

Maintenance Strategy: Winter

2026

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Maintenance Strategy: Winter

1. Introduction

The Essex County Council (ECC) Winter & 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 was developed by the UK Roads Liaison Group (now UK Roads Leadership Group).

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. It describes our risk-based approach to determining the service levels relating to the Winter Service for which it is responsible, and it accordingly sets these out in detail.

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

1.1 Background

Winter Service makes an important contribution to the core objectives of highway maintenance management in terms of safety, accessibility, 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, for those highways that are maintainable at the public expense, that safe passage along a highway is not endangered by snow or ice. The duty is not absolute, but it 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 the UK weather and the quantum of specialist plant and staff that have to be maintained on standby (state of readiness for duty or immediate deployment) to respond to these infrequent weather events, it is not practicable to provide Winter Service to all parts of the network. There can be no assurance or guarantee, therefore, that all running surfaces are kept free from snow or ice – this includes those parts of the network that receive treatment to remove snow or ice.

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

In carrying out the Winter Service ECC also has to demonstrate that its policies, standards and procedures that were 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 terms of satisfying all users’ needs and expectations. Therefore, this strategy will set out the approach to Winter Service 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 or ice is a contributory factor, is reduced.

In addition to this strategy document, we also have supporting documents, which set out the service provider’s processes for the delivery of the Winter Service in accordance with this strategy on behalf of ECC.

Essex covers a large surface area and also has a long coastline. This can produce significant variations in temperature and weather patterns throughout the county on any given day. These variations have been subject to analysis from which a series of ‘weather domains’ have been identified. These are unique, separate geographical areas where the temperatures and weather patterns within each of them can reasonably be expected to be similar on the day in question, and where the requirements for Winter Service can therefore also be expected to be similar. These ‘weather domains’ do not conform to District or Parish boundaries, and they ensure as far as practicable that the service is not only directed to where it is needed but is tailored to the specific requirements for the ‘weather domain’ for the day in question. This avoids wasted resources and therefore promotes a value for money approach.

Note that these ‘weather domains’ are viewable on a map on the Essex Highways Website. A summary of the main areas within them are:

- Blackwater
- Colne

- Roding
- Thames
- Three Valleys

Weather predictions for each 'weather domain' are considered when a decision is needed to inform a precautionary action, and instructions are subsequently issued to mobilise gritting lorries by specific 'weather domain'. Information that is published on social media sites for the public will use these 'weather domain' names.

2. Winter Network

2.1 Precautionary Salting Network

Precautionary salting is the application of a treatment to 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 where salt was applied 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 National Winter Service Regional Group (NWSRG) reports as well as lessons learned from previous experiences. This network is commonly known as the Precautionary Salting Network and covers approximately 40% of the Authority's carriageway network. The Precautionary Salting Network is also viewable as an interactive map on the Essex Highways website. This network has been estimated to carry approximately 80% of the total traffic movement throughout the county, as well as providing access to the strategic and emergency services and remote communities.

In order for a carriageway to be included in the Precautionary Salting 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 collisions 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 will be 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 apply to roads in Essex that are maintainable at the public expense for which ECC has responsibility for maintenance management. This excludes the A12, the A120 and part of the A130 (up to January 2030), the M25 and M11, and roads within the unitary authorities of Southend-On-Sea City Council and Thurrock Council, all of which are administered by other organisations.

Any requests received for roads to be added to the Precautionary Salting Network will be assessed by relevant officers to determine if they meet the specified criteria above before being added. Any requests for significant additions (bulk number of roads) or requests to remove sections of road from the Precautionary Salting Network, may also be presented to the Director of Highways and Transport for agreement for inclusion/exclusion, in consultation with the Cabinet Member for Highways, Infrastructure and Sustainable Transport.

Any amendments to the Precautionary Salting 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 Highways, Infrastructure and Sustainable Transport and the Director of Highways and Transport.

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

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

Whilst we endeavor 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 to, 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 Authority's network.

2.2 Elements of the network not included on the Precautionary Salting Network

ECC recognises that there is a public desire to include school bus routes in the Precautionary Salting Network. However, there are an estimated 600 school services within the county, with no obligation on the part of the operators to notify ECC of these routes, and operators are free to adjust routes as they wish. While a large portion of these routes will coincide with the Precautionary Salting Network, not all the routes will coincide. However, at this time there will not be a formal process to include all these routes in the Precautionary Salting Network.

Footways and Cycleways – Footways and Cycleways will usually thaw naturally before resources can be allocated to deal with them. Please refer to section 2.3.

2.3 Additional treatments during severe weather events

During times of severe weather (snow or prolonged icy conditions) carriageways not on the Precautionary Salting Network (transient routes) may require clearance to address problematic access issues to areas which are not as heavily trafficked as the Precautionary Salting Network.

As snow events are mainly irregular, the transient routes that may be subject to clearance will be assessed based on local conditions on a case-by-case basis. Some examples of areas considered for clearance may include;

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

In such events these areas may be cleared or ploughed by snow clearing contractors, although the Precautionary Salting Network will receive priority for winter service resources. On those occasions it is decided on a case-by-case basis to clear transient routes, clearance may be undertaken when there is sufficient depth for the ploughs to operate, but only when resources become available.

