

**DERBYSHIRE COUNTY COUNCIL**

**MEETING OF CABINET MEMBER – HIGHWAYS, TRANSPORT AND  
INFRASTRUCTURE**

**5 April 2018**

Report of the Strategic Director – Economy, Transport and Environment

**ROAD MAINTENANCE SKIDDING RESISTANCE TECHNICAL GUIDANCE**

(1) **Purpose of Report** To seek approval for a new Road Maintenance Skidding Resistance Technical Guidance.

(2) **Information and Analysis**

**Background**

Skid resistance is an important property relating to the safety of highway users, particularly in damp or wet conditions. Over the course of a road's life some of the surface characteristics associated with grip can deteriorate.

Effective maintenance of the highway network includes the requirement to monitor systematically the skid resistance of the road surface and to take a proactive approach so that the skid resistance across the network is maintained to an appropriate standard.

The County Council's existing policy for managing skid resistance on the highway network was introduced in 2006 and needs to be updated to reflect current asset management practices and guidance. This is set out in 'Well-Managed Highway Infrastructure' (2016) a code of practice commissioned by the Department for Transport and published by the UK Roads Liaison Group.

In 2015, Highways England published updated comprehensive guidance for managing carriageway skid resistance on motorways and trunk roads, set out in its design bulletin, HD 28/15 Skidding Resistance - Design Manual for Roads and Bridges (DMRB). The new County Technical Guidance (attached as Appendix A ) takes on board the principles of HD 28/15 (DMRB) that provide standards, advice notes and other documents relating to the design, assessment and operation of trunk roads, with some adjustment to account for local road conditions and hierarchy.

**Skidding Resistance Procedure**

The County Council's new procedure aims to ensure that the Technical Guidance is applied systematically and acted upon and includes the following key principles:

- Skid resistance surveys will be undertaken annually on the A, B and C class road network referred to as the SCRIM Network. The name SCRIM is commonly used across the industry, and is derived from a device to measure skid resistance known as Sideways Force Coefficient Routine Investigation Machine. At a future date, it is anticipated that the SCRIM Network will be defined in terms of a new maintenance hierarchy which takes account of actual road use rather than classification, ensuring the Council's busiest roads are effectively managed.
- The SCRIM Network will be assigned Investigatory Levels depending on a range of factors including, but not limited to, the speed limit, road layout, controlled crossing points and proximity to schools.
- Skid resistance across the SCRIM Network will be compared against its Investigatory Level.
- Sites where skid resistance falls at or below the Investigatory Level will be identified, taking into account the road accident record in wet or damp road conditions and the likely injury severity of collisions.
- It is anticipated that in the order of 250 sites per annum will be identified for detailed investigation.
- The detailed investigation will involve an on-site assessment of carriageway, signing and lining condition, surface water drainage, and the presence of over-hanging trees that might prevent the road from drying out. This will be supplemented with a desktop study of accident details, traffic flows and the structural condition of the carriageway.
- A scoring matrix is being developed which will prioritise sites for treatment alongside data on carriageway condition, deterioration and lifecycle.

The new Code of Practice, which will be responsive to risk and therefore could be liable to minor changes as circumstances change, demands that the Skid Resistance Procedure also adapts to real life circumstances. It is therefore recommended that the Technical Guidance, as set out, is approved but that any changes shall be delegated to the Strategic Director – Economy, Transport and Environment.

(3) **Financial Considerations** An annual survey is required to adequately monitor the skid resistance of the classified road network. The cost of the survey is estimated at £45,000 per annum, to be funded from the Highways Maintenance Surveys budget.

(4) **Legal Considerations** Section 41 of the 1980 Highways Act imposes a duty on the County Council as Highway Authority to maintain highways maintainable at public expense.

Section 58 of the Act provides for a defence against action relating to alleged failure to maintain a highway maintainable at public expense on grounds that

the Authority has taken such care as in all the circumstances was reasonably required to secure that the part of the highway in question was not dangerous for traffic.

The Skid Resistance Technical Guidance and associated procedure ensures that the Authority is actively engaged in fulfilling its statutory obligations in this respect.

(5) **Equality and Diversity Considerations** Particular account is given within the Skid Resistance Technical Guidance and procedure to prioritising locations where vulnerable road users are present.

(6) **Health Considerations** The implementation of the Skid Resistance Technical Guidance and procedure is directly beneficial in reducing the number of injuries associated with vehicle collisions.

