

# H11V-0965 A Multi-Dimensional Framework for Assessing Urban Green Infrastructure Accessibility for Children



Monday, 9 December 2024



08:30 - 12:20



Hall B-C (Poster Hall) (Convention Center)

## Abstract

The extensive benefits of Urban Green Infrastructure (UGI) on children's physical, mental, and social well-being are well-documented. However, children as a vulnerable group in urban settings often face limited access to UGI, especially those residing in socially disadvantaged neighborhoods. The unequal distribution of green spaces combined with inequities in funding policies for the implementation and maintenance of UGI, exacerbates environmental disparities affecting children. Therefore, prioritizing UGI planning is crucial to offer children more chances to connect with nature.

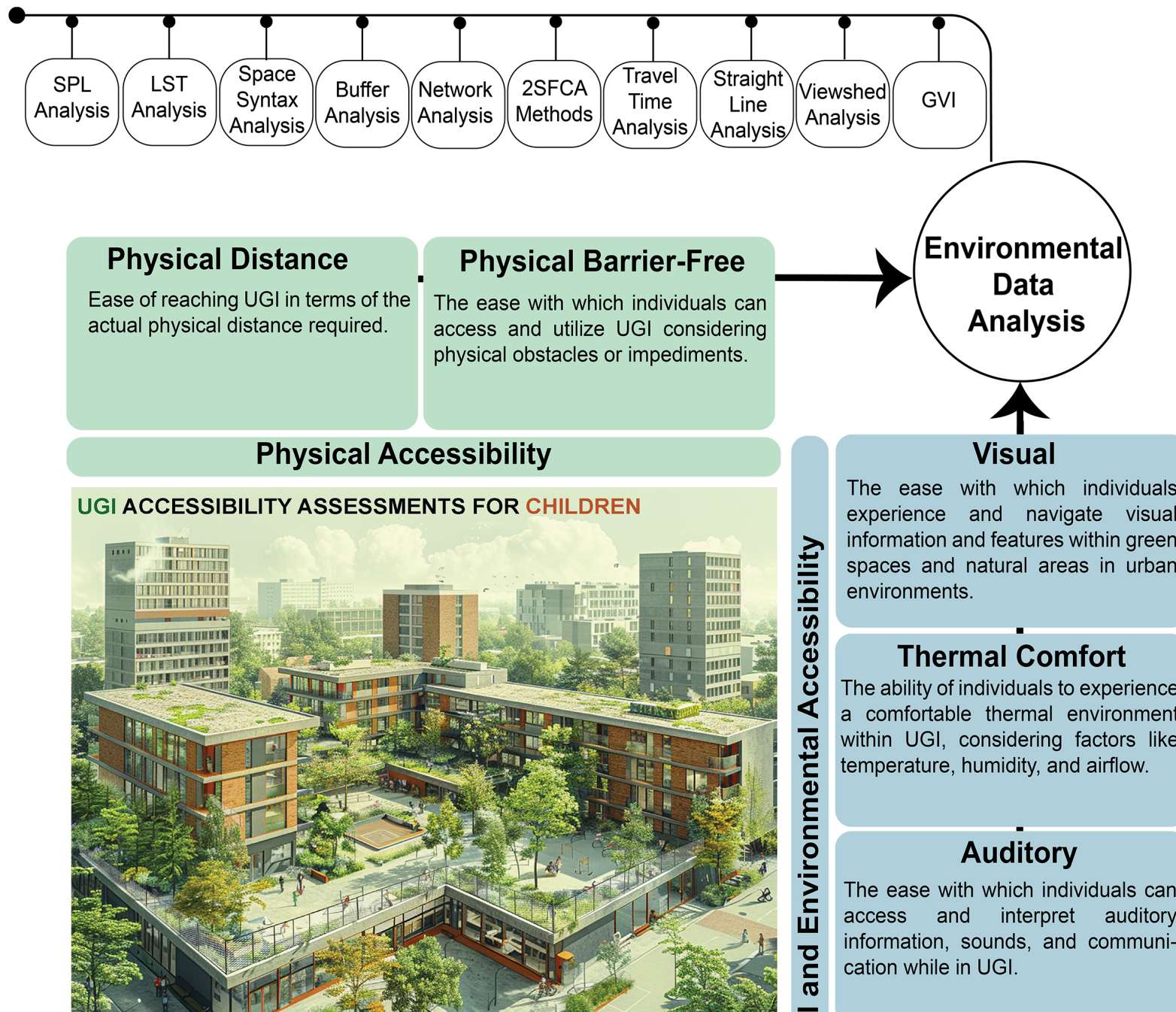
However, without the appropriate methods to assess UGI accessibility for children, urban planning, and investment strategies might lack support or misallocate funds. Previous literature has explored specific aspects of UGI accessibility for the general population including i) physical (i.e., proximity to green spaces), ii) perceived (i.e., barrier-free), and iii) sensory/environmental accessibilities (i.e., thermal, visual, and olfactory aspects). Yet, previous literature has generally overlooked the prioritization of the aspects of accessibility in UGI evaluations for children.

