. This information was then processed into the tabular format as shown in Table 1.

**Table 1 The Tabulation of the Display Data**

No Questionnaire	Respondents 1	Respondent 2	Respondents 3	Value	Average
1	X	X	X	X	Y
2	X	X	X	X	Y
3	X	X	X	X	Y
dst	x	x	x	x	y

Explanation:

x = score of respondents' answers

y = average score of respondents' answers per question

The responses to the open questionnaires on visitors' aspirations served as the most dominant answers to the survey questions. Furthermore, human behavior was represented using maps and graphs as an analysis of times and points, with high visitation intensity.

## RESULTS AND DISCUSSION

### The General Description of the Kota Tua

Based on the Decree of the Governor of DKI Jakarta No. 34 of 2006 concerned with Controlling Plans in the framework of Arranging the Old Town Area, the Old City in Jakarta is stated to expand about  $\pm$  846 ha. The Kota Tua Jakarta area comprises four sub-districts in two municipalities, including Penjaringan and Pademangan District, constituting North Jakarta, as well as Tamansari District and Tambora District, in the West Jakarta Municipality. In addition, the circulation systems present are planned to demonstrate substantial efficiency, using a grid-shaped road pattern. However, this method has not been utilized effectively, resulting from the limited support for public transport services on main roads within the region. This leads to an excess volume of vehicles on certain roads, while others remain under-utilized. Moreover, excessive road load causes congestion at specific points, especially at peak times in the morning and evening. The development of Kota Tua Jakarta Areas was initially more focused on pedestrian paths, and the concept of urban development in Europe and other locations. These ideas are demonstrated in the road design, despite the present poor usability, damage as well as disappearance. Furthermore, this condition is exacerbated by the large number of street vendors, known to occupy the paths, as well as the current poor landscape organization in the Old City area. Also, land use allowed and recommended in the Kota Tua Jakarta area was generated in line with Governor Regulation No. 36 DKI Jakarta. The permitted facility allotment including as public, government, commercial (public building works with amenities), mixed

residential and commercial (guest houses with public buildings), residential (guest houses), active green open space (garden works and facilities) and / enhancing the built green) and passive green open space (enhancing protected forest).

The study location is part of the development area in the Jakarta Old Town area, where the Kali Besar corridor is included in the core zone of the Kota Tua area division. This axis previously represented the economic, social and cultural power of colonialism (the waterway). Also, the neighbourhood in this environment is concentrated with class B and several Class A cultural heritage buildings, including the Toko Merah, BI, and the Bank Mandiri Building.

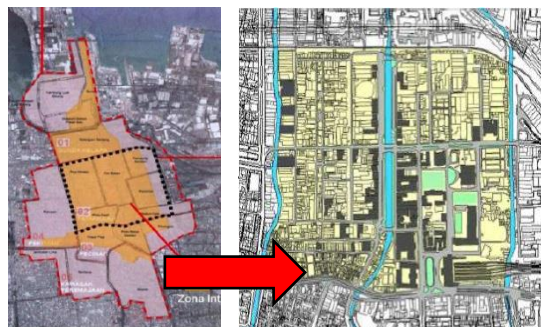


Figure 1 The Kota Tua Area, Figure 2, Zona 2 of Kota Tua  
Source: Guidelines Kota Tua, 2007

### The Characteristics of Respondents

The questionnaires were distributed to 100 respondents, across distribution locations comprising offices, recreation and commercial areas. Furthermore, the outcome of this approach is expected to demonstrate the characteristic activities in the area. The behavioural information related to certain activities is used to consider space, and movement, as well as to instigate developments required to meet the needs of each activity. Table 2 shows the results of questionnaire distribution.

**Table 2 Presentation of the results of the overall**

questionnaire distribution Location of the distribution of the questionnaires	Number of distributed	Number of questionnaires collected	Questionnaires of reject	Number that can be processed and analyzed
Office Area				
Recreation				
Commercial Area ( trade and services)	100	95	5	95

Source: Survey Results, 2019

### The Age Level

The respondents' age level is an indicator of trends in user behavior, as shown in Table 3 below;

**Table 3 The Result participants by age**

No	Category	Age (Years)	Number of Participants	Percentage
1	Youth	17 - 25	51	53.7
2	Adult	26 – 35	22	23.1
3	Middle-aged	36 – 45	12	12.6
4	Elderly	46 <	6	6.3
5	Disability		4	4.3
Total			95	100

Source: Survey Results, 2019

### Gender

The respondents in the research object area are divided into men and women, to determine the effect of gender differences on user needs. Table 4 shows the responses filled in the questionnaire;

**Table 4 The Gender of Research Respondents**

No	Gender	Number of Participants	Percentage
1	Male	56	58.9
2	Female	39	41.1
Total		95	100

Source: Survey Results, 2019

### Education

The potential for respondents' education level to affect the knowledge and understanding of the research object is described through perception. Table 5 below shows the responses filled in the questionnaire:

**Table 5 The Education of Research Respondents**

Category	the Last Education	Number of Participants	Percentage
A	SD/SMP/SMA	53	55.7
B	D3	3	3.2
C	S1	39	4.1
D	S2	-	-
Total		95	100

Source: Survey Results, 2019

### The Results of Perception Value Analysis

#### The Purpose of Visiting

The objectives of respondents' visits to the study locations were significantly diverse, ranging from recreation, trading, traversing, to sports. However, the predominant response

was a recreation, walking and just passing through. Hence, there is a tendency for visitation purposes to influence the concept of spatial development at the study location.

**Table 6 The Purpose of Visiting of respondents**

The Purpose of Visiting	Respondents	Percentage
Recreational	28	29.4
Go somewhere	24	14.7
Exercise	12	12.6
Work/trade	12	12.6
Hangout	19	20
Total	95	100

Source: Survey Results, 2019

Table 6 shows about 28 respondents reported visiting the Kali Besar Corridor for recreational purposes, while about 14 simply needed to go to a place, and were only passing through. In addition, 12 respondents paid a visit to work or trade, while 19 visited intending to take a walk or enjoy the atmosphere of Kali Besar.

### Access Within the Site

The access graph within the site depicts information about user access within the site. This influences the spatial aspect, with comfort derived from walking. The graph above attributed the respondent choice to the need to enjoy the atmosphere. Hence, arranging pedestrian-friendly pedestrian paths is important on the site. This is because about 80% of the respondents prefer walking to access the Kali Besar corridor, and about 20% choose to use a bicycle.

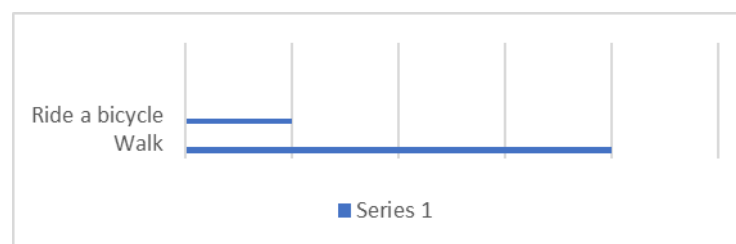


Figure 2 The Access within the site  
Source: Survey Results, 2019

### Reasons for Choosing a Site as a Place of Activity

Information supporting the choice of this location as a place of activity results from the user's orientation. The main attracting factor relates to the development of an orientation center as a potential site, including the beauty of buildings and the pier at Kali Besar Selatan. In addition, crowd buildup entices the attention consequent participation of visitors in activities. Therefore, it is important to consider further developing colonial buildings with the existing river by evaluating the waterfront, and also the functions of buildings along the corridor. Furthermore, about 39 respondents chose this site for personal activities because of the

lovely/beautiful appearance, characterised by a row of the historical edifice and the atmosphere. A total of 32 respondents were attracted by the crowds, 19 were enticed by the strategic location, while 4 respondents selected the Kali Besar corridor because of the proximity to their private residence.

