Motorcyclist conspicuity-related accidents in urban areas: a speed problem ?

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Abstract

We examine the hypothesis that, in motorcyclist conspicuity-related accidents in urban areas, the low conspicuity of this category of road users often works in combination with the motorcyclist's high driving speed. The in-depth analysis and the kinematic reconstruction of 22 cases of urban accidents involving a motorcyclist and another road user show that the motorcyclist's speed is significantly higher for motorcyclist conspicuity-related cases, in comparison with other cases. This conclusion, which remains to be consolidated using a larger number of cases, suggests that speed management in urban areas could be a highly interesting possibility for helping to reduce accidents of this type.

Keywords – motorcyclist, motorcycle, conspicuity, speed, in-depth accident studies

1. Introduction

The low conspicuity of motorcycles has long been identified as one of the principal accident-causing factors observed in accidents involving motorcyclists (see, for example: [3;7;9]; or more recently, [19]): in various situations where a motorcyclist and a car driver interact, it is common for the car driver to look in the motorcyclist's direction without detecting him, even though he is within the field of vision. Of course, problems of conspicuity can also affect other types of road users [16], but they especially affect motorcyclists. The principal measure adopted to improve motorcyclist conspicuity was the obligation to turn on the motorcycle headlight in the daytime. The positive effect of this measure in preventing motorcycle accidents has been clearly proven [14;17;21;22]. And yet, this measure only prevents part of the accidents related to low motorcyclist conspicuity (approximately one-third according to [17]). Furthermore, Hole et al. [8] have shown that turning on the headlight and wearing bright clothing improve conspicuity but do not constitute a radical solution, and that other factors affect the contrast between the motorcyclist and his environment. The review by Wulf et al. [20] shows that information overload and the complexity of the traffic environment, among other factors, can also contribute to a motorcyclist's not being detected. Such factors probably have a greater influence in urban areas, as the multiplicity of activities (shops, businesses, etc.), road uses (traffic, parking, etc.), categories of road users and the larger number of crossroads lead to greater complexity in the scenes and an overload of visual information.