Evaluating Urban Green Space Accessibility through Public Transportation Networks in Salzburg

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# Abstract

Equitable access to urban green spaces significantly impacts urban liveability and public health and achieving fairness in such accessibility remains a pressing challenge in urban planning. Current studies primarily focus on spatial proximity, often neglecting how transportation infrastructure influences practical accessibility. This research addresses the gap by investigating the fairness of urban green space accessibility in Salzburg through the lens of public transportation networks. The objectives are to quantitatively evaluate disparities in green space accessibility across different residential areas, identify underserved populations, and propose actionable recommendations to improve transportation-based equity. Employing Geographic Information Systems (GIS) network analysis methods, this study integrates public transport timetables, stop locations, demographic datasets, and spatial distribution of urban green spaces. Accessibility indices will be computed considering travel time, frequency, and coverage of public transportation services. The results will be visualized through interactive WebGIS-based accessibility maps, directly serving urban planners, policymakers, and the general public. This research provides evidence-based support for urban planning strategies aimed at enhancing equity in green infrastructure, ultimately promoting environmental justice and sustainable urban development.

# Keywords

Accessibility, Urban Green Spaces, Public Transportation, Equity, WebGIS