

COSLA Severe Weather Review Task Group Report

Foreword

This report demonstrates that local authorities have learnt a number of lessons following the impact of severe winter weather in recent years, the severity of which was far greater than could have reasonably been anticipated.

Particular difficulties were experienced in many parts of Scotland in the delivery of services such as adult social care, the closure of day centres, schools, and refuse collection. It should be noted from the outset though that the managed and innovative response of local authorities to a sudden and unexpected period of severe weather conditions ensured that critical services to vulnerable people were maintained.

There is now clear evidence across local authorities that potential future severe weather conditions are being planned for corporately to minimise the impacts on business continuity across the range of local authority statutory responsibilities. There is also evidence that national and local partners can make improvements to the way that we work together, and we have framed a number of recommendations in relation to this that we hope will progress further improvements in our winter resilience planning.

We would like to express our thanks to the task group members, the officers from the professional associations who have kindly provided their expertise, and to local authorities who have provided information about their severe weather responses, winter reviews, and winter resilience planning.



Councillor Pat Watters
President



Councillor Alison Hay, Task Group Chair
Regeneration & Sustainable
Development Spokesperson

Executive Summary

The winters of 2008/09, 2009/10 and 2010/11 brought unexpected and prolonged severe weather conditions to Scotland which caused significant disruption to the roads network and the delivery of key public services, as well as broader impacts on local economies.

During the last three years local authorities and our local and national partners have responded to the impact of these conditions jointly. The challenges have included shortages in salt stocks, severe impacts on road and other transport networks, including trunk road closures, trying to ensure business continuity in key services such as providing care for the vulnerable, and school closures.

COSLA established a task group comprising members and representative officers from a range of professional associations following the winter of 2010/11 to review the work we have undertaken following recent winters, to see where improvements in resilience planning had been made, and where further improvements could be made.

This interim report presents the findings of the initial stages of our work which has taken advice from our member councils and the relevant professional bodies. We offer the following recommendations and messages;

Winter Service Planning and Climate Change

- 1. COSLA would welcome further discussions with Scottish Government with regard to climate change and local authority winter resilience planning ahead of the development and publication of the first statutory adaptation framework for Scotland.**

Salt Stocks

- 2. COSLA would welcome further discussions between the main partners to enhance preparation and joint planning between Scottish Government and councils in order to source and maintain stock levels of de-icing materials and avoid paying premium prices in-season.**

Winter Fleets

- 3. COSLA would recommend that co-ordination and contracting arrangements between Transport Scotland, the Trunk Road Operating Companies, and local authorities are reviewed annually to ensure the best possible level of service for the public.**

Information Requests

- 4. COSLA recommends that formal agreement is needed on the strategic co-ordination of information between Scottish Government, the Scottish Salt Group, Strategic Co-ordinating Groups, and local authorities. This should include prior planning and agreement on a suite of reasonable and meaningful information that is required, why and when it is required, and when it can be provided.**

Public Expectation

- 5. It is recommended that Scottish Government, in consultation with COSLA, should continue to lead on providing strategic messages to the public that local authorities could augment with local information. For specific messaging and information on locally managed services such as schools, local authorities should provide the lead.**

Guidance on Local Public Services

6. COSLA recommends that national guidance on the delivery of local services be kept to a minimum, and only issued after prior consultation with COSLA. Nationally issued guidance can create expectations at a local level where the specific circumstances and weather conditions might not allow for the guidance to be implemented. Guidance and messages to the public about locally managed services are best delivered by the local authority.

Community Resilience

7. COSLA recommends that further advice from Scottish Government on pathway clearance and legal liability be issued as this would significantly assist local authorities in encouraging and supporting community resilience and self-help. This could form part of the Scottish Government proposed National Resilience Week, with assistance from local authorities to encourage personal responsibility and utilise community assistance.

Finance and Resources

8. COSLA would welcome discussions with Scottish Government on resourcing issues, particularly the possibility of a framework arrangement for additional provision to local authorities in exceptional circumstances.

1.0. Introduction

- 1.1 The winters of 2008/09, 2009/10 and 2010/11 brought prolonged severe weather conditions to Scotland. 2010/11 brought heavy snowfalls and record low temperatures, with snow falling as early as November, and by early December accumulations of snow in the north and east of Scotland reaching over 50cm in places. In early December the temperature dropped to -18 °C in Aberdeen, and the lowest temperature of the winter of -21.2 °C was recorded at Altnaharra, Sutherland.
- 1.2 The response of local authorities to the severe and prolonged winter weather conditions over the last three years has demonstrated the versatility and commitment of staff and members in dealing effectively with an unexpected emergency situation. Many of the practices which were adopted as an immediate response to a potentially critical situation have now been implemented as mainstream policy.
- 1.3 Following the 2009/10 winter COSLA was a member of the Scottish Salt Group review of winter maintenance operations requested by the Scottish Cabinet Sub-committee on Scottish Government Resilience, and extensive consultation was undertaken with local authorities as part of this review.
- 1.4 The Scottish Salt Group review and its recommendations focused particularly on the road network and salt stocks. The subsequent winter of 2010/11 highlighted further the adverse impact on the delivery of other local authority responsibilities and services as a result of transport and transit difficulties, and so this COSLA review was implemented with an expanded remit to encompass the wider impact on public service delivery.
- 1.5 At COSLA Leaders meeting in January 2011, the recent severe winter weather conditions and their impact on a range of local authority delivered services were discussed. It was agreed to establish a Severe Weather Review Task Group to assimilate the experiences and learning of councils across Scotland with a view to aiding future winter planning.
- 1.6 The COSLA Winter Weather Review Task Group was established to consider the range of winter weather responses that local authorities implemented and to ascertain where areas of specific practice might further be developed. One of the primary reasons for undertaking this exercise was to ensure that all local authorities in Scotland had access to the range of winter response practice that was identified across the country.
- 1.7 Through the work of the task group and the production of this report COSLA and the various professional associations involved in the task group have taken a proactive role in collating, disseminating, and encouraging the adoption of good practice in preparing and delivering winter service resilience plans in order to ensure the best possible levels of service to our communities in the event of future severe weather conditions. It is important to note from the outset that differing local circumstances and experiences of severe weather mean that ultimately the specific response is most appropriately decided locally.
- 1.8 Local authorities are a key element in effective winter service resilience planning and delivery at a local level. However, this service is not delivered in isolation and requires the development of effective partnerships with other local service providers, businesses, and communities. This report also considers these areas. Critically, it also requires the support of national government, and this task group has also considered key areas for the short-term where COSLA believe that the Scottish Government can assist in the delivery of an improved and effective winter service. This report makes a number of recommendations to Scottish Government, highlighting areas where local and central government can better work together to ensure resilience and the maintenance of public services.
- 1.9 A critical factor in the delivery of local authority services during a prolonged period of severe weather is public awareness of the range of local authority responsibilities and how they are

