Lancashire County Council Winter Service Plan 2025/26

STATEMENT OF OBJECTIVES, POLICIES AND RESPONSIBILITIES

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Lancashire County Council

Comms: 10402

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Introduction

The Winter Service Plan sets out how the Council as Highway Authority for Lancashire meets its policy for the treatment of roads, footways and cycleways during the winter period: enabling a safe passage for vehicles and pedestrians, minimising delays due to winter weather and ensuring operations are undertaken safely.

The Winter Service Plan details the policy and information in Part 1 and Part 2 sets out the operational practice.

Part 1 - The Statutory Basis for Winter Service and General Information

1.0 Statutory Basis for Winter Service

1.1 The statutory basis for Winter Service is Section 41 of the Highways Act 1980 as amended by Section 111 of the Railways and Transport Safety Act 2003. The first part of Section 41 now reads:
"(1) The authority who are for the time being the highway authority for a highway maintainable at the public expense are under a duty, subject to subsections (2) and (4) below, to maintain the highway.
(1A) In particular, a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice."

1.2 Part 2 of the Traffic Management Act 2004 - Network Management by Local Traffic Authorities - places a network management duty on all local traffic authorities in England and requires such authorities to do all that is reasonably practicable to manage the network effectively to keep traffic moving. In meeting the duty, authorities should establish contingency plans for dealing promptly and effectively with unplanned events, of which unforeseen weather conditions are an example, as far as is reasonably practicable.

2.0 Winter Service Objectives

2.1 The Winter Service Plan outlines the county council's requirements and guidance for managing the highway network during winter conditions. It applies to all vehicular highways for which the county council is the designated highway authority. This plan supports the council's broader vision and ambitions; Better Lives for All, Economic Ambition, Stronger Communities and Thinking Differently as set out in the Council Plan 2025-2030: Council Plan 2025-2030 | Building a better Lancashire - Lancashire County Council. It also aligns with the core priorities in the Highways and transport strategy 2023-2025, Highways and transport strategy 2023 – 2025 - Lancashire County Council.

The Winter Service Plan will support these priorities by ensuring that, as far as is reasonably practicable, the highway network continues to provide for the safe and reliable passage of all users in ice and snow conditions. However, it is important to recognise that in discharging its statutory duty, the county council as highway authority will need to prioritise the availability of scarce resources in terms of plant, work force and salt.

2.2 The Secretary of State for Transport is the highway authority for trunk motorway and all-purpose roads in Lancashire. Highways England manages and maintains these routes on behalf of the Secretary of State, and the county council has no responsibility for any winter service provision. However, liaison will take place between the county council and Highways England and its maintaining agents over action to be taken during the Winter Service operational period within their respective areas of responsibility. Appendix A lists those lengths of road in Lancashire for which is responsible on behalf of the Secretary of State.

3.0 Winter Service Policies

3.1 The Winter Service Plan covers 'planned' Winter Service; exceptional conditions will occasionally force the guidelines and recommended actions contained herein to be overruled. 'Planned' Winter Service relates to precautionary treatment of the Priority Road Network in advance of the formation frost/ice, and in a typical winter account for some 85% to 90% of all Winter Service activity. Resource requirements are known in terms of plant, labour and materials and the county council can reliably deliver the service. 'Reactive' Winter Service relates to clearance of the network in periods of snow and/or persistent ice and usually forms less than 10% of Winter Service activity.

3.2 The winter polices in this document are in line with national guidance contained in the Well Managed Highways Code of Practice, which references the National Winter Service Research Group. Any future changes to policy will be presented to Cabinet for formal consideration.

3.3 The national Code of Practice advises highway authorities to adopt local service standards for resilience in terms of number of days continuous severe conditions salting on a defined minimum winter network for an overall winter period and for a core winter period, both defined locally since winter will vary according to climatic conditions. The overall winter period should usually extend from the beginning of October to the end of April, with the core winter period extending from at least the beginning of December to the end of February inclusive. The minimum winter network is that part of the carriageway network normally treated that provides a minimum essential service to the public, including strategic routes, access to key facilities and other transport needs.

Policy WS 1

Winter Service Policy Statement

The county council's Overall Winter Period will extend from Mid-October to Mid-April however, the actual end of the season is determined by forecast information and will be extended when it is indicated that winter conditions are likely to persist beyond Mid-April.

The Core Winter Period covers December, January and February, but recognising that severe winter weather can occur earlier or later, particularly in Pennine Lancashire. The weather forecasting contract extends from 1st October to 31st April with conditions monitored throughout this period.

The county council aims to provide a Winter Service that, as far as is reasonably practicable, will permit the safe movement of traffic on priority roads at all times and keep to a minimum delays and accidents in which ice or snow is a contributory factor.

4. Salt Supply, Stocks and Monitoring

4.1 Low temperatures and the formation of ice can result in serious damage to the fabric of the highway and related structures, as well as creating a hazardous environment for road users. Highway authorities use rock salt to prevent the formation of ice on carriageways (pre-treatment or 'precautionary' salting) and to facilitate the removal of ice and snow from carriageways and footways (post-treatment, ie continuing salting following the formation of

ice). Salt de-ices by lowering the freezing point of water but becomes increasingly ineffective below -5C and will not melt ice below-9C.

It also turns snow into slush but requires the passage of vehicles to improve its effectiveness; large accumulations of snow need clearing first through ploughing. Repeated applications of salt to try to clear snow as quickly as possible are not effective: more salt does not necessarily mean faster snow clearance.

4.2 A highway authority is empowered to undertake precautionary salting, post-salting and snow clearance in dealing with adverse winter weather conditions. The use of these powers is relevant to an authority's road safety responsibilities in addition to its highway maintenance function. However, it is important to recognise that whilst a highway authority is obliged to take preventative measures in anticipation of ice or snow, the duty to clear ice and snow from highways maintainable at the public expense is not absolute.

The authority will be under no liability unless a failure to maintain safe passage so far as is reasonably practicable is proven. In other words, so long as the decision as to whether or not to act has been taken on reasonable grounds, with due care and with regard to relevant considerations, the highway authority will not be liable.