For the purposes of planning resources and ensuring minimum delays in mobilisation, a list will be maintained of footways which will be subject to treatment under winter service snow conditions only, and with the support of District Council resources as and when they are available. However, this will only include the most important footways, i.e. those of greatest use (footfall), leading to destinations of strategic priority. The categorisation of the importance of a footway will follow the footway functional route hierarchy, where prestige and PF1 footways are priority, but not all prestige and PF1 footways may be included in the list of footways for treatment under Winter Service. The criteria for these hierarchies can be found in the latest version of the 'Maintenance & Inspections Strategy: Carriageways, Footways and Cycleways' published on the Essex Highways website.

As referenced above in 2.2 Footways and Cycleways, Footways and Cycleways will usually thaw naturally before resources can be allocated to deal with them.

In significant snow events footways may be cleared by available lower tier (District/Borough/City Council) council staff, subject to the agreements between the council in question and ECC.

2.4 Untreated Networks and footways

Untreated roads will mainly be minor roads or cul-de-sacs with very few property accesses, or those of very short length such that treatment or clearance is not reasonably practicable with the equipment employed. In some cases, the untreated roads will be determined by the ability of snow clearing machinery or gritters to access the carriageway, or in the event of access constraints to operate in a safe manner. Roads that are narrow or are subject to significant on-street parking, could be affected. These roads will not be cleared or treated unless there is a significant local emergency, i.e. where requested by police responding to incidents. Roads may be cleared or treated through the efforts of third parties employing self-help, where undertaken with the clear intention that clearance is for the betterment of others. However, this Strategy advises that third parties and self-help undertaking treatment and clearance are adequately trained for working in the highway and in safe use of any equipment employed, wear appropriate personal protection equipment, and employ appropriate self-funded traffic management arrangements where required. ECC will not be liable for any claims relating to damages due to any clearance works undertaken by third parties employing self-help.

There are around 4,000 miles of Footways and Cycleways in the county. To subject these assets to precautionary salting or snow clearance would represent a significant cost and resource liability for the Council, therefore these assets will not routinely be treated. Resources for treatments will be prioritised for roads, and it is anticipated that Footways and Cycleways will usually thaw naturally before any spare resources can be allocated to deal with them (other than in circumstances described in 4.1.1). However, there may be local circumstances where these are cleared and treated during severe weather events by local volunteer groups or through self-help, in which case the terms referenced above regarding ECC and liability relating to third parties employing self-help will apply.

3. Levels of Service

3.1 Services funded by ECC

1. The Precautionary Salting Network will be treated prior to anticipated frost or icy conditions. It will also be treated where snow has settled on the highway, but is not of significant depth, or its presence is expected to be short lived. This element is delivered by ECC.
2. During severe weather events a network of locally-based farmers is commissioned and paid by ECC to provide assistance with snow clearance.

3.2 Enhanced services provided on a voluntary basis

Additionally, ECC has engaged with District/Borough/City Councils for them to provide

snow clearance on priority footways and cycleways. This is an enhanced service provided voluntarily by these organisations and is not paid for by ECC. These enhanced services cannot be guaranteed by ECC, and ECC will not accept liability for any claims for damages arising from the undertaking of them or the failure of these services to be undertaken.

3.3 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 regarding a minimum winter network after the onset. In preparation for this eventuality, therefore, a minimum network will be planned in advance. The decision to operate this reduced network will remain with the Cabinet Member for Highways, Infrastructure and Sustainable Transport and the Director of Highways & Transport in the event of such circumstances.

In the event of the above, the minimum winter 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 PR1 & PR2 road networks
- 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, ambulances, police and fire stations and other emergency services

In operating the minimum winter network, the following protocols may be operated depending on the situation and at the discretion of the Cabinet Member for Highways, Infrastructure and Sustainable Transport and the Director for Highways & Transport:

1. A change in treatment over the weekend. On Saturday and Sunday, only the minimum winter network will be treated.
2. Reduced treatment spread rates
3. Suspension of other elements of the Winter Service in order to deal with the situation, i.e. restocking salt bins/bags.

4. In extreme situations, it may only be practicable to treat minimum winter network routes with the highest risk due to circumstances at that particular time.

4. Third Party Assistance

4.1 Snow Clearing Contractor

ECC has a network of 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 Salting Network before starting on the secondary networks which are all other routes. It is likely that many minor roads, cycleways and footways will thaw naturally before resources can be allocated to deal with them.

4.1.1 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 otherwise have to be 'stood down' from their usual work due to the weather conditions, would be requested by ECC 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, the availability of staff will be limited to staff 'volunteering', and will also be subject to ECC agreeing the hourly employment rates to be paid 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.

4.2 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. However, ECC will not be liable for any claims for damages arising from self-help.

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 footway 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 Precautionary Salting Network will not require salting. These groups will operate independently to target their chosen areas via their volunteers.

It is envisaged by ECC, that the groups that would take part in the scheme shall be a Parish or Town Council. However, in un-parished areas, groups may be local residential associations or similar groups operating under their local County Councilor's 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 Councilor) 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. Alternatively, those participating can choose to produce their own guidance. In any event, ECC will not be liable for any claims for damages relating to the operations of any of these groups.

4.3 Salt Bins

Salt bins are provided at various locations throughout the county to allow drivers and pedestrians and members of the public 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.

ECC currently has in the region of 1000 salt bins in Essex and each refