

## Winter Maintenance: Hampshire County Council Current Policies

### 1.1 Background to the winter service policy

Winter treatment using salt was not established in the UK until the severe winter of 1962/63. With snow covered ground for 3 months in places it was essential that a more efficient and effective way than manually clearing ice and snow was devised. Hampshire was at the forefront of this and was one of the first authorities to use salt extensively to clear its network. Since that time the winter service has developed to a sophisticated level using the latest weather predictive tools, road side weather stations and advanced de-icing technology to spread salt. The underlying premise remains however that sodium chloride (rock salt) is the principle de-icing agent, and its capability is limited by temperature and moisture / water content.

1.2 The winter service in Hampshire developed from the 1960's and the winter maintenance arrangements in Hampshire evolved around fixed divisional and district boundaries at the time of Divisional Surveyors in the 1970s. At this time, the extent of the treated network was decided locally and consequently varied considerably across the county. This issue was identified in the Highway Management Best Value Review undertaken between 1998 and 1999, which recommended that the winter maintenance arrangements were reviewed county-wide and the arrangements put on a uniform footing county-wide without the artificial restrictions of divisional and district boundaries.

1.3 Revised winter maintenance arrangements introduced in 1999-2000 were reviewed and consolidated in 2003 and incorporated within the Highway Maintenance Management Plan and winter service plan endorsed by Members. The principle change in the service was a reduction in the Priority 1 salted network to ensure treatment extent that was consistent with the policy across the whole county. The change in treated network went from 29% to 26%. Optimising the route treatments into weather zones and hot and cold routes also gave efficiencies in deployment of vehicles and resources which enabled a reduction of 4 gritter lorries without any loss in service.

1.4 In the winter of 1999-2000 revised winter maintenance procedures were introduced to put in place a uniform and consistent winter maintenance treatment regime across Hampshire. The need for a consistent and rigorously applied winter maintenance operation was also highlighted by a landmark legal case in East Sussex heard in June 2000. This particular case resulted from an accident on ice and a claim for damages against East Sussex County Council in 1991. The outcome of this case and court of appeal decision culminated in a change of law and a new duty on highway authorities to prevent the formation of ice and snow on the highway network as far as reasonably practicable. This duty is embodied within the approved winter maintenance policy.

### 1.5 Key Points

- **The Priority 1 network:** 26% of total network, 2,600 kilometres, is treated as a precautionary measure in advance of any predicted ice or snow. This comprises the busiest roads in Hampshire; those taking 85% of the traffic. The criteria for inclusion within this priority is all A and B class roads, busy bus routes (25 per day for rural services, and 50 per day for urban services), large schools and employment centres (exceeding 500 pupils or workforce) and large hospitals and emergency facilities. Roads passing through major shopping centres and those taking busy peak-time traffic are also included.

- Treatment of **the Priority 2 network**: 30% of total network, follows Priority 1 treatment when the latter is secure and safe. The treatment of Priority 2 routes is undertaken following sustained periods of sub-zero temperatures when snow or ice may be present. The criteria for inclusion within this priority are single access routes to villages, roads near schools, less busy bus routes, smaller hospitals and ambulance establishments, and roads through shopping centres. Footway treatments on the basis of a prioritised treatment are also included within this category.
- **Priority 3 network**: is for the rest of the network and treatment follows completion of the treatment on the Priority 1 and Priority 2 networks. This only occurs in prolonged periods of sub-zero temperatures, ice or snow. Treatment depends on available resources and is prioritised to areas of greatest identified need e.g. local shopping areas and community facilities, lesser roads with gradients etc.
- It takes between 2½ to 3 hours to salt the entire priority 1 road network
- Over the last 10 years, in an average winter, priority 1 routes have been run about 60 times, and priority 2 routes about 10 times.
- During winter 2009/10, we carried out 78 priority 1, and 12 priority 2 routes. On top of this there would have been adhoc use of gritters for "spot salting" type work mostly during the snow period.

