

# Lancashire County Council Winter Service Plan 2013/14

STATEMENT OF OBJECTIVES, POLICIES AND RESPONSIBILITIES



# Statement of objectives, policies and responsibilities

1. The Statutory Basis for Winter Service
2. Code of Practice and National Policy Context
3. Winter Service Objectives
4. Winter Service Policies

Policy WS1: Winter Service Policy Statement

Policy WS2: Winter Service Resilience Standard

Policy WS3: Priority Road Network Hierarchy for Precautionary Salting

Policy WS4: Guideline Coverage Factors for Other Roads

Policy WS5: Priority Road Network Hierarchy Post-Salting Treatment Times

Policy WS6: Decision Matrix

Policy WS7: Carriageway Treatment Matrix

Policy WS8: Secondary Road Network

Policy WS9: Priority Footway Networks Treatment

Policy WS10: Priority Footway Networks Treatment Matrix

Policy WS11: Method Statement for Agreements with District Councils

Policy WS12: Method Statement for Agreements with Parish / Town Councils

Policy WS13: Provision of Grit Bins

5. Winter Service Responsibilities and Delivery

Plant and Equipment

Weather Forecasting Service

Decision Logging System

Communications Strategy and Action Plan

Appendix A – Trunk Roads in Lancashire

Appendix B – Priority Gritting Routes 2011/12

Appendix C – Grit Bin Assessment Form

Appendix D – Weather Station Locations

## 1. The statutory basis for winter service

- 1.1 Although sometimes termed winter maintenance, the particular network management requirements during winter are not maintenance in the traditional sense, but specialist operational services. Winter Service deals with regular, frequent and reasonably predictable occurrences like low temperatures, ice and snow, as well as with exceptional events involving ice and snow. It should be subject to the same regime of plan, deliver, review and improve as other aspects of the highway maintenance regime. This is particularly important given the potential impacts of climate change and the risk of increased frequency and intensity of severe winter weather events. Winter Service is a significant aspect of network management both financially and in terms of its perceived importance to users with considerable needs and expectations. It can also have significant environmental effects.
- 1.2 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.”

This is not an absolute duty, given the qualification of reasonable practicability, but it does effectively overturn previous legal precedence. After a period of some uncertainty, in 2000 the House of Lords ruled<sup>1</sup> that the statutory duty in S41(1) ‘to maintain the highway’ referred to the responsibility of a highway authority to put and keep its roads in repair. The presence of snow and ice on a road did not make it out of repair. Section 150 of the 1980 Act nevertheless imposes a duty upon highway authorities to remove any obstruction of the highway resulting from “accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause.” S41(1A) has yet to be considered at appellate level, and potentially raises issues about burdens of proof and standards that will require resolution in due course.
- 1.3 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.

<sup>1</sup>Goodes v East Sussex County Council (2000)

## 2. Code of practice and national policy context

- 2.1 In July 2009, the UK Roads Liaison Group<sup>2</sup> published its review of lessons to learn from the events of Winter 2008/09, including 19 recommendations to highway authorities, producers and suppliers of salt and other stakeholders to improve winter preparedness and resilience<sup>3</sup>. The review informed an update of Section 13 of the UKRLG's Well-maintained Highways: Code of Practice for Highways Maintenance and Management<sup>4</sup>, published in December 2009 and further amended in May 2010, which sets out best practice for local highway authorities in developing policy, strategy, plans and operational procedures for winter service and resilience. This update, issued as complementary guidance, has the same status as the Code, ie it is not mandatory but a relevant consideration in the event of any claims or legal action.
- 2.2 The Code states that authorities should formally approve and adopt policies and priorities for Winter Service. These should be set out in a Winter Service Plan based on the principles of the Code, and should be consistent with wider objectives for transport, integration, accessibility and network management, including strategies for public transport, walking and cycling. The plan should also take into account the wider strategic objectives of the authority. Issues for consideration in developing policy should include:
- treatment of facilities for public transport users;
  - treatment of facilities for road users;
  - treatment of facilities for walking and cycling;
  - treatment of transport interchanges;
  - treatment of promoted facilities;
  - extent of priority for emergency services;
  - extent of priority for key public services and critical infrastructure;
  - extent of priority for vulnerable users; and
  - other local circumstances.

The Code acknowledges, however, that given the scale of financial and other resources involved in delivering the Winter Service, it is not reasonable to:

- provide the service on all parts of the network; and
  - keep running surfaces free of ice and snow at all times, even on the treated parts of the network.
- 2.3 On 30th March 2010, the then Secretary of State for Transport announced an independent review of Winter Resilience to identify practical measures to improve the response of England's transport sector – road, rail and air – to severe winter weather. Chaired by David Quarmby CBE, the Review Panel were remitted to initially identify quick wins aimed at improving resilience in preparation for winter 2010/11. Following the General Election in May 2010, the new Secretary of State requested the work continue.

- 2.4 The Panel's Interim Report<sup>5</sup>, published on 26th July 2010, focused largely on the planning and execution of winter service and production, deployment and distribution of salt stock for the road network. It also assessed public expectations, weather forecasting, the different approaches of highway authorities to winter service, self-help by the public in clearing snow and ice, and the case for national regulations and powers over salt supply and stocking. The Panel made a number of key recommendations, which the Secretary of State accepted. He has also urged local highway authorities to take forward the recommendations that relate specifically to them. These are:

**Recommendation 5:** Every local highway authority should have a robust winter service plan, and should regularly review the key elements of it, including network coverage, operational procedures and standards and appropriate salt stockholding to meet defined resilience standards, all in line with current best practice.

**Recommendation 6:** Consultation on treated networks should be broadly drawn to include business representatives, passenger and freight transport operators and local communities, as well as health and education service providers; and to help manage public expectations should be followed by clear and comprehensive communications of winter service plans, supported by good real-time communications through media and on-line when winter conditions arrive.

**Recommendation 7:** As many local highway authorities already do, authorities should collaborate with and support lower-tier authorities to help ensure that maximum practical winter support can be given in areas and communities beyond the treated networks, including possibly the treatment of key footways and pedestrianised areas.

