



Lancashire County Council Winter Service Plan 2010/2011

STATEMENT OF OBJECTIVES, POLICIES AND RESPONSIBILITIES

Executive Summary

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. 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 UKRLG's Well-maintained Highways: Code of Practice for Highways Maintenance and Management, published in December 2009 and further amended in May 2010, sets out best practice for local highway authorities in developing policy, strategy, plans and operational procedures for winter service and resilience. 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.

In 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. The Panel's Interim Report focused largely on the planning and execution of winter maintenance 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 maintenance, 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 current Secretary of State has accepted. The Final Report includes further recommendations relevant to local authorities.

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. The County Council will ensure 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.

The County Council recognises that 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. The Priority Road Network comprises some 2,500km of carriageway, with a further 1,000km forming a Secondary Road Network. The County Council aims to ensure that all precautionary salting of Priority Road Network carriageways is complete before the formation of ice. The County Council will consider other roads for post-salting treatment and snow clearance in periods of continuous icing and snow.

For the 2010/11 winter season, the County Council has stockpiled over 25,000 tonnes of salt including strategic reserves. 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. Six days' resilience during severe weather conditions requiring four treatments of the Priority Road Network per day at a spread rate of 20g/m² would necessitate the County Council maintaining a continuous minimum stockpile of 9,600 tonnes, including strategic reserves.

The County Council's ability to maintain a continuous minimum stockpile is dependant on the national salt supply chain situation and Salt Union's capacity to deliver 'in-season' re-stocking. Experience during the last two winters indicates that there are no guarantees that

this will be the case. During the early weeks of the winter period, the County Council will need to optimise its effective use of salt by avoiding unnecessary treatments and over-salting to conserve stock as far as is practicable until the national supply chain situation becomes much clearer.

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. 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.

Additional resources in terms of labour and plant are available within district councils, parish councils and the private sector, including farmers, contractors and plant hire companies. The County Council will work with interested district and parish/town councils to improve Lancashire's resilience in dealing with prolonged severe winter weather. The County Council will also engage with interested local farmers and contractors for the supply of suitable plant with operators to carry out snow clearance on certain minor roads and footways as may be required by and under agreement to the County Council.

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. All requests for new grit bins and reassessments of existing locations require completion of the Grit Bin Assessment form. For the 2010/11 winter period the County Council has procured 500 tonnes of untreated salt and an equivalent amount of sand to supply grit bins with a 50:50 salt/sand mix. This will reduce the amount of salt supplied compared to previous years and thereby contribute to increased resilience whilst still providing de-icing in typical winter conditions and better traction on snow.

LANCASHIRE COUNTY COUNCIL WINTER SERVICE PLAN 2010/11

STATEMENT OF OBJECTIVES, POLICIES AND RESPONSIBILITIES

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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 had ruled 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 The Traffic Management Act 2004 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, such as unforeseen weather conditions, as far as is reasonably practicable.

¹Goodes v East Sussex County Council (2000)

2. NATIONAL POLICY AND CODE OF PRACTICE

- 2.1 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 UK, the biggest issue becoming the availability of rock salt.
- 2.2 In July 2009, the UK Roads Liaison Group² 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 resilience³. The review informed an update of Section 13 of the UKRLG's Well-maintained Highways: Code of Practice for Highways Maintenance and Management⁴, 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.
- 2.3 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.

²The 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.

³Lessons from the Severe Weather February 2009, UK Roads Liaison Group, July 2009

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

- 2.4 On 30th March 2010, the then Secretary of State for Transport Lord Adonis 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 Philip Hammond MP requested the work continue.
- 2.5 The Panel's Interim Report⁵, published on 26th July 2010, focuses largely on the planning and execution of winter maintenance and production, deployment and distribution of salt stock for the road network. It also assesses public expectations, weather forecasting, the different approaches of highway authorities to winter maintenance, 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 has 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.

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

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.

2.6 The Panel published its Final Report⁶ on 22nd October 2010. It includes a number of further recommendations, of which the following are relevant to local authorities:

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.

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

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 2010-2013 and will support achievement of the following Local Transport Plan⁷ outcomes:

- Competitiveness and Growth – manage and improve transport as one of the elements to enable our area to attract new jobs, tackle the 'productivity gap' and secure a strong economic future.
- Climate Change – reduce carbon emissions from transport to enable our area to play its role in contributing to UK carbon reduction targets.
- Equality of Opportunity – build strong communities by enabling people of our area, particularly the most vulnerable in society, to access education, employment, health and other public services.
- Health, Safety and Security – tackle the negative impacts of mobility by reducing accidents, improving personal security, promoting physical activity and improving air quality.
- Quality of Life and Natural Environment – manage movement to support improved quality of life in Lancashire's towns through tackling noise, reducing severance and creating liveable communities, and respect areas of high quality natural environment.