### 1.6 Minimum network to preserve salt stocks

Hampshire County Council's Cabinet in January 2010 gave approval to use of a reduced priority 1 network in the event of salt supply difficulties, to conserve salt stocks. This would be 12% of the full network, about 40% of the current priority 1 routes. This would only be a last resort, and the full priority 1 network would be salted as soon as stocks recovered. However this winter, even with the restricted salt supplies issued by the Salt Cell, it did not become necessary to revert to this reduced network.

- 1.7 During the 2009/10 winter, the extent of the treated network came under scrutiny, especially in the vicinity of schools and links to centres of employment and residence. The Hampshire priority 1 network is at the lower end of the scale nationally (in terms of extent of coverage) and many authorities treat a much greater proportion of their networks than that.

<b>Authority</b>	<b>% of road network salted as priority 1</b>
Hampshire	26% (contingency 12%)
West Sussex	41%
West Berkshire	37% (contingency 26%)
Surrey	37%
Dorset	19%
Wiltshire	25%

(figures published on local authorities websites)

**CSS Survey: percentage of road network treated in advance of predicted ice or snow (Survey 1998)**

<b>Region</b>	<b>treated network</b>
Scotland	46%
Northern England	39%
Central England	35%
South East England	29%
Northern Ireland	28%
Wales	26%
South West England	22%

### 1.8 Salting footpaths

Footways are not salted routinely, but busy pedestrian routes are treated after prolonged sub-zero temperatures with persistent frost or ice which is expected to continue.

(Cycletracks which are part of the road are treated as designated by the road priority, cycletracks which are part of the footway network are treated as the footway treatment designation)

### 1.9 Costs

- The average cost of salting one priority route is £900
- The cost of a complete county-wide salt run is £40,000
- Funding for the winter service is based on a 4 year rolling average to allow for variations in severity. Funding for the service is not capped. Average expenditure is currently £3,300,000 per annum. It is expected the current winter will exceed this figure.
- As a result of the recent cold winter and the two periods of snowfall in December 2009 and January 2010, spending on winter maintenance is already in excess of the budget of £3.2m. Any variation in the budget from year to year is accommodated within the overall budget for highway maintenance, but higher or lower spending than the budget is met from or adds to balances. An overspending of around £2m is projected in 2009/10, which will be met either from underspendings on other non cash-limited budgets or from balances. The latest projections indicate that there will be a significant underspending against the balance of £2m retained within the waste management contract contingency.<sup>1</sup>

### 1.10 Salting Fleet

For plant we have available 8 dedicated gritter units, and 36 lorry mounted epoke<sup>2</sup> units, which includes 3 mini units, as the primary resource. In addition there are 4 spare epoke units and 6 spare vehicles to act as backup and assist with priority 2 routes.

There are 90 farmers who are signed up to assist with snow clearance, some covering more than one route. These farmers cover the rural areas of North, West and East Hampshire. There is no additional resource contracted in the south of the county. There are also adhoc arrangements with a very limited number of farmers.

<sup>1</sup> Information from budget monitoring report to Cabinet 22 February 2010.

<sup>2</sup> Epoke is a manufacturer of winter maintenance equipment, see: <http://www.epoke.dk/Eng/>

### **1.11 Hampshire Current Salt Storage Levels**

- Hampshire's maximum stock of salt currently is approximately 12,000 tonnes. This is sufficient for 12 days continuous treatment during extreme adverse weather conditions of the priority 1 & 2 network. The provision is on the basis of a 5 day turn round for delivery.
- Following a decision at Cabinet in January 2010 this will be supplemented in future with an additional 6,000 tonnes. However, this will require at least one new salt barn to be built to store this salt. The increased salt stock will be available for next winter but a limited quantity may need to be stored in temporary locations until the permanent facilities are completed. Relevant planning and environmental permissions are already being sought for both permanent and temporary facilities.

### **1.12 Hampshire Salt Supply and re-stocking arrangements**

Hampshire manage salt through the Highways Term Contractor Amey, which contracts with Salt Union. Recent events have highlighted lack of resilience in these arrangements, especially when salt needs to be transported for long distances by road. Consideration is being given to use of alternative suppliers, with the ability to deliver by boat to local ports. Consideration is also being given to potential partnership arrangements with neighbouring authorities to develop regional resilience.

