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## Urban Walkability in a Megacity Context: An Examination of Johar Block-13, Karachi

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### Abstract

*This study examines the walkability perceptions of residents in Johar Block-13, Karachi, focusing on pedestrian satisfaction and infrastructure needs. Using surveys and field observations, the research identifies key concerns, including poor sidewalk maintenance, limited crossing accessibility, inadequate lighting, and safety issues, with 76% of respondents feeling unsafe while walking. Additionally, noise pollution, vehicle congestion, and the lack of pedestrian-friendly amenities detract from the overall walkability experience. Results indicate significant dissatisfaction with the current infrastructure, especially regarding accessibility for vulnerable groups, including the elderly and disabled. The findings underscore a need for targeted improvements to foster a safer, more accessible environment, enhancing pedestrian activity and quality of life in Johar Block-13. The study's findings may help policymakers and urban planners design a city that can promote walking.*

**Keywords:** Urban Walkability, Pedestrian Infrastructure, Accessibility, Safety Perception, Karachi

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### Abstract

*This study examines the walkability perceptions of residents in Johar Block-13, Karachi, focusing on pedestrian satisfaction and infrastructure needs. Using surveys and field observations, the research identifies key concerns, including poor sidewalk maintenance, limited crossing accessibility, inadequate lighting, and safety issues, with 76% of respondents feeling unsafe while walking. Additionally, noise pollution, vehicle congestion, and the lack of pedestrian-friendly amenities detract from the overall walkability experience. Results indicate significant dissatisfaction with the current infrastructure, especially regarding accessibility for vulnerable groups, including the elderly and disabled. The findings underscore a need for targeted improvements to foster a safer, more accessible environment, enhancing pedestrian activity and quality of life in Johar Block-13. The study's findings may help policymakers and urban planners design a city that can promote walking.*

**Keywords:** [Urban Walkability](#), [Pedestrian Infrastructure](#), [Accessibility](#), [Safety Perception](#), [Karachi](#)

### Introduction

Cities worldwide are undergoing massive transformations due to population density, increasing urbanization, and changing life cycles (Memon, 2024; Lo, 2009; Marvi et al., 2024). With

urban fabric becoming more compact, walkability has attracted interest as one of the critical factors that can enhance the quality of life in cities and their sustainability. Walkability can be described as the degree to which an environment facilitates





walking and to which it is safe, convenient, and pleasant to walk; (Qureshi et al., 2022; Van Dyck et al., 2008). Dominant factors determining walkability include availability, connectivity, illumination, perceived safety, and pedestrian infrastructure that provide a suitable pedestrian environment (Bhatti et al., 2021; Brohi et al., 2023; Soomro et al., 2021).

Previous works explain that walkability is a significant characteristic of sustainable communities as it affects social equity, environmental quality, and the economy (Memon et al., 2021; Sarkar & Webster, 2017). The research of Gota et al. (2010) and Memon et al. (2021) reveals that walkability can increase physical activity and provide needed community support to dense metropolitan areas such as Karachi. Nevertheless, urban settings are characterized by infrastructural barriers and challenges to facilitating walking, especially in large congested cities like Karachi, whereby the mix of land use and scattered urban expansion condition the construction of pedestrian infrastructure (Gul et al., 2020; Kalwar et al., 2021). Consequently, these elements negatively influence the safety, accessibility, and comfort of facilities available for pedestrians, which regularly interfere with people's everyday living in cities (Irfan Ahmed et al., 2016).