The Winter Service Plan will do this by ensuring that, as far as is reasonably practicable, the County's 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, 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 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.

⁷Joint Lancashire Local Transport Plan 2011-2021

4. WINTER SERVICE POLICIES

- 4.1 The Winter Service Plan covers the planned Winter Service; exceptional conditions will occasionally force the guidelines and recommended actions contained herein to be overruled.

Policy WS 1

Winter Service Policy Statement

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.

- 4.2 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.
- 4.3 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.
- 4.4 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.

Winter 2009/10

- 4.5 The severe weather experienced during the winter of 2009/10 began in earnest in mid-December with widespread problems caused by snow and ice. The very cold and snowy conditions continued through the Christmas and New Year period into the middle of January 2010, with the North West of England particularly badly affected on the 4th and 5th of the month, with a minimum -18C recorded near Manchester on the 7th. Temperatures returned to near normal from the middle of the month before much colder weather returned as January ended.
- 4.6 The onset of the severe weather in mid-December ended the annual salt re-stocking phase abruptly. The UK consumed a large volume of salt over a very short period, with the lack of road transport availability for salt delivery over the Christmas and New Year period seriously restricting in-season re-stocking. With few salt deliveries made to highway authorities during this period, by the beginning of January salt stocks were at a critically low level. The subsequent inundation of salt suppliers with new orders resulted in demand reaching such a level that they could no longer meet existing supply contracts.
- 4.7 On 6th January, for the second successive winter 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. It 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.
- 4.8 At the beginning of October 2009, the County Council had stockpiled over 18,000 tonnes of salt, including strategic reserves. This had fallen to 15,230 tonnes by 17th December 2009. In the following two-week period, the County Council consumed over 10,000 tonnes, the stockpile falling to around 5,000 tonnes by 31st December of which strategic reserves accounted for 4,500 tonnes. For the early part of 2010, despite new deliveries, use of reserves and changes to salt spreading regimes, the amount of salt available could barely meet demand. Although the County Council did not actually run out of salt, on one day in early January the available stockpile of 670 tonnes was less than that required to treat the Priority Road Network in snow conditions. In total, the County Council used just under 30,000 tonnes of salt during the winter period, and spent £1.6m more than the £4.3m it had budgeted. If more salt had been available, demand would have almost certainly led to significantly greater expenditure. Nevertheless, the County Council kept the Priority Road Network operational throughout the duration.

Policy WS 2

Winter Service Resilience Standard

The County Council's Overall Winter Period 2010/11 will extend from Monday 11th October 2010 to Monday 11th April 2011 inclusive (183 days). The Core Winter Period covers December, January and February (90 days), but recognising that severe winter weather can occur earlier or later, particularly in Pennine Lancashire.

The County Council will aim to maintain six days continuous minimum resilience based on four treatments of the Priority Road Network per day at an average spread rate of 20g/m², recognising that its ability to do so will depend on external factors over which the County Council has no absolute control. Therefore, once the total salt stockpile falls below 9,600 tonnes, treatment of the Secondary Road Network and the Priority Footway Network with salt will cease until the restoration of the salt stockpile to 14,400 tonnes through stock replenishment.

- 4.9 In a typical recent winter, much of the Winter Service relates to precautionary salting in advance of an overnight frost, usually accounting for some 85% to 90% of all Winter Service actions. Resource requirements are known in terms of plant, labour and materials and the County Council can reliably deliver the service. The response to prolonged severe conditions as experienced during the winter of 2009/10 is more difficult to plan for and the resources required may vary significantly from one year to the next.
- 4.10 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.
- 4.11 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.

- 4.12 The Final Report of the 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/m² 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 supply⁸.
- 4.13 The County Council recognises that 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. The Priority Road Network comprises some 2,500km of carriageway and it is possible to determine maximum and minimum levels of resilience using assumptions with regard to spread rate and average carriageway width.
- 4.14 For the 2010/11 winter season, the County Council has stockpiled over 25,000 tonnes of salt including strategic reserves. Table 4.1 sets out resilience in terms of the maximum number of treatments of the Priority Road Network for a given spread rate, assuming no 'in-season' re-stocking and no treatment of either the Secondary Road Network or the Priority Footway Network. The County Council exceeds the proposed pre-season resilience standard by a considerable margin, with the '12 days / 48 runs' benchmark using an equivalent 20g/m² spread rate requiring a pre-season stockholding of 19,200 tonnes.

