
WINTER SERVICE REVIEW - HIGHWAYS

1 SUMMARY

- 1.1 This report advises Members of a consultation being carried out by Essex County Council (ECC) Highways Services regarding the winter maintenance service (winter gritting). The last survey was carried out in 2002.
- 1.2 A response to the questionnaire is requested by 31 July 2004, hence the urgency of this report.

2 INTRODUCTION

- 2.1 As part of the review of the winter maintenance service, ECC have sent a questionnaire relating to precautionary salting. This report provides a list of suggested responses for Members' consideration.
- 2.2 The questionnaire is reproduced at section 3 below, with RDC responses in italics.
- 2.3 Appendix A refers to ECC Highways Winter Service Policy.
- 2.4 Appendix B – ECC Winter Service Leaflet is available from ECC.

3 QUESTIONNAIRE AND RESPONSES

Section 1 – Precautionary Salting Network

From the results of the 2002 Questionnaire there was clear agreement that the precautionary salting network should include strategic/main roads; access routes to hospitals; ambulance stations and fire stations; regular bus routes plus sites subject to a known winter related injury/accident problem or are assessed to be at high risk of a winter related accident occurring. There was also a clear majority that felt that little used roads and those served by limited bus services should not be included in the precautionary salting network. Overall the Council considered that the optimum network coverage should be somewhere between 40-45% of the total highway network.

Q1a.	Do you think we have got the winter service program about right? (Please circle your response)	
	YES NO NOT SURE	Yes

Q1b.	<p>Where do you think we should be targeting our efforts and funding to keep highways clear of snow or ice? Please rank in order of importance, 1 being highest priority, 7 lowest.</p> <ul style="list-style-type: none"> • A/B roads • Regular Bus routes • Access to Hospitals, Fire and Ambulance Stations • Routes to isolated villages and communities • Footways & Cycle ways outside schools • Other Footways & Cycle Ways • School Bus Routes 	<p>1 2 3 4 7 6 5</p>
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On the subject of school bus routes, in the earlier survey there was a majority against their inclusion. Along with other items highlighted since the 2002 questionnaire officers are seeking views as to the inclusion of the following to the network coverage.

Q2.	<p>In Essex the Winter Service operates over a period lasting 161 days from 1st November to 31st March. It is estimated during this period that schools are only open on 50% of these days. The majority (60%) of School Bus Services contracted by Essex County Council are taxis or similar vehicles and the drivers will set their own routes. The County Council does not require to be notified of these routes; as such it is not possible to estimate accurately the additional resources necessary to include all routes used by the school bus services in the precautionary salting programme.</p> <p>If such a policy were adopted there is a good risk that the County Council will not be able to comply and therefore could be liable to compensation claims in the event of an incident(s) involving a school bus service.</p> <p>Would you wish to include school bus routes in the precautionary salting network? (Please circle your response)</p> <p style="text-align: center;"> <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NOT SURE </p>	<p>Not sure</p>
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Q3a	<p>There was a clear majority that agreed with inclusion of sites subject to a risk assessment identified as a potential for frost or ice related accidents. An assessment was developed that took into account traffic numbers, gradients and sharp bends. Currently about 9% of the precautionary network is identified as high risk sites.</p> <p>Would you wish to include the following as part of the risk assessment for high risk sites? (Please circle your response)</p> <table data-bbox="443 712 1225 862"> <tr> <td>1. Traffic Counts</td> <td>YES</td> <td>NO</td> <td rowspan="4">Yes</td> </tr> <tr> <td>2. Gradients</td> <td>YES</td> <td>NO</td> </tr> <tr> <td>3. Sharp bends</td> <td>YES</td> <td>NO</td> </tr> <tr> <td>4. Access to isolated communities</td> <td>YES</td> <td>NO</td> </tr> </table>	1. Traffic Counts	YES	NO	Yes	2. Gradients	YES	NO	3. Sharp bends	YES	NO	4. Access to isolated communities	YES	NO	
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Q3b	<p>Are there any other items you feel should be included as part of the risk assessment for high risk sites?</p>	Areas close to water													
Q4.	<p>Most villages or larger communities are served by a regular bus service thus guaranteeing at least one road out of the village on the precautionary salting network. However there are a number of small isolated communities not on regular bus routes that also have insufficient traffic flows to justify them as high risk sites.</p> <p>Do you feel that at least one road to the primary community within a parish of 50 or more households should be included in the Precautionary salting network irrespective of its traffic flows with the road to be agreed by discussions with the Parish Council? It is estimated that this addition to the Winter Service Policy would add approximately 120Km to the precautionary network and £110,000 to the Budget (Please circle your response)</p> <table data-bbox="494 1630 1050 1668"> <tr> <td>YES</td> <td>NO</td> <td>NOT SURE</td> <td rowspan="2">Yes</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	YES	NO	NOT SURE	Yes										
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Section 2 – Salting of footways and cycle ways