**Recommendation 8:** While recognising that research and technical information in this area is relatively fragmented and uncoordinated, and that available evidence needs to be presented more authoritatively, local highway authorities should be aware of the opportunities to improve salt utilisation through adopting lower spread rates and alternative treatment methods, both to reduce cost and to reduce demands on a potentially vulnerable salt supply chain.

**Recommendation 9:** Professional bodies and the Local Government Association should encourage the more widespread dissemination and adoption of best practice in the preparation and delivery of winter service plans.

**Recommendation 10:** While recognising that the resilience of salt supply is being addressed as a nationwide issue, local highway authorities can support this and should:

- all participate fully in the year-round systematic information collection and monitoring of salt stocks and movements which the Panel are recommending should be adopted by DfT;
- ensure their own planning of salt stocks and supply is sound and carried out in accordance with best practice, and supported by practical measures to improve salt utilisation; and
- put in place (or confirm where existing) mutual aid with neighbouring authorities to help address localised shortages.

**Recommendation 11:** Local highway authorities should treat their winter service planning as an integral part of wider general resilience planning for civil contingencies, bringing to the development of winter service plans the benefits of processes and disciplines associated with resilience planning, together with the culture of constructive challenge and validation.

- 2.5 The Panel published its Final Report<sup>6</sup> on 22nd October 2010. It includes a number of further recommendations, of which the following are relevant to local authorities:

<sup>2</sup>The UK Roads Liaison Group (UKRLG) brings together national, devolved and local government from across the UK to provide advice on road infrastructure engineering and operational matters.

<sup>3</sup>Lessons from the Severe Weather February 2009, UK Roads Liaison Group, July 2009

<sup>4</sup>UK Roads Liaison Group Well-maintained Highways – Code of Practice for Highway Maintenance Management (July 2005), Complementary Guidance – Section 13 Winter Service (amended December 2009)

<sup>5</sup>Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Interim Report, July 2010

<sup>6</sup>Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Final Report, October 2010

**Recommendation 25:** A new resilience benchmark of 12 days/48 runs should be adopted for pre-season stockholding for English local highway authorities; they should then review their history of usage and mutual aid or other arrangements to consider:

- a) whether there is a case for increasing capacity towards 48 runs if it is currently less than this, in addition to filling the capacity they have; or
- b) at what level to stock – at or above the 48 runs level – where the capacity exists to do so.

**Recommendation 26:** To ensure optimum resilience of the supply chain through a nationally severe winter, achieving benchmark resilience levels across Britain by the beginning of November should be treated as the key priority, facilitated where necessary by imports. The year-round monitoring system being put in place will analyse and overview this process and enable any future shortfall to be addressed.

**Recommendation 27:** Building on the UK Roads Liaison Group Report of July 2009, that the Well-maintained Highways code of practice continues to be regarded as best practice by local highway authorities for winter service policy and planning, as modified and reinforced by the specific Recommendations of this Review.

**Recommendation 28:** Local highway authorities should in their winter planning and consultation consider the extent of treatment of footways, especially in relation to bus stops, railway stations and other public transport interchanges as well as to town centres, business premises, schools and health facilities.

2.6 The extreme conditions experienced in late November / December 2010 followed two winters where severe weather conditions had caused widespread problems across the UK. The winter of 2009/10 was the coldest in the UK for 30 years, with sustained periods of sub-zero temperatures and widespread snowfalls, and unusual in its coverage of the whole country. The previous winter had also been severe, and followed a decade of relatively mild conditions. Both created extremely challenging conditions for the travelling public and for all forms of transport across the country, a key issue becoming the availability of rock salt.

2.7 In light of the severe conditions experienced in late November and early December 2010, the Secretary of State requested David Quarmby CBE to follow up his earlier review<sup>7</sup> with an urgent audit of how well highway authorities and transport operators in England had coped<sup>8</sup>. This led to the issue of further guidance, particularly in relation to improved salt utilisation through reduced spread rates and a much stronger emphasis on ploughing<sup>9</sup>. Research undertaken by TRL (the Transport Research Laboratory) on behalf of the Highways Agency and the National Winter Service Research Group (NWRSG) informed this latest guidance, and it now forms part of the national Code of Practice.

2.8 In October 2012 UK Roads Liaison Group asked the NWRSG to carry out an update of the practical guidance for winter services included in Appendix H of "Well Maintained Highways". Chapter 13 of Well Maintained Highways provides the background and policy aspects of winter service with Appendix H providing a more detailed guidance on delivering the service.

The revised Appendix H was launched on 18 September 2013 and includes tables and flow charts to enable decision makers to determine the optimum rates of spread for treated and untreated salts. Issues about training, salt application and salt grading and types, de-icing materials, the allocation of resources and how local authorities can best communicate messages about winter service are all included.

Appendix H specifically highlights that, should some of the recommendations and practices be adopted fully, it could take a number of years to implement – and major changes to programmes could take as long as a decade to reach fruition. The County Council will be assessing the new Appendix H during 2014 and formulating a plan to move towards adoption of the revised standard.

### 3. Winter service objectives

3.1 The Winter Service Plan sets out the County Council's requirements and advice for the Winter Service on all highways for which the County Council is the highway authority. It complements the wider economic, environmental and social objectives of the County Council's Corporate Strategy 2011-2013 and the priorities set out in the Local Transport Plan 2011-2021<sup>10</sup>. The seven priorities of the Local Transport Plan are to:

- improve access into areas of economic growth and regeneration;
- provide better access to education and employment;
- improve people's quality of life and wellbeing;
- improve the safety of our streets for our most vulnerable residents;
- provide safe, reliable, convenient and affordable transport alternatives to the car;
- maintain our assets; and
- reduce carbon emissions and its effects.

During the early years of the strategy, resources available for transport will be limited and will need deploying in a way that contributes most effectively to clearly expressed priorities. Hence, the County Council will give priority to:

- economic growth, the creation of jobs and access to employment, education and training;
- the safety of children and young people; and
- maintaining current transport infrastructure.

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.

3.2 Well-maintained Highways and related complementary guidance and the national Winter Resilience Review, which reported in July and October 2010 and subsequently in December 2010, have all informed the development of this Winter Service Plan to ensure that it is compliant and in line with current best practice.

3.3 The Secretary of State for Transport is the highway authority for trunk motorway and all-purpose roads in Lancashire. The Highways Agency 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 the Highways Agency 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 the Highways Agency is responsible on behalf of the Secretary of State.

<sup>7</sup>Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Final Report, October 2010

<sup>8</sup>Winter Resilience Review: The Resilience of England's Transport Systems in December 2010, Independent Audit by David Quarmby CBE, December 2010

<sup>9</sup>Winter Service Guidance for Local Authority Practitioners: Recommended Precautionary Treatments and Post Treatments including Revised Salt Spread Rates, UK Roads Liaison Group, December 2010

<sup>10</sup> Local Transport Plan 2011-2021: A Strategy for Lancashire, June 2011

## 4. Winter service policies

- 4.1 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 of frost/ice, and in a typical winter accounts 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. The response to prolonged severe conditions as experienced during the 2009/10 and 2010/11 winters are more difficult to plan for and resources required may vary significantly from one year to the next.
- 4.2 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 2013/14 will extend from Friday 11th October 2013 to Friday 11th April 2014 inclusive (183 days). The Core Winter Period covers December, January and February (91 days), but recognising that severe winter weather can occur earlier or later, particularly in Pennine Lancashire. The weather forecasting contract with the Met Office extends from 1st October 2013 to 31st April 2014 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.

- 4.3 The weather in Lancashire can be unpredictable and the occurrence and severity of winter conditions may vary considerably across the county throughout the season, and from year to year. Severe weather is most likely during the core winter period of December, January and February, but ice and snow can occur anytime between the beginning of October and the end of April, particularly in the east of the county. There can also be large variations in conditions within a relatively small locality. To take account of all possible circumstances, the County Council's winter risk period usually extends from mid-October through to mid-April.

## Winter 2012/13

- 4.4 Winter started with the coldest October since 1993 followed by average temperatures and wet periods through November and December. January was cold with heavy snowfall, February was rather cold but dry and March was very cold with heavy snowfall accompanied by winds late in the month causing extensive disruption to the network. The winds blew the snow on to the network and the Council were ploughing and using snow blowers for almost two weeks to clear all roads of snow.
- 4.5 Over 33,000 tonnes of salt were used, which is comparable to the cold winters of 2008/09 and 2009/10, with the winter maintenance fleet mobilised on average on 96No occasions in South Lancashire, 108No occasions in the North and on 132No occasions in East Lancashire. From 9th January to the 9th April crews were mobilised on 72No days of the 91No day period.
- 4.6 Temperatures remained below freezing until mid-April making Spring colder than Winter for the first time since 1949.

## Salt Supply, Stocks and Monitoring

- 4.7 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.
- 4.8 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.
- 4.9 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.

- 4.10 Since 1988, the County Council has operated an 'in-season' stock replenishment system, whereby the salt supplier maintains stock levels between pre-defined minimum and maximum levels during the winter period. The minimum level should ensure a good degree of resilience, but the system relies on the continuing availability of salt, which until 2008 to 2010, has not been problematic. In both the 2008/09 and 2009/10 winters, the Government initiated 'Salt Cell', its emergency arrangements to monitor salt demand and stocks and to advise salt suppliers where scarce supplies should be best directed. In January 2010, it also became apparent very quickly that highway authorities could not maintain network resilience without a reduction in the rate of salt consumption. The Government therefore asked both the Highways Agency and local highway authorities to enact measures to reduce salt consumption and conserve supplies through the implementation of efficiency measures, including a review of salt spreading strategies and network prioritisation.
- 4.11 A key recommendation of the national Winter Resilience Review was that the Highways Agency be tasked, on behalf of the Secretary of State, to acquire by import, store and make available on terms to be agreed an initial reserve stock of some 250,000 tonnes of salt for 'last resort' use by local highway authorities and for itself. In July 2010, the Secretary of State instructed the Highways Agency to source, establish and manage strategic national salt stockpiles of up to 250,000 tonnes. Furthermore, in response to the severe weather experienced between November 24th and December 9th 2010, the Secretary of State authorised the Highways Agency to source an additional 250,000 tonnes for delivery in January 2011. Given that supplies in early January 2011 were barely replenishing salt used and some uncertainty as to the risk of more severe winter weather, the County Council made a bid for 2,000 tonnes from the strategic reserve for delivery to White Lund, Singleton and Cuerden, the least resilient depots at that time. The bid was successful and the salt delivered during the second half of the month.
- 4.12 During the 2009/10 winter, the County Council used just under 30,000 tonnes of salt, including over 10,000 tonnes between the 17th and 31st December 2009. In comparison, just over 20,000 tonnes were used during the whole of the 2010/11 winter. This reduction is a result of a comparatively mild period of weather between January and March 2011 and action taken by the County Council to reduce salt consumption and conserve supplies. Reduced salt consumption arose from the implementation of efficiency measures in line with Government guidance, including the more careful selection of salt spread rates, improved vehicle calibration and a greater reliance on residual salt, ie avoiding unnecessary treatments and over-salting. Following another milder winter in 2011/12 only 15,500t of salt were used across the county although this salt usage is still more than used in 2006/07/08.
- 4.13 For the 2013/14 winter season, the County Council has stockpiled over 33,500 tonnes of salt including strategic reserves, to cover all potential eventualities, including disruptions to the supply chain. This represents an increase of 25% over the start of the 2010/11 winter season, and requires all facilities to be full to their maximum operational capacity from the outset, together with an increase in the reserve stockpiles. Table 4.1 sets out the County Council's estimated salt stock by depot as of 31st October 2013.

