

Secure place – A study of revitalitation at phinisi pedestrian bridge, Sudirman, Jakarta

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Abstract

Pedestrian bridges are non-level crossing facilities intended to support pedestrian safety within urban mobility systems. The revitalization of the Phinisi pedestrian bridge introduced a design approach that differs from conventional pedestrian bridges, requiring further evaluation in terms of user experience and perceived safety. This study aims to examine the design-related variables associated with users' perceptions of safety on the Phinisi pedestrian bridge. A qualitative approach was employed, utilizing data collected through field observations at different times of day, in-depth interviews with 20 participants, and supporting documentation and literature review. The research findings indicate that users' perceptions of safety are associated with several observed physical and social characteristics, including visual openness, visibility between users, lighting conditions, maintenance, structural features, and patterns of social activity. Interview results suggest that users tend to feel more aware and comfortable in areas where they can observe surrounding activities and are visible to others, highlighting the relevance of visual openness and visual exposure. In addition, the presence of supporting facilities and social interactions influences how users experience and utilize the bridge, particularly in relation to comfort and activity levels. From a conceptual perspective, the study identifies an interrelated system between spatial configuration (visual openness and exposure), environmental conditions (lighting and maintenance), and social presence in shaping perceived safety in pedestrian infrastructure. These elements do not operate independently but interact in influencing user experience. The study contributes to the understanding of pedestrian bridge design by emphasizing the role of perceptual and spatial qualities alongside functional aspects, and suggests that context-sensitive design strategies informed by empirical observation may support the development of safer and more responsive public infrastructure.

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Keywords

Pedestrian bridge, Perceived safety, Visual exposure, Visual openness, Environmental design

Introduction

Pedestrian bridges are grade separated facilities intended to enhance pedestrian safety on high-traffic roads by minimizing direct interaction between pedestrians and vehicles,

particularly in areas with elevated accident risk. Pedestrian bridges were initially introduced in Jakarta as part of urban traffic management efforts; however, despite their intended safety function, issues related to user safety and public perception remain central to this study. The first pedestrian bridges built was called Kartini Bridge which is located right in front of the Sarinah Building which is one of the icons of modern department stores in Jakarta [1]. Pedestrian bridges were built in response to the high flow of vehicle traffic in the city of Jakarta so that pedestrians were not safe to level the road on the zebra crossing. Pedestrian bridges which were originally built to provide comfort for city residents to walk turned into a place that was not entirely comfortable. As a densely populated area, with a large economic hub, and vibrant urban activity, the region faces complex challenges related to public security. National statistics show that crimes such as theft and aggravated theft are the most frequently reported crime categories in Indonesia, with tens of thousands of incidents recorded annually [2]. This situation raises concerns that facilities such as pedestrian bridges, particularly during off-peak hours, may become vulnerable locations for crime, potentially affecting public perception and trust in their safety. Reflecting this concern, the Head of Public Relations for the Jakarta Metropolitan Police, Senior Commissioner Mohammad Iqbal, stated that all pedestrian bridges in Jakarta are considered vulnerable, prompting the police to implement measures aimed at strengthening security in these areas [3]. The condition of the pedestrian bridges is dirty, minimal lighting, vandalism graffiti on the bridge walls, the presence of billboards covering the bridge makes the bridge empty of pedestrians so that it is prone to becoming a place of crime. In addition to criminal cases, it turns out that many pedestrian bridges in Jakarta have bridge structures that are no longer in good condition so that this encourages the government to revitalize bridge in the city of Jakarta. In addition to repairing the bridge structure, revitalization also aims to present an image of a safe and comfortable city. In line with Cassinger's statement that in creating a sense of security and comfort in urban areas it is necessary to ensure a safe physical environment, while creating a safe experience among the public [4].

