

Development of Transport Infrastructure Master Plan for Long Distance Travel

M.P.Koggalahewa¹, M.K.K.D.Wimalasena², M.G.C.B.Dasanayaka³, J.M.S.J.Bandara⁴

Transportation is a facility which decides the level of achieving economic development in a country. Observing bird's eye view of the present condition in Sri Lanka it can be identified that transportation is currently suffering with many difficulties though the government is spending billions of Rupees on transport infrastructure development.

The current road network has a higher density comparing to the other developing countries, but it is lack with mobility and higher level of service though it provides wider accessibility. Therefore the long distance travelling consumes more time than it requires. The railway system in the country has not extended after the colonial period. The railway system is lack of both mobility and accessibility. There is no clear plan to optimize railway system as a public transport service by connecting major cities and integration it with the road network with higher mobility to reduce the travel time.

The present work describes a methodology which containing an integrated long distance transport network which reduces travel time while increasing mobility and accessibility. The research area covers the whole island by providing integrated rail and road system for the entire country. Data of the existing rail and road transport, land use data, traffic data, socio-economic data, future plans of infrastructure development, future plans of urban development and future plans of transport development were collected and analyzed to identify the existing and future demand centers of the country. Alternatives were evaluated with respect to travel time, environmental and social impacts and economic considerations with the help of GIS based analytical tool to generate optimum rail and road transport systems separately and integrated them to provide accessibility between transport modes to increase the efficiency of the system.

The final outcome of this research is a transport infrastructure master plan for long distance travel which will provide an efficient system while increasing both the mobility and the accessibility of the transport system in Sri Lanka.

Key words: *Mobility, Accessibility, Optimum Network*

Authors Details;

1. Undergraduate Student, Department of Civil Engineering, University of Moratuwa, Katubedda, Sri Lanka. kmalithi@yahoo.com, 0712 289 179
2. Undergraduate Student, Department of Civil Engineering, University of Moratuwa, Katubedda, Sri Lanka. kdilhara@gmail.com, 0718 051 284
3. Undergraduate Student, Department of Civil Engineering, University of Moratuwa, Katubedda, Sri Lanka. dasanayakamgcbuom@yahoo.com, 0718 051 284
4. Professor, Department of Civil Engineering, University of Moratuwa, Katubedda, Sri Lanka. bandara@civil.mrt.ac.lk, 0112 650 567 (ext. 2129)