

REPORT TO: CITY DEVELOPMENT COMMITTEE - 26 SEPTEMBER 2011

REPORT ON: WINTER MAINTENANCE REVIEW AND POLICY AND LEVEL OF SERVICE 2011/12

REPORT BY: DIRECTOR OF CITY DEVELOPMENT

REPORT NO: 443-2011

1 PURPOSE OF REPORT

- 1.1 The purpose of this report is to outline the winter maintenance review carried out following the severe winter in 2010/11 and identify proposed improvements to the service. The report also explains winter maintenance operations and seeks Committee approval of the proposed winter maintenance policy and level of service for winter 2011/12 outlined in Appendix 1.

2 RECOMMENDATION

- 2.1 Committee is asked to note the proposed improvements to the winter service provision and approve the policy and level of service for winter 2011/12 as outlined in this report.

3 FINANCIAL IMPLICATIONS

- 3.1 The winter maintenance budget for 2011/12 is £1,523,000, an increase of £315,000 on the previous year's budget. The demand on the budget is subject to weather conditions and every effort will be made to contain expenditure within the overall budget. Expenditure will continue to be monitored weekly and reported to the Director of Finance during the winter months.
- 3.2 The cost implications related to the proposed improvements/amendments to the winter service are :-
- a Capital investment in plant of £170,000, spread over 5 years, which equates to an increase of £34,000 pa.
 - b Additional expenditure in standby payments of £5,440 pa.
 - c One off expenditure for additional training in 2011/12 of £8,000

4 BACKGROUND

Winter 2010/11

- 4.1 Reference is made to the Severe Weather Briefing of 28 February 2011 where following the severe winter weather conditions experienced, it was advised that as in previous years, the Department would undertake an internal review of its winter maintenance performance over the whole of the winter period including the Big Freeze. There were 23 action points to be considered for improvement, the main theme being to improve the service provided across all council areas during a severe red alert winter event. Appendix 2 details the areas to be reviewed.

A meeting was held on 13 September 2011 to discuss and agree the outcome of the 23 action points raised for consideration. These have been incorporated within the detailed policy.

Established Policy and Practice

- 4.2 The 2010/11 approved Policy states that adopted carriageways and footways are categorised into high priority, intermediate and low priority routes and are covered for winter maintenance from late October to late March. In adverse conditions, high priority carriageways and footways are treated before, intermediate and low priority routes are dealt with and are kept open in preference to intermediate and low priority routes during prolonged snow conditions. Intermediate and low priority routes are only dealt with after high priority routes have been satisfactorily cleared. Like carriageways, footways are also categorised as high priority, intermediate and low priority. The high priority routes cover main thoroughfares throughout the city, and in snow or ice conditions these are treated and, if necessary, re-treated before moving to intermediate and low priority footways.
- 4.3 There are 550km of adopted roads and 900km of adopted footways throughout Dundee. It is not possible to clear all the roads and footways instantaneously, particularly in snow conditions when the gritters and ploughs have to treat the same sections of roads and footways more than once. Therefore, over 650 grit bins are provided at eligible locations such as steep gradients, bends, steps and those adjacent to sheltered housing. The bins are replenished with grit/salt, whenever staff resources allow, for use by the public on a self help basis, but should not be used for treating private property.

Policy Review

- 4.4 A detailed review of the operation and delivery of the Council's Winter Services Policy during the severe winter weather of 2010/11 has now been completed including a study of current best practice guidance.
- 4.5 Over the last 6 months, a detailed review has been carried out of national guidance and best practice documents and related advice from the appropriate national bodies and groups. This has included a review of information provided by Scottish Government, Transport Scotland, Salt Suppliers and SCOTS (Society of Chief Officers of Transportation Scotland) Winter Group.
- 4.6 Whilst the Road Maintenance Partnership resources are focussed on the delivery of adopted carriageway winter services, winter maintenance service provision by the Council goes wider than the adopted highway. Environment Department staff provide a direct winter service to cemeteries, schools, housing areas, Council property, and parks. Cognisance of this wide range of differing service delivery has been taken in to account during the review.
- 4.7 As part of the review, fundamental changes to route terminology has been used in describing existing routes. These changes in terminology have been incorporated into the new policy document. These changes are summarised as follows:-

Carriageway Routes

High Priority Routes – Priority routes

Intermediate Routes – Priority routes

Low priority Routes – Secondary routes

Footway Routes

High Priority Routes – Priority routes
 Intermediate Routes – Priority routes
 Low priority Routes – Secondary routes

- 4.8 The following are considered as areas where the service could be improved:

Issues and Opportunities

Route Reviews

- 4.9 In order to make best use of available resources it is necessary to operate a priority system for the treatment of carriageways and footways as detailed above. Strategic routes including important bus routes, important commuter routes, roads serving hospitals, ambulance stations, fire stations, shopping centres, schools, and major industrial centres are classed as 'priority routes' and, accordingly, are given a higher level of service and priority over the 'secondary routes'. In the same way footways are classed as priority or secondary taking into account the level of pedestrian usage.

Priority routes are:

- given extended winter maintenance coverage
- treated before secondary routes
- during prolonged snow conditions are kept open or are opened up in preference to secondary routes.

Secondary routes are:

- given a lesser winter maintenance coverage than priority routes
- treated after priority routes
- dealt with after priority routes have been satisfactorily cleared during prolonged snow conditions.

- 4.9 It is recognised that these standards have been in place since local government reorganisation in 1996, with minor changes made over the years to accommodate additions and omissions to the adopted network. During the winter of 2009/10 there were concerns that secondary routes were not treated for a number of days following snow fall. The question was then asked if an intermediate priority system could be developed to address affected areas previously identified as low priorities.
- 4.10 As part of the winter review in 2009/10, it was highlighted that an intermediate tier of priority route was appropriate, however, this requires a wholesale review of the priority hierarchy. This process is ongoing and it is planned to have a fully considered revised priority route system which also considers route optimisation for the start of the 2012/13 season.
- 4.11 A priority system along with associated resource has been identified to address the clearance of snow in those areas of roads and footways within and around schools, sheltered housing, social work and SCIOS properties. In liaison with the various departments a priority order of snow clearance has been established and each property categorised into operational priorities 1, 2 and 3. By prioritising the

properties into priorities 1, 2 and 3, this gives most flexibility to react to varying circumstances. In the event of severe snow, the Chief Executive will call an emergency meeting of appropriate Chief Officers to determine the appropriate priorities at that time. Ordinarily, schools will be given priority. Sheltered housing and social work properties will follow with priority 1's cleared first, then priority 2's and then 3's. Plans have been prepared for each property which clearly show the routes and areas to be cleared and which resource will be used to clear each, eg Roads - mainline gritters, footways - Environment Dept additional resource, internal footpaths - facilities staff

- 4.12 An interim review of footway priority routes has been carried out and a new route within the Balgillo Rd area has now been formally added to the service, increasing the number of priority footway routes from 20 to 21.
- 4.13 Following the review of the winter service in 2010/11, it has been determined that an improved service is required to the secondary routes (the existing policy requires the priority routes to be cleared before secondary routes are treated). In order to improve on this service, an additional external support resource will be called upon to start snow clearing of secondary routes in severe snow conditions earlier than in previous years.

