

COMFORT PERCEPTIONS OF VISITORS OF PUBLIC OPEN SPACE “DIENG BOULEVARD” WONOSOBO, INDONESIA

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Abstract - Public space is a place for community interaction outside the home. Public open space affects the thermal conditions on an urban or environmental scale. A shared open space is designed with many trees, so it is known as a green open space. The thermal profile of public spaces will have a different impact on their environment. Public open space affects the thermal conditions on an urban or environmental scale. A shared open space is designed with many trees, so it is known as a green open space. Adequate public space will improve the quality of human life. It is essential to evaluate the public's perception of facilities in public spaces so that public spaces can be utilized properly. The research objective is to assess the perception of public space in Dieng Boulevard Wonosobo, Central Java, Indonesia. The research method uses qualitative methods with data collection through questionnaires. The assessment is based on a Likert scale. Analysis of the data using diagrams to generate the percentage of perception. Data interpretation using descriptive. The results showed that the overall facilities on Dieng Boulevard still tended to be good. Some of the facilities on Dieng Boulevard are considered by visitors to be quite good so that the quality of the facilities needs to be improved.

Keywords – Perception, Public Space, Facilities, Dieng Boulevard

Introduction

Open space has many forms and varieties. Open Space can be courtyard, open spaces around buildings, or public open spaces. Open space in the establishment or around the building is a building yard that can affect the thermal condition of the building (Chang et al., 2021). Public open space affects the thermal conditions on an urban or environmental scale. A shared open space is designed with many trees, so it is known as a green open space. The thermal profile of public spaces will have a different impact on their environment. Thermal conditions in public spaces can be designed to make a city more comfortable. Differences in thermal conditions in an urban area need to be considered so that the elements in public spaces can also be adjusted (Mehrotra et al., 2021). The number of public open spaces will affect the behavior of residents of an urban area. Urban dwellers with more open space have more flexibility and adaptability to changing trends, attract different interest groups ultimately provide more synergistic benefits for the use of buildings and cities (Jens & Gregg, 2021).

Open space can take the form of a road. The government already has rules regarding building construction, both from the rules for the distance of the building from the road (building borders) and the building height limit. Currently, many buildings are close to the road, thereby reducing the road boundary. The yard or front yard of a building that is too close to the road will reduce the open space also reduce the available open space that is too tall can also give the public perception of breadth (Linggasani, 2020). The sky that should be enjoyed will cause people to feel like they are in an enclosed space. This perception will affect the community in meeting comfort. Regulations to provide open space are also applied to housing developers. Every developer who will build housing is obliged to provide open space in the form of a garden or the state of green space. The regulation was held to see the development of the depletion of green open space. The reduction in green open space is seen in many countries (Lynch, 2021).

Open space has benefits as a gathering place for the community. All levels of society can enjoy the benefits of open space for children, teenagers, adults, and the elderly. Elderly residents are the main user primary urban parks and open spaces. Elderly residents who often use comfortable gardens in parks have improved physical and mental health. The design of public open spaces can be adapted to the age of visitors to public spaces. Perceptions of visitors of different ages will have other impacts in creating visitor comfort (Ma et al., 2021). Users of public spaces, primarily parents, are concerned about their parents' health. The air condition in public spaces is a concern so that visitors can breathe adequately. Air conditions related to thermal conditions are the essential factor in the design of public spaces. Trees are one of the factors considered in making public spaces to create clean air (Peng & Maing, 2021). Public open space plays an important role in improving vital people's lives and helps maintain the ecosystem. It also has a critical role in disaster risk management applied to densely populated settlements. However, social awareness of the importance of the part and green open space is still a concern. Community empowerment in optimizing public space requires an awareness process for the local community to preserve the environment and social interaction (Megayanti & Fitria, 2020).

The development of public spaces by the government is not always easy. There are many obstacles to realizing a public space. Some public spaces that cannot be adequately resolved will create urban areas. Public spaces that were previously successful may not necessarily exist all the time. There needs to be an evaluation so that the utilization of public space can be optimal (Nurcahya et al., 2021). Wonosobo is one of Central Java Province, Indonesia, which is included in the highland area category. The air temperature is quite cold, so people are not too many outside the house. Wonosobo has several city parks such as Fatmawati Park, Alun-alun, "Plaza" Park. The public open space has various facilities. The "Plaza" park is one of the parks that has been around for a long time and has become a trademark of Wonosobo Regency. Wonosobo "Plaza" park is located in a trading area and quite a lot of visitors at any given time. The long-standing history of the "Plaza" Park allows visitors to get bored with the facilities.

Method

This research is qualitative. This research was conducted from October to November 2021. The research was conducted eight times a month on weekends (Saturday-Sunday) every month. The study was conducted for 3 hours on each day of survey data collection, namely at 10.00 – 11.00, 13.00 – 14.00, 16.00 – 17.00. This is done because of the many visitors who visit at that hour. The duration to enjoy Dieng Boulevard or just a transit is quite long. To get credible respondents, the time-taking method as above is used. The research was conducted in a public open area of Dieng Boulevard. The boundaries of Dieng Boulevard are on the north side by Rita Pasaraya the east side

by Jl. Soekarno – Hatta, the south side is bordered by Jl. Raya Banjarnegara, the west side is bordered by Jl. A. Yani. The location map and area boundaries will be shown in Figure 1.

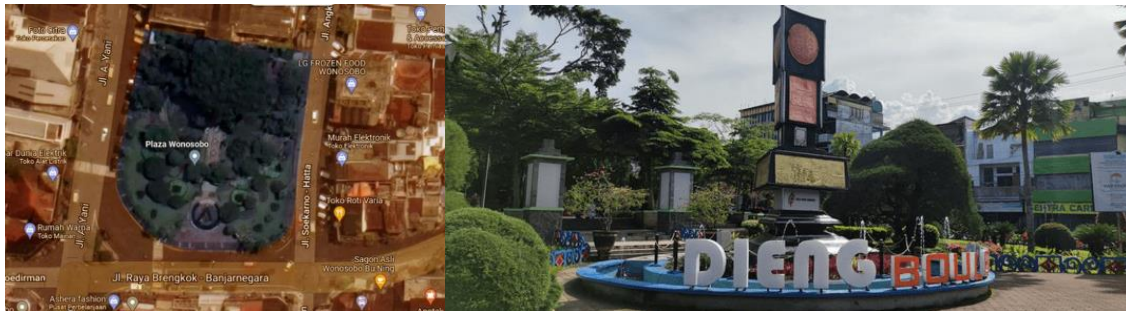


Figure 1: a. Dieng Boulevard Location, b. Dieng Boulevard View
Source: googlemaps and author, 2022

Research on the perception of comfort in public spaces uses a qualitative questionnaire method. The Likert scale was used in assessing the questionnaire. This method has been used in Balinese public space research and has resulted in research findings (Bagus et al., 2021). The variable of the influence of this research is the available public open space facilities, including paving, shade plants, canopies, trash cans, lights, signs, and benches. The affected variable is the perception of visitor comfort; the comfort variable is physical comfort and environmental comfort. The study used a literature review to determine the research variables. The survey used a Likert scale to calculate the perception results of 100 randomly selected research respondents. The Likert scale has four or more questions combined to form a score or value representing individual traits, such as knowledge, attitudes, and behavior. Analysis of the data, the composite score, is usually the sum of all the questions used.

Results and Discussion

The comfort of visitors to “Dieng Boulevard” is measured by physical comfort and environmental comfort. Dieng Boulevard Wonosobo has several adequate physical facilities for gathering activities. Physical comfort is measured from floor facilities, lighting, markers, benches, shade plants, canopies and trash cans. Environmental comfort is seen from aroma (smell), circulation, climate (natural power), noise, garden form, beauty, cleanliness, safety, lighting.

Physical Comfort Public Space Facilities Dieng Boulevard Wonosobo

1. Floor

The Dieng Boulevard floor uses pavement with a combination of paving and ceramics. The scale, pattern, and color are pretty good, the floor material at some points starts to get mossy, and the floor width is quite broad. The floor of Dieng Boulevard is gray. The base is equipped with a unique foundation for the disabled, yellow. Not all Dieng Boulevard floors are hardened with paving and ceramics; most feet use grass. The base at some points sometimes gets flooded when it rains, but only a few floors are flooded. Percentage visitor's perception of the floor and floor condition can see at figure 2.

