Track 4 - Modellierung und Simulation von urbanen Strukturen und Dynamiken (de/engl) // Track 4 - Modelling and Simulation of Urban Structures and Dynamics (de/engl)

Combining Space Syntax and Location-Based Methods to Map Urban Accessibility

M.Sc. Jose Andres Morales

Twente University, ITC Faculty, Urban and Regional Planning and Geo-Information management Department (PGM)

Dr. Johannes Flacke; Dr. Jaap Zevenbergen; Dr. Javier Morales

Acknowledging urban accessibility is important for the planning process as it has conceptual and empirical relations with the economic value of land. Most of the land value modelling literature had implement the concept of accessibility based on distance measures following classical theories of urban economy. Little research has been done implementing Space Syntax, which models accessibility as a resource derived from the topological, geometrical, and metric properties of the urban network. Thus, based on a more comprehensive definition of urban accessibility, and integrated framework is proposed. Our goal is to improve how we measure accessibility by combining Space Syntax with location based methods. We made and empirical implementation in two case studies in Guatemala. Different data sources were integrated from Open Street Map and local planning offices. Implementing Space Syntax and location-based accessibility methods improves our understanding of urban structure and accessibility in Guatemala. The outputs produced would contribute to inform the local planning practice. Finally, the framework is adaptable to different urban contexts and flexible to data availability, and contributes as a useful guide to map urban accessibility.