Level of Readiness

- 4.14 As part of the ongoing review, the 'level of readiness' has been amended to deal with normal winter conditions through to extreme conditions such as those experienced during 2008/09, 2009/10 but in particular 2010/11. This level of readiness identifies additional resources to enter into snow clearing operations at an earlier stage for example, utilising external resources to treat secondary carriageway routes earlier. Resources from the Environment Department will address clearance at Cemeteries, Educational, Sheltered Housing, Social Work and SCIOS establishments in an agreed prioritised manner. As an interim solution prior to the completion of priority route remapping, this will enable treatment to be provided on various routes and establishments before they would normally have been treated in the past.
- 4.15 Details of the Level of Readiness system are included in Appendix 1.

Grit Bins

- 4.16 A review of the formal grit bin policy has taken place and the existing policy has been amended to remove priority carriageway restrictions. i.e. consideration will be given for the provision of a grit bin in line with current policy even if it is on a priority carriageway route.
- 4.17 Grit bins are a popular method of providing self help in the least accessible locations and to deliver this service Dundee provides approximately 650 bins across the city on adopted footways and housing footways. A review of the locations of grit bins in accordance with established practices, (i.e. provided on non-priority routes, steep inclines, tight turning circles, steps and near "residential homes") has been carried out and the current locations of the bins comply with the general intention of this policy. However, feedback received during the winter raised issues in relation to being able to replenish some grit bins effectively.

- 4.18 It has been established that a large number of grit bins are situated in locations that cannot be accessed by vehicles in extreme conditions and therefore loose material had to be deposited during the winter, providing an immediate solution but resulting in a larger problem once the snow had cleared. Consideration is being given to relocate the grit bins to points that can be easily accessed by all parties i.e. those requiring the grit and those who have to replenish the grit. In severe conditions grit drops will still be carried out to difficult to reach locations on request.
- 4.19 Improved filling of grit bins during the festive period was implemented in 2010/11 and this was found to be very effective. It is proposed that this level of provision and service will continue for the coming season.
- 4.20 Information relating to the number, location and distribution of grit bins is held at the operational depot at Fairmuir. This information is also now available to the public through the Dundee City Council web site which should assist in relation to self help.
- 4.21 In terms of educating the public as to the proper use, for the common good rather than private benefit, it is proposed that more detailed publicity is provided through the council web site, press releases and the winter maintenance brochures available to the public.

Salt Resilience

- 4.22 The winter of 2010/11 was the UK's coldest for some time, with December being the coldest for 100 years. The extreme weather pattern was country wide and was also experienced throughout Europe. With the severe weather conditions across Europe, supplies of salt from abroad were limited. In 2009/10 the initial salt stock was increased by 20% from 4500 to 5500 tonnes, this was carried out in line with recommendations from the UK Government's 'Salt Cell'.
- 4.23 The UK Government's 'Salt Cell' was convened again in 2010/11 and councils were asked to adopt salt conservation measures to maximise the use of the available salt. These conservation measures were adopted in Dundee including the use of salt mixed with grit sand. Officers from the council were required, from early December to mid April 2011 to give daily salt usage, salt stock and expected delivery information to Scottish Government for use by the Salt Cell. In addition officers met regularly during the winter with Tayside Contracts, Perth and Kinross and Angus Council officials to discuss sharing of salt and consistent treatment across the region. These regular local meetings afforded the sharing of salt between the three areas co-ordinated through Tayside Contracts.
- 4.24 The use of salt conservation methods as issued through central government guidance were employed by Dundee City. This involved using salt/grit mixes and the use of pure grit in many locations to conserve and manage the available salt. In 2010/11 a total of 8600T of salt was used and 6200T of grit. Although effective at the time, the prolonged use of grit left many roads and footways with excess levels of grit for many months after the winter period. With this in mind, the salt stocks have been reviewed again, with initial stocks increased to 8500T with a further 1500T on order.
- 4.25 It should be noted that 5500 tonnes is sufficient stock for an average winter without the need for replenishment.

Salt Conservation

- 4.26 During the national salt crisis last year, advice was again issued to local authorities of measures to help preserve salt stocks. This ranged from using alternative products such as sand, grit, reducing salt spread rates, in both carriageways and footways. Grit/sand can help with traction, it also can be of benefit where salt is less effective where temperatures start falling below minus 5 degrees C. These recommendations are reflected in the revised Policy Statement in Appendix A should the need arise again to implement such measures.
- 4.27 Alternative de-icing materials such as magnesium chloride and calcium magnesium acetate are available on the market which offer more environmentally sustainable solutions and can be effective at temperature down to -20 degrees C. Research has shown that these are substantially more expensive to purchase, up to 12 times more expensive than salt, with equipment required to be adapted to apply material. These systems are used in other countries, however these tend to be a dryer/colder climates than Scotland or the UK. Transport Scotland and the Highways Agency are continuing to carry out trials of alternative de-icing materials. Once these trials have been concluded, the outcomes will be reviewed and considered as appropriate.
- 4.28 Marine salt is currently stored at the Marchbanks depot. 6mm marine salt is predominately used as the storage facility at Marchbanks is uncovered. Although considerably more expensive than indigenous rock salt, the characteristics of marine salt mean that it can remain uncovered and still perform well throughout the winter. Indigenous rock salt that is left uncovered does not flow well when the moisture content increases and therefore cannot be exposed to the elements for any length of time without affecting its performance.
- 4.29 Annual savings of up to £50k could be made if salt was stored undercover as this would allow both marine salt and indigenous rock salt to be used. Having the ability to store different types of salt, also means that there is not a reliance on an individual source, which was one of the recommendations in the UKRLG 2009 report.
- 4.30 The future development of Marchbanks Waste Management facility is currently under consideration including the relocation of salt stocks to accommodate new storage and wash bed facilities. If this development progresses, in the future salt should be stored under cover thereby maximising its use.

