



Maintenance Strategy:

Winter

February 2021



Essex County Council

Document Title	Winter Maintenance Strategy
Status	FINAL
Issue date	February 2021
Revision Date	February 2024

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Maintenance Strategy: Winter

1.1 Introduction

The Essex County Council (ECC) Winter Maintenance & Operations Strategy has been fundamentally reviewed with maintenance engineers, inspectors and other practitioners to take account of the recommendations and best practice set out in the October 2016 “Well-managed Highway Infrastructure: A Code of Practice”.

The Code of Practice is designed to promote the adoption of an integrated asset management approach to highway infrastructure based on the establishment of local levels of service through risk-based assessment.

This document supports the overarching ECC Highways Maintenance Policy sets out and describes the service levels relating to our risk-based approach to how it provides the Winter service that it is responsible for. The document will also set out the service levels and details of its risk based approach.

Alongside this strategy will be supporting documents that detail the processes & procedures to be operated.

This strategy covers the following key areas:

- Background
- Levels of Service
- Precautionary Salting Network
- Minimum Winter Network
- Salt Bag Partnership
- Salt Bins

1.2 Background

The Winter Service makes an important contribution to the core objectives of safety, serviceability and sustainability.

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.

Under Section 41 (1A) of the Highways Act 1980 Highway Authorities have a duty to ensure as far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice. The duty is not absolute, but requires the authority to take such measures that are reasonably practicable.

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’.

The Traffic Management Act 2004 requires authorities to do all that is reasonably practicable to manage the network effectively and to keep the traffic moving. It is important to note that due to the unpredictability of UK weather and level of specialist plant and staff that have to be maintained on standby for infrequent weather events it is not practicable to provide the service to all parts of the network and ensure/guarantee that all running surfaces are kept free from ice or snow including those parts of the network that receive treatment.

The existence of snow or ice is not necessarily evidence of a failure to carry out obligations.

In carrying out the service ECC also has to demonstrate that its policies, standards and procedures applied were reasonable, practical, fair and consistent. This is a challenge for the authority due to its mix of urban and rural environments, its topography and size in satisfying all users need and expectations. Therefore this strategy will set out the approach to winter maintenance taking into account these points.

The main 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 strategy where the risk of an incident, where snow and ice is a contributory factor, is reduced.

In addition to this strategy document, we also have supporting documents, which set out the Providers processes for the delivery of the winter service in accordance with this strategy.

Essex covers a large surface area and also has a large coastline. Variations in temperature and weather patterns that can exist throughout the county mean that the ECC has been divided the up into 'weather domains'. The weather domains and a summary of the main areas within them are:

- Blackwater
- Colne
- Roding
- Thames
- Three Valleys

When a decision is made to undertake a precautionary action, weather predictions for each area are considered to instruct the gritting lorries to go out as necessary by domain. Information that is published on twitter for the public will use these area names. These domains are also viewable on a map on the Essex Highways Website.

1.3 Winter Network

1.3.1 Precautionary Salting Network

Precautionary salting is the treatment of the highway surface prior to the onset of frosty, icy conditions or forecasted snow or icy precipitations. The term may also be used to describe a subsequent or repeat treatment to top up or replace the loss of

residual salt on the network and that was carried out after the onset of freezing conditions.

Given the size of the carriageway network in Essex, it is not practical to treat the whole network therefore a priority treatment network has been developed. This network has been developed taking into account the recommendations from; the codes of practice, Government, UKRLG and NWSRG reports as well as previous experiences. This is commonly known as the Precautionary Network and covers approximately 40% of the authority's carriageway network. This is also viewable as an interactive map on the website. This network has been estimated to carry approximately 80% of the total traffic movements as well as providing access to the strategic elements and remote communities.

In order for a carriageway to be included in the Precautionary Network, it must meet at least one of the following criteria:

- Carriageways of Priority Route 2 (PR2) status and above;
- access routes to hospitals with accident & emergency facilities, fire stations, ambulance stations and other emergency services;
- public service bus routes carrying a total of four or more buses per day in each possible direction for at least five days of the week;
- 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 ECC. The assessment based on traffic volumes and an allowance will be made if the road or site has a significant gradient or bend.
- the Winter Access Rural Network (WARN) – the access route to the main settlement of a parish of 50 or more households not already on the precautionary salting route.

