

Extended abstract (700 words) for NECTAR Cluster 6 - The Roadmap for Shaping the ± 15 -Minute City: Proximity-centred Accessibility in Practice

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Mixed methods approach to understanding perceived walkability in the 15 Minute-City

Walking is a cheap and sustainable mode of travel which has the potential – at least for short distances - to decrease travel by less environmentally friendly modes as well as boost physical health and wellbeing. If combined with public transport, walking has the potential to reduce car-dependency in shaping neighbourhoods with regard to the 15-Minute city. To this end, urban neighbourhoods need the basic pedestrian infrastructures and should provide access to relevant urban amenities and places. Previous research has shown that good walking conditions and accessibilities are essential to encourage walking in urban areas, but that these are interrelated with people's perceptions and walking attitudes.

This paper presents how mixed methods approach has been applied for assessing perceived walkability. The research is drawn upon the EU-funded project WalkUrban which aims for a better understanding of urban walkability in order to allocate more urban space to walking. In many urban neighbourhoods, the private car is still the dominant transport mode, causing well-known problems, such as congestion, traffic accidents, or air and noise pollution. In contrast, walking is a zero-emission transport mode and feasible for most people, thus together with cycling walking is expected to play a central role in realising 15-Minute City neighbourhoods. The influence of built environment characteristics on perceived walkability, such as street connectivity, proximity-based developments and land use pattern, has been widely discussed in previous research, and the dominant approach to travel behaviour research is based on travel choice modelling from large quantitative surveys. In addition to the findings from household surveys, micro-scale and street level assessments are needed to understand how people perceive the built environment and what factors actually stimulate them to walk. An inclusive design for walking is especially important for vulnerable groups with special mobility needs, such as older people, disabled or children. To probe the perceived walkability of different groups of people, we have improved data collection and analysis methods for examining the interconnection between walking-related attitudes, travel satisfaction, local walking cultures and perceptions.

Our mixed methods approach aims to consider multiple viewpoints and validate findings from different methods by blending quantitative and qualitative data. In this paper, we provide key findings from our research on walking behaviour and perceptions in six urban residential areas in Dortmund (Germany), Genoa (Italy) and Gothenburg (Sweden). These cities differ in their built environment and topography, and socio-economic structure as well as policies and approaches toward facilitating walking as a travel mode. For all neighbourhoods we calculated a walkability index to assess objective walkability using OpenStreetMap (OSM) data and compare it to the resident's perceived walkability, which we obtained through a household survey.

To delve into perceived walkability at street level, we applied further two methods: walk-alongs and walking route assessment based on citizen science. In order to capture specific needs of vulnerable people in relation to a safe and enjoyable walking environment, we conducted walk-along interviews with different target groups. In all cities we walked with school children in the surrounding area of their schools. In addition, elderly people were interviewed during walking in Dortmund and disabled people in Genoa. As regards the walking route assessment, we adapted a professional and freely available software, KoBoTool box to develop a tool for investigating perceived walkability. Citizens, mainly in Dortmund and Genoa, used the tool on their smartphones, selected their walking route(s) and assessed factors related to basic requirements of walking (e.g., passable streets, even pavement surfaces) and additional aspects which enhance their walking experiences (e.g., lively streets with many shops stimulative arts).

Our research dealt with not only perceived walkability, but also objective walkability which served as a comparative basis for understanding built environment characteristics and proximity-centred accessibility of the studied neighbourhoods. However, in some cases, areas with high walkability as a result of objective assessments might not always be perceived by people as walkable. Thus, the central focus of our research is placed on investigating perceived walkability by integrating quantitative (household survey, walking route assessment) and qualitative methods (walk-alongs interviews). By using these mixed methods, we can gain a deeper understanding of supporting and hindering factors for walking and will discuss the roles of walking in sharing the 15-Minute City.

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