Table 4.1: Salt Location and Stock

| Area North       |            |           |                |       |
|------------------|------------|-----------|----------------|-------|
| N1               | Caton      | Lancaster | Barn           | 1,600 |
| N2               | White Lund | Morecambe | Open / Sheeted | 600   |
| N3               | Green Lane | Garstang  | Open / Sheeted | 500   |
| N4               | Singleton  | Singleton | Open / Sheeted | 1,700 |
| Area North Total |            |           |                | 4,400 |

  

| Area South       |              |               |      |       |
|------------------|--------------|---------------|------|-------|
| S1               | Cuerden      | Bamber Bridge | Dome | 2,500 |
| S4               | Wrightington | Wrightington  | Barn | 1,800 |
| Area South Total |              |               |      | 4,300 |

  

| Area East       |              |               |                |        |
|-----------------|--------------|---------------|----------------|--------|
| E1              | Whalley      | Ribble Valley | Dome           | 3,500  |
| E2              | Bacup        | Rosendale     | Covered        | 2,000  |
| E3              | Heasandford  | Burnley       | Dome           | 2,700  |
| E4              | Brown Street | Accrington    | Open / Sheeted | 2,000  |
| Area East Total |              |               |                | 10,200 |

  

| Reserves |                   |             |                |        |
|----------|-------------------|-------------|----------------|--------|
| N5R      | Keer Bridge       | Carnforth   | Dome           | 550    |
| N6R      | Layton            | Blackpool   | Covered        | 1,000  |
| S2R      | Bescar Brow       | Scarisbrick | Open / Sheeted | 1,250  |
| S5R      | Myerscough Smithy | Samlesbury  | Open / Sheeted | 5,000  |
| E5R      | Walk Mill         | Cliviger    | Open / Sheeted | 2,100  |
| E6R      | Gisburn           | Gisburn     | Open / Sheeted | 4,700  |
| Total    |                   |             |                | 14,600 |

- 4.14 Salt stockpiled at the 10 operational depots is treated with 3% 'Safecote', a molasses-based derivative; the strategic reserve is untreated salt. 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.
- 4.15 The County Council's salt stockpiles are covered to protect them from water ingress. There are salt domes at Cuerden, Heasandford (Burnley) and Whalley, salt barns at Caton and Wrightington and the County Council has use of an old railway tunnel at Bacup. External stockpiles at Accrington, Garstang, Singleton and White Lund (Morecambe) 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.
- 4.16 Salt Union will again be the County Council's salt supplier following a competitive tendering process. The contract covers the 2013/14 Winter Season and provides for the delivery of 20/30 tonne loads to any depot and reserve in the county, including in-season top-ups. For the forthcoming winter, the County Council will utilise Salt Union's Salt Stock Management System to enhance salt stock management and improve resilience. Under this system, the supplier maintains stock levels between pre-defined minimum and maximum quantities during the season, where the minimum level provides an acceptable degree of resilience without the need to draw on the reserves. It will enable the County Council to see at a glance current stock levels and planned deliveries by depot, and hence assist in the monitoring of stock levels across the county. In order to work effectively, the system requires accurate information on use, ideally on a daily basis and including days where none is used. Nominated individuals in the Environment Directorate will have access to the system and responsibility for inputting the required information.

## Resilience Standards

- 4.17 The Final Report of the national Winter Resilience Review recommends that local authorities adopt a resilience benchmark of 12 days / 48 runs for pre-season stockholding. This assumes an equivalent 20g/m<sup>2</sup> spread rate and that for a local authority, one day's resilience under severe conditions equates to four runs. The Panel concluded that this represents a sensible balance between the ability to restock after a severe winter (and the cost of doing so) and the ability to meet the forward requirements of a severe winter given the constraints on in-season supply<sup>11</sup>.
- 4.18 The Priority Road Network comprises some 2,500km of carriageway representing 36% of the 7,000km 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 4.2 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 30,000 tonnes, no 'in-season' re-stocking and no treatment of either the Secondary Road Network or the Priority Footway Network.

Table 4.2: 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 |
|---------------------|-------------------|-------------------------------------|-----------------------|----------------|
| 7.5g/m <sup>2</sup> | 8m                | 60kg                                | 150 tonnes            | 200            |
| 10g/m <sup>2</sup>  | 8m                | 80kg                                | 200 tonnes            | 150            |
| 20g/m <sup>2</sup>  | 8m                | 160kg                               | 400 tonnes            | 75             |
| 30g/m <sup>2</sup>  | 8m                | 240kg                               | 600 tonnes            | 50             |
| 40g/m <sup>2</sup>  | 8m                | 320kg                               | 800 tonnes            | 37             |

- 4.19 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/m<sup>2</sup> spread rate requiring a pre-season stockholding of 19,200 tonnes (ie 48 runs at 400 tonnes per run).
- 4.20 The national 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.

## 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/m<sup>2</sup>, 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 9,600 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.

- 4.21 Six days' resilience during severe weather conditions requiring four treatments of the Priority Road Network per day at a spread rate of 20g/m<sup>2</sup> 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.

<sup>11</sup>Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Final Report, October 2010, Paras 10.15 to 10.28

## Carriageway Salting

4.22 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 <sup>12</sup>  |
| 2        | Remaining Principal ('A' class) roads  |
| 3        | All 'B' class roads and other roads open to all classes of traffic: <ul style="list-style-type: none"> <li>• between or through large centres of population</li> <li>• 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)</li> <li>• serving hospitals and the key facilities of critical infrastructure providers</li> <li>• leading to strategic and key employment centres, major distribution depots and transport interchanges, and important commuter routes</li> <li>• 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 1999 and the Radiation (Emergency Preparedness and Public Information) Regulations 2001</li> <li>• military establishments</li> <li>• crematoria</li> </ul> |

4.23 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 49 Priority Gritting Routes, listed in Appendix B, and the network is viewable on both MapZone and MARIO, the latter accessible by the public.

<sup>12</sup>The Primary Route Network (PRN) comprises all-purpose trunk roads and the more important local authority principal ('A' class) roads which, in conjunction with motorways, provide a national network for long distance traffic serving places of traffic importance throughout Great Britain. Primary Routes are identifiable by direction signs with a green background.

### 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%        |

4.24 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.

4.25 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.

4.26 The County Council has a number of mutual aid agreements with the Highways Agency 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.

4.27 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.