4.3 Rock salt comes from a non-renewable source and its storage and use in high concentrations can have environmental consequences: it can adversely affect vegetation, pollute watercourses and leave residue on roads and footways. In the interests of sustainability, the county council will aim to deliver an efficient, effective and proportional response and ensure that it uses only the minimum amount of salt necessary to deal with the prevailing conditions. Whilst alternative materials are available, their cost can be extremely high and, in some cases, there are also environmental consequences to consider.

However, they may prove to be cost effective in specific locations, for example, using a salt/sand (grit) mix to treat footways. Grit alone will also improve traction on roads at times when rock salt is in short supply.

4.4 For the start of the winter season, the county council stockpiles 22,800 tonnes of salt, including strategic reserves, to cover all potential eventualities, including disruptions to the supply chain. Table 4.1 sets out the county council's estimated salt stock by depot as of 1st October 2022.

4.5 Treated salt gives a better distribution on the road and removes the wind-blown problems associated with untreated salt. Ensuring a greater proportion of the salt spread settles on the road allows a reduction in spread rates of 25% without compromising the de-icing effect, making the treatment cost neutral and contributing to enhanced resilience. 'Safecote' also acts as an anti-corrosion product potentially reducing the corrosive impact of salt on plant and infrastructure.

4.6 The county council's salt stockpiles are covered to protect them from water ingress. There are salt domes at Cuerden, Heasandford (Burnley), Keer Bridge, Whalley and Singleton, salt barns at Caton and Wrightington and the county council has use of an old railway tunnel at Bacup. External stockpiles at Myerscough Smithy and Walk Mill are covered with disposable sheeting. The availability of disposable sheeting enables the covering and weatherproofing of previously open stockpiles, reducing wastage and contamination significantly and ensuring the salt remains useable in the future.

Table 4.1: Salt Location and Stock

Area North				Tonnes
N1	Caton	Lancaster	Barn	1,600
N2	Singleton	Singleton	Dome	2,500
			Area North Total	**4,100**
Area South				
S1	Cuerden	Bamber Bridge	Dome	2,500
S2	Wrightington	Wrightington	Barn	1,800
			Area South Total	**4,300**
Area East				
E1	Whalley	Ribble Valley	Dome	3,500
E2	Bacup	Rossendale	Tunnel	2,000
E3	Heasandford	Burnley	Dome	2,500
			Area East Total	**8,000**
Reserves				
N3R	Keer Bridge	Carnforth	Dome	600
S5R	Myerscough Smithy	Samlesbury	Open / Sheeted	4000
E5R	Walk Mill	Cliviger	Open / Sheeted	1800
E6R	Gisburn	Gisburn	Open / Sheeted	No longer use
				6,400
			Stocks Total	**22,800**

4.7 Salt stocks are managed through the Vaisala bureau system and restocks ordered once stock levels fall below agreed thresholds.

5.0 Resilience Standards

5.1 National guidelines recommend that local authorities adopt a resilience benchmark of 12 days / 45 runs for pre-season stockholding. This assumes an equivalent 20g/m2 spread rate and that for a local authority, one day's resilience under severe conditions equates to four runs.

5.2 The Priority Road Network comprises around 2,750km of carriageway representing 35% of the network for which the county council is the highway authority. It is possible to determine maximum and minimum levels of resilience using assumptions with regard to spread rate and average carriageway width, for a given availability of salt. Table 5.1 sets out resilience in terms of the maximum number of treatments of the Priority Road Network for a given spread rate, assuming an initial stockpile of 22,800 no 'in-season' re-stocking and no treatment of either the Secondary Road Network or the Priority Footway Network.

Table 5.1: Winter Service Resilience – Priority Road Network

Spread Rate	Carriageway Width	Use per Km (Spread x Width x 1,000)	Use per PRN Treatment	Max no of Runs
8g/m^2	8m	60kg	150 tonnes	138
10g/m^2	8m	80kg	200 tonnes	103
20g/m^2	8m	160kg	400 tonnes	51
30g/m^2	8m	240kg	600 tonnes	34
40g/m^2	8m	320kg	800 tonnes	25

5.3 The county council exceeds the proposed pre-season resilience standard by a considerable margin, with the '12 days / 48 runs' benchmark using an equivalent 20g/m2 spread rate requiring a pre-season stockholding of 19,200 tonnes (ie 48 runs at 400 tonnes per run).

5.4 The Well Managed Highways Code of Practice suggests that six days resilience for salt and other resources, including equipment, drivers and fuel, would represent good practice in terms of resilience during the core winter period. In determining a resilience standard, highway authorities should take into account the number of days severe conditions plus replenishment time and weekends and combinations of public holidays such as can occur at Christmas and New Year.

5.5 Six days' resilience during severe weather conditions requiring four treatments of the Priority Road Network per day at a spread rate of 20g/m2 will necessitate the county council maintaining a continuous minimum stockpile of 9,600 tonnes, including reserves. Below this point, the county council will not guarantee to continue treatment of the Secondary Road Network and Priority Footway Network with salt until stock replenishment reaches the mid-point between the minimum stockpile (9,600 tonnes) and the national pre-season benchmark (19,200 tonnes), ie 14,400 tonnes.

Policy WS 2

Winter Service Resilience Standard

The county council will aim to maintain six days continuous minimum resilience based on four treatments of the Priority Road Network per day at an average spread rate of 20g/m2, recognising that its ability to do so will depend on external factors over which the county council has no absolute control. Therefore, once the total salt stockpile falls below 9,000 tonnes, the county council will not guarantee to continue treatment of the Secondary Road Network and the Priority Footway Network with salt until the restoration of the salt stockpile to 14,400 tonnes through stock replenishment.

6.0 Carriageway Salting

6.1 The county council recognises that, given the scale and financial resources involved in delivering the Winter Service, it is uneconomic, impractical and indeed unjustifiable to treat the whole highway network when undertaking 'planned' Winter Service operations. It is therefore necessary to identify clearly the priority carriageways and footways that will receive preferential treatment for salting and snow clearing.

Policy WS3 defines the Priority Road Network hierarchy for precautionary salting in descending order of importance.