Please note that the above criteria only applies to roads that Essex Highways are responsible for. This excludes the A12, the A120 and part of the A130 which are administered by other organisations

Any requests received for roads to be added to the precautionary network will be assessed by relevant officers to determine if they meet the specified criteria. Any additions or removals from the Precautionary Network will be presented to the Director of Highways and Transportation for agreement in consultation with the Cabinet Member for Infrastructure.

Any amendments to the Precautionary Network wherever possible will usually be made in the period between seasons, but if deemed critical this may be accelerated at the discretion of the Cabinet Member for Infrastructure and the Director of Highways and Transportation.

Periodically the Precautionary Network will be reviewed in its entirety to confirm that existing routes still meet the criteria.

Access routes under the WARN criteria will be defined by assessing any available traffic data, known school bus services, highway environment and where possible consultation with the parish council. However, ECC has the final decision to ensure that the route is reasonable and practical.

Whilst we endeavour to treat all roads meeting the criteria set out in this strategy when required, there may be times when this cannot be achieved. This could be due but not limited to, operational or access issues such as parked cars, road closures or resource availability. Additional streets may also be included on the treated network based on site specific factors such as a cross boundary link to another authorities network.

1.3.1.1 Elements of the network not included on the precautionary network

School Bus Routes – ECC recognises that there is a public desire to include school bus routes. There are estimated to be some 600 school services within the county, there is no obligation on the operators to notify ECC of the routes and they are free to adjust routes as they see fit. At this time these routes will not be included in the Precautionary Network.

Footways and Cycleway – Cycleways and footways will usually thaw naturally before resources can be allocated to deal with them. Please refer to section 1.6.2.

1.3.2 Additional treatments during severe weather events

During times of severe weather (Snow or prolonged icy conditions) carriageways not on the precautionary network may require clearance to improve access to areas which are not as heavily trafficked as the Precautionary Network.

As snow events are mainly irregular and transient routes to be cleared will be assessed based on local conditions some examples of areas to be cleared may include;

- rural roads linking parts of the precautionary network and of sufficient width or size to be ploughed and treated by either snow clearing machinery or a gritter.
- urban environments link or feeder roads within estates.

In such events these areas may be cleared or ploughed by snow clearing contractors. This will commence as soon as there is sufficient depth for the ploughs to operate effectively and provided the precautionary network is in reasonable condition that does not require the services of snow clearing contractors. Treatment of these routes will only commence if gritting resources become available.

For the purposes of planning resources and ensuring minimum delays in mobilisation a Winter footway list will be maintained. This will mirror the footway functional route hierarchy, all prestige and PF1 footways as the main priority. The criteria for these hierarchies can be found in the 'Maintenance & Inspections Strategy: Carriageways, Footways and Cycleways'.

In significant snow events footways may be cleared by available lower tier (District/Borough/City Council) council staff and resources.

1.3.3 Untreated Networks and footways

Untreated Carriageways will mainly be minor roads or cul-de-sacs with very few property accesses or of very short length that treatment or clearance is not reasonably practicable. In most cases it will be determined by the ability that snow clearing

machinery or gritters can safely access the carriageway. Therefore narrow roads or roads with significant on street parking could fall within this category. These roads will not be cleared or treated unless there is a significant emergency situation or by self-help.

Untreated winter footways/cycleways and footbridges shall be all other footways & cycleways. These may be expected to be cleared and treated during severe weather events by local volunteer groups or through self help.

1.4 Levels of Service

1.4.1 Services funded by ECC

1. The Precautionary Salting Network will be treated during normal frost or icy conditions. Additionally, 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 Precautionary Salted Network. This element is delivered by ECC.
2. During severe weather events a network of locally-based farmers are available to provide assistance with snow clearance and are paid a fee to do so.

1.4.2 Enhanced services provided on a voluntary basis

1. Additionally, ECC has engaged with District/Borough/City Councils for them to provide snow clearance on footways and cycleways. This is an enhanced service provided voluntarily by these organisations and is not paid for by ECC.