### **Other Considerations**

In preparing this report the relevance of the following factors has been considered: prevention of crime and disorder, human resources, environmental, property, social value and transport considerations.

(7) **Key Decision** No.

(8) **Call-in** Is it required that call-in be waived in respect of the decisions proposed in the report? No.

(9) **Background Papers** Held on file within the Economy, Transport and Environment Department. Officer contact details - Steve Mead, extension 38577.

(10) **OFFICER'S RECOMMENDATIONS** That Cabinet:

10.1 Approves the Road Skid Resistance Technical Guidance attached as Appendix A.

10.2 Delegates responsibility for detailed changes to the Skid Resistance Procedure made to reflect operational experience to the Strategic Director – Economy, Transport and Environment.

**Mike Ashworth**  
**Strategic Director – Economy, Transport and Environment**



# DERBYSHIRE COUNTY COUNCIL ROAD SKIDDING RESISTANCE TECHNICAL GUIDANCE

MARCH 2018

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# Document Information

<i>Title (Sub Title)</i>	<b>Skidding Resistance Technical Guidance</b>
<i>Product Number</i>	<b>001</b>
<i>Author</i>	<b>James Wallis</b>
<i>Description</i>	<b>Skidding Resistance Technical Guidance – Following the release of HD28/15</b>

# Document History

<i>Version No</i>	<i>Status</i>	<i>Author</i>	<i>Date</i>	<i>Changes from Previous Version</i>
<b>01</b>	<b>Draft</b>	<b>J Wallis</b>	<b>June 2017</b>	<b>First release for internal review</b>
<b>02</b>	<b>Final</b>	<b>G Harris</b>	<b>November 2018</b>	<b>Amendments following internal review</b>

# 1. Skidding Resistance Technical Guidance

Derbyshire County Council is responsible for maintaining 5,295 km of road network.

Skid resistance surveys will be undertaken annually on defined parts of the highway network which are referred to as the SCRIM Network. Initially this will be comprised of:

- Principal A Roads (680 km)
- Classified B Roads (494 km)
- Classified C Roads (1325 km)

The SCRIM Network will be subject to change once the Council has finalised its maintenance hierarchy review.

Skid resistance is an important property relating to the safety of highway users, particularly in damp or wet conditions. Over the course of a road's life the surface can lose some of the characteristics associated with grip. Effective maintenance of the highway network includes the requirement to systematically monitor the skid resistance of the road surface and to take a proactive approach so that the skid resistance across the network is maintained to an appropriate standard.

The Technical Guidance takes an Asset Management approach to managing skidding resistance and puts a greater emphasis on engineering assessment.

The objective of the Skid Resistance Technical Guidance is to:

- Enable the public to travel safely
- Reduce the number of Fatal and Serious Injury accidents on the Council's road network
- Ensure the Council adheres to its duty of care under the Highways Act 1980
- Ensure the Council has adequate defence in a Corporate Manslaughter case brought against either the Authority or its Chief Officer
- Enable the Council to robustly defend against claims

To achieve this the Council will:

- Formalise processes for monitoring skid resistance across the Council's SCRIM network on an ongoing basis
- Identify deficient sites using skid resistance survey methods for further investigation
- Use accident data on sites identified for further investigation to determine whether inadequate skidding resistance could be a factor
- Recommend appropriate actions to negate risks
- Prioritise Skid deficient sites for improvement works based on an assessment of risk
- Ensure improvements to Skid deficient sites are incorporated into the annual highway works programme

A supplementary document, the Skidding Resistance Procedure has been produced to provide a step by step approach to identifying skid deficient sites and sets out a process for deciding on their subsequent treatment, and how they will be prioritised, taking into account budget and programme constraints. The procedures in the Skidding Resistance Procedure sets out a long-term strategy to manage the skid resistance of the Council's network to a consistent and safe level and compliments the Council's Highway Asset Management Plan.

In 2015 Highways England published an updated comprehensive methodology for managing carriageway skid resistance on motorways and trunk roads and this is set out in their design bulletin, HD 28/15

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The methodology detailed in HD 28/15 forms a basis for the Council's Skid Resistance Procedure. However, this is adapted to reflect local needs and resource constraints.

