

# Enhancing the Explainability of Urban Walkability Assessments. A 3D Visualization Approach for Elderly Accessibility in Germany

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**Key words:** Geoinformation/GI; Walkability; Spatial Explainability; Geospatial Visualization; 3D representation

## SUMMARY

Walkability metrics, such as the Walk Score, provide valuable insights into the accessibility of amenities but often fail to capture the specific barriers that are significant for different demographic groups. This paper presents a 3D visualization approach based on an adapted Walk Score tailored to the needs of elderly-friendly urban planning. This approach allows planners to visualize walkability metrics alongside demographic data in a single interface, contributing to a more nuanced understanding of the factors influencing walkability and supporting the development of targeted interventions.

We apply the proposed visualization prototype to the country district and the city of Kaiserslautern in Western Germany. The case study demonstrates the feasibility of this approach. Integrating 3D visualizations into walkability assessments provides a critical information base that can support planners and decision-makers in developing solutions to address the practical challenges of creating accessible and sustainable urban environments. It highlights the need for effective and understandable walkability metrics to enhance decision-making. However, the assumptions were made under laboratory conditions, and further comprehensive development for practical applications is still needed.

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