affected during severe weather. During such periods of weather when local authorities are delivering services in extremis, there will be a focus upon specific priorities, for example, endeavouring to keep schools open and delivering care to the vulnerable, and inevitably levels of service in some areas will be reduced. We believe that public understanding of this is key to reducing unrealistic levels of public expectation about what local authorities can deliver with the resources available to them.

- 1.10 We also highlight areas in relation to planning for, and recovery from, severe winter conditions where longer term governmental consideration is required, issues such as the deterioration of the road network as a consequence of severe weather conditions, climate change considerations and the use of forecasting in preparing for and responding to severe weather conditions, ensuring the integrity of salt stocks in the future, and developing the use of effective alternatives to salt. COSLA would welcome a continuing dialogue with the government in this process.
- 1.11 This report will not reiterate in detail the range of policy and technical advice from the Department for Transport, the Society of Chief officers of Transportation in Scotland (SCOTS), and the UK Roads Liaison Group on issues such as plant, de-icing materials, and salt spreading rates but refers to this where relevant. COSLA has reviewed the range of advice and guidance from governmental and professional organisations published in recent years, and notes that there is significant evidence of the adoption of much of this advice by Scottish local authorities. COSLA would generally concur with the advice and guidance given, in addition to those practices recommended by COSLA and local authorities.

2.0 **Background**

- 2.1 Severe and prolonged winter weather conditions over the winter periods of 2008/9, 2009/10, and 2010/11 put a significant strain on Scotland's road and other transport networks, and on the delivery of critical public services.
- 2.2 In early December 2010 heavy snowfall and unprecedented conditions caused the closure of the M8 between Glasgow and Edinburgh for two days. Other major road closures, and gridlock on many routes across Scotland led to cars being abandoned and people being stuck in their vehicles overnight.
- 2.3 The severe impacts upon the transport system had a significant knock-on effect upon the business continuity of a wide range of public services, and from a local authority perspective the impacts were particularly felt in areas such as the delivery of adult social care, the closure of schools and day centres, and waste collection, amongst others. Expectations upon local authorities to continue the normal delivery of services were high but as a result of road conditions and associated problems unavoidable reductions in service occurred.
- 2.4 Although this report does, of course, refer extensively to road network and salt stock issues, there is a significant and growing body of literature on the strategic and technical issues surrounding roads and salt, and therefore this report also focuses on the impacts upon the delivery of a range of other local authority services.
- 2.5 The challenges presented to local authorities and their partners as a result of the severe conditions, the immediate in-season response to them, and the longer-term planning implications are outlined in Section 5.
- 2.6 The scale of the effort and professionalism of local authorities and their staff in responding to these challenges was often impressive, and local authorities have continued to review and develop their corporate arrangements for dealing with severe weather conditions. This is outlined in further detail in Section 6.

2.7 At a national level COSLA operated as a member of the Scottish Government Resilience Room (SGoRR), with the committee meeting 43 times during winter 2010/11, and sat on the Scottish Salt Group when convened. National issues relating to how central and local government can better work together to improve winter resilience are referenced throughout the report.

3.0 Local Authority Road Network Responsibilities

3.1 Local authorities in Scotland are responsible for managing nearly 55,000 kilometres of road network, with Transport Scotland having responsibility for an additional 3,500 kilometres.

3.2 Section 34 of the Roads (Scotland) Act 1984 establishes a statutory responsibility on local authorities to provide a winter maintenance service;

“A roads authority shall take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads”

3.3 A winter service policy is the council document which essentially sets out how this statutory responsibility will be discharged. All Scottish local authorities have a winter service policy.

3.4 The UK Roads Liaison Group document, ‘Well Maintained Highways – Code of Practice for Highway Maintenance Management’ qualifies this point, stating that;

3.5 ‘Given the scale of financial and other resources involved in delivering the Winter Service it is not reasonable either to:

- provide the service on all parts of the Network;
- ensure running surfaces are kept free of ice or snow at all times, even on the treated parts of the network.’

3.6 An effective roads winter salting (often referred to as gritting) and snow-clearing service is important to the delivery of normal services, the local economy and road safety within local authority areas. Bad weather and road conditions can lead to delays and hazards for all road users. Winter gritting and snow clearing involves treating roads in order to:

- prevent ice from forming (pre-salting)
- melt ice and snow (post-salting)
- remove snow (ploughing)

3.7 Decisions on whether or not to act must be taken with due care and on reasonable grounds. The object is to provide a winter gritting and snow clearing service which as far as is reasonably practical, within financial constraints and resource limitations, will:

- permit the safe movement of vehicles and pedestrians on the more important parts of the network
- seek to minimise delays and accidents attributable to weather conditions
- take cognisance of the environmental impact of the salting process

3.8 It is important to understand the nature of local authority responsibilities in the context of winter services, not just in relation to specific roads issues, but in maintaining the delivery of other statutory service duties.

- 3.9 As an illustrative example, there are many instances of effective communications between roads and social care departments in order to ensure access to the most vulnerable. In addition, the community and voluntary sector response, for example in providing 4x4 vehicles for access, demonstrated their commitment to working with local authorities in the interest of local communities. In recognition of the key role a range of community and voluntary sector partners can play in severe weather conditions, the COSLA task group has seen many examples of similar arrangements between local authorities and partners now being formalised in winter service policies.
- 3.10 The UK Roads Liaison Group code recommends that winter service policies 'should 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;
 - other local circumstances.

