

The Effect of Improvements in Motorcycle/Motorcyclist Conspicuity on Driver Behavior

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Abstract

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A study was conducted to develop and evaluate various means of making motorcycles more conspicuous. More than 30 conspicuity treatments were developed, and the most promising ones were evaluated in day and night tests involving ordinary car drivers on public roads. The tests established which conspicuity treatments effectively deterred motorists from accepting short time gaps. Findings showed that daytime conspicuity of a motorcycle is significantly improved if (1) its normal low-beam headlamp is turned on or (2) its high-beam headlamp is turned on and is modulating in intensity three times per second or (3) the motorcyclist is wearing a high-visibility (fluorescent) vest and helmet cover. Nighttime conspicuity is significantly improved when the motorcycle uses additional running lights or the cyclist is wearing a retroreflective vest and helmet cover. Given that about three out of four motorcycle accidents occur in daytime, one major conclusion drawn from the study is that the most effective means of improving daytime conspicuity (considering performance, cost, and cyclist convenience) is to require motorcyclists to drive during the day with their low-beam headlamp turned on.