🖵 41

How to assess accessibility: subjective accounts, objective measures, or both?

[1]*Ryan, J. & [2]Pereira, R.H.M.

* lead presenter, *jean.ryan@tft.lth.se*
[1] Lund University, Sweden
[2] IPEA – Institute for Applied Economic Research, Brazil

The transport literature increasingly recognises accessibility as a key purpose of transport policies. Disparities in accessibility among population groups form a central concern in discussions surrounding transport equity. However, there is no consensus as to how accessibility should be defined or measured.

Calculated levels of accessibility using data on land use and the transport system ('objective' indicators) are influenced by the observer's values and assumptions, while accessibility analyses based only on self-reported information ('subjective' indicators) are often linked to dependence paths and self-selection processes.

This study includes a focus on both objective and subjective indicators of accessibility; the former, a composite measure of individual activity-based accessibility; and the latter, comprising individuals' own perceptions of their capability to access valuable out-of-home activities. This study has three objectives: (1) to more accurately represent individual accessibility by combining both objective and subjective indicators; (2) to examine the distribution of these two indicators; and (3) to analyse whether and how these two indicators differ.

The self-reported indicator was based on a survey of people aged 65-79 living in Sweden's large metropolitan regions: Stockholm, Gothenburg and Malmö. The objective indicator was developed using door-to-door travel times to a typology of 'necessary' and 'discretionary' activities, including supermarkets, healthcare facilities, sports facilities and cultural activities. Travel times were calculated using activity-based multimodal transport modelling with OpenTripPlanner, road network data from OpenStreetMap and public transport data in General Transit Feed Specification (GTFS) format. The data were analysed using factor analysis, logistic regressions, chi-square analyses and descriptive statistics.

The results of this study allow us to gain a greater insight into the ways in which the two accounts differ and can complement one another, what is overlooked by focusing on only one account, and the distribution of both objective and subjective accessibility for transport equity analysis.