

## **Developing and Evaluation Criterion to Assess First and Last Mile Walkability for Daily Commuters**

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### **Abstract**

The study focuses on the first and last-mile walkability through the perspective of a daily commuter. Traditional walkability measures include different parameters such as scenic routes and other amenities, daily commuters may have different priorities. This study aimed to find the parameters that are most important for the first and last-mile walkability for daily commutes while the connection between public transport and walking infrastructure are interconnected, addressing commuter-specific walkability necessities could serve as an attempt to increase public transport usage. Key parameters that influence walking and walking patterns, encompassing multiple key areas including environmental factors, social aspects (security and community interactions), and infrastructural elements (sidewalk quality, maintenance, and pedestrian amenities) were identified through a stated preference survey of daily commuters. The responses for the stated preference survey were obtained from commuters including government employees at public transport hubs through simple random

sampling aiming for a sampling size of 150 responses using simple random sampling. The assessment also examines safety features (street lighting and buffer between pedestrians and motorists), and comfort factors (availability of shade and seating areas), that contribute to the overall walking experience. Furthermore, a weighted parameter system was then developed that assigns relative importance to each identified factor based on user preferences and practical significance. Responses for the stated preference survey showed that parameters such as the availability of drinking water facilities and public toilets, and the aesthetics of surrounding environments have been given less importance by daily commuters. Hence less weighted averages are assigned to them in the walkability score. According to the literature, there are several walkability assessment criteria. This research only proposed a walkability assessment criterion to evaluate the road segments around public transport hubs: bus terminals and railway stations. Data analysis was done according to the results of the stated preference survey and weighted averages were assigned to determine the importance given for each parameter by commuters. Relevant authorities can use this walkability tool to identify the issues faced by daily commuters and improve the road linking to the public transport hubs for a better user experience.

***Keywords:*** *Walkability, First and Last mile walkability, Daily commuters*

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