EVALUATION TRANSPORTATION SYSTEM MANAGEMENT MEASURES USING GIS

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Abstract

The goal of this research is that Traffic management is the application of sound management principles and practice to optimize the use of existing road network with a view to improving traffic flow and road safety without impairing environmental quality. GIS Based Transportation System Management (G-TSM) is developed to plan and analyze the various TSM measures in GIS framework. G-TSM has the spatial databases on road networks, information systems and TSM options. To study the effect of the Transportation System Management (TSM) measures one needs to have a clear view of the flow patterns, locations, as well as existing road network and must be able to analyze the attributes related to them. Geographic Information System (GIS) helps to do these things effectively and efficiently. GIS is used to the study the effect of TSM measures. Study area road network and location of important places are added as layers. Attributes are added in the form of databases from which one can retrieve data by making queries. Conversion of one-way streets, diversion of traffic, odd-even vehicle restrictions, parking management, effect of ring roads, and overall improvement in the network are studied with the help of GIS. Arc View and Avenue are used for the development of this package. As GIS is the most effective way to study the combined impact of TSM measures, this study has been undertaken to develop a GIS based TSM technique. The main objective of this study is to identify the relevant TSM techniques for a given city and to examine the efficiency of adopting one or more TSM techniques using GIS for reducing traffic congestion. The existing system represents a very large investment of public money and natural resources. It should be maintained and upgraded. This gives the scope for the present study to maintain and manage the existing Transportation System by implementing suitable TSM measures to increase the efficiency of Traffic flow

Key words: TSM measures, Road capacity, V/C Ratio, LOS, parking management, GIS