**Table 4.1: Winter Service Resilience
– Priority Road Network**

Spread Rate	Carriageway Width	Use per Km (Spread x Width x 1,000)	Use per PRN Treatment	Max no of Runs
7.5g/m ²	8m	60kg	150 tonnes	166
10g/m ²	8m	80kg	200 tonnes	125
20g/m ²	8m	160kg	400 tonnes	62
30g/m ²	8m	240kg	600 tonnes	41
40g/m ²	8m	320kg	800 tonnes	31

- 4.15 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. Six days' resilience during severe weather conditions requiring four treatments of the Priority Road Network per day at a spread rate of 20g/m² would necessitate the County Council maintaining a continuous minimum stockpile of 9,600 tonnes, including strategic reserves. Below this point, treatment of the Secondary Road Network and Priority Footway Network with salt will cease until stock replenishment reaches the mid-point between the minimum stockpile (9,600 tonnes) and the proposed national pre-season benchmark (19,200 tonnes), ie 14,400 tonnes.
- 4.16 The County Council's ability to maintain a continuous minimum stockpile is dependant on the national salt supply chain situation and Salt Union's capacity to deliver 'in-season' re-stocking. Experience during the last two winters indicates that there are no guarantees that this will be the case. The County Council has requested a further 2,500 tonnes from Salt Union for delivery by 21st December 2010 to improve resilience through the Christmas and New Year period. However, Salt Union Ltd has confirmed that it will not be able to supply the additional 2,500 tonnes until it has fulfilled existing contractual obligations and that this may not be before the end of the year. Furthermore, Salt Union is unlikely to be in a position to undertake 'in season' re-stocking until the New Year. During the early weeks of the winter period, the County Council will need to optimise its effective use of salt by avoiding unnecessary treatments and over-salting to conserve stock as far as is practicable until the national supply chain situation becomes much clearer. Table 4.2 sets out the County Council's estimated salt stock by depot as of 1st October 2010.

Table 4.2: Salt Stock and Location

Area South				
S1	Cuerden	Bamber Bridge	Dome	2,100
S2	Bescar Brow	Scarisbrick	Open / Sheeted	400
S4	Wrightington	Wrightington	Barn	1,800
Area South Total				4,300
Area East				
E1	Whalley	Ribble Valley	Dome	2,000
E2	Bacup	Rossendale	Covered	1,300
E3	Heasandford	Burnley	Dome	2,100
E4	Brown Street	Accrington	Open / Sheeted	2,000
Area East Total				7,400
Area North				
N1	Caton	Lancaster	Barn	1,500
N1	White Lund	Morecambe	Open / Sheeted	600
N1	Green Lane	Garstang	Open / Sheeted	500
N1	Singleton	Singleton	Open / Sheeted	1,200
Area North Total				3,800
Strategic Reserves				
N5R	Keer Bridge	Carnforth	Dome	600
S5R	Myerscough Smithy	Samlesbury	Open / Sheeted	3,200
E5R	Walk Mill	Cliviger	Open / Sheeted	2,100
E6R	Gisburn	Gisburn	Open / Sheeted	5,100
Total				11,000

- 4.17 Salt stockpiled at the 11 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. A further 500 tonnes of untreated salt and an equivalent amount of sand is available at Myerscough Smithy to supply grit bins with a salt/sand mix. This will reduce the amount of salt used whilst still providing de-icing in typical conditions and better traction on snow.
- 4.18 The County Council's maximum practical salt stock capacity is 28,200 tonnes, an increase of over 3,000 tonnes from the previous winter following the addition of Myerscough Smithy in Area South to the strategic reserve. For Winter 2011/12, the County Council is exploring re-use of part of the existing Myerscough Planks depot in Area North as a strategic reserve. With the potential to hold up to 5,000 tonnes, this will increase maximum practical capacity to beyond 30,000 tonnes, thereby improving resilience even further. The recent introduction of disposable sheeting enables the covering and weather proofing of previously open stockpiles, thus ensuring the salt remains useable in the future.
- 4.19 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 11 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. The County Council also has available dedicated snow blowers, two snow blower attachments and various towed gritters, together with 50 hand gritters for use treating footways. The 49 Priority Gritting Routes are listed in Appendix B.
- 4.20 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.