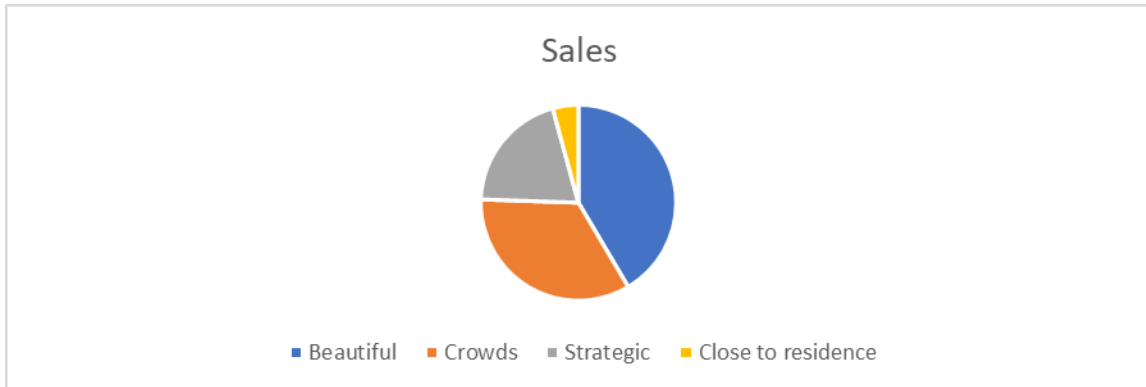


Figure 3 Reasons for Respondents to do activities on site  
Source: Survey Results, 2019

#### Factors Affecting Discomfort On The Site

Several factors have been identified to interfere with visitor comfort, and lack of shaded areas was the most dominant reason. According to the respondent, the site is very hot during the day, and consequently affects busy visits in the afternoon. In addition, there is also a deficiency in places to sit and gather. Particularly, a total of 41 respondents felt uncomfortable due to the lack of shaded areas, while 27 reported being discomforted by the unavailability of gathering places. Furthermore, a total of 15 respondents were displeased by the low seating capacity, while six disliked the damaged pavement conditions, 5 were not pleased with the tricky parking, and one respondent was uneasy from the difficulties in accessing the site. The questions about discomfort were aimed at exploring the individual perception of factors influencing the relaxation and contentment of each visitor. The results obtained help to categorize each perception into several categories.

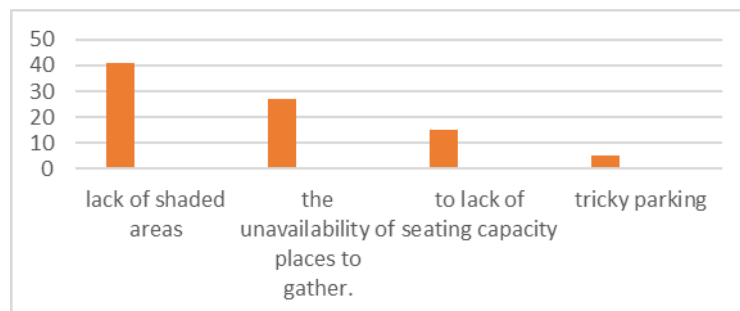


Figure 4 The Factors that affect discomfort  
Source: Survey Results, 2019



### Respondents' Opinions on the Availability of Parking On Street

A total of 21 respondents were disturbed by the on-street parking, while 31 and 43 respondents felt the site's on-street parking capacity was unfulfilling and felt facilitated by the presence of on-street parking, respectively.

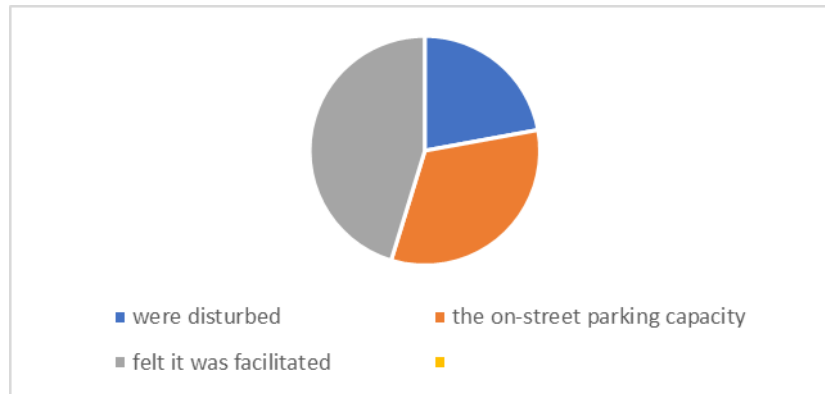


Figure 5 The Graph of the effect of the availability of parking on street  
Source: Survey Results, 2019

Information regarding these effects leads to user perceptions of the existence of on-street parking at the site, and consequently, affects the development of parking areas for site users. According to most respondents, the availability of on-street parking improves the ease of use for private modes of transportation, but the capacity is currently below the vehicle's volume. Meanwhile, 22% of respondents were disturbed while enjoying the site's atmosphere, therefore, an appropriate parking area needs to be allocated.