In the 2002 Questionnaire there were a clear majority against the inclusion of footway and cycle ways in the precautionary salting network. With a few exceptions the majority of foot ways would require a high level of resources in manpower to carry out treatment. The number of complaints and claims received has also been very small and therefore in the past this has not been

perceived as a major problem. The County Council is investigating new methods for the treatment of footways and cycle ways but it will be some time before a cost effective solution is found.

Q5.	<p>Would you wish to include footway and cycles ways in a future policy if a cost effective method of treatment is found? (please circle your response)</p> <p style="text-align: center;">YES NO NOT SURE</p>	Yes																																																						
Q6.	<p>In order to investigate the possible areas that may be included in a future policy please score 1 to 6 their level of importance (6 = high importance, 1= low importance, please circle).</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Transport interchanges</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td style="width: 5%;"></td> <td style="text-align: center;">5</td> </tr> <tr> <td>Town Centres</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: center;">6</td> </tr> <tr> <td>Outside schools</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: center;">4</td> </tr> <tr> <td>Safe routes to schools</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: center;">4</td> </tr> <tr> <td>Shopping centres</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: center;">6</td> </tr> <tr> <td>Access to Hospital</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: center;">5</td> </tr> </table>	Transport interchanges	6	5	4	3	2	1		5	Town Centres	6	5	4	3	2	1		6	Outside schools	6	5	4	3	2	1		4	Safe routes to schools	6	5	4	3	2	1		4	Shopping centres	6	5	4	3	2	1		6	Access to Hospital	6	5	4	3	2	1		5	
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Q7.	<p>Would you agree to reduce the level of precautionary salting to the carriageway to accommodate the treatment of footways and cycle ways? (Please circle your response)</p> <p style="text-align: center;">YES NO NOT SURE</p>	No																																																						

Section 3 – Salt Bins

Salt bins were originally provided for the local parish length man to treat the roads in the parish. As the responsibility for highway maintenance is no longer the responsibility of Parish Councils the idea of the salt bins were retained for parishioners to use on a self help basis. During periods of mild winters the bins tend to be neglected, vandalised and forgotten until the next heavy snow. Monitoring of the bins is best done locally and the County Council is looking for sponsorship for any new bins requested by Parish or Town Councils.

Under the arrangement the requester would be expected to pay for the bin installation, but the County Council will supply the salt free of charge. The Parish or Town Councils would be expected to monitor the bin and request replenishment when it is required. Such a policy would help reduce maintenance expenditure on little used bins in times of mild weather and the bins are sited in areas where they would be the most effective.

Q8	Would you agree that there are enough salt bins? (Please circle your response) TOO MANY ABOUT RIGHT NOT ENOUGH	<i>Not enough</i>
Q9	Would you agree with the current policy of sponsorship of salt bins by Parish or Town Councils? (Please circle your response) YES NO NOT SURE	Yes

Section 4 – Snow Clearing

Last year some 65 plus vehicles operating continually spread over 5,000 tonnes of salt in order to keep the main precautionary salting network passable during the periods of heavy snow. Despite public perception the use of salt will not guarantee that the road will be ice or snow free. As a general rule of thumb, 5 passes or more of the gritting lorry would be required to move 50mm of snow. With just over 100km of road for each gritting vehicle to cover this is a tall order.

