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Territorial Analysis of the Public Transport Supply: Case Study of Recife City

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Abstract : This paper is part of an ongoing PhD thesis. It seeks to develop a model to identify the spatial failures of the public transportation supply. In the construction of the model, it also seeks to detect the social needs arising from the disadvantage in transport. The case study is carried out for the Brazilian city of Recife. Currently, Recife has a population density of 7,039.64 inhabitants per km². Unfortunately, only 46.9% of urban households on public roads have adequate urbanization. Allied to this reality, the trend of the occupation of the poorest population is that of the peripheries, a fact that has been consolidated in Brazil and Latin America, thus burdening the families' income, since the greater the distances covered for the basic activities and consequently also the transport costs. In this way, there have been great impacts caused by the supply of public transportation to locations with low demand or lack of urban infrastructure. The model under construction uses methods such as Currie's Gap Assessment associated with the London's Public Transport Access Level, and the Public Transport Accessibility Index developed by Saghapour. It is intended to present the stage of the thesis with the spatial/need gaps of the neighborhoods of Recife already detected. The benefits of the geographic information system are used in this paper. It should be noted that gaps are determined from the transport supply indices. In this case, considering the presence of walking catchment areas. Still in relation to the detection of gaps, the relevant demand index is also determined. This, in turn, is calculated through indicators that reflect social needs. With the use of the smaller Brazilian geographical unit, the census sector, the model with the inclusion of population density in the study areas should present more consolidated results. Based on the results achieved, an analysis of transportation disadvantage will be carried out as a factor of social exclusion in the study area. It is anticipated that the results obtained up to the present moment, already indicate a strong trend of public transportation in areas of higher income classes, leading to the understanding that the most disadvantaged population migrates to those neighborhoods in search of employment.

Keywords : gap assessment, public transport supply, social exclusion, spatial gaps
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