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A STUDY ON TRAFFIC CARRYING CAPACITY OF URBAN ARTERIALS UNDER MIXED TRAFFIC CONDITIONS

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Abstract

Indian traffic conditions are mixed in nature, different vehicles will operate with different operating speeds and having different physical dimensions. To account this non uniformity in static and dynamic characteristics of vehicles it is necessary to convert all vehicles into a common unit. For that passenger car units were developed to find relative effect of alternative modes travelling on the roads. Capacity of a roadway is necessary for evaluating the deficiencies of the road network, designing new facilities by considering future travel demand and current capacities. In this study an attempt was made to develop PCU factors and capacity for five midblock sections of Ameerpet to Kukatpally corridor in Hyderabad. To develop PCU values and capacities Speed and flow data was obtained from filed surveys. Manual method was used to collect traffic volume, time headway data and Laser gun was used for spot speeds. PCU factors for the selected site were developed by using traffic stream speed, physical dimensions of the vehicles and longitudinal gap. Capacity of urban arterials is determined by fitting Speed-flow data into polynomial equation. In urban area capacity is influenced by many factors, in this study lane width and road side commercial activities are considered to find out its influence on capacity.

Keywords: Capacity, arterials, roadway, PCU, speed-flow curves, polynomial equation