Policy WS 3

Priority Road Network Hierarchy for Precautionary Salting

Category	Definition
1	Non-trunk Motorways and Primary Route Network
2	Remaining Principal ('A' class) roads
3	All 'B' class roads and other roads open to all classes of traffic: • between or through large centres of population • serving Category One emergency service responders as defined by the Civil Contingencies Act 2004 (Police, Fire, Ambulance, Maritime and Coastguard Agency and British Transport Police) • serving hospitals and the key facilities of critical infrastructure providers • leading to strategic and key employment centres, major distribution depots and transport interchanges, and important commuter routes • important public transport routes with a service frequency of at least one bus per ten minutes and bus stations • serving industrial sites listed under the Control of Major Accident Hazards Regulations (COMAH Regulations 2015) and the Radiation (Emergency Preparedness and Public Information) Regulations 2001 • military establishments • single access to villages • crematoria

6.2 The Priority Road Network includes all non-trunk Motorways and Primary Routes, all principal ('A' class) roads and 'B' class roads and in Category 3, varying proportions of the remaining un-numbered highway network maintainable at the public expense dependant on the topography and climate of the area in question as indicated in Policy WS4 below. There are 45 Priority Gritting Routes, listed in Appendix B, and the network is viewable on both the new versions of MapZone and MARIO, the latter accessible by the public.

Policy WS 4 **Guideline Coverage Factors for un-numbered Category 3 Roads**	
Area	**% Coverage**
Lancaster Rural	25%
Remaining parts of Lancaster, Wyre, Fylde, Preston, South Ribble, West Lancashire and Chorley	17.5%
Ribble Valley, Hyndburn, Burnley, Pendle and Rossendale	35%

6.3 The Priority Road Network specifically excludes housing estate roads and minor roads without appreciable gradients. Many residential roads, particularly non-through routes, do not carry sufficient volumes of traffic to activate the salt, and can be difficult for gritters to access due to parked vehicles. The county council aims to ensure that all precautionary salting of Priority Road Network carriageways is complete before the formation of ice.

6.4 The county council has considered the feasibility of including all bus routes in the Priority Road Network; however, the proliferation of bus routes and associated increase in areas served following the introduction of smaller buses means that the bus network is now far too extensive to be included in the Priority Road Network completely. However, the recent review of gritting routes has established that coverage of bus routes is significantly better than the one bus per 10 minutes frequency, with the majority of routes with a frequency of one bus per 30 minutes included in the Priority Road Network.

6.5 The county council has a number of mutual aid agreements with National Highways and neighbouring local highway authorities covering short sections of highway where it is more efficient for that authority to undertake Winter Service operations on the county council's behalf.

6.6 Post-salting of carriageways will be required when, for whatever reason, precautionary salting has not been carried out and ice has formed, or is about to form, on the road surface. This situation may arise as a result of:

- a late change in the weather forecast;
- a site inspection;
- monitoring of the Ice Prediction System;
- a report from the Police; or
- a specific problem on a non-priority road

6.7 The Council continues to maintain the current priority route network, and the treatment of the secondary network and has delivered efficiencies to the service through route optimisation and route navigation technologies. The Council will continue to look for opportunities to deliver optimisation and efficiencies through increase in knowledge and industry innovation.

7.0 Arrangements with District Councils and availability of additional resources

7.1 There is significant potential to enhance the effectiveness of Winter Service provision in Lancashire through the comprehensive engagement of partners and better communications with stakeholders. Together with optimising use of the county council's own resources, this should deliver a more innovative approach to tackling the problems that arise during prolonged severe winter conditions. Planning for such events is challenging, as the resources required in any one year may be quite different from previous years. Nevertheless, additional resources in terms of labour and plant are available within district councils, parish councils and the private sector, including farmers, contractors and plant hire companies. The county council engages with district councils, parish and town councils through the Lancashire Association of Local Councils (LALC) and with interested farmers and contractors to improve resilience in dealing with prolonged severe winter weather.

7.2 Policy WS5 sets out the method statement for agreement with district councils. The county council will work with interested district councils to improve Lancashire's resilience in dealing with prolonged severe winter weather.

Policy WS 5

Method Statement for Agreements with District Councils

Agreements with district councils will only cover footways or areas maintainable at the public expense. Agreements will include:

- The extent of the priority footway network and any specific locations of exceptional difficulty to be treated;
- Tasks to perform
- Arrangements for the supply of salt/grit including access, quantity, storage locations and re-stocking;
- Arrangements for the recording and monitoring of work done
- Suitable indemnity arrangements with the district council

7.3 The Lancashire Association of Local Councils (LALC) expressed a desire to become involved with Winter Service provision, subject to formal agreement and resolution of relevant indemnity, cost and resourcing issues. The county council has agreements with Town and Parish councils and Policy WS 6 below sets out the method statement for this agreement.

Policy WS 6

Method Statement for Agreements with Parish/Town Councils

Agreements with parish / town councils will only cover footways or areas maintainable at the public expense. Agreements will include:

- The specific footways and areas to be treated
- Tasks to perform
- Arrangements for the supply of salt/grit including access, quantity, storage locations and re-stocking;
- Arrangements for the recording and monitoring of work done
- Suitable indemnity arrangements with the district council

7.4 The county council will continue to engage with interested local farmers and contractors for the supply of suitable plant with operators to carry out snow clearance on roads and footways as may be required by and under agreement to the county council. The county council has 21 contractors available to provide additional resources across all three operational Areas. The county council will seek to engage with interested businesses across the county to seek to put in place authorisations to carry out snow clearance work if the opportunity arises.

8.0 Provision of Grit Bins

Policy WS 7

Provision of Grit Bins

The county council will only provide grit bins at new locations on roads maintainable at the public expense that are not on the Priority Road Network for precautionary salting. The county council will assess requests for new grit bins based on the following criteria:

- exposed position or otherwise significantly affected by winter weather;
- combination of vertical and horizontal profile producing a hazardous condition such as a steep bend with adverse camber;
- junction hazard such as a steep road down to a junction with a main road;
- traffic density at peak times;
- high pedestrian movement such as to local centres and public transport interchanges, including railway stations;
- the number of premises for which the road is an access

The county council will not provide a grit bin at locations scoring less than 160. Locations scoring more than 160 will warrant the provision of a bin.

