

MODELLING OF SPEED-FLOW EQUATIONS FOR SELECTED STRETCHES ON NATIONAL HIGHWAYS

POOLA NAGESH¹ AND MIR IQBAL FAHEEM²

¹M.E. Scholar (Transportation Engineering)

²Head, Department of Civil Engineering & Vice-Principal
Deccan College of Engineering and Technology,
Dar-us-Salam, Hyderabad - 500 001

Abstract

The Government of India during the last decade has drawn up huge road capacity augmentation measures through the implementation of various ongoing National Highway Development Program (NHDP) projects like Golden Quadrilateral, North-South, East-West and some Expressway Corridors. These projects are principally aimed at developing high speed multi-lane corridors to link major cities. These major changes have resulted in variations in speed - flow characteristics and subsequently road user costs. The precise determination of realistic speed-flow relationships for different vehicle types under different conditions of road and traffic is essential for arriving at the capacity of a road. The principal objective of the present study is to develop linear and non-linear models to evaluate speed-flow relationships for selected stretches on National Highways for different types of vehicles by developing separate speed-flow equations on National Highways. It is observed from the study that, the mean free speed of cars calculated is relatively same on a 4-lane as that of a 6-lane divided carriageway, for heavy vehicles is slightly less on a 6-lane as that of a 4-lane divided carriageways and for all other vehicles is relatively high on a 8-lane divided carriageways as that of a 4-lane divided carriageways and 6-lane divided carriageways.

Keywords : Capacity, Flow, Free speed, Spot speed, Lane width, Speed-Flow equations.