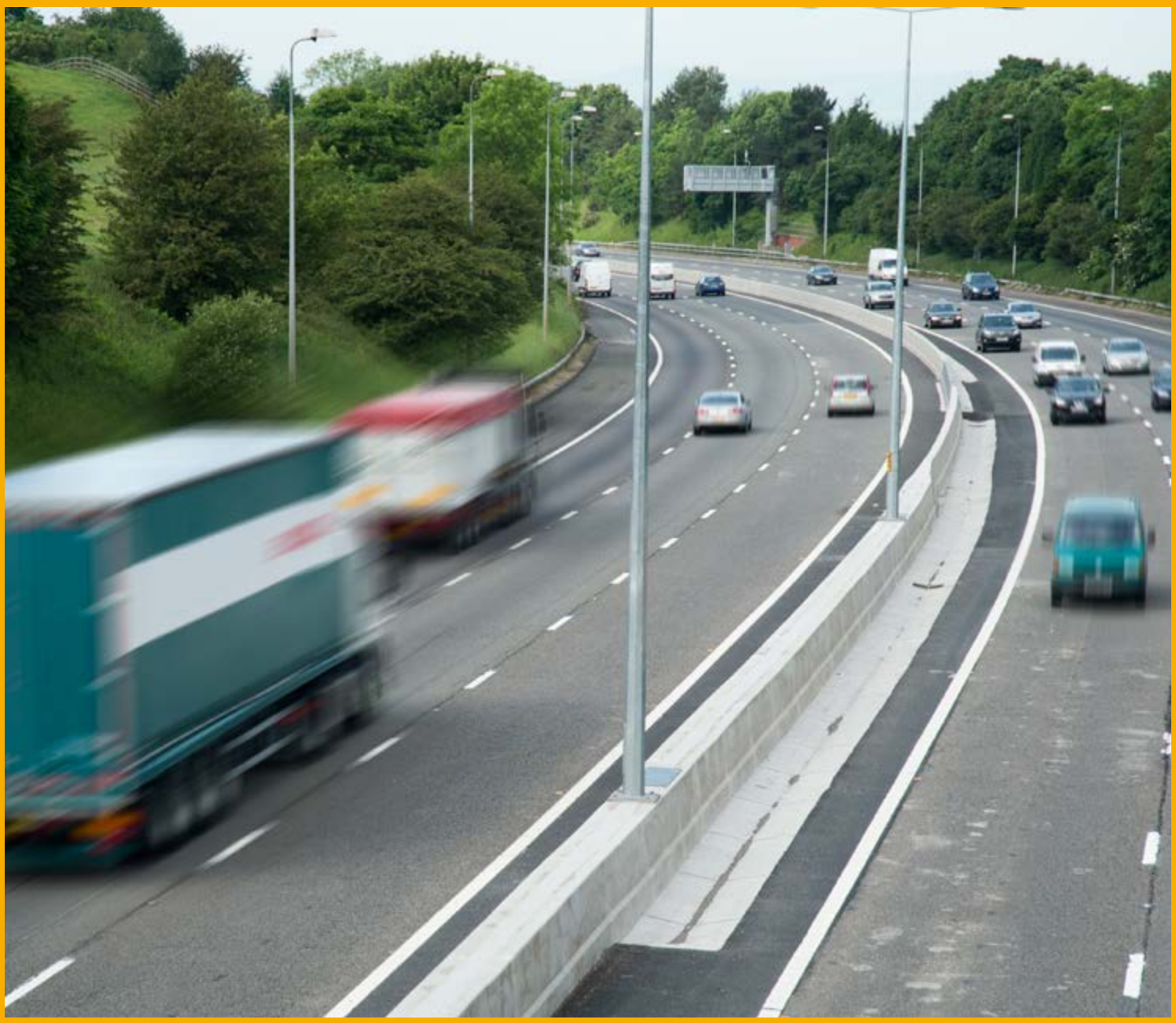


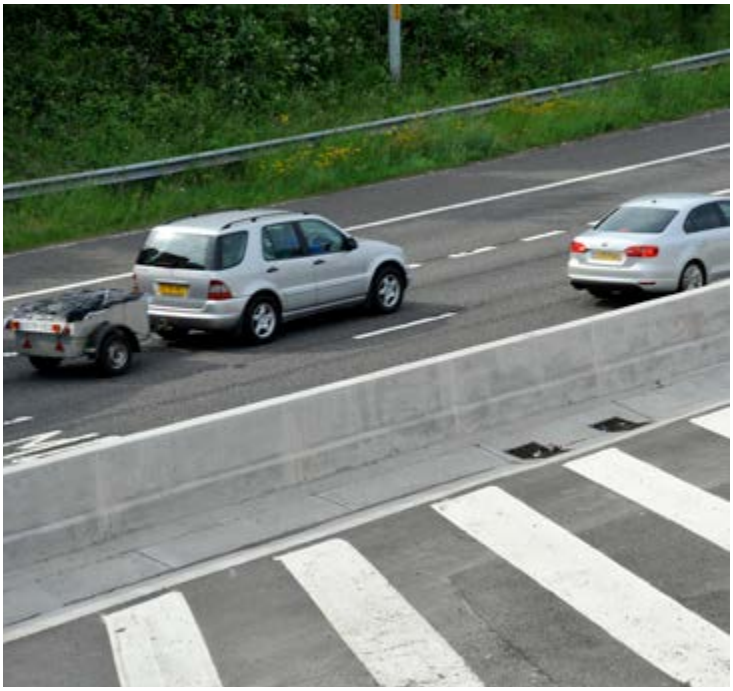
SIKA AT WORK

CENTRAL BARRIER REPLACEMENT, M5 WEST MIDLANDS

CONCRETE: Sika® Frioplast® A2 and Sikament®

BUILDING TRUST

CENTRAL BARRIER REPLACEMENT M5 WEST MIDLANDS



Sika concrete admixtures are playing an important role in the upgrading of central crash barriers on the UK's motorway system. Since 2005, the Highways Agency policy has been that high-containment concrete step barriers be used for all central reserves on new motorways and as replacements for barriers that have reached the end of their useful life on existing motorways.

This particular project concerned the replacement of the central reserve barrier on a 7.9km (4.9 miles) stretch of the M5 between Junction 3 and 4A. It connects to an existing wide step barrier already partly completed between junctions 3 and 4, making a total of 11.4km (7.1 miles). Licensed contractors Extrudakerb constructed the barrier for Amey, Managing Agent Contractor (MAC) to the Highways Agency in the West Midlands, using the Britpave concrete safety barrier system. Most of the work was carried out at night.

The in-situ system, which conforms to BS EN1317, the current European Standard for Road Restraint Systems, is predominantly a slipform process. Slipform relies heavily on the quality of the concrete at the point of construction. Concrete mix design and control over batching and delivery are important to achieve this.

The step barriers were formed within a moving shutter, and the correct mix design, compaction and rate of construction combined to ensure the concrete barrier was extruded freely whilst retaining its shape without slump or distortion. Tarmac Concrete, who supplied the concrete, incorporated Sika concrete admixtures within the mix to help satisfy these criteria.

To help with any future freeze/thaw issues associated with the aggressive motorway environment, a Sika air entraining admixture was also added to the mix. This adds air within the structure and reduces the internal stresses caused when the structure is exposed to freezing conditions and thus preventing any damage from the freeze/thaw cycle.

The scheme also incorporated a replacement open drainage system, which was also part of the Britpave slipform system.

The completed system comprises wide and standard concrete step barriers to suit the replacement lighting requirements – either in the central reserve or on the verge. The benefits of in-situ concrete barriers include high performance, accident frequency reduction, reduced installation and whole life costs due to requiring zero maintenance, and reduced environmental impact.

For further information call 0800 292 2572.

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