Where, for whatever reason, a grit bin requires replacing or moving, the county council will reassess the location in line with the existing criteria and scoring as above.

8.1 All requests for new grit bins and reassessments of existing locations require completion of the Grit Bin Assessment Form (Appendix C). In general, the more criteria met the higher the justification, but the assessment methodology allows for a degree of flexibility within the overall policy framework. Area Offices should send copies of approved Grit Bin Assessment forms to the Head of Asset Management to update records.

8.2 The county council currently has over 2,900 grit bins/heaps and has stockpiled untreated salt and sand with a 50:50 salt/sand mix to fill and maintain these bins/heaps. This will reduce the amount of salt used and thereby contributes to increased resilience whilst still providing de-icing in typical winter conditions and better traction on snow. Inquiries with other local authorities indicate a 50:50 mix to be optimum, with further reductions in the proportion of rock salt potentially compromising the de-icing property. A facility for the mixing storage and distribution of this material is operational at Myerscough Smithy, Samlesbury.

8.3 All county council grit bins will have a 'Highway Use Only' label attached to discourage misuse of the material and each bin will be identifiable by a unique reference number. The county council will monitor the use of material and restock as required, but cannot guarantee to maintain supplies of material to all grit bins at all times as this will ultimately depend on the continuing availability of material.

9.0 Facilities and Resources

9.1 For the purposes of the winter service the county council is split into three domains, North, South and East and runs its winter operation from seven depots:

Area	Depot	Location
North	Caton Singleton	Caton Singleton
South	Cuerden Wrightington	Bamber Bridge Wrightington
East	Whalley Bacup Heasandford	Whalley Bacup Burnley

10.0 Fleet

10.1 The county council's front line fleet comprises 45 No dedicated gritters, one for each Priority Gritting Route, with capacities of six and nine cubic metres operating from seven depots across the county. These are normally procured new on a ten year cycle and spend between seven and ten years in the front line with some spending up to a further three years in reserve. All front line gritters are fitted with GPS tracking devices to enable the plotting of a gritters position against time. Other data collected includes whether the gritter is salting and if so at what rate and width. Each gritter is paired with a dedicated snowplough for use in times of snow. The reserve fleet comprises 13 gritters providing back up to the front line fleet and an additional resource to treat the Secondary Road Network during incidences of severe winter weather.

10.2 The county council also maintains a fleet of specialist plant available for deployment such as snow blowers, snow blower attachments, and other vehicles capable of taking snowploughs. All of these require suitably qualified and trained staff to ensure that their use is efficient and effective. Fifty hand gritters are available for use treating footways.

PART 2 - OPERATIONAL ARRANGEMENTS

11.0 Decision and Carriageway Treatment Matrices

11.1 Clear and efficient decision-making processes, supported by accurate weather prediction and information systems, are critical for the delivery of an effective Winter Service. Policy WS8 sets out the county council's decision-making procedure. Policy WS9 specifies the carriageway treatment matrix.

National guidance in the form of a Code of Practice entitled 'Well Managed Highway Infrastructure', published in 2016, introduced a change from reliance on specific guidance and recommendations and challenges highway authorities to adopt a risk based approach to service standards to be determined by local highway authorities. The guidance covers winter services and as a consequence of this and advances in transport and route based weather forecasting, a review has been undertaken of the road surface temperature at which winter gritting should commence.

Policy WS 8

Decision Matrix

<table>
<tr><th rowspan="2">Road Surface Temperature</th><th rowspan="2">Precipitation</th><th colspan="3">Predicted Road Conditions</th></tr>
<tr><th>Wet</th><th>Wet Patches</th><th>Dry</th></tr>
<tr><td rowspan="6">Expected to fall below 0.5°C</td><td>No rain
No hoar frost
No fog</td><td rowspan="2">Salt before formation of ice / hoar frost</td><td>Salt before formation of ice (see Note a)</td><td>No action likely, monitor weather and carry out inspections as necessary (see Note a)</td></tr>
<tr><td>Expected hoar frost
Expected fog</td><td colspan="2">Salt before formation of ice/hoar frost (see Note b)</td></tr>
<tr><td>Expected rain BEFORE freezing</td><td colspan="3">Salt after rain stops (see Note c)</td></tr>
<tr><td>Expected rain DURING freezing</td><td colspan="3">Salt before formation of ice, as required during rain and again after rain stops, carrying out inspections as necessary (see Note d)</td></tr>
<tr><td>Possible rain
Possible hoar frost
Possible fog</td><td colspan="2">Salt before formation of ice/hoar frost</td><td>Monitor weather conditions and carry out inspections as necessary</td></tr>
<tr><td colspan="2">Expected snow</td><td colspan="3">Salt before snowfall</td></tr>
</table>

General Notes

1) The timing of precautionary treatments should be such that completion is prior to the forecast time of frost.

2) The decision to undertake precautionary treatments should be adjusted, if appropriate, to take account of residual salt or surface moisture (see also Policy WS7 Treatment Matrix).

3) All decisions should be evidence-based, recorded and require monitoring and review.

Notes on Decision Matrix

a) It will be necessary to give particular attention to the possibility of water running across carriageways and other running surfaces, for example, off adjacent fields after heavy rain, washing away any salt previously spread. Such locations should be 'blasted' during initial treatment and then closely monitored, as additional spot treatments may be required at other times.
b) When hoar frost is predicted, considerable deposits of ice/frozen dew are likely to occur, usually in the early morning. Treatment with dry salt is difficult as its deposition on a dry road surface too soon before the formation of the hoar frost may result in the salt being dispersed before it can become effective. Where practicable, treatment should take place at such a time so routes are completed just prior to the forecast time of hoar frost formation. However, with treated salt the dispersal effects are significantly reduced and should allow an earlier application.
c) If, under these conditions, rain has not ceased by early morning, crews should be mobilised and action initiated as rain ceases.
d) Under these circumstances, rain will freeze on contact with running services and full pre-treatment should take place even on dry roads. This is a very serious condition and must be monitored closely and continuously throughout the danger period.

