TRANSPORT PLANNING TO REDUCE IMPACT ON ENVIRONMENT, SOCIETY AND ECONOMY THROUGH IMPROVEMENTS TO ROAD HEIRARCHY SYSTEMS

Jayantha Withanaarachchi, RMIT University
Associate Prof Sujeeva Setunge, RMIT University
Dr Shamas Bajwa, RMIT University

ABSTRACT

This paper examines the road hierarchy systems in Australia. Road safety and transport management is very important to all. Many fatal and serious accidents take place on all types of roads. Road accidents impacts communities and State and Federal Governments economically, socially and have an impact on the environment. Damage to transport infrastructure creates a cascading effect on other critical infrastructure systems such as telecommunication, energy, material supply, emergency services and health and utilities and also creates traffic congestion and economic burdens. And traffic congestion then creates road safety issues to all road users. Thus, transport networks and road hierarchy plays an important part in our daily lives. It creates benefits and wealth to nations as well as brings death and environmental damage to societies.

Therefore road hierarchy and transport planning is important when managing State and local roads. Local Councils are responsible for the management of all local roads under the Road Management Act.

This research paper analyses the existing road hierarchy systems in Australia and reviews road accidents, traffic volumes and road parameters to identify the planning issues associated with failure of road transport.

A detailed analysis on a few selected roads are carried out through case studies to identify the issues in the road hierarchy and how it affects road safety, congestion, economy and the environment. A framework has been developed to discuss the identified issues and how it should be addressed in the future.

Key Words: Road Hierarchy, Transport Planning, Road Safety, Environmental Impact, Social Impact