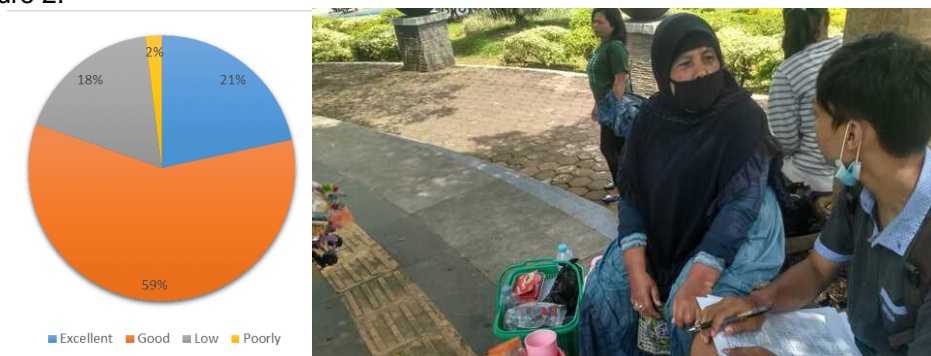


Figure 2: a. Visitor's perception of the floor, b. Ceramic Floor and Paving
Source: author, 2022

The number of excellent choices for the floor is 21%, for good decisions it is 59%, for bad choices is 18%, and for worrying options is 2%. The most significant percentage value is 59% on the excellent choice. This means that the visitor's perception of the floor is pretty good. The condition of the base has no damaged parts so that visitors feel the bed can be used properly.

2. Lamp

The standard of the height of the lamp is good, the number of light points in the area is less, the distance between the light points is quite far. At night the lights are not able to illuminate the activities of visitors. The minimal number of light points feel that there are not many lights at night. Visitors during the day do not see lights as a lack of facilities. There are not so many visitors to Dieng Boulevard at night, so visitors still think that the lights are not too bad. Percentage visitor's perception of the lamp and light condition can see at figure 3.



Figure 3: a.Visitor's perception of the Lamp, b.Lighting Condition at Night, c.Lighting during the day
Source: author, 2022

The number of choices based on the data is that respondents prefer good, namely, 48%, excellent choices are 14%, fewer choices are 36%, and choices are worrying as much as 2%. The percentage value of good and bad choices differs not so much. This is due to fewer visitors at night than visitors during the day. Visitors during the day do not need lights to move in the park.

3. Sign

The number of mark points is significantly less because there is only one specific sign. The place's name is on the location with a plastic material that is given light. The sign is white. The sign is quite evident at night because there are lights on inside the sign. During the day, the sign is less visible. Another but less specific sign is a sign of Adipura appreciation. The movement is in the form of a reasonably high monument. The color of the black obelisk and the award is yellow metal. Adipura appreciation sign is more visible and known because it has been on Dieng Boulevard for a long time. Percentage visitor's perception of the sign and sign condition can see at figure 4.

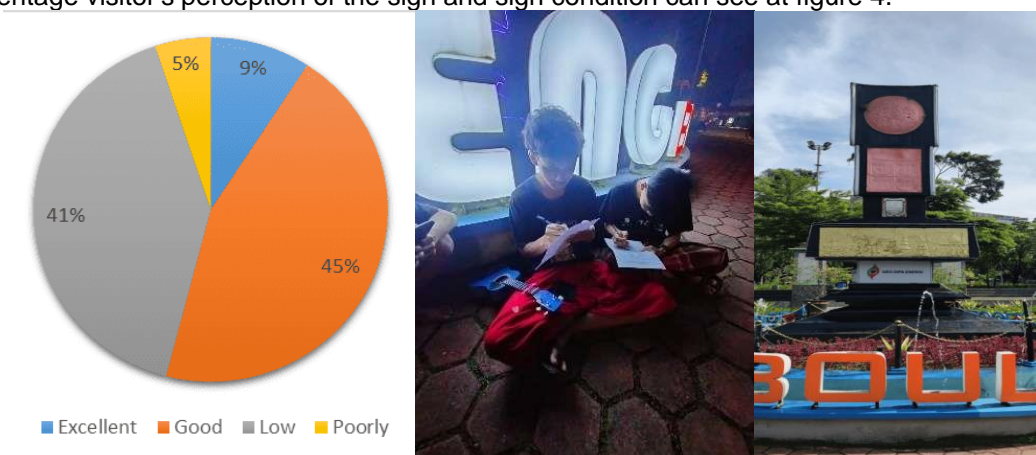


Figure 4: a.Visitor's perception of the Sign, b.Place Name Sign
Source: author, 2022