Clearing snow is one of the visible functions of a highway authority and despite its best efforts will still be criticised. Investing in more equipment and holding larger numbers of manpower on standby for these rarer events is costly and needs to be balanced with a level of acceptable disruption.

Q10.	With the experiences of the last winter snow periods do you feel that the level of snow clearance was acceptable? MORE REQUIRED ACCEPTABLE MORE THAN EXPECTED	<i>Acceptable</i>
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4 RISK IMPLICATIONS

4.1 Strategic Risk

The winter gritting service provided by ECC Highways Service is crucial to the well being of the District in times of snow and frost. A response to this questionnaire will advise ECC of how the service relates to Rochford District.

5 RECOMMENDATION

5.1 It is proposed that the Committee **RESOLVES**

That Members agree the responses to the questions so that a formal response can be sent to ECC.

Roger Crofts

Corporate Director (Finance & External Services)

Background Papers:

None

For further information please contact David Timson on:-

Tel:- 01702 546366

E-Mail:- david.timson@rochford.gov.uk

APPENDIX A - ESSEX HIGHWAYS MAINTENANCE POLICY

WINTER SERVICE POLICY

The Winter Service Policy as contained within the Essex Highways Maintenance Plan is as follows

6.15 WINTER SERVICE

The Winter Service can contribute to the core objectives as follows:

- **Safety** detailed statutory obligations and user needs are prime considerations for the Winter Service
- **Serviceability** maintaining availability and reliability of the highway network is a key objective for the Winter Service and one where user judgments of performance will be immediate rather than longer term
- **Sustainability** low temperatures and the formation of ice can cause serious damage to the fabric of running surfaces and the Winter Service can therefore make an important contribution to whole life costs.

In essence, the Winter Service comprises operations to apply salt or other de-icing materials to the highway in anticipation of, or to assist, the removal of snow or ice. This also includes the use of snow ploughs in the removal of snow.

Following introduction of the amendment to Section 41 of the Highways Act 1980 Highway Authorities now have a duty 'to ensure so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice'. There is also a duty upon authorities under Section 150 of the Act to remove any obstruction of the highway resulting from "accumulation of snow or from falling down of banks on the side of the highway, or from any other cause".

Notwithstanding the statutory requirements, there are considerable user needs, together with high expectations in respect of the efficiency and effectiveness of the Winter Service. As user needs and expectations are a fundamental principle of Best Value, due consideration of these should be addressed in developing the Winter Service policies and objectives.

In regard to post salting operations necessary to deal with snow or ice, the Council has to demonstrate that it acted reasonably, as the existence of snow or ice is not necessarily evidence of failure to carry out its obligations, and it is likely that many minor roads will thaw naturally before resources can be employed to deal with them.

The County Council recognises the importance of the Winter Service and the fact that it is a normal function of highway authorities. The aims and objectives of the service are to :

- minimise delays caused by the presence of snow or ice on the highway

- minimise delays to the Emergency Services and Police in carrying out their functions
- maintain a network of highways as detailed in the policy where the risk of an accident, where snow or ice is a contributory factor, is reduced.

Accordingly, the County Council has adopted working procedures to ensure that these objectives are met in a cost effective and efficient manner as detailed in the Highways and Transportation “Winter Service Operational Plan” and updated annually.

