

PERTH AND KINROSS COUNCIL**Enterprise and Infrastructure Committee – 27 January 2010****WINTER SITUATION REPORT DECEMBER 2009 - JANUARY 2010****Report by the Executive Director (Environment)****ABSTRACT**

This report advises of the actions taken in response to the prolonged period of snow and ice over the past few weeks.

RECOMMENDATIONS

The Committee is asked to note the contents of this report.

BACKGROUND

- 1 The winter maintenance service is provided to ensure that transport links essential to economic and social activity can continue to be used safely throughout most of the winter. However, it is not the intention and is not possible to keep all roads free from ice and snow at all times.
- 2 Winter weather in the UK is largely unpredictable, and, up until last year, the presence of snow and ice for any more than a few days at a time has been relatively rare in recent times.
- 3 Temperatures normally fluctuate around freezing point with a degree of uncertainty about whether or not ice may form on roads and other surfaces.
- 4 The nationally agreed Code of Practice for the treatment of roads and footways recognises this, and its recommendations are aimed at the application of chemicals (generally road salt) to artificially lower the freezing point in conditions when road surface temperatures are predicted to drop to near zero or below.
- 5 By these means, the UK winter strategy is based on trying to prevent the formation of ice on road surfaces and on trying to assist the melting of snow and ice where these are already present. This aims to allow the passage of vehicles and pedestrians on “black” surfaces.
- 6 The extent to which this can be successful depends on the concentrations of applications of salt, the actual road surface temperatures, and the period over which low temperatures continue.
- 7 However, the effectiveness of road salt diminishes rapidly at temperatures below -5°C and at temperatures as low as have been experienced recently it becomes increasingly difficult for salt to have any effect at all. Across Perth and Kinross, temperatures were frequently as low as -18°C with mid day temperatures of -8°C .

- 8 The prolonged nature of these conditions meant that it then became a matter of physically trying to remove the snow and ice with snow ploughs and excavators or spreading grit sand to improve traction on frozen surfaces.
- 9 Whilst gritters can cover reasonable distances over a few hours on black roads, snow and ice clearance using ploughs and excavators can make limited progress in the same period of time.
- 10 It is self evident during the recent prolonged period of severe weather over the whole of the UK, that the strategy that is designed to deal with marginal conditions has been unable to meet the often unrealistic expectations of some members of the public – although others have been fully understanding and appreciative of the hard work and dedication of all of the people trying to deal with the situation.
- 11 In contrast to the UK, other countries that can routinely expect significantly lower temperatures or significant deposits of snow over a prolonged period, adopt other strategies which are more dependent on vehicles and pedestrians adapting to the conditions rather than trying to prevent the conditions from developing in the first place. The adaptations in these other countries include the mandatory use of snow tyres on vehicles, and individuals using appropriate footwear and clothing, which is often not the case here.
- 12 People in these countries know they will have weeks of snow cover and take their own measures to prepare for it. In addition, businesses and individuals more readily understand the need to help themselves and each other in such circumstances. Indeed in many of these countries it is an offence for someone not to clear the snow outside their property.
- 13 In the UK there are often media stories of people being reluctant to clear their footways in case they become liable for any injuries. This is a myth that has no basis in fact. Individuals taking reasonable care to look after the safety and convenience of others bear no such liability.
- 14 Early self help will often avoid a build up of snow and ice that becomes much more difficult to deal with later.
- 15 Over the past few weeks weather conditions in the UK have been described as the most prolonged period of severe snow and ice for 30 years.
- 16 Over these 30 years, milder winters have allowed public life to continue almost unhindered for the most part, with only periodic, short term impacts, and public expectations of what a Council can reasonably do to prevent disruption to normal activity in periods of extreme weather have grown to unrealistic levels – often encouraged by negative media coverage. This aspect of media coverage focusing on what has not been done rather than what has been done, has been explored twice recently in BBC television programmes.

- 17 In a period when there is a high level of activity over a number of different fronts trying to meet the sometimes competing demands of different interests, it will not be difficult to find individuals who are unhappy, and can point to some failing in attending to their particular area of interest.
- 18 Any aspiration to meet that high level of public expectation in the conditions that were experienced recently is likely to be unaffordable for any Council.

COUNCIL POLICY AND LEVEL OF SERVICE

- 19 Each year the Council reviews and agrees its policy and level of service for the following winter.
- 20 For this winter, report number 09/408 was agreed by the Enterprise and Infrastructure Committee on 26 August 2009. (Art. 444/09 refers)
- 21 The policy recognises that it is not possible to treat all roads and footways in our area and identifies those that will be given priority for treatment.
- 22 More than 900km of the Council's 2,600km road network is designated as having a high priority for winter service. This ratio compares very favourably with other Council areas. A high level of priority is also given to important footways in busy urban areas.
- 23 Lower levels of treatment are provided on the remainder of the carriageway and footway network, as and when required during normal working hours. Some very low priority carriageways and footways are normally not treated unless hard packed snow or ice threatens to prevent access for essential services.
- 24 The priority routes have been determined in consultation with individual elected members.
- 25 In that way, the limited resources are allocated to ensure that the safety of the public is maximised and that accessibility is maintained on the most heavily used roads and footways. There is no point in treating other minor roads if the major roads to which they give access have not been cleared.
- 26 Whilst target times for the completion of gritting routes are identified in the policy, it also recognises that the treatment times in severe weather conditions will be longer. As soon as snow falls it takes at least twice as long to complete treatment, as vehicles need to travel more slowly and ploughing must be done in both directions.
- 27 It should also be remembered that as de-icing materials are discharged from the rear of the vehicle, every gritting vehicle has to negotiate an untreated road which also impedes progress. Gritter drivers also have to make their own way to the depot on untreated roads to pick up their vehicles.

- 28 The policy recognises that in snow conditions, higher priority routes may have to be done several times before any attention can be given to other lower priority routes.
- 29 The policy also recognises that in special circumstances such as exceptional snow emergencies, the Executive Director may authorise working arrangements outwith the general policy and level of service.
- 30 A system of Blue, Orange, and Red “Alerts” has been introduced which authorises working outwith the agreed policy.

RESOURCES

- 31 The primary resource for normal winter maintenance operations in Perth and Kinross is Tayside Contracts who work under the instruction of Council’s own Road Service. In addition, the Council’s own Environmental Operatives cover many of the footway routes.
- 32 Throughout the entire period both the Council and Tayside Contracts (TC) have had supervisory staff and operatives on standby, available to deal adequately with routine precautionary gritting and de-icing in accordance with the conditions.
- 33 When conditions require it, other Environmental Operatives who are unable to carry out their own normal work in the conditions - mainly street sweeping and grounds maintenance - are enlisted for snow clearing as well.
- 34 The Council also has long standing agreements with a number of farmers who, in return for the Council supplying a plough, will attach it to their vehicle and assist clearing some public roads as well as their own private roads.
- 35 During the period of a Red Alert, other private contractors are employed by the Council to assist with the clearing and carriage and disposal of snow.