11.2 Carriageway Treatment Matrix: In 2010 the NWSRG (National Winter Service Research Group) recognised that the generally available guidance in the UK and the Code of Practice did not represent the advances that had been made in understanding how to deliver more efficient and economical winter service. The NWSRG therefore proposed to produce a new best practice guide for its members, making use of the latest research, trial results and the wide experience available within the group from members, consultants, researchers and industry associates.

11.3 The Practical Guide consists of a number of Chapters each containing several sections, each section being posed as a question. New chapters are being added so that all aspects of winter service will be covered. Following the decision to transfer national guidance to the Practical Guide the NWSRG are completing a review of the existing chapters to ensure that all relevant aspects of winter service covered in Well Managed Highways are updated and included in them.

11.4 The Lancashire County Council Winter Maintenance Group have recently reviewed the Winter Service Plan to align it with the NWSRG Practical Guide. The group therefore proposed to amend WS Policy 9, below, to adopt the spread rates contained in the national guidance: NWSRG, SECTION EIGHT, SPREAD RATES FOR PRECAUTIONARY SALTING

Policy WS 9: **Carriageway Treatment Matrix: Treated Salt**					
Weather Conditions **Road Surface Conditions**	**Moderate Traffic**		**Light Traffic 23:00-04:00 (1st treatment)**		**Ploughing**
Road Surface Temperature (RST) when frost/ ice predicted	**Dry/Damp Road**	**Wet Road**	**Dry/Damp Road**	**Wet Road**	**No**
Precautionary Treatment (g/m^2)					
At or above -1C	7	7	9	9	No
-1.01C to -2.0C	7	7	9	9	No
-2.01C to -3.0C	7	10	9	13	No
-3.01C to -4.0C	7	13	9	16	No
-4.01C to -5.0C	8	16	10	20	No
-5.01C to -7.0C	11	22	14	28	No
-7.01C to -10.0C	16	31	20	39	No
-10.01C to -15.0C	22	2 x 21	28	2 x 27	No
Forecast snow Up to 30mm	15	15	20	20	No
Forecast snow greater than 30mm	15-30	15-30	20-40	20-40	No
Post Treatment (g/m^2)					
Hoar frost/ice (see precautionary treatment above)	8-30 (dependant on surface temperature and state)	8-30	10-40	10-40	No
Snow where precautionary treatment has taken place	8	8	10	10	Plough first if depth >5-15mm see note.4
Snow where precautionary treatment has not taken place	15-40	15-40	20-40	20-40	
Hard-packed snow/ice	salt and/or liquid de-icer				No

Policy WS 9: **Carriageway Treatment Matrix: Untreated Salt**					
Weather Conditions **Road Surface Conditions**	**Moderate Traffic**		**Light Traffic 23:00-04:00 (1st treatment)**		**Ploughing**
Road Surface Temperature (RST) when frost/ ice predicted	**Dry/Damp Road**	**Wet Road**	**Dry/Damp Road**	**Wet Road**	**No**
Precautionary Treatment (g/m^2)					
At or above -1C	8	8	10	10	No
-1.01C to -2.0C	8	8	10	10	No
-2.01C to -3.0C	8	13	10	16	No
-3.01C to -4.0C	9	17	11	21	No
-4.01C to -5.0C	11	21	14	26	No
-5.01C to -7.0C	15	30	19	38	No
-7.01C to -10.0C	20	40	25	2 x 25	No
-10.01C to -15.0C	28	2 x 28	28	2 x 27	No
Forecast snow Up to 30mm	20	20	27	27	No
Forecast snow greater than 30mm	20-40	20-40	25-50	25-50	No
Post Treatment (g/m^2)					
Hoar frost/ice (see precautionary treatment above)	8-30	8-30	10-40	10-40	No
	(dependant on surface temperature and state)				
Snow where precautionary treatment has taken place	8	11	13	13	Plough first if depth >5-15mm see note.4
Snow where precautionary treatment has not taken place	20-40	20-40	25-50	25-50	
Hard-packed snow/ice	salt and/or abrasive and/or liquid de-icer		salt and/or liquid de-icer		No

Notes to Carriageway Treatment Matrix

a) ***Over salting and Residual Salt***
During periods with little or no precipitation and overnight sub-zero temperatures, continual salt treatments can create potentially dangerous road surface conditions. Slippery road conditions can arise either as a result of a build-up of loose salt granules or where there has been frost, a build-up of the marl impurity in rock salt on the road surface. During such periods, as there will be little salt wash-off, due regard should be made of residual salt. It may be possible to reduce the treatment or not treat at all where these conditions last for two or more days. Decision makers should ensure that, if necessary, notes be included in Vaisala 'Manager' to clarify their decisions.

b) ***Altitude Related Forecasts***
Weather forecasts are often qualified by altitude. In this case, differing action may be required from each depot, and in some cases differing action on routes from the same depot.

c) ***Hard Packed Ice and Snow***
Exact details of treatment will depend on location and local conditions.

d) ***Ploughing***
Para 4.33 refers. Ploughing down to the road surface is preferred. Moderate / heavy snowfalls are equivalent to more than 1mm of water. Generally, there is approximately 1mm of water in 5mm depth of wet snow, 10mm depth of 'normal' snow and 15mm depth of dry, powdery snow. Ploughing should take place in both directions and the snowplough height must be set to avoid damage to the plough, the road surface, street furniture and level crossings.

