

The relation between modeled and perceived accessibility

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ABSTRACT

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This thesis investigates the relationship between modeled and perceived accessibility across different activities and transport modes. Accessibility is important for people's daily lives as it enables them to reach and carry out various activities. For this reason, researchers and planners have been trying to measure accessibility using mathematical models, mainly focusing on the location of activities and how these locations can be reached using the transport network. However, during the last decade, researchers have started investigating how people perceive their accessibility, giving much more emphasis on individual constraints and preferences. This raises the question of how these two concepts are related. This is important because a lack of association would be problematic for the use of modeled accessibility in planning.

This thesis tackles this question by using time geography to understand the similarities and differences between modeled and perceived accessibility and by conducting an in-depth, disaggregated investigation of the relation across four transport modes, five different everyday activities, using three different accessibility models. Focusing on the Gothenburg Region, in western Sweden, perceived accessibility was captured through a web survey (N=1534) targeting non-retired adults (aged 18–64 years). Modeled accessibility was calculated based on the location of the investigated amenities and the travel time between them and people's approximate residential location.

Four main conclusions can be drawn from the results. First, results indicate a significant relationship between modeled and perceived accessibility. Second, individual characteristics, attitudes, and habits exert a stronger influence than modeled accessibility does on perceived accessibility. Third, among the investigated transport modes, the case of the car stands out, as the relationship is the opposite of what would be expected. Finally, time geography is a useful framework for exploring the differences and similarities between modeled and perceived accessibility.

Keywords: modeled accessibility, perceived accessibility, accessibility indicators, Sweden, time geography

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