4.0 Winter Service Planning and Climate Change

- 4.1 It is worth highlighting here the particularly difficult context in which local authorities and others find themselves in planning for winter service. During the work of the task group a number of contributors have raised the issue about the longer term prospects of continued severe and prolonged winter conditions. While the last three winters have been particularly prolonged and severe, it is difficult to predict whether this represents a permanent change or if we are likely to revert to milder winter weather, thus making forward planning particularly difficult.
- 4.2 The UK Roads Liaison Group document, Well Maintained Highways – Code of Practice for Highway Maintenance Management recognises this difficulty;
- “The effects of climate change make it difficult for highway authorities to anticipate winter conditions from year to year. Wide variation and extreme events as a consequence of climate change needs to be taken into account in winter service planning.”
- 4.3 The Met Office are undertaking ongoing work in modelling the likelihood of future severe winter weather, but acknowledge that at present there are limitations in their ability to predict the likelihood of severe winters in future.

Using the currently available UK climate projections in their December 2010 'Briefing on the likelihood of severe winter weather over the next 20-30 years', the Met Office note that;

- “Prolonged snowfall and low temperatures, comparable with conditions seen during November and December 2010 are within the range of natural climate variability observed over the past 50 years”
- “Comparable spells of snowfall and cold weather have been observed in parts of England during 8 winters since 1960”

They conclude that, “Natural climate variability implies that severe events remain possible but with reduced likelihood.”

- 4.4 This is the dilemma with which local authorities are faced, and it is understandable and right that authorities generally are planning on the basis of recent historical experience, and are now considering their response to severe winter weather within an overall corporate contingency planning framework, and operating within the practices, culture and rigour of an emergency planning approach in order to ensure that they can fulfil their statutory responsibilities. The significant increases in salt stocks across authorities are just one indicator that this is the case. It is also important that the future planning and preparation response to recent severe winters is proportionate based upon the experience of previous winters, local authority duties, and the level of resources available.
- 4.5 **COSLA would welcome further discussions with Scottish Government with regard to this matter ahead of the development and publication of the first statutory adaptation framework for Scotland.**

5.0 The Local Authority Response

- 5.1 This section outlines some of the key service delivery developments that have been introduced either in-season as a contingency response or introduced through policy development processes for future potential severe winter weather.
- 5.2 The main issues which primarily caused significant difficulties to the delivery of local authority services are summarised under three headings within this section;
- 1) infrastructure and logistics,
 - 2) community impacts, and
 - 3) communications
- 5.3 In relation to the overall response to a series of unexpected severe weather events, local authorities report adopting a range of incident management procedures, including emergency response management arrangements such as daily meetings with all council service departments represented and enhanced communications and information sharing arrangements to provide regular operational updates on issues such as road and school closures.
- 5.4 The key issue of keeping the road network open is dealt with under infrastructure and logistics. The second heading looks at the significant impact on communities as a consequence of the severe weather. Under the third heading the report considers the critical role of communication links that to a very large extent will determine the impact on services and community perceptions as a result of severe weather and road closures.

1) Infrastructure and Logistics

Roads

- 5.5 In general local authorities adopted carriageways and footways are categorised into high priority and low priority routes, with low priority routes only being dealt with after high priority routes have been satisfactorily cleared. This does not necessarily mean that all routes will get treatment, as the winter service plans that local authorities have respond to priorities and in severe weather some routes may not get treatment, or may go for periods of time without treatment. It is noted that local authorities are largely focussed on road treatment as opposed to large scale snow clearance operations.
- 5.6 The SCOTS Winter Service Survey 2011 reports that 42% of council road networks are treated as priority routes and 41% are treated as non priority routes.
- 5.7 Before the 2010/11 winter most authorities had reviewed their priority routes to take into account roads and footways around key community facilities such as schools and sheltered housing. Many authorities had also identified additional resources and staff from other service departments to utilise for clearing operations at an earlier stage, therefore allowing earlier treatment of low priority routes
- 5.8 Significant lessons have been learnt across authorities in regard to snow clearance at public transport hubs, for example, bus stations. It is now generally accepted that winter service will be significantly improved by a quicker response in such areas.
- 5.9 At the Scottish Parliament Transport, Infrastructure and Climate Change Committee in March 2011, George Mair from the Confederation of Passenger Transport Scotland made this point by stating that in trying to encourage people not to use cars unless the journey is essential, ensuring the operation of bus services should be considered a high priority. He reported that this had not always been the case in all areas, but where bus routes were given high priority and bus services were able to operate the determining factor was ongoing communication between the local authority and the bus operators. There is also another issue here about encouraging modal shift particularly during severe weather in order to reduce the pressure on the road network, as if buses are able to use the roads then car users will also conclude that they are able to do so.
- 5.10 George Mair spoke of his experience of examples of excellent work between bus operators and schools departments working together, for example, hiring four-by-fours and assessing routes early in the morning so that decisions could be made on whether school transport could operate. By the same token the availability, or otherwise, of rail services has a substantial impact on traffic volumes, and there will be benefits to the travelling public and less pressure on the road network by ensuring a robust and reliable rail service that demonstrates resilience during periods of severe weather.
- 5.11 Although the trunk road network does not fall specifically within the remit of this report and is the responsibility of Transport Scotland and the Trunk Road Operating Companies, SCOTS report examples of councils providing treatment of trunk road routes to ensure continuity in the road network.

Salt stocks

- 5.12 Levels of salt stocks have been a critical issue in terms of resilience in each of the last three winters, with stocks reaching perilously low levels in some areas such that continuation of the severe weather would have seen the exhaustion of them. Local authorities have reported numerous examples of mutual aid in sharing salt stocks between neighbouring councils and trunk road operators to this review.

