

Analyzing the public transportation connectivity using the Space Syntax technique

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Abstract : Due to the traffic congestion and public-oriented transportation policies of Seoul, public transportation is receiving attention and being used increasingly. However, current biased supply of transportation routes is causing unbalanced connectivity throughout the city area creating differences in time, expenses and mental burden of users who travels the same distances. The Space Syntax theory, which has been used to calculate the connectivity of urban or architectural spaces helps generate quantitative connectivity of whole space simply based on the spatial topological structure. The relationship between the transition of spaces and the resulting connectivity in this theory can be interpreted as the relationship between the transfer of vehicles and the connectivity of an area to others in the network of the public transportation. By calculating the connectivity of each bus or subway station with all others in a city, we can quantify the difference in the serviceability of city areas based on the public transportation. This study suggests the methodology for applying the Space Syntax technique and the GIS to generating the connectivity of public transportation network.