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Perceived accessibility: An introduction

1. Calculated versus perceived accessibility

Over the past decades, many studies have analysed and measured accessibility, i.e., the potential – or ease – of reaching destinations (e.g., Geurs and van Wee, 2004; Handy & Niemeier, 1997). Accessibility is influenced by land use (how close destinations are) and transport (how fast/easy the transport system links an individual or a location to potential destinations) (e.g., Handy, 2020). The former is highly influenced by built environment characteristics such as land use density and diversity, while the latter accounts for the availability and quality of mobility options and transport services. Since social inclusion through access to work, education, healthcare, food, etc., is increasingly recognised as the main goal of transport systems rather than efficient mobility, the concept of accessibility has been gaining prominence in land use and transport planning (Boisjoly and El-Geneidy, 2017). However, since accessibility refers to individuals' ability or ease of reaching destinations, it may be perceived differently by people residing in the same location (with the same number of activities reachable by the available transport options). Hence, recent studies have started exploring perceived accessibility, i.e., the perception of how easily one can access their desired destinations using a (range of) specific mode(s) (Negm. et al., 2025; Pot et al., 2021). Perceived accessibility is shaped by perceptions of spatial accessibility components (land use and transport), including people's perceived ease to engage with them (Fig. 1). Perceived accessibility can deviate from accessibility calculated from land use and transport data (henceforth called 'calculated accessibility'), for example when people under- or over-estimate how nearby activities are (or may not be interested in those nearest) or when they may not have the same travel abilities and preferences (e.g., not everybody can (easily) walk or cycle, has access to a car, wants to travel by certain travel modes, or is fully aware of the available travel options (e.g. public transport services)). Some studies have indicated that perceived accessibility can be a better predictor of activity participation than calculated accessibility (e.g., Pot et al., 2021). However, existing studies on perceived accessibility seem to struggle with creating uniform definitions and measurement tools, which contributes to the current limited knowledge on the subject (e.g., Negm. et al., 2025).

2. The role of perceived accessibility

As indicated above, perceived accessibility is influenced by people's perceptions of the built environment and transport opportunities, and how they feel they can interact with them. The distortion between calculated and perceived accessibility may be partly explained by travel attitudes and preferences (van der Vlugt et al., 2022). A person disliking public transport may not be interested in the location of nearby public transport stops and what opportunities these stops can lead them to, while someone without a bicycle may not know the city's cycling network and accordingly perceives low accessibility by cycling to reach their desired destinations. Additionally, perceived accessibility is influenced by personal travel-related elements, such as car/bicycle ownership, and individual capabilities such as personal fitness levels needed to comfortably walk or cycle (Pot et al., 2023). Despite recent research on perceived accessibility, a clear understanding of its main determinants is lacking. An obvious outcome of perceived accessibility is participation in out-of-home activities. A person feeling that many destinations are easy to access is more likely to participate in these activities compared to a person with low perceived accessibility levels. However, only one study (Pot et al., 2024) explored this, finding a (weak) positive correlation between perceived accessibility and activity participation in non-urban areas. Somewhat surprisingly, more studies focused on the effects of perceived accessibility on travel or life satisfaction (e.g., Lättman et al., 2019; Friman and Olsson, 2023), which only seem to be indirect outcomes of perceived accessibility. If any type of satisfaction should be studied, activity satisfaction (together with activity performance) seems most applicable. Perceived accessibility can also impact people's travel, as

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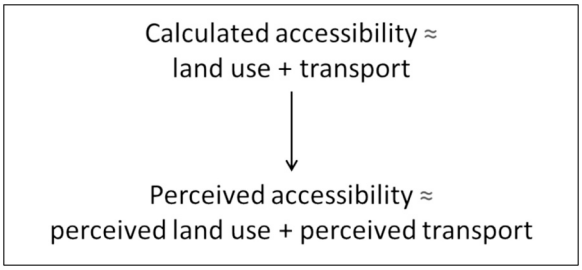

Fig. 1. Calculated accessibility versus perceived accessibility.