Visitors' perceptions indicate that the sign in this area can be considered lacking. This is indicated by the least distance between good and bad choices. The lack of markings in this area makes the average visitor index on a numerical scale tiny. This makes the average index of visitors only 25%, which is a worrying value on a scale of numbers < 40.

4. Bench

The standard of the size of the bench is quite good; the point of the judiciary in this area is a little, the distance between the bars is quite far. Visitors use the court well. Several other objects can be used for sitting, such as tree dividers, road dividers in the garden for circulation, fence barriers, and several other objects. Visitors take advantage of these objects to sit. Some visitors also sit on the grass, so there is no need for a bench. Percentage visitor's perception of the bench and bench condition can see at figure 5.



Figure 5: a.Visitor's perception of the Bench, b.Shape of Bench, c.Another shape of bench
Source: author, 2022

Based on the questionnaire, visitors' perceptions of the benches in this area tend to be good. The number of excellent choices was 22%, 52% for good scores, 23% for poor scores, and 3% for worrying scores. Based on the data above, it can be concluded that the visitor's perception of the bench is good even though the number of benches in this area is less. This is due to objects that can be used as substitutes for benches. Visitors are also comfortable sitting on things other than benches. The visitor's perception is that the object is considered a bench.

5. Shade Plants

The types of shade plants weather-resist, leaf mass, loos suitable good tree species, size, and relationship with site conditions, do not damage the location. Wonosobo is a plateau that is not so hot. The sun is still there but not as hot as in the lowlands. At certain times, the sun feels hot, but the existing shade can reduce the sun's heat. The existing trees consist of shady trees and shrubs. The dark tree that is used for coloring looks quite dim and tall. The fennel tree can shade the activities of visitors to Dieng Boulevard. Percentage visitor's perception of the plants and plants condition can see at figure 6.



Figure 6: a. Visitor's perception of the Plants, b.Plants can shade visitors
Source: author, 2022

Visitors' perception of shade trees looks good. The excellent scores were 34%, 42% for good scores, 21% for poor scores, and 3% for worrying scores. Based on the data above, it can be concluded that the visitor's perception of shade plants is good. Visitors feel comfortable with the shade plants on site. Shade plants are considered to be able to overshadow the activities of visitors.

6. Canopy

Canopy is one of the elements that should be in the open space. The shelter serves to protect visitors from the sun's scorching heat or during rainy conditions. Dieng Boulevard does not have a wide canopy to protect from scorching heat or rain. The state of Wonosobo is cold and not too hot, so a roof is not needed to protect from the sun. However, a canopy is required to protect visitors from the rain when it rains. Currently, there are garbage creation houses that can be used as a canopy to protect. Percentage visitor's perception of the canopy and canopy condition can see at figure 7.



Figure 7: a.Visitor's perception of the Canopy, b.Trash creation house in Dieng Boulevard
Source: author, 2022

Visitors' perception of the canopy still tends to be good even though there is no canopy in the park because some visitors think that the shelter is not needed. However, some visitors also feel they need protection to shade from the rain. The number of choices based on data is 8% for an excellent score, 43% for a good score, 35% for a poor score, and 9% for the worrying score. Based on the data above, it can be concluded that the visitor's perception of the canopy is quite good, which is obtained from the average of good data and insufficient data.

7. Trash Can

Trash cans already exist and are located on the pedestrian path, side by side with seats so that the course remains clean, the existing trash bins are permanent, and the number of trash bins is sufficient. The current trash cans seem to be appropriately used by visitors. The shape of the trash box is gray and gray. The trash can has a lid, so it doesn't cause flies or other insects. Percentage visitor's perception of the trash can and trash can condition can see at figure 8.



