

Traffic accidents have become a major concern for all segments of society. The most significant factors are related to the driver (the human element), who intervenes in a bigger proportion, the road and the vehicle (Peden et al. 2004; WHO, 2015, 2018). Around 3,700 people die per day worldwide in accidents involving vehicle and vulnerable road users and up to 50 million are injured. To achieve this, international organizations collect comprehensive data and statistics on accident rates, enabling the development of safety performance measures that help identify dangerous road segments and prioritize them for targeted interventions.

International organizations such as the World Health Organization (WHO), the International Transport Forum (ITF), and national road safety agencies have played an active role in collecting and analyzing accident data from different countries and regions.

Evaluation of road condition: Evaluating the physical condition of the road, including the quality of pavement, signage, lighting and other infrastructure elements, can help identify hazardous areas that need improvement. Accurate identification of these sections can significantly contribute to improving road safety, preventing accidents, and ultimately saving lives. By focusing resources on these areas, authorities can implement targeted safety interventions and reduce the likelihood of accidents. By using these safety performance metrics, transport authorities and policy makers can make data-driven decisions and efficiently allocate resources to enhance road safety in identified hazardous sections.

Furthermore, road traffic accident is ranked the tenth-highest cause of deaths worldwide and the top ranked cause of death by injury (Peden et al. 2004; WHO, 2015, 2018). These measures take into account several factors, such as the number of accidents, severity of injuries, types of vehicles involved, road conditions, and other contributing factors. Safety performance measures often include indicators such as 1.