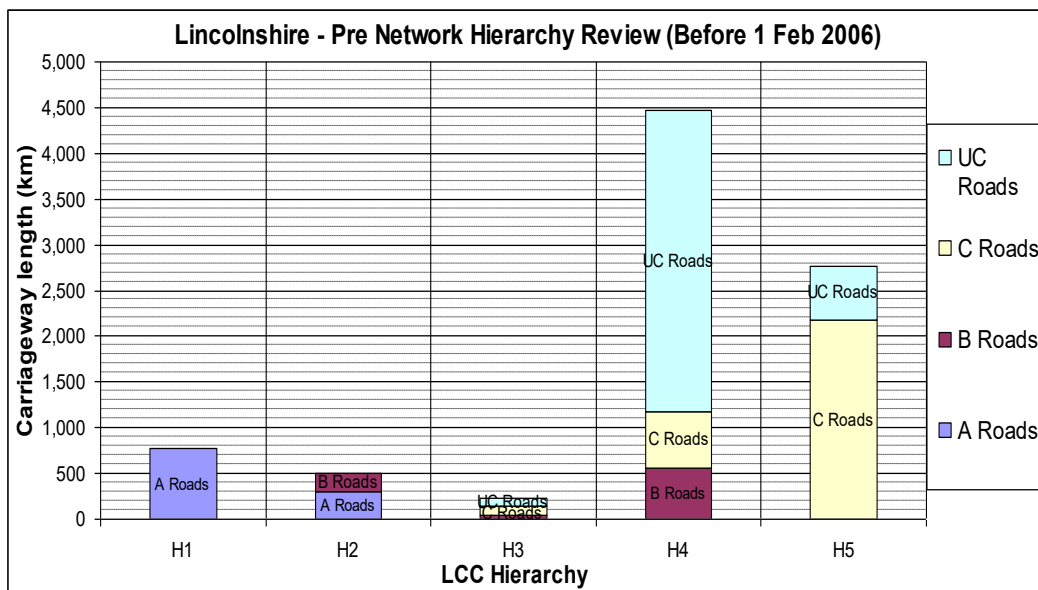


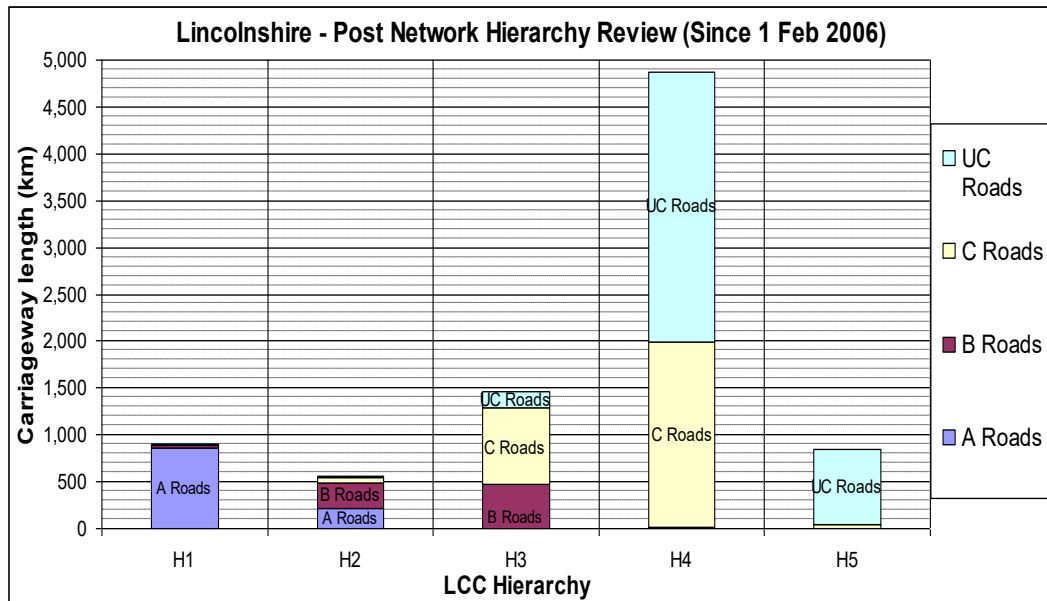
HAT 60/2/19 SKIDDING RESISTANCE STRATEGY
APPENDIX G
BACKGROUND TO ROUTINE SCRIM SURVEYS IN LINCOLNSHIRE

