ABSTRACT

Sustainable transportation system aim at designing of congestion-free urban planning with bicycle and pedestrian friendly design of their areas. It focuses on moving people and not only the vehicles, which in turn would reduce air pollution as well as the increasing congestion. Sustainability can be achieved with the change in behavioral aspects of people. When people understand the impact of transportation they can in turn make choices that reduces the need for resources and thus minimize the adverse impacts.

The aim of this study is to provide a systematic description and analysis of Sustainable road layout design using Fuzzy logic system. The selection of methodological framework is justified on the ground that it enables one to group the interlink ages between the various indicators of the sustainability, while at the same time, highlighting the factors that influence such interlink ages. A suburban area (Tambaran) in south Chennai, Tamilnadu state, India, is chosen for conducting the analysis of sustainable road layout. The present work is exploratory in its methodology and theoretical framework.

The study utilizes the sustainable transportation planning concept for Road layout design for suburban area. The use of multi objective optimization method by fuzzy logic is present further in this thesis, will allow engineers, planners and decision makers to optimize the component of an urban street and obtain the perceived level of services across all modes on urban street within a given right of way.