

Structural Tension Indicator

Henrique Leite and Romulo Krafta

Abstract

The current work presents the structural tension, a performance indicator that evaluates the degree of correspondence between two measures of centrality (accessibility and weighted betweenness) in urban systems. First, it approaches the theoretical paradigm and the pertinent centrality measures for the comprehension of the indicator. Second, it introduces a framework for the construction of urban models based on data from the Addressing Record of the Brazilian Institute of Geography and Statistics, from which structural indicator can be assessed. Then, it presents a case study for the urban model produced for a city in Southern Brazil. Finally, it discusses the obtained results, and points out further developments for the indicator.

Keywords: structural tension; centrality; complex systems; urban modelling; urban performance indicators.

H. Leite (Corresponding author) • R. Krafta
Postgraduate Program in Urban and Regional Planning, Federal University
of Rio Grande do Sul, Porto Alegre, Brazil
Email: henriquelorealeite@gmail.com

R. Krafta
Email: krafta@ufrgs.br