

**REPORT TO: PLANNING AND TRANSPORTATION COMMITTEE -  
29 SEPTEMBER 2003**

**REPORT ON: WINTER MAINTENANCE POLICY AND LEVEL OF SERVICE  
2003/2004**

**REPORT BY: DIRECTOR OF PLANNING AND TRANSPORTATION**

**REPORT NO: 604-2003**

## **1 PURPOSE OF REPORT**

1.1 The purpose of this report is to explain the winter maintenance operations and to seek Committee approval for the proposed winter maintenance policy and level of service for winter 2003/2004.

## **2 RECOMMENDATIONS**

2.1 It is recommended that Committee is asked to approve the policy and level of service for winter 2003/2004 as outlined in this report.

## **3 FINANCIAL IMPLICATIONS**

3.1 The winter maintenance budget for 2003/2004 is £743,000. 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 Depute Chief Executive (Finance) during the winter months.

3.2 The combination of an Ice Prediction System, Thermal Mapping, the utilisation of a weighbridge and the trial use of pre-treated salt will continue to result in the most efficient use of resources.

## **4 LOCAL AGENDA 21 IMPLICATIONS**

4.1 The use of salt as a de-icing agent has potentially detrimental effects on the roadside environment due to its capability of damaging vegetation by dehydration. However, effective control of rate and angle of spread of the salt will minimise the risk of such damage to verges.

4.2 Salt can also cause damage to bridges and other structures by accelerating corrosion of structural steel and steel reinforcement within concrete. Major structures such as the Tay Road Bridge are treated with an alternative to salt in the form of non-corrosive de-icing materials. However, these materials are many times more expensive and less effective than salt which prohibits their use on the overall road network at the present time. Any damage caused by salt on bridges and other structures must subsequently be dealt with through routine maintenance works.

4.3 Any new developments which may ultimately lead to a reduction in the use of salt within the constraints of the budget, will continue to be monitored by officers of the Department. Arrangements were made last year for the then new nightshift gritter to be equipped to spread pre-wetted salt. This enables more efficient

precautionary salting to be carried out on dry roads when frost conditions are forecast, and further reduces salt bouncing onto roadside verges or being swept into the road channels by traffic. The former property is particularly relevant to nightshift operations when overnight frost preceded by dry conditions is forecast.

- 4.4 A proportion of the salt stock was treated late last winter with a salt additive and the treated salt will be trialled with one gritter (three routes) during the forthcoming winter. Likely resultant benefits include reduced spread rate, adhesion to dry roads, increased effectiveness at very low temperatures and inhibiting corrosion of spreading equipment and general traffic. The material is also claimed to have low toxicity and to be biodegradable. Its use has been approved by SEPA. Projected savings from reduced coverage will be calculated as the trial proceeds.

## 5 EQUAL OPPORTUNITIES IMPLICATIONS

- 5.1 The winter maintenance policy and level of service will contribute to the continued activity of elderly and mobility impaired citizens within the limits of available resources.

## 6 POLICY

- 6.1 **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.**

- 6.2 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).**

- 6.3 Tayside Contracts operate and maintain a fleet of dedicated winter maintenance vehicles to carry out winter maintenance operations on the roads and footways maintained by Dundee City Council Planning and Transportation Department.

- 6.4 These roads and footways have been prioritised as high or low depending on their importance etc as referred to later in this report.

- 6.5 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 Dundee Winter Maintenance Controller using the Ice Prediction System (real time data) and any updates to the forecast, leading to a decision to either send the crews out or to stand them down.

- 6.6 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.
- 6.7 Winter maintenance is an expensive operation and the Director of Planning and Transportation will continue to investigate new methods/systems that may offer opportunities to reduce costs. Consideration will be given to extending the use of pre-wetted and treated salt, referred to in 4.3 and 4.4 above, to the remainder of the fleet, as older vehicles are replaced and trials are evaluated.

## 7 BACKGROUND

- 7.1 The basis for establishing priority routes is proposed as follows **in relation to the formally adopted road network:**
- i All strategic routes
  - ii Main service bus routes
  - iii Other heavily trafficked roads
  - iv Other adopted roads
- 7.1.1 In order that the service is provided within an acceptable timescale and within budget, the number and length of high priority routes has had to be held to a level commensurate with available resources.
- 7.2 Night Shift Cover
- 7.2.1 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 high priority treatment times.
- 7.2.2 The night shift will operate from 25 October 2003 to 27 March 2004 between 21.00 hours and 05.30 hours. As in 2002/03 the nightshift season will now correspond closely with full standby gritter cover. In several previous recent years the shorter nightshift season had to be extended at short notice in March due to forecasts of frost or black ice forming at times outwith the nightshift season. Advancement of the Ice Prediction and forecasting systems in recent years means that early and late season marginal nights are more predictable, and in some circumstances (eg when preceded by dry roads, winds or late night rain) can only be adequately treated by the nightshift. Given that the Council already uses a nightshift gritter on strategic roads, it is considered prudent to ensure that such eventualities can be dealt with. The length of this night shift route is approximately 125 kilometres.
- 7.2.3 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.