PERFORMANCE OF THE WINTER MAINTENANCE FLEET

- 36 In accordance with the agreed policy, there are 22 priority carriageway routes and 35 non-priority routes to be treated in Perth and Kinross.
- 37 Any operation that depends on the use of vehicles and plant obviously needs to plan for the unavailability of individual vehicles from time to time. To take account of these occurrences, vehicle requirements are increased by 10% overall in our winter maintenance planning.
- 38 In Perth and Kinross, Tayside Contracts operates a winter maintenance fleet consisting of 25 purpose built gritters, 12 operational lorries and 3 pickups with demountable gritters, 3 snow blowers, 17 footpath tractors and 9 loading shovels. In addition a further 4 gritters were made available by Tayside Contracts. All of these vehicles are strategically located around the area at Perth, Blairgowrie, Crieff, Kinross, Blair Atholl, Aberfeldy and Blackford.

Maintenance of the fleet is provided through Tayside Contracts workshops at Perth and Blairgowrie.

- 39 The severity of the weather over the past 4 weeks has resulted in the fleet use during this time being very intensive and vastly increased over recent winters, both in terms of the number of consecutive days of use and in the hours of use per day.
- 40 This intensive usage, particularly when ploughing snow, obviously has implications for clutches and gearboxes.
- 41 Most of the gritting fleet is parked outside and therefore exposed to the elements, undoubtedly contributing to a number of difficulties such as wet salt freezing in the gritter hopper and 'fuel waxing'.
- 42 All diesel contains some water and consequently is treated with an anti-waxing agent at the refinery prior to delivery. This has always proved adequate in recent times and although this should provide protection down to -15°C, actual recorded temperatures were at times well below this level.
- 43 Diesel fuel waxing [freezing] when temperatures were at their lowest, was experienced in many parts of Scotland where similar low temperatures were encountered. Even in the Perth and Kinross area, many hauliers and plant hire companies suffered the same problems as Tayside Contracts.
- 44 It should be noted that there are differences in engineering in the engines of diesel cars and lorries/gritters meaning that cars are not so susceptible to these problems.
- 45 Analysis has shown that the actual downtime amounted to only 7% overall which is excellent performance for plant operating in severe conditions. Anecdotally, other Councils have indicated downtime up to 50% in some instances.
- 46 Whilst the timing of treatment may have been affected on some priority routes on one day (29 December) due to vehicle availability, every priority route was treated every day during the severe weather period – often more than once a day.
- 47 It should also be noted that a full "Red Alert" was in operation from 22 -24 December and from 27 December to 17 January. This meant that additional plant and labour from private contractors were available to augment that of Tayside Contracts. Full details of daily activity and resources are attached to this report.

SALT MANAGEMENT

- 48 Salt management is an important aspect of winter maintenance.

- 49 Although salt is procured and managed by Tayside Contracts, the Council's Road Service specifies the tonnages that should be stockpiled prior the start of winter and also when restocking is required. In addition staff monitor the salt situation nationally and try to anticipate any unusual demand patterns that might prompt earlier restocking.
- 50 It should be noted that recent press reports of a salt supplier claiming to have warned Tayside Councils that their stockholdings were insufficient are completely false, and a letter has been received from the company apologising for that.
- 51 UK government advice is for roads authorities to hold at least 6 days resilience salting supply. The salt holding in Perth and Kinross prior to the onset of winter was 16,787 tonnes which is the maximum holding capacity available to us. This represents approx 40 days normal usage.
- 52 Additional deliveries of 1279 tonnes were received on 4 January, 800 tonnes on 11 January, 400 tonnes on 15 January and 1100 tonnes on 18 January 2010.
- 53 Salt management also involves preservation of stock levels through use of sand and salt mixtures when these might be more effective in assisting movement of vehicles and pedestrians and when national salt levels become critical.
- 54 A week after the commencement of the severe weather on 15 December, with a view to conserving salt stocks, the Council decided to change to a mix of 50/50 salt/sand for all routes. The prudent approach to salt usage saved 7381 tonnes of salt and prevented PKC from coming close to running out of salt, in the way that was experienced by some other authorities.
- 55 This prudent approach was later adopted as best practice by SCOTS (Society of Chief Officers of Transportation in Scotland) and Scottish Government and later still by all UK roads authorities.
- 56 In response to concerns that salt usage throughout the UK was outstripping national production, the UK government set up a national Salt Cell to manage the distribution of salt to roads authorities throughout the UK on 7 January.
- 57 As Chair of Society of Local Authority Chief Executives (SOLACE) and Vice Chair of SCOTS respectively, the Chief Executive and the Depute Director (Environment) participated in daily conference calls with the Scottish Government Resilience Room.
- 58 At the suggestion of Perth and Kinross Council, a Scottish Salt Cell was set up on 8 January with the Depute Director (Environment) acting as co chair with a Transport Scotland official. Both of these individuals participated in the daily briefing of Scottish Government Cabinet members.

- 59 In the absence of any national salt usage information, Perth and Kinross Council's well established salt monitoring data was used to predict the likely future salt requirements for Scotland over the next few months until the end of the winter.
- 60 Perth and Kinross Council staff were also asked to co-ordinate the management of mutual aid and the sharing of salt by roads authorities across Scotland. In total some 60 sharing transfers, totalling 13,000 tonnes have taken place across Scotland.
- 61 During that time this Council provided salt to Scottish Borders Council, Fife Council, Tayside Health Board and Lothian Health Board. The Tayside Councils also shared out salt supplies as and when they were delivered to Dundee and Perth Harbours.
- 62 Some complaints have been received about the Council sharing its salt supplies with others. However, at all times the priority was to ensure that we had adequate supplies for our own needs. This was never in any doubt.
- 63 The Scottish Government continues to receive daily salt returns from all Scottish Councils to ensure that adequate supplies are in place for the remainder of the winter.
- 64 The table below details salt usage over the winters since 2002/03 and compares the usage up to 15 December of each year and also the usage over the period from 15 December to 18 January. If a change to sand /salt mix had not been implemented, the total used to date would have been 25,000 tonnes for 2009/10.

Year	2009/10	2008/09	2007/08	2006/07	2005/06	2004/05	2003/04	2002/03
Start of winter to 15 Dec	3889	9509	2159	3440	4495	1841	7929	1821
16 Dec to 18 Jan	13990	4856	5888	8791	7799	5172	6923	3343
Total usage to 18 Jan	17879	14365	8047	12231	12294	7013	14852	5164
Total winter	-N/A	23689	17238	14566	16345	16937	21992	13847

Note - at change to 50/50 salt/sand mix on 22 December 7381 tonnes had been used.