In summary, the procedure is as follows:

- Skid resistance surveys will be undertaken annually on defined parts of the highway network (mainly the A Class, B Class and C Class road network) referred to as the SCRIM network. This will be updated and defined in terms of the new maintenance hierarchy regime adopted by the council when this is available.
- The defined network will be assigned Investigatory Levels depending on a range of factors such as the speed limit and the geometry of the road. This is detailed in Chapter 6 of the Skidding Resistance Procedure.
- Skid resistance data for a particular section of road (a site) will be scrutinised and compared against its Investigatory Level.
- Sites where skid resistance falls at or below the investigatory level will be identified for further investigation.
- The further investigation will take into account other factors such as whether there is road traffic accident history at the site to establish whether remedial treatment is necessary.
- Where remedial treatment is deemed to be of benefit, sites will be prioritised using a risk assessment approach and inserted into a work programme for action within the resources available.

The above principles will be applied on an ongoing basis so that skid resistance across the SCRIM network is continually monitored and managed appropriately.

The term "skid resistance" used in this document refers to the frictional properties of a road surface, measured using a specified device, under standardised conditions. Skid resistance testing is carried out on wet or damp surfaces, unless stated otherwise, as the skid resistance of a wet surface will be substantially lower than when the same surface is dry.

Skid resistance measurements are used as an empirical assessment of a road surface's level of grip and as an indication of the potential need for further investigation based on known acceptable limits. However, it should be noted that the measurements do not represent the definitive grip available to a road user making a particular manoeuvre at a particular time and at a particular speed.

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## 2. Responsibilities

### 2.1. LEGAL RESPONSIBILITIES

The Council has a statutory duty under Section 41 of the Highways Act to maintain highways that are maintainable at public expense. Although the formal management of highway skid resistance is not a legal requirement it is considered good practice and it supports the aims and objectives set out in the Council's Highway Asset Management Plan.

Section 58 of the Highways Act 1980 provides the ability to form a statutory defence to counter legal actions for negligence. The Council must be able to prove in a court of law that it has taken 'such care as is in all the circumstances was reasonably required to secure that the part of the highway to which the action relates was not dangerous for traffic.' When considering a third party legal action against the Council the Court will consider such factors as:

- The character of the highway and the traffic which was reasonably to be expected to use it
- The standard of maintenance appropriate for a highway of that character and used by such traffic
- The state of repair in which a reasonable person would have expected to find the highway
- Whether the Council knew, or could reasonably have been expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway
- where the highway authority could not reasonably have been expected to repair that part of the highway before the cause of action arose, what warning notices of its condition had been displayed;

Section 58 of The Highways Act 1980 does not stipulate the standard of maintenance applicable to the highway.

It is accepted by the Courts that different standards of maintenance are applicable to the road network; this is related to vehicle and pedestrian usage as well as speeds of the vehicles using the highway. The Court therefore takes into account that it would be unrealistic for the Council to monitor and maintain adequate levels of skid resistance on the whole network as this would not be deemed "reasonably practicable".

The development of this skid resistance Technical Guidance to ensure a suitably structured procedure and strategy is implemented for the highway under its care and adequate levels of skid resistance are maintained within reasonable expectations as outlined in the Highways Act 1980.

Importantly, this Technical Guidance will provide documentary evidence of the Council's proactive approach to skid resistance management.

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## 2.2. ROLES AND RESPONSIBILITIES

This section sets out the various roles and responsibilities for the management of the Skid Resistance Technical Guidance.

The annual Skid Resistance Survey Programme will be procured through a specialist accredited SCRIM contractor

The Council's Head of Network Planning for Highways is responsible for ensuring the following:

- Management, development, implementation and regular review of the Skid Resistance Technical Guidance
- The procurement and subsequent management of skid resistance surveys from contractors
- Assignment of site categories and investigatory levels on the road network subject to skid resistance surveys
- Processing, analysis and review of skid resistance data received from the survey contractor
- Review of the site categories and investigatory levels for the road network subject to skid resistance surveys. This review will be undertaken every three years
- That site visits are undertaken as required
- That appropriate records of site visits and associated documents are maintained
- Informing other Council departments of any issues affecting the site which may be contributory to skid resistance issues.
- Providing a prioritised list of sites that would benefit from improvement works and making informed decisions about how these are integrated into the annual highways forward works programme.

The Council's Head of Network Planning for Highways will ensure that the most appropriate remedial action is taken at sites identified as requiring action. Some examples of the options available are:

- Erection of warning signs
  - Refresh of road markings
  - Retexturing of the road surface
  - Resurfacing of the carriageway with appropriate material
  - Monitor
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