Policy WS5 sets out the respective 'treatment times' for each category in the Priority Road Network hierarchy.



## Policy WS 5

Priority Road Network Hierarchy Post-Salting Treatment Times

| Category | Definition  | Treatment Time   |
|----------|---|------------------|
| 1        | Non-trunk Motorways and Primary Route Network   | Within 2.5 hours |
| 2        | Remaining Principal ('A' class) roads   | Within 2.5 hours |
| 3        | <p>All 'B' class roads and other roads open to all classes of traffic:</p> <ul style="list-style-type: none"> <li>• between or through large centres of population</li> <li>• 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)</li> <li>• serving hospitals and the key facilities of critical infrastructure providers</li> <li>• leading to strategic and key employment centres, major distribution depots and transport interchanges, and important commuter routes</li> <li>• important public transport routes with a service frequency of at least one bus per ten minutes and bus stations</li> <li>• serving industrial sites listed under the Control of Major Accident Hazards Regulations 1999 and the Radiation (Emergency Preparedness and Public Information) Regulations 2001</li> <li>• military establishments</li> <li>• crematoria</li> <li>• at identified trouble spots</li> </ul> | Within 4 hours   |

Treatment time' refers to the maximum time taken to salt each category of road from the spreading vehicle leaving the depot to completion of the last salting action on the route. The time taken in responding to a decision to salt, which allows for contacting crews, travel to the depot and loading the spreaders, should not exceed one hour.

## Gritting Routes Review

- 4.28 The County Council has undertaken a comprehensive review of existing gritting routes to determine whether network coverage is consistent with the policies of this Winter Service Plan and the wider objectives and priorities of the Local Transport Plan. The review also considered whether the Priority Road Network was able to support both the emergency and essential day-to-day transport needs of service providers, businesses and the community, and whether there is consistency with regard to gritting provision by neighbouring highway authorities. A further requirement was the establishment of criteria for defining the Secondary Road Network to ensure a consistent, county-wide standard and to develop an 'Assessment of Need' approach for use when considering requests for additions to the Secondary Road Network in similar vein to the Grit Bin Assessment Form (Appendix D).
- 4.29 The review concluded that, subject to the inclusion of a small number of short lengths of road, the Priority Road Network meets its obligations in terms of the criteria set out in Policies WS3 and WS5. These criteria have been subject to modification to meet the wider objectives of the review. The County Council intends to undertake further work to develop robust criteria for defining the Secondary Road Network.
- 4.30 The review also identified a number of inconsistencies with regard to cross-border treatment, with some roads in the County Council's Priority Road Network that are either not treated at all by the neighbouring authority or are part of its secondary network. Conversely, there are isolated examples of cross-border roads that the County Council does not treat but which form part of a neighbouring authority's priority or secondary networks. The County Council will address these inconsistencies for the forthcoming winter, and will ensure that the isolated examples of cross-border roads within Lancashire that would be included in the Priority Road Network but which form part of a mutual aid agreement with a neighbouring highway authority are viewable on MapZone and MARIO.
- 4.31 As the County Council addresses reduced financial resources in the future, as determined by the Government's Spending Plans, all Council services will come under scrutiny including the winter service. In 2014 new efficiency savings will be introduced and consideration of the extent of the priority route network and the treatment of the secondary network will be made. The Council will be looking at route optimisation and route navigation technologies to determine if savings can be made.

## Decision and Carriageway Treatment Matrices

- 4.31 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 WS6 sets out the County Council's decision-making procedure taking into account the various operational scenarios specified in Table H2 of Well-maintained Highways Complementary Guidance Section 13 Winter Service as amended in December 2009. Policy WS7 specifies the carriageway treatment matrix.

## Policy WS 6

Decision Matrix

| Road Surface Temperature   | Precipitation  | Predicted Road Conditions  |   |   |
|----------------------------|--|--|---|---|
|                            |  | Wet  | Wet Patches   | Dry   |
| Expected to fall below 1°C | No rain<br>No hoar frost<br>No 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) |
|                            | Expected hoar frost<br>Expected fog                  |  | Salt before formation of ice/hoar frost (see Note b)              |   |
|                            | Expected rain BEFORE freezing                        | Salt after rain stops (see Note c)   |   |   |
|                            | Expected rain DURING freezing                        | Salt before formation of ice, as required during rain and again after rain stops, carrying out inspections as necessary (see Note d) |   |   |
|                            | Possible rain<br>Possible hoar frost<br>Possible fog | Salt before formation of ice/hoar frost  | Monitor weather conditions and carry out inspections as necessary |   |
| Expected snow              | Salt before snowfall                                 |  |   |   |

### 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 to 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.

## Policy WS 7

Carriageway Treatment Matrix

| Weather Conditions<br>Road Surface Conditions<br>Road Surface Temperature (RST) | Predicted Road Conditions                              |   |  |
|---|--|---|--|
|   | Treated Salt (g/m <sup>2</sup> )                       | Dry Salt (g/m <sup>2</sup> )                          | Ploughing                                  |
| <b>Precautionary Treatment</b>  |  |   |  |
| Forecast hoar frost/ice with RST above -2°C                                     | 7.5  | 10  | No   |
| Forecast hoar frost/ice with RST between -2°C and -5°C                          | 15   | 20  | No   |
| Forecast hoar frost/ice with RST below -5°C                                     | 15-30<br>(dependent on surface state)                  | 20-40<br>(dependent on surface state)                 | No   |
| Forecast snow (up to 30mm)  | 15   | 20  | No   |
| Forecast snow (greater than 30mm)   | 15-30  | 20-40   | No   |
| <b>Post Treatment</b>   |  |   |  |
| Hoar frost/ice (See Precautionary Treatment above)                              | 7.5-30<br>(dependent on surface temperature and state) | 10-40<br>(dependent on surface temperature and state) | No   |
| Snow where precautionary treatment has taken place                              | 7.5  | 10  | Plough first if depth >5-15mm (see Note 4) |
| Snow where precautionary treatment has not taken place                          | 15-40  | 20-40   | Plough first if depth >5-15mm (see Note 4) |
| Hard-packed snow/ice  | Salt and/or abrasive                                   | Salt and/or abrasive                                  | No   |

## Notes to Carriageway Treatment Matrix

### 1) Oversalting 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 'IceMan' to clarify their decisions.

### 2) 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.

### 3) Hard Packed Ice and Snow

Exact details of treatment will depend on location and local conditions.