### Study Area

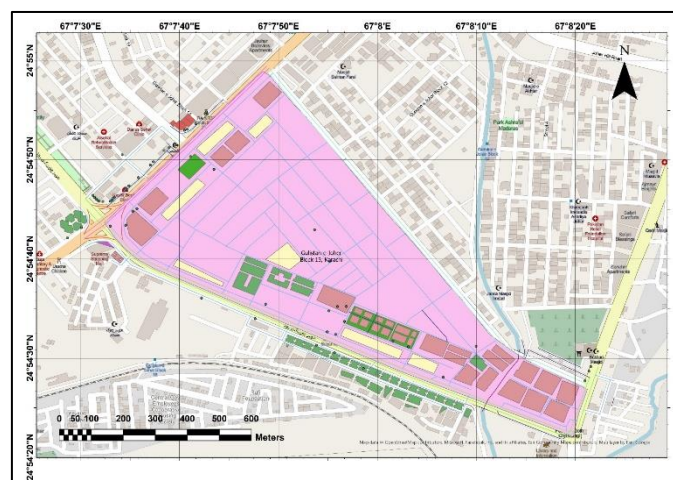
Within Karachi, the neighborhood of Johar Block-13, as shown in Figure 1, is identified as a suitable instance to study the current predicaments of walkability in a densely populated and multi-functional urban area. Prior studies conducted in

Pakistani cities show that most avenues lack adequate pedestrian features: bad sidewalk quality, insufficient signalized intersections or crosswalks, and inadequate safety aspects (Memon, 2018; Memon et al., 2022). This has been worsened by traffic spread, noise and blaring horns, and the absence of quality sidewalks and canopy along the roads, demoralizing the spirit of walking (Khan & Khan, 2018). Although there is research evidence on accessibility challenges in the larger urban area of Karachi, a dearth of similar research focuses on the quest for walkability within specific neighborhoods in Karachi. Hence, exploring the factors that influence the perception of walkability in Johar Block-13 could help guide improvements in the pedestrian environment in high-density and mixed-zoning use neighborhoods elsewhere in Karachi and other LM Megacities.

Therefore, This paper seeks to appraise the walkability in Johar Block-13, Karachi, among the residents in terms of their satisfaction with this current situation and even determine the infrastructural requirements. The research provides a comprehensive view of the walkability environment using surveys, interviews, field notes, and photography. The study is expected to inform urban planners, decision-makers, and municipal authorities on challenges to walkability to create an equitable and inclusive built environment that will improve the citizens' quality of life besides promoting sustainable transportation. This study aims to assess and compare the residents' perception of walkability in the Johar Block-13 Karachi to understand the related satisfaction and infrastructure requirements.

**Figure 1**

Location map.



### Methodology

The study's objective is to assess the awareness and perception of the residents of Johar Block-13, Karachi, as shown in Figure 1. A self-administered survey questionnaire about walkability was used as the principal research tool. The questionnaire used in the survey had closed-set questions and aimed at evaluating the suitable factors related to the accessibility, safety, comfort, and convenience of the pedestrian environment.

All the questions formulated for the survey comprised only close-ended questions to minimize response variability. This approach allowed deriving measurable characteristics associated with the sufficiency of pedestrian facility provision, the level of facility access, and the population's satisfaction with the current level of walkability. Hypotheses regarding infrastructure priorities were also captured in the survey to get an idea of areas that may need fixing.

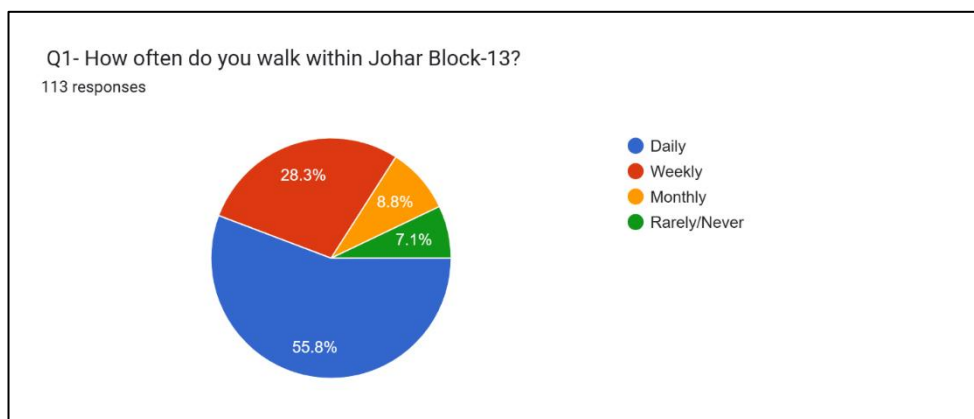
This method made it easy to discern and evaluate only resident responses to a well-laid-down set of close-ended questions, thus enhancing

the reliability and consistency of the findings. This established a simple structure that was the foundation for a targeted interpretative assessment of walkability infrastructure in the study region.

