

PAVEMENT SKID RESISTANCE VERSUS APPROPRIATE SIGNAGE TO TACKLE THE VISIBILITY PROBLEM ON MOTORWAY FAST LANES ALONG TIGHT LEFT CURVES

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ABSTRACT

Obstructed visibility is rather common at tight left downgrade curves along motorway fast lanes in mountainous terrain. The problem is due to the safety barriers in motorway medians which obscure visibility to stopping sight distance for the typical obstacle. Stopping sight distance should be provided for V_{85} along any motorway section. However, a usual combination of the minimum acceptable radius for the horizontal curves, together with the maximum allowable downgrades, results to provided visibility to low obstacles corresponding to as much as 50km/h lower than V_{85} vehicle speeds. To overcome the problem either a troublesome shift of the barrier to the inside of the curve should be made or excessively anti-skid fast lane pavements should be provided. Also, certain Design Guidelines accept significant relaxations to the values of vehicle speeds to stop safely ahead of low objects. In this paper the upper limits of anti-skid properties of motorway pavements are first evaluated. The gap between required values and the possibly achieved ones is identified. Hence, complementary vertical signage would be necessary to warn drivers. An evaluation of that signage is made, whether it should inform the drivers how much they have to reduce their speed under wet pavement conditions, or what other behaviour have to adopt. The paper advocates that a non-passing signage is the best along these motorways subsections.