Comparison of Transport-Land Use Models

P.C.P. De Silva[1] and J.M.S.J. Bandara[2]

Over the last forty years, a variety of operational models has been developed and applied in the field of transportation and presently these models have become principal tools for strategic transportation planning. Once scholars started to point out that existing and future land use pattern exerts major impact on transportation and many of the issues prevailed in the cities at present occur due to the ignorance of the linkages of transportation and land uses, impact from the land uses and its changes is widely taken in to the transport modeling. Yet, lots of studies have shown there are shortcomings in the effectiveness of the transport models. Robert Cervero stated that *"Hampering coordination is the reality that the benefits of careful transport-land use integration are often not evident until ten or more years in the future"*.

This paper examines the current status of the development of transportation modeling which considers the impact of land uses and its changes, and identifies the future developments of such models which are either likely or desirable. This paper reviews ten such models which are used widely in transport planning in the means of data and data types used, surveying methods of such data, data modeling methods, traffic assignment and travel forecasting methods, outputs generated, spatial techniques involved and user interfaces in relation to accounting the impacts of land use. Further, this research is a comparison study between different models in above means that finds out prospects and constraints of each model. Finally the paper gives a summary for the future developers of transport models and paves way to employ the prospects and to overcome the constraints of existing models in future models.

Key words: *Transportation, Land Use, Modeling, Integration*

Authors Details;

1. PhD Student, Department of Civil Engineering, University of Moratuwa, Katubedda, Sri Lanka, chameeradesilva@yahoo.com, 0112 650 567 (ext:2126)

2. Professor, Department of Civil Engineering, University of Moratuwa, Katubedda, Sri Lanka. bandara@civil.mrt.ac.lk, 0112 650 567 (ext. 2129)