### 7.3 Priority Routes

7.3.1 The respective categories together with their approximate relevant lengths covered are as follows:

<u>Priority Route Category</u>	<u>Hours of Cover</u>	<u>Lengths (Approximately)</u>
High Priority Routes	0500-2200	470 route kilometre
Low Priority Routes	0730-1600	450 route kilometre

Cover may be extended on low priority routes during snow conditions as authorised by the Director or nominated manager.

### 7.4 High Priority Routes

#### Periods of Cover

1 25 October 2003 - 27 March 2004

The night shift will operate between these dates (1 crew).

2 23 October 2003 - 31 March 2004

The main standby system will operate for all priority routes (12 crews).

3 1 April 2004 – 7 April 2004

A reduced limited standby system will operate for all categories of priority routes (1 crew). In addition, arrangements have been made for suitable staff to be on the first week's summer standby (both the Department and Tayside Contracts) to deal with a "winter" contingency.

7.4.1 As part of the standby system between 23 October and 7 April, 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 high 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.

7.4.2 On Sundays and public holidays reporting of standby personnel will only be carried out if required.

7.4.3 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 high priority routes will still be treated first.

### 7.5 Low Priority Routes

7.5.1 All resources will initially be concentrated on high priority routes, and it is only when these high priority routes have been adequately dealt with that resources will be deployed on low priority routes.

- 7.5.2 It is inevitable that many culs-de-sac 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 culs-de-sac within normal gritting routes due to the unacceptable route times which would result.
- 7.5.3 Tayside Contracts have purchased one large tractor with suitable attachments, which can be utilised in clearing culs-de-sac. A "small" demount gritter can also be allocated to clearing culs-de-sac on completion of work on high priority roads with width and weight restrictions. However, it would not be cost effective to purchase further such items of plant for such infrequent use.
- 7.5.4 Dundee Contract Services have a small number of similar large tractors which are made available to Tayside Contracts in snow conditions on the understanding that one of them may be required for commitments to Social Work Department prior to being available for roads. In heavy snow conditions, Tayside Contracts will pursue availability of further tractors on hire from other contractors whose normal activities are curtailed by the snow. However, the total available plant is still unlikely to be sufficient to treat all culs-de sac prior to thaw conditions taking effect.
- 7.6 Weight Limited Bridges
- 7.6.1 Mandatory bridge assessments in recent years have led to an increase in the number of weight limited bridges in the City and in some reductions of pre-existing weight limits. While the above "small" demount gritter can be used on several such bridges, it is still too heavy to treat these with 3 tonne limits. Hand gritting has been carried out at these bridges but this is considered to be inefficient in terms of salt used and response times. Tayside Contracts are proposing to purchase a trailer gritter that can be attached to a pick-up truck partially loaded with salt so improving service at these locations. Thereafter this equipment can be allocated to assisting in treating culs-de-sac.
- 7.7 Unadopted (Private) Roads
- 7.7.1 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. 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 but this is by law subject to extensive Scottish Executive guidance on the use of this power which has only just been issued. The full impact of this guidance has not yet been assessed but the position will be monitored in relation to future reports on this matter. However even if this new legislation does provide further general powers to extend winter maintenance to unadopted roads, care would still have to be taken to ensure 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.

- 7.7.2 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.
- 7.8 Adopted Footways
- 7.8.1 Adopted footways are also categorised into high priority routes and low priority lists. The high priority routes are those which the footway snow ploughs deal with first, namely shopping areas and main bus routes, and the low priority footways are dealt with by the same method once the high priority routes have been completed.
- 7.8.2 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 a number of footways may still be untreated when a thaw occurs. However, the above aim and actions compare very favourably to the situation nationally. Most Roads Authorities (Scotland) only treat selected footways, very few Highway Authorities (England & Wales) treat footways at all, and no footways are treated by the Northern Ireland Roads Service. Since this high level of service has been provided for many years, a correspondingly high public expectation has evolved in the city, sometimes unrealistically so.
- 7.8.3 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 ineffectiveness of salt relative to normal daytime temperatures in such conditions.
- 7.9 Adopted Footways – High Priority Routes
- 7.9.1 These routes will have coverage from 0600 hours to 2100 hours Monday to Saturday and no coverage on Sundays and holidays. Cover outwith normal working hours will be by operatives who participate in the Winter Maintenance Standby Rota.
- 7.9.2 The standby period for footways will be from 27 November 2003 to 3 March 2004.
- 7.10 Adopted Footways - Low Priority Routes
- 7.10.1 These routes will only have coverage during normal working hours and after the high priority routes have been adequately dealt with.
- 7.11 Grit Bins
- 7.11.1 Following yearly increases in the provision of grit bins, there are now approximately 450 approved locations throughout the city. This continued increase, together with reductions in manual workforces, has led to the situation where resources to

service the bins in snow conditions are now fully stretched resulting in possible delays in replenishment during severe conditions.