- 5.13 The UK Salt Cell, which was formed during the severe weather of the winter of 2008/09, was subsequently re-activated on 6 January 2010 to provide advice to producers and suppliers on the most effective distribution of available salt supplies in order to minimise the risk to public safety.
- 5.14 At the request of the Scottish Ministers, the Scottish Salt Group was formed on 8 January 2010 involving representatives from SOLACE, SCOTS, COSLA and Transport Scotland to monitor local authority and trunk road operating company daily salt returns. The Scottish Salt Group played a role in assessing the country's resilience level and updating ministers, arranging mutual aid, liaison with salt suppliers, and providing guidance on salt conservation and alternative de-icing materials.
- 5.15 For local authorities ensuring adequate stock levels and adhering to requests to conserve stocks is considered critical if the Salt Cell and strategic salt stock is to work efficiently and equitably. In the David Quarmby report, 'The Resilience of England's Transport Systems in December 2010', questions were raised as to the extent to which some authorities followed technical guidance on spread rates and requests for salt conservation measures in January 2010.
- 5.16 During the COSLA review it has been reported to us that some authorities have found it difficult to replenish stocks despite having confirmed orders or managed supply contracts in place. There are a number of factors that can impact on the supply chain, including resilience levels at the start of the season, treatment regimes and centralised control of restocking. As a consequence some authorities have reported that they are considering establishing strategic stockpiles for their sole use above and beyond their contracts with suppliers.
- 5.17 In its report on the Scottish road network in August 2010, the Scottish Salt Group recommended;
- 'That the operation of the Scottish Salt Group remains transparent to ensure that the local authorities that fail to prepare sufficiently in winter maintenance resilience do not benefit from the Scottish Salt Group and are not relying on it.'
- 5.18 COSLA recognises that many local authorities had previously planned for levels of resilience that were tested by the recent extreme winter conditions. These lessons have been learnt and for winter 2011/12 many local authorities are planning for self-sufficiency or collective self-sufficiency on the basis of mutual aid arrangements and shared stocks in order to reduce over-dependency on strategic salt stocks and the higher purchase prices that they attract in-season. Consideration might be given to incentivising local authorities who adopt consistent stock management and conservation measures by reducing strategic stock prices to them if and when required.
- 5.19 While there is no doubt that to hold extra supplies at the start of winter will improve resilience, there can be no guarantee that they will be sufficient. It should also be borne in mind that there is only a finite volume of salt available from the UK's main suppliers and if stock levels were increased substantially across Scotland over one year this may well put the supply chain under pressure even during the summer months. In relation to imports of salt from overseas some authorities have commented on the poor grading with significant quantities of uncrushed salt that had to be further processed before use.
- 5.20 Local authorities are making appropriate preparations for the forthcoming winter as a response to difficulties experienced with salt stock levels in recent years. Almost universally individual authorities have increased salt stock levels year on year since 2008 / 09, and this years total anticipated season starting stock level is a significant increase on last year.

- 5.21 Information from the Department for Transport report, 'Highway De-icing Salt Restocking & Efficiency Survey Report' provides an update on figures as of June 2011.

The anticipated Scottish Local Authority total for winter 2011/12 is 491,802 tonnes compared to 359,767 tonnes last year.

- 5.22 Average target resilience levels¹ across all local authorities in Scotland are improved from last years figure of 8.6 snow days to 11.8 snow days, and the report concludes that, 'English, Scottish and Welsh authorities will enter winter 2011/12 better prepared than last year, with significant strategic reserves also in place.'
- 5.23 The report goes on to state that, 'Scotland accounts for almost all of the increase in demand (in salt), with local and strategic authorities sharing an increase in stockholding of almost 125,000 tonnes.'
- 5.24 **COSLA recognises that there have been improvements in the operation of the Scottish Salt Group but notes the concerns expressed by a number of local authorities about the distribution and cost of strategic salt stocks. We would welcome further discussions between the main partners to enhance preparation and joint planning between Scottish Government and councils in order to source and maintain stock levels of de-icing materials and avoid paying premium prices in-season.**

Salt Storage

- 5.25 The amount of salt stock held is determined by both local stockholding policy and the availability of storage. Most authorities do not have the capacity to store a full season's stock and therefore rely on re-stocking in-season.
- 5.26 The SCOTS 2011 Winter Service Survey reports that in respect of all organisations the national capacity to store salt under permanent cover is 50% (45% council and 81% Trunk Road Operating Companies) of the total stock levels, with 13% (12% council and 19% Trunk Road Operating Companies) and 37% (43% council and 0% Trunk Road Operating Companies) of the total salt stock stored under temporary cover and uncovered respectively.
- 5.27 A number of authorities have reported enhancing their capacity for covered storage to enable an increase in overall stock levels, reduce the environmental impact, maintain the efficiency of stocks and ensure that they can use rock as well as marine salt, and therefore reduce reliance on an individual source. In addition a number of authorities have developed arrangements for shared storage barns and stocks in line with the UK Roads Liaison Group recommendation.

Winter Fleets / Plant

- 5.28 There are numerous examples of local authorities increasing and upgrading fleets to ensure the best possible response to severe weather conditions. Many authorities report purchasing small gritters to allow secondary roads to be treated more quickly.
- 5.29 The recent winters have seen examples of fleet sharing across local authorities and trunk road operators although this has not been without difficulty both from a technical perspective and a contracting one. The COSLA task group has raised this issue of a barrier to mutual aid and shared services between councils and Trunk Road Operating Companies (TROC) and understands that one of the potential barriers is the nature of the contracting between Transport Scotland and the TROC which specifies that the TROC use pre-wet salt. We are advised that local authorities do not routinely have fleets with the technical specification to spread pre-wet salt, and therefore could not be utilised to assist trunk road clearance. It is

¹ Resilience levels are calculated in terms of the number of days continuous severe conditions salting on a defined network

worth noting here that local authorities have substantially more plant than operated by the TROCs.