Workforce Resource

- 4.31 The planning, organisation and delivery of the winter snow clearing and gritting service is a key priority for the Roads Maintenance Partnership workforce. A minimum workforce of 17 is required to provide the front line winter service on carriageways, this equates to 51 operatives participating in a 1 in 3 week standby rota during the winter season. During normal working hours, 39 No operatives are available to support winter activities.
- 4.32 Whilst the Partnership resources are focussed on the delivery of carriageway winter services, Environment Department resources supply the primary resource for winter footway treatment. A footway gritting standby service is in place from the middle of November to mid March for weekends and public holidays. A service level agreement is in place for the delivery of footway gritting services and

to deliver the basic footway gritting service, 33 Environment Department and Tayside Contracts employees and 21 mini plough/gritters are in place for 2011/12.

- 4.33 As noted earlier, winter maintenance service provision by the Council goes wider than the adopted highway. Environment Department staff will be used to deliver a snow clearing service at Cemeteries, Educational, Sheltered Housing, Social Work and SCIOS establishments in an agreed prioritised manner.
- 4.34 In order to enable an improved service to secondary routes in “red alert” snow conditions, an alternative external support resource has been procured to deliver this. Eight tractors and drivers will be employed on a standby basis. This resource will be deployed as appropriate dependant on conditions and forecast, although one could be allocated per council ward if operationally viable and conditions allow. It is intended that this resource will be deployed in severe snow conditions no later than 24 hours after initial snow clearance has started.
- 4.35 When severe weather conditions prevent other outdoor activities such as building trades related work, it has been agreed that such available resources are allocated to the Roads Maintenance Partnership winter services team to support the treatment of snowbound Council footways, minor roads and the filling of grit bins. A listing of the potential additional resources that can be called upon is given in Appendix A.
- 4.36 A key aspect of workforce readiness relates to skills and training in delivering winter services. The partnership has 43 qualified HGV drivers to drive the gritter fleet, with a further 5 currently under training and 24 holding Winter SVQ assessment certificates. There is specific training on winter vehicle equipment and at the beginning of the winter season, route familiarisation sessions are carried out and training sessions of plough fitting and operation are held. There is an ongoing commitment to ensure all drivers are fully trained and qualified in various winter maintenance activities.

GPS Information System

- 4.37 GPS monitoring systems attached to gritting plant and other selected vehicles has been in operation for a number of years. The use of GPS equipment has provided a number of benefits, including the ability to confirm when roads and footpaths have actually been treated in winter conditions. They have assisted in dealing with enquiries from the public, as well as defending public liability claims. In addition, the information provided will greatly assist in identifying future efficiency savings through improved route optimisation.
- 4.38 Consideration is still being given to upgrade the GPS system to provide exception reports i.e. when a section of a route has not followed the pre determined route, a report will be produced automatically identifying the error. This will save on staff time checking route information and highlight to operational controllers if additional treatment is required. Investigations have taken place in the benefits of upgrading gritters that can follow pre determined routes i.e. like satellite navigation talk through and also automatic salting based on prescribed route conditions. This allows any driver to operate a particular route that he is unfamiliar with and spread salt/grit only when required. The purchase of such equipment will be fully explored as part of the route review and route optimisation process.

Further Proposed Service Improvements

- 4.39 As part of this review a number of possible further service improvements have been identified. These include the need for improved communication, planning, mobilisation and management of additional Council employee resources deployed on snow clearing operations.
- 4.40 Consultation has taken place with key stakeholders across the council to improve the overall winter maintenance service. The integrated service has moved forward in agreeing priorities and plans to assist in delivering the service. Proposals are in place and further meetings arranged to finalise plans and communication arrangements in time for the 2011/12 winter service.

Communications

- 4.41 In carrying out this review, it is clear that the expectations of the public are high and very different from 30 years ago. Until recently, people and businesses had become used to winter not having serious implications for them and as a result business and community resilience has dropped. We need to consider advanced communications that help to manage public expectations in relation to the level of service that can actually be provided within limited funding when the most severe conditions arise. We also need to promote self help and resilience as appropriate. This is currently being taken forward corporately with improved, clearer information on the Dundee City Council web site and within winter information leaflets. Dundee City Council Internal Audit team is currently carrying out an audit on winter maintenance communications and are due to report by the end of September 2011. Their recommendations will be considered and actioned as far as possible in time for the 2011/12 winter service.

Winter Maintenance Policy and Level of Service

- 4.37 The proposed revised Winter Maintenance policy and level of service for 2011/12 which takes account of all of the foregoing is attached as Appendix 1.

5 CONCLUSION

- 5.1 The Council has a statutory duty to take such steps as it considers reasonable to keep public roads safe during adverse winter weather. The Council is also committed to delivering an effective and responsive winter service and a number of improvements have been identified following the experience of dealing with the severest winter weather for 100 years in 2010/11. A number of policy amendments have also been identified from a review of the latest best practice guidance. All such issues have been considered in detail and where appropriate amendments have been made to the Winter Policy Statement or taken into account within the winter planning process.

6 POLICY IMPLICATIONS

- 6.1 This Report has been screened for any policy implications in respect of Sustainability, Strategic Environmental Assessment, Anti-Poverty, and Risk Management. There are no major issues.

- 6.2 An effective and risk prioritised Winter Maintenance Strategy reduces the likelihood of injury to vehicular and pedestrian traffic and as such supports the Council's Risk Management Policy.
- 6.3 An Equality Impact Assessment has been carried out and will be made available on the Council website <http://www.dundee.gov.uk/equanddiv/equimpact/>.
- 6.4 Winter maintenance is an expensive operation and the Director of City Development will continue to investigate new methods/systems that may offer opportunities to reduce costs.

7 CONSULTATIONS

- 7.1 The Chief Executive, Depute Chief Executive (Support Services), Director of Finance, Director of Education, Director of Social Work, Director of Housing, Director of Environment, Director of Communities and Policy and the Managing Director of Tayside Contracts have been consulted and are in agreement with the contents of this Report.

8 BACKGROUND PAPERS

- 8.1 None.

