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Identifying profiles of workers according to home-to-work travel time in Rio de Janeiro Metropolitan Region

Rafaela Soares Bueno (The Opinion Edge)

Luiz Sá Lucas (The Opinion Edge)

ABSTRACT

Daily urban mobility is one of the main challenges facing by large urban conglomerates around the world nowadays. Brazilian researches indicate work as main reason of daily displacement. Therefore, the indicator "time of home-to-work travel" has become quite useful in socioeconomic inequality and social spatial organization studies. The present work aims to identify sociodemographic profile of workers in Rio de Janeiro Metropolitan Region (RJMR) according to their mobility conditions, which will be measured by home-to-work travel time, based on Brazilian Demographic Census of 2010 (the last one in Brazil), utilizing the OrderSeg technique. OrderSeg is essentially a genetic algorithm meta-heuristic for segmentation where the segments are defined such that a given focus is implemented as an ordering on a given variable. In other words, it is a p-medians/ k-medoids method where constraints are imposed on the optimization process. The expected result is identify at least five different groups related to home-to-work travel time, being explained by other sociodemographic features as well, such as income, occupation, migration conditions, type of commuting (between cities or not), gender, age, and others. The spatial configuration of urban territory of Rio de Janeiro Metropolitan Region and the occupation of the population on this area are reasons that explain the different performance of time.

Key words: Daily urban mobility; Home-to-work travel time; Rio de Janeiro Metropolitan Region; OrderSeg classification.