



August 24th, 2023

Dear Emily Chenette,  
*Editor-in-Chief, PLOS One*

This letter is in support of the manuscript submitted titled ***Multimodal spatial availability: a singly-constrained measure of competitive accessibility considering multiple modes***. I am the lead and corresponding author, and a doctoral graduate candidate in the School of Earth, Environment and Society at McMaster University. The co-authors are Javier Tarrío-Ortiz, a doctoral graduate from Universidad Politécnica de Madrid, Spain; Prof. Julio A. Soria-Lara from the Urban and Regional Planning at Universidad Politécnica de Madrid, Spain; and Prof. Antonio Paez from the School of Earth, Environment and Society at McMaster University.

As a continuation of our research efforts and an extension of our previously published work in PLOS One titled ***Introducing spatial availability, a singly-constrained measure of competitive accessibility*** published in January 2023 ([DOI](#)), this present submission expands spatial availability to quantify differences in accessibility offered by mode. Accessibility measures are widely used the field of transport geography and transport and service provision planning.

In our previously published article, we introduced the spatial availability measure and compared it to existing accessibility measures through a synthetic and empirical example. The positive response and valuable feedback from both the readers and the academic community encouraged us to further investigate multi-modal applications of spatial availability.

The present submission extends the spatial availability measure to the case of multiple modes. An increasing number of studies within this field are concerned with inequities, particularly those arising from differences in access by mode type. However, existing methods for assessing multimodal accessibility fall short in accounting for aspects of competition for opportunities and the finite nature of opportunities themselves. In this vein, we first illustrate the features of spatial availability that make it suitable for multimodal analysis. Subsequently, we demonstrate its application through a case study of Low Emission Zones (LEZ) in Madrid (Spain), showcasing how LEZ as a policy intervention could have impacted accessibility for locations with diverse mode preferences.

This multimodal extension allows us to create and interpret multimodal policy intervention scenarios that were not possible with previous methods, aiding regions in envisioning a more sustainable and equitable access-to-opportunity landscape by better identifying differences in accessibility afforded by different modes.

We believe that the expanded findings detailed in this submission hold significant relevance to the readership. The new perspectives presented contribute to the ongoing discourse in the field of transportation and urban planning, offering valuable implications for policy development and urban design.

Thank you for your time and consideration. We look forward to the opportunity to contribute once again to PLOS One. Please feel free to contact us if you require any further information or have any queries regarding this submission.

Sincerely,

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