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14 September 2011

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DUNDEE CITY COUNCIL

CITY DEVELOPMENT DEPARTMENT

ROAD MAINTENANCE PARTNERSHIP

WINTER GRITTING

& SNOWCLEARING SERVICES

POLICY STATEMENT

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WINTER MAINTENANCE POLICY AND LEVEL OF SERVICE 2010/2011

1 POLICY

- 1.1 Dundee City Council will operate a priority system of winter maintenance which, as far as reasonably practicable, will permit the safe movement of vehicular and pedestrian traffic on the more important parts of the road network while minimising delays directly attributable to the adverse weather conditions and will aim to provide a suitable level of service on footways subject to available resources.
- 1.2 The objective of this policy is to enable the Council to comply with its statutory duty to:-
- “take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads” (Roads (Scotland) Act 1984).**
- 1.3 As part of the Road Maintenance Partnership, Tayside Contracts operate and maintain a fleet of dedicated winter maintenance vehicles to carry out winter maintenance operations on the adopted roads and footways maintained by Dundee City Council City.
- 1.4 These roads and footways have been prioritised as priority or secondary depending on their importance etc as referred to later in this report.
- 1.5 Winter maintenance is an expensive operation and the Director of City Development will continue to investigate new methods/systems that may offer opportunities to reduce costs.

2 SERVICE PROVISION

Operating Period

- 2.1 The winter operating period will run from October until April each year.
- 2.2 The “core” period for 24 hour continual monitoring and operating will run from the middle of October until early April with secondary route additional support resource and footway operations commencing at the middle of November until the middle of March, the exact starting and completion dates to be established each pre winter season and as currently detailed in Appendix A.

Service Provision

- 2.3 During this period, Tayside Contracts, the operational arm of the Road Maintenance Partnership, as principal service provider, will provide the necessary resources (including suitably trained personnel) in order to achieve the required standards. These resources cover priority and secondary carriageway routes. Appendix B details the resources in place to deliver the winter service. Appropriate arrangements will be made to ensure a continuity of service during the festive season and other holiday periods.
- 2.4 During the winter period, the Road Maintenance Partnership will operate a 24 hour winter service, using weather forecasts, road and weather monitoring data supplied through competitive tender.

- 2.5 The primary focus of the Road Maintenance Partnership is to manage the overall winter service and to directly provide an effective roads gritting & snow clearing service. To deliver this service, operatives' standby arrangements will be made which are suitable and sufficient to meet the defined standards of service required. It is expected that standby personnel will be at their base, fit for work, within 1 hour of receiving a call. The standby period for operatives will normally be consistent with the "core" winter period as defined in Section 2.2 above and as detailed in Appendix A.
- 2.6 A carriageway secondary route snow clearing service is provided by external resources procured through Tayside Contracts, to work under the direction of Road Maintenance Partnership staff. Eight tractors and drivers will be employed on a standby basis. These will be deployed dependant on conditions and forecast, although one could be allocated per council ward if operationally viable and conditions allowed. It is intended that this resource will be deployed in severe snow conditions no later than 24 hours after initial snow clearance has started
- 2.7 A footway gritting and snow clearing service is provided by the Environment Department engaged by means of an agreed Service Level Agreement to work under the direction of Road Maintenance Partnership staff. A standby service for winter footway action on public holidays and weekends is in place as defined in Appendix A.
- 2.8 When severe weather conditions prevent normal outdoor activities such as grass cutting, grounds maintenance and various construction related work, such available resources are allocated to winter services. A priority system along with associated resource has been identified to address the clearance of snow in those areas of roads and footways within and around schools, sheltered housing, social work and SCIOS properties that are not currently on a priority route. In liaison with the various departments a priority order of snow clearance has been established and each property categorised into operational priorities 1, 2 and 3. By prioritising the properties into priorities 1, 2 and 3, this gives most flexibility to react to varying circumstances. In the event of severe snow, the Chief Executive will call an emergency meeting of appropriate Chief Officers to determine the appropriate priorities at that time. Ordinarily, schools will be given priority. Sheltered housing and social work properties will follow, with priority 1's cleared first, then priority 2's and then 3's. Plans have been prepared for each property which clearly show the routes and areas to be cleared and which resource will be used to clear each. e.g. Roads - mainline gritters, Footways - Environment Dept Additional resource, internal footpaths - facilities staff. Such additional employees from the Environment Department are allocated to the most appropriate activity and directed by Road Maintenance Partnership staff to assist in the delivery of a prioritised winter service. The agreed resources to be provided by the Department are also detailed in Appendix B.

Sub-contractors

- 2.9 In "Red Alert" circumstances, such as heavy snow and drifting, external contractors and other resources, such as JCB's, diggers, tractor ploughs etc may also be engaged. These will be procured through existing arrangements with Tayside Contracts.

Salt Resilience/Storage

- 2.10 Salt is purchased each year to restore stocks to a level sufficient to meet the anticipated requirements for treating the road network and these stocks are closely monitored and controlled with restocking ordered as necessary throughout the winter to maintain agreed stock targets.
- 2.11 6mm marine salt is predominately used on the network and is currently stored uncovered at Marchbanks depot. Although considerably more expensive than indigenous rock salt, the characteristics of marine salt mean that it can remain uncovered and still perform well throughout the winter. Indigenous rock salt that is left uncovered does not flow well through gritting equipment when the moisture content increases and therefore cannot be exposed to the elements for any length of time, without affecting its performance.
- 2.12 Savings could be made if salt was stored undercover as this would allow both marine salt and indigenous rock salt to be used. Having the ability to store different types of salt, also means that there is not a reliance on an individual source, which was one of the recommendations in the UKRLG 2009 report.
- 2.13 As part of future development of Marchbanks Waste Management facility, the relocation of salt stocks to accommodate new storage and wash bed facilities is under consideration. If this development progresses, future salt will be stored under cover maximising its use however, until this time the salt will continue to be exposed to the elements
- 2.14 As recommended by the UKRLG 2009 report, appropriate resilience has been set to meet supply and demand of salt. With Tayside Contracts procuring salt for the three surrounding councils this has never been an issue. However, decisions have been taken to implement formal resilience based on the 2009 recommendations and the experiences of 2009/10 and 2010/11 winters. The number of days of resilience is determined by each Council depending on re-stock arrangements e.g. in Dundee salt is delivered by sea, arrangements with Tayside Contracts and available depot storage space. As shown in Appendix C, the minimum stock level during the winter period is determined at 2,340 tonnes.
- 2.15 Following the experiences of salt usage in 2008/09, 2009/10 and 2010/11, the Dundee salt holding at the commencement of winter has been set at the revised maximum storage available i.e. 8500 tonnes. This is more than sufficient to cover an average winter but it does not cover all the potential needs for a severe winter.

