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Free-Flow Travel Speed Analysis and Monitoring at the National Level Using Global Positioning System Measurements

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Abstract:

Among the main factors affecting road crash injuries, speed is considered as a leading cause and contributing factor. There are numerous studies linking travel speeds and road crashes. Hence, an essential part of road safety plans and interventions is devoted to speed management. However, to manage speed, actual travel speeds have to be systematically and consistently monitored and analyzed. In this study, a system for the collection and analysis of free-flow travel speeds on the road network is presented, enabling speed monitoring at the nationwide level. The paper focuses on the collection and analysis of travel speeds on different road sections. Using the information gathered through advanced technologies combined with geographical information systems, a comprehensive speed database in space and time is provided allowing visual presentation and comparison of the results. This analysis can identify the road sections with significant excesses of travel speeds relative to the speed limits. It can also serve as a baseline to evaluate the impact of various counter-measures employed to reduce speeds.

Read More: [http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)TE.1943-5436.0000607](http://ascelibrary.org/doi/abs/10.1061/(ASCE)TE.1943-5436.0000607)