1.5 Minimum Winter Network

The code of practice recommends that local authorities should define a minimum winter network to be operated as part of its resilience or continuity planning. Situations which may equate to an emergency and result in a reduced network being operated are listed below but are not limited to:

- National problems in the mining, supply or delivery of road salts
- Pandemic flu or illness
- Industrial action
- Fuel shortages
- Extended winter period
- Other unforeseen events

As some of the above situations could escalate over a short period of time there will not be sufficient time to carry out a formal consultation after the onset. Therefore in preparation for this a minimum network will be planned in advance. The decision operate this reduced network will remain with the Cabinet Member responsible for Infrastructure in the event of such circumstance.

In the event of the above, the reduced network will meet the following criteria:

- PR1 roads
- PR2 Roads or other significant local roads which serve outlying communities of significant population to provide a link to the Priority road network

- PR2 roads in rural area to ensure that rural communities of a significant size are within 5Km radius of a treated network
- Access roads to major hospitals, ambulance and fire stations

In operating the reduced network, the following protocols may be operated depending on the situation and at the discretion of the Cabinet Member.

- The full precautionary network will be treated, except between the following run commencement times, Friday evening 2000hrs and Sunday evening 2000hrs, when the reduced network will be treated
- Reduced treatment spread rates
- Suspension of other elements of the winter service in order to deal with the situation

1.6 Third Party Assistance

1.6.1 Snow Clearing Contractors

ECC has a network of volunteer snow clearing contractors, mainly farmers or agricultural contractors to call on in times of snow.

In the event of a snow event the farmers may be called to assist the Highways Service Provider on the Precautionary Networks before starting on the secondary networks. It is likely that many minor roads, cycleways and footways will thaw naturally before resources can be allocated to deal with them.

1.6.2 District, Borough & City Council voluntary assistance

ECC has a Memorandum of Understanding with all 12 Borough, District and City councils in Essex for them to assist in times of severe weather. The basis of the understanding is that Borough, District and City staff that would have to be stood down from their usual work due to the weather conditions would be requested by Essex Highways to clear snow from the priority footways. Conditions on the use of district staff are as follows.

- The staff will only be available 'free of charge to ECC' during normal working hours. Outside normal working hours is subject to the availability staff 'volunteering' and ECC paying agreed rates for out of hours' support
- Borough, District and City Councils will have their own internal priorities (clearing District Council properties) and these will take priority before assisting ECC
- ECC will supply each Borough, District or City with a supply of salt to enable them to treat public footways
- As soon as it is possible for staff to return to their regular duties they will be withdrawn.

These resources are usually only available during normal working hours.

1.6.3 Salt Bag Partnership

During periods of extreme weather; such as heavy snow experienced in past winters, communities and individuals can do a lot to help themselves and others. Self-help is actively promoted as it is about communities coming together to help each other on a voluntary basis to target their local needs and build their resilience.

To support local communities during periods of severe weather ECC has supplied volunteer Parish/town councils and urban community groups with bagged salt for use on locations they consider important in their local community, such as footpaths outside doctors surgeries, local shops and services and access routes to main bus stops. Sites already on the salting route will not require salting. These groups will operate independently to target their chosen areas via their volunteers

The groups that would take part in the scheme shall be a Parish or Town Council. However in un-parished areas this may be local residential associations or similar groups operating under their local County Councillors' sponsorship and governance. Each Parish or community group will receive one tonne of bagged salt at the start of the season.

Participants are published on the Essex Highways website.

Each Parish/Town Council or community group (via their local County Councillor) taking part is provided with a 'Volunteer Briefing Booklet'. This pack sets out guidance and things to consider for the groups and covers areas on health and safety, legislation and the most effective way of operating. This pack has been drafted in consultation with Parish Councils, their insurers and the County Council legal advisors and is optional for use or those participating can choose to produce their own to manage the scheme.

1.6.4 Salt Bins

Salt bins are provided at various locations throughout the county to allow drivers and pedestrians to treat localised icy conditions. The bins contain a salt/sand mix which is solely for use on public roads and pavements and should not be used for private driveways.

We currently have in the region of 1000 salt bins in Essex and each fill of the salt bin network takes approximately 350 man hours, uses up to 1000 tonnes of salt and takes over 3 weeks to complete.