### 4) 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 snow plough height must be set to avoid damage to the plough, the road surface, street furniture and level crossings.

## Snow Clearance

### Snow Clearance

4.32 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.

4.33 Guidance issued in December 2010<sup>13</sup> 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/m<sup>2</sup> 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.

<sup>13</sup>Winter Service Guidance for Local Authority Practitioners: Recommended Precautionary Treatments and Post Treatments including Revised Salt Spread Rates, UK Roads Liaison Group, December 2010

4.34 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.

## Secondary Road Network

4.35 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. When 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 8

### Secondary Road Network Treatment

Once the defined Priority Road Network is maintained clear, where persistent ice and/or snow are present or forecast to be present on the defined Secondary Road Network during the current 24 hour period (midnight to midnight) and are forecast to remain for the succeeding 24 hour period (midnight to midnight), treatment of the Secondary Road Network will commence as soon as possible using all available resources, but only during daylight hours.

4.36 The County Council's defined Secondary Road Network for Winter Service is viewable on both 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.

## Footways, Cycle Tracks and Cycleways

4.37 The national Winter Resilience Review<sup>14</sup> found that there is a wide gap between public expectation and local authority resources on the issue of footway treatment, with very few local authorities prioritising the treatment of, or the clearance of snow from, footways. The Review Panel concluded that whilst public expectation is reasonable, it would never be possible to resource local authorities to perform the task other than in selected, pedestrianised areas and accesses to hospitals, stations and schools. Nevertheless, they recommended that in their winter planning and consultation, local authorities consider the extent of treatment of footways, especially in relation to bus stops, railway stations and other public transport interchanges as well as to town centres, business premises, schools and health facilities.

<sup>14</sup>Winter Service Guidance for Local Authority Practitioners: Recommended Precautionary Treatments and Post Treatments including Revised Salt Spread Rates, UK Roads Liaison Group, December 2010

4.38 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 9

### Priority Footway Networks Treatment

Where persistent ice and/or snow are present on the Priority Footway Network during the current 24 hour period (midnight to midnight) and are forecast or expected to remain for the succeeding 24 hour period (midnight to midnight), treatment of the Priority Footway Network should commence not more than 24 hours after the start of the event using all available resources, but only during normal weekday working hours (0800 to 1800).

4.39 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 WS10 sets out the treatment matrix for Priority Footway Networks.

## Policy WS 10

### Priority Footway Networks Treatment Matrix

| Hoar Frost Conditions   |   |
|---|---|
| Overnight forecast temperatures below zero but not likely to continue through daylight hours.   | No treatment.   |
| Extended Hoar 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.

### Availability of Additional Resources

- 4.40 The national Winter Resilience Review considered the issue of local authorities having plans in place to deploy staff from other responsibilities in a snow event, and in two tier council areas, similar arrangements with district councils. The Review Panel recommended that local highway authorities collaborate with and support lower tier authorities to help ensure that maximum practical winter support is available in areas and communities beyond the treated networks, including footways adjacent to schools and other facilities such as health centres.
- 4.41 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. For the winter of 2010/11, the County Council engaged 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. Similar arrangements are in place for Winter 2013/14.

- 4.42 Policy WS11 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. Section 101 of the Local Government Act 1972 and Section 19 of the Local Government Act 2000 empower a local authority to arrange for the discharge of any of its functions by another local authority.

## Policy WS 11

### 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; and
- Suitable indemnity arrangements with the District Council.

District Councils should only take action when instructed to do so by the relevant County Council Public Realm Manager.

- 4.43 Whilst there is a consensus that the involvement of the District Councils in delivering aspects of the Winter Service was more effective than in previous years, there are opportunities for further improvement. In particular, the decision-making process needs to be much clearer as, in some districts; there were uncoordinated treatments on a number of occasions, with the District Council completing the gritting of its agreed footways well in advance of the County Council being able to treat the Priority Footway Network. There were also issues with the amount of material spread by hand, and the County Council will be providing guidance to District Councils to improve this, although performance could improve significantly with greater use of mechanical spreaders.

- 4.44 Following the difficulties experienced during the winter of 2009/10, 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. In October 2012 and again in November 2013 presentations were given to LALC members to encourage more Councils to support service delivery but involvement remains limited. Policy WS12 below sets out the method statement for agreement with parish/town councils.

## Policy WS 12

### 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 Parish / Town Council.

Parish / Town Councils should only take action when instructed to do so by the relevant County Council Public Realm Manager.

- 4.45 In 1998, the County Council re-introduced the parish 'lengthsman' scheme, a joint venture funded by the parishes involved, the County Council, and where applicable, district councils. A 'lengthsman' is contracted annually to the parish councils involved for a set number of hours, the number of hours worked depending on the funding package available for any parish / group of parishes, but there is a minimum requirement of 15 hours per week. The scheme provides for the signing of a legally binding contract covering hours, invoices, health and safety and public liability issues.
- 4.46 Whilst the current list of 'lengthsman' duties does not include specific Winter Service activities, the work of a 'lengthsman' is determined through a partnership comprising the parish representative, the County Council and the District Council where applicable. Adaption of the existing 'lengthsman' scheme to include a Winter Service duty has the advantage of avoiding the need to develop a new operational protocol. The Winter Service duties a 'lengthsman' would undertake would need defining, as would networks and locations to be treated, as these are likely to vary from parish to parish.
- 4.47 In parishes where there is no formal 'lengthsman' scheme in operation, the 'Snow Warden or Snow Angel' concept may be a viable alternative. Several local authorities, including Gloucestershire, Durham and Leicestershire County Councils, have introduced such schemes, whereby Borough or Parish councils appoint volunteers from the local community. The role of a snow warden can range from keeping highways department informed of conditions, treating footways and attending to elderly residents. Ribble Valley BC launched a scheme in December 2013.
- 4.48 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 contractor's were used in East Lancashire in January and extensively in March 2013 when County council resources were stretched to cope.