- 5.30 COSLA has received contrasting views on the relationships and partnership arrangements between Trunk Road Operating Companies and local authorities. There is significant evidence of assistance provided between local authorities and Trunk Road Operating Companies, but also concerns expressed about different priorities and equipment not being inter-changeable.
- 5.31 **COSLA would recommend that co-ordination and contracting arrangements between Transport Scotland, TROCs, and local authorities are reviewed annually to ensure the best possible level of service for the public.**
- 5.32 A number of authorities continue to develop innovative contracting arrangements with, for example, local farmers and agricultural contractors, to undertake snow clearing duties. This has been found to be hugely beneficial in terms of vehicle utilisation. During recent winters local authorities have learnt much about the specific technical requirements they have of fleet and plant in their specific areas. These requirements are being reflected in external contracting reviews to take account of these needs and changes in vehicle and plant technology.
- 5.33 The COSLA Task Group concludes that providing advice nationally on fleet and plant is not helpful to local authorities, and that decisions need to be taken locally based upon cost, historical investment, the extent and nature of the road network to be treated, and the availability or otherwise of local contracting arrangements.

Material Specification

- 5.34 Some local authorities have begun, or are considering, the use of de-icing materials other than rock salt or marine salt. This has been influenced by a number of factors including cost, the availability of materials from more than one source if stocks are low, the need for conservation measures, and the effective performance of different de-icing materials at very low temperatures. There appears to be little consensus, however, on the relative performance of alternative materials compared to cost. A number of authorities have trialled Safecote which has anti-icing, de-icing and corrosion inhibition properties and can be used as an additive to salt, but a number of roads services have reported seeing little benefit from its use.
- 5.35 COSLA understands that Transport Scotland has commissioned research into the use of alternative de-icing materials (magnesium chloride and calcium chloride) and additives for rock salt (Safecote and Ecothaw). This research aims to identify the most effective way to use these alternative de-icers and additives and produce guidance for the Trunk Road Operating Companies on their storage, management and usage. It is hoped that this guidance will also be made available to local authorities when concluded.
- 5.36 The table below provided by SCOTS gives a comparison of de-icing materials and their relative costs.

Road Maintenance

- 5.37 The indirect costs of successive severe winters as a result of road network deterioration are considered significant by local authorities and SCOTS. COSLA is part of the current Road Maintenance Review that is considering these issues separately and is scheduled to initially report in autumn. COSLA will be raising the issue of local authority concerns about the accelerated road network deterioration due to the severe weather and the funding implications of this.

2) Communications

5.38 Communication as referred to in this section has a number of elements to it, including the communication of information from local authorities to the public, internal communications within councils across service departments, and communication and information sharing between the local authority and external bodies, whether they be local partners or Scottish Government. The critical importance of communications in managing incidents of severe weather as experienced over recent winters has led to many local authorities looking at developing a specific communications strategy for severe weather episodes.

5.39 Arrangements for delivering communications differ across the country. In some areas, for example, Strategic Co-ordinating Group Resilience Teams facilitate the information sharing role between local partner organisations, and also between partner organisations and Scottish Government.

De-icing Chemical	Lowest Practical Temperature (°C)	Cost Comparison	Pros	Cons
Calcium Chloride	-29	7x	Melts ice faster than sodium chloride	Attracts moisture, surfaces slippery below -18°C
Calcium and Magnesium Acetates	-9	25 - 35x	Safest for concrete and vegetation	Works better to prevent re-icing than as ice remover
Ethylene Glycol		28x		Non corrosive; biodegradable
Magnesium Chloride	-15	7x	Melts ice faster than sodium chloride	Attracts moisture
Methanol		10x		
Potassium Chloride	-7	4x	Fertilizer	Damages concrete
Propylene Glycol		28x		
Sodium Chloride	-9	1	Keeps carriageways dry	Corrosive, damages concrete and vegetation
Urea	-7	7x	Fertilizer	Agricultural grade is corrosive

Scottish Government Information Requests

5.40 A number of authorities have expressed concern about the level and type of information requests that came from Scottish Government on a daily basis. Many felt that this detracted from front-line service delivery without contributing tangibly to the national response or improving the information that was available to the public in an area. One area reported confusion in all of the last three winters in respect of information requests from a range of different sources, including the Strategic Co-ordinating Group, the Scottish Government Resilience Team, and the Scottish Salt Group.

5.41 COSLA believes that there are opportunities for streamlining the approach to the collection and dissemination of data from Scottish Government, not only in relation to salt stocks but

also issues such as schools and care for the vulnerable. Whilst acknowledging that understanding the exact conditions and responses prevailing at any given time is critical in managing a contingency situation, we would welcome a standardised approach where possible to the type of information requested that recognises the appropriate timelines for collation and that keeps ad hoc requests to a minimum.

- 5.42 **COSLA recommends that formal agreement is needed on the strategic co-ordination of information between Scottish Government, the Scottish Salt Group, Strategic Co-ordinating Groups, and local authorities. This should include prior planning and agreement on a suite of reasonable and meaningful information that is required, why and when it is required, and when it can be provided.**

Public Expectation

- 5.43 Almost all local authorities have reported on the huge expectations of the council by the public and the difficulty of managing these. The levels of service developed to deal with regular winter weather have been such that people have become used to winter not having serious implications for them and as a result business and community resilience has reduced significantly. The public's perception of what could be achieved in unprecedented severe and prolonged conditions was well in excess of the resources available to local authorities.
- 5.44 In addition a number of authorities report that these public expectations have been partly fuelled and exacerbated by both the media and on occasions as a result of Scottish Government pronouncements during the severe weather period. There is a clear rationale for greater co-ordination of communications between central government, local government, and other service providers both to maintain organisational integrity and ensure that the public are appropriately informed.
- 5.45 During the review one authority was keen to stress that dialogue with the press and the community was made easier when they could follow up a national message with the local context, and that this had worked well over the last two winters.
- 5.46 There is a very clear sense from local authorities of the need for communications planning prior to winter with very clear parameters about the roles and responsibilities of different organisations and different levels of government in public communications, with agreed processes and guidance. This would include what sits specifically within the remit of national strategic messaging, the role of Strategic Co-ordinating Groups in issuing messages, and local responsibilities for communicating with the public. The task group notes the effective communications approach deployed during swine flu as an example of effective national, regional and local messaging.
- 5.47 **It is recommended that Scottish Government, in consultation with COSLA, should continue to lead on providing strategic messages that local authorities could augment with local information. For specific messaging and information on locally managed services such as schools, local authorities should provide the lead.**
- 5.48 Over the last three winters local authorities have become increasingly proactive in ensuring that communities are made aware of the way in which the council responds to the severe weather conditions, what the priorities are both in terms of road clearance and the delivery of critical services, and what their limitations are in terms of resources.
- 5.49 For many authorities this is now a planned process, whereby before the winter season the council's policies and procedures are communicated to the public through a variety of means, including website, council papers, and winter service booklets. Some authorities extend this information to offer advice and guidance on such things as avoiding frozen pipes and general property maintenance advice to encourage self-help. It is understood that the

