

URBAN ACCESSIBILITY AND SPATIAL SEGREGATION IN BRAZILIAN CITIES: A CONFIGURATIONAL PERSPECTIVE

Ana Paula Borba Gonçalves Barros

Teacher and Researcher in Centro Universitário de Brasília (UniCEUB) – Brazil, Former Research Assistant at IPEA.

E-mail: <anapaulabgb@yahoo.com.br>.

Valério Augusto Soares de Medeiros

Associate Researcher, University of Brasília (UnB), Architect/Chamber of Deputies of Brazil.

E-mail: <medeiros.valerio@uol.com.br>.

Maria da Piedade Morais

Researcher, Institute of Applied Economic Research – IPEA. *E-mail:* <piedade@ipea.gov.br>.

This article investigates the use of the configurational variable, which deals with the city form-space relations regarding transportation issues, to study spatial segregation and urban accessibility in 4 Brazilian cities (Belém, Manaus, Recife and São Paulo), with a focus in precarious settlements and in the location of social classes in the urban space and their relative degree of accessibility/integration to the city as a whole.

The study searches to verify to what extent such settlements are more segregated/isolated in the urban fabric as compared to the other areas of the city. For this purpose, we have used the classification of census tracts prepared by the Centro de Estudos da Metrópole-CEM (Marques *et al.* 2007), based upon microdata from the IBGE 2000 Demographic Census, as well as axial maps of these cities, constructed according to the methodological tools of the Theory of the Social Logic of Space also known as Space Syntax, which allows quantifying the configurational variable by means of the so-called "integration value". The confrontation of the information, organized on a Geographical Informational System (GIS), has underpinned a series of interpretations over the existing process of "voluntary" and "involuntary" segregation in such cities, highlighting the importance of the configurational variable for urban studies of such nature.

Precarious settlements are assumed to be the census tracts classified by IBGE as special sectors of substandard agglomerations, together with those sectors classified by CEM as precarious (census tracts classified by IBGE as regular but with socioeconomic,

demographic and housing characteristics very similar to substandard sectors).

The results related to the different types of census tracts and income levels of the household head in the 4 cities are then compared with the indicators of road accessibility (integration value). Our objective is to understand how the investigation of the different degrees of road accessibility distributed over the urban system, originated in the ways of articulation between the component elements of the city (spatial configuration), are able to reveal significant findings over the process of spatial segregation, what can contribute to the formulation, monitoring and evaluation of actions, projects and urban policies.

For the 4 studied cities, we have observed that as the income level increases there is a tendency for a progressive increase in the average integration value, what means higher accessibility/proximity to the urban active centre and therefore higher facility of movement. On the other hand, the smaller the income level the higher the distance to the urban centre, expressing how much accessibility is a good indicator of social status in Brazil, except for the cases of voluntary segregation.

When we observe the average degree of integration for CEM precarious tracts (proxy for peripheral allotments) and IBGE substandard sectors (proxy for slums) in relation to the averages for the regular/non-special sectors (proxy for medium and high income neighbourhoods) and for the city as a whole, except for Recife, where the location pattern of precarious settlements

is relatively more central, it is perceptible how much precarious settlement are less accessible and present lower integration averages, except when located near the city centre, in marginal areas with high level of inclination/slope and river and lakesides. On average, the IBGE substandard sectors present more central locations when compared to CEM precarious sectors.

From our results, we can observe that the spatial urban structure, revealed in its configurational aspects, seems to contribute for a better understanding of the phenomena of spatial segregation in the cities of Brazil.

It is interesting to understand in what way the layout of the cities and the patterns of road network taking from a relational point of view have direct impacts on the spatial segregation of social classes in space, as confirmed by our results, where the low income populations or the residents of precarious settlements have lower levels of urban mobility and, therefore, less accessibility to the entire urban system, what represents a deny in their human right to the city.

SUMÁRIO EXECUTIVO