SNOW CLEARING AND GRITTING FROM 15 DECEMBER 2009 ONWARDS

- 65 The current winter started with relatively mild weather. October and November were very mild, with above average temperatures. November was also very wet, with between 150 and 200% of the expected rainfall recorded. The first ten days of December were essentially mild but the air was cold enough at times to allow snow to fall on the higher routes, particularly in the first couple of days. Rainfall was lower than average, although much of this fell as snow.
- 66 However, from 15 December onwards, weather patterns changed, resulting in very cold conditions with widespread ice and frost on most nights. Road surface temperatures barely reached above freezing during the daytimes and fell lower than -10°C during the nights.
- 67 Together with the frost and ice, there were a number of significant snowfalls, made worse by frequent snow showers after the persistent snow had moved away. Blizzard conditions became frequent and drifting was prominent in the strong winds. Freezing rain was also reported at some lower levels. The very cold and snowy conditions continued into the first ten days of January.
- 68 The winter service response was managed as normal and had a very minimal impact on the travelling public. Morning de-ice and evening pre-grits were undertaken every day during this period on the priority network, as well as daily treatments on the non-priority network resulting in 3500 tonnes of salt being spread. Heavy snow showers affected the travelling public from 20 December 2009. Initially this impact was slight due to routine winter treatment, however as the weather worsened, the impact became more severe.
- 69 Gritting operations were carried out twice daily and on days when snow falls continued, snow ploughs often repeatedly cleared priority routes, with little opportunity to move on to non-priority routes. Inevitably, this led to accumulated snow freezing and becoming more difficult to clear later, once resources could be deployed to these routes.
- 70 At all times through the recent extreme weather conditions, the priority route network was kept largely free of snow and ice and was certainly passable with care – the only exception being the A93 at the Spittal of Glenshee which was closed at the snow gates periodically. The only other roads on the priority network which had to be closed temporarily due to drifting snow were the B9097 South Lochleven (temporarily closed on 6 January), the A924 Kirkmichael (temporarily closed on 6 January), and the A911 Balgeddie Toll (temporarily closed on 10 January). With the exception of the A93, all other roads were reopened later the same day of their closure.
- 71 It should be noted that many schools are on main roads and therefore on priority routes.
- 72 Public transport services were also largely unaffected throughout this period.

- 73 Although some residents have complained about the alleged lack of treatment of minor streets, this was due to the priority routes requiring regular re-treating which prohibited the available resources from addressing the lower priorities. However, by mid-January virtually every carriageway and footway in Perth and Kinross had safe passage provided despite the significant amount of snow still lying and stock-piled across the area.

GRIT BINS

- 74 The Council provides approx 1000 grit bins to allow individuals to assist in treating ungritted roads. The grit bins were filled prior to the Christmas recess. During the initial phase of the severe weather, resources were directed at clearing snow and no refilling of grit bins was carried out until additional resources became available when the Red Alert was declared, and refilling of bins was restarted.
- 75 However due to the high usage in the conditions, bins were being emptied quickly and it was not possible to keep them filled. Reports have been received of people emptying bins into bags or trailers, presumably to take away for their own private use. Clearly this practice is against public interest and should be discouraged.

LIAISON WITH OTHER SERVICES

- 76 Over the whole of the period, there was close co-operation between all Council services.
- 77 Roads Service staff liaised with their counterparts in Housing and Community Care and Education and Children's Services, to ensure that the needs of schools and vulnerable people were taken into consideration when resources for snow clearing and de-icing were being deployed.
- 78 For example discussions regarding access to schools commenced on 29 December, a full 7 days before pupils were due to return to school after the holiday. Most schools lie on priority routes hence there was very little in the way of access difficulties during the period.
- 79 The final decision on route safety lies with the Bus and Taxi Operators and they worked with Roads and Public Transport staff to ensure that the impact of the severe weather was minimised. The fact that 94% of schools remained open during the period of severe weather was testament to their efforts along with staff from Education and Children's Services and Property who dealt with the significant problems facing schools other than access from the road network. In the event, only three schools in remote parts of the Council area were closed due to road conditions.
- 80 The successful efforts to keep open the priority route network, allowed care services to be delivered to service users. Where lesser priority routes were not completely clear, Community Care staff were able to get close enough to park vehicles close enough to permit them to walk the remaining distance to

their clients' homes. Staff therefore went about their business in a professional manner and home care was delivered to all service users.

- 81 Road conditions did not prevent the Housing Repairs Service from responding to emergencies reported by tenants.
- 82 These successes demonstrate the importance of the priority route network and the reasons for its prominence in any severe weather situation.
- 83 An Incident Management Team was set up comprising senior managers from all services and met regularly to ensure that service issues were being addressed in a corporate manner. The Chief Executive and Leader of the Council also participated in some of these meetings.

COMMUNICATIONS

- 84 As the situation developed, regular updates on the roads situation were provided to elected members where appropriate throughout. These were provided both proactively and on request. Information was also being separately provided by Property Services and Housing Services.
- 85 The Chief Executive decided that these should be provided as a composite bulletin and the first of these was issued to all senior officers and elected members on 7 January and daily thereafter. This information has also been sent to parliamentarians.
- 86 The Customer Contact Centre (01738 475000) closed from 3.30pm on Thursday 24 December and re-opened at 7.00am on 5 January (one hour earlier than normal as the school snowline was activated).
- 87 Although this number is not staffed out with normal hours, at weekends, or during periods of closure, staff from the Service Centre regularly called in to check for messages which had been left, and called back everyone who left contact details. Where contact details were not left, staff passed on information to the relevant service.
- 88 Within the Roads Service, staff were available to answer calls to the emergency roads number (01738 625411) on a 24/7 basis throughout the festive period, sometimes responding to 200-300 calls a day. Although this number is for emergencies, the vast majority of calls were of a general nature and not a true blue light emergency.
- 89 Although most of the calls to the roads number were answered, some callers may have had to call back before their call was answered. If the line is busy it rings out as there is no hold or answer phone facility.
- 90 On one occasion only, for a 10-15 minute period on the afternoon of 29 December at approximately 2.00pm, the phone was switched off to allow staff to action the calls that had been received. This was the only time that the phone was switched off during the festive period, and this allowed urgent

operational matters to be discussed and progressed by staff. In recognition of the additional volume of calls to this number, additional staff were made available from 9.00am the next morning (30 December).

- 91 In anticipation of forecast bad weather, the Customer Service Centre was opened over the weekend of 9 – 10 January to deal more effectively with calls from the public and to allow the roads staff time to deal with managing the clearance of snow instead of answering the phone.
- 92 In response to enquiries from city centre businesses, a note was hand delivered by Council staff to around 400 city centre traders on 8 and 9 January. Information was included on the Council's winter road treatment, and also on business waste collections.
- 93 In line with normal practice, communication processes both internally and in conjunction with the Tayside Strategic Co-ordinating Group (Emergency Planning) will be reviewed in due course.

IMPACT ON STAFF

- 94 A significant number of staff across all Council Services and Tayside Contracts worked extremely hard to attempt to minimise the impact of this weather on our communities. This has resulted in many of them working long hours, suffering disturbance, being away from their families, not getting sufficient rest periods or days off, etc.
- 95 Roads Service staff worked right through the public holidays, putting in 13 hour shifts on up to 7 consecutive days, starting at 04:30. Tayside Contracts staff have been working from 05:00 to 20:00 daily, with a break in the middle to comply with their drivers' hours limits. All of this means that all available resources were deployed in line with the approved Policy and Level of Service, to ensure that the priority network was kept open.
- 96 However, whilst they have been gratified by the many personal thanks they have received, many of them have also suffered instances of personal abuse on the telephone and unreasonable demands for action and being personally blamed for the inconvenience caused by the weather conditions.
- 97 Although later media coverage was much more positive, they were extremely disappointed by some of the initial media coverage focussing only on what hadn't been done rather than what they had managed to achieve in the conditions. This is an issue that has been raised nationally.
- 98 As stated earlier, in a period when there is a high level of activity over a number of different fronts trying to meet the sometimes competing demands of different interests, it will not be difficult to find individuals who are unhappy, and can point to some failing in attending to their particular area of interest.

