

Road Traffic Accident Hot Spots Situation and Potential Countermeasures Development in Tunisia

Ouni Fedy

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

Attig Ines

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

In Tunisia, knowledge of how road traffic accidents vary geographically by different locations provides indices to understand their determinants. In addition, some locations on road network are characterized by a high concentration of accidents more than others. Focusing on how hot spot mapping can predict spatial patterns of accidents and how different mapping approaches compare will help to better inform their application in practice, our methodologies consist of two main steps. The first consist on the identification and ranking of accidents hot spots based on dangerousity index using a spatial autocorrelation approach (Local Moran index Vs Local Getis-Ord index) to investigate the high density of accident in the region of sousse, Tunisia and to compare our results with the public authority's results. Then once a hotspot is identified, the analysis of the problems and prospective treatments will be proposed. This will involve the development of planning rules of road environment, identify shortcomings in the regulation and make recommendations to identify solutions for the elimination of hotspot and better management of the road environment. We hope that the information and details mentioned in this paper could help the public decision-maker in terms of road safety.

Keywords:

Road traffic accidents, Accident hotspots, Spatial autocorrelation approach, Local Moran index, Local Getis-Ord index, Prospective treatments.

Biographies

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.

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.

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.