

MOTORCYCLING SAFETY POLICY STATEMENTS

These Policy Statements are taken from RoSPA's "[Motorcycling Safety Policy Paper](#)", dated June 2006, which contains the research and background information on which these policies are based.

Motorcycling is an increasingly popular form of transport. However, motorcyclists are also one of the most vulnerable road users. Despite forming only 1% of road traffic, motorcyclists account for 20% (one in five) of road deaths and serious injuries.

In 2004, 585 motorcyclists were killed on the road, 6,063 were seriously injured and just under 19,000 were slightly injured. Motorcyclist casualties had been rising since the late 1990s, because motorcycling has increased, but 2004 saw a significant drop in the number of motorcycle users killed and injured, although motorcyclist mileage also fell.

Much of the increase in motorcyclist casualties may be due to the increase in the amount of motorcycling. The rate of motorcyclist killed or seriously injured casualties per billion kilometres travelled in 2004 had fallen by 23% from its 1994 - 98 level. Nevertheless, motorcyclist casualty rates are much higher than other road users.

The vast majority (93%) of motorcyclist casualties are riders, with passengers forming just 7% of casualties. Motorcyclist casualties are predominately male.

The two age groups with the highest risk are younger riders, aged 16 to 19 years, on mopeds and small engine motorcycles, and riders aged 20 to 49 years, but particularly those aged 30 to 39 years, on larger machines.

Almost three quarters (72%) of motorcyclist casualties occur on built-up roads (roads with a speed limit of up to 40 mph), even though such roads carry less than half of motorcycle traffic. However, 59% of motorcyclist deaths occur on non built-up roads, 38% on built-up roads and 2.5% on motorways. The reverse is true for moped users: 64% of moped deaths occur on built-up roads and 36% on non-built-up roads. The fatality rate for motorcyclists is much higher on rural roads than on urban roads.

Motorcyclist casualties are highly seasonal. Fatalities and overall casualties peak during the Spring and Summer months, which reflecting increased riding during this period.

The vast majority of motorcycle accidents occur in fine weather and on dry roads.

There are a number of common types of crashes involving motorcyclists:

- Failure to negotiate bends on rural A roads
- Collision at junctions
- Collision while overtaking
- Rider losing control without another vehicle being involved.

Bends

This tends to be the fault of the rider, often because s/he approaches the bend too fast and/or mis-judges the curve of the bend. They occur more often on leisure rides. Riders involved in this type of accident are more likely to be inexperienced.

Junctions

This tends to be the fault of a driver who fails to see a rider who was in clear view (and was often seen by other road users). In about 12% of these cases, the driver failed to see the motorcyclist even though s/he was wearing high visibility garments or using daytime running lights.

Overtaking

This usually involves poor overtaking by a rider, although it also includes riders 'filtering' through stationary or slow moving traffic, in which case it is a driver who is more likely to be at fault.

Losing Control

Almost one in five (18%) motorcycle accidents involve the motorcyclist losing control, without any other road user being involved. They are due to rider error, poor road surfaces and avoiding other road users. They seem to be more common on rural roads and often linked to excessive speed, alcohol, other impairment or careless/reckless behaviour.

Education and publicity measures should focus on these types of crashes, and include riding on rural as well as urban roads.

Age and Experience

The two age groups with the highest risk are younger riders, aged 16 to 19 years, on mopeds and small engine motorcycles, and riders aged 20 to 49 years, but particularly those aged 30 to 39 years, on larger machines. The main change in motorcyclist fatalities since 1994/98 has been a large increase in deaths among 30 to 49 year old riders.

Training

The rider's skills, training, experience and attitudes are fundamental to safe motorcycling (although by no means the only issues). One of the key approaches to improving motorcyclist safety is to ensure that riders receive appropriate training when they start (or re-start) to use a motorcycle, that they receive further training as they progress in their riding careers, especially as they progress from smaller to larger motorcycles.

The motorcycle training industry in Britain is "very fragmented", with many small training organisations, a wide range of different training qualifications and many different types of courses. Motorcyclists receive relatively little formal training, and many graduate from smaller to larger machines without taking any further training.

Research is underway to investigate current training courses, identify good practice and develop guidelines for standardising the core elements of pre- and post-test motorcycle training. Hopefully, this research will plug a significant gap in our knowledge of most effective types of motorcyclist training.

Statutory Register of Motorcyclist Instructors

A weakness of the motorcycle training system is the lack of a statutory register to ensure that motorcyclist instructors are trained, tested and monitored to minimum, national standards (similar to the one for car driving instructors). This has been recognised in the Government's Motorcycling Strategy and research is being conducted to develop training competencies and professional qualifications for motorcyclist trainers. A voluntary registration scheme will be set up by the DSA. Subject to an evaluation of its effectiveness, this should become a compulsory register.