Salt Stock Monitoring

- 4.21 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 the last two winters, has not been problematic. For Winter 2010/11, the County Council will be using Salt Union's web-based salt stock management system. The system monitors salt usage at each depot and ensures the automatic replenishment of stock, with salt kept to agreed levels as far as possible throughout the winter season. 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. However, 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 each Area will have access to the system and responsibility for inputting the required information

Carriageway Salting

Policy WS 3

Priority Road Network Hierarchy for Precautionary Salting

Category	Definition
1	Non-trunk Motorways and Primary Route Network
2	Remaining Principal ('A' class) roads
3	All 'B' class roads and other roads open to all classes of traffic: <ul style="list-style-type: none">• between or through large centres of population• serving hospitals, ambulance and fire stations, and the facilities of critical infrastructure providers• leading to main centres of employment and transport interchanges• important public transport routes with a service frequency of at least one bus per ten minutes and bus stations• leading to important industrial and military establishments• providing single access to villages

- 4.22 Policy WS3 defines the Priority Road Network hierarchy for precautionary salting in descending order of importance. The Priority Road Network includes all non-trunk Motorways and Primary Routes, principal ('A' class) roads and varying proportions of the remaining highway network maintainable at the public expense dependant on the topography and climate of the area in question as indicated in Policy WS4 below. It is viewable on both MapZone and MARIO, the latter accessible by the public.

Policy WS 4

Guideline Coverage Factors for Other 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%

- 4.23 The Priority Road Network specifically excludes housing estate roads and minor roads without appreciable gradients. It does not include all bus routes; 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. The County Council aims to ensure that all precautionary salting of Priority Road Network carriageways is complete before the formation of ice.

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"> • between or through centres of population • serving hospitals, ambulance and fire stations, and the facilities of critical infrastructure providers • leading to main centres of employment and transport interchanges, and important commuter routes • leading to important industrial and military establishments • providing single access to villages • at identified trouble spots 	Within 4 hours

- 4.24 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. '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.

Decision and Carriageway Treatment Matrices

- 4.25 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 10C	No rain No hoar frost No fog	Salt before formation of ice/hoar frost No fog	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 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 Possible hoar frost 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 Road Surface Conditions Road Surface Temperature (RST)	Predicted Road Conditions		
	Treated Salt (g/m ²)	Dry Salt (g/m ²)	Ploughing
Precautionary Treatment			
Forecast hoar frost/ice with RST above -2oC	7.5	10	No
Forecast hoar frost/ice with RST between -2oC and -5oC	15	20	No
Forecast hoar frost/ice with RST below -5oC	15-30 (dependent on surface state)	20-40 (dependent on surface state)	No
Forecast snow (up to 30mm)	15	20	No
Forecast snow (greater than 30mm)	15-30	20-40	No
Post Treatment			
Hoar frost/ice (See Precautionary Treatment above)	7.5-30 (dependent on surface temperature and state)	10-40 (dependent on surface temperature and state)	No
Snow where precautionary treatment has taken place	7.5	10	Plough first if depth >30mm
Snow where precautionary treatment has not taken place	15-40	20-40	Plough first if depth >30mm
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.

- 4.26 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. 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.

Secondary Road Network

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.

- 4.27 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 sand to aid traction.
- 4.28 The County Council's defined Secondary Road Network for Winter Service is viewable on both MapZone and MARIO, the latter accessible by the public. In defining the Secondary Road Network, the County Council has taken account of routes used by essential public services such as refuse collection. 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.

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).

- 4.29 The national Winter Resilience Review¹⁰ 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.
- 4.30 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.

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

¹⁰Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Interim Report, July 2010

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.
- 4.31 The national Winter Resilience Review also 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 has 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 possible treatment of key footways and pedestrianised areas.
- 4.32 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.

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.

- 4.33 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. The County Council's Public Realm Integration Project will result in a separate District Public Realm agreement with each district council, replacing existing residual Services Agreements and Street Services Agreements whichever is in place. It will therefore be possible to formalise district council involvement in winter service provision through enhancements to existing agreements.
- 4.34 Following the difficulties experienced during the winter of 2009/10, the Lancashire Association of Local Councils (LALC) has expressed a desire to become involved with Winter Service provision, subject to formal agreement and resolution of relevant indemnity, cost and resourcing issues. 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.