3 SERVICE PROVISION

Weather Forecasting Information

- 3.1 The City Engineer will receive a road related weather forecast specific to the City early each afternoon during the winter maintenance period to assist him in deciding if Tayside Contracts should treat the roads and footways. Subject to the nature of the forecast, the instruction to Tayside Contracts can be to pre-treat the roads that evening and/or instruct the high priority route crews to report to the depot at a specific time the following morning. At that time a more accurate assessment of conditions can be made by the Winter Maintenance Controller using the Ice Prediction System and any updates to the forecast, leading to a decision to either send the crews out or to stand them down.

Road Weather Prediction System

- 3.2 The Ice Prediction System will also take data from outstations, such as air and road temperatures, precipitation, road wetness and presence of salt, available to the weather forecast provider to refine the accuracy of the forecast, which, in combination with thermal mapping survey information will automatically produce a graphical image of minimum expected road temperatures for the high priority network. This enables selective gritting to be carried out on a route basis when freezing is likely to be restricted to relatively few locations.

GPS Information System

- 3.3 GPS monitoring systems attached to gritting plant and other selected vehicles has been in operation for a number of years. The use of GPS equipment has provided a number of benefits, including the ability to confirm when roads and footpaths have actually been treated in winter conditions. They have assisted in dealing with enquiries from the public, as well as defending public liability claims. In addition, the information provided will greatly assist in identifying future efficiency savings through improved route optimisation.
- 3.4 Consideration is still being given to upgrade the GPS system to provide exception reports i.e. when a section of a route has not followed the pre determined route, a report will be produced automatically identifying the error. This will save on staff time checking route information and highlight to operational controllers if additional treatment is required. Investigations have taken place in the benefits of upgrading gritters that can follow pre determined routes i.e. like satellite navigation talk through and also automatic salting based on prescribed route conditions. This allows any driver to operate a particular route that he is unfamiliar with and spread salt/grit only when required. The purchase of such equipment will be fully explored as part of the route review and route optimisation process.

Levels of Readiness

- 3.5 Three levels of readiness are to be applied throughout the Winter period:

Green:

- 3.6 'Normal' monitoring and action conditions apply. When sub zero temperatures are forecast over no more than 4 consecutive days to be followed by a thaw, a daily standard action of 10 or 20g/m² pre-grits on Primary Routes will be applied. Only staff and workforce whose normal duties include winter action, monitoring and supervision are involved.

Amber:

- 3.7 Extended monitoring and action conditions apply. When prolonged freezing conditions i.e. 5-10 consecutive days, or snowfall is forecast. Additional staff will be allocated duties to handle extended reporting systems etc. Workforce participation will be extended as appropriate, other Services will be notified for assistance as required, including Emergency Planning, Environment Department and Emergency Services. The state of readiness of plant and equipment will be checked, inspect and replenish grit bins where appropriate.

Red:

- 3.8 Full monitoring and action conditions apply. Severe and continued snowfall is forecast endangering the continuity of the infrastructure. Actions as per Amber, mobilisation of additional external resource and supplementary resource from other departments. Full reporting systems in place, including daily status reports to members, Contact Centre, emergency services and appropriate Council Services.
- 3.9 It is the responsibility of the Road Maintenance Partnership Manager to implement the necessary level of readiness (Green, Amber or Red) in relation to ground conditions and forecast information.

4 PRIORITIES AND TREATMENT STANDARDS

- 4.1 The basis for establishing priority routes **in relation to the formally adopted road network** is as follows:
- i All strategic routes
 - ii Main service bus routes
 - iii Other heavily trafficked roads
 - iv Other adopted roads
- 4.2 In order that treatment of major roads (i-iii above) can be provided within an acceptable timescale, the number and length of priority routes must be held to a level commensurate with available resources.

Night Shift Cover

- 4.3 A limited night shift cover will operate on certain routes of major importance within Dundee City because of the need to treat these roads outwith priority treatment times.
- 4.4 The night shift will operate from between 21.00 hours and 05.30 hours. With the pre-wetted system, this vehicle can effectively treat strategic roads in marginal conditions.
- 4.5 The night shift crew will be based at Fairmuir Depot and can be instructed to patrol or treat these routes, initially based on the early afternoon forecast. Subsequent forecast updates or changes in actual conditions may result in this instruction being amended by either the Winter Maintenance Controller or a duty standby supervisor (Assistant Controller) depending on the time of this decision.

Treatment Routes

- 4.6 The respective categories covered are as follows:

<u>Route Category</u>	<u>Hours of Cover</u>
Priority Routes	0500-2200
Secondary Routes	0730-1600

Cover may be extended on secondary routes during snow conditions as authorised by the Director or City Engineer.

Priority Routes

- 4.7 The night shift will operate with 1 crew.
- 4.8 The main standby system will operate for all 14 priority routes.
- 4.9 Specific dates and times of operation are detailed in Appendix A.
- 4.10 As part of the standby system between Mondays to Saturdays, regular early morning reporting at 0600 hours will operate (with the facility to call the crews out as early as 0500 hours for priority routes if conditions dictate). During periods of anticipated relatively mild weather an operational decision may be taken daily to temporarily suspend this, though road temperatures will still be monitored.
- 4.11 On Sundays and public holidays reporting of standby personnel will only be carried out if required.
- 4.12 It should be noted that while the standby crews' initial priorities are as detailed above, some flexibility in the deployment of these standby crews throughout the city is operated, depending upon the prevailing weather conditions and the requirements of the service, but priority routes will still be treated first.

Secondary Routes

- 4.13 All resources will initially be concentrated on priority routes, and it is only when these priority routes have been adequately dealt with that resources will be deployed on secondary routes.
- 4.14 In order to improve the service for secondary routes an additional supporting resource will be engaged. This resource will be engaged to start within 24 hours of priority routes starting.
- 4.15 It is inevitable that many cul-de-sacs do not receive prompt treatment because large purpose-built winter maintenance vehicles have difficulty in manoeuvring due to parked cars and unsuitable turning points. It is thus not practicable to include most cul-de-sacs within normal gritting routes due to the unacceptable route times which would result.
- 4.16 The introduction of supporting resource and the use of 3.5T and 7.5T demount gritters allocated to clearing cul-de-sacs on completion of other priorities. Where practicable, some main gritters are also deployed to cul-de-sacs as their through routes are completed.

Weight Limited Bridges

- 4.17 There are a number of weight limited bridges in the City. While the above 7.5T demount gritter can be used on several such bridges, it is still too heavy to treat those with 3 tonne limits. A "small" gritter mounted on a pick-up is now used at these locations. After treating these bridges, this equipment is also used to treat the Murraygate and areas of footways around the Overgate. Following completion the gritter will be allocated to assisting in treating cul-de-sacs.