Learners need to be encouraged and helped to take an adequate level of training between CBT and the motorcycle test. The Government has the power to make such training compulsory, but at present is seeking to encourage riders to take training rather than force them to do so.

Post-Test Training

Recent years have seen significant developments in rider training. The Driving Standards Agency (DSA) is also working with motorcycling training providers to develop national standards for post-test training for all motorcyclists with full licences, particularly newly qualified riders, riders returning to motorcycling after a long break and riders who are changing to larger, more powerful machines.

The Pass Plus scheme (which provides extra supervised lessons after the car driving test) should be extended to novice motorcyclists.

Motorcyclists should be encouraged and helped to continue to develop their riding skills and abilities, especially as they progress from smaller to larger machines. To this end, Bikesafe schemes, post-test rider development training and advanced motorcyclist training should all be promoted widely.

Following the model of Driver Improvement Schemes, Rider Improvement Schemes for motorcyclists are being developed and evaluated. The measures in the Road Safety Bill to provide powers for driver training courses (that would apply equally to drivers and motorcyclists) to be offered for more serious offences are supported. Speed Awareness courses are being offered by some Police forces to drivers who exceed the speed limit by small amounts. Good practice guidelines for a national scheme have been developed and such schemes will be available to motorcyclists as well as drivers.

Fitness to Ride

Riders of two-wheeled motor vehicles are probably more susceptible (than drivers) to anything that impairs their riding ability, especially alcohol, drugs and medicines and fatigue. However, there is no evidence that motorcycle accidents involving these factors are more prevalent than such accidents involving drivers.

Alcohol

In 2004, 423 motorcyclists failed breath tests, and 14% of riders who died were over the drink drive limit. However, motorcyclists are less likely to fail breath tests than car drivers, and a lower proportion of motorcyclists killed on the road were found to have been over the limit, compared with car driver fatalities

It goes without saying that motorcyclists should refrain from drinking any alcohol and riding.

Drugs and Medicines

There is no evidence to suggest that this is a greater problem for motorcyclists than for drivers, but the same issues relate to both groups. An In-depth Study of motorcycle CCIDENTS found that drugs were involved in less than 0.25% of motorcycle crashes where the rider was wholly or partly to blame. However, a different study of fatal accidents involving motorcyclists found that 13% of the riders had been impaired by alcohol or drugs or both.

Motorcyclists should not ride if they feel affected by medicines (including some everyday medicines) or illegal drugs, or if they are taking medicine or undergoing any medical treatment which advises against driving or riding. Appropriate guidance from medical practitioners and pharmacists, and warning labels on medicines, are essential. Positive advice about alternatives to riding and advice to return to the GP if side-effects are experienced are just as important as warnings not to ride if affected by the medicine, or by the illness. Current developments in roadside tests for drugs and/or impairment should apply as much to motorcyclists, as to drivers.

Fatigue

A tired motorcyclist is more likely to crash. Motorcyclists may have an increased susceptibility to fatigue because of noise, vibration and exposure to weather conditions. However, fatigue was involved in only 4 of 1,790 motorcycle accidents analysed in a study of motorcycle crashes.

It is more difficult for motorcyclists to find a safe place to stop and sleep and so they may be more tempted to keep going on long journeys. Riders should avoid starting a long distance ride after having worked a full day, and should take a break about every two hours. Riders who begin to feel tired should stop somewhere safe, take drinks containing strong caffeine and take a short nap. If sleepiness persists, they should find somewhere to stop overnight.

Inappropriate Speed

Almost half of motorcyclists exceed the speed limit on 30 mph built-up roads (over half of car drivers do so) and over one third of motorcyclists exceed the speed limit on 40 mph built-up roads (compared with 27% of cars). On non-built-up single carriageway roads with the national speed limit of 60 mph, 25% of motorcyclists exceeded the limit (compared with only 10% of car drivers), and on non-built-up dual carriageways almost half of motorcyclists exceed the 70 mph speed limit. On motorways, 59% of motorcyclists exceed the speed limit, with 28% going faster than 80 mph.

Most motorcycle accidents occur at relatively low speeds, although fatal and serious injuries are more likely to be suffered at higher speeds.

Built-up roads with speed limits of 40 mph or less have the highest casualty rate for motorcyclists. However, only one third of motorcyclist deaths occur on these roads. 60% of deaths occur on non-built up roads with speed limits over 40 mph.

Over one third (38%) of the motorcyclists involved in fatal accidents in one study were considered to have been speeding before the collision. Another study identified misjudging the speed required to negotiate a bend as the most common cause of motorcycle only crashes.

Speed management should be directed to both high and low speed motorcycle riding.

