

**PUSAT SUMBER
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TO BUILD OR NOT TO BUILD: A SPATIAL CONFIGURATIONAL
EVALUATION OF THE PUTRAJAYA MONORAIL SYSTEM

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ABSTRAK

Konfigurasi memainkan peranan penting dalam menentukan corak pergerakan. “Live-centrality” pula merujuk kepada integrasi grid bandar dan pergerakan pejalan kaki yang berintensiti tinggi. Berlandaskan teori “Natural Movement”, difahamkan apabila perkara lain dianggap sama, kemungkinan pergerakan dalam grid bandar boleh dikenalpasti dan dengan ini, destinasi untuk “live centre” juga boleh dikenalpasti. Dengan menggunakan kajian “space syntax”, kertas kerja ini akan menilai perletakan cadangan sistem monorail sediaada dengan menganggap bahawa integrasi yang tinggi akan membawa kepada perletakan stesen yang lebih baik. Kajian terdahulu telah menunjukkan bahawa kesan konfigurasi mempengaruhi integrasi global terhadap jaringan pengangkutan awam. Maka, perhubungan antara konfigurasi ruwang sediaada Putrajaya dan bagaimana ia berfungsi dengan keseluruhan cadangan sistem monorail perlu dilihat dalam ukuran integrasi global dan tempatan. “Centrality” menjelaskan kepentingannya terhadap fungsi keseluruhan di mana, struktur global dan tempatan perlu ada keberkesanan kemudahsampaian di dalam grid bandar. Dengan ini, potongan keluar 500 meter radius dan tiga “step-depth” analisis dilakukan bagi setiap stesen untuk memahami dengan lebih lanjut berkenaan kemudahsampaian ruwang bagi setiap stesen. Perisian “UCL Depthmap” digunakan untuk menjana map “axial” dan “segment” bagi tujuan analisis. Berdasarkan analisis yang dijalankan, didapati cadangan sistem monorail tersebut tidak banyak membantu dalam meningkatkan nilai global dan tempatan sistem bandar tersebut. Ini disebabkan sistem monorail lebih bertindak sebagai fungsi global dalam menghubungkan sesuatu tempat tetapi lupa terhadap struktur tempatan dimana stesen tersebut tidak diletakan di tempat yang sesuai. Ia seharusnya lebih berkemudahsampaian tinggi sebagai “nodes and places” dan terletak di dalam kawasan pusat kejiranan, malangnya sistem tersebut tidak cukup kemudahsampaian ruwang disebabkan keadaan struktur grid tempatan yang lemah dan terletak di tempat yang tidak sesuai. Walaubagaimana pun, cadangan sistem monorail ini seharusnya diteruskan agar ia mampu mejelaskan lagi nilai “centrality” dan integrasi tempat-tempat ini. Namun, kajian lanjutan perlu dilakukan dalam mengkaji semula cadangan jaringan sistem monorail sediaada dan menguji jaringan baru di kawasan-kawasan “integration core” agar dapat membentuk sistem bandar yang lebih bersepadu.

ABSTRACT

“Configuration” plays an important role in evaluating the pattern of movement. “Live-centrality” is where there are high intensity of integrated urban grid and pedestrian movement. Therefore, based on the theory of “Natural Movement”, it is important when other things being equal, movement in an urban grid may be determined and thus, destination for a live centre also can be identified. By using “space syntax” study, this project paper evaluates the proposed monorail system in Putrajaya by assuming that higher “integration” value in a space may leads to locate better stations’ location. Previous study had shown that “configurational effects” do influencing the global public transport network. To that extent, relationship between the existing spatial configuration of Putrajaya and how it works with the entire proposed monorail system will be looked at the global and local integration measures. “Centrality” looks for its overall functional important where local and global grid structures need to have an efficiency of inter-accessibility within the urban grid. Therefore, 500 metres cut-out and 3 “steps-depth” of each station local grid structure analyses was done in order to understand the spatial accessibility of each station. The *UCL Depthmap Software* was used to generate the “axial” and “segment” maps for the analysis purpose. It is found that the proposed monorail system does not help much in increasing the global and local integration values for the system’s spatial configuration. This is due to the monorail system that is acts more towards global functioned in connecting places but neglected about the local structure where some of the stations are not well-located. They should be highly accessible as “nodes and places” laying within the neighbourhood centres, but unfortunately the stations are lacking of spatial accessibility due to the loose local grid structure and locate out of nowhere. However, it is advisable to go on with the monorail system proposal as it may helps a little in enhancing the centrality and integration of the places. But before that, there is still a need for further research in reviewing the existing proposal of monorail lines and testing new monorail lines at better “integration core” areas in order to have better integrated urban system for Putrajaya.