

SPECIAL REPORT

SAME ROAD, SAME RIDER. SO WHICH ONE'S SAFEST?

Psychological studies say it's the rider on the right. We find out why ▶

49mph

Bored
Distracted
Inattentive
Legal



71mph

Focused
Stimulated
Alert
Illegal



Why faster is safer

Mr slow and steady doesn't always win the race. In fact, he's more likely to pay so little attention to the race that he makes a foolish mistake and crashes. By applying proven psychological rules to riding, *Bike* has been able to show that going at a pace that keeps you stimulated makes the ride safer – as well as making it more enjoyable.

Air force pilots, astronauts and motorcycle racers often talk about 'the zone'. It's a kind of hyper-awareness, a state of mind in which even the most demanding of tasks – ground-hugging flight, landing the shuttle or putting in a qualifying lap at Suzuka – seem almost easy.

But the zone is not some hippy twaddle. It is a facet of the well-documented link between arousal – the level of stimuli a person is faced with (and nothing to do with Hollyoaks) – and task performance – that person's ability to do something effectively.

As arousal increases with the demands of the task, so does performance. You're in the zone, working at your very best. Of course, if arousal is increased beyond this point then negatives like stress, fear and excessive risk are introduced and performance begins to tail off. As stress and stimuli continue to build, performance continues to suffer – you can't deal with the overload and errors of judgement become more likely.

This relationship between stimulation and performance is well-established psychological law, but its relation to the road and speed limits is only just being understood. On the road, sources of stimulation include poor weather, demanding roads and the crap driving of dozy Audi-jockeys. They also include speed, which we have control over.

Ride slowly and boredom, disinterest and inattention can all inhibit performance. Ride too quickly and the stress and over-excitement



HOW SPEED LIMITS SHOULD BE SET

The 85th Percentile Rule

Most drivers are fairly good at judging what speeds are safe in different circumstances. They can be observed all over the country setting safe speeds – both over and under the speed limit. Traffic engineers have known this for a long time and use it to set speed limits. They call it 'the 85th percentile rule'. This rule, based on statistical evidence, says that in typical circumstances 85 per cent of drivers will not be exceeding safe thresholds. And it's at this speed that accident figures are lowest. So speed limits are set at the 85th percentile, where 85 per cent of drivers wouldn't choose to exceed them anyway. If councils choose to disregard this rule and arbitrarily set speed limits lower than this, more drivers will find themselves travelling at speeds that feel too slow. The curve below indicates that when this is the case, attention drops and so does performance. And accidents go up.

adversely affect the ability to think clearly and make sound decisions.

In theory, there is an ideal speed for every circumstance. You can feel it every time you ride; a speed you reach without thinking that just feels right. Push it, perhaps to keep up with a deathwish mate, and you'll begin to feel uncomfortable. Because every rider is different, with their own unique level of ability and experience, this theoretical safe speed is different for everyone.

The problem

This natural speed-setting ability is how experienced riders and drivers remain safe. The problem is that this is incompatible with the government's focus on camera-based speed enforcement rather than on driving standards.

The speed limits take the speed-setting responsibility away from the driver or rider and many road safety experts are now saying drivers are conditioned to believe that they are safe and

invulnerable within the limit. As a consequence concentration levels drop through the floor.

Speed limits are, of course, necessary. They provide excellent information to drivers about likely hazards and help less-experienced road users establish a safe speed. But since they're fixed, regardless of the road user and variable conditions like weather, speed limits can't hope to be the best speed to drive at.

As conditions vary, so too will the optimum speed for maintaining the arousal needed for peak performance. While the speed limits imply that 61mph on a national speed limit road is dangerous and foolhardy, reasonable and experienced riders know this is nonsense. In many instances higher speeds may be appropriate, while 30mph in many residential areas can be dangerously fast.

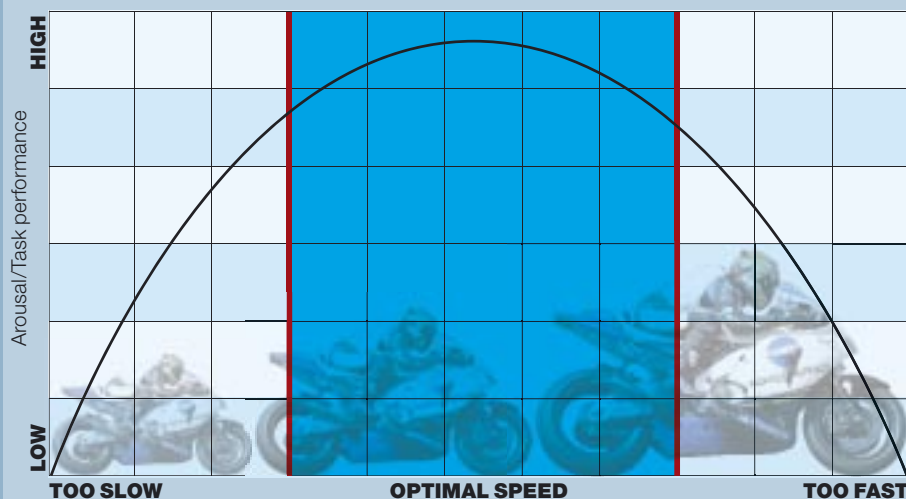
Bored people crashing

While it could be argued that bored people crashing slowly is preferable to fewer but faster accidents, the figures don't back this up. In 1995 Suffolk County Council reduced 450 of its speed limits. Many that had been 60mph were dropped to 30mph. The result was confusion among road users and carnage. Fatalities in the area had been declining by an average of more than six a year. When the new limits were introduced they leapt from 35 to 59 in 1996, an increase of 69 per cent.

The correlation was clear to many, not least the coroner Bill Walrond. In 1996 he gave his verdict on a fatal accident in Suffolk. 'I've had reported to me three fatal accidents on this road and these three fatal accidents follow very shortly after certain speed limits have been imposed,' he said. 'I think there is a very high probability indeed that this tragic fatality has the speed limits as a contributory cause.'

Walrond went on to point out the dangers of needlessly low limits. 'Unnecessary speed limits lead drivers to think that they are imposed arbitrarily and therefore make drivers less likely to observe speed limits,' he said. 'If 80 per cent of drivers ignore a speed limit, there might be something wrong with that speed limit itself.' ■

HOW SPEED AFFECTS PERFORMANCE



This is the 'Inverted-U' graph, showing how a person's ability to perform tasks (like flying the shuttle, riding a motorcycle or driving a car) increases with speed and stimulation – up to a point. After the peak of stimulation, further increases lead to a drop in performance. Drivers and riders forced to ride too slowly are likely to suffer from boredom, disinterest, inattention, poor concentration and drowsiness. Riders travelling too fast are afflicted by fear, stress, over-excitement, red mist and bad judgement.