Several pedestrian bridges that have been and are in the revitalization plan, there is one pedestrian bridge that has undergone significant changes in form and additional facilities, namely the Phinisi pedestrian bridge located on Jalan Sudirman, Central Jakarta. The Phinisi pedestrian bridge has an additional function, namely as a bicycle pedestrian bridge, and also presents a planned third space through the Anjungan Pandang and Galeri Apresiasi area. The presence of additional facilities certainly presents a diversity of activities that occur and of course leads to congestion at the pedestrian bridge. Munajat & Yusuf said that high population density in big cities can facilitate anonymity, making it easier for criminals to operate without detection [5]. Poyser (in Cassinger) said that urban space is different from a closed place so it is not easy to monitor and control [4]. This characteristic underscores the importance of design considerations in public infrastructure, as reflected in the Phinisi pedestrian bridge, whose distinctive architectural form warrants further study, particularly in relation to its alignment with the primary needs of pedestrians, namely the provision of

a safe and secure environment for users. The design of the Phinisi pedestrian bridge exhibits a distinctive architectural form that warrants further study, particularly in relation to its alignment with the primary needs of pedestrians, namely the provision of a safe and secure environment for users. Revitalization is often proposed as a response to the community's need for safety and comfort; however, it remains unclear whether such interventions genuinely enhance users' perceived safety based on existing empirical evidence. Furthermore, there is a lack of comprehensive studies examining the relationship between design form in revitalized public spaces and users' perceptions of safety, indicating a gap in the current literature. This gap is particularly relevant when considering the concept of perceived insecurity, which, according to Wills [6], is manifested as fear related to potential loss of life, property, social relationships, or control over one's life. In this context, the architectural form of the Phinisi pedestrian bridge can be examined as a factor that may influence users' perceptions of safety, particularly in its capacity to mitigate such feelings of insecurity.

The narrative of the pedestrian bridge from various mass media has certainly indirectly become the basis for consideration for bridge users when they want to use it. Wills stated that feelings of insecurity can be expressed in the form of feelings of reduced security in everyday life due to individual reasons, including previously understood experiences [6]. Munajat & Yusuf said that high population density in big cities can facilitate anonymity, making it easier for criminals to operate without being detected [5]. This can be linked to the Anjungan Pandang and Galeri Apresiasi area as a third space for interaction and tourism, which certainly presents a busy and crowded pedestrian bridge atmosphere, especially on weekends and certain events. Previous research has been conducted by Yusuf and Jayadi with the results of satisfactory responses regarding security from criminal acts on the Phinisi pedestrian bridge [7]. However, the research that has been conducted has not discussed in detail what variables provide a positive response to the sense of security of Phinisi pedestrian bridge users. Other research that has been conducted on the Phinisi pedestrian bridge has not discussed how revitalization impacts increasing the sense of security of bridge users. Therefore, this research is considered important because the Phinisi pedestrian bridge is expected to become one of the populist icons of the city of Jakarta. A study by Štimac Grandić et al [8] emphasized that pedestrian bridges are a crucial part of active transportation systems and must be designed inclusively and provide comfort for all users. In this context, the Phinisi pedestrian bridge was chosen as the study object because its role as public infrastructure and an urban icon in Jakarta demands the fulfillment of these principles, making it relevant for analysis in relation to safety, accessibility, and user comfort. In addition, the Phinisi pedestrian bridge is characterized by the presence of a third space, which introduces social and spatial interactions beyond its primary function as a crossing facility. This condition is likely to influence users' sense of safety, particularly through spatial qualities such as visual exposure, openness, visibility, and other environmental design elements. Therefore, the results can provide critique and recommendations for the revitalization of public spaces, particularly pedestrian bridges.

The findings are also expected to contribute to academic literature on creating safe spaces in public facilities.

Method

The research method used in this study is a qualitative method. The researcher analyze all findings through qualitative methods. Findings from qualitative research are obtained through how researchers understand and interpret the meaning of events, interactions, and behavior of subjects in certain situations from the researcher's perspective. To be able to understand and interpret all meanings, events, interactions, and behavior of subjects at the Phinisi pedestrian bridge related to the perception of a safe place, the researcher collected data through document review, field observation, documentation, interviews, and data triangulation. In qualitative research, the researcher is the main instrument in the research. Researchers used data collection techniques through:

1. Observation of the Phinisi pedestrian bridge in the morning, afternoon and evening.
2. Conduct in-depth interviews with 20 users at Phinisi Pedestrian Bridge.
3. Carry out complete visual, verbal and written documentation
4. Conduct a review of documents related to JPO regulations, namely non-level crossings, safe place regulations, safety perceptions, and other related documents.

