# Improved urban mobility toward climate neutrality under new working habits and transport modes



## Disconnected Connectivity: Unveiling the Paradox of Urban Transportation Networks and Social Equity

The IMUMCN project, developed under the joint initiative of JPI Urban Europe and the NSFC call (ENUAC), presents an insightful study focusing on the creation of accessible, climate-neutral, and sustainable urban environments in China and the EU. This initiative aims to enhance urban connectivity and efficiency by integrating various modes of transportation, addressing the crucial aspect of equity in urban transportation.

The methodology employed by IMUMCN integrates travel times collected from Google Maps across different modes of transportation (biking, walking, driving, and public transport) with socioeconomic data, such as income levels and car ownership. This approach not only maps the physical accessibility of different urban communities in Groningen but also reflects the socioeconomic landscape that influences these patterns.

The space P method, used to construct connection networks by eliminating edges where travel exceeds 15 minutes, establishes a "15-minute living circle." This concept is a pivotal part of modern urban planning, aiming to ensure that essential services and workplaces are within a short travel distance for everyone. Interestingly, the findings highlight that network connections are strongest when using automobiles, as indicated by metrics such as the highest degrees of nodes and centrality.

However, the observation that high-income communities exhibit a degree of isolation despite potentially better transportation facilities poses significant questions about the true accessibility and integration of these areas. This suggests a disparity where higher economic status does not necessarily correlate with better connectivity to the wider urban fabric.

This study underscores the importance of considering both physical and socioeconomic factors in urban planning. Ensuring equitable access to transportation and thereby to urban opportunities requires more than just infrastructural development; it demands a nuanced approach that considers diverse community needs and integrates them into the broader urban ecosystem. The insights from IMUMCN could be instrumental in guiding future urban development policies to foster more inclusive and sustainable urban environments.