The approved Winter Service policy includes the following :

- Salting for frost and ice to be undertaken on; carriageways of secondary distributor status and above, access routes to hospitals, fire stations, and ambulance stations, public service bus routes carrying a total of four or more buses per day in both directions for at least five days of the week and sites where there have been four or more personal injury accidents within a three year period and frost / ice on the road surface was a contributory factor. Other high risk sites where a full risk analysis has been carried out by the County Council or its Agents, with a copy retained by the Group Manager Highway Maintenance, will also be treated. No other highways will receive treatment for frost and this operational network is termed **Plan A**.
- The precautionary salting of footways, cycleways and school bus routes except where covered by the above description is not undertaken. Following a consultation exercise with County Members in 2002 the consensus of opinion was that these areas should not be included within the Plan A network in view of the resources required in terms of equipment and cost and the presumption that frost would dissipate naturally before completion of the salting operation.
- Exceptionally, the County Council will consider approval to precautionary salting of routes other than specified if funded by district/borough councils provided this does not compromise implementation of the County Council’s winter service operation.
- Salting for snow that has settled on the highway, but is not of significant depth, or its presence is expected to be short lived will be limited to the *Plan A* network.
- For snow that has settled on the highway in significant amounts, or in the event of severe and persistent frost and ice, operations may be expanded to highways as detailed in the County Council’s Winter Service Plan. This operational network is termed **Plan B**.
- Funds to be allocated to districts for Plan A on a common basis of rate per kilometer for a standard winter of 43 salting actions, the allocation to include funds for a short period of snowfall of up to 3 days.
- To use an ice prediction system and Meteorological Consultant as an aid to prediction or forecasting.

- To co-ordinate with adjoining authorities for the procurement of services and the sharing of forecast information within the Essex Consortium.

The need for possible treatment is assessed through the prevailing conditions, weather reports and forecasts with the information being supplied through the ice prediction system "ICECAST" and the Meteorological Consultant.

In regard to the Winter Service standards, these are incorporated into the Winter Service Operational Plan, and include :

- defining responsibilities for operations and decision making
- the arrangements and source of weather information
- the County Council's operational standards
- winter service operational procedures.

The Area Managers will require a Snow Plan for each Agent District and Partnered Contractor by 1 October each year. These plans should include :

- salt storage sites and loading arrangements
- schedule of available plant and labour with back up arrangements
- hired plant and labour schedules for snow clearing
- pre-salting and snow clearing route schedules together with plans
- standby rotas for emergency call out arrangements.

The operational procedures should include the following :

- priority order of treating the pre-salting routes (Plan A)
- priority order for clearing snow from the carriageway, footways and cycleways and network (Plan B)
- route plans with specific details of treating large roundabouts and junctions
- whether difficult routes should be closed to selected classes of vehicles and how this should be arranged
- target times for completion of pre-salting
- action necessary to centralise control of all resources in the event of emergency conditions
- minimum stores of salt to be maintained
- any special action required on thaw after snow
- erection and dismantling of snow fences
- contacts with other bodies including the media
- co-ordination with adjoining authorities.

The Winter Service Operational Plan incorporates a risk management strategy in line with the recommendations of the new Code of Practice for Maintenance Management.

APPENDIX B – WINTER SERVICE LEFLET

Our staff

Senior members of staff work on a rota system as Duty Standby Officers. Along with being on call throughout the night, the Duty Officer decides whether precautionary salting should be carried out. This decision is usually taken in mid afternoon, but on certain occasions this may be delayed until the early hours of the morning.

Afternoon and evening forecasts can sometimes be uncertain. Staff on duty have portable computers through which they obtain updated forecasts.

Approximately 65 spreading vehicles and 100 personnel are on call. Crews can be on the road within two hours from the decision to take action. During times of particularly bad weather these crews will be on call more than 12 hours a day.

The fleet uses 350 tonnes of salt on each run, which takes around three hours to complete. In order to be most effective and to minimise disruption to traffic, the runs usually take place in late evening or early morning.



When things go wrong

Sudden weather changes can occur, and there are cases when treatment will not be evident or effective



- Remember that it takes time before the salt is effective
- Rain can dilute or wash the salt off the roads, leaving them prone to ice
- In extremely severe weather, not even salt will prevent roads from becoming icy

Regardless of how accurate a forecast is, there are some situations in which we cannot respond.