11.5 Water Film Thickness: The amount of water on a road surface considerably affects the ability of salt to prevent frost and ice from forming. Surface water reduces the concentration of brine and, in conjunction with the action of traffic, increases the rate at which salt is removed from the road surface. Table 11.1 below classifies the amount of water present on a road surface into four main categories of 'Water Film Thickness' (WFT). These are termed 'Dry', 'Damp', 'Wet' and 'Very Wet' surface conditions and are significant to the spread rate guidance contained within this policy document. Table 11.1 is reproduced from the national guidance: NWSRG, SECTION EIGHT, SPREAD RATES FOR PRECAUTIONARY SALTING

Table 11.1 Road Surface Wetness

Definition	Description	Water film Thickness (WFT)**
Dry Road	A road that shows no signs of water or dampness at the surface but may be just detectably darker. It may have moisture contained in pores below the surface that is not 'pumped' to the surface by traffic	0 to 0.03mm (=0 -30 g/m^2)
Damp Road	A road which is clearly dark but traffic does not generate any spray. This would be typical of a well-drained road when there has been no rainfall after 6 hours before treatment time.	0.03 to 0.05mm (=30 -50 g/m^2)
Wet Road	A road on which traffic produces fine spray but not small water droplets. This would be typical of a well-drained road when there has been rainfall up to 3 hours before the treatment time	0.05 to 0.1mm (=50 -100 g/m^2)
Very Wet Road and Flowing Water on Road*	A road on which traffic produces droplets of water in the air to visibly flowing water on the surface	Greater than 0.1mm (=> 100 g/m^2)
* The amount of salt required to prevent ice forming in these conditions is considered impractical for authorities to deliver during normal precautionary salting operations		
** (for when using WFT Instrumentation)		

12.0 Snow Clearance

12.1 Section 150 of the Highways Act 1980 imposes a duty upon highway authorities to remove any obstruction of the highway resulting from the accumulation of snow. Snow clearance of carriageways will be in accordance with the Priority Road Network hierarchy set out in Policy WS3. 'Treatment Time' has little relevance when snow accumulation is significant, and ploughing is required. The county council considers that prescriptive guidance is not appropriate for snow situations where the council may have to deploy labour and plant resources more flexibly in order to achieve optimum effectiveness. Gritters, for example, can operate in tandem with the lead vehicle snow ploughing (with a full salt payload for traction) and the second vehicle spreading salt.

12.2 Guidance issued in December 2010 considers it impractical to spread sufficient salt to melt anything other than very thin layers of snow and ice, and that ploughing is the only economical, efficient, effective and environmentally acceptable way to deal with all but very light snow. This will minimise salt usage and make salt treatments more effective. A spread rate of 40g/m2 of salt is the highest practicable; when combined with the action of traffic this is sufficient to melt snow depths equivalent to 1mm of water at temperatures down to -2C.

12.3 Where hard-packed snow and ice have formed and cannot be removed by ploughing, spreading of a 50:50 salt/sand mix will aid traction and act to break up the snow and ice. Following the difficulties associated with a combination of compacted snow and very low temperatures experienced in December 2010, the county council purchased 30,000 litres of liquid de-icer for future use in circumstances where temperatures fall below the threshold for effective salt use and compacted snow proves resistant to snow ploughing. However, this is a relatively expensive product and is for use on the Priority Road Network only.

13.0 Secondary Road Network

13.1 The county council will consider other roads for post-salting treatment and snow clearance in periods of continuous icing and snow. Continuous icing may arise due to excessive surface moisture, usually following heavy precipitation or compacted/melting snow. Decision-making will take account of all relevant factors such as weather forecast data, topography, experience and local knowledge and the availability of salt. When salt is not available the county council will consider using grit sand to aid traction.

Policy WS 10

Secondary Road Network Treatment

Treatment of the Secondary Road Network will commence as soon as possible, during daylight hours only, when all of the following conditions are met:-

- the defined Priority Road Network is maintained clear
- where persistent ice and/or snow is
  - present or forecast to be present on the defined Secondary Road Network during the current 24 hour period (midnight to midnight)
  - forecast to remain for the succeeding 24 hour period (midnight to midnight)

13.2 The county council's defined Secondary Road Network for Winter Service is viewable on both of the new versions of MapZone and MARIO, the latter accessible by the public. Treatment of the remaining road network will only commence on a priority basis once the defined Priority Road Network, the defined Secondary Road Network and the defined Priority Footway Network are all maintained clear, but only during daylight hours. Some minor roads and cul-de-sacs will inevitably have to thaw naturally.

14.0 Footways, Cycle Tracks and Cycleways

14.1 The county council has identified Priority Footway Networks in each of the 12 district council areas with the intention that when resources permit, these networks receive a post-salting treatment during periods of continuous icing/snow commencing not more than 24 hours after the start of the event. The county council's criteria for defining priority footway networks are:

- access to/from transport interchanges;
- access to/from main employment centres;
- access to/from main shopping centres; and
- access on the highway adjacent to main hospitals

Priority Footway Networks do not necessarily include footways adjacent to schools and other facilities such as health centres. The county council will work with the relevant authorities and providers to determine the level of support the county council could provide.

Policy WS 11

Priority Footway Networks Treatment

Treatment of the Priority Footway Network should commence not more than 24 hours after the start of the snow/ice event using all available resources, but only during normal working hours (08:00 to 18:00) where:-

- persistent ice and/or snow are present on the Priority Footway Network during the current 24 hour period (midnight to midnight), and
- are forecasted or expected to remain for the succeeding 24 hour period (midnight to midnight (0800 to 1800)

14.2 Other footways, cycle tracks and cycleways will not receive any precautionary or post salting treatment, with snow clearance considered on a priority basis only as and when resources permit. However, the county council will make businesses and the public aware of the Government guidance on self-help with regard to clearing snow and ice through the Winter Service Communications Strategy and Plan. Policy WS12 sets out the treatment matrix for Priority Footway Networks.

14.3 Off Carriageway Cycle Routes include cycle routes on highway segregated from the carriageway. National industry guidance states that authorities should provide an appropriate level of winter service on these facilities based on accurate data to enable an appropriate assessment of risk to be carried out. Lancashire County Council have carried out cycle traffic counts on a number of identified cycle routes on the network and to date none have met the required level of winter usage to require precautionary treatment. As cycle use expands reassessments will be carried out as appropriate.