The "Hire of Snow Clearing Equipment 2013-2014 " tender was issued in September 2013 and the County Council received 37No responses providing extra resources to mobilise in all three operational Areas throughout the winter

- 4.49 Following the significant snowfall in West Lancashire in December 2010 and the subsequent near record low temperatures, the County Council faced a significant challenge in keeping the Priority Road Network open to traffic in and around Skelmersdale and Ormskirk. The County Council arranged with ASDA to supplement snow clearance achieved by the Council's own resources on the Priority Road Network and to clear snow from other specified routes away from the Priority and Secondary Road Networks. ASDA met the cost and agreed to indemnify the County Council in respect of their snow clearing work. These arrangements are being maintained in 2013/14.
- 4.50 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.

## Wider Public Involvement

- 4.51 The results of an opinion poll undertaken just after the major snow event in January 2010 suggest that the public are willing to play their part in local clearance of snow and ice, but are looking for that role to be formalised to ensure that the burden is shared fairly. Evidence subsequently given to the national Winter Resilience Review<sup>15</sup> highlighted confusion over what steps individuals could take to help themselves and others in tackling snow and ice. The Panel concluded that whilst it is very unlikely that any individual would be sued for taking action, there is a practical problem in deciding what the relevant standard of care of a typical individual should be.
- 4.52 Currently, a person taking any action that can be proved negligent and that injures a third party could be sued under Common Law. In practice, the injured party would have to show in any claim for negligence that:
- the person or business had assumed liability by clearing the footway; and
  - if they had assumed responsibility, that the standard of care exercised by the person or business fell below that which could be expected of a reasonable person or business.
- The Panel cited Westminster City Council as an example of 'best practice' in terms of encouraging action and providing guidance to the public on tackling snow and ice. At the height of the severe weather in January 2010, the Council issued a four-point guide encouraging the public to help clear snow and ice outside their properties.
- 4.53 The Panel concluded that the public expectation for the clearance of snow from footways is reasonable, but that it will never be possible to resource local authorities to perform the task other than in selected, pedestrianised areas and accesses to hospitals, stations and schools. They recommended that the Department for Transport should develop, in collaboration with local government and appropriate experts, a code setting out good practice for Members of the Public, including business owners, in clearing snow and ice from footways. It should:
- be available by the end of October 2010;
  - be short and along the lines of that produced by Westminster City Council;
  - set a standard that if observed, should guard the public against negligence claims; and
  - be made available to households by local authorities.

## 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.

The latest guidance can be found at:- [http://webarchive.nationalarchives.gov.uk/20121015000000/http://www.direct.gov.uk/en/NI1/Newsroom/DG\\_191868](http://webarchive.nationalarchives.gov.uk/20121015000000/http://www.direct.gov.uk/en/NI1/Newsroom/DG_191868)

- 4.54 The Government published the following guidance for individuals with regard to clearing snow and ice from pavements on 3rd November 2010<sup>16</sup>.

<sup>15</sup> Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Interim Report, July 2010  
[www.direct.gov.uk/en/NI1/Newsroom/DG\\_191868](http://www.direct.gov.uk/en/NI1/Newsroom/DG_191868)

<sup>16</sup> [www.direct.gov.uk/en/NI1/Newsroom/DG\\_191868](http://www.direct.gov.uk/en/NI1/Newsroom/DG_191868)

## Policy WS 13

### 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 120, but will give further consideration to locations scoring between 120 and 200, with the final decision dependent on the judgement of an appropriate senior officer. Locations scoring more than 200 warrant the provision of a bin.

Where for any reason a grit bin requires replacing, the County Council will reassess the location. Should a location no longer warrant a grit bin, removal can only take place following consultation with relevant local councillors (County, District and Parish) and approval by an appropriate senior officer.

## 5. Winter service responsibilities & delivery

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

Environment Directorate

Winter Service Plan  
Standards  
Road priorities  
Performance monitoring  
County-wide salt stock monitoring  
Day-to-Day decision-making  
Routeing  
Materials

Lancashire County Commercial Group

Day-to-Day operations  
Plant and vehicles

Communications Service

Communications strategy and information to the public

### Plant and Equipment

5.2 The County Council's front line fleet comprises 49 dedicated gritters, one for each Priority Gritting Route, with capacities of four, six and nine cubic metres operating from 10 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 gritter's 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 16 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.

5.3 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. For winter 2013/14, footway snow blowers, snow shovels, modified vehicles for liquid de-icer applications and tractors fitted with snow ploughs will also be available.

## Weather Forecasting Service

- 5.4 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. The Meteorological Office is the County Council's current winter weather forecast provider. Between 1st October and 30th April, the Met Office 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. 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.
- 5.5 County Council staff can access the Met Office's 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. Since 1987, the County Council has used Domain or Area based forecasts generated from the three Primary Forecast Sites, one in each of the County Council's operational areas. The introduction of a new forecasting model for the 2005/06 Winter Period and subsequent enhancements now allow interpolation to a 1 kilometre grid. Over the same period a number of highway authorities including Lancashire County Council have been working with the Met Office to develop Route-Based Forecasting, with Lancashire trialling two routes during the 2009/10 Winter Period. During the 2013/14 Winter Period all 49 Priority Gritting Routes will have Route-Based Forecasts in addition to the normal 'Domain' forecast. This enables managers to deliver more focused decision making and the potential for the more efficient use of resources, with decisions based on each route rather than domain or depot.

## Decision Logging System

- 5.6 The County Council uses the Vaisala Manager system supplied by Vaisala to record all details of decisions and actions taken. Vaisala Manager 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 49 Priority Gritting Routes must be completed by 1500Hrs each day. Nominated individuals in each Area have access to Vaisala 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.