G1. Network Coverage

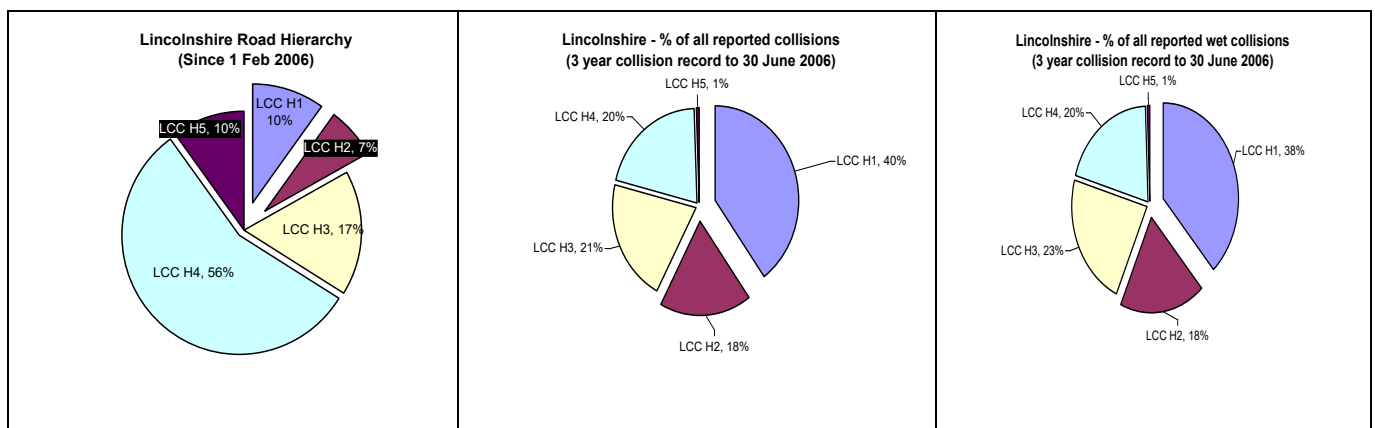
- G1.1 Routine SCRIM surveys began in 1988 on the Trunk Road network managed by the County Council. In 1993 the survey coverage was extended to the County's Principal Road network. In 1995 the survey coverage was extended to the remainder of the County's Strategic Road Network, ie Hierarchy Type 1 and 2 roads.
- G1.2 A significant change to the road hierarchy resulted from a fundamental hierarchy review undertaken during 2005. It became operational for highway safety inspections on 1 February 2006. The previous carriageway hierarchy review had taken place in 1994.
- G1.3 Immediately prior to the 2005 hierarchy review the length of the Strategic Road Network was 1,279 carriageway km and represented 14.6% of the County's Classified and Unclassified network. It included 258 carriageway km of former trunk road that became the responsibility of the authority in 2002 and 2004. This additional length was added to the County's SCRIM programme over the three year period 2002, 2003 and 2004.



- G1.4 The length of the Strategic Road Network after the 2005 hierarchy review became 1,464 carriageway km, an increase of 185 carriageway km. This represented 16.9% of the County's Classified and Unclassified road network. **This became operational for highway safety inspections on 1 February 2006. This additional survey length was included in the authority's programme to monitor skidding resistance over the three year period 2007, 2008 and 2009.**



G1.5 According to the authority's three year collision record to June 2006, 58% of all reported injury collisions and 56% of all reported injury collisions in wet conditions occurred on the County's Strategic Road Network.



G1.6 As a result of an evaluation of maintenance hierarchy definitions the following changes were made in Oct 2018:

Before Oct 2018	After Oct 2018
Maintenance Hierarchy 1 & 2	Major Road Network (MRN) Hierarchy 1 & 2
Maintenance Hierarchy 3, 4, & 5	Hierarchy 3, 4, 5, 6 & 7
Maintenance Hierarchy 6 "Green Lanes"	Hierarchy 8 "Green Lanes"

G2. Survey Method

G2.1 For the period 1988 to 2000 inclusive the authority used the Mean Summer SCRIM Coefficient (MSSC) method with MSSC values derived from three SCRIM survey runs conducted during the same SCRIM testing season.

