

Witchayaporn Ritthisit 2008: A Study of Intersection Physical Factors Affecting Red Light Running: A Case Study of Intersections in Sakon Nakhon Municipality. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Pongsak Suriyavanagul, Ph.D. 103 pages.

This study was aimed to determine the relationship between the Red-Light Violation (Red-Light-Running, RLR) rate and the intersection physical factors. Intersection physical factors can be divided into 7 categories namely 1) width of the cross road, 2) size of the traffic lanes, 3) number of traffic lanes, 4) location of the intersection, 5) traffic direction configuration, 6) type of pavement surfaces and 7) provision of turning lanes. RLR per 1,000 vehicles were determine one-way ANOVA and multiple comparison with the statistical significant level of 0.05 were used in analyzes.

The result showed that the wider the cross road, the less the violations. Most violations occurred on wider than 3.5 m. traffic lanes. Lowest violations occurred where lanes widths were 3.0-3.5 m. More lanes in each direction led to lower violation. Intersections in urban areas experienced more violations. Less violations occurred with proper configurations of traffic stream directions. Concrete surface induced more violations. Provisions of turning lanes reduced the violation rate.

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