After completing the data collection process, the data were analyzed using the interactive model of Miles and Huberman [9], consisting of data reduction, data display, and conclusion verification. The collected data from observations, interviews, documentation, and document review were first organized and transcribed. Subsequently, data were reduced through coding and categorization based on key variables such as visual exposure, spatial openness, visibility, environmental design, and social activity. Finally, conclusions were drawn and continuously verified through data triangulation across multiple sources to ensure the validity and consistency of the findings.

Results and discussion

Based on observations and interviews with 20 users of the Phinisi pedestrian bridge, several patterns regarding users' perceptions of safety emerged:

1. Perception of risk. Most of participants expressed concerns about personal safety, particularly during night time or when the bridge was less crowded. This indicates that lighting and activity levels directly affect users' sense of security.
2. Influence of Spatial Design. Empirical data showed that areas with clear visual exposure and open layouts contributed positively to perceived safety. Users

appreciated the wide walkways and unobstructed views over the surrounding roads, which allowed them to monitor the environment effectively.

3. **Role of Social Interaction and Third Space.** Several users reported feeling safer when the bridge had areas for social interaction, such as seating spaces or spots where other pedestrians gathered. This supports the idea that social presence and the concept of a third space can enhance psychological comfort and a sense of safety.
4. **Environmental Design Factors.** Observations confirmed that visibility, lighting, and presence of railings influenced users' perceptions. Bridges with well-maintained infrastructure and clear signage were consistently rated as safer by participants.

These empirical findings provide a foundation for analyzing how variables such as visual exposure, spatial openness, environmental design, and social interaction shape users' perceptions of safety on the Phinisi pedestrian bridge. Pedestrian bridge which is often known as a place for criminal acts needs to improve its image by emphasizing the importance of communication in restoring the image of the safety of the place [2]. The revitalization of the Karet-Sudirman pedestrian bridge into a Phinisi pedestrian bridge is indirectly one of the strategies to restore the unsafe image to bridge users. In previous research conducted by Wijaya, Lubis and Sari found that the security factor is the most dominant factor causing the low interest of pedestrian bridge users [10]. Wijaya, Lubis and Sari that the insecurity felt by users due to factors of inadequate lighting and can trigger crime due to the absence of security officers and the presence of billboards covering the pedestrian bridge makes people reluctant to use the pedestrian bridge [10]. The Phinisi pedestrian bridge has an attractive design by implementing the shape of a Phinisi ship. This pedestrian bridge is also equipped with an observation platform and an appreciation gallery which are expected to become a third space amidst the dense traffic flow. The design of the Phinisi pedestrian bridge incorporates features such as dedicated pedestrian and bicycle paths, elevators, bicycle parking, a third space, and connections to mass transportation, which contribute to higher user density. One participant stated, *"The seating areas and access to the bus stop make the bridge a convenient place to pass through or spend time,"* the other participant said *"I often see many people cycling or walking here because of the ramps and wide paths."* These observations indicate that the combination of facilities and connectivity influences how users interact with the bridge. To maintain and recover investment in high-density urban environments, urban attractiveness must be maintained, and this involves issues such as visual openness and visual exposure. Visual openness and visual exposure are often considered contradictory due to differences in measurement and perception scales. Visual openness refers to the user's ability to see far and wide, thus enabling good spatial orientation and reducing uncertainty regarding the surrounding environmental conditions.

