

A European Agenda for Motorcycle Safety

The Motorcyclists' Point of View

Main conclusions



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Executive Summary

In Europe, more and more people are turning to motorcycling for a variety of reasons and one of the most important is traffic congestion. The number of motorcycles on European roads has more than doubled over the last two decades. Motorcycling offers an inexpensive, environmentally friendly and an effective means of transport.

However, motorcycle safety is becoming an issue of concern for an ever-increasing number of stakeholders – and there are those who use the safety argument to minimise the more positive aspects of motorcycling and the major advantages it brings to the transport mix. Some of the proposed solutions completely ignore motorcycling. For these reasons, FEMA would like to contribute to the motorcycle safety debate, by presenting the views of European riders¹ in relation to recognised – and potential - motorcycle safety problems, through a compilation of the expertise of its organisations in consideration of the requirements and wishes of the end-users.

No road safety initiative – whether from Governments or riders themselves - can ever make motorcycling risk-free. This is also true for walking or cycling. However, educating young riders how to tackle these risks and how to adapt and live comfortably in our modern society would unquestionably have an important impact to reduce injuries and accidents, which remain part of everyday life.

There is a need to put motorcycle safety concerns into the right context and the growth of motorcycling should not be used as an excuse that motorcycling is becoming less safe. Road safety targets should reflect casualty rates.

There is also a need to improve the monitoring of the effects of the various road safety initiatives. The extraction of data from police reports of accidents is of major interest in motorcycle safety. However, police accident reporting varies significantly between Member States, both in terms of qualitative and quantitative data, which is a formidable obstacle to meaningful analysis and comparison.

It is also important that various research projects use a common methodology. To establish a correct understanding of the major factors causing motorcycle accidents, projects following an internationally agreed methodology should be developed and carried out for other types of vehicles in order to have a better understanding of road accidents in the future.

No one should start riding a motorcycle without having undertaken structured, relevant and cost-effective basic training. It is vital to identify the key factors in basic training that effectively make the novice rider capable of safely operating a motorcycle in normal traffic situations on public roads. An impediment to a cost-effective Pan-European initial rider training scheme is lack of consensus. For this reason, FEMA and other motorcycling organisations have developed the *Initial Rider Training* (IRT) project, which defines the essential elements of, and the means by which a comprehensive, affordable and relevant European model for pre- licence rider training can be undertaken.

The Second and Third Driving Licence Directives have been seen by FEMA members as offering no safety improvements. As a solution, the European Commission should ensure that the IRT model training programme is included as a basis for improving pre-licence rider training within the 3rd Driving Licence framework. The main purpose of the licence test is quality assurance of the candidate's basic skills and knowledge, meaning: the minimum skills and knowledge needed to safely operate a motorcycle on public roads. Thus, it is of great importance that the licence test is designed to do exactly that.

In principle, FEMA supports the voluntary use of protective clothing, but two major concerns must be taken into account, namely comfort and cost. The positive attributes of personal protective equipment must always be balanced against their negative effects which can be dangerously uncomfortable for riders. The cost of buying a quality helmet, jacket, trousers, gloves and boots is considerable, and

¹ The term 'rider' is used to describe a motorcyclist, in the same way the term 'motorist' is used to describe a car driver.

FEMA believes that a reduction in cost would lead to increased use. Equally, the use of personal protective equipment should not be made compulsory.

The design of motorcycles has made them increasingly more proficient and specialised and generally reflects a greater emphasis on safety. Because motorcyclists are usually separated from the motorcycle at some time during a crash, protective equipment attached to the motorcycle, e.g. so called "leg protectors" or airbags, is less likely to be effective than protective clothing and should not warrant serious attention.

In many European countries, collisions between cars and motorcycles constitute over 50% of all motorcycle casualties. Studies indicate that 8 out of 10 collisions between cars and motorcycles are caused by inattentive car drivers. FEMA is convinced that the most effective way to reduce fatalities and injuries resulting from collisions between cars and motorcycles is to emphasize driver awareness and rider collision avoidance strategies.