Unadopted (Private) Roads/Footways

- 4.18 Following discussion at Committee when the 1998/99 Winter Maintenance Policy and Level of Service Report was approved, investigations were carried out on the feasibility of providing a winter maintenance service on unadopted roads. It was established that quite apart from the problem of insufficient resources, the law made no specific provision to undertake this work and any insurance cover may be invalidated if such work was undertaken. While the general legal position has changed since 1 April 2003 with the establishment of the general "Power to Advance Well-Being" under Section 20 of the Local Government in Scotland Act 2003, the use of any new general powers to extend winter maintenance to unadopted roads would be subject to ensuring that private roads were not given unreasonable priority before any adopted roads, otherwise the Council may be found to be in breach of their statutory duties in, for example, a case brought against the Council by someone injured on a public road due to winter conditions.
- 4.19 The Director of Finance at that time indicated that inevitable/unavoidable damage to unadopted footways and carriageways from winter maintenance operations due to the vulnerability of unmade and substandard surfaces would not be met by the Insurance Fund. The Public Liability insurance held by the Council responds to unforeseen loss or damage rather than inevitable/unavoidable damage. This is standard insurance market practice for this class of cover. In addition, as the Roads (Scotland) Act 1984 makes no provision to carry out winter maintenance operations on unadopted roads the Council's insurers may question our actions if claims from these areas were brought against the Council.
- 4.20 In view of all of the above and the fact that the Council has insufficient resources to deal with the unadopted network, no provision will be made for treating non Council owned roads and footpaths.
- 4.21 During periods of sustained severe weather identified as 'Red' within the level of readiness, assistance will be available through the use of Criminal Justice System offenders for clearing elderly/disabled private paths etc.

Adopted Footways

- 4.22 Adopted footways are also categorised into priority routes and secondary routes. The priority routes are those which the footway snow ploughs deal with first, namely shopping areas and main bus routes. Once the priority routes have been treated to a reasonable standard, secondary routes will be dealt with next.
- 4.23 Whilst the Department's aim is to clear all adopted footways, the total lengths involved mean this can take some days, particularly in recurring snow or when ice has formed and daytime temperatures remain very low. In such circumstances, the additional resource from other departments will be utilised to assist in clearing these areas as quickly as possible. In such circumstances however, a number of footways may still be untreated when a thaw occurs.
- 4.24 The fleet of footway tractor ploughs is available during the winter maintenance period to treat ice or snow. Hoar frost on footways will not be treated unless prolonged over a number of days, due to the generally more effective result of normal daytime temperatures in such conditions.

Adopted Footways – Priority Routes

- 4.25 During snow or ice conditions these routes will have coverage from 0600 hours to 2100 hours on all days including Saturdays, Sundays and public holidays. Cover outwith normal working hours will be by operatives who participate in the Winter Maintenance Standby Rota.

Adopted Footways – Secondary Routes

- 4.26 These footways will have similar coverage to priority routes and will be treated after the priority routes have been adequately dealt with.

Grit Bins (Adopted Roads/Footways)

- 4.27 Grit bins are a popular method of providing self-help in the least accessible locations and to deliver this service Dundee provides approximately 650 bins across the city on adopted footways and Council housing footways. It is the Council's current policy that new grit bins will be provided on request on adopted roads/footways, only at locations where the undernoted criteria are met, and that no further grit bins be provided where the carriageway or footway (as appropriate to the request) is not adopted. On Housing Department footpaths, locations based on similar criteria were initially agreed in 2004/05 and a number of further such locations have subsequently been added.

- 4.28 The criteria referred to above are:

- 1 the location is not on a Priority footway gritting route, **AND**
- 2 the location has a gradient greater than 6%, **OR**
- 3 the location is on a tight bend (if request relates to carriageway) **OR**
- 4 the location incorporates a series of steps (within the adopted road boundaries) **OR**
- 5 the location is within a sheltered housing area and is the main link road to local shops or public transport.

- 4.29 Information relating to the number, location and distribution of grit bins is held at the operational depot at Fairmuir. Following yearly increases in the provision of grit bins, there are now approximately 650 approved locations throughout the city, including approximately 100 on housing footpaths. This information is also available via the Dundee City Council web site.

- 4.30 In new housing developments grit bins are to be provided by the Developer through Road Construction Consents to the agreed specification at appropriate locations.

- 4.31 Following the successful trial in 2008/09 and 2009/10, grit bins are to remain in position throughout the year. In areas of high vandalism, recorded damage or where members of the public have identified a nuisance then these bins will be removed as notified and re-established each October or re-located following consultation with the Local Councillors.

- 4.32 Grit bins are replenished prior to the onset of winter and periodically throughout the course of the winter season. Specific requests for refilling will be actioned normally within 5 working days. Grit bins are filled with a 1:6 mixture of salt and sand/grit.

- 4.33 As identified in the level of readiness, additional resources will be deployed during severe winter conditions to ensure that grit bins remain replenished, enabling self help.

Footways/Footpaths and Other Areas Maintained by Other DCC Departments

- 4.34 As noted earlier, winter maintenance service provision by the Council goes wider than the adopted highway. Environment Department staff will be used to deliver a service clearing snow at Cemeteries, Educational, Sheltered Housing Social Work and SCIOS establishments in an agreed prioritised manner.
- 4.35 As in previous years, in adverse conditions, communication will be maintained between roads control staff and supervisory staff of Environment Department. This will enable information to be exchanged and the unavoidable misdirected requests from customers to be attended to.

Exceptions

- 4.36 Exceptions to the foregoing paras 4.1-4.35 may be granted for **snow** emergencies but will be subject to approval from the Director of City Development or the City Engineer.

Roads Salting

Salt Spread Rates:

- 4.37 Excessive use of salt and grit is detrimental to the environment. Minimum spread rates of unmodified salt are suggested in the 'Well Maintained Highways' Code of Practice for different operational scenarios. However during conservation measures implemented during 2008/09, 2009/10 and 2010/11, it has been found that rates of spread can be reduced below that suggested and still be effective. Further research is ongoing into the effects of reduced spread rates. Based on the information available and past experience the following are to be adopted:
- Pre-salting at 10g/sqm, or (15g/sqm for uncovered salt) when temperature forecast at or above -2 degrees and 20g/sqm when below -2 degrees
 - Post-salting at 20g/sqm for ice conditions
 - Pre-salting at 20-30g/sqm for treatment when snow forecast
 - Post-salting and grit mixture at 20g/sqm for hard packed snow and ice
- 4.38 Salt is less effective when road temperatures are below -5°C . However salt and grit may be used on sheet ice or hard-packed snow when temperatures are exceptionally low.

