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Spatial Accessibility of Road Network in Wuhan Metropolitan Area Based on Spatial Syntax

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ABSTRACT

Based on space syntax theory, the spatial accessibility of the road network in Wuhan Metropolitan Area has been quantitatively analyzed by building a series of accessibility variables. Topologic connectivity in the accessible rings appears to be broken; traffic axis network is in spatial structure of hub-and-spoke and fishbone-like. Meanwhile, the differences in classified road network have led to inefficiency of its network servo and its ever-worsening capability to respond to traffic jams. Besides, two band-like integrated cores of which one is east to west along the Yangtze River and the other is north to south along Beijing to Guangzhou Railway, have become the first level traffic axis in the whole network, which is responsible for the connectivity of the entire metropolitan area network. This consequently has strengthened the dominant position of Wuhan which is located on the bands' crossing. In short, the spatial accessibility of that classified space morphology, the urban system, the transport infrastructure as well as the social and economic development of Wuhan Metropolitan Area are highly interrelated to each other, especially to the high level highway network featured by freeways, the development level of which is well in line with that of road network accessibility.

KEYWORDS

Accessibility; Road Network; Space Syntax; Wuhan Metropolitan Area

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