

## **In-Depth Analysis of Involved Factors to Car-Motorcycle Accidents in Budapest City**

**Authors :** Danish Farooq, Janos Juhasz

**Abstract :** Car-motorcycle accidents have been observed higher in recent years, which caused mainly riders' fatalities and serious injuries. In-depth crash investigation methods aim to investigate the main factors which are likely involved in fatal road accidents and injury outcomes. The main objective of this study is to investigate the involved factors in car-motorcycle accidents in Budapest city. The procedure included statistical analysis and data sampling to identify car-motorcycle accidents by dominant accident types based on collision configurations. The police report was used as a data source for specified accidents, and simulation models were plotted according to scale (M 1:200). Car-motorcycle accidents were simulated in Virtual Crash software for 5 seconds before the collision. The simulation results showed that the main involved factors to car-motorcycle accidents were human behavior and view obstructions. The comprehensive, in-depth analysis also found that most of the car drivers and riders were unable to perform collision avoidance manoeuvres before the collision. This study can help the traffic safety authorities to focus on simulated involved factors to solve road safety issues in car-motorcycle accidents. The study also proposes safety measures to improve safe movements among road users.

**Keywords :** car motorcycle accidents, in-depth analysis, microscopic simulation, safety measures

**Conference Title :** ICAUDT 2019 : International Conference on Advanced Urban Designing and Transportation

**Conference Location :** London, United Kingdom

**Conference Dates :** November 18-19, 2019