In contrast, visual exposure relates to closer viewing distances, which determine the extent to which users can be seen and see each other or the surrounding environment [11]. In the context of pedestrian bridges, these two qualities are complementary and play a crucial role in shaping users' sense of security. Visual transparency allows users to comprehensively monitor the environment, including pedestrian entry and exit points, thereby enhancing perceptions of control and anticipation of potential risks. Meanwhile, visual exposure ensures users' presence is visible to others, creating a natural surveillance mechanism that can reduce fear of crime. Visual transparency and visual exposure work in a complementary manner to enhance users' sense of security. Based on a literature review, in addition to visual factors, several other variables frequently emerge as determinants of users' sense of security at pedestrian bridges, are:

1. Lighting

Adequate lighting in the bridge area, especially at night, significantly improves users' perception of safety. Bright lighting prevents the area from becoming a hiding place for criminals and helps users feel more comfortable and aware of their surroundings. Variable lighting has the following impacts: it can reduce fear of crime, increase pedestrian visibility, and make users feel less isolated at night. Phinisi pedestrian bridges have different lighting conditions between day and night. The fairly open design, due to their lack of a roof and hollow guardrails, makes the bridge area bright, so users tend to feel safe and able to monitor their surroundings. Meanwhile, Phinisi pedestrian bridges are equipped with RGB lights that function as artificial lighting to maintain the perception of safety, prevent dark areas from becoming hiding places, increase pedestrian visibility, and make users feel less isolated, while reducing fear of potential crime. The difference between daytime and nighttime lighting conditions on the Phinisi pedestrian bridge is illustrated in Figure 1.

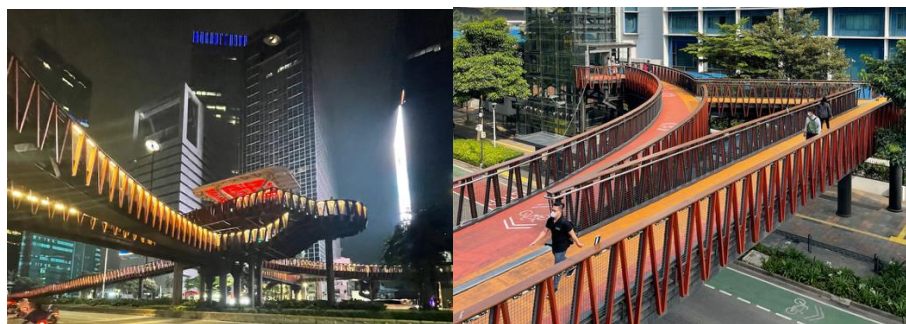


Figure 1. Day and night lighting at phinisi pedestrian bridge
Source: Personal documentation

2. Bridge Cleanliness Condition

Participants reported that a clean and well-maintained bridge, free from vandalism and structural damage, enhanced their perception of safety. One participant said, "Because the bridge is well-lit and there are no graffiti or broken parts, I feel it is regularly monitored and safe to use," while another participant said "The clean environment makes me more comfortable walking here, even at night." These observations indicate that maintenance and visual cues of order contribute to users' sense of security on the Phinisi pedestrian

bridge. Poor physical condition can trigger the perception that the location is prone to crime or neglected by the government. Bridge cleanliness variables have an impact: increased comfort, thus influencing feelings of safety, reduced potential disturbances from dirty, smelly, or dangerous areas, and created the impression of authority or a controlled bridge. Participants reported that the Phinisi pedestrian bridge provides high visual openness, enabling them to observe activities across the bridge from multiple directions. One user stated, "I can see people coming from all sides, which makes me feel more aware and comfortable while crossing." These observations suggest that visual openness may influence users' perceptions of safety, although its effect on actual incidents of vandalism was not directly assessed in this study. Visual exposure plays a crucial role in preventing vandalism because user activity can be directly monitored by others, both users and officers. When visual exposure is high, vandals realize that their actions are easily seen and at risk of being caught, thus psychologically discouraging them from committing damage.

