

## **ANTI-SKID PAVEMENTS TO SECURE SAFE STOPPING BEFORE OBSTACLES ON MOTORWAY FAST LANES ALONG TIGHT LEFT HORIZONTAL CURVES**

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### *ABSTRACT*

Obstructed visibility is rather common along tight left curves in motorways fast lanes in mountainous terrain. The problem is due to the safety barriers in motorway medians, which obscure visibility to stopping sight distance to the typical low height obstacle. The ideal is stopping sight distance to be provided for the 85<sup>th</sup> percentile vehicle speed ( $V_{85}$ ) along any motorway section. A combination of the lowest acceptable radius for the horizontal curves, together with high downgrades, lead to the fact that the provided visibility to low obstacles correspond to 50km/h lower than  $V_{85}$  vehicle speeds. To overcome the problem a troublesome shift of the barrier to the internal of the curve is required. Instead, Design Guidelines demand unobscured vision line above the central barrier to a high object (vehicle) and accept relaxations to the values of vehicle speeds to stop safely ahead of low objects. Complementary emphatic vertical signage is complimentary provided to inform drivers to considerably reduce their speed on wet pavement conditions.

In this paper, an approach focused on the anti-skid properties of pavements is followed. Actually, motorways in Greece do have anti-skid pavements and maintain quite high friction values. Initial friction values are calculated to secure safe stopping ahead of low obstacles at least for vehicles moving with a reasonable operational speed. Frequent surveillance of friction coefficient is required for motorway fast lanes along tight left curves at downgrade sections, as well as regular resurfacing works.

*KEY WORDS:* Anti-skid surface, fast lane, motorway, visibility, central barrier