- G2.2 For the period 2001 to 2003 inclusive the authority used the Best Estimated Mean Summer SCRIM Coefficient (MSSCe) method with MSSCe values derived from a single SCRIM survey run, adjusted by seasonal correction factors. The seasonal correction factors were derived from six seasonal correction sites. These are now known as benchmark sites and are detailed in Table 1.
- G2.3 In 2004 the authority took advantage of the improvements to the test equipment to enable all site categories to be surveyed at a target test speed of 50km/h. Previously two site categories were surveyed at a target test speed of 20km/h, namely "Bends with a radius <100m" and "Roundabouts".
- G2.4 In 2005 the authority switched to an alternative survey method to estimate the summer skid resistance known as the Characteristic SCRIM Coefficient (CSC) as recommended in HD28/04 (2). To derive the CSC values the authority adopted the method published in HD28/04 (2) called "Annual Survey with Benchmark Method" albeit with only a third of the Strategic Road Network surveyed each year. However each year until the 2015 survey season six benchmark sites were tested three times, spread throughout the same SCRIM testing season, ie early, middle and late summer, with a minimum of six weeks and a maximum of ten weeks between each visit. The location of these benchmark sites are detailed in Appendix A.
- G2.5 Records of seasonal variation are available for each year since 2001 as illustrated by the example for A153 Cadwell (Appendix A) This enabled the transition from Best Estimated Mean Summer SCRIM Coefficient (MSSCe) method to the CSC method to take place in one year in 2005.

G3. Frequency of Survey

- G3.1 The survey frequency on the Trunk Road network managed by the County Council, from 1988 to 1998 inclusive, was one third per annum.
- G3.2 In 1993 20% of the County's Principal Road network was surveyed on a trial basis. An additional 20% was surveyed in 1994. In 1995 the frequency of survey for the whole Strategic Road Network commenced a five year survey cycle, ie one fifth per annum.
- G3.3 In 2001 the survey frequency was increased to a three year cycle, ie one third per annum, as a result of a Best Value review. This subsequently included the detrunked road network in 2002.

G4. Site Categories

- G4.1 Commencing with the 2005 survey season the Strategic Road Network was completely recategorised using geometry data and video images gathered by SCANNER.
- G4.2 An additional site category was introduced, Rx "Exit from roundabout", commencing with the 2015 survey.
- G4.3 In 2015 Site Category J "Approach to Roundabout" was redefined based on speed limit. At locations where the speed limit was equal to 30mph or less these were

assigned J30. At locations where the speed limit was greater than 30mph these were assigned J30+.

G4.4 In 2015 Site Category K "Approach to Pedestrian & Railway crossings, Traffic light signals & flashing red lights" was redefined based on speed limit. At locations where the speed limit was equal to 30mph or less these were assigned K30. At locations where the speed limit was greater than 30mph these were assigned K30+.

G5. Investigatory Levels

G5.1 In 2004 the Investigatory Levels for "Bends with a radius <100m" and "Roundabouts" were adjusted from 0.60 MSSC₂₀ and 0.55 MSSC₂₀ to 0.50 MSSC₅₀ and 0.45 MSSC₅₀ respectively. This reflects the switch in target test speed, introduced in HD28/04 (2), from 20km/h to 50km/h for these two site categories. The corresponding risk rating was maintained. The difference in Investigatory Level value is attributed to the correction for test speed.

G5.2 In 2015 the Investigatory Level for "Exit from Roundabout" was assigned the same as the "Roundabout".

G5.3 In 2015 the Investigatory Levels for "Approach to Roundabout" were redefined based on speed limit. At locations where the speed limit was equal to 30mph or less the risk rating was lower by one. There was no change to the risk rating when the speed limit was greater than 30mph.

G5.4 In 2015 the Investigatory Levels for "Approach to Pedestrian & Railway crossings, Traffic light signals & flashing red lights" was redefined based on speed limit. At locations where the speed limit was equal to 30mph or less the risk rating was lowered by one. There was no change to the risk rating when the speed limit was greater than 30mph.

G6. Slippery Road Warning Sign requirements

G6.1 The current guidance on slippery road warning signing, Appendix E, was introduced with the 2004 SCRIM survey.

G6.2 Slippery road signing recommendations for surveys undertaken up to and including the 2012 survey were passed to the divisional office to programme the signing work.

G7. Early Life Skidding Resistance of Asphalt Surfacing

7.1 The 2009 "Skidding Resistance Strategy" made reference to further guidance provided in Lincs Laboratory Briefing Notes, No 5/2003 (16), No 1/2005 (17) and No 1/2007 (18). Briefing Notes No 5/2003 (16) and No 1/2007 (18) were subsequently withdrawn following publication of Interim Advice Note IAN49/13 (21).