

## Assessing the Walkability and Urban Design Qualities of Campus Streets

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**Abstract :** Walking has become an indispensable and sustainable way of travel for college students in their daily lives; campus street is an important carrier for students to walk and take part in a variety of activities, improving the walkability of campus streets plays an important role in optimizing the quality of campus space environment, promoting the campus walking system and inducing multiple walking behaviors. The purpose of this paper is to explore the effect of campus layout, facility distribution, and location site selection on the walkability of campus streets, and assess the street design qualities from the elements of imageability, enclosure, complexity, transparency, and human scale, and further examines the relationship between street-level urban design perceptual qualities and walkability and its effect on walking behavior in the campus. Taking Tianjin University as the research object, this paper uses the optimized walk score method based on walking frequency, variety, and distance to evaluate the walkability of streets from a macro perspective and measures the urban design qualities in terms of the calculation of street physical environment characteristics, as well as uses behavior annotation and street image data to establish temporal and spatial behavior database to analyze walking activity from the microscopic view. In addition, based on the conclusions, the improvement and design strategy will be presented from the aspects of the built walking environment, street vitality, and walking behavior.

**Keywords :** walkability, streetscapes, pedestrian activity, walk score

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