Helmets

Motorcycle helmets are a proven, effective safety measure that reduces the risk of receiving head and brain injuries in an accident. All motorcyclists should wear an approved motorcycle helmet whenever they ride.

As effective as motorcyclist helmets are, they can be improved. Research is underway to improve the standards for helmets and visors, and to develop ones that can provide protection in a wider range of impact speeds. Improvements in motorcycle helmets will save even more motorcyclists' lives.

Riders should not wear tinted glasses, visors or goggles if riding in the dark, dusk or conditions of poor visibility. In daylight they should not use tints that are below the legal minimum levels of light transmittance. It is important that visors and goggles are kept clean, and replaced if they become heavily scratched as scratches which may distort the view, cause dazzle from oncoming vehicle headlights or cause sun glare.

Noise levels are a problem for motorcyclists. They can damage a rider's hearing, and may prevent the rider from hearing audible signals, such as horns, sirens and traffic. The easiest way for most motorcyclists to achieve a reduction in noise levels is to wear earplugs that conform to the appropriate British Standard. Riders using earplugs for the first time should monitor their speed carefully since the earplugs will reduce their level of feedback from the road environment.

VAT

Any future attempts to remove or reduce the UK VAT zero rating on motorcycle helmets should be rejected.

Protective Clothing

Good motorcycle clothing can protect motorcyclists from the wet and cold and from some types of injury. It is essential that it is comfortable to wear, does not impede the movements of the rider and provides protection from the elements - riders who are warm and dry are much more alert. European standards have been developed for motorcyclist protective clothing (which must be CE marked), and there is now a wide range of such clothing available. However, as with helmets, there are accidents and injuries from which the best protective clothing is unable to protect the rider.

High Visibility Clothing

Protective clothing that contains fluorescent and reflective material will increase the conspicuity of the rider, and hence help to reduce the likelihood of an accident occurring in the first place. Research is needed to establish the most effective type and format of high visibility garments for motorcyclists.

Other Road Users

Most motorcycle accidents involve a collision with another vehicle, usually with a car. Although, there is much that motorcyclists can do to avoid such collisions, the behaviour of drivers is equally crucial. There are many accidents in which the motorcyclist is using the road responsibly and safely, but is put at risk because a driver fails to do the same. Drivers need to be aware of the characteristics, needs and vulnerability of motorcyclists.

Motorcycle accidents at junctions in urban areas are usually the fault of drivers who fail to see a rider who is in clear view, and in some cases even wearing high visibility garments or using daytime running lights.

Government road safety publicity campaigns rightly target drivers with key messages to raise their awareness that they need to look out for motorcyclists, especially at junctions, and should continue to do so. It is essential that drivers are aware that motorcyclists may be present on any road, at any time.

Further research into the behavioural aspects of drivers in regard to motorcyclists is underway and hopefully will help identify further strategies to improve the attitudes, skills and behaviour of drivers towards motorcyclists.

Motorcycle Size

The term motorcycle encompasses a wide variety of vehicles, from small low-powered mopeds and scooters to large, high powered motorcycles capable of reaching speeds of 200 mph and more. As with cars, RoSPA does not believe that there is any justification for producing such powerful vehicles that can so easily reach speeds of more than twice the maximum speed limit.

Younger riders tend to ride smaller machines (100 – 250 cc) and older riders tend to ride larger motorcycles (500 cc and over, but especially 900 cc and above).

Riders of more powerful motorcycles are associated with a higher proportion of accidents and casualties on non-built up roads, at night, on bends or while overtaking, and crashes due to speeding or other poor behaviour.

A Feasibility Study into the development of intelligent speed adaptation devices for motorcycles is needed.

Brakes

Braking, especially in an emergency, is one of the most difficult tasks of riding a motorcycle. Errors in braking may easily lead to skidding, capsizing or the vehicle becoming unstable. Incorrect use of motorcycle brakes is considered to be a factor in many motorcycle accidents. ABS brakes for motorcycles have been commercially available since 1988, and are now being fitted to a wide range of machines – a move which should be encouraged. Other advances in motorcycle brakes are being developed, including Combined Braking Systems (CBS) that operate both brakes and distribute the braking force to the front and rear wheels to improve stability when braking. It is important to ensure that riders understand how advanced braking systems work and receive training in their use.

Daytime Running Lights

Research suggests that motorcycles using specifically designed daytime running lights are more easily seen by other road users in daylight. Motorcyclists may voluntarily choose to use their headlights during the day to increase their conspicuity, and the Highway Code advises that using headlights during the day may increase motorcyclists' conspicuity.