Salt Conservation Procedures:

- 4.39 Salt resilience levels have been determined to cope with a severe winter. However in the event that the weather pattern has been so extreme and combined with a national salt crisis that has impacted on Dundee's salt stock levels, the following good practice guidelines for salt conservation will be applied:
- Reduce salt spread rates as appropriate
 - Restrict Salt Spreading Service to Primary Nightshift Routes
 - Move to using salt/grit mixes on High Priority routes

- Move to using grit only on Intermediate and Low Priority routes
 - Grit only to be used on hard packed snow on High/Intermediate/Low Priority routes
 - Replenish Grit Bins with grit only
 - Move to using grit only on High, Intermediate and Low Priority footway routes
 - Start spreading salt, grit or mixture on reverse run when ploughing
- 4.40 The use of the above salt resilience levels will be discussed in more detail with Road Maintenance Partnership Manager prior to being implemented on the ground. This will be dependent on road condition etc.

5 COMMUNICATIONS

- 5.1 An updated Winter Maintenance brochure is proposed for 2011/12.
- 5.2 Up-to-date information similar to the proposed brochure's content is also available on the Council's website, along with full interactive details of the Priority carriageway and footway gritting routes and grit bin locations.
- 5.3 During snow conditions, relevant calls from the public to the Council's switchboard and the Customer Services lines, will be redirected to the Dundee control room at Marchbanks salt depot, which will be staffed accordingly. A control room number for snow conditions is also displayed on the A-Z section of the Council's website.
- 5.4 During periods of severe weather information on road conditions and closures will be publicised via local radio stations. Further information relating to weather related road closures and winter conditions will be made available on the council web site.

APPENDIX A - WINTER COVERAGE DETAILS

NORMAL WINTER PERIOD: DETAILS OF COVERAGE

Adopted Roads & Footways

1 Night Shift Cover – 15 October 2011 to 7 April 2012

The night shift will operate between these dates (1 crew), 21.00 to 05.30 hours, 7 days a week. Christmas and New Year cover detailed below.

2 Priority and Secondary Route Cover – 20 October 2011 to 28 March 2012

The main standby system will operate for all priority routes (14 crews).

3 Supporting Secondary Route Cover – 17 November 2011 to 14 March 2012

The 48 hour advanced notice standby system will operate for all supporting secondary routes (8 crews).

4 Carriageway Cover

	<u>Weekdays</u>	<u>Weekends and Holidays</u>
Priority	0500 to 2200	0500 to 2200
Secondary*	0730 to 1600	Nil

(* subject to provision for exceptions in snow emergencies)

5 Footway Priority and Secondary Route Cover – 17 November 2011 to 14 March 2012

The 48 hour advanced notice standby system will operate for all priority routes (20 crews).

6 Footway Cover

	<u>Weekdays</u>	<u>Weekends and Holidays</u>
Priority	0600 to 2100	0600 to 2100
Secondary *	0600 to 2100	Nil

(* subject to provision for exceptions in snow emergencies)

7 Grit Bin Cover

	<u>Weekdays</u>	<u>Weekends</u>	<u>Holidays</u>
Grit Bin Filling	0800 to 1600	Nil	0800 to 1600

WINTER CHRISTMAS/NEW YEAR PERIOD: DETAILS OF COVERAGE

Adopted Roads

1 Night Shift Route

Night shift will operate as normal throughout the period with standby providing cover at other times to give a 24 hour coverage.

2 Other Carriageway Routes

The coverage for all other routes will be by standby only as follows:

Friday 23 December 2011	Weekday cover
Saturday 24 December 2011	Weekend/Holiday cover
Sunday 25 December 2011	Weekend/Holiday cover
Monday 26 December 2011	Weekend/Holiday cover
Tuesday 27 December 2011	Weekend/Holiday cover
Wednesday 28 December 2011	Weekday cover
Thursday 29 December 2011	Weekday cover
Friday 30 December 2011	Weekday cover
Saturday 31 December 2011	Weekend/Holiday cover
Sunday 1 January 2012	Weekend/Holiday cover
Monday 2 January 2012	Weekend/Holiday cover
Tuesday 3 January 2012	Weekend/Holiday cover
Wednesday 4 January 2012	Weekday cover

Adopted Footways

3 Cover provided in snow conditions throughout holiday period.

Reduced cover on Christmas Day/Boxing Day and New Years Day/2 January only.

Friday 23 December 2011	Weekday cover
Saturday 24 December 2011	Weekend/Holiday cover
Sunday 25 December 2011	Weekend/Holiday cover
Monday 26 December 2011	Weekend/Holiday cover
Tuesday 27 December 2011	Weekend/Holiday cover
Wednesday 28 December 2011	Weekday cover
Thursday 29 December 2011	Weekday cover
Friday 30 December 2011	Weekday cover

Saturday 31 December 2011	Weekend/Holiday cover
Sunday 1 January 2012	Weekend/Holiday cover
Monday 2 January 2012	Weekend/Holiday cover
Tuesday 3 January 2012	Weekend/Holiday cover
Wednesday 4 January 2012	Weekday cover

Grit Bin Filling

- 4 The filling of grit bins will be covered as follows:

Grit Bin Cover

Friday 23 December 2011	Weekday cover
Saturday 24 December 2011	Weekend cover
Sunday 25 December 2011	Weekend cover
Monday 26 December 2011	Holiday cover
Tuesday 27 December 2011	Holiday cover
Wednesday 28 December 2011	Weekday cover
Thursday 29 December 2011	Weekday cover
Friday 30 December 2011	Weekday cover
Saturday 31 December 2011	Weekend cover
Sunday 1 January 2012	Weekend cover
Monday 2 January 2012	Holiday cover
Tuesday 3 January 2012	Holiday cover
Wednesday 4 January 2012	Weekday cover

Reduced cover will be provided for filling grit bins during "Holiday Cover".

Note: Schools start back on Thursday 5 January 2012.