### Result and Discussion

This pie chart in Figure 2 reveals the level of walking activity in Johar Block-13 by the respondents, and the total number of responses for this kind of activity reached 113. According to the results obtained from the participants, 55.8% of them perform walking exercises daily. This is superseded by 28.3 percent who claimed to engage in walking activities weekly, meaning that many people take a walk from time to time. Nevertheless, responses indicating regular walks are pretty low, and 8.8% of respondents reported walking in a month; 7.1% rarely or never walking in the area. The distribution here indicates a possibility of daily and weekly walking, possibly attributed to infrastructure, a convenience store, or a life pattern in Johar Block-13.

Figure 2  
Walking Routine

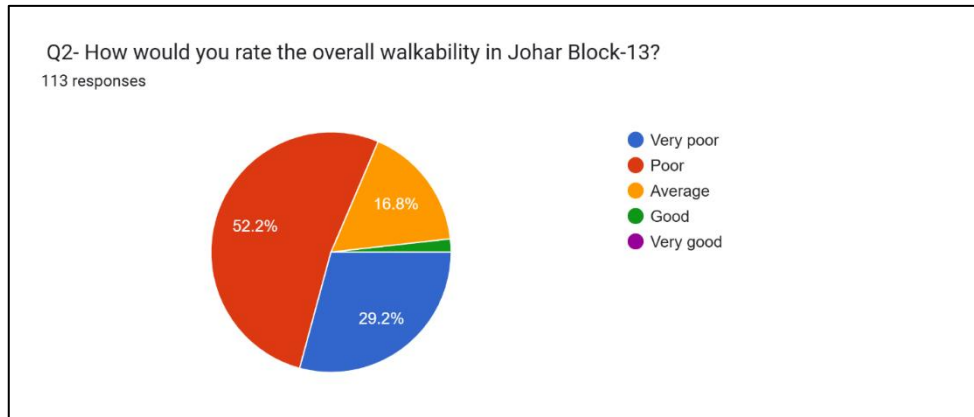


The pie chart in Figure 3 shows respondents' assessments of the overall walkability in Johar Block-13, with 113 responses. The results indicate that most respondents perceive the walkability as poor, with 52.2% selecting this option. Additionally, 29.2% of participants rate the walkability as very poor, further emphasizing dissatisfaction with walking conditions in the area. Only a tiny

percentage consider the walkability to be of average quality (16.8%), and even fewer rate it as good (1.8%). Notably, no respondents rated walkability as very good. These findings suggest a critical need for improvements to enhance walkability within Johar Block-13, as the residents primarily view the current conditions as inadequate.