content of the national Ready Scotland website is being reviewed and augmented in preparation for winter 2011/12 and that the first national Resilience Week is planned for October 2011. These developments are welcome as they will provide additional opportunities to communicate winter preparedness messages to the general public.

- 5.50 Communication during the severe weather conditions, whereby information is required to be communicated much more quickly, has increasingly made use of social media such as Facebook and Twitter. Most authorities have made significant enhancements to the amount and quality of information that they display on their websites, including gritting routes, grit bin locations, planned gritting operations, staff and plant deployed, links to forecasts, and schools information, in addition to enhancing information through more traditional broadcast media channels. Websites were considered to be the critical communications tool for local authorities last winter with significant increases in traffic reported, and many councils have had to increase the technical capacity of their websites to ensure that they can withstand the amount of traffic. Local authorities will need to ensure they have sufficient IT resilience.

Information Sharing

- 5.51 The COSLA task group recognises the role of the Local Government Improvement and Development Communities of Practice in sharing information and as a forum for utilising the expertise of practitioners in exchanging practice. This virtual forum operates in real-time allowing the speedier collation and dissemination of data. It was reported to us by the Waste Manager's Network that its members were able to quickly get a sense of how other colleagues were responding to the challenges of the severe weather conditions.

Weather Reporting

- 5.52 Different local authority road services use a range of different suppliers of weather forecasting and road monitoring data, often through a competitive tender process. The important point to note here and that local authorities may wish to communicate to the public is that councils do have advanced systems for weather forecasting and arrangements in place for weather monitoring that are used for triggering service planning and responses. A small number of authorities have reported that within an area different agencies sometimes use different weather forecast providers which can give conflicting advice, and have suggested that there might be scope for improved co-ordination of forecasting. At a national level this issue was raised at the Transport, Infrastructure and Climate Change Committee in March 2011 in respect of BEAR Scotland receiving a service from Vaisala and the Scottish Government receiving a service from the Met Office. The Transport Minister stated that although there were differences between the forecasts on given days, he did not believe that they were significantly different to warrant a different response.

3) Community Impacts

- 5.53 What has become clear beyond any doubt over the last three winters is that winter maintenance service provision by local authorities goes beyond responsibilities for roads alone. The impacts on other local authority services, often as a result of roads and transport issues but not exclusively so, has been found to be a significant public issue, and one which has stretched the capacity and resources of councils and provided a significant challenge to business continuity.

Schools

- 5.54 The issue of school closures has been an emotive issue over recent winters and has achieved national prominence. Media attention and public concern over the issue led to a question in Parliament in January 2011 on what guidance the government provided to local authorities regarding their policies on opening schools during cold weather conditions. In response to the question it was confirmed that there were no government issued guidelines

and that the decision on opening or closing a school was best decided locally in the light of prevailing weather and road conditions, and taking into consideration the health and safety of staff and pupils.

- 5.55 This certainly reflects the views of COSLA, local authorities, and individual schools, and it is worth stating here that from work undertaken by COSLA and the Association of Directors of Education in Scotland (ADES) it is clear that there are no policies of blanket closure, and that there is a presumption in favour of opening schools whenever possible. Some authorities have provided guidance and advice on closure to assist head teachers in their decision making process.
- 5.56 **COSLA recommends that national guidance on the delivery of local services be kept to a minimum, and only issued after prior consultation with COSLA. Nationally issued guidance can create expectations at a local level where the specific circumstances and weather conditions might not allow for the guidance to be implemented. Guidance and messages to the public about locally managed services are best delivered by the local authority.**
- 5.57 Undoubtedly problems have been experienced in recent winters in relation to keeping schools open and advising parents of closures. Although main access roads to schools may have been cleared, there were many examples of internal roads and footways not necessarily being included on priority treatment routes, and separate contractors having to be used to clear such areas. However, where closures did take place this was often as a result of frozen pipes and power loss, and not necessarily access issues.
- 5.58 ADES has produced a report following consultation with education representatives in local authorities. The report has contributed to the work of the COSLA task group and will also be submitted to the Scottish Government Winter Weather Review. The report provides details of the impact on education of severe winter weather and work that local authorities have undertaken to ensure schools resilience. The report also considers the critical role of communications in ensuring that parents are informed of closures as quickly and accurately as possible, and measures adopted to enable the continuation of education provision during a period of prolonged closure. The report highlights a number of important lessons learnt by education departments and schools, including;
- Ensuring pupils have access to learning materials in the event of a severe weather closure
 - Liaison with health and social care staff to ensure appropriate support for children and families with additional support needs
 - Developing knowledge and capacity to use social networking technologies to communicate information
 - Decisions on school closures are best determined at a local level and communicated to parents and staff through co-ordinated messaging
- 5.59 Work between school bus operators and roads and education departments to assess and clear school routes was referenced earlier. Many authorities have reviewed their priority routes to include schools access and provided additional equipment to aid school grounds clearance. Live website updates, the provision of a texting service, and the use of social networking to notify parents are some of the developments in ensuring timely notification of closure. Some authorities are reviewing options for opening school 'hub' sites where staff and pupils can be diverted to in the event of other school closures.

Social Work / Social Care

- 5.60 An important challenge in periods of severe weather for social work is to ensure that support continues to be provided to those people who may live alone and depend on

care and support continuing to be provided by Home Care and in other settings, for example, care homes and hospitals. This is a particular challenge in rural areas.