DAMAGE TO INFRASTRUCTURE

- 99 The prolonged period of very cold weather has resulted in considerable damage to the road infrastructure. The frost has penetrated below the road construction resulting in freezing of the subsoil and widespread frost heave on the road and footway network. The effect is worst on the footway network which has a shallower construction.
- 100 The results are cracked and uneven asphalt surfaces, uneven paving slabs, potholes and differential movement at kerbs and manholes. Utility reinstatements are also a problem, where the different construction of the infill and reinstatement means that the track reacts differently to the adjacent construction.
- 101 Damage may also have been caused to the road surface when removing hardpacked snow and ice with excavators.
- 102 It will take a considerable resource to identify and repair the defects and the Scottish Government has asked SCOTS to assist in developing guidance for identifying and dealing with this problem.

CONSULTATION

- 103 The Chief Executive, the Head of Legal Services, the Head of Democratic Services, the Head of Finance, and the Managing Director of Tayside Contracts have been consulted in the preparation of this report.

RESOURCE IMPLICATIONS

- 104 The budget for winter maintenance is £2.88m. As of 18 January expenditure on winter maintenance has been £3.358m. This includes £450,000 to date on "Red Alert" contractors. Depending on the weather over the next 9 weeks final costs for 2009/10 winter maintenance may well end up between £4m and £4.5m. It is not yet known what the final cost will be for repairing damage caused to the road structure.

CONCLUSION

- 105 The Council's response to the recent period of continuing snowfall and temperatures well below freezing, was delivered in accordance with the Policy and Level of Service for Winter Service 2009/10, approved by the Enterprise and Infrastructure Committee on 26 August 2010. The approved priority system for treatment, ensured that transport links essential to economic and social activity could be used safely throughout this period of severe weather.
- 106 Some lower priority routes, particularly residential streets remained untreated for some time. As outlined in the Policy, it is not the intention and is not possible to keep all roads free from ice and snow at all times.

- 107 Careful management of salt stocks meant that the Council did not run out of salt and were even able to assist other less fortunate authorities, in the spirit of co-operation encouraged by the Scottish Government.
- 108 The winter maintenance fleet suffered only 7% downtime which is excellent performance for plant operating in severe conditions.
- 109 Council staff and Tayside Contracts staff are to be complimented on the sterling efforts which they made during the holiday period, to ensure that the Council's Winter Maintenance Service was provided in accordance with the Policy. Other private contractors and farmers also assisted in these efforts.
- 110 Whilst there have been a number of complaints, in no case was there a demonstrable failure to deliver the agreed level of service. Many messages of thanks have also been received.
- 111 As can be expected following a prolonged spell of severe winter conditions, there has been a considerable amount of damage to the road network, some of which will require immediate repair. The full extent of the problem will be quantified over time.
- 112 In accordance with normal practice, a full review of the winter maintenance service over this winter will be conducted in consultation with elected members and other stakeholders. This will inform the future policy recommendations to be presented for the approval of this Committee in due course.

JIM IRONS
EXECUTIVE DIRECTOR (ENVIRONMENT)

NOTE

No background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) were relied on to any material extent in preparing the above report.

If you or someone you know would like a copy of this document in another language or format, (on occasion only, a summary of the document will be provided in translation), this can be arranged by contacting Alma Murray, Equalities Assistant
on
01738 476558 or TESEqualities@pkc.gov.uk



Council Text Phone Number 01738 442573

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 20th Dec to mid-day 21 st Dec		Forecast : Road surface temperature (RST) below 0 ^o for entire period . Snow showers in afternoon, some heavy after 21.00. More sleaty showers in early morning leading to icy stretches. Min RST -7.5°C.	
Action: Pre-grit at 15.00 and all priority crews, including footway, to report for de-ice treatment at 05.00/06.00.			
Plant availability : 25 gritting lorries and 14 footway tractors plus associated loaders and pick-ups.			
Labour availability : 82 (TC) 19 (ESO) Total: 101			
Alert called :		Breakdown details: 1 gritter had injector problems but was running	
Salt usage: 638.02 tonnes	Grit usage: 3.00 tonnes	Additional resources used: Nil	
Comments :			

Actual Action - routine de-icing and snow clearance carried out. Actual minimum RST -6.8°C.

Period : mid-day 21 st Dec to mid-day 22 nd Dec		Forecast : RSTs well below zero. Few snow showers in late afternoon and evening. Snow showers more widespread after 3am. Min RST -6.5°C.	
Action: Pre-grit at 18:00 and all priority crews, including footway, to report for de-ice treatment at 05.00/06.00.			
Plant availability : 25 gritting lorries and 14 footway tractors plus associated loaders and pick-ups.			
Labour availability : 77 (TC) 19 (ESO) Total: 96			
Alert called :		Breakdown details: 3 gritters had varying time in workshop for plough repair, alternator issues	
Salt usage: 757.85 tonnes	Grit usage: 194.29 tonnes	Additional resources used: Nil	
Comments :			

Actual Action - the forecast indicated heavy snow showers throughout the day and overnight Council wide. The 2-5 day forecast and 6-10 day indication also forecast extremely low temperatures over the next 10 day period. As a result, it was decided to instruct the use of 50/50 salt/sand mix on all routes until further notice. This was due to the facts that salt/sand is better in snow conditions as it gives traction; it was a safety net with the countrywide forecast being similar, and it was prudent to maintain salt stocks, and also the reason that salt is ineffective at the low temperatures predicted. Demount bodies and ploughs were also fitted to all ancillary winter fleet vehicles. Actual minimum RST -3.9°C.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 22 st Dec to mid-day 23 rd Dec		Forecast : Remaining bitterly cold over period. Few snow showers in afternoon across Council area with risk of continuing in north east after midnight	
Action: Pre-grit at 15.00 and all priority crews, including footway, to report for de-ice treatment at 05.00/06.00. Cat 2 routes treatment extended to 18.00			
Plant availability : 25 gritting lorries and 14 footway tractors plus associated loaders and pick-ups. Contractors plant : 5 tractor ploughs and 2 lorries			
Labour availability : 81 (TC) 26 (ESO) Total: 107			
Alert called : Red Alert		Breakdown details : 3 gritters had varying time in workshop for gearbox, turbo, injector issues	
Salt usage: 691.63 tonnes	Grit usage: 897.89 tonnes	Additional resources used : 4 Outside Contractors 2 Self Help Farmers	
Comments: 50/50 Salt/sand mix on all routes until further notice. All demounts to have plough fitted.			

Actual Action – as a result of the heavy snowfall, a Red Alert was called at 08:30 on 23rd to permit farmers and outside contractors to assist the snow clearing operation. Where drivers' hours permitted, crews worked until 21:00 to achieve as much snow clearing as possible. Extra ESO resources were called in to refill grit bins in many areas, however, these were being emptied almost as quickly as they could be filled. Actual minimum RST -3.9°C.

