

## ABSTRACT

Some important traffic parameters like headways, speeds, speed-density-flow relationships and acceleration characteristics of vehicles during overtaking operations were investigated on some stretches of two-lane highways in India. Utilizing the results from these investigations, a model was formulated to simulate the traffic operations on two-lane highways. The model was validated with the field observations. Speed-flow and percent time delay-flow relationships obtained from the model were found to be in good agreement with those of the 1985 HCM. The model was used for establishing service volumes under different levels of service for various traffic mixes, consisting of trucks and cars, under Indian conditions. An independent investigation was carried out to study the performance of priority T-intersections by simulation modelling studies. Results from this study were found to be consistent with those of the earlier investigators.

KEY WORDS : HEADWAYS, SPEEDS, DENSITY, FLOW, ACCELERATION, OVERTAKING, SIMULATION, LEVEL-OF-SERVICE, TWO-LANE HIGHWAYS, PRIORITY T-INTERSECTIONS