

## Assessment of the Road Safety Performance in National Scale

**Authors :** Abeer K. Jameel, Harry Evdorides

**Abstract :** The Assessment of the road safety performance is a challengeable issue. This is not only because of the ineffective and unreliability of road and traffic crash data system but also because of its systematic character. Recent strategic plans and interventions implemented in some of the developed countries where a significant decline in the rate of traffic and road crashes considers that the road safety is a system. This system consists of four main elements which are: road user, road infrastructure, vehicles and speed in addition to other supporting elements such as the institutional framework and post-crash care system. To assess the performance of a system, it is required to assess all its elements. To present an understandable results of the assessment, it is required to present a unique term representing the performance of the overall system. This paper aims to develop an overall performance indicator which may be used to assess the road safety system. The variables of this indicators are the main elements of the road safety system. The data regarding these variables will be collected from the World Health Organization report. Multi-criteria analysis method is used to aggregate the four sub-indicators for the four variables. Two weighting methods will be assumed, equal weights and different weights. For the different weights method, the factor analysis method is used. The weights then will be converting to scores. The total score will be the overall indicator for the road safety performance in a national scale. This indicator will be used to compare and rank countries according to their road safety performance indicator. The country with the higher score is the country which provides most sustainable and effective interventions for successful road safety system. These indicator will be tested by comparing them with the aggregate real crash rate for each country.

**Keywords :** factor analysis, Multi-criteria analysis, road safety assessment, safe system indicator

**Conference Title :** ICRTSPTV 2018 : International Conference on Road Traffic Safety and Public Transport Vehicles

**Conference Location :** Paris, France

**Conference Dates :** October 29-30, 2018