Period : mid-day 23 rd Dec to mid-day 24 th Dec		Forecast : RSTs below zero. Icy where snow still lying. Light snow showers with slight covering of snow possible. Min RST -13°C	
Action: Pre-grit at 18.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00 to carry on with non-priority routes.			
Plant availability: 40 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant : 6 tractor ploughs and 2 lorries			
Labour availability : 77 (TC) 17 (ESO) Total: 94			
Alert called : Red Alert		Breakdown details : 7 vehicles had varying time in workshop for gearbox, turbo, injector issues, demount spinner problems	
Salt usage : 353.23 tonnes	Grit usage : 149.30 tonnes	Additional resources used : 4 Outside Contractors 1 Self Help Farmer	
Comments : Treatment time for Cat 2 to be extended to 21.00 to allow coverage of as much network as possible, including Self Help and additional contractors. All available de-mounts to be made ready and to remain on until after the Festive period.			

Actual Action – Red Alert continued until 18:00 hours. At this point, all priority routes were clear to the road surface and all other routes were passable. Actual minimum RST -11.8°C.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 24 st Dec to mid-day 25 nd Dec		Forecast : RSTs unlikely to rise above freezing and will fall well below zero overnight with the likelihood of odd snow shower. Freezing fog may form in places. Min RST -10.5 ^o	
Action: Pre-grit at 14.00 and all priority crews, including footway, to report for de-ice treatment at 05.00.			
Plant availability: 40 gritting lorries and 19 footway tractors plus associated loaders and pick-ups.			
Labour availability: 37 (TC) 8 (ESO) Total: 45			
Alert called :		Breakdown details : 3 vehicles had varying time in workshop for gearbox, starter, injector issues	
Salt usage: 188.97 tonnes	Grit usage: 63.25 tonnes	Additional resources used :Nil	
Comments: Start time of 05.00 to allow for an early finish on Christmas Day.			

Actual Action– only priority carriageway and footway routes treated (carriageway morning and night, footways morning only). Actual minimum RST -13.0°C.

Period : mid-day 25 th Dec to mid-day 26 th Dec		Forecast : RSTs in many areas will stay below zero. Odd isolated light snow flurries. Min RST -10°C	
Action: Pre-grit at 14.00 and all priority crews, including footway, to report for de-ice treatment at 05.00.			
Plant availability: 25 gritting lorries and 14 footway tractors plus associated loaders and pick-ups.			
Labour availability : 36 (TC) 7 (ESO) Total: 43			
Alert called :		Breakdown details: 3 vehicles had varying time in workshop for gearbox, starter, injector issues	
Salt usage: 290.54 tonnes	Grit usage: 0 tonnes	Additional resources used: Nil	
Comments: Salt to be used on all priority carriageways.			

Actual Action – only priority carriageway and footway routes treated (carriageway morning and night, footways morning only).

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 26 th Dec to mid-day 27 th Dec		Forecast : RST somewhat erratic but well below zero. Wintry showers expected from 21:00. Longer periods of sleet and snow giving potentially significant accumulations. Min RTS -2°C	
Action: Pre-grit at 16.00 and all priority crews, including footway, to report for de-ice treatment at 05.00.			
Plant availability: 25 gritting lorries and 14 footway tractors plus associated loaders and pick-ups. Contractors plant : 6 tractor ploughs and 2 lorries			
Labour availability : 46 (TC) 8 (ESO) Total: 54			
Alert called : Red Alert (06:30 on 27 th)		Breakdown details : 3 vehicles had varying time in workshop for gearbox, starter, injector issues	
Salt usage: 683.15 tonnes	Grit usage: 20.0 tonnes	Additional resources used : 4 Outside Contractors 1 Self Help Farmer	
Comments :			

Actual Action – extremely heavy snowfall overnight, with in excess of 300 mm in some areas of Perth itself and deeper deposits on higher ground. A Red Alert was called at 06:30 hours and farmers/contractors contacted. Snow was soft but due to its depth difficult to plough, however, all priority routes were cleared and work undertaken on some non-priority routes.

Period : mid-day 27 th Dec to mid-day 28 th Dec		Forecast : RSTs to remain below zero. Snow will die out mid afternoon and remain dry overnight with clear spells. Min RST -13°C	
Action: Pre-grit at 16.00 and all priority crews, including footway, to report for de-ice treatment at 5.00.			
Plant availability: 31 gritting lorries and 16 footway tractors plus associated loaders and pick-ups. Contractors plant: 12 tractor ploughs and 1 lorry			
Labour availability : 44 (TC) 13 (ESO) Total: 57			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, starter, injector issues	
Salt usage: 500.83 tonnes	Grit usage: 129.33 tonnes	Additional resources used : 9 Outside Contractors 2 Self Help Farmer	
Comments : Pre-grit may be a continuous action in some areas. Salt on priority carriageway routes and 50/50 mix on non-priority and grit bins.			

Actual Action – work progressed from 05:00 with priority and non-priority routes receiving treatment, however, treatment was slow due to the depth of snow and solid compacted nature of snow/ice. A mid-morning high of -9 °C air temperature and -6 °C road surface temperature (RST) was observed. The A9 trunk road was closed northbound and traffic diverted onto A822/A823 caused difficulties for the Blackford gritter due to standing traffic. The gritter on route NP 35 (Forgandenny/Middle Third/Rossie Ochil) left the road and the lorry could not be recovered due to the conditions.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 28 th Dec to mid-day 29 th Dec		Forecast : Remaining cold with possibility of a few wintry showers around 22:00. RSTs below freezing with a min RST - 13.5 ⁰	
Action: Pre-grit at 16.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 6.00.			
Plant availability : 31 gritting lorries and 15 footway tractors plus associated loaders and pick-ups. Plant availability erratic throughout day due to extreme cold conditions. Contractors plant : 2 JCB's, 12 tractor ploughs and 1 lorry			
Labour availability : 63 (TC) 26 (ESO) Total: 89			
Alert called : Red ongoing		Breakdown details : 7 vehicles had varying time in workshop for gearbox, starter, injector issues, fuel waxing and 2 were off the road due to accident damage	
Salt usage: 389.44 tonnes	Grit usage: 127.28 tonnes	Additional resources used : 9 Outside Contractors	
Comments: Continue with salt to priority routes and salt/sand mix on all other routes.			

Actual Action – 09:30 air temperature of -15.1 °C and RST of -12.2 °C. Due to the extremely low temperatures overnight, all depots experienced problems with gritters starting. The ploughs were having difficulty removing the hard packed snow/ice from the road surface. All footway crews were operational in accordance with the festive cover.