**Figure 3**

*Overall Walking rating*

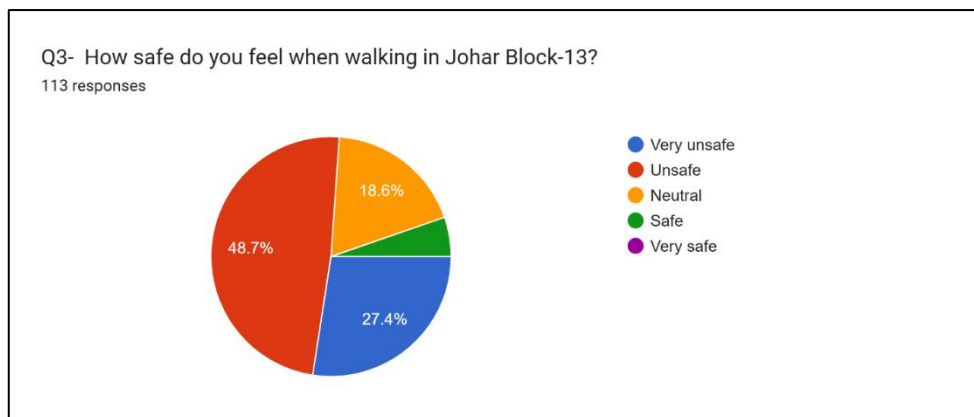


The pie chart in Figure 4 illustrates the perceived safety of walking within Johar Block-13 based on responses from 113 participants. The results indicate significant safety concerns among respondents, with 48.7% rating their walking experience as "unsafe" and 27.4% feeling "very unsafe." These categories comprise 76.1% of the responses, suggesting a prevalent perception of insecurity while walking in this area. A smaller portion, 18.6%,

expressed a neutral stance, while only 3.5% rated walking as "safe." Notably, no respondents selected "very safe," indicating an absence of high confidence in safety. These findings underscore the importance of addressing safety issues, as most residents feel vulnerable when walking in Johar Block-13. This perception could affect walkability and reduce the propensity of residents to engage in pedestrian activities.

**Figure 4**

*Safety during walking*

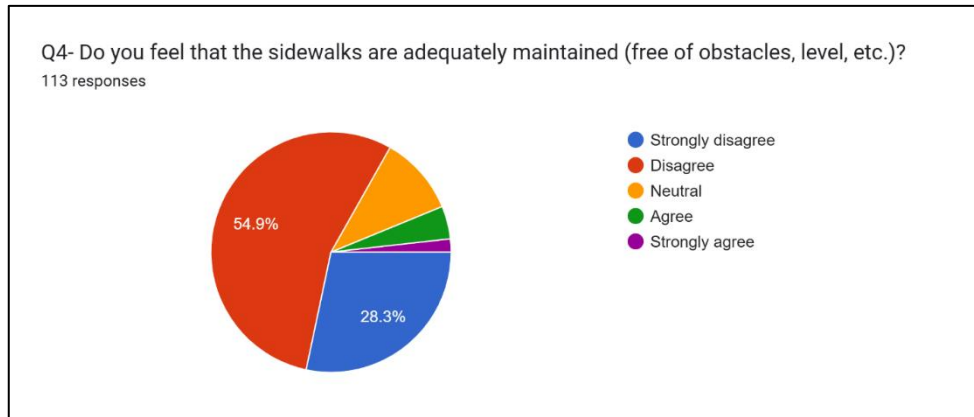


As shown in Figure 5, 54.9% of most respondents disagreed with the statement, indicating dissatisfaction with sidewalk maintenance. This is followed by 28.3% of respondents who strongly disagreed, reinforcing the perception that sidewalks are inadequately maintained. A smaller proportion, 8%, remained neutral, showing neither agreement nor disagreement, while only 6.2% agreed that sidewalks were adequately maintained.

An even smaller segment, 2.7%, strongly agreed. The results demonstrate a predominantly negative perception of sidewalk maintenance, with over 80% of respondents either disagreeing or strongly disagreeing. This suggests that sidewalk conditions may be a significant concern for the surveyed population, potentially affecting pedestrian accessibility and safety.