Policy WS 12 **Priority Footway Networks Treatment Matrix**	
Hoar Frost Conditions	
Overnight forecast temperatures below zero but not likely to continue through daylight hours.	No treatment.
Extended Frost Conditions	
Overnight forecast temperatures below zero likely to continue through daylight hours.	No treatment except reactive salting at specified problem locations of exceptional difficulty.
Extended Continuous Ice Conditions	
Persistent ice (rather than hoar frost) present during the current 24-hour period (midnight to midnight) and forecast or expected to remain for the succeeding 24-hour period (midnight to midnight).	Reactive salting as required when resources permit commencing not more than 24 hours after the start of the event, but only during normal weekday working hours (0800 to 1800).
Snow Clearance	
Snow removal as required when resources permit commencing not more than 24 hours after the start of the event, but only during normal weekday working hours (0800 to 1800)	

Notes to Priority Footway Networks Treatment Matrix

1) Assumes no hierarchy within the priority footway networks and that all priority footways will receive treatment.
2) Assumes no time limit for completion of treatment as this will depend on the resources available at the time.
3) Snow clearance / treatment of ice on footways may cease at any time if, for example, forecast conditions improve, or for logistical reasons.
4) There will be a certain amount of salt overspill onto footways when salting takes place on adjacent carriageways.

15.0 Weather Forecasting Service and Weather Stations

15.1 An effective and efficient winter service requires the availability of reliable and accurate information about weather conditions at appropriate times during the decision-making process. Between 1st October and 30th April, the forecast provider supplies the county council's decision makers with daily weather forecasts and reports dedicated specifically to roads within Lancashire. Forecasters also continually monitor observations from a network of weather stations across Lancashire, which supply information to a central computer based at the offices of Vaisala in Birmingham.

15.2 County council staff can access a wide range of radar images and predictive sequences for precipitation type and intensity. A duty forecaster is also available 24/7 for staff to consult on any forecasting issue. All 45 Priority Gritting Routes have Route-Based forecast. This enables managers to deliver more focused decision-making and the potential for more efficient use of resources, with decisions based on each route.

15.3 The locations of the weather stations are listed in Appendix D. Road sensors provide surface temperature and condition (wet/dry/salty) whilst atmospheric sensors adjacent to the

carriageway supply air temperature, humidity (and thus dew point) and an indication as to precipitation. At some sites (for example, Forecast Sites), additional information is available as to temperature below the road surface, wind speed and direction. Current information is available together with past data, readings generally taking place at 20-minute intervals.

16.0 Decision Logging System

16.1 The county council uses the Vaisala Manager system to record all details of decisions and actions taken. It provides a full audit trail with information input on a daily basis throughout the Winter Period. The reporting day is from 12.00 noon to 12.00 noon the following day, and an action plan for each of the 45 Priority Gritting Routes must be completed by 1400 Hrs each day. Nominated individuals in each Area have access to Manager and responsibility for inputting the required information, including as far as is possible accurate salt usage for each action. All action plans must close by 12.00 noon the following day.

17.0 Communications Strategy and Action Plan

17.1 There remains an unrealistically high public expectation about what the county council can achieve in dealing with the effects of winter weather generally and during severe conditions in particular. It is therefore essential to articulate clearly to a wide audience the county council's Winter Service policies and procedures, and the circumstances in which the council implements them. The county council must also ensure effective communications both internally and externally on a day-to-day basis throughout periods of severe winter weather so that all stakeholders can access information appropriate to their needs.

17.2 The county council has a specific communications action plan for each subsequent winter to support and complement delivery of the operational Winter Service. The communications action focuses on the following key areas:

- **Public information** – a pre-winter campaign ensures that the public is aware of how the county council prepares for winter and how people can prepare themselves for periods of severe weather. This is delivered through a dedicated website **www.lancashire.gov.uk/winter** and supported by social media. The information available to the public is both 'static' information about countywide policies on the treatment of roads and footways, and 'live' information about front line service activity during periods of cold weather. There is also a section of the website linked to public health messages, such as keeping warm and well during winter.
- **Media relations** – a media release is issued at the start of the winter season detailing how the county council is prepared for the season ahead. Subsequent releases are issued during periods of severe weather. The Communications Service handles individual media enquiries throughout the winter, responding to them accordingly.
- **Stakeholder relations** - targeted communication with key internal and external stakeholders includes pre-winter information about the county council's approach to Winter Service delivery. Throughout the winter, stakeholders are kept informed of the county council's response during periods of prolonged severe weather through severe weather bulletins.

18.0 Winter Service Responsibilities and Delivery

18.1 The relative responsibilities for the Winter Service are as follows:

Highways

- Winter Service Plan
- Standards
- Road priorities
- Performance monitoring
- Countywide salt stock monitoring
- Day-to-Day decision-making
- Routeing
- Day-to-Day operations
- Plant and vehicles
- Materials

Communications Service

- Communications strategy and information to the public

Fleet Services

- Procurement, maintenance and calibration of vehicles

19.0 Wider Public Involvement

19.1 The Government published the following guidance for individuals with regard to clearing snow and ice from pavements on 3rd November 2010.

Government Guidance:

Clearing Snow and Ice from Pavements Yourself

Published Thursday 3rd November 2010

There's no law stopping you from clearing snow and ice on the pavement outside your home or from public spaces. It's unlikely you'll be sued or held legally responsible for any injuries on the path if you have cleared it carefully. Follow this advice on clearing snow and ice safely.

Tips on how to clear snow and ice from pavements or public spaces

If you clear snow and ice yourself, be careful - don't make the pathways more dangerous by causing them to refreeze. But don't be put off clearing paths because you're afraid someone will get injured.

Remember, people walking on snow and ice have responsibility to be careful themselves. Follow the advice below to make sure you clear the pathway safely and effectively.

Prevent slips

Pay extra attention to clear snow and ice from steps and steep pathways - you might need to use more salt on these areas.

Clear the snow or ice early in the day

It's easier to move fresh, loose snow rather than hard snow that has packed together from people walking on it. So if possible, start removing the snow and ice in the morning. If you remove the top layer of snow in the morning, any sunshine during the day will help melt any ice beneath. You can then cover the path with salt before nightfall to stop it refreezing overnight.

Use salt or sand - not water

If you use water to melt the snow, it may refreeze and turn to black ice. Black ice increases the risk of injuries, as it is invisible and very slippery. You can prevent black ice by spreading some salt on the area you have cleared. You can use ordinary table or dishwasher salt - a tablespoon for each square metre you clear should work. Don't use the salt found in salting bins - this will be needed to keep the roads clear.

