SHORT ABSTRACT

From the literature survey it has been observed that, to date no well acceptable theory exists that can model the 2D (longitudinal and lateral) driver behaviour of no-lane based heterogeneous traffic stream in a comprehensive manner. One of the major challenge in driver behaviour modelling lies in identifying the parameters that describe such type of typical driving behaviour or vehicle manoeuvre. In the present study, an attempt has been made to study the manoeuvring behaviour of different type of vehicles by identifying different lateral and longitudinal microscopic parameters of such traffic stream. Those microscopic parameters are studied in three different categories.

i. Study of vehicle manoeuvring using the dynamic parameters (like operating speed, lateral and longitudinal acceleration) of vehicles using high accuracy GPS device (Video VBOX) fitted to different type of vehicles.

ii. Study of lateral placement of different type of vehicles on the entire cross section of roads with different width using the top-view video of different roadway facilities of India.

iii. Study of the impact of different type of medians’ geometry on lateral gap maintaining behaviour of vehicles using a sensor based assembly.

Though all three studies are different based on their study methodology, these microscopic parameters are useful for evaluation of vehicles’ lateral weaving in simulated trajectories and also while developing or validating simulation models for the realistic representation of such no-lane based heterogeneous traffic stream. The simulation framework or model should describe these microscopic behaviours properly to represent the real world mixed traffic in detail.