**Figure 5**

*Maintenance of sidewalks*



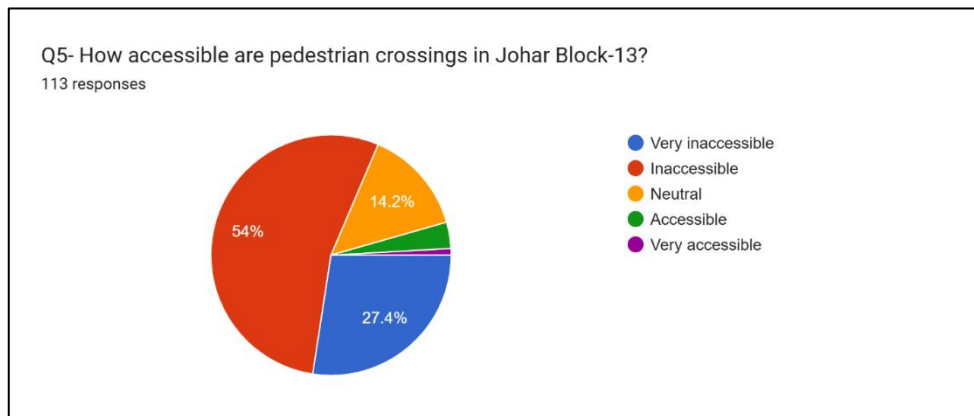
A significant portion of respondents, as shown in Figure 6, 54%, indicated that pedestrian crossings are "Inaccessible," suggesting a perception of limited accessibility for safe crossing options. Following this, 27.4% of participants reported that crossings are "Very inaccessible," underscoring widespread dissatisfaction with the accessibility of pedestrian facilities. A smaller percentage, 14.2%, remained neutral, showing neither positive nor negative perceptions of accessibility. Meanwhile, a minimal 3.5% of respondents found the crossings

"Accessible," and only 0.9% rated them as "Very accessible."

Overall, the data reveals a predominantly negative assessment of pedestrian crossing accessibility in Johar Block-13, with over 80% of respondents indicating inaccessibility. This suggests substantial challenges for pedestrian mobility in this area, potentially impacting walkability and safety for residents.

**Figure 6**

*Accessibility of pathways*



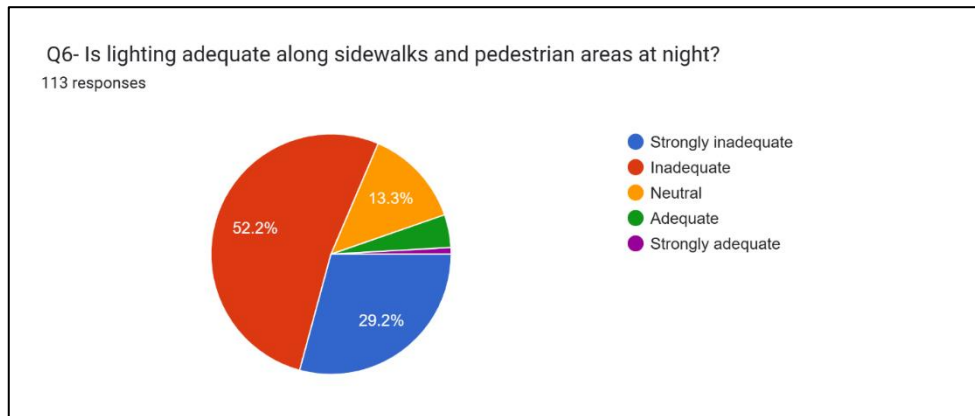
The survey results regarding the adequacy of lighting along sidewalks and pedestrian areas at night reveal respondents' polarized perspectives, as shown in Figure 7. A combined 81.4% of the 113 respondents found the lighting inadequate, with 52.2% deeming it "inadequate" and 29.2% selecting "strongly inadequate." This suggests a significant level of dissatisfaction with the current lighting

situation. Conversely, only a small proportion (13.3%) considered the lighting "adequate," with a negligible percentage (not specified in the graph) finding it "strongly adequate." These findings highlight a potential safety concern and underscore the need for improved lighting infrastructure in the surveyed area.