The problem of the lack of perception of motorcycles by car drivers is a key-area for motorcycle safety. The case in favour of daytime running lights still lacks scientific foundation which is due to the difficulties in achieving a reliable measurement of the effect of DRL. FEMA's opinion is that the whole debate remains purely intuitive and political and FEMA is concerned that too much focus on DRL and brightly coloured clothing may take attention away from far more important factors that prevent collisions between cars and motorcycles.

As far as DRL (dedicated-lights) is concerned, FEMA is not opposed to the introduction of DRL/dedicated lights on 4-wheeled vehicles providing that the shape is completely different for the one of a motorcycle and that the lights do not impair motorcycle conspicuity. However FEMA remains opposed to the harmonization of DRL/dipped-beam headlights during the transitional phase of introducing DRL/dedicated lights on all vehicles.

Traffic management applications of ITS should be developed to include motorcycles. However, while the technology of ITS road pricing applications to include motorcycles is feasible, FEMA calls governments to exempt them from road pricing as part of the solution to traffic problems that exist throughout Europe.

Road authorities should adjust traffic codes to the needs of the motorcyclist (access to bus and reserved lanes, filtering, double stop lines, etc.) as part of a new strategic approach to the problem of urban mobility. The Green Paper on Urban Transport is a key opportunity to harmonize positive motorcycle-friendly measures throughout Europe.

Some public road authorities in Europe have done little to improve road characteristics with regard to motorcycle safety due to a lack of competence and experience in this area of responsibility. Other public road authorities in some European countries have, in close cooperation with motorcyclist organisations, produced handbooks for motorcycle safety, with detailed guidelines for all personnel working on road construction and maintenance.

Fair and accessible insurance based on real risk factors could be a useful tool to improve motorcycle safety. Equally, fiscal incentives such as reduced VAT rate or fiscal deductibility for protective equipment, post-licence training, and other safety aspects, could easily give riders more safety-oriented choices.

The United States and the United Kingdom have recently set up motorcycle strategies with the aim to find the most appropriate solutions to improve motorcycle safety. These recent examples show that the best way forward is to involve all motorcycle safety stakeholders from Industry to End-users and from National Transport authorities to local road safety experts, this should be encouraged in Europe.

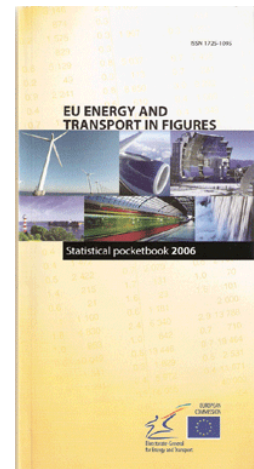
I. A brief introduction to motorcycling in Europe

- ✓ Motorcycle use in Europe is increasing, both as a leisure activity and as a mean to fight congestion in urban centres.
- ✓ Motorcycling trends are evolving with the average age for taking up motorcycling increasing and more women riding motorcycles than ever before.
- ✓ There is a variety of motorcyclists using their motorcycle for a variety of purposes.
- ✓ Motorcycles offer a viable alternative to a reliance on the car. They have major advantages compared to any other motorised road transport mean, especially on climate change, with less emission of greenhouse gas, and on fuel consumption, with lower figures.
- ✓ Motorcycles represent an efficient and effective answer to the need for more mobility, both in case of Labour Mobility and Social Mobility.
- ✓ Supportive measures favouring the use of motorcycles will reduce motorcycles casualties.