Existing bins are stocked as part of our normal stocking programme and will not normally be filled on an ad hoc basis during the winter.

Throughout the winter our priority is to ensure the precautionary gritting network is secure. Only when this activity is completed can resources (manpower, equipment and salt) be deployed to other areas.

The locations of salt bins can be viewed on the Highways Information Map, which is available on the Essex Highways website.

The experience of Essex and other authorities is that salt bins system can be prone to abuse therefore the provision of this facility will be limited as below.

ECC will provide a network of bins for self-help use. The bins will be filled with a 50/50 mix of salt/sand in part to deter misuse but also it is recognised that the contents most likely will be on top of compacted snow and the mix would be better suited to provide traction compared to a pure rock salt.

The bins will be replenished at the start of the season. A second replenishment may be carried out after a major snow or severe weather event, depending on the risk of further snow events and availability of replenishment crews. There will be no individual refills or a third replenishment.

1.6.4.1 Privately-owned bins

If a bin is not shown on the Highways Information Map it could be a privately owned bin, purchased by a Parish or District Council, Residents Association or member of the public. Privately owned bins are not stocked by Essex Highways. If a Parish or District Council, Residents Association or individual member of the public want to purchase their own salt bin and install it on private land (with the landowners agreement) they will then be responsible for maintenance and stocking of the bin.

1.6.4.2 Salt bin provision

- A salt bin should not be located on the precautionary salting network (however, it could be on a junction with a non-salted road) and;
- The bin would need to be located on a steep incline with a gradient greater than 5% for a minimum length of 50m OR on a sharp bend radius less than 500m with a speed limit greater than 30mph and;
- The bin should not be located within 200 metres of another salt bin (by walking distance, not as the crow flies).

1.6.4.3 Salt bin misuse and issues

Should an existing Council owned bin (within the public highway) prove problematic because of regular misuse of salt for the treatment of private driveways, or vandalism, the Council reserves the right to remove it.

1.6.4.4 Damaged/stolen bins

If a bin becomes unusable because the bin is damaged or vandalised the criteria will be applied to see if it qualifies to be replaced which may be outside of the winter season as resources will be directed to salting the network. It will then be stocked in line with our normal stocking programme, not on an ad hoc basis.

If a bin is shown on the map but is now missing/stolen the criteria will be applied to its mapped location and if it qualifies it will be replaced, which may be outside of the winter season as priority will be directed to salting the network. It will then be stocked in line with our normal stocking programme, not on an 'ad hoc' basis.

1.6.4.5 Found bins

Bins which are not shown on the map may be privately owned. If it is found to be an ECC owned bin then the location will be assessed to see if it meets the criteria. It will be added to the map and if it meets criteria will be shown as an active bin and will be stocked in line with our normal stocking programme, not on an ad hoc basis.

1.6.4.6 New bin requests

All requests for salt bins to be installed at a new location (i.e. not already on the Highways Information Map) need to be made via local County Councillors or Parish Councils where applicable. If they consider the request appropriate they will forward the details to Essex Highways' Highways Liaison Team who will arrange for the required assessment and if successful, forward it to the Local Highways Panel (LHP) for funding consideration. You can check the Local Highway Panel minutes for the outcome of your request. These can be found online under the relevant district/town council.

If the proposed bin location is suitable (i.e. is in a location that allows for stocking/use, doesn't reduce visibility, and meets the criteria) the LHP will consider the cost of the bin and installation and Essex Highways will thereafter stock and maintain it. County Members or Parish Councils will be able to provide residents with progress updates. Funding approval will be the decision of the Local Highway Panel based on priorities in the District as a whole, they will make recommendations to the Cabinet Member for Infrastructure.

Delivery of the bin will be in line with the forward programme and once installed the bin will be stocked in line with our normal stocking programme, not on an ad hoc basis.

There are alternatives to salt bins which may be more appropriate such as the Parish and Urban Salt Bag Partnership which allows the communities to target areas of concern that are not on our salting routes providing local control of the salt supplied once they sign up to the scheme.

This information is issued by:
Highways & Transportation

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this document can be translated,
and/or made available in alternative
formats, on request.

Published 2021.