

Determination of the Walkability Comfort for Urban Green Space Using Geographical Information System

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Abstract : Walkability relates to the ability of the places to connect people with varied destinations within a reasonable amount of time and effort, and to offer visual interest in journeys throughout the network. So, the good quality of the physical environment and arrangement of walkway and sidewalk appear to be more crucial in influencing the pedestrian route choice. Also, proximity, connectivity, and accessibility are significant factor for walkability in terms of an equal opportunity for using public spaces. As a result, there are two important points for walkability. Firstly, the place should have a well-planned street network for accessible and secondly facilitate the pedestrian need for comfort. In this respect, this study aims to examine the both physical and bioclimatic comfort levels of the current condition of pedestrian route with reference to design criteria of a street to access the urban green spaces. These aspects have been identified as the main indicators for walkable streets such as continuity, materials, slope, bioclimatic condition, walkway width, greenery, and surface. Additionally, the aim was to identify the factors that need to be considered in future guidelines and policies for planning and design in urban spaces especially streets. Adana city was chosen as a study area. Adana is a province of Turkey located in south-central Anatolia. This study workflow can be summarized in four stages: (1) environmental and physical data were collected by referred to literature and used in a weighted criteria method to determine the importance level of these data , (2) environmental characteristics of pedestrian routes gained from survey studies are evaluated to hierarchies these criteria of the collected information, (3) and then each pedestrian routes will have a score that provides comfortable access to the park, (4) finally, the comfortable routes to park will be mapped using GIS. It is hoped that this study will provide an insight into future development planning and design to create a friendly and more comfort street environment for the users.

Keywords : comfort level, geographical information system (GIS), walkability, weighted criteria method

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