**Figure 7**

*Adequate lighting on pathways*

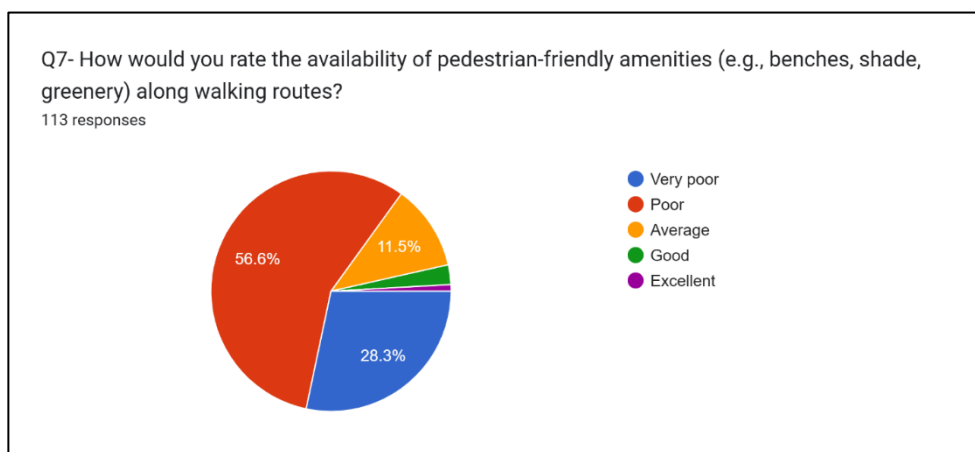


The survey results in Figure 8 reveal a negative perception of pedestrian infrastructure at night. A combined 81.4% of respondents found lighting along sidewalks and pedestrian areas to be either "inadequate" (52.2%) or "strongly inadequate" (29.2%). This suggests a significant concern regarding safety and comfort for pedestrians during nighttime hours.

Similarly, the availability of pedestrian-friendly amenities received a largely unfavorable response. A combined 84.9% of respondents rated the provision of benches, shade, and greenery along walking routes as either "poor" (56.8%) or "very poor" (28.3%). This indicates a lack of comfort and convenience for pedestrians, potentially discouraging walking as a mode of transportation or recreation.

**Figure 8**

*Availability of pedestrian-friendly amenities*

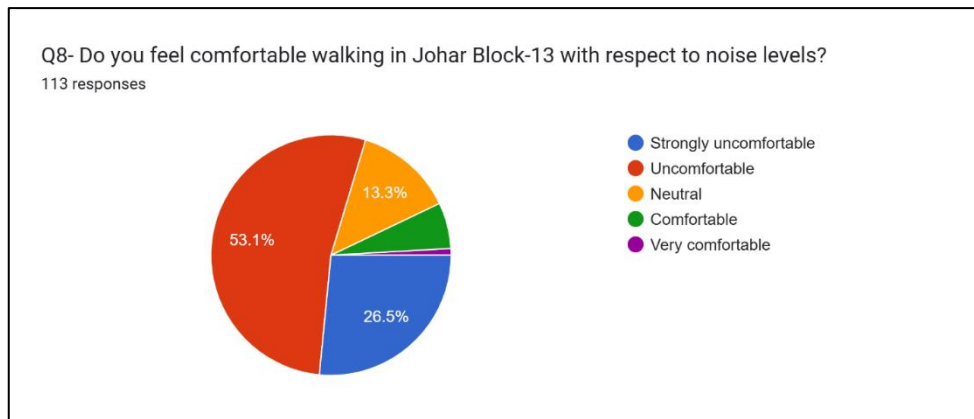


As described in Figure 9, the survey results regarding comfort levels related to noise levels while walking in Johar Block-13 reveal a polarized distribution. Most respondents, 53.1%, expressed discomfort, with a significant portion, 26.5%, finding the noise levels comfortable. Neutral

responses constituted 13.3%, while those enormously uncomfortable and very comfortable represented smaller minorities. This suggests a significant portion of the population experiences noise pollution as a negative factor while navigating the area on foot.

