

## CASE STUDY

### M40 Motorway, UK Highways



UK Highways Ltd operate the M40 DBFO, a 123km 3 to 4 lane motorway with average traffic levels on some sections of over 100,000 vehicles per day including in excess of 15,000 commercial vehicles. The M40 encompasses 250 structures and surfacing is mainly SMA installed in 2002, with some original HRA surfacing installed in 1989.

### THE CHALLENGE

The maintenance strategy for the M40 DBFO project had historically involved large areas of surface course replacement every 10-14 years.

Over the 30 year contract life, this would mean 2 or 3 planned interventions depending on the surface age in 1996 when the DBFO took on responsibility for the road.

### THE SOLUTION

Following an 'Asphalt Preservation' trial on the M40 in 2003 using RHINOPHALT® and a period of assessment, UK Highways took the decision in 2008 to treat the whole of the M40 over a 5 year period.

This preservation treatment programme is now repeated every 5 years.

5.3 million m<sup>2</sup> of surfacing on the M40 has been treated with RHINOPHALT® up to and including 2020. All of this work has been undertaken at night with an average output of 15,000 - 20,000m<sup>2</sup> per shift.

The treated carriageway has the appearance of a new asphalt surfacing.

#### CONTRACT

Over 2.7 million m<sup>2</sup> of asphalt was treated with RHINOPHALT® in its first application with crack/joint sealing being completed at the same time.

Applications continued annually, but the programme planned for repeat applications every 5 years keeping the surface in a serviceable condition without further interventions. Applications will continue until the end of the concession in 2026.

#### VALUE ENGINEERING

Cost savings over the contract life are projected at 30% and the number of working



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This demonstrates a positive impact on sustainability where no planing and disposal of existing surfacing material has taken place and therefore no requirement for additional construction materials.

#### MINIMISING DISRUPTION

In addition to the financial advantages, there have been notable benefits to motorway users who have experienced significantly less disruption than would have been originally forecast, with applications being carried out much more efficiently overnight between 23.00 and 05.30.

### SUMMARY

#### EXTENDED PAVEMENT LIFE

UK Highways are now in their 12<sup>th</sup> year of using RHINOPHALT® as a preventative maintenance option, and even after experiencing some very harsh winters, no reactive works have been required during this period.

## CLIENT COMMENT

UK Highways is satisfied that RHINOPHALT® has delivered on its performance claims for significantly reduced maintenance and repair costs and has delivered improved network availability and resilience. As a result, we anticipate substantial lifecycle cost savings over the course of the remaining period of our concession, which runs to 2026.

**John Gardner**

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**// FURTHER DETAILS**

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