

Temporal Stability of Crash Contributing Factors Before and After the Tunisian Revolution - Some Empirical Evidence

Attig Ines

Department of Economics
Faculty of Economic Sciences and Management of Sousse
University of Sousse, Tunisia
attigines2@gmail.com

Ouni Fedy

Department of Logistics
Higher Institute of Transport and Logistics of Sousse.
University of Sousse, Tunisia
fedy.ouni@gmail.com

Harizi Riadh

Department of Business Administration.
University of Bisha, Bisha, Saudi Arabia
College of Business, PO. Box 1113
BISHA, 61922, Saudi Arabia
rharizi@ub.edu.sa

Abstract

Governments and transportation safety experts seek to establish a competitive and a safer transportation system. However, because of the dynamic interactions between technological and demographic development, the traffic risks have evolved and became more important. They are constrained by several factors such as environment, driver behavior and the actual functioning of the transportation system. This paper aims to reduce the damage caused by road accidents and to maintain a high level of safety and security within the Tunisian transportation network. We developed a multinomial logit model to examine the effect of accident factors on the severity of injuries before and after the Tunisian revolution. Empirical results are of great interest. In fact, several variables were revealed to improve the crash rate for the two studied terms.

The model prior to revolution indicates that, compared to other variables, speeding is correlated with higher levels of severity contributing to the occurrence of serious and fatal accidents. Added to that, skidding, sliding and tilting are all related to a higher likelihood of serious and fatal crashes. The results from model after revolution suggest that male drivers are more likely to be involved in an accident than female drivers. Another finding of our study is that the day of accident indicate a higher likelihood of serious and fatal injuries on Weekend. In addition, alcohol and drugs when are combined with other factors can lead to a fatal accident. The two period of study shows that accident severity during the month of august increases the amount of fatalities. In conclusion, findings from this research provide specific solutions to the transportation planning problem in Tunisia.

Keywords

Tunisia, road safety, accident severity, high-risk areas, logit multinomial model.

Biographies

Attig Ines is a PhD student in Economics from the Faculty of Economic Sciences and Management of Sousse (Tunisia). Ms Attig obtained a bachelor's in international trade from higher institute of management of Sousse and a Master of Transportation and Supply Chain Management from Higher Institute of Transport and Logistics of Sousse, Tunisia. Her research interests include transportation systems, traffic safety and transport geography.

Ouni Fedy is a PhD student in Economics from the Faculty of Economic Sciences and Management of Sousse (Tunisia). Mr. Ouni holds a Bachelor of Transportation and Supply Chain Management from Higher Institute of Transport and Logistics of Sousse and a Master of applied transportation and logistics from Institute of Industrial Management of Sfax, Tunisia. He has published journal and conference papers. His research interests include modelling and planning of transportation systems, traffic safety and transport geography.

Harizi Riadh, PhD in Economics from the University of Montpellier 1 (France), is professor at the University of Tunis (Tunisia) and the University of Bisha (Saudi Arabia). He has published journal and conference papers. Some of his main areas of research are that of modelling and planning of private and public systems, governance, and infrastructure logistics.