**Figure 9**

*Comfortable walking*

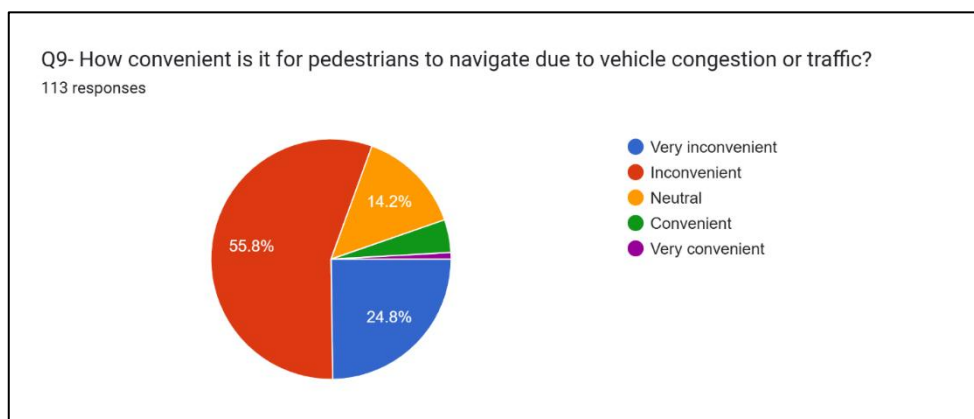


The survey results in Figure 10 indicate a strong consensus among respondents regarding the inconvenience posed by vehicle congestion to pedestrian navigation. A significant majority, 55.8%, found it "inconvenient," while an additional 24.8% considered it "very inconvenient." This suggests that traffic congestion presents a considerable challenge for pedestrians navigating

the area. A smaller proportion of respondents, 14.2%, held a neutral stance, while only a tiny minority found it "convenient" (4.2%) or "very convenient" (1%). These findings highlight the need for improved pedestrian infrastructure and traffic management strategies to enhance walkability and accessibility.

**Figure 10**

*Convenience of walking*

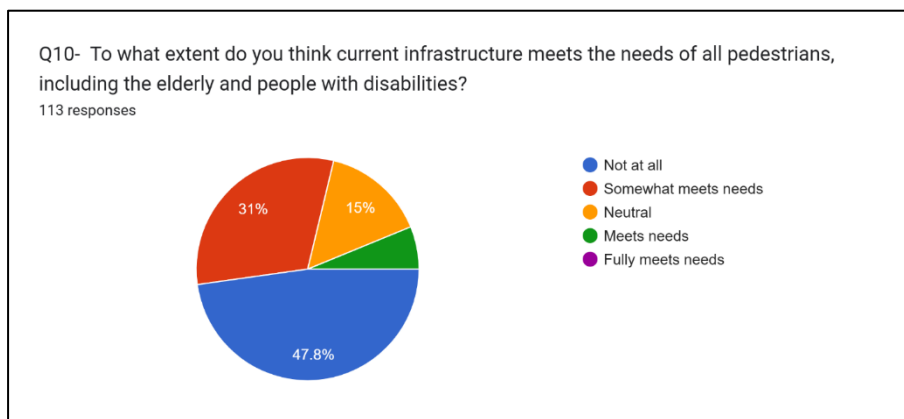


The survey results in Figure 11 indicate a significant dissatisfaction with the current infrastructure's ability to meet the needs of all pedestrians, including older people and those with disabilities. Nearly half of the respondents (47.8%) believe the

infrastructure does not meet these needs, while 31% feel it only somewhat meets them. This suggests a pressing need for improvements to enhance accessibility and inclusivity within the existing infrastructure.

