

DETERMINING THE MAXIMUM SPEED LIMIT IN URBAN ROAD TO INCREASE TRAFFIC SAFETY

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Abstract	<p>Speed is one of the main risk factors in road traffic safety and become a traffic problem in developing countries. Three factors that cause accidents are human factor, vehicle, and environment. Speeding is one of the main cause factors in traffic accident. Traffic speed must be limited adjust with the activities in the street and potential accident. The aim of this research is to determine the maximum speed limit in urban road to increase traffic safety and to analyze the percentage of vehicle exceeding speed limit. The method to determine maximum speed limits using 85th percentile. Based on the analysis result, the proposed maximum speed limit on urban road for arterial road type 4/2-UD residential and 4/2-UD CBD is 60 km/h for motorcycle and passenger car, 55 km/h for pick up and light truck, and 50 km/h for bus and truck. Proposed maximum speed limit for collector road type 2/1-UD office area is 45 km/h for motorcycle and 40 km/h for four-wheeled vehicles or more while for collector road type 2/1-UD CBD is 40 km/h for motorcycle and 35 km/h for four-wheeled vehicles or more. The installation of speed limit sign is less effective to reduce the vehicle speed, the speed only reduce 2.9-5.5 km/h (5.6-10.1%). More than 46.5% of motorcycle users ride exceeding speed limit followed by the passenger cars users (39.43%), microbus/city bus at 31.63%, bus Trans at 28.75%, pick up and light truck at 24.69%. The maximum speed limit in school safety zone on hours/after school is 30 km/h with the consideration that the pedestrian fatality rate on 30 km/h has probability of death 10%.</p>
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