## Communications Strategy and Action Plan

- 5.7 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.
- 5.8 Following the challenging winter of 2009/10, the County Council developed a specific communications strategy and action plan for winter 2010/11 to support and complement delivery of the operational Winter Service. Partners welcomed this initiative and were keen to ensure that key messages were well publicised and that up to date and accurate information would be available to them to enable them to better plan their services in severe conditions. The Communications Strategy focused on the following key areas:
- Public information - information about the Winter Services was made available proactively, in relation to both 'static' information about county-wide policies on the treatment of roads and footways, and 'live' information about front line service activity during periods of cold weather.
  - Media relations - a comprehensive media relations campaign engaged with the media in advance of the winter season and at set milestones throughout the duration.
  - Stakeholder relations - targeted communication with key internal and external stakeholders ensured circulation of accurate and timely information about the County Council's approach to Winter Service delivery.

Stakeholders found the twice-weekly Winter Service bulletins particularly useful, with 90% of respondents to a questionnaire finding them fairly or very useful. The "Winter Service – Communications Strategy and Action Plan" was further developed in 2011, updated in 2012 and will direct communications in 2013/14.

- 5.9 The public's perception of delivery of the Winter Service during the winter of 2012/13 was again measured through the 'Living in Lancashire' public opinion panel survey. This found that over two thirds of respondents (74%) were satisfied with the winter gritting service on main roads across Lancashire. This compares favourably with the previous years when 66% of respondents were satisfied with winter gritting services in 2011/12 and 52% satisfaction in 2010/11.
- 5.10 Lessons learned from the winter 2010, 2011 and 2012 Communications Strategies have informed development of the current strategy and action plan for the forthcoming winter, with greater emphasis placed on the role of the gritting teams and on how the public and businesses have a role to play in preparing for winter.



## 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 2013/14

### Area North Priority Gritting Routes

|     |  |           |
|-----|--|-----------|
| N01 | Morecambe and Heysham                    | Caton     |
| N02 | Lancaster City Centre                    | Caton     |
| N03 | Lune Valley                              | Caton     |
| N04 | A601(M) / Halton / Kellets / Whittington | Caton     |
| N05 | Bolton le Sands / Carnforth / Silverdale | Caton     |
| N06 | Quernmore / Dolphinholme / Abbeystead    | Caton     |
| N07 | Lancaster / Garstang / East Wyre         | Garstang  |
| N08 | A586 to Garstang / Pilling / Knott End   | Singleton |
| N09 | Lytham St Annes                          | Singleton |
| N10 | Kirkham and North Fylde                  | Singleton |
| N11 | Fleetwood / Cleveleys / Poulton          | Singleton |
| N12 | Out of Core Preston                      | Garstang  |

### Area South Priority Gritting Routes

|     |  |              |
|-----|--|--------------|
| S01 | A59 / A565 (Preston to Southport)        | Cuerden      |
| S02 | A59 South                                | Wrightington |
| S03 | Longton / Bamber Bridge                  | Cuerden      |
| S04 | Leyland                                  | Cuerden      |
| S05 | Chorley North                            | Cuerden      |
| S06 | Cuerden East                             | Cuerden      |
| S07 | Wrightington North (Croston / Eccleston) | Wrightington |
| S08 | Wrightington South (Parbold / Mawdesley) | Wrightington |
| S09 | Skelmersdale East                        | Wrightington |
| S10 | Chorley South                            | Wrightington |
| S11 | West Lancashire Rural                    | Wrightington |
| S12 | Ormskirk / Skelmersdale West             | Wrightington |
| S13 | Preston East                             | Cuerden      |
| S14 | Preston West                             | Cuerden      |

Area East Priority Gritting Routes

E01 A59 Whalley to Preston / A677 / A666  
 E02 A59 Whalley to North Yorkshire / A682 / Paythorne  
 E03 Longridge / Ribchester / Chipping  
 E04 Waddington / Slaidburn / Grindleton  
 E05 Clitheroe / Wiswell / Pendleton / Sabden  
 E06 Trough of Bowland / Whitewell / Bashall  
 E07 Great Harwood / Mellor / Wilpshire / Langho  
 E08 Padiham / Barrowford / Gisburn / Chatburn  
 E09 Oswaldtwistle / Church / Huncoat / Altham  
 E10 Rishton / Great Harwood / Clayton-le-Moors  
 E11 Accrington / Baxenden / Haslingden High Route  
 E12 Grane roads / Haslingden / Rawtenstall Spur  
 E13 M65 (J10 to J14)  
 E14 A646 / A671 High Route  
 E15 Burnley Central  
 E16 Burnley West  
 E17 Pendle High Route  
 E18 Pendle Urban  
 E19 Pendle Urban II  
 E20 Pendle Strategic  
 E21 A Roads / Main roads East of Rawtenstall  
 E22 Rawtenstall / Edenfield / Helmshaw / Haslingden  
 E23 Waterfoot / Bacup / Whitworth

Whalley  
 Whalley  
 Whalley  
 Whalley  
 Whalley  
 Whalley  
 Whalley  
 Whalley  
 Accrington  
 Accrington  
 Accrington  
 Bacup  
 Heasandford  
 Heasandford  
 Heasandford  
 Heasandford  
 Heasandford  
 Heasandford  
 Heasandford  
 Heasandford  
 Bacup  
 Bacup  
 Bacup

## Appendix C: Grit Bin Assessment Form

| Proposed/ Actual Location of Salt Bin                | Date of Assessment         | Assessed By     |  |
|--|----------------------------|-----------------|--|
|  |                            |                 |  |
| Characteristic                                       | Severity                   | Standard Scores |  |
| 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             |  |
| <b>TOTAL</b>   |                            |                 |  |

Please circle as appropriate:

Request Approved    Request Not Approved    Keep Existing    Remove Existing

For scores between 120 and 200, please provide additional justification:

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 <sup>1</sup>     | Automated Forecast Site |
| A56 Accrington <sup>2</sup>   | 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 |

<sup>1</sup>Owned by Blackburn with Darwen Borough Council

<sup>2</sup>Owned by the Highways Agency

The County Council also has access to information from the following sites owned by the Highways Agency:

M6 Gathurst  
M6 Samlesbury  
M6 Galgate  
M55 Weeton

and to information from the following site owned by Sefton MBC:

Whinney Brook