**Figure 11**

*The current infrastructure for walkability*

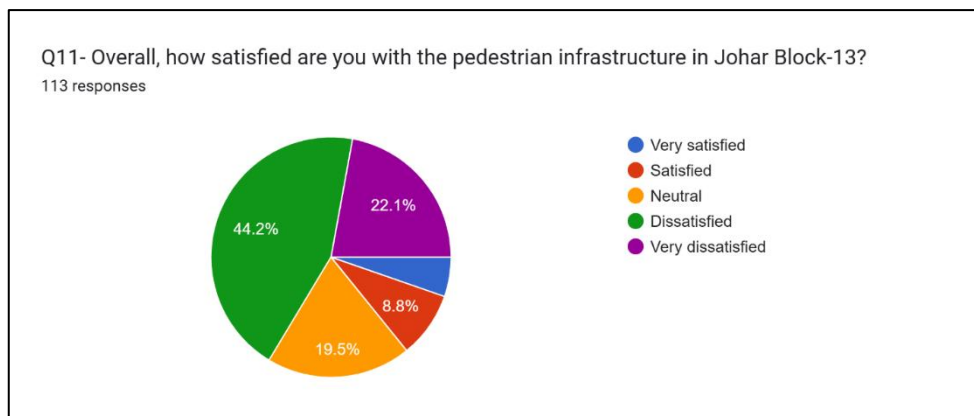


The survey results in Figure 12 regarding satisfaction with pedestrian infrastructure in Johar Block-13 reveal a strong positive sentiment. A significant majority of respondents, 44.2%, indicated they were "dissatisfied" with the existing infrastructure. A further 22.1% were "very dissatisfied," bringing the total negative responses to over 66%. Those expressing satisfaction

remained a minority, with 19.5% "satisfied" and 8.8% "very satisfied." A small proportion, not specified in the chart, remained neutral. These findings suggest a pressing need for improvements to the pedestrian infrastructure in Johar Block-13 to address the concerns of a clear majority of residents.

**Figure 12**

*Overall satisfaction with the pedestrian facility*

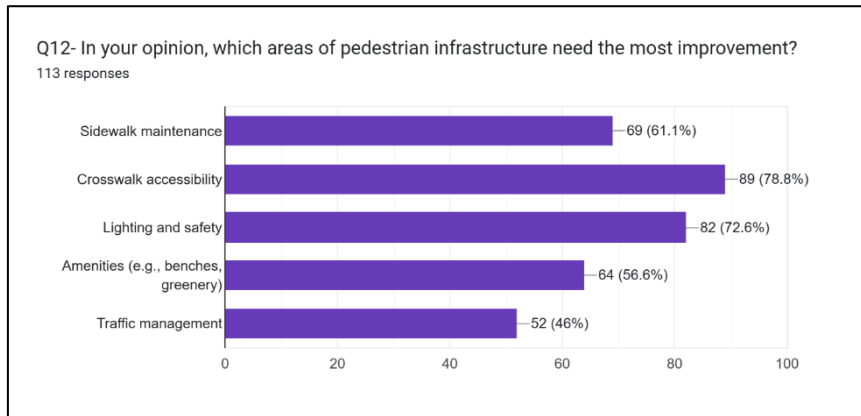


The survey results in Figure 13 indicate that most respondents believe that pedestrian infrastructure requires significant improvement. Among the 113 respondents, crosswalk accessibility emerged as the most pressing concern, with 78.8% indicating a need for improvement. This was closely followed by lighting and safety (72.6%) and sidewalk maintenance (61.1%). Amenities, such as benches

and greenery, were deemed necessary by 56.6% of respondents. Traffic management received the lowest percentage, with 46% of respondents highlighting it as an area needing improvement. These findings strongly emphasize safety and accessibility as key areas for enhancing pedestrian infrastructure.

**Figure 13**

*Pedestrian infrastructure needs improvements.*



### Conclusion

The survey results highlight considerable dissatisfaction among residents regarding the walkability and pedestrian infrastructure in Johar Block-13. Despite a high frequency of daily and weekly walking activity, the overall perception of walkability remains predominantly negative. Key concerns include poor sidewalk maintenance, limited accessibility of pedestrian crossings, inadequate lighting, and pervasive safety issues, with over 76% of respondents perceiving walking in the area as unsafe. Additionally, the infrastructure for nighttime pedestrian activity is viewed as severely lacking, and the provision of pedestrian amenities, such as benches and greenery, is rated poorly. The residents also expressed significant

discomfort due to noise pollution and vehicle congestion, further detracting from the pedestrian experience.

The findings underscore a pressing need for improvements in several critical areas: enhancing the quality and accessibility of sidewalks and crossings, upgrading lighting for safety, and providing pedestrian-friendly amenities to promote comfort. Moreover, the data indicates a strong demand for inclusive infrastructure that accommodates the needs of vulnerable groups, including the elderly and disabled. By addressing these identified challenges, urban planners can foster a safer, more accessible, and inviting environment for pedestrians, ultimately enhancing the walkability and livability of Johar Block-13.



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