Figure 8: a.Visitor's perception of the Trash Can, b.Trash Can near bench
Source: author, 2022

Based on the questionnaire results, the visitor's perception of the trash can looks promising. The number of choices for perfect scores was 25%, 48% for good scores, 24% for poor scores), and 3% for worrying scores. Based on the data above, it can be concluded that the visitor's perception of the trash can is good. The condition of the adequate trash bins makes the perception of visitors to the trash bins suitable. Visitors also feel that the trash can has met the health requirements.

Environmental Comfort Public Space Facilities Dieng Boulevard Wonosobo

1. Smell

The source of the smell that can create an unpleasant smell on Dieng Boulevard is the trash bin near the toilet. In addition, the bathroom itself will also create an unpleasant odor if it is not adequately cared for. The potential for unpleasant odors can also occur due to stagnant water, both pool water and rainwater. The garbage dump located on Dieng Boulevard does not seem to cause an unpleasant odor even though it does not appear fragrant. The toilet also looks clean and doesn't smell bad. Percentage visitor's perception of the scent and smell source can see at figure 9.



Figure 9: a.Visitor's perception of scent, b.Toilets and Garbage Dumps
Source: author, 2022

Visitors' perceptions of aroma based on the questionnaire results tend to be good. The number of choices for the value of fragrance is 18%, 67% for no odor, 10% for the value of smell, and 5% for the value of unpleasant odor. Based on the data above, it can be concluded that the visitor's perception of the aroma is likely to be good (do not feel the smell).

2. Circulation

Dieng Boulevard circulation has three entrances. One entrance from the front, two entrances from the side. The entrance is not locked. Visitors are free to enter Dieng Boulevard. The door from the show is quite wide with the floor material made of paving. The entrance from the front does not have the floor for the disabled. The paving floor is flat and does not have a rough texture like the floor for the disabled. The entrance from the front can be passed from the right and left of the pool in front. Circulation in the park is relatively smooth and wide so that visitors are free to pass through the park. Percentage visitor's perception of circulation and circulation condition can see at figure 10.



Figure 10: a.Visitor's perception of circulation, b.Toilets and Garbage Dumps
Source: author, 2022

The visitor's perception of the circulation in this area based on the respondents' results can be pretty organized. Based on the data above, the number of choices is 23% for the highly ordered value, 61% for the moderately requested value, 12% for the less organized value, and 2% for the highly disorganized value. Based on the data above, it can be concluded that the visitor's perception of circulation is quite good. Circulation can meet the expectations of visitors.

3. Climate

Wonosobo is a highland with cool air temperatures and tends to be cold. The rainfall is relatively high. The sun is not too hot. The cool climate encourages visitors to feel comfortable in outdoor activities. Some visitors are in livable condition, and most visitors feel pretty pleased. The shady conditions of Dieng Boulevard also make the coolness of the park well maintained. Percentage visitor's perception of the climate and climate condition can see at figure 11.



Figure 11: a.Visitor's perception of climate, b.Coolness on Dieng Boulevard
Source: author, 2022

The visitor's perception of the climate power in this area based on the respondents' results can be pretty comfortable because the temperature at the location is quite remarkable. The number of choices based on questionnaire data is 40% for the comfortable value, 49% for the moderately comfortable value, 9% for the uncomfortable value, and 2% for the very awkward value. Based on the data above, it can be concluded that the visitor's perception of the climate is quite good, by the conditions of the place which is quite remarkable.

4. Noise

The noise around Dieng Boulevard comes from the traffic of motorized vehicles on all three sides. Motorized vehicles from Banjarnegara to Semarang tend to be larger than roads serving urban routes. Large vehicles do not pass through Dieng Boulevard because buses and trucks pass through the ring road. The sound caused by four-wheeled cars and motorcycles is not too loud. Shady trees can also muffle the sound to Dieng Boulevard. Percentage visitor's perception of noise and noise source can see at figure 12.



Figure 12: a. Visitor's perception of noise, b. noise from vehicles
Source: author, 2022

Visitors' perceptions of noise in this area based on the questionnaires filled out by respondents were not disturbing. The number of choices based on the questionnaire data is 42% for the value of not disturbing (quiet), 36% for the value of not disturbing, 16% for the value of C is quite alarming, and 6% for the matter is alarming. Based on the data, it can be concluded that the visitor's perception of noise is not disturbing.

