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Walkable Urban Environments for Wellbeing:
An Analysis of Walkability in the City of Torino

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ABSTRACT

As is widely recognized, walking is good for health and improves well-being, and in recent years, several studies have analyzed the phenomenon of walkability to assess its effectiveness and to understand the main factors influencing people's choice of walking. In this article, the main issues are taken up as regards the effectiveness of moving on foot as well as the elements of the environment that encourage this type of mobility. However, as we know, not all people are the same, and therefore, the choice of moving on foot is not taken according to the same principles by all categories of citizens. For this reason, this article focuses on a tool, developed in recent years by the authors, that aims to determine levels of walkability (walk index) that can be adapted according to the category of users considered.

KEYWORDS

Land use - Urban density, Pedestrian, Physical activity, sDSS, Spatial analysis, Sustainable mobility, Urban health, Urban planning, Walk index, Walkability

INTRODUCTION

Walking is the most practiced physical activity in European countries and around the world. It does not require particular equipment and is feasible for most of the population.

The benefits of physical activity on health are well known, as regular and moderate physical activity promotes mental, physical and social well-being, helps to prevent heart disease, diabetes, hypertension, obesity and mental health problems.

In addition to the obvious advantages for the health of its citizens, cities that invest in policies and programs to promote physical activity (by regenerating the open spaces including streets, public parks, footpaths, pedestrians, pathways, enhancing the connectivity of destinations and promoting active modes of transport) can save a lot on health and transport costs. Furthermore, their citizens are more productive and the cities more liveable and attractive for residents, workers and tourists. Moreover, they can affect air quality and noise pollution and have greater access to green areas, promote neighborhood redevelopment actions, social cohesion and community identity and, finally, widen social networks (Edwards, Tsouros 2006).

Local projects to promote physical activity and active living should be correlated and integrated in a broader planning context that also involves other sectors, for example with other urban planning

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initiatives related to transport, the environment, energy, to economic and social development, to the location of services.

A 'walkable city' recognizes the value and importance of an active lifestyle, physical activity and sport and provides everyone with the opportunity and incentive to make movement in everyday life.

The choice of moving on foot depends on several factors. On the one hand, it is influenced by the organization and structure of the city and, on the other, by subjective elements characterizing the different categories of people. In this perspective, both the building and social context are fundamental elements. The building context, which we will focus upon, includes land-use destinations and their connectivity, transport system, green areas and all buildings and spaces created for the community (including schools, residential areas, workplaces and spaces for leisure time).

Hodgson et al. (2004) recognize that pedestrians are not a homogenous group; therefore, they cannot all be treated in the same way. Different studies use different criteria to categorise different types of pedestrian often the criteria are not consistent between the studies. Anyway, most of them recognise that physical ability, social roles and economic constraints play a role in the choice of walking.

If we think about the daily habits of an adolescent, of a working middle-aged woman, or an impaired old man, or and aged active woman, we can understand that they have different interests, destinations, timing and possibilities of moving. Thus, having a different walkability index based on each one preferences for the same neighborhood will show a more respondent image of their walking attitude and built environment opportunities for this.

For the above-mentioned reasons, the authors developed a specific tool (WalkabiliTO, 2018) able to evaluate the level of walkability based on the different needs and perceptions of different categories. With this methodology, the same neighborhood will have different levels of walkability according to the category considered (students, young people, old people…). This feature is useful to understand how the same built environment can affect diverse population categories, thus incorporating the equity lens and offering a tool to better understand inequalities and their mechanisms.

The walkability index we propose here focuses on the structural and supply side of the built urban environment, proposing an assessment of the degree of walkability on the whole territory of the City of Torino that can be adapted according to different attitudes of citizens.

The possibility of adapting the tool to different kinds of users and of creating personalized walk index by easily changing the destinations and parameters represent the most innovative elements of this tool, compared to other experiences analysed.

The article starts with the explanation of the concept of walkability, followed by a review of the elements contributing to make cities more walkable. Then, the methodology is illustrated in detail, followed by a paragraph dedicated to results and discussion and a last one dedicated to the conclusion and to possible future research on the topic.

THE WALKABILITY

Walkability is defined in the literature with different terms (e.g., proximity, accessibility, and suitability): therefore, it is important to establish an operational definition for the purpose of this study.

Many studies from the earliest terms of walkability until now, worked on the concepts of walkability in various fields such as; architecture, transportation, urban design and planning, and public health. Each scientific research described walkability in different terms and characteristics by different variables and measurements. The first concept of walkability identified in scientific papers dates back to the early nineties and was introduced by urban designers and spatial planners (Southworth and Ben-Joseph, 1995; Southworth and Owens, 1993). It was about the elements of the

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