

## **INTERIM ADVICE NOTE 158/12**

### **Revisions to HD 30/08 - Maintenance Assessment Procedure**

#### **Summary**

This IAN gives revised guidance on pavement maintenance treatment choices to increase the use of targeted repair techniques.

#### **Instructions for Use**

This IAN revises specific Clauses and figures within HD30/08. It should be read in conjunction with the parts of the Design Manual for Roads and Bridges and the Manual of Contract Documents for Highway Works relevant to the choice of maintenance treatments for existing pavements.

## **1. Introduction**

This IAN provides advice to support maintenance treatment decision making. It allows greater utilisation of the existing pavement asset through the use of crack sealing, patching and thin surface overlays. In addition, it restricts binder course use by only permitting binder course renewal where significant structural defects are identified in advance of the Value Management scoring.

HA staff and Supply Chain shall use this IAN, when considered appropriate, on road maintenance works. However, both the quality of the finished product and the safety of road users should be considered imperative.

### **1.1 Purpose**

This IAN enables decisions to be made on pavement maintenance that potentially save costs on road maintenance schemes, by extending the safe and serviceable life of the pavement by 5-8 years. This is carried out by promoting greater quantities of targeted localised treatment(s) and reduced binder course use.

### **1.2 Relationship**

This IAN revises specific paragraphs and figures within HD 30/08. It should be read in conjunction with the relevant parts of HD 29/08 and HD 32/94.

### **1.3 Implementation**

This IAN must be implemented for Trunk Road Works immediately, except where the procurement of works, at any stage from conception through design to completion of construction, has reached a stage at which, in the opinion of the HA, use this document would result in significant additional expense or delay progress (in which case the decision must be recorded in accordance with the HA's departures from standards procedure).

### **1.4. Mutual Recognition**

Any reference in this specification to a "British Standard", or to a "British Standard which is an adopted European Standard", is to be taken to include reference also to the following standards:

- (a) a standard or code of practice of a national standards body or equivalent body of any EEA state;
- (b) any international standard recognised for use as a standard or code of practice by any EEA state;
- (c) a technical specification recognised for use as a standard by a public authority of any EEA state; and
- (d) a European Technical Approval (ETA) issued in accordance with the procedure set out in directive 89/106/EEC.

Where there is a requirement in this specification for compliance with any part of a British Standard or a British Standard which is an adopted European Standard, that requirement may be met by compliance with any of the standards given above, provided that the relevant standard imposes an equivalent level of performance and safety provided for by a British Standard or a British Standard which is an adopted European Standard.

“EEA State” means a state which is a contracting party to the EEA Agreement

“EEA Agreement” means the agreement on a European Economic Area signed at Oporto on the 2nd of May 1992 as adjusted or amended

## 2. Requirements

This IAN must be read in conjunction with the relevant DMRB and SHW Clauses related to pavement assessment and maintenance procedures for both flexible and rigid pavements.

**The following revised clauses to HD30/08 – Maintenance assessment procedure shall be applied:**

### Revised Paragraph 7.3

The choice of treatment must be based on safety, serviceability, financial, environmental and traffic disruption considerations as well as on a purely technical assessment. Various treatment options should be considered. For the HA network this should consider Do Nothing, Do Minimum and Do Something options over the next five year plan. Treatments for Do Something options may be only locally required and may vary from lane to lane. A Whole Life Cost analysis should be used when comparing the costs of different options. For the HA network the SWEEP system (part of the HA Pavement Management System (HAPMS)) is used for this purpose. *Targeted treatment allowing for localised patching and repair of cracks using overband and inlaid sealing systems is permitted. The safety of road users is imperative*

### New paragraph 7.3a

*Opportunities for reducing renewal lengths should be identified by following processes similar to those in HD 28 protocol to identify schemes lengths requiring treatment rather than relying on the outputs from SWEEP alone. Treatment lengths automatically generated by SWEEP for SCRIM deficient sections cannot be removed at this time, but they should be clearly identified and where possible, supported by a site investigation in accordance with HD 28.*

### Revised Paragraph 7.5

Where deterioration is found only in the surface or binder course (approximately the top 100mm of the pavement) and there is an adequate total pavement thickness, no strengthening is normally required. *Targeted resurfacing shall be the preferred option, whenever appropriate. The extent of deterioration shall be reviewed to determine any requirements for resurfacing or inlay.* A surface treatment or inlay would be suitable treatments depending on the extent of deterioration and how far it extends downwards into the surfacing layers. Crack sealing *and patching* should be considered *and used, whenever possible*. Where suitable, Cold Applied Ultra Thin surfacing will be more appropriate to treat areas of more extensive shallow cracking or to maintain a skid resistant surface.

## Revised Paragraph 7.7

*Where the pavement foundation is providing adequate support, targeted localised surface treatment(s) should be the preferred option, whenever appropriate. Otherwise, if the assessment process concludes that strengthening is required because of say, deteriorated or weak material deep within the pavement or a lack of pavement thickness, the following options should be considered: overlay, partial reconstruction or full reconstruction. Overlays and possibly the other options may raise the finished road surface relative to existing levels. Where this is unacceptable, the use of stiff EME2 asphalt as the new structural material can provide substantial strengthening for less thickness compared to traditional materials.*

## Revised Paragraph 7.16

In some circumstances it may not be possible to carry out the full depth of partial or full reconstruction indicated by the survey and investigation data, because of the excessive traffic disruption that this will cause. This is likely to arise where traffic levels are high, in an urban or residential environment (which may preclude or limit night working) and where there is a lack of suitable diversions. In these conditions, lesser scale works *should be prioritised and further major treatments may be delayed by 5 to 8 years.*

## Revised Figure 7.1 - Maintenance Treatment Options for Flexible Pavements with Asphalt Base

Figure 7.1 is superseded by Figure 7.1A. In addition two new Figures, 7.1B and 7.1C, are presented in Annex 1 which cover rigid pavements and flexible pavements with hydraulically bound bases, respectively.

Please note that:

Crack sealing is not considered appropriate where the density of cracking is severe, i.e. cracking is distributed evenly over more than 50% of pavement surface.

The flow charts are in line with the guidance provided in HD 30/08, HD 31/94, HD 32/94 and TRL report TRL657. It should be noted that these figures focus solely on the main failure types and on a scheme with a selection of failure types may require several iterations to ascertain the optimum design solution.

For the definitions of the crack severity levels used in Figure 7.1B refer to Table 6.2 of HD 30/08.

## 3. Withdrawal Conditions

This IAN shall be applied until either revised interim requirements are issued or HD30/08 is revised and this IAN notified as withdrawn as a result of those revisions.

## 4. Contacts

For queries regarding this IAN please contact:

Standards\_Feedback&Enquiries@highways.gsi.gov.uk

## 5. Normative References

Design Manual for Roads and Bridges (DMRB), Volume 7 – HD 30/08, Maintenance Assessment Procedure

## 6. Informative references

Coley, C. and Carswell I, "Improved Design of Overlay Treatments to Concrete Pavements, Final report on the monitoring of trials and schemes", TRL report TRL657, TRL Ltd.

DMRB Volume 7 – HD 28/04, Skid Resistance

DMRB Volume 7 – HD 29/08, Data for Pavement Assessment

DMRB Volume 7 – HD 31/94, Maintenance of Bituminous Roads

DMRB Volume 7 – HD 32/94, Maintenance of Concrete Roads

**Annex A – Figure 7.1A and Replacement Figures 7.1B & 7.1C**

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Figure 7.1a – Maintenance Treatment Options for Fully Flexible Pavements