Be careful not to spread salt on plants or grass as it may cause them damage.

If you don't have enough salt, you can also use sand or ash. These won't stop the path icing over as well as salt, but will provide good grip under foot.

Take care where you move the snow

When you're shovelling snow, take care where you put it so it doesn't block people's paths or drains. Make sure you make a path down the middle of the area to be cleared first, so you have a clear surface to walk on. Then shovel the snow from the centre of the path to the sides.

Offer to clear your neighbours' paths

If your neighbour will have difficulty getting in and out of their home, offer to clear snow and ice around their property as well. Check that any elderly or disabled neighbours are alright in the cold weather. If you are worried about them, contact your local council.

PART 3 - APPENDICES

APPENDIX A: Trunk Roads in Lancashire

- M6 within the County, including slip roads
- M55 West from M6 Junction 32 to Junction 4 near Blackpool, including slip roads
- M58 within the County, including slip roads
- M61 within the County, including slip roads
- M65 East from A6/M6 at Bamber Bridge to Junction 10, including slip roads
- M66/A56 North from the County Boundary to M65 Junction 8, including slip roads
- A585 North from M55 Junction 3 to Fleetwood

APPENDIX B: PRIORITY GRITTING ROUTES 2025/26

Area North Priority Gritting Routes

Cat1	South Lancaster and North Wyre	Caton
Cat2	Quernmore and Central Lancaster (South of the river)	Caton
Cat3	H2M6 Link and Central Lancaster (North of the river)	Caton
Cat4	Morecambe and Heysham	Caton
Cat5	North West Lancaster rural	Caton
Cat6	North East Lancaster Rural	Caton
Sin1	Lytham and St Annes	Singleton
Sin2	Kirkham and North West Preston	Singleton
Sin3	Rural Fylde and Poulton	Singleton
Sin4	Garstang and rural Wyre	Singleton
Sin5	Fleetwood and Thornton Cleveleys	Singleton
Sin6	Calder Vale and Central Wyre	Singleton

Area South Priority Gritting Routes

Cue1	Mere Brow and Longton	Cuerden
Cue2	Preston North	Cuerden
Cue3	Penwortham and Riversway	Cuerden
Cue4	Central Preston and Bamber Bridge	Cuerden
Cue5	Chorley and Abbey Village	Cuerden
Cue6	Leyland and Clayton-le-Moors	Cuerden
Cue7	Samlesbury and Lostock Hall	Cuerden
Wri1	Ormskirk and Bickerstaffe	Wrightington
Wri2	Ormskirk West	Wrightington
Wri3	Burscough and Eccleston	Wrightington
Wri4	Skelmersdale	Wrightington
Wri5	Skelmersdale East to Charnock Richard	Wrightington
Wri6	Chorley South and Addlington	Wrightington

Area East Priority Gritting Routes

Hea1	Brierfield, Barley and Simonstone	Heasandford
Hea2	M65 and Barrowford	Heasandford
Hea3	Colne and Trawden	Heasandford
Hea4	Colne and Downham	Heasandford
Hea5	Nelson Central	Heasandford
Hea6	Burnley Central	Heasandford
Hea7	Burnley out of core	Heasandford
Red Lane		Heasandford
Wha1	Chipping and Preston	Whalley
Wha2	Jeffery Hill, Longridge and Mellor	Whalley
Wha3	Great Harwood and Clayton-le-Moors	Whalley
Wha4	Accrington	Whalley
Wha5	Church and Oswaldtwistle	Whalley
Wha6	Clitheroe and Pendle Hill	Whalley

Wha7	A59, Chatburn and Slaidburn	Whalley
Wha8	A59, Barley and Downham	Whalley
Wha9	Salterforth and Earby	Whalley
Ros1	A681, Edenfield and Helmshore	Bacup
Ros2	Haslingden, Grane Rd and Baxenden	Bacup
Ros3	Bacup and Cliviger	Bacup
Ros4	Bacup and Whitworth	Bacup

APPENDIX C: GRIT BIN ASSESSMENT FORM

Grit Bin Assessment Form

Proposed/ Actual Location of Salt Bin	Date of Assessment	Assessed By	
Characteristic	**Severity**	**Standard Scores**	**Assessed Score**
Gradient	Greater than 1 in 10	75	
	1 in 10 to 1 in 30	40	
	Less than 1 in 30	Nil	
Severity of bend	Sharp	60	
	Moderate	25	
	Slight	Nil	
Close proximity to and falling towards	Heavily trafficked road	90	
	Moderately trafficked road	75	
	Lightly trafficked road	30	
Assessed traffic density at peak times	Moderate	40	
	Light	Nil	
Number of premises for which this is the only access	Over 50	30	
	20 - 50	20	
	0 - 20	Nil	
Pedestrian movements	High	60	
	Moderate	25	
	Low	Nil	
		TOTAL	

Please circle as appropriate:

Request Approved Request Not Approved Keep Existing Remove Existing

Signed:……Date……...

APPENDIX D: WEATHER STATION LOCATIONS

Unless stated otherwise, Lancashire County Council is the owner.

A565 Mere Brow	Forecast Site (Primary)
A683 Greta Bridge	Forecast Site (Primary)
A675 Belmont[1]	Automated Forecast Site
A56 Accrington[2]	Forecast Site (Primary)
A59 Gisburn	Automated Forecast Site
A6068 Laneshawbridge	Automated Forecast Site
A6 Hampson Green	Automated Forecast Site
A586 Singleton	Automated Forecast Site
C305 Halfpenny Lane Longridge	Automated Forecast Site
A671 Padiham Road Burnley	Automated Forecast Site
A671 Weir, Bacup, Rossendale	Automated Forecast Site

[1]Owned by Blackburn with Darwen Borough Council
[2]Owned by the Highways England

The county council also has access to information from the following sites owned by the Highways England:

M6 Gathurst
M6 Samlesbury
M6 Galgate
M55 Weeton

We also receive information from neighbouring authorities including Sefton MBC, Calderdale MBC, St Helens Metropolitan Borough Council, Bradford Metropolitan Borough Council, Cumbria County Council and North Yorkshire County Council.