5. Garden Shapes

Dieng Boulevard is rectangular with various contours in the park. Topographical differences are resolved by playing a few steps. The division of sitting and resting areas is also evident clear. The place for traders is unavailable, and many do not see Dieng Boule in the parking area. The park has space for performances on edge, somewhat in the middle of the park. The site for the show has a peil that is high enough to allow visitors to see the show well. Percentage visitor's perception of garden shapes and garden shape condition can see at figure 13.



Figure 13: a. Visitor's perception of garden shape, b. garden shape of Dieng Boulevard
Source: author, 2022

Visitors' perceptions of the park's shape in this area based on the respondents' results tend to be beautiful. The number of choices based on questionnaire data is 65% for the value of beautiful, 25% for moderately beautiful, 6% for the value of not attractive, and 4% for the value of not very beautiful. Based on the data, it can be concluded that the visitor's perception of the park's shape is gorgeous.

6. Beauty

Assessment of garden form and beauty is distinguished because the shape of the garden can be categorized as beautiful in condition. The beauty indicator is separated from the garden form because beauty can come from other than the garden form. Beauty can come from the shade of the trees, the shape of the sculpture, or from other objects found on Dieng Boulevard. Percentage visitor's perception of beauty and tree condition can see at figure 13.



Figure 13: a.Visitor's perception of garden beauty, b. the beauty of the shade of the trees
Source: author, 2022

Visitors' perceptions of the park's shape in this area based on the respondents' results can be said to be beautiful. Based on the data, the number of choices is 63% for the beautiful value, 28% for the moderately attractive value, 5% for the not beautiful value, and 4% for the not very beautiful value. Based on the data, it can be concluded that the visitor's perception of beauty is beautiful with many types of plants and shade.

7. Cleanliness

Cleaners from the Wonosobo Regency government clean Dieng Boulevard. The cleaners occupy the space provided at the location. The place for cleanliness is also used as a garbage creation house. The cleanliness of Dieng Boulevard is well maintained with the presence of a garbage creation house. Officers are seen routinely cleaning Dieng Boulevard. Percentage visitor's perception of cleanliness and trash creation house can see at figure 14.



Figure 14: a.Visitor's perception of cleanliness, b.Trash creation house
Source: author, 2022

Visitors' perceptions of cleanliness in this area based on the results of the respondent's questionnaire can be said to be relatively clean. The number of choices based on data is 46% for moderately clean scores, 42% for less clean scores, 9% for unclean scores, and 3% for very dirty scores. Based on the data above, it can be concluded that the visitor's perception of cleanliness is relatively clean because many areas support cleanliness.

8. Security

Dieng Boulevard was initially named Taman "Plaza," and the security level was still vulnerable at that time. Currently, Dieng Boulevard is safe because of the police guard post at the intersection near Dieng Boulevard. At night, Dieng Boulevard does not have many visitors, so people are still afraid to gather on Dieng Boulevard at night. A bright area can also prevent crime cases, while the lights on Dieng Boulevard do not satisfy visitors according to the questionnaire on lighting facilities. Percentage visitor's perception of security and police station can see at figure 15.