Period : mid-day 29 th Dec to mid-day 30 th Dec		Forecast: Dry at first but risk on snow showers from midnight. Temperatures rising overnight with Min RST-10 ⁰ in early part of night	
Action: Pre-grit at 15.00 to NE and NW priority routes and all priority carriageway crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability : 28 gritting lorries and 17 footway tractors plus associated loaders and pick-ups. Contractors plant : 5 JCB's, 1 mini-excavator, 12 tractor ploughs and 5 lorries.			
Labour availability : 75 (TC) 21 (ESO) Total: 96			
Alert called : Red ongoing		Breakdown details: 3 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 accident damage	
Salt usage: 454.13 tonnes	Grit usage: 321.29 tonnes	Additional resources used : 11 Outside Contractors	
Comments :			

Actual Action – due to the volume of calls to 01738 625411 on 29th, the Control Room was manned by a Duty Officer and Controller to share load. A fresh snowfall overnight across the Council area required ploughing of all priority routes again. The afternoon saw temperatures briefly rise above freezing to +1°C air and +2°C RST but by 15:00 had fallen below freezing again. Working on non-priority routes and farmers ploughs operational again thanks to slightly higher temperatures.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 30 th Dec to mid-day 31 st Dec		Forecast : Mainly dry with occasional snow showers. RST below zero for period with min RST -8.5°C	
Action: Pre-grit at 15.00 and all priority crews to report at for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability: 33 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant: 10 JCB's, 1 mini-excavator, 8 tractor ploughs, 4 tractor trailers and 7 lorries.			
Labour availability: 78 (TC) 11 (ESO) Total: 89			
Alert called : Red ongoing		Breakdown details : 6 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 accident damage	
Salt usage: 541.48 tonnes	Grit usage: 267.95 tonnes	Additional resources used : 8 Outside Contractors	
Comments: Use of sand/salt mix to all routes.			

Actual Action – another snowfall overnight and air temperature -6.1°C with RST -6.7°C. Temperature remained below freezing for the entire day. Numerous complaints regarding non-priority roads and footways. Many complained that vehicles were not ploughing. As a result of the extreme cold, the snow/ice was very compacted and hard to move with the ploughs “bouncing off”. Rates of spread of salt/sand, increased to 30-40g/sq.m, were having no effect. Footway treatments – concentrated on central area.

Period : mid-day 31 st Dec to mid-day 1 st Jan		Forecast : Scattered snow showers afternoon and evening with prolonged showers in the morning. Min RST -9.0°C	
Action: Pre-grit at 17.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability: 36 gritting lorries and 20 footway tractors plus associated loaders and pick-ups.			
Labour availability: 43(TC) 8 (ESO) Total: 51			
Alert called : Red ongoing		Breakdown details : 12 vehicles had varying time in workshop for gearbox, starter, injector, belt, drives and fuel issues. 2 for accident damage	
Salt usage: 237.93 tonnes	Grit usage: 68.81 tonnes	Additional resources used: Nil	
Comments: Use of sand/salt mix to continue on all routes.			

Actual Action – another bitterly cold night with RST down to -8.5°C. Air temperature in Perth rose above freezing around 13:00 but quickly fell below. Priority routes treated and non-priority where specific complaints of no/very limited access. Drivers' hours becoming a problem as the week has moved on and TC having to monitor very closely.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 1 st Jan to mid-day 2 nd Jan		Forecast : Snow showers becoming more frequent after midnight. RSTs remaining below zero. Min RST -6.0°C	
Action: Pre-grit at 17.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability : 25 gritting lorries and 14 footway tractors plus associated loaders and pick-ups.			
Labour availability : 45 (TC) 7 (ESO) Total: 52			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 281.95 tonnes	Grit usage: 204.29 tonnes	Additional resources used : 1 Self Help Farmer	
Comments : Continue to use sand/salt mix on all routes.			

Actual Action – mid-day RST of -5.7°C, with air temperature rising to just above freezing for very short period. Frequent snow showers throughout the day with some heavy causing accumulations of snow. Morning crews (05:00) gritted non-priority routes close to priority network whilst conditions were monitored until 07:00, when they had to return to priority network. Non-priority routes were again treated during the middle of the day. Arrangements were made to bring in outside contractors, following their return from the new year break. Additional supervisory staff called in from holiday to manage the additional resources

Period : mid-day 2 nd Jan to mid-day 3 rd Jan		Forecast: More snow pm and widespread ice am. Min RST -11.5 °C	
Action: Pre-grit at 17.00 using salt and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability: 26 gritting lorries and 13 footway tractors plus associated loaders and pick-ups. Contractors plant : 5 JCB's, 1 mini-excavator, 12 tractor ploughs and 5 lorries			
Labour availability: 52 (TC) 11 (ESO) Total: 63			
Alert called : Red ongoing		Breakdown details: 3 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 379.46 tonnes	Grit usage: 124.85 tonnes	Additional resources used: 4 Outside Contractors 1 Self Help Farmer	
Comments : Continue using salt/sand for treatment until further notice.			

Actual Action – overnight saw Perth temperatures of -12°C air and – 9.4°C RST, with no rise above freezing all day. All priority roads and footways treated at 05:00/06:00 due to severe widespread ice overnight. Footway crews then concentrated on areas around churches, later moving onto areas around schools that are not on priority routes. Limited work on non-priority network. JCB's and lorries working in all areas for snow removal, with farmers ploughs on non-priority network. Extra resources were now also available to refill grit bins that were virtually empty.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 3 Jan to mid-day 4 Jan		Forecast : Staying cold with RSTs remaining below freezing. A few snow showers possible, 1-2cm in places. Min RST -12.0°C	
Action: Pre-grit at 15.00 using salt/sand mix and all priority crews to report for de-ice treatment at 05.00. Footways crews to report at 06.00 with extra men.			
Plant availability : 32 gritting lorries and 16 footway tractors plus associated loaders and pick-ups. Contractors plant : 10 JCB's, 1 mini-excavator, 8 tractor ploughs, 4 tractor trailers and 7 lorries.			
Labour availability : 60 (TC) 18 (ESO) Total: 78			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 388.37 tonnes	Grit usage: 222.53 tonnes	Additional resources used : 8 Outside Contractors	
Comments :			

Actual Action - -10.3°C RST and -11.3°C air temperature. All priority routes treated and working on non-priority routes. ESO have additional manpower and this was fully utilised. Contractors and farmers continued to assist and grit bin crews increased. Salt was delivered to all depots. Accesses to schools throughout the Council area were also cleared to allow for the school term starting.

Period : mid-day 4 Jan to mid-day 5 Jan		Forecast: RSTs will remain below zero with ice and hoar frost. Scattered snow showers 16:00-20:00. Clear overnight with scattered showers in the morning. Min RST - 10.5°C	
Action: Pre-grit at 18.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews and contractors to report at 06.00.			
Plant availability: 37 gritting lorries and 15 footway tractors plus associated loaders and pick-ups. Contractors plant: 14 JCB's, 1 mini-excavator, 4 tractor ploughs, 4 tractor trailers and 7 lorries.			
Labour availability : 105 (TC) 36 (ESO) Total: 141			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 476.17 tonnes	Grit usage: 48.35 tonnes	Additional resources used : 15 Outside Contractors	
Comments :			