7.11.2 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.

7.11.3 The criteria referred to above are:

- 1 the location is not on a High Priority gritting route (carriageway or footway as appropriate to the request), **AND**
- 2 the location has a gradient greater than 6%, **OR**
- 3 the location is on a tight bend **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.

7.12 Footways/Footpaths Maintained by Other DCC Departments

7.12.1 As in previous years, in adverse conditions, communication will be maintained between roads control staff and supervisory staff of Waste Management Department (for Housing), DCS (Ground Maintenance) and Leisure and Arts. This will enable information to be exchanged and the unavoidable misdirected requests from customers to be attended to.

7.13 Exceptions

7.13.1 Exceptions to the foregoing paras 7.1-7.10 may be granted for **snow** emergencies but will be subject to approval from the Director, or in his absence the City Engineer.

7.14 Communications

7.14.1 Following changes to high priority carriageway gritting routes last year, corresponding route plans have now been produced and it is proposed to make these available on the internet this year. A similar exercise for high priority footway routes will be undertaken in the future as resources permit.

7.14.2 The Winter Maintenance brochure produced in 2001/02 is sufficiently generic to be still relevant, and supplies will again be provided for distribution at reception points, libraries, filling stations etc.

7.14.3 During snow conditions, relevant calls from the public to the Council's switchboard and the Clarence/Confirm 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

## 8 CONSULTATIONS

8.1 The Chief Executive, Depute Chief Executive (Support Services), Depute Chief Executive (Finance), and Assistant Chief Executive (Community Planning), Director

of Education, Director of Social Work, Director of Housing, Director of Economic Development, Director of Dundee Contract Services, Director of Leisure & Arts, Head of Waste Management, Head of Environmental Health and Trading Standards, Legal Manager, Principal Insurance and Risk Management Officer, Chief Constable and the Managing Director of Tayside Contracts have been consulted and are in agreement with the contents of this Report.

## **9 BACKGROUND PAPERS**

9.1 None.

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Mike Galloway  
Director of Planning & Transportation

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Ken Laing  
City Engineer

KL/MJG/EH

22 September 2003

Dundee City Council  
Tayside House  
Dundee



**APPENDIX 1****CHRISTMAS/NEW YEAR PERIOD: DETAILS OF COVERAGE - ROADS**Adopted Roads1 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 Routes

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

Monday 22 December	Weekday cover
Tuesday 23 December	Weekday cover
Wednesday 24 December	Weekday cover
Thursday 25 December	Holiday cover
Friday 26 December	Holiday cover
Saturday 27 December	Saturday cover
Sunday 28 December	Sunday cover
Monday 29 December	Weekday cover
Tuesday 30 December	Weekday cover
Wednesday 31 December	Weekday cover
Thursday 1 January	Holiday cover
Friday 2 January	Holiday cover
Saturday 3 January	Saturday cover
Sunday 4 January	Sunday cover
Monday 5 January	<b>WEEKDAY COVER</b>

Cover

	<u>Weekdays</u>	<u>Saturday</u>	<u>Sundays and Holidays</u>
High Priority	0500 to 2200	0500 to 2200	0500 to 2200
Low Priority	0730 to 1600	Nil	Nil

**APPENDIX 2****CHRISTMAS/NEW YEAR PERIOD: DETAILS OF COVERAGE - FOOTWAYS**Footways

Monday 22 December	Weekday cover
Tuesday 23 December	Weekday cover
Wednesday 24 December	Weekday cover
Thursday 25 December	Holiday cover
Friday 26 December	Holiday cover
Saturday 27 December	Saturday cover
Sunday 28 December	Sunday cover
Monday 29 December	Weekday cover
Tuesday 30 December	Weekday cover
Wednesday 31 December	Weekday cover
Thursday 1 January	Holiday cover
Friday 2 January	Holiday cover
Saturday 3 January	Saturday cover
Sunday 4 January	Sunday cover
Monday 5 January	<b>WEEKDAY COVER</b>

Cover

<u>Adopted Footways</u>	<u>Weekdays</u>	<u>Saturday</u>	<u>Sundays and Holidays</u>
High Priority Routes	0600 to 2100	0600 to 2100	Nil
Low Priority Routes	0730 to 1600	Nil	Nil