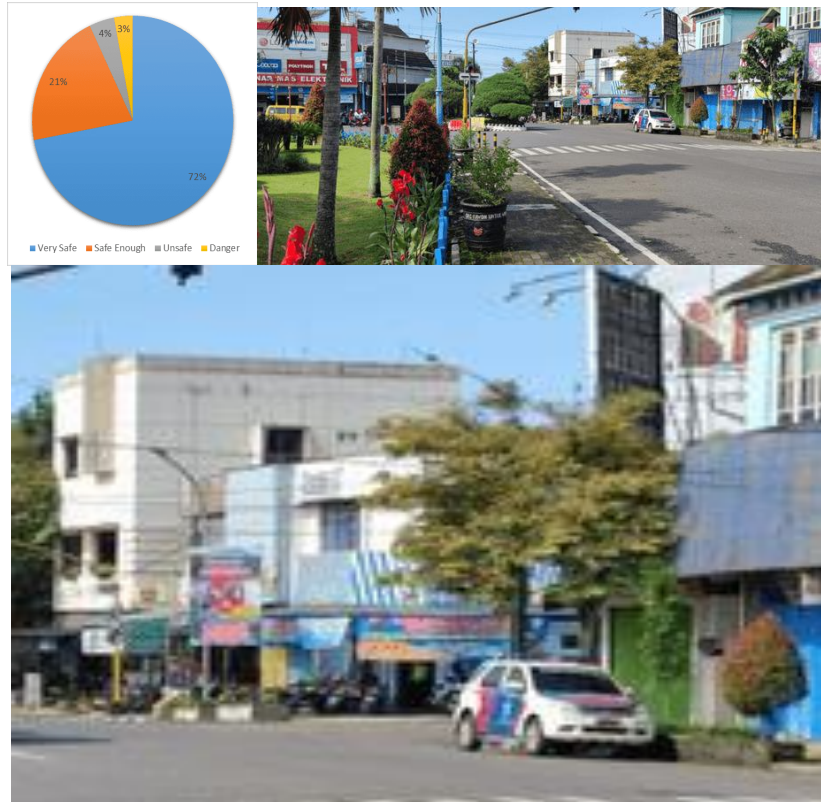


Figure 15: a. Visitor's perception of security, b. crossroads around Dieng Boulevard, c. police station
Source: author, 2022

Visitors' perceptions of security in this area based on the respondents' results can be relatively safe. Based on the data, the number of choices is 72% for the moderately secure value, 21% for the less safe value, 4% for the unsafe value, and 3% for the very hazardous value. Based on the data above, it can be concluded that the visitor's perception of security is relatively safe because it is close to the highway and the police station.

9. Lighting

Dieng Boulevard is mainly visited during the day is not too noticed at night. The lighting on Dieng Boulevard during the day is quite bright because there is no covered area. Dieng Boulevard is an open park so that sunlight can enter the park. At night, the lighting looks less promising. Activities at night are also not many visitors. Percentage visitor's perception of lighting and lighting condition can see at figure 16.



Figure 16: a. Visitor's perception of lighting, b. lighting at night, c. lighting during the day
Source: author, 2022

Based on the respondents' results, the visitor's perception of the lighting in this area can be said to be exceptionally bright. The number of data-driven choices is 7% for very light values, 68%

for moderately bright values, 18% for dim values, and 7% for dark values. Based on the data above, it can be concluded that the visitor's perception of the lighting is quite bright

Discussion

Good facilities in public spaces will leave a deep impression on young children. During childhood, exposure to nature is thought to foster habits and preferences that lead to greater exposure to nature in adult life, thus providing an indirect avenue for improved mental and physical well-being and greater involvement in pro-environmental behavior (van Heezik et al., 2021). Good public facilities will increase good urban indicators as well. Community comfort in using facilities in public spaces will affect urban performance. The government needs to improve the quality of facilities in public areas to enjoy the facilities and improve the quality of human life (Wang & Foley, 2021). Studies on the comfort of urban public spaces in China found variables of activity, environmental quality, facilities, and security as essential factors in the design of public areas (ZHU et al., 2021).

These variables are in line with the results of the research produced. The variables found can make the design of public spaces more qualified and appropriate in their use. Improving the quality of public space will make cities more responsive to the community. Increasing public space cannot be done immediately (Yosita et al., 2019). The research results on public spaces in Bandung are also in line with the research results of Dieng Boulevard Wonosobo, which shows an increase in the quality of public areas from time to time. Improving the quality of public spaces can support tourism if synchronization is made with other well-known tourist attractions (Wijaya & Syahrizal, 2019). The need for establishing a shared space model that is by the character of visitors so that people will often visit public spaces. Void and solid are essential factors to consider in urban design (Permana et al., 2019).

Conclusions

Based on the results, survey results, and respondent data processing of the public open space facilities of Dieng Boulevard has a good value. That is, the respondent's perception of the physical comfort of this facility is suitable for many variables. The results of the survey data processing of respondents on environmental comfort are also good. Where respondents feel comfortable in this area is quite good. Not a few respondents gave the bads lousy pea reception in several variables. This is due to the absence or lack of physical facilities and environmental comfort.

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