### Assessment of Path Aspects

Based on the respondent's lane assessments, 35 respondents believe the site has an adequate path width, 42 disclosed the pathways are sufficient for people with disabilities, and 41 stated the existence of a bicycle lane is sufficient. Furthermore, 80 and 77 respondents believe the ramp's availability and the clarity of circulation, respectively, are good, while 47 disclosed the accessibility between destinations was sufficient.

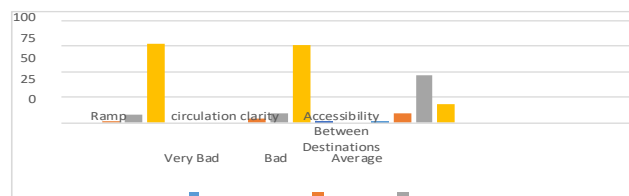


Figure 6 The Graph of respondents' assessment of the path aspect  
Source: Survey Results, 2019

Information regarding the respondents' modes of transportation shows the association with the site's accessibility, circulation, and reach. The relationship between the transportation mode and the routing aspect shows the user's perception of the on-site conditions, leading to a perceptual description of the needs for site development related to these two aspects. The respondents' assessment of the path aspect indicates sufficiency for use, in terms of lane width, pathways with disabilities, bicycle lanes, ramps, and accessibilities between destinations. Also, the Kali Besar corridor's strategic location improves user accessibility.

### Aspects of safety and comfort

According to the graph above, 45 respondents believed the path barrier was bad, 43 believed the pavement material was good, while 71 are convinced the number of lamps was sufficient. Meanwhile, 62 respondents disclosed the resting point location is bad, 55 believed the distance to the resting point is bad, and 30 respondents even disclosed the number of bad resting points. In addition, 58 respondents believed the number of shade plants was bad, while 44 respondents disclosed the site had bad shade. The respondents' assessment of these aspects shows the perception of site conditions where the respondent's comfort is affected. This has the effect of solving user needs by paying attention to the comfort aspect because the presence of many facilities is not a benchmark for user comfort. According to the results, the aspects of safety and comfort were badly rated, due to the barrier path, inadequate resting points, and site shade, as no trees are available to provide shade while resting.

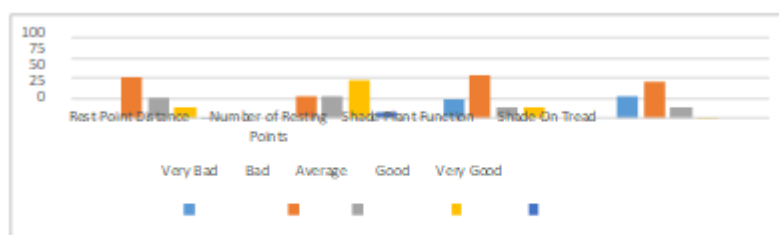


Figure 7 The Graph of respondents' assessment of safety and comfort  
Source: Survey Results, 2019

Based on the results, most respondents rated the street furniture aspect as inadequate to accommodate visitor capacity, except for the availability of lights on the site. The information board is considered to visitors with no information.

### The Parking Aspects

Based on the graph above, 50 respondents believe the parking availability was inadequate, 41 disclosed the parking locations were bad, while 55 disclosed the distance destination had sufficient parking space. In addition, 67 respondents rate the shade as bad, while 45 categorized the security as good. The respondents' assessment of the parking aspect provides a perception of the site's existing parking area. Therefore, the parking aspect was concluded to be unable to accommodate visitors' needs. The current on-street parking is considered bad and interferes with on-site activities, while the parking area has poor shade. However, there was a special parking guard provided by the Kota Tua manager, consequently, the respondents believed the security was good.

### CONCLUSION

1. The user perceptions of the Kali Besar corridor landscape are pretty good, as evidenced by the response to the revitalization development of the Kali Besar Corridor landscape, indicated by 96% of the respondents. Also, a majority of visitors support landscape revitalization through the accommodation of user activities. The rivers and cultural heritage buildings are objects of interest to visitors and have the potential for further design development.
2. There is a need to implement the design developed through the consideration of results from questionnaires, observations, and literature studies generated while evaluating criteria for future developments.
3. In general, spatial activities in the research area is not well accommodated and requires landscape design development in the form of facilities. Based on this assumption, the site is further divided into two zones, including the commercial and the scenic corridor.

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