

A STUDY ON URBAN TRAFFIC MANAGEMENT USING MINITAB

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Abstract

The goal of the study is to enhance the mobility of a corridor with adequate corridor management techniques and thereby enabling smooth flow of traffic. The aim is achieved by categorically identifying a corridor that has few junctions and mid blocks which can suitably arrange for the traffic flow and ultimately reduce congestion. The data is collected by floating car method round study area which stretches from Ameerpet to Kukatpally for a distance of 6100m with six junctions and five mid blocks. The study also recorded the peak hour traffic volume, capacity of the pavement and plotted the speed flow curve. It also generated the contour speed plot with the help of the MINITAB software. The plots gave insight into the conducting bottleneck analysis and various bottleneck regions were identified with highest and lowest speed regions. The signal timings were also noted in the intersections or junctions during the course of study. Subsequently the speed profile graphs were arrived at giving a clear picture about the peak hour traffic variation in the corridor and its highest and lowest values were found out. The causality analysis conducted brought out various results which could suitably ensure the smooth flow of traffic as well as the easy movement of public thereby minimizing congestion and maximizing efficiency. Certain bus stop relocation and employment of traffic control techniques such as cushions, bulbouts and speed breakers should be immediately undertaken. The study understands that the traffic management is a continuous cycle which needs to be continuously monitored and reframed in order to attain easy traffic flow. It is to be noted that all efforts to practice successful traffic management shall not be a solution in the long run for the reduction of congestion. The study however sheds light on the common traffic patterns in the corridor which can be streamlined to efficient traffic flow. The study can be further done by taking in to account the various road side obstructions and absence of adequate lighting in causing congestion and delay. It can also study the irregularities in the pavement that contribute to the delays and arrive at a better suggestion and also extend this study into a state level to make the traffic flow harmonious for both the road users as well as the traffic officers alike.

Key words: traffic flow, causality analysis, congestion, traffic management measures, MINITAB.