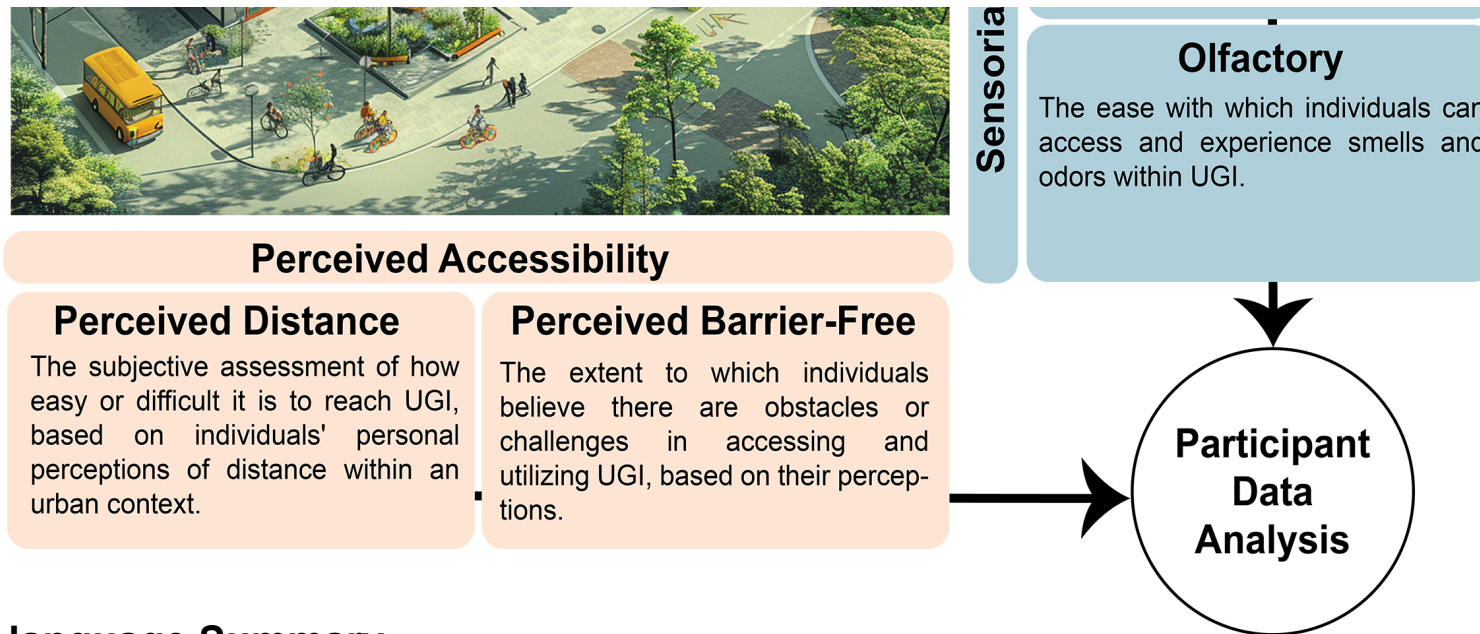
This paper identifies the gaps in UGI accessibility assessments focused on children and proposes a framework that compiles applicable methods to assess the various dimensions of children's accessibility to UGI. This

framework classifies the methods for UGI accessibility assessments into environmental data analyses (i.e., distance-based analysis) and participant data analyses (i.e., questionnaires and interviews). It advocates for integrating both in children's land use such as school environments (built areas within and around schools) to provide a more comprehensive understanding of how children access UGI. This framework aims to guide future planning efforts, ensuring more equitable access to UGI for all children, particularly those residing in low socioeconomic neighborhoods.

This study emphasizes the importance of inclusive environmental decision-making in UGI accessibility assessments. It aims to inform urban planners and policymakers, promoting equitable distribution of green infrastructure and fostering practices that enhance children's access to green spaces, thereby improving their

overall well-being.





## Plain-language Summary

Urban green spaces are vital for children's physical, mental, and social health. However, children, especially those in disadvantaged neighborhoods, often have limited access to green spaces. This problem is made worse by unequal funding for green space maintenance and development, which leads to environmental inequities.

Proper urban planning is essential to ensure that all children can experience green spaces, but current methods to assess how accessible these spaces are for children are lacking. Additionally, Most studies focus on adults accessibility, such as how close green spaces are or how easy they are to navigate, but they rarely prioritize children's needs.

Our research addresses this gap by proposing a comprehensive framework to assess children's access to urban green spaces. This framework considers different aspects of accessibility to green spaces with compilation of environmental data analyses, like proximity measures, and participant data analyses, such as questionnaires, by considering areas like schools to get a full picture of how children access green spaces. With this framework, we aim to guide urban planners in creating more equitable green spaces.

In summary, our study highlights the importance of inclusive and fair urban planning to improve children's access to green spaces, thereby supporting their overall well-being.

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