- 5.61 As part of any response, assessing and prioritising care is important and local authorities recognise the need to have access to local records to identify these people potentially in an emergency situation. Local authorities play a key role in effective co-ordination across different agencies and boundaries and recent winters have seen good examples of co-ordinating care and support with health colleagues and the voluntary sector. These included working together with local voluntary sector organisations to provide transport and co-ordinating road clearance and oil deliveries to ensure older people were able to keep warm and safe.

Staffing and Workforce

- 5.62 Local authorities have made significant changes to staffing procedure in relation to winter service planning as a consequence of recent years' experience by making arrangements for the availability of additional staff in roads and grounds clearance. Primarily, this has been through deploying staff from other services such as refuse collection to the roads service when conditions prevent the execution of their normal duties. Others have reviewed framework agreements with contractors to ensure they have a reliable source of trained external staff that can be deployed at short notice, or trained additional HGV drivers to increase the pool of available gritter drivers. The use of people on Community Service Orders for snow clearance was described as a successful intervention by a number of authorities.
- 5.63 Some difficulties, however, were reported in relation to staff redeployment issues, for example, training requirements and health and safety considerations.
- 5.64 As a result, in consultation with the Society of Personnel Directors Scotland (SPDS), COSLA undertook a survey of local authorities on the impacts of severe weather demands upon a range of staffing issues, including staff being unable to get into work and the redeployment of staff to ensure the business continuity of essential services.
- 5.65 The conclusion from the survey results was that the contingencies that local authorities had in place to manage staffing resources in severe weather conditions had largely been effective, with some developing additional policies and amending job descriptions to take account of the lessons learned.

Community Resilience

- 5.66 As stated earlier, during the last three winters almost all local authorities have reported a significant gap between the expectation of communities upon them to be able to treat roads and maintain regular services and the resources and capacity of councils to achieve this. Associated with this is a general concern amongst councils of the level of community resilience in relation to dealing with severe winter weather conditions, and the extent of 'self-help'. Important for public messaging in this respect is the fact referred to in the introduction to this report that local authority service levels will unavoidably be reduced during atypical severe weather conditions. There is therefore a likelihood that councils will be unable to treat all paths and local residents may need to take responsibility for doing so.
- 5.67 This is far from a straight forward issue, with a number of factors contributing to this perception of reduced community self-help. In many areas it would appear that there was significant community willingness to assist, for example, in clearing paths or ensuring vulnerable people were cared for. There were a number of reasons this may not have been utilised over recent winters, including a lack of organisation and direction for willing volunteers. We have seen a range of responses from council's to address this, including

developing a register of volunteers, enhanced liaison with the community and voluntary sectors, and working with Community Councils to develop Community Action Plans.

- 5.68 A lack of suitable equipment often hindered the ability of community members to assist in their neighbourhoods, and in response we have seen the additional provision of equipment from council's, including pedestrian salt spreaders, snow shovels and brushes, extra grit bins and 'dumps' of grit in 1 tonne builders sacks in key locations.
- 5.69 One of the major public concerns has been over a perceived legal liability if an individual were to clear a pathway and somebody was subsequently injured and sued for compensation. In 2010 the UK Government published a 'snow code' to give the public advice on clearing pathways and guard them against negligence claims. Similar advice is posted on the 'Ready Scotland' website, including a reference to personal liability. Scottish Government publicity in the last two winters has gone some way to addressing public concerns, but more is needed to provide reassurance to individuals and communities who are willing to assist themselves. A pre-requisite for the success of encouraging community resilience is the confidence of individuals that they will not be sued.
- 5.70 A national media campaign as part of the proposed Scottish Government 'Get ready for Winter Week' could encourage householders to make sure that they are prepared for the winter in advance. This could include messages about checking that there is access to a shovel and grit, and performing a property maintenance check, for example, to ensure that any damaged guttering is repaired before winter.
- 5.71 **COSLA recommends that further advice from Scottish Government on pathway clearance and legal liability be issued as this would significantly assist local authorities in encouraging and supporting community resilience and self-help. This could form part of the Scottish Government proposed National Resilience Week with assistance from local authorities to encourage personal responsibility and utilise community assistance.**

Finance and Resources

- 5.72 **COSLA would welcome discussions with Scottish Government on resourcing issues. Specifically, given the proportionate local authority response to winter service preparedness, we would wish to investigate the possibility of a framework arrangement for additional provision to local authorities in exceptional circumstances. This could take the form of a national scheme reflecting regional variations, and with agreed trigger criteria to support local government in the event of atypical severe winters.**
- 5.73 There have clearly been significant additional demands upon the financial and human resources of local authorities in responding to the recent severe winters. The SCOTS Winter Service Survey 2011 report contains information on the impact on winter service budgets over the last two winters.
- 5.74 In the 2009/10 winter season councils had a winter service budget of £45.7 million and outturn costs of £77.8 million, representing an overspend of £32.1 million pounds (data from 27 out of 32 councils).
- 5.75 In the 2010/11 winter season councils had a winter service budget of £53.6 million and outturn costs of £109.3 million, representing an overspend of £55.7 million (data from 31 out of 32 councils).
- 5.76 Most councils report funding their overspends from council reserves, and given the current financial context it is not sustainable to continuously use reserves. There continues to be additional capital and revenue demands in planning for the delivery of a continuing effective

winter service, with many authorities reporting increases in winter service budgets and capital costs for purchase of, for example, additional plant and storage facilities.

