Risk factors associated with bus accident severity in the United States: A generalized ordered logit model

Introduction: Recent years have witnessed a growing interest in improving bus safety operations worldwide. While in the United States buses are considered relatively safe, the number of bus accidents is far from being negligible, triggering the introduction of the Motor-coach Enhanced Safety Act of 2011.

Method: The current study investigates the underlying risk factors of bus accident severity in the United States by estimating a generalized ordered logit model. Data for the analysis are retrieved from the General Estimates System (GES) database for the years 2005–2009.

Results: Results show that accident severity increases: (i) for young bus drivers under the age of 25; (ii) for drivers beyond the age of 55, and most prominently for drivers over 65 years old; (iii) for female drivers; (iv) for very high (over 65 mph) and very low (under 20 mph) speed limits; (v) at intersections; (vi) because of inattentive and risky driving.