- 1.13 The contract arrangements currently require the contractor to manage salt stocks with an ordering trigger level when stocks are at 75%. In addition it is required to restock to 100% capacity prior to the Christmas period. These restocking levels are being discussed with the contractor and the supply chain is being process mapped to identify possible improvements and increased resilience.

### **1.14 When to Salt**

The County Council uses the Icelert® weather condition system as an aid to deciding when to salt roads. The system gathers information automatically from the County Council's own 'mini' weather stations which are strategically sited on roads throughout Hampshire. Computer links with the weather forecaster enable this information to be analysed and used to prepare accurate weather forecasts. These are vital for highway managers when they are deciding on the right time to carry out salting on priority routes.

### **1.15 Snow Clearance**

Snow clearance involves implementing extensive emergency plans and includes the mobilisation of resources all aimed at clearing roads affected in the shortest time possible.

- 1.16 Snow ploughing commences when 25mm of snow has fallen and snow continues to fall. Our aim is to clear all priority roads of snow, as soon as conditions permit, and clearance work will continue as necessary. In certain extreme conditions it may be necessary to spread a mixture of salt and sand / grit to achieve traction, particularly in the case of compacted snow.
- 1.17 Hampshire County Council has 45 snow ploughs at its disposal. In addition, following successful application, 100 farmers have been supplied with snow ploughs and 6 snow blowers are available.
- The average length of a snow plough route is 20 miles.
  - The average cost of clearing snow in the county is £250,000 for each 24 hour period.

**1.18 Responsibility for driveways, carparks etc**

These are all in private ownership or other local authorities ownership. The requirement to keep these areas safe lies with the owner and currently the Hampshire County Highways fleet is not used in these areas except by special request in emergency situations.

**1.19 Extent to which the County Council works with others to ensure salted access**

The highway network is salted in accordance with the winter maintenance policy which identifies the priority by which the highway accessing these facilities is treated. There are occasions when there are sections of private road or car park which are not part of the priority network, which require treatment to facilitate full access. This has been the responsibility of the owner except in exceptional circumstances.

**1.20 Public clearing pavements near their property**

There have been letters issued by the Department of Transport following requests for advice from individual local authorities, stating that in their opinion it would be necessary to prove that a person acted negligently for them to be liable to a claim. However, this is a matter that is being explored more fully to try to be able to establish more definitive guidance that can be conveyed to the public.

**1.21 Grit Bins**

Requests for salt bins should initially be made via local parish councils or other legitimate community groups. If there is no local group or they are not prepared to sponsor a request for a salt bin, the local highways unit can use its discretion to provide a bin, provided there is a clear highway benefit in doing so. The site for a bin will be considered by the County Council taking into account several factors, such as:

- The bin must not obstruct sight lines
- There must be sufficient space for the bin and for safe salt replenishment
- There must be sufficient traffic and/or pedestrian use
- The bin must not be placed on an existing Priority 1 salting route.

1.22 Once approval has been granted, the Public Body that has requested the bin is responsible for purchase of the bin, requests for re-filling the bin, and use of the bin for treatment of the highway (including monitoring). The County Council Highways Unit is responsible for installation of the bin and filling it with salt, re-filling the bin following a request from the public body, or during periods of adverse weather. Should a site prove problematic, for example, if there is regular use of salt for the treatment of private driveways, the County Council reserves the right to remove the bin.

1.23 Following the announcement by Cabinet in January 2010 that up to 4,000 additional grit bins would be provided, letters have been issued to Parish Councils and other local associations to identify areas where a salt bin may be appropriate. Revised guidance on the provision, sighting and maintenance of grit bins is being drafted and is part of the review of the winter maintenance policy currently being undertaken by the Environment Department.

**1.24 Severity of Winters**

The winter of 09/10 was widely acknowledged as the most severe since 1980; Hampshire experienced 26 days of continued adverse weather with just 2 days respite.