Leg Protectors

Leg injuries are common amongst motorcyclist casualties, and often serious, leading to long term or permanent disability. Leg protectors have been suggested as a way of reducing such injuries. Unfortunately, research continues to produce inconsistent results, with some studies suggesting that they would reduce leg injuries, but others suggesting that they might even increase the risk of other injuries. Further research and development is required to establish the most effective design(s) for particular types of motorcycles.

Airbags

Airbags in cars are designed to absorb impact, whereas airbags for motorcycles need to absorb (or partially absorb) impact and influence the trajectory of the rider (to raise the rider's head above the edge of the car roof and to direct the rider's body upwards to reduce the impact against the side of the car). Initial research suggests that appropriately designed motorcycle airbags may be beneficial in reducing injuries to motorcyclists, but further development is required to produce effective, practical and affordable systems for different types of motorcycles.

Tyres

The type and condition of tyres on a motorcycle have a significant effect on its handling, steering, cornering, braking and stability. It is essential that the correct type of tyres is used and they are kept in a good condition at the correct pressure all the time and replaced as soon as necessary.

Motorcycle Assessment Programme

The EURONCAP programme that crash test cars and rates them on the results has led to significant improvements in car design, and raised the public's awareness of the importance of considering safety issues when choosing a new car. A similar programme for motorcycles may also lead to consumer-led and competition-driven improvements in motorcycle design.

Road Design

Road Design is of particular importance to motorcycle riders. Features that are unnoticed by a car driver can be dangerous for a motorcycle rider. For example, steel manhole covers positioned on the line round a bend, white paint on the road where a rider needs to change direction and loose grit gathering on the road surface can all prove dangerous if not lethal to motorcycle riders.

Therefore, it is important for engineers to consult with motorcycle riders at the design, implementation and safety audit stages to ensure that roads are easy for motorcyclists to read and have no sudden surprises.

The Institute of Highway Incorporated Engineers (IHIE) Guidelines for Motorcycling was a significant and welcome development in ensuring that the needs of motorcyclists are considered when designing, constructing, changing and maintaining the road environment.

Road Surface

Motorcyclists are more susceptible to difficulties and hazards created by the design, construction, maintenance and surface condition of roads. It is essential that the particular needs and vulnerability of two-wheelers are considered carefully by highway designers, engineers and that appropriate road maintenance is maintained.

Road Markings

Raised road markings can also cause problems for motorcyclists, either by affecting their stability or by retaining water on the surface, which results in a loss of adhesion between the tyres and the road surface. The use of bitumen can cause problems for motorcyclists, especially when the road surface is wet, and therefore, alternative repair substances need to be developed.

Traffic Calming

Traffic calming is a proven, effective highway engineering measure to reduce speed-related accidents, and benefits all road users. Traffic calming features need to be effective in reducing motorcyclists' speed while at the same time not inadvertently causing additional hazards to two wheelers. They also need to be well maintained and visible under all lighting and weather conditions. It is essential that traffic calming design guides provide suitable advice and options for achieving this balance.

Street Furniture

Street furniture can hinder visibility and cause serious injury to motorcyclists who collide with objects on the roadside. It should be as far back from the road as possible, and where necessary protected by appropriate fencing (that does not itself cause an injury hazard to motorcyclists).

Crash Barriers

Crash barriers are a concern for motorcyclists. Exposed parts of support posts concentrate impact forces on a motorcyclist's body, and the edges of horizontal beams or wire rope can cause laceration injuries. Crash barriers should be designed and tested with both two- and four-wheel vehicles.

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Bus Lanes

The government's advice on bus lanes recommends against allowing motorcycles to use bus lanes, although Local Authorities can permit them if they choose. For several years now, motorcycle groups have called for motorcyclists to be allowed to use bus lanes, along with pedal cyclists and taxis, and several Local Authorities have allowed them to do so. Pedal cycle organisations are opposed to motorcyclists being allowed into the bus lanes.

Trials are underway and interim data has not identified any safety problems created by motorcyclists being allowed to use bus lanes. RoSPA has not supported the proposal for motorcyclists to be allowed to use bus lanes. However, this policy will be reviewed once the results of the various trials have been published.

Advanced Stop Lines

Advanced Stop Lines for pedal cyclists are commonly provided at junctions to allow the cyclist to stop in a position where he or she can be clearly seen by drivers. As with bus lanes, motorcycle groups are now seeking to be allowed to use the Advanced Stop Lines as well. Not surprisingly, pedal cyclist groups strongly oppose this. A number of trials are underway which Transport for London is monitoring, although the results to date have been inconclusive.

Bends and Night-time Crashes

Accidents on bends on non-built-up roads, and night time accidents are a particular problem for motorcyclists. Design solutions to reduce these risks should be considered, especially at sites, routes and areas where accident data indicates that there is a motorcycle accident problem.