APPENDIX B - RESOURCES**Road Maintenance Partnership Operational (Tayside Contracts)**

Winter Plant	
Vehicle Type Carriageway	No.
6cum 4x2 fixed body gritter	7
6cum 6x4 Gritter / Tipper Quick Change Body	1
6cum Gritter / Hot box Quick Change Body	1
6cum Gritter / 18T Tipper Demount	4
2cum Gritter / 7.5T Lining vehicle Demount	1
0.8cum Gritter / 3.5T Pick up Demount	1
Telehandler loading shovel	1
	16

Vehicle Type Footway	No.
3.5 T & 5.2 T pick ups	9
Footway mini plough & gritter	21
Hand barrow spreader	20
	49

The Service also has the following vehicles available when severe weather occurs:

- 3 No. pickups (Street lighting)
- 8 No. other operational vehicles (Operations & Street lighting)

During the winter from the middle of October until the start of April duty rosters are:

Winter Weekly Labour	
Carriageway	No.
Nightshift operative 21.00 to 05.30, 7 days	1
Frontline 7 day 24 hour stand by	16
Frontline 5 day Monday to Friday 24 hour stand by	16
	33

Footway	No.
Operatives on 48hour stand by notice	34

The carriageway routes are covered by a 1 in 3 standby rota as detailed below:

- Week 1 - 7 day 24 hour standby (morning and weekend)
- Week 2 - 5 day Monday to Friday 24 hour standby (evening)
- Week 3 - 7 day no standby (week off)

The operation of the rota allows drivers hours to be managed and also provides flexibility of working during severe weather.

The Service also has the following resources available Monday to Friday when severe weather occurs:

- 35 No. operatives (Operations)
- 5 No. operatives (Street Lighting)

Environment Department – Environmental Management Division

Service level agreement requirements:-

23 No. mini plough drivers and pick up operatives.

21 No. additional resource for filling grit bins, clearing bus stops etc

In extreme/severe weather, additional resources available from Management Team are 94 No. operatives, 24 No. pickups and 19 No. operational vehicles, this does not include *No cemetery staff).

When weather conditions prevent the delivery of normal outdoor duties Environment Department Management Team employees, will be allocated to assist in the delivery of a prioritised winter service under the direction of the Roads Maintenance Partnership Winter Manager.

Note:- During extreme/severe conditions the additional resources will be engaged only during normal working hours Monday to Friday. If resource is required outwith these times agreement will be reached in advance with appropriate operational managers.

Environment Department – Construction Division

When weather conditions prevent the delivery of normal outdoor duties of Environment Department Construction Services employees, they will be allocated to assist in the delivery of a prioritised winter service under the direction of the Roads Maintenance Partnership Winter Manager.

In extreme/severe weather, additional resources available from Construction are 50 No. operatives, 6 No. pickups and 3 No. operational vehicles.

Environment Department – Environmental Protection Division

When weather conditions prevent the delivery of normal outdoor duties of Environment Department Environmental Protection employees, they will be allocated to assist in the delivery of a prioritised winter service under the direction of the Roads Maintenance Partnership Winter Manager.

In extreme/severe weather, additional resources available from Environmental Protection are 105 No. Operatives and 10 No. pickups.

APPENDIX C - SALT RESILIENCE

Salt Resilience Levels:

Dundee City Council's Resilience Level is determined as:

Overall Winter Period	1st October to 30th April
Core Winter Period	1st December to 31st January
Days Resilience (Overall Winter Period)	9 days
Days resilience (Core Winter Period)	15 days

Minimum Salt Stocks				
Route Priorities	Minimum Winter Network (tonnes/run)	Minimum Winter Network (tonnes/day)	Minimum Stock	
			Overall Winter Period 9 days resilience*	Core Winter Period 15 days resilience*
High	65 x 2	130 tonnes	1170 tonnes	1950 tonnes
High Nightshift	20	20 tonnes	180 tonnes	300 tonnes
Secondary	75	75 tonnes	675 tonnes	1125 tonnes
Footways	35	35 tonnes	315 tonnes	525 tonnes
Total		260 tonnes	2340 tonnes	3900 tonnes

Mutual aid in salt supply and other aspects of winter service and contingency arrangements in advance, are in place through the Salt Cell Group. The 32 Scottish Councils are represented on this group through SCOTS, SOLACE and COSLA. Salt Cell is monitoring salt restock for winter 2011/12.

On the basis of recent winter experience the salt holding at the commencement of winter is to be maximised to the revised maximum storage capacity available at Marchbanks of 8,500 tonnes which is more than sufficient for an average winter. Daily monitoring of salt stocks will be undertaken through the winter maintenance daily costing system and reconciliation of daily weighbridge tickets through Tayside Contracts stock management system.

DUNDEE CITY COUNCIL
OUTPUT FROM SEVERE WEATHER BRIEFING
28 FEBRUARY 2011

SEVERE WEATHER BRIEFING - 28 FEBRUARY 2011

Detailed below are the agreed areas to be reviewed prior to the start of 2011/12 winter maintenance season.

1.	Review of Intermediate routes to schools and sheltered housing to be completed. Need to liaise with stakeholders to agree appropriate routes and coverage.
2.	Use of external contractors/farmers/building trade during exceptional snow conditions to be investigated
3.	Investigate the potential of 24 hour working in exceptional snow conditions. Need to use other Council department trained drivers - standby or on new list
4.	Provide driver training for staff who will use available Council plant
5.	Salt stock - increase salt stock at outset of winter. Investigate salt storage facilities within Dundee.
6.	Salt stock - consider shared barn with Perth & Kinross/Angus
7.	Identify improvements in dealing with customer enquiries during exceptional snow conditions eg improved information and updates on website, radio, facebook, twitter etc
8.	Provision of Grit bins policy to be reviewed
9.	Cascade needs to be improved by departments
10.	Priorities within Education Dept now being reviewed
11.	Council staff - shoes and PPE
12.	Vehicles - we need to review our fleet for Social Work and others
13.	Important role of families and communities needs to be emphasised
14.	Essential - identify staff we need to get to work
15.	Need to get High, Intermediate and Low priority routes on the website
16.	Review the list of Sheltered Housing complexes including RSLs to ensure full coverage.
17.	Review of industrial estates as part of the priorities
18.	Include public participation - clear snow into gardens (businesses could assist), use of public transport
19.	Review the type, number and appropriateness of plant we have available. In particular for footways.
20.	Abandoned cars - identify suitable off street car parks adjacent to previously affected high priority routes to be cleared in exceptional snow conditions
21.	Abandoned cars - consideration of a limited number of highest priority 'Snow Routes' enforceable by the Police
22.	Pothole repairs - Option appraisal/trial testing of materials for pothole repairs
23.	Investigate potential alternatives to salt for very low temperatures including impacts on durability of road surfaces