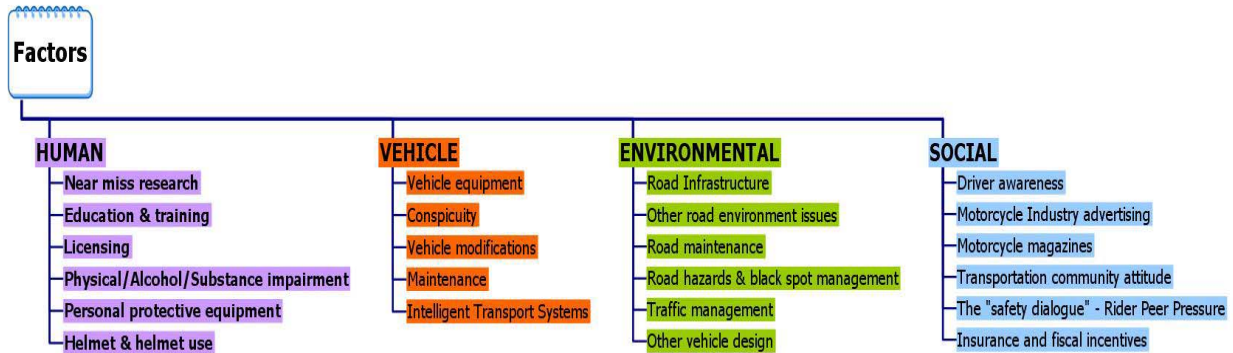
II. Putting motorcycle safety into the right context

- ✓ Regardless of any road safety initiative motorcycling can never be made risk-free, no more than walking can be made risk-free.
- ✓ Most riders are fully aware of the fact that they are vulnerable road users.
- ✓ It can not be denied that a minority of motorcyclists are “high-risk takers” with an extreme behaviour, but this is also true for 4-wheeled vehicle drivers, and even, cyclists. This minority often gives motorcyclists a bad public reputation, but should not be considered as representative of the motorcycling population.
- ✓ Absolute figures do not show the true picture of motorcycling casualty trends. Not taking the parc increase/decrease into account distorts the exposure risk and may lead to inappropriate answers.
- ✓ There is a need to monitor the effects of various road safety initiatives more effectively.
- ✓ The extraction of data from police reports on accidents is of major interest to motorcycle safety but varies significantly between Member States. This is a formidable obstacle to meaningful analysis and comparison. There is a need to improve and utilize data collected by traffic police more effectively.
- ✓ Europe should develop and introduce a uniform Pan-European traffic crash report form.
- ✓ Better education of traffic police officers is needed to improve their understanding of the likely course of events in motorcycle accidents.
- ✓ Devising effective countermeasures requires comprehensive research into the current causes of motorcycle crashes and to define the motorcycle population at risk.
- ✓ Statistical information, both in qualitative and quantitative terms, is a general problem when talking about motorcycle safety.
- ✓ Europe should encourage the use of a common methodology for EU and national studies on motorcycle accident causation.
- ✓ EU Member States should provide reliable and consistent statistics to all EU and international databases of reference such as CARE.
- ✓ It could help motorcycle safety if the industry redesigned some advertising campaigns.
- ✓ Europe and its Member States should ensure that motorcycle research is carried out by experts who are motorcyclists themselves.



III. Improving motorcycle safety in Europe

Using the concept of the Haddon Matrix, FEMA has selected what we believe to be the most important aspects to focus on in order to significantly improve motorcycle safety in Europe.



HUMAN FACTORS IN BRIEF

FEMA's views:

- ✓ Near miss research is crucial to improve the understanding of accident causation and to assist in allaying misconceptions relating to blameworthiness and behaviour.
- ✓ Basic rider training is essential. Providing there are major improvements in initial rider training, FEMA can see no need for mandatory post-license training.
- ✓ The quality and effectiveness of training is highly dependent upon the instructor's competence. No one should be allowed to offer training without participation in a recognised instructors training programme.
- ✓ European motorcycle safety would benefit largely from basic guidelines for a truly quality assured motorcycle licence test.
- ✓ Experienced riders are less likely to be involved in collisions with cars.
- ✓ Basic collision-avoidance techniques should be part of basic rider training.
- ✓ Drink-riding can cause motorcyclists to crash, although statistically, this refers to a minority of riders.
- ✓ The positive attributes of personal protective equipment must always be balanced against their



negative effects which can be dangerously uncomfortable for riders. Much more can be done to improve helmet and protective equipment designs.

