

## Reply

### Accident analysis and prevention 37 (2005)

Dear Sir,

Road safety effects of porous asphalt: a systematic review of evaluation studies by Rune Elvik (a). Poul Greibe (b) refers to Bonnot (1997) who commented on the slipperiness of new porous asphalt. Jutteo RH and Siskens CAM (1997). "A Material Technological Approach to the Low Initial Skid Resistance of Porous Asphalt Roads" from the same conference proceedings summarises the findings which describe the low DRY (rather than WET) frictional properties of new porous asphalt in The Netherlands (during locked-wheel braking), which commonly has high WET friction when new.

These low dry frictional characteristics are thought to be generated by melting of the bituminous film from heat transfer between locked tyres and the road contact patch during non-ABS emergency braking. Indeed a standard exists for the routine testing of DRY friction on new porous asphalt on motorways in The Netherlands and the placement of warning signs to alert drivers of the risk of longer stopping distances on the new surfaces (Wet friction is tested using other devices).

Highway engineers have commonly associated the words "low skidding resistance" with a deficiency found in WET

conditions, my own research is investigating the manifestation of low locked-wheel skidding resistance in the DRY on binder rich negative textured bituminous surfaces in the UK.

Sadly, little attention has been paid to the dry friction delivered by road surfaces over the last decade as it has always been assumed to be "generally high". The increasing use of surfacing materials with a thicker bituminous coating on the aggregate particles, which could behave as an analogue for water (coining the term "bituplaning", to describe the phenomenon) really demands a rethink of the validity of the commonly held belief that surfaces can only be "slippery when wet".

I would, of course, welcome any approach from parties with an interest in contributing towards, or assisting me with, my research.

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11 April 2005