- On a wet night followed by a rapidly clearing sky, salting will begin once the rain has stopped. However, in these conditions temperatures can fall very rapidly and the wet roads will freeze before the service vehicles have been able to salt them.
- Dry roads can be affected by down frost. This occurs when morning dew develops, falling onto the cold road and freezing on impact. It is impossible to predict with any accuracy when or where down frost will occur.
- When rain turns to snow at rush hour early salting cannot be carried out. The service vehicles are hampered by traffic congestion and the earlier rainfall would wash away the salt.
- If conditions are particularly severe, not even the service vehicles can obtain access to the road network.

Contact Details for Winter Service

District	During Work Hours	Out of Hours
Basildon	02268 294949	02268 533533
Braintree	02206 573353	02206 573353
Brentwood	02777 261111	02777 262728
Castle Point	02268 882200	02702 551745
Colchester	02206 282700	02206 769779
Chelmsford	02245 406892	07836 256888
Epping Forest	09992 954000	09992 954001
Harlow	02729 446832	02729 446666
Malden	02268 774458	02268 774458
Royston	02268 774458	02268 774458
Tendring Urban	02255 445501	02255 445501
Tendring Rural	02206 573353	02206 573353
Uttlesford	01571 872888	01571 872888

For motorways and trunk roads
Highways Agency 08457 504030
For A30 Chelmsford - Benfleet
County Route 0845 351130

Essex County Council's Highways Helpline operates 24 hours a day including the holiday periods on 02245 437065

The information contained in this booklet can be made available in alternative formats: large print, braille, audio tape or disk.
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Keeping Essex moving



Winter Service

The service

During the winter months Essex County Council strives to keep a network of major roads free from ice and snow, to enable the safe and efficient movement of vehicles and pedestrians.

The service is on standby 24 hours a day from October to April each year, including over the Christmas and New Year holidays. The service is activated when winter weather is forecast to affect the highway network for which the County Council is the highway authority.

Motorways and trunk roads, such as the M25, M1, A52 and A30 are administered by the Highways Agency, who can be contacted on 08457 50 40 30. The A30 - Chelmsford to Benfleet is administered by County Route, who can be contacted on 0845 351130.

Our technology

Essex County Council, in consortium with Southend and Thurrock, operate Icecast, a computerised ice prediction system providing information from roadside weather stations at strategic locations across the county. Along with specialist weather forecasting, this gives the most accurate indications of where and when ice is likely to form on the road, and whether precautionary salting might be needed.

How do we decide what to do?

Weather and road conditions can vary across the county, and a number of factors must be considered before salting the roads, such as:

- Whether the road surfaces are wet or dry
- The predicted likelihood of rain or snow
- Any accumulation of salt from an earlier treatment

Precautionary salting

During normal winter conditions only major or important roads will receive precautionary salting. 1,800 miles of road, or approximately 40% of the county road network, falls within this category. These roads include all 'A' and 'B' roads, access to routes for emergency services, and public service bus routes carrying four or more buses per day, five days a week.

Footways and cycle tracks are not included in the precautionary salting network. However, additional salting can be carried out to deal with ice in major areas of pedestrian activity.

How the process works

Precautionary salting is the application of crushed rock salt to the road surface before the onset of ice and frost. Salt suppresses the freezing point of water on the road surface, but this can become ineffective during very low temperatures, high winds, or when there is excessive water on the road surface. With heavy rainfalls, Essex experiences particular problems with seepage from fields and verges onto the road surface, which in many areas dilutes or washes away the salt.

The action of traffic is essential for salt to be effective, moving the salt granules around and eventually melting the ice. On more lightly trafficked roads the surface will remain icy for some time after salting. It must be stressed that the spreading of salt does not mean that the road surface will instantly become ice free. Motorists should always drive with caution whether the road has been salted or not.

Snow clearance

During severe winter weather, when there are persistent periods of icy conditions or snowfalls, the service is extended. In these circumstances roads are treated in their order of importance. Minor roads are treated once roads on the precautionary salting network have been cleared and sufficiently protected against the forecast conditions. Some minor roads thaw naturally before resources become available.

Salt alone is not effective when dealing with large snowfalls, and in this case snow ploughs must be employed. When snow has become compacted and cannot be removed from the road surface, grit is sometimes applied to provide traction.