FEMA's recommendations:

- ✓ Europe should integrate the results of the *Initial Rider Training project* in the annexes of the 3rd European Driving Licence Directive. The EU Driving Licence framework should ensure basic guidelines for education of motorcycle instructors.
- ✓ The key factors in a collision-avoidance strategy should be emphasized in initial rider training programmes. These strategies should be emphasized in educational programmes.
- ✓ Governments should finance the development of an e-coaching module to allow novice rider to improve their hazard awareness before confronting road traffic.
- ✓ National governments should offer incentives and assistance for the development of post-licence training programmes.
- ✓ Insurance companies should reward post-licence training with a discount on riders' insurance premiums.
- ✓ Mandatory "remedial" training of offenders through rider improvement courses should be introduced to improve their attitude and hazard perception skills.
- ✓ National Member States should lower VAT rate for personal protective equipment and helmets for motorcycle use
- ✓ Governments and local authorities should assist in providing for training facilities. Such training facilities could be used for both initial rider training, licence test and voluntary post-licence training.
- ✓ Europe should carry out research aimed at developing affordable riding gear, more suitable in warm climates.
- ✓ European Research programmes should encourage research and product development of helmets (to improve helmet weight, fogging, noise and field of vision) and personal protective equipment.



VEHICLE FACTORS IN BRIEF

FEMA's view:

- ✓ Current motorcycles have better brakes, greater stability, more responsive steering, more effective controls, improved ergonomics for reduced fatigue and improved reliability in all systems, than those of even a decade ago.
- ✓ Because motorcyclists are usually separated from the motorcycle at some time during a crash, protective equipment attached to the motorcycle, e.g. so called "leg protectors" or airbags, is less likely to be effective than protective clothing and should not warrant serious attention.
- ✓ FEMA supports the progressive introduction of affordable advanced braking systems (anti-lock braking systems and/or combined braking systems) on all new motorcycles and scooters through voluntary commitments, respecting consumer choice.
- ✓ FEMA is opposed to the EU harmonization of DRL (dipped-beam headlights) on all vehicles. However, FEMA is not opposed to the introduction of DRL/dedicated lights providing that the shape is completely different for the one of a motorcycle and the light does not impair motorcycle conspicuity.
- ✓ FEMA is concerned that too much focus on DRL and brightly coloured clothing may take attention away from far more important factors preventing collisions between cars and motorcycles, namely increased driver awareness and conscious rider traffic strategies, through dedicated awareness campaigns for drivers and motorcyclists.
- ✓ FEMA can see no road safety benefits from restricting the historic tradition of modifying motorcycles.
- ✓ Studies show that very few motorcycle accidents are caused by mechanical failure as a result of poor maintenance. Thus, FEMA can see no need for compulsory safety controls of motorcycles such as mandatory pan-European roadworthiness tests.
- ✓ FEMA recognizes that the development of Intelligent Transport Systems (ITS) applications may have the potential to significantly improve road safety. However, in that respect, recognition of the principle that "no ITS application should be developed if it can put a specific group of vehicles or users at higher risk" is in FEMA's opinion, fundamental for any government policy on ITS applications.



- ✓ Governments should exempt motorcycles from road pricing as part of the solution to traffic problems which exist throughout Europe.

FEMA's recommendations:

- ✓ Traffic management applications of ITS should be developed to include motorcycles which could usefully be adapted to give them priority over other vehicles.
- ✓ National Governments should exempt motorcycles from road pricing as they are part of the solution to traffic problems which exist throughout Europe.



ENVIRONMENTAL FACTORS IN BRIEF

FEMA's views:

- ✓ As riding defensively and with anticipation is of crucial importance for motorcyclists, riders need to concentrate on the traffic environment rather than on the road surface quality.
- ✓ Today, road design, maintenance and construction are generally directed towards the needs of multi-wheel vehicles (car, buses, and commercial vehicles), with the needs of motorcycles often addressed as an afterthought or not taken into consideration.
- ✓ Basic motorcycle needs for an improved road network include good adhesion whatever the weather conditions, clear information, good mutual visibility, and minimum risk of impact against obstacles.
- ✓ Road restraint systems have so far been designed and tested to protect all categories of motorized vehicles, except motorcycles.
- ✓ Specific road sections are, for whatever reasons, notorious for causing motorcycle accidents. However, road conditions posing hazards to motorcyclists are rarely signposted, simply because these conditions do not pose hazards to the majority of road-users.
- ✓ Riders are the first to recognize hazardous conditions for motorcyclists, and in several European countries, the motorcyclists' organizations have designed and utilized a Road Hazard Report



Forms. FEMA would be prepared to participate in a working group aimed at creating a uniform *European Road Hazard Report Form*.

- ✓ Collisions associated with A-pillars are significantly more likely to occur at T-junctions and are more likely to involve car drivers failing to see vulnerable road users.
- ✓ As telematics develops and become standardized in order to improve traffic flow, the information provided should also be made available to motorcyclists.

FEMA's recommendations:

- ✓ All standards need to be revised and developed to reflect the needs of motorcyclists, encouraging motorcycle-friendly design, construction and maintenance procedures.
- ✓ Quality audits, in which the needs of motorcyclists are included, should be undertaken on a regular basis.
- ✓ National governments should promote the use of motorcycle-friendly infrastructure guidelines when they exist, and develop such literature where it is missing.
- ✓ Road authorities should place specific signposting (combination of existing traffic signs), particularly aimed at warning motorcyclists of hazards.
- ✓ At the same time, public road authorities should at the same time look into the circumstances creating these "Black Spots" and when identified, take measures to improve conditions.
- ✓ Europe should develop and deploy a uniform, Pan-European *Road Hazard Report Form*, as an instrument of assistance to public roads authorities.
- ✓ Europe should promote best practices for road construction and maintenance
- ✓ The European Commission should support FEMA's work in CEN in order to develop a European motorcycle-friendly standard for road restraint systems quickly, and encourage the use of motorcycle friendly protective barriers at national level.
- ✓ EU and national Research authorities should ensure that motorcycles are also included in traffic management schemes using telematics.

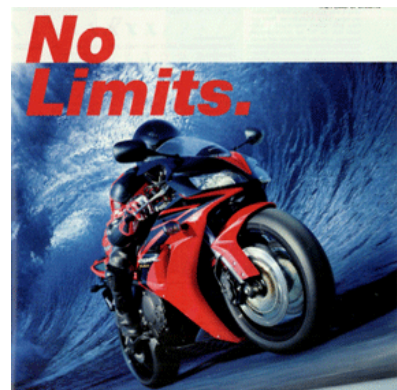


- ✓ Road authorities should adjust traffic codes to the needs of the motorcyclist (access to bus and reserved lanes, filtering, double stop lines, etc.) as part of a new strategic approach to the problem of urban mobility. The Green Paper on Urban Transport is a key opportunity to harmonize positive motorcycle-friendly measures throughout Europe.
- ✓ Consideration for motorcycles should be incorporated into the design of other vehicles.
- ✓ UNECE forum should review safety rules on visibility to tackle the problem caused by A-pillar with regards to the conspicuity of vulnerable road users.

SOCIAL FACTORS IN BRIEF

FEMA's views:

- ✓ Studies indicate that collisions between cars and motorcycles constitute nearly 50% of all motorcycle accidents, among which 8 of 10 collisions are caused by inattentive car drivers.
- ✓ The most important factor causing car drivers to overlook motorcyclists is that the driver's mindset is not geared to observe motorcycles (or other vulnerable road users).
- ✓ The most effective way to reduce fatalities and injuries resulting from collisions between cars and motorcycles is to emphasize driver awareness and rider collision-avoidance strategies.
- ✓ Manufacturers and spare parts producers have a duty of care to ensure that the products they sell does not encourage excessive risk taking especially by inexperienced riders.
- ✓ Some motorcycle magazines can give messages that are overtly irresponsible. They encourage bad habits and provide mixed messages to young riders.
- ✓ Fair and accessible insurance based on real risk factors could be a useful tool to improve motorcycle safety, with premiums reflecting efforts by riders to improve their skills through voluntary post-licence training.
- ✓ Fiscal incentives such as reduced VAT rate or fiscal deductibility for protective equipment, post-licence training, and other safety aspects, could easily naturally lead riders to more safety-oriented choices.



FEMA's recommendations:

- ✓ Awareness of motorcycles should become a compulsory element in initial driver training and licensing.
- ✓ Europe should finance Pan-European awareness campaigns, particularly focusing the life-long personal consequences for car drivers being responsible for having killed or injured a motorcyclist.
- ✓ Motorcycle magazines should support the motorcycle community to debate safety issues through articles and take their share of the responsibility in the motorcycle safety debate.
- ✓ Road design and maintenance personnel must be educated about conditions posing hazards to motorcyclists.
- ✓ Medical emergency services need to identify opportunities to integrate principles of motorcycle safety with its core content.
- ✓ National authorities should encourage and develop the "safety dialogue" among motorcyclists.
- ✓ European and national Research authorities should promote appropriate research into motorcycle dynamics.
- ✓ Member States should ensure all motorcyclists have fair and accessible insurance based on real risk factors.
- ✓ Governments should promote safety aspects through fiscal incentives.



Conclusion

There is a tendency in research concerning motorcycles to stereotype riders as having a unique identity which separates them from the rest of society. In fact there have been numerous ethnographic studies² about 'bikers' with a specific lifestyle. However, these stereotypes represent a very small part of a much bigger picture. As explained in chapter one, many social riders are part of a motorcycling network with international affiliations and there are strong cultural foundations underlying riders' rights movements which form the backbone of FEMA, with concerns that stem from the social networks of the motorcycling community. But as this document has attempted to highlight, motorcyclists come from all walks of life and motorcycles come in all shapes and sizes.

Unfortunately, the motorcycle remains a largely misunderstood mode of transport, for far too long shrouded in clouds of misconception about both the nature of the machines themselves and the nature of the people who ride them. The reality is that motorcycles have long since evolved and modern motorcycles are clean, quiet, well designed and come in a variety of different styles.

Whether a person rides a motorcycle for social, leisure, professional or commuter purposes, for many people a motorcycle is a transport mode of choice. Many parts of Europe are inaccessible by public transport and for some journeys private transport is the most practical modal choice.

While many urban areas have excellent transport links, not everyone who travels enjoys the same access from their journey's starting point and will require personal powered transport, especially those who live in rural areas.

This document has aimed to provide evidence that motorcycles are a convenient, economical and environmentally friendly form of personal powered transport, providing the ideal 'half way house' between the present traffic chaos and the transportation vision of the future.

What is also evident from our review is that there is no appropriate Pan European motorcycle strategy. The examples of the United States and the United Kingdom that have developed specific Motorcycle Strategies with the participation of all stakeholders, has demonstrated the power of a concerted effort to improve conditions for motorcycles and this should be encouraged in Europe.

² <http://ijms.nova.edu/index.html> International Journal of Motorcycle Studies

The Federation of European Motorcyclists Associations

The Federation of European Motorcyclists Associations (FEMA) is the representative federation of motorcyclists throughout Europe. FEMA represents the interests of 23 national associations from 18 countries in the European Union and the Transport Division of the United Nations Economic Commission for Europe (UN-ECE). For almost 20 years, FEMA has taken an active part in the road safety debate in these arenas.

The FEMA secretariat is based in Brussels, in the heart of the European Union. It employs three full time members of staff dedicated to safeguarding the interests of riders. Within the framework of FEMA, experience based knowledge of motorcycle safety is continually improved and disseminated.