- 4.35 In 1998, the County Council re-introduced the parish 'lengthsman' scheme, of which there are now 23 operating in 47 parishes across Lancashire. It is 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.
- 4.36 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 will need defining, as will networks and locations to be treated, as these are likely to vary from parish to parish.
- 4.37 In parishes where there is no formal 'lengthsman' scheme in operation, the 'Snow Warden' concept may be a viable alternative. Several local authorities, including Gloucestershire and Leicestershire County Councils, have already introduced such a scheme, whereby parish councils appoint volunteers from the local community to act as snow wardens. The role of a snow warden can range from keeping the local authority highways department informed of conditions in outlying villages to treating footways maintainable at the public expense.
- 4.38 The County Council will engage with interested local farmers and contractors for the supply of suitable plant with operators to carry out snow clearance on certain minor roads and footways as may be required by and under agreement to the County Council.

Wider Public Involvement

- 4.39 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 Review¹¹ 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.
- 4.40 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.

- 4.41 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

¹¹Winter Resilience Review: The Resilience of England's Transport Systems in Winter, Interim Report, July 2010

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.

- 4.42 The Government published the following guidance for individuals with regard to clearing snow and ice from pavements on 3rd November 2010¹².

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're worried about them, contact your local council.

¹²www.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.

- 4.43 All requests for new grit bins and reassessments of existing locations require completion of the Grit Bin Assessment form (Appendix C). In general, the more criteria met the higher the justification, but the assessment methodology allows for a degree of flexibility within the overall policy framework. Area Offices should send copies of approved Grit Bin Assessment forms to the Head of Asset Management to update records.
- 4.44 The County Council currently has over 1,800 grit bins/heaps and for the 2010/11 winter period has procured 500 tonnes of untreated salt and an equivalent amount of sand to supply grit bins with a 50:50 salt/sand mix. This will reduce the amount of salt supplied compared to previous years and thereby contribute to increased resilience whilst still providing de-icing in typical winter conditions and better traction on snow. A facility for the mixing storage and distribution of this material is now operational at Myerscough Smithy, Samlesbury. All grit bins will have a 'Highway Use Only' label attached to discourage misuse of the material and each bin will be identifiable by a unique reference number.
- 4.45 During the last two winters, the national shortage of salt combined with the need to focus supplies on the Priority Road Network compromised the effectiveness of grit bins, which previously had proved effective in providing a self-help facility at specific locations. The County Council will monitor the use of material and restock as required, but cannot guarantee to maintain supplies of material to all grit bins at all times as this will ultimately depend on the continuing availability of material.

5. WINTER SERVICE RESPONSIBILITIES

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
Vehicles

Communications Service

Communications strategy and information to the public

Weather Forecasting Service

5.2 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 C. 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.

- 5.3 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. To conclude the trials, during the 2010/11 Winter Period all 49 Priority Gritting Routes will have Route-Based Forecasts in addition to the normal 'Domain' forecast. The County Council aims to migrate all forecasting to the Route-Based approach in the next few years, which will deliver better decision making and the potential for more efficient use of resources, with decisions based on each route rather than domain or depot. This will enable a comprehensive review of all gritting routes to be undertaken prior to the 2011/12 Winter Period.

Decision Logging System

- 5.4 The County Council uses the IceMan system supplied by Vaisala to record all details of decisions and actions taken. IceMan 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 15.00 each day. Nominated individuals in each Area have access to IceMan 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.

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 the Port of Fleetwood

Appendix B: Priority Gritting Routes 2010/11

Area North

N01	Morecambe and Heysham	White Lund
N02	Lancaster City Centre	White Lund
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

S01	A59 / A565 (Preston to Southport)	Cuerden
S02	A59 South	Cuerden
S03	Longton / Bamber Bridge	Cuerden
S04	Leyland	Cuerden
S05	Chorley North	Cuerden
S06	Cuerden East	Cuerden
S07	Wrightington North	Wrightington
S08	Wrightington South	Wrightington
S09	Skelmersdale	Wrightington
S10	Chorley South	Wrightington
S11	Bescar South	Bescar
S12	Ormskirk	Bescar
S13	Preston East	Cuerden
S14	Preston West	Cuerden

Area East

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

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 ¹	Automated Forecast Site
A56 Accrington ²	Forecast Site (Primary)
A59 Gisburn	Automated Forecast Site
A6068 Laneshawbridge	Automated Forecast Site
A6 Hampson Green	Automated Forecast Site
A586 Singleton	Automated Forecast Site
C305 Halfpenny Lane Longridge	Automated Forecast Site
A6 Lancaster Road Preston	Weather Data Collection
A671 Waterloo Road Clitheroe	Weather Data Collection
A671 Padiham Road Burnley	Automated Forecast Site
U4006 Manchester Road Burnley	Weather Data Collection
A671 Weir, Bacup, Rossendale	Automated Forecast Site

¹Owned by Blackburn with Darwen Borough Council

²Owned 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