Actual Action – following the holiday period, additional contractors were now available and plant and labour resources had considerably increased to remove snow and ice. In Perth efforts concentrated on central area widening narrow tracks, clearing bus stops, taxi ranks, and pedestrian crossings and continued within housing areas to improve vehicular and pedestrian movement. Work also continued in other towns and villages within the Council area to clear footways and carriageways of hard packed ice and snow.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 5 th Jan to mid-day 6 th Jan		Forecast : RSTs below zero with ice and hoar frost. Scattered snow showers. Min RST -10.5°C	
Action: Pre-grit at 18.00 and all priority crews to report at 05.00 for de-ice treatment. Footway crews and contractors to start at 06.00.			
Plant availability: 33 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant: 17 JCB's, 4 mini-excavator, 8 tractor ploughs, 4 tractor trailers and 9 lorries.			
Labour availability: 101 (TC) 34 (ESO) Total: 135			
Alert called: Red ongoing		Breakdown details: 9 vehicles had varying time in workshop for gearbox, clutch, starter, injector issues and 1 for accident damage	
Salt usage: 451.13 tonnes	Grit usage: 515.63 tonnes	Additional resources used: 25 Outside Contractors 1 Self Help Farmer	
Comments :			

Actual Action – overnight the temperatures reached -9.7°C RST and -6.3°C air temperature. Drifting snow badly affected A93, and many hill roads in the Kinross/ Glenfarg area. All roads were cleared but many required great care to negotiate. Ploughing and gritting of priority roads and footways again took place that morning and a pre-grit carried out at 18:00. Weather pattern indicated little change over the next 6 days and so efforts will continued. Due to the snow/ice adhering to the road and footway surfaces, the clearance and removal operation proved very slow, with crews working 06:00 to 18:00. Numerous requests for assistance within school boundaries and around social work offices/care home took up available resources from the road network.

Period : mid-day 6 th Jan to mid-day 7 th Jan		Forecast : Bright with scattered snow showers. Dry from midnight and through tomorrow morning with RST well below zero with ice and hoar frost Min RST -12.0°C	
Action: Pre-grit at 18.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews and contractors to report at 06.00.			
Plant availability : 32 gritting lorries and 21 footway tractors plus associated loaders and pick-ups. Contractors plant : 17 JCB's, 4 mini-excavator, 8 tractor ploughs, 4 tractor trailers and 18 lorries.			
Labour availability : 100(TC) 32 (ESO) Total: 132			
Alert called : Red ongoing		Breakdown details: 8 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 199.06 tonnes	Grit usage: 549.69 tonnes	Additional resources used: 21 Outside Contractors 2 Self help Farmers	
Comments :			

Actual Action – hill roads in Kinross/Glenfarg area again badly affected by fresh snow fall and drifting. Kirkmichael to Pitlochry road similarly affected. All were clear but some required greater care. The snow blower had been brought into these areas to widen the roads and minimise the risk of snow blowing back in and closing them. Numerous calls for grit bin filling were being received and ESO crews deployed. Numerous requests to give assistance within school boundaries and around social work offices/care home took up available resources from the road network. Actual minimum RST - 12.0°C.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 7 Jan to mid-day 8 Jan		Forecast : RSTs remaining below zero. Dry with risk of a few snow showers 23:00-04:00. Min RST -13.0 °C	
Action: Pre-grit at 18.00 and all priority crews to report at 05.00 for de-ice treatment. Footway crews and contractors to report at 06.00.			
Plant availability : 35 gritting lorries and 20 footway tractors plus associated loaders and pick-ups. Contractors plant : 17 JCB's, 4 mini-excavator, 8 tractor ploughs, 4 tractor trailers and 18 lorries.			
Labour availability : 98 (TC) 33 (ESO) Total: 131			
Alert called : Red ongoing		Breakdown details : 7 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 195.68 tonnes	Grit usage: 984.43 tonnes	Additional resources used : 23 Outside Contractors 1 Self help Farmer	
Comments : Ploughs to be used where possible on all hard packed surfaces.			

Actual Action - overnight the minimum RST was -14.1°C and air temperature -12.9°C. Continued action with same manning levels. 9 x2 men squads filled grit bins across the Council area, which were, however, being emptied very quickly by the public. Workforce continued operations over the weekend. Grit bins were replenished.

Period : mid-day 8th Jan to mid-day 9 th Jan		Forecast : mainly dry with odd snow shower in east. Sunny intervals tomorrow but with odd snow shower. Very cold with min RST of -14.5°C	
Action: 16:00 pregrit and all carriageway and footway crews report in the morning. All contractors start at 06:00			
Plant availability: 30 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant: 23 JCB's, 4 mini-excavator, 4 tractor trailers and 17 lorries.			
Labour availability : 57 (TC) 23 (ESO) Total: 80			
Alert called : Red ongoing		Breakdown details : 10 vehicles had varying time in workshop for gearbox, starter, injector issues and 1 for accident damage	
Salt usage: 244.12 tonnes	Grit usage: 542.83 tonnes	Additional resources used : 20 Outside Contractors 1 Self help Farmer	
Comments :			

Actual Action – overnight temperatures still sub-zero with actual minimum RST –11.2°C. There was light snow fall onto already frozen surfaces, requiring continual re-treatment. This in turn restricted the ability to treat non-priority routes previously cleared. Only 1 road (C454 Dalnacardoch) was closed due to drifting snow. To maintain uniform salt stocks across the Council area, it was necessary to move salt between depots.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 9 th Jan to mid-day 10 th Jan		Forecast : RSTs remaining below zero. Further snow showers, some heavy. Min RST -11°C	
Action: Pre-grit at 16.00 and all priority crews, including footways and contractors, to report at 06.00 for de-ice treatment. All contractors start at 06:00			
Plant availability : 38 gritting lorries and 15 footway tractors plus associated loaders and pick-ups. Contractors plant : 23 JCB's, 4 mini-excavator, 4 tractor trailers, 2 tractor ploughs and 17 lorries.			
Labour availability : 58 (TC) 18 (ESO) Total: 76			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, plough, injector issues and 1 for accident damage	
Salt usage: 296.23 tonnes	Grit usage: 297.78 tonnes	Additional resources used : 22 Outside Contractors 1 Self help Farmer	
Comments: Ploughs to be used where possible on all hard packed surfaces.			

Actual Action – weather conditions continued not to be quite as severe. Due to the depth of frost within road surfaces and further overnight frost, re-treatment of roads still required. Work continued on clearing non-priority routes and footways of ice.

Period : mid-day 10 th Jan to mid-day 11 th Jan		Forecast : RSTs struggle to rise above zero with ice and hoar frost likely. Light snow flurries overnight and into the morning. Min RST -4.5°C	
Action: Pre-grit at 16.00 and all priority crews, including footways to report at 05.00/06.00 for de-ice treatment. All contractors start at 06:00			
Plant availability : 36 gritting lorries and 14 footway tractors plus associated loaders and pick-ups. Contractors plant : 30 JCB's, 8 mini-excavator, 8 tractor trailers and 23 lorries.			
Labour availability : 101 (TC) 22 (ESO) Total: 123			
Alert called : Red ongoing		Breakdown details: 3 vehicles had varying time in workshop for gearbox, clutch, injector issues and 1 for accident damage	
Salt usage: 203.62 tonnes	Grit usage: 320.19 tonnes	Additional resources used : 21 Outside Contractors 1 Self help Farmer	
Comments :			

Actual Action – overnight air temperatures were marginally above zero but RST's still remained below freezing, although lowest was -5.3°C. The A93 and A911 Kinnesswood to Scotlandwell was blocked due to windblown drifting snow overnight. These routes were cleared again early in the morning. Contractor and Council/TC workforce levels were maintained that week until no longer required. Grit bins were replenished.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 11 Jan to mid-day 12 Jan		Forecast : Light sleet and snow but upland areas it will be more persistent with accumulations. Lower areas could fall as rain but will turn to ice on frozen surfaces. Min RST -0.5°C	
Action: Pre-grit in NW and NE priority routes at 18.00 and all priority crews to report at 05.00 for de-ice treatment. Footway crews to report at 06.00.			
Plant availability : 32 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant : 30 JCB's, 8 mini-excavator, 8 tractor trailers and 23 lorries.			
Labour availability : 97(TC) 20 (ESO) Total: 117			
Alert called : Red ongoing		Breakdown details : 9 vehicles had varying time in workshop for gearbox, starter, plough, injector issues and 1 for accident damage	
Salt usage: 217.66 tonnes	Grit usage: 336.69 tonnes	Additional resources used : 21 Outside Contractors 1 Self Help Farmer	
Comments : Update to follow for on-going approval of contractors.			

