



## THE EFFECT OF ROAD SURFACE ROUGHNESS TO RECOMMENDED SPEED OF VEHICLES

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### *Abstract*

Road safety is one of the major concerns of the transportation system planners and managers in any nation. The principle goal of road safety is to reduce the frequency and the severity of traffic accidents. The design and manufacturing of high-quality road directly play an important role in achieving better road safety.

This research presents the model describing the relationship between road surface roughness with the vehicle's recommended safe velocity. The result shows that the road surface roughness measured by the International Roughness Index (IRI) is indirectly proportional to the vehicle's recommended safe velocity. In particular, if the recommended safe velocity is 100 km/h, the surface roughness IRI should not exceed 1.9 m/km. The simulation on Matlab Simulink software show that the have the appropriate IRI with respect to the designed speed

**Keywords** Road Roughness, Road Safety, Traffic Speed