

ABSTRACT

Powered by the economic development of India, more and more of its citizens are shifting towards private transit modes for travel, thereby incessantly increasing its per capita motorized private vehicle ownership. Combined with its high population growth, this has caused tremendous increase in the motorized private vehicle fleet of the country over the past decades.

It is necessary to understand the private vehicle ownership behaviour of Indian households in order to design policies fostering sustainable development for the country. The present study addresses this concern by developing an all-India disaggregate model for private vehicle ownership behaviour using data of the Consumer Expenditure Survey conducted by the National Sample Survey Office of the Government of India between July 2009 and June 2010. An appropriate proxy variable for economic standard has been designed to serve as an explanatory variable in the vehicle ownership model. The study confirms that economic standard is the most important factor determining private vehicle ownership behaviour.

The study first attempts to develop a Multinomial Logit Model with linear functional form of the systematic utility functions of various alternatives but then negates it using a simulation test developed as a part of this research. Finally, a Multinomial Logit Model with piece-wise linear functional form of the systematic utility functions is found to be robust thereby proving that the effect of the socio-economic factors affecting private vehicle ownership behaviour of the households in the dataset varies amongst households belonging to different categories based on economic standard.

The research also reveals the debilitating effect of the availability of dedicated public transit services (viz. Bus Rapid Transit, Sub-urban rail and Metro Rail) on the inclination towards owning private vehicles by estimating a cross-sectional model for 26 million plus populated cities of India.