Actual Action – contractors continued to remove snow accumulations and pre-grit and de-icing continued. Grit bins were replenished.

Period : mid-day 12 Jan to mid-day 13 Jan		Forecast : RSTs below zero with risk of ice. Drizzle in southern areas with significant accumulations of snow in northern areas. Min RST -1°C	
Action: Pre-grit at 18.00 all areas except some of NE and NW areas. All priority crew to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability : 32 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant : 30 JCB's, 8 mini-excavator, 8 tractor trailers and 23 lorries.			
Labour availability : 105 (TC) 20 (ESO) Total: 125			
Alert called : Red ongoing		Breakdown details : 9 vehicles had varying time in workshop for gearbox, starter, plough, clutch, electrical fault, injector issues and 1 for accident damage	
Salt usage: 302.45 tonnes	Grit usage: 265.58 tonnes	Additional resources used : 21 Outside Contractors	
Comments : Ongoing Red Alert contractors			

Actual Action – contractors continued to remove snow accumulations and pre-grit and de-icing continued. Actual minimum RST -1.1°C. Grit bins were replenished.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 13 Jan to mid-day 14 Jan		Forecast : RSTs will fluctuate and could drop below zero at any time. Rain, sleet and snow expected, along with drifting. Min RST -1.5 °C	
Action: Pre-grit at 15.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability : 32 gritting lorries and 19 footway tractors plus associated loaders and pick-ups. Contractors plant : 30 JCB's, 8 mini-excavator, 4 tractor trailers and 23 lorries.			
Labour availability : 95 (TC) 19 (ESO) Total: 114			
Alert called : Red ongoing		Breakdown details : 9 vehicles had varying time in workshop for gearbox, starter, broken spring and 1 for accident damage	
Salt usage: 301.90 tonnes	Grit usage: 375.77 tonnes	Additional resources used : 21 Outside Contractor	
Comments: Continue sand treatment only on non-priority routes and footways. Ongoing Red Alert contractors.			

Actual Action – contractors continued to remove snow accumulations and pre-grit and de-icing continued. Actual minimum RST -2.6°C. Grit bins were replenished.

Period : mid-day 14 Jan to mid-day 15 Jan		Forecast : RSTs to fall below zero on many routes resulting in ice. Rain and sleet, with snow flurries falling over highest routes. Min RST -3°C. Winds to strengthen	
Action : Pre-grit at 15.00 and all priority crews to report for de-ice treatment at 05.00. Footway crews to report at 06.00.			
Plant availability : 32 gritting lorries and 17 footway tractors plus associated loaders and pick-ups. Contractors plant : 28 JCB's, 8 mini-excavator, 4 tractor trailers and 18 lorries.			
Labour availability : 99 (TC) 18 (ESO) Total: 117			
Alert called : Red ongoing		Breakdown details: 9 vehicles had varying time in workshop for gearbox, starter, plough damage, injector issues, electrical fault and 1 for accident damage	
Salt usage: 307.97 tonnes	Grit usage: 322.66 tonnes	Additional resources used : 15 Outside Contractors	
Comments: Red Alert contractors still required in certain areas.			

Actual Action – Contractors continued to remove snow accumulations and pre-grit and de-icing continued. Actual minimum RST -2.8°C. Grit bins were replenished.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 15 Jan to mid-day 16 Jan		Forecast : Rain, heavy at time in early hours. Min RST +0.5°C	
Action: No pre-gritting. All priority crews to report at 05.00 for de-ice treatment.			
Plant availability : 32 gritting lorries and 17 footway tractors plus associated loaders and pick-ups. Contractors plant : 28 JCB's, 8 mini-excavator, 4 tractor trailers and 13 lorries.			
Labour availability : 35 (TC) 0 (ESO) Total: 35			
Alert called : Red ongoing		Breakdown details : 9 vehicles had varying time in workshop for gearbox, starter, injector issues and 3 for accident damage	
Salt usage: 32.68 tonnes	Grit usage: 17.00 tonnes	Additional resources used : 10 Outside Contractors	
Comments : No footway action. Red Alert contractors still required in some areas.			

Actual Action – contractors continued to remove snow accumulations and pre-grit and de-icing continued.

Period : mid-day 16 Jan to mid-day 17 Jan		Forecast : Cloudy with hill snow showers easing. After 18:00 clear spells allowing RST to drop to zero widely. Shower overnight before 22:00 and between 03:00 and 06:00. RST slowly recovering with min RST of -4°C	
Action: 17:00 pregrit all routes with no action in the morning.			
Plant availability : 36 gritting lorries and 19 footway tractors plus associated loaders and pick-ups plus contractors plant Contractors plant : 12 JCB's, 2 mini-excavator, 2 tractor trailers and 5 lorries.			
Labour availability : 30 (TC) 0 (ESO) Total: 30			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, clutch, leaks and 1 for accident damage	
Salt usage: 151.46 tonnes	Grit usage: 78.81 tonnes	Additional resources used : 4 Outside Contractor	
Comments :			

Actual Action – contractors continued to remove snow accumulations and pre-grit and de-icing continued.

Severe Weather Event December 2009/January 2010
Daily Synopsis of Roads Actions

Period : mid-day 17 Jan to mid-day 18 Jan		Forecast :Bright spells . RST close to zero 17:00 to 19:00 then cloudy with outbreaks of rain. Min RST -2.5°C with icy stretches.	
Action : Pregrit all routes at 15:00 and all carriageway and footway crews report at 05:00/06:00			
Plant availability : 36gritting lorries and 19 footway tractors plus associated loaders and pick-ups plus contractors plant Contractors plant : 5 JCB's, 2 tractor trailers and 2 lorries.			
Labour availability : 81 (TC) 18 (ESO) Total: 99			
Alert called : Red ongoing		Breakdown details : 3 vehicles had varying time in workshop for gearbox, clutch, leaks and 1 for accident damage	
Salt usage: 312.35 tonnes	Grit usage: 187.69 tonnes	Additional resources used : 3 Outside Contractors	
Comments : Red Alert contractors finish tonight.			

Actual Action – contractors continued to remove snow accumulations and pre-grit and de-icing continued. Grit bins were replenished.