

# Motorcycle Action Group



## Action Document

# Motorcycle Friendly Crash Barriers

July 2005

## **Motorcycles and Crash Barriers “The Road To Success”**

In 2000 the Federation of European Motorcyclists' Associations (FEMA) published the 'Final report of the motorcyclists and crash barriers project'.

This project aimed to develop recommendations to road authorities for reducing injuries to motorcyclists in collision with crash barriers. The project was supported by the Directorate General for Energy and Transport of the European Commission.

As an addition FEMA has now produced “The Road To Success” document which has been written and compiled by a working group of representatives from three FEMA member organizations, Motorcycle Action Group (MAG) - United Kingdom, Norsk Motorcykkel Union (NMCU) – Norway and the Motorcyclists' Action Group (MAG) - The Netherlands, using information and data provided by all 22 member organisations.

The aim of the document is to give an overview of the motorcycle friendly crash barrier projects that have been successfully carried out in a number of European countries, it also describes the difficulties and obstacles that motorcycle organisations encounter.

The purpose of the document is to give riders organizations a simple tool to assist politicians and road authorities to implement successful policies with the aim of improving the safety of motorcyclists by improving crash barriers.

### **Crash Barriers**

Crash barriers are typically designed to guide and restrain errant vehicles, ranging from small cars to heavy goods vehicles.

Under the current European Standard crash barriers are not designed (or tested) to restrain motorcycles or motorcyclists.

A motorcyclist involved in an accident or a fall will come away from the motorcycle and slide along the road surface, with an initial speed equal to the speed of the motorcycle.

During this sliding motion, the motorcyclist is at risk of impacting with 'roadside furniture', such as lamp-posts, sign-posts or crash barriers.

Existing regular crash barriers are made of steel beams, mounted on supporting steel posts. The major cause of (fatal) injuries to motorcyclists coming into contact with a crash barrier is the fact that the sliding motorcyclist hits one or more of the supporting posts of the crash barrier.

Over the years several solutions to this problem have been developed by manufacturers of crash barriers and installed by road authorities.

The system most used today exists of a secondary rail, fitted to the existing barrier system.

It is widely accepted that the risk of (fatal) injuries to motorcyclists can be easily and significantly reduced by covering the supporting posts of the crash barrier.

In the absence of clear (European) regulations, that also require crash barriers to meet the needs of motorcyclists, riders are dependent on the good will of local, regional and national road authorities to adapt existing crash barriers to a standard that would protect motorcyclists.

In several European countries projects, including the UK, are being undertaken to improve motorcycle safety by improving crash barriers.

These actions are frequently due to the efforts of campaigns by national riders' rights organisations.

### **Rethinking Crash Barriers in the UK**

The UK project was undertaken in 2004 by the Highways Agency, after several accidents which included fatalities, at the A2070 Cloverleaf Junction in Ashford, Kent.

In conjunction with InterRoute and installers Highway Care Ltd, the Highways Agency identified the "Bikeguard" system from Germany as the system best suited for the scheme.

Bikeguard, used extensively throughout Europe consists of an overlapping steel sheet system fixed to the existing safety barrier to prevent motorcyclists from colliding with the support posts. The main advantage is that the support posts do not project beyond the top of the existing safety barrier.

Analysis of Accident Statistics since the installation of the Bikeguard barrier retention system has highlighted that no personal injury accidents have occurred.

There is circumstantial evidence that a motorcycle impacted with the Bikeguard barrier retention system without damaging the original barrier though no accident report has been logged by Kent Police.

Requests have now been received from other Highways Agency agents for details about Bikeguard, with the view of further installation of the product at similar locations within the Highways Agency network.

The project is now waiting for test approval so that it may be used "officially" by road authorities in the UK.

Although MAG does note with some concern that the upright posts as fitted to some types of solid beam barriers systems in the UK protrude approximately 20mm or more over the top of the horizontal beam. An example of this can be seen on sections of the A46 Warwick By Pass. This section of the A 46 is a dual-carriage way and utilizes wire rope barriers and solid beam barriers as the central divide. A more extreme example is present in new sections of beam barriers fitted on parts of the A1.

### **MAG Support for Riders Organisations**

The most proactive riders' organisation in Europe regarding the fitment of motorcycle friendly secondary rails has been MAG Netherlands.

The first secondary rail was fitted in 2003 in the province of Utrecht with a total of 3,000 meters of secondary rails fitted in sixteen locations at a total cost for the project of €100.000.

The secondary rail developed by Dutch guardrail company Prins Dokkum B.V. uses the overlapping steel sheet system fixed to the existing safety barrier to prevent motorcyclists from colliding with the support posts. The system is fitted within a short period of time and does not affect the performance of the existing safety barrier.

MAG Netherlands has also been successful in promoting the dangers of wire rope barriers leading to the removal of wire rope barrier systems and preventing new wire rope barriers being fitted to the road infrastructure.

This has lead to the manufacturers of wire rope systems pressurising MAG Netherlands regarding their campaign and contents on their website.

Together with NMCU Norway, MAG Belgium, DMC Denmark and SMC Sweden MAG UK has offered support to MAG Netherlands in their campaign. MAG UK provided the following statement:

“The Motorcycle Action Group (MAG UK) supports our colleagues in rider's organizations that are engaged with their road authorities in removing wire rope barriers from the road infrastructure.

