

Rating risk

Is rating roads for safety a waste of time? **Matt Hobley** investigates why one recent study could spark a national road safety debate.

No one can pretend that there is a simple fix to improve casualty rates on our highways. Road safety is an imprecise science and the reasons for accidents are numerous.

For all those involved in tackling road safety, it's a simple but uncomfortable fact that certain causes of accidents will remain beyond realistic control. Nevertheless, road safety always grabs the public's attention and its subsequent prominence on the political agenda has reinforced calls for a multi-disciplinary approach.



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Focus on the issue has been helped, in part, by documents such as the Government's road safety strategy in March 2000, *Tomorrow's roads – safer for everyone*. But it has also been hindered, regrettably, by some media coverage with an agenda focused on how drivers are inconvenienced or even 'victimised' by safety measures and enforcement. The recent bluster over speed cameras, and their colour, is a prime example.

Add to this the established imagery adopted by motor manufacturers and others to 'sell speed' to the more impressionable motorist, and you have an un-savoury dichotomy – an accident waiting to happen.

So the publication of the first phase of work by the AA Foundation for Road Safety Research which seeks to assign routes with a risk rating for the user, is no doubt timely.

But, owing to the scale of the project, plans for its future growth, and the need for a multi-agency approach to safety issues, the AA is the first to admit that the work has a long way to go. So it is eager for all those who seek to improve road safety to get involved.

EuroRAP (European Road Assessment Program) is being jointly carried out by the AA Foundation and the Transport Research Laboratory, and is supported by motoring organisations across Europe.

With 18 months' work already carried out, the project is centred on two protocols:

- To map killed and serious injury accidents (KSI) and show where the risk is high and low;
- To inspect roads across Europe to examine how well they protect users from accidents.

In this, its pilot year, the research has given safety ratings of up to four stars to more than 800 sections of motorway and core A-road network in the UK outside urban areas. The ratings use traffic volume data and the STATS 19 form accident rate data recorded by highway authorities and constabularies between 1997 and 1999 to give a measure of risk.

Similar studies have been started in the Netherlands, Sweden and Spain. There are plans to roll out the project in 12 European states over the next five years and, eventually, to throw the spotlight on urban areas.

EuroRAP also seeks to produce a road protection score in which road lengths are assessed visually for protection from accidents – primary road safety features – and the protection from injury when collisions occur – secondary safety features. Some pilot results from this work by TRL and other international organisations are included in the initial published results.

Among the preliminary findings, the study found that the country's fastest roads, motorways, were the safest because they had been adequately designed for



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Accidents at intersections can result in death or serious injury for those involved

speeds of 70mph. Single carriageway roads could also have high speed limits but shared little of the safety features and so were found to be less safe.

The majority of highway authorities' roads were not covered by the study, although some of the 'high risk' routes do fall under their jurisdiction. However, as the roll out of the Highways Agency's de-trunking programme continues, shifting the responsibility, the AA Foundation is keen to receive input from council engineers in the ongoing study.

Of course, highway authority safety departments have been aware of the problem areas for many years.

Although welcoming the project to generate a debate on safety, David Hughes, chief engineer, accident investigation and protection at Cheshire County Council, feels that a response is needed that makes more of local circumstances and the work that is already being carried out.

Danger signals

Researchers concluded that four types of accidents account for more than 80% of the fatal and serious incidents on rural roads:

- head-on collisions;
- single vehicles running off the road;
- accidents at intersections;
- accidents involving pedestrians.

They also found that the road features associated with high accident rates were:

- single carriageways;
- unprotected road side features, including trees;
- major roads without split-level junctions;
- low traffic flow roads.

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A range of factors, not just highway design, can lead to road accidents

'I doubt whether any highway safety engineer in the country was not already aware of the problems [identified in the report] well in advance,' he says.

Within his area, the notorious A573 'Cat and Fiddle' Macclesfield to Buxton route scores no stars in the EuroRAP study. This road enters the Peak District National Park and is a twisting, hilly route, but there are huge environmental constraints to any realignment. 'It would be extremely difficult to do even if we were allowed to do it,' adds Hughes.

The council has been aware of the problems with the route for some time and has tried to work up proposals to improve safety, including high-visibility road markings and signage. However, the national park authority has not favoured them on the grounds of environmental intrusion.

Hughes contends that, on routes like this, driver education is the key, particularly as the council faces the additional problem of the route's high popularity with motorcyclists. 'The twisting, hilly nature of the road is advertised on websites as a good route for motorcyclists to pits their wits. Unfortunately, dry stone walls are not particularly forgiving if they lose control.'

Hughes also raises concern about another major finding of the research – the threat posed by roadside structures. He cites a case where a vehicle left the road and collided with a single object in the middle of a field – something that, he argues, is impossible to account for.

'Wholesale protection of roadside structures is impractical and, I imagine, would be horrendously expensive,' he says.

Cheshire has carried out work on the issue and found that collision with roadside features is predominantly a rural problem and is now looking at options to

make structures safer, such as the use of 'Lattix', low-impact columns for structures. 'Local authorities are not standing still on these issues,' he adds.

'Engineers are already well aware of the problems on these sites,' AA Foundation and CSS road safety researcher John Bullas says. He suggests that highway officials should use the EuroRAP findings positively to highlight the improvements in accidents figures they have achieved following, and leading up to, the period of EuroRAP data collection. Certain factors not widely publicised may even make 'their' sites more problematic than most.

'It is impossible to reduce accidents to nil with finite budgets and resources, combined with the wildcard that is the behaviour of the road user,' he says. 'Every authority has to prioritise and all their efforts over the past decades have resulted in just a cluster of EuroRAP "black lines" for the UK rather than a "spider's web".'

The AA Foundation claims to already be aware of some of the issues raised by the engineering community and now wants to communicate, in greater detail, the findings of the work to a wider technical audience.

'I think that what we need to do now is work with the County Surveyors Society and groups like that,' head of policy research, Dr Steve Lawson, says. The foundation now aims to fix up workshops 'so we can show and explain exactly what has been done so far'.

Lawson regards feedback as invaluable to the project's future development. This is not just an empty promise, a point underlined by the amendments already made to the data as a direct result of such input. 'We are still exploring what the actual messages are to come out of the work,' he admits.

Highlighting problems across the road network was inevitably going to draw a mixed response from those whose task it is to deliver safety improvements on the ground – a testament to the emotive nature of the subject.

But EuroRAP and studies like it should not be seen as an affront on the effort of highway authorities.

Road safety certainly does not respect highway authority boundaries, so sharing good practice across the disciplines – in engineering, education and enforcement – both here and with our continental neighbours, can only be beneficial in the long term.

As Lawson says: 'The future years are going to be very interesting as we draw in more countries and refine our methods.' Real progress, it appears, will depend on the effort and opinion of all interest groups. ■

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For more details on EuroRAP, visit www.eurorap.org