6.0 Local Authority Planning for Future Winters

- 6.1 This section provides an up to date commentary on the position of local authorities in relation to winter contingency planning for 2011/12. It is clear that the experience of three prolonged severe winters has had a cumulative impact on local authorities and each of the last three have thrown up new challenges to respond to. Although the planning for subsequent winters after each previous severe winter has responded effectively to the challenges presented, there is now significant evidence of a shift from reactive planning to a process of preparing based more upon contingency and emergency planning procedures.
- 6.2 As the UK Roads Liaison Group reported in 'Lessons from the Severe Weather' in February 2009 there is no mandatory guidance for local authorities on the delivery of winter service. However, there is published guidance including 'Well-maintained Highways – the UKRLG Code of Practice for Highway Maintenance Management', and in recent years a range of published reports providing information on lessons learned from recent winters and additional policy and technical guidance.
- 6.3 Scottish local authorities have clearly taken on board a range of policy and technical advice from these sources, in addition to developing innovative responses from their own direct experience of recent winters.
- 6.4 It is important to note here that the consequences of the last three winters and the requisite enhanced future planning and provision places an additional burden on winter service budgets. Many council's are reporting that they have had to significantly increase their winter service budgets in order to improve the service that they can offer and better meet public expectations, and in addition to this there are very real concerns about budgets for ongoing maintenance of the roads network as a consequence of increased deterioration due to the severe weather. As stated earlier in this report this issue is subject to a separate review due to initially report in Autumn 2011.

Winter Reviews

- 6.5 As part of the recent salt stock audit in April 2011, the Department for Transport asked a number of supplementary questions, one of which was whether or not authorities had undertaken a review of winter services. The figures for Scottish local authorities are provided below.

Scotland	End of season review	4	12.5%
	Review undertaken last season	1	3.1%
	Review in progress	25	78.1%
	No review to be undertaken	1	3.1%
	Not specified	1	3.1%

- 6.6 Clearly Scottish local authorities have responded positively to the winter of 2010/11 and this is reflected in the range of review material that COSLA has seen.
- 6.7 The winter reviews seen are very broad ranging and have largely been informed by consultation with local communities, members, community councils, community and voluntary groups, and other key service providers, including NHS, the Ambulance Service, and Registered Social Landlord's.
- 6.8 The COSLA task group has seen a number of different examples of winter review approaches, including a short-life Scrutiny Review of the Winter Maintenance Service, a

cross-party steering group on severe weather being established following the 2010/11 winter, and a comprehensive strategic review with a full-time project manager and staff.

- 6.9 Typically reviews have considered key roads responsibilities and issues, including salt supply and storage, winter service continuity processes, tactical and operational command and control arrangements, and ensuring consistency with wider corporate emergency planning and business continuity processes. Almost all reviews seen have considered the significant impacts upon local communities and how council's can plan to mitigate future potential adverse conditions.

7.0 Conclusions

- 7.1 In his interim report on 'The Resilience of England's Transport Systems in December 2010' David Quarmby recommended that 'winter planning be treat as part of overall resilience planning', and cited evidence of the benefits of such an approach. Quarmby noted in the final report that "we have learnt that one benefit of this approach is to bring winter service planning more clearly to the attention of local authority senior management and elected members." This is starting to be reflected in a more corporate approach to winter resilience being adopted by Scottish local authorities according to SOLACE.
- 7.2 As well as reviews and planning taking place by individual local authorities, this is also happening at sub-regional levels with groups of neighbouring authorities and other service providers collectively reviewing and planning future winter response arrangements. Strategic Co-ordinating Groups can play a critical role here in providing the overall structure for cross-boundary and cross-organisational planning.
- 7.3 This review of how local authorities have responded and adapted to the challenges of the severe winter weather conditions in recent years has demonstrated to the task group the commitment of local authorities to continuous development and improvement in their winter resilience planning and service delivery.
- 7.4 We have seen notable improvements year on year in a number of areas, including;
- Winter contingency planning
 - Salt stock levels and the level of resilience
 - Public communications
 - Cross-service planning and use of resources
 - Cross-organisational management and planning
- 7.5 Specifically, we would highlight significant developments in a number of areas of priority service delivery for local authorities. Schools resilience is improved following reviews of priority routes treatment, the extra provision of equipment to schools themselves, contingency plans for the continuation of education in the eventuality of school closures, and improved communications to parents. In social care contingency arrangements for accessing vulnerable people during the severe weather conditions have been refined and formalised, including using voluntary sector co-ordination groups in the utilisation of suitably trained volunteer personnel and 4x4 vehicles to deploy upon request from local authorities.
- 7.6 In order to further strengthen the delivery of winter resilience at a local level we offer the following recommendations and messages;

Winter Service Planning and Climate Change

1. COSLA would welcome further discussions with Scottish Government with regard to climate change and local authority winter resilience planning ahead of the development and publication of the first statutory adaptation framework for Scotland.

Salt Stocks

2. COSLA would welcome further discussions between the main partners to enhance preparation and joint planning between Scottish Government and councils in order to source and maintain stock levels of de-icing materials and avoid paying premium prices in-season.

Winter Fleets

3. COSLA would recommend that co-ordination and contracting arrangements between Transport Scotland, the Trunk Road Operating Companies, and local authorities are reviewed annually to ensure the best possible level of service for the public.

Information Requests

4. COSLA recommends that formal agreement is needed on the strategic co-ordination of information between Scottish Government, the Scottish Salt Group, Strategic Co-ordinating Groups, and local authorities. This should include prior planning and agreement on a suite of reasonable and meaningful information that is required, why and when it is required, and when it can be provided.

Public Expectation

5. It is recommended that Scottish Government, in consultation with COSLA, should continue to lead on providing strategic messages to the public that local authorities could augment with local information. For specific messaging and information on locally managed services such as schools, local authorities should provide the lead.

Guidance on Local Public Services

6. COSLA recommends that national guidance on the delivery of local services be kept to a minimum, and only issued after prior consultation with COSLA. Nationally issued guidance can create expectations at a local level where the specific circumstances and weather conditions might not allow for the guidance to be implemented. Guidance and messages to the public about locally managed services are best delivered by the local authority.

Community Resilience

7. COSLA recommends that further advice from Scottish Government on pathway clearance and legal liability be issued as this would significantly assist local authorities in encouraging and supporting community resilience and self-help. This could form part of the Scottish Government proposed National Resilience Week, with assistance from local authorities to encourage personal responsibility and utilise community assistance.

Finance and Resources

8. COSLA would welcome discussions with Scottish Government on resourcing issues, particularly the possibility of a framework arrangement for additional provision to local authorities in exceptional circumstances.