Due to the open nature of the design which exposes the upright steel posts and wire cables MAG UK considers that wire rope barrier systems are the most aggressive Vehicle Restraint System used on the roads.

MAG UK does not endorse any Vehicle Restraint System or the manufacturer of any of these systems.

It is the position of MAG UK that the main cause of injury to riders is the exposed upright posts of all Vehicle Restraint Systems. MAG UK's aim is to improve the safety of Vehicle Restraint Systems thus reducing the potential for injury and death of motorcyclists when impacting these systems.

Therefore MAG UK is currently campaigning for steel beam barriers to be fitted with a 'motorcycle-friendly' secondary rail and to have wire rope barriers removed from the road infrastructure in the UK.

Finally, MAG UK considers that the determination to quantify a life in monetary terms to justify legislation on safety barriers through cost benefit analysis is a reflection of the changes from the European Commission where human life is simply calculated as a target or commodity.”

The aim of MAG UK is to improve the safety of Vehicle Restraint Systems thus reducing the potential for injury and death of motorcyclists when impacting these systems.

Therefore MAG through FEMA is advocating that all current Vehicle Restraint Systems must meet the same standard of tests for motorcyclists for central reservation protection as applied to all other vehicles.

### **What is MAG Doing?**

To compliment the FEMA “Road To Success” MAG has produced its own document “Vehicle Restraint Systems - Safety Fences - Crash Barriers – Motorcyclists”.

At a national level we are liaising with local road authorities and the Highways Agency to identify Vehicle Restraint Systems that are considered dangerous to motorcycles.

We are also raising the safety concerns of motorcyclists regarding Vehicle Restraint Systems including the removal of wire rope barriers to MPs and MEPs.

### **What you can do?**

A three pronged lobby to MPs, MEP's and the Minister of State for Transport.

Write to your MEP and MP pointing out the concerns of motorcyclists regarding Vehicle Restraint Systems.

Point them to the links for the FEMA “Road To Success” and the MAG document “Vehicle Restraint Systems - Safety Fences - Crash Barriers – Motorcyclists”.

Ask MPs to raise the issue to the Minister of State for Transport and any committees on transport they sit on.

Contact the Minister of State for Transport, Dr Stephen Ladyman at:

Department for Transport  
Great Minster House  
76 Marsham Street  
London SW1P 4DR

Ask him to get the government to raise the issue at European level.

Use the points in this feature to frame your letter.

If you're involved in motorcycle forums raise the issue there.

Feed any replies or request for further information to:

Trevor Baird Director of Public Affairs MAG UK, PO Box 750, Rugby, CV21 3ZR or email [public-affairs@mag-uk.org](mailto:public-affairs@mag-uk.org)

### **Contact Links**

For your MP's email address go to : [www.locata.co.uk/commons](http://www.locata.co.uk/commons)

Or write to them at:

The House of  
Commons London  
SW1A 0AA.

For your MEP's email address go to : [www.europarl.org.uk/uk\\_meps/MembersMain.htm](http://www.europarl.org.uk/uk_meps/MembersMain.htm)

Or write to them at:

ASP 14E165  
European Parliament  
RueWiertz  
1047 Brussels  
Belgium

### **Information Links**

FEMA "The Road To Success" [www.fema.ridersrights.org/crashbarrier2005/index.html](http://www.fema.ridersrights.org/crashbarrier2005/index.html)

MAG "Vehicle Restraint Systems, Safety Fences, Crash Barriers, Motorcyclists Version 1:3" [www.network.mag-uk.org/crashbarriers2005/MAGcrashbarrier2005.pdf](http://www.network.mag-uk.org/crashbarriers2005/MAGcrashbarrier2005.pdf) 149 kb

FEMA "Final report of the Motorcyclists & Crash Barriers Project"  
[www.fema.ridersrights.org/crashbarrier/index.htm](http://www.fema.ridersrights.org/crashbarrier/index.htm)

Computer simulations:

No protection: Windows Media Player [www.nmcu.org/av/rider\\_no\\_protection\\_right\\_view.mpg](http://www.nmcu.org/av/rider_no_protection_right_view.mpg)

With protection: Windows Media Player [www.nmcu.org/av/rider\\_with\\_protection\\_right\\_view.mpg](http://www.nmcu.org/av/rider_with_protection_right_view.mpg)

FNM Portugal video Windows Media Player  
[www.fema.ridersrights.org/crashbarrier/movie\\_crashbarrier.MPG](http://www.fema.ridersrights.org/crashbarrier/movie_crashbarrier.MPG) 5mb.

Links to websites with video clips in the public domain. These show the interaction of other vehicles with wire road systems.

[www.brifenus.com](http://www.brifenus.com)

[www.brifen.co.uk/video.html](http://www.brifen.co.uk/video.html)

<http://safence.com/Standard.htm>

MAG has copies of the CD which outlines the test procedures by the Dutch guardrail company Prins Dokkum B.V. on their motorcycle friendly crash barrier system.

If you wish to receive a copy please contact Trevor Baird Director of Public Affairs at MAG UK.