

## APPENDIX D - Decision Making & Treatment Matrices

Decision Making Matrix				
		Predicted Road Conditions		
Road Surface Temperature	Precipitation	Wet	Wet Patches	Dry
Expected to fall below 1°C	<u>No</u> rain <u>No</u> hoar frost <u>No</u> fog	Salt before formation of ice/hoar frost	Salt before formation of ice (see note a)	No action likely, monitor weather and carry out inspections as necessary (see note a)
	<u>Expected</u> hoar frost <u>Expected</u> fog		Salt before formation of ice/hoar frost (see note b)	
	<u>Expected</u> rain <u>BEFORE</u> freezing	Salt after rain stops (see note c)		
	<u>Expected</u> rain <u>DURING</u> freezing	Salt before formation of ice, as required during rain and again after rain stops carrying out inspections as necessary (see note d)		
	<u>Possible</u> rain <u>Possible</u> hoar frost <u>Possible</u> fog	Salt before formation of ice/hoar frost	Monitor weather conditions and carry out inspections as necessary	
<u>Expected</u> snow		Salt before snowfall		
The timing of precautionary treatments should be such that completion is prior to the forecast time of frost. The decision to undertake precautionary treatments should, if appropriate, be adjusted to take account of residual salt or surface moisture. All decisions require constant monitoring and review.				

### Notes to Decision Matrix Guide:

- Particular attention should be given to the possibility of water running across carriageways and other running surfaces e.g. off adjacent fields after heavy rains, washing off salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning, and possibly on other occasions.
- When a weather warning contains reference to expected hoar frost, considerable deposits of ice/frozen dew are likely to occur. Hoar frost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition, which should ideally be treated just as the hoarfrost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to but as close as possible to the expected time of the condition. Hoar frost may be forecast at other times in which case the timing of salting operations should be adjusted accordingly.
- If, under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases.
- Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period.

Treatment Matrix				
Weather Conditions Road Surface Temperature (RST)  Road Surface Conditions	TREATMENT			
	Air Temp	Dry Salting (g/m <sup>2</sup> )	Safecote Salting (gm <sup>2</sup> )	Ploughing
Hoar frost / ice or forecast hoar frost / ice RST at or above -2°C		10	7.5	No
Hoar frost / ice or forecast hoar frost / ice RST below -2°C and above -5°C		20	15	No
Hoar frost / ice or forecast hoar frost / ice RST below -5°C and above -10°C and dry or damp road conditions		20	15	No
Hoar frost / ice or forecast hoar frost / ice RST below -5°C and above -10°C and wet road conditions (existing or anticipated)		40	30	No
Light snow forecast (<10mm)		20	15	No
Medium / heavy snow forecast		20-40	15-30	No
Continuous snow		40 successive	40 successive	If depth > 40mm
Ice formed (minor accumulations)	above -5°C	20	15	No
Ice formed	at or below -5°C	40	40	No
Snow covering exceeding 40mm		40 successive	40 successive	Yes
Hard packed snow/ice	above -8°C	40 successive	40 successive	No
Hard packed snow/ice	at or below -8°C	salt/abrasive (successive)	salt/abrasive (successive)	No
Rate of spread for precautionary treatments may occasionally need be adjusted to take account of residual salt or surface moisture.				
Where Safecote treated salt is used spread rates will be reduced by 25%.				

Weather warnings are often qualified by altitudes. In this case differing action may be required from each depot.