STUDY ON INNOVATIVE TECHNIQUES OF ROAD CAUSED SAFETY RISK FOR SMART TRANSPORT

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ABSTRACT

Smart roads have gained popularity around the world in recent years, with driving safety being the most significant element. Existing research is mostly focused on the early detection and prevention of safety problems related with traffic, obstructions road alignment, etc. However, despite its importance to the traffic system, the pavement received less attention in previous studies. Poor road surface conditions such as insufficient anti-skid performance or pits, ruts and other diseases have a great impact on driving safety. At the same time, for a single vehicle, its driving range is mainly a lane, so the early warning, prevention and control of risks should also focus on the lane level. At present, the intelligent perception and identification technology for road hazards is becoming more developed.

The discussion will focus on how to establish the relationship between road conditions and road risks, and how to clarify the individual risk caused by a single factor and the combined risk level formed by multi-factor coupling.

On this basis, the timely transmission of risks to drivers, the scientific and rapid handling of risks caused by poor road conditions are urgent to be solved, which involves the precise positioning of static road conditions, dynamic vehicles, vehicle-road cloud information, real-time and accurate interaction requires advanced technologies such as satellite positioning, information communication, and big data. Based on the problems raised above, the goal of this project is to reduce road safety hazards while also promoting the digital upgrading of infrastructure, such as improving digital construction and the construction of smart roads in South Africa.