3. Security system

Participants reported that the presence of surveillance cameras on the Phinisi pedestrian bridge may contribute to their perceived sense of safety. One user commented, "Seeing the cameras makes me feel that the area is monitored, so I feel more secure while crossing." These findings reflect users' perceptions, without implying a direct causal effect on actual crime incidents. Surveillance cameras create the psychological effect of monitoring an area, reducing the likelihood of crime. The presence of CCTV also increases users' confidence that they are protected or that perpetrators can be identified. This has the following benefits: deterring criminals, providing psychological reassurance, especially for women and the elderly, and increasing trust in public facilities.

4. Structural condition

Observations of the Phinisi pedestrian bridge indicate that its structural features, such as sufficiently wide lanes, functional guardrails, non-slip flooring, moderately sloped stairs, and unobstructed visibility between bridge sides, are noticed and appreciated by users. Design also includes aesthetics (color, shape), which influence user mood and comfort. The condition of the bridge structure has an impact; preventing the risk of accidents such as slipping or falling, an open structure (not enclosed by high walls) allows users to see the surrounding situation, aesthetics create a positive atmosphere. Good design of the Phinisi pedestrian bridge, including lane width, safe guardrails, non-slip flooring materials, reasonable stair slopes, and visibility between the uncovered bridge sides, not only prevents the risk of accidents but also increases visual openness and visual exposure. Participants noted that the open structure of the Phinisi pedestrian bridge allows them to observe activities from multiple directions. These observations indicate that the combination of visual openness and aesthetic features contributes to users' perceived comfort and sense of safety.

5. Environmental quality

Observations at the Phinisi pedestrian bridge showed that street vendors, buskers, and people socializing are present at various times of day, particularly near seating areas and access points to mass transportation. Field notes indicated that these activities increase pedestrian density and social interaction on the bridge. Some participants remarked, *"It feels lively when there are people performing or selling things, and I feel comfortable because there are many others around,"* while another participant said, *"Sometimes it gets crowded, but I still feel safe because I can see everyone clearly."* These findings describe the presence and behavior of people around the bridge and their perceived influence on user comfort and awareness, without making unsupported claims about safety outcomes. The crowd increases visual exposure because more people are visible, making users feel less alone and a sense of security increases. However, if social activity is perceived as disruptive or suspicious, negative effects can arise, especially if visual openness is limited, preventing users from fully observing the situation, leading to feelings of discomfort or fear. Thus, the interaction between social density and the bridge's visual quality simultaneously influences perceptions of safety.

Conclusion

This study indicates that users' perceptions of safety on the Phinisi pedestrian bridge are associated with several observed physical and social characteristics, including visual openness, visibility between users, lighting conditions, maintenance, structural features, and patterns of social activity. Interview findings suggest that users tend to feel more aware and comfortable in areas where they can see surrounding activities and are visible to others, reflecting the relevance of visual openness and visual exposure in shaping perceived safety. In addition, the presence of supporting facilities and social interactions contributes to how users experience and utilize the bridge, particularly in relation to comfort and activity levels. From a conceptual perspective, this study highlights the interrelation between spatial configuration (visual openness and exposure), environmental conditions (lighting and maintenance), and social presence in shaping perceived safety in pedestrian infrastructure. Rather than operating independently, these elements appear to function as a combined system that influences user experience. This finding contributes to the understanding of pedestrian bridge design by emphasizing the role of perceptual and spatial qualities alongside functional aspects.

However, this study has several limitations. First, it relies on qualitative data from a limited number of participants, which may not represent the broader population of users. Second, the study focuses on perceived safety rather than actual safety outcomes, as no comparative crime data or longitudinal analysis was conducted. Future research could incorporate mixed-method approaches, including quantitative

measurements, behavioral mapping, or crime statistics, to further examine the relationship between spatial design and safety outcomes across different contexts. In terms of practical implications, the findings suggest that urban design and infrastructure planning may benefit from considering visual openness, clear sightlines, adequate lighting, and consistent maintenance as part of pedestrian bridge design. Additionally, the integration of social spaces and supporting facilities should be managed in relation to user movement and activity patterns observed in the field. These considerations should be approached as context-specific design strategies informed by empirical observation rather than generalized assumptions.

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