Likelihood of motorcyclists transferring to safer mode of transport in Cairo, Egypt

ABSTRACT

Road traffic injuries and mortality are mainly caused by motorcycle crashes. Practically, 50% of people who meet their death in road traffic accidents (RTAs) are motorcyclists. The issue is increasingly articulated in progressing nations where the use of motorcycles has gained popularity in the past decades. Moreover, death and fatalities caused by accidents involving motorcyclists are also in the rise due to the increasing trend. Hence, motorcyclists are encouraged to use alternative modes of transportation that are safer in the attempt to minimise losses. As a result, a policy ought to be created to enhance urban transportation service and control motorcycle proprietorship. The current research that lays the groundwork aims to contribute a more elaborated analysis on motorcycle user mode decision conduct as well as an excellent comprehension of the conceivable efforts that can be taken to support motorcyclists to shift to a safer mode of transportation, particularly bus. In the current research work, the binary logit mode choice model was created for two elective modes in order to distinguish the separate practices of motorcyclists and bus users and assess their reactions to a situation that can minimize both time and expenses involved in bus travel. In addition, it should be noted that this paper surveyed a total of 327 travellers from Greater Cairo Region (GCR) in Egypt, the bus users were identified through revealed preference, while the motorcyclists were identified through revealed and stated preference surveys. In this case, travel time, travel cost, age, sexual orientation, income level, trip purpose, education level, and privacy significantly influence motorcycle user mode decision conduct. The likelihood of motorcyclists to utilize the use of buses was additionally analyzed dependent on a situation of minimized bus travel time and travel cost. These elements are very important in a program that attempts to draw in motorcyclists to utilize public transport, particularly bus. The outcomes can help the process of decision making on all levels in assigning the necessary assets prudently for the advancement of urban transportation services, reduced number of road traffic crashes, and increased road safety. This examination, which is the first of its sort in Egypt, assesses the model choice behaviour for motorcyclists.