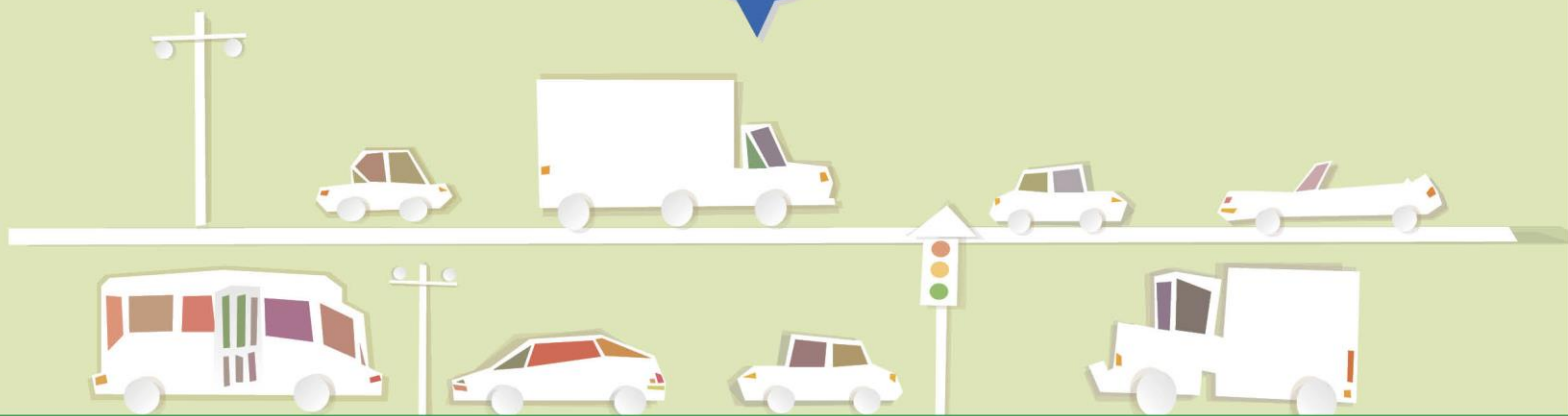


# THEMATIC FILE ROAD SAFETY 11

## POWERED TWO-WHEELERS



Knowledge center  
Road safety



## Thematic File Road Safety 11 – Powered two-wheelers (Summary)

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Authors: Freya Sloomans, Heike Martensen & Anke Paneels

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There are different types of motorised two-wheeled vehicles. This report deals with the moped class A, the moped class B and the motorbike. mopeds and motorbikes constitute a large portion of the vehicle fleet in Belgium and other European countries. The motorbike is an economically interesting and attractive means of transport. The high vulnerability of bikers in traffic is the drawback to this flexible and “light” way of moving.

### **Risk of accident**

The vulnerability is perceivable in the accident statistics. Moped riders and bikers cover only 1% of the total number of kilometres in Belgium whereas 20% of the seriously injured people on the road were moped riders or bikers. For bikers, the risk of being severely injured or killed is especially high; for moped riders the risk of being lightly or seriously injured is rather high. We see among moped drivers and bikers that they are usually fatally injured and this is not the case for their opponents.

A Belgian study (Martensen, 2014) showed that all types of vulnerable road users are exposed to a high risk in traffic, with moped users and bikers in front. For them, the risk of being injured on the road is 57 times as high as this of the average car driver and more than two times higher than the risk of the average cyclist. This problem is not specific to Belgium. Users of two-wheeled vehicles represented 17.7% of all road fatalities in 2008 in the EU-23 countries.

### **Causes of accidents involving motorised two-wheeled vehicles**

We do not know much about the causes of the accidents involving a motorbike. Accidents involving mopeds are nonetheless less examined so that the causes of that kind of accidents are still mainly unknown.

For bikers, here are the following causes of accidents dealing with behaviour:

- Perception of the other user : bikers are often not seen;
- Expectations of the other road user concerning the biker’s speed;
- Age and experience: young and novice bikers are clearly exposed to a high risk of (serious) accidents. Furthermore, half of the bikers involved in serious accidents are between 35 and 54 ;
- Fitness to drive ;
- Technical problems with the vehicle: braking with a motorbike requires much more driving abilities than braking with a car. The problems are blocked wheels that then slip away and jump off the ground in curves so that the motorbike is less controllable;
- Driving under the influence of alcohol;
- Social background and recorded offences: it is plausible that bikers who have no driving licence and drive a vehicle that is not registered or is not insured tend to more often infringe the rules. It is also clear that workers and unemployed people are overrepresented among bikers involved in accidents ;
- Type of the motorbike: drivers of a sport motorbike are exposed to an extremely high risk of being involved in serious accidents, namely in fatal accidents.

For moped users, the causes of accidents as far as the behaviour is concerned are linked to the age, the lack of driving experience, risky behaviour, not wearing a helmet (or wearing one incorrectly...) Moreover, they are not always seen by other road users.

Factors regarding infrastructure that play a role in accidents involving motorised two-wheeled vehicles are: lay-out of the road, external problems (such as holes, ditches, irregularities or slippery and damaged asphalt) and obstacles along the road. Factors regarding the vehicle are: technical problems with the motorbike (problems with the brakes, problems with the lighting, mechanical problems...) and tampering with the moped’s power.

### Measures

Measures that must help prevent accidents involving motorised two-wheeled vehicles:

- **Training:** fundamental courses for bikers, continuing education and more attention for the motorised two-wheeled vehicles during the training of the car drivers ;
- **Campaigns:** The main message should focus on the risks of speeding and the fact of not being seen. It is also important to make other road users aware of the presence of bikers and to inform bikers on the rules related to traffic jam filtering;
- **Place on the road :** the migration of the moped class B to the carriageway where a maximum speed of 50km/h is in force;
- **Enforcement:** controls on speed, the bikers' vehicle documents, the use of the direction indicator and keeping a safe distance between the biker and other road users;
- **Infrastructure:** the road must guarantee a good roadholding even when it is raining. The road lay-out must induce the wanted behaviour and so be simple and easy to understand. Added safety barrier with safety planks can reduce the gravity of accidents involving motorbikes in curves with an obstacle in the safety zone or with a difference in level ;
- **Vehicle:** All that makes a biker visible will increase his visibility. Wearing a visible helmet and colourful clothes (mainly useful during the day) and reflective stickers on the helmet and the clothes (at night) is advisable. ABS is also a technical measure that can reduce the number of accidents.



Vias institute  
Chaussée de Haecht, 1405  
1130 Brussels  
[info@vias.be](mailto:info@vias.be)

Tel.: 0032 2 244 15 11  
Fax: 0032 2 216 43 42