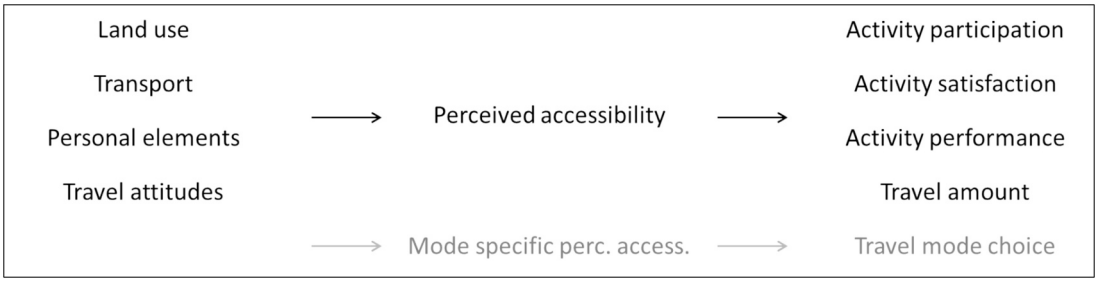

Fig. 2. The role of perceived accessibility.

those who perceive living in an accessible neighbourhood may travel more than those who indicate living in a neighbourhood with low perceived accessibility levels. Mode-specific perceived accessibility – how easy people feel it is to reach a destination with a certain travel mode – can impact travel mode choice, as people will be more inclined to use a mode that they perceive will easily bring them to their desired destination (Fig. 2). Therefore, two neighbours travelling to the same activity, may choose to engage with different modes, due to their own perceptions of ease and suitability. Perceived accessibility can influence activity-travel behaviour as it can be regarded as a form of perceived behavioural control (people's perception of the ease or difficulty of performing a certain behaviour), which – according to the theory of planned behaviour – has a strong impact on the intention to perform that behaviour (Ajzen, 1991).

3. A special issue

In this special issue, we present 19 articles analysing various aspects of perceived accessibility. Many of them explore the determinants of perceived accessibility. Moleman and Kroesen (2025) indicate that in the Netherlands social elements (e.g., low income and older age) rather than transport or spatial elements determine perceived inaccessibility. Zhu et al. (2024), on the other hand, indicate that in Nanjing (China), the housing location and transport provision have important effects on perceived accessibility. Vafeiadis and Elldér (2024) analysed perceived accessibility of various modes in Gothenburg (Sweden) and found, for instance, that car use, car access, and car attitudes positively influence perceived car accessibility, but lower perceived accessibility of other modes. Some studies had a specific focus on walking. Oviedo et al. (2025) found that the absence of shade and fear of robbery or traffic accidents can negatively impact perceived walkability in Ghana and Mozambique. In three European cities, van der Vlugt et al. (2025) found that perceived walkability is mainly influenced by walking attitudes and partly by the built environment. In Sydney (Australia), Roper et al. (2024) observed that perceived walkability is positively influenced by natural and water views and negatively affected by walking along high-traffic roads. In Munich (Germany), Jehle et al. (2024) found that perceived walkability – measured with a perceived user-specific accessibility measure for walking – differs by personal elements (age, gender, physical ability) and location. Also Bozovic et al. (2024) focused on perceived walkability, analysing the perceptions of pedestrian crossings in Auckland (New Zealand), to identify elements which can be regarded as hostile for walking. A study focusing on cycling in Hong Kong, Chan (2025) discovered that perceived bikeability is shaped by the interplay between infrastructure, cycling practices, formal regulations, and informal rules. In 53 French cities, Moinse (2024) found that women have considerably lower levels of perceived bikeability than men. In a study on aviation, Yoo et al. (2025) found that perceived accessibility by air travel of Dutch respondents is not only affected by cost and travel times, but also by elements such as potential flight schedule disruptions or unfriendly behaviour of staff and other passengers. In Luxembourg, Arranz-López et al. (2025) found that Internet and e-shopping can help in overcoming space and time accessibility barriers, especially for young adults.

Some studies also analysed to what extent perceived accessibility aligns with calculated accessibility. Roper et al. (2024) found high similarities between perceived walkability and a calculated walkability index, while Orrego-Oñate and Marquet (2025) indicate that perceived proximity (as a measure of perceived accessibility) especially aligns with calculated accessibility in compact and mixed-use areas of three Spanish cities. Ma et al. (2025) on the other hand, found that there is a substantial discrepancy between the calculated accessibility and perceived accessibility of urban parks in Guangzhou (China). Multiple studies also found effects of perceived

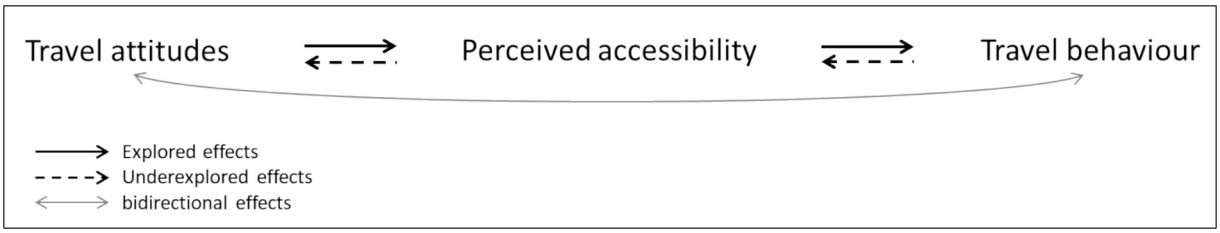

Fig. 3. (Under)explored links between perceived accessibility, travel behaviour and attitudes.

accessibility on travel behaviour. Blandin et al. (2024) indicate that general perceived accessibility has a negative impact on the use of car and public transport in Santiago (Chile). Both Orrego-Oñate and Marquet (2025) and van der Vlugt et al. (2025) found that perceived walkability has a positive influence on walking frequency and duration. In Montreal (Canada), Negm and El-Geneidy (2025) reveal that perceived accessibility by walking and public transit positively impact the weekly walking and public transport mode share, respectively, but also that calculated accessibility keeps having a significant impact. Nguyen-Phuoc et al. (2025) found that perceived train access has a positive impact on the intention to switch to the urban train system in Hanoi (Vietnam). Mehdizadeh and Kroesen (2025), on the other hand, found that the effect of travel mode use on mode-specific perceived accessibility is stronger than the inverse relation of perceived accessibility on mode use in the Netherlands. Finally, two studies explored other determinants of perceived accessibility. Zhu et al. (2024) indicate that perceived accessibility positively affects perceived transport and housing equity, while Parga et al. (2024) found that high perceived accessibility is positively correlated with better self-reported mental, physical and overall health in Scarborough (Canada).

In sum, the articles in this special issue – using several methodologies in various geographical contexts – have provided new insights in the determinants of perceived accessibility while showing how perceived accessibility can influence people's travel behaviour, equity, health, and well-being. This can help policymakers and urban planners working towards improving neighbourhoods' perceived accessibility by active modes and public transport, thereby stimulating sustainable transport and participation in out-of-home activities. However, research gaps are still present. Besides the lack of studies looking at the impacts on activity participation (which can strongly impact people's well-being and quality of life), we would also recommend future scholarly work to analyse the causality between perceived accessibility and related elements. Mehdizadeh and Kroesen (2025) already showed in this special issue that the effect of mode choice on perceived accessibility may be stronger than the other way around, while it may also be possible, for instance, that perceived accessibility influences travel attitudes (more than vice versa), which may be more malleable than often assumed (Fig. 3). Additionally, the multitude of definitions and methodologies used in the included articles keep demonstrating a desire to use standardised definitions and measurements of perceived accessibility, as indicated by Negm. et al., 2025.

CRediT authorship contribution statement

Jonas De Vos: Writing – original draft. **Felix Pot:** Writing – review & editing. **Dea van Lierop:** Writing – review & editing. **Ahmed El-Geneidy:** Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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