ECONOMIC OPTIMISATION OF ROAD NETWORK ACCESSIBILITY

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ABSTRACT
An appropriate road network management system should aim at achieving a minimum level of accessibility to all locations in need of transport services. Failure to maintain accessibility across the regions of a country, hampers economic and social development. There are several accessibility models that may be used to examine the road networks’ accessibility levels, but most of them do not consider directly the condition of the road infrastructure and its economic life. There is a need therefore for an enhanced accessibility model to address it. This paper presents a methodology and show how a new accessibility index methodology may be defined and linked with an economic analysis tool (i.e. HDM4) with the view to develop sustainable maintenance and development plans for the road networks’ infrastructure. The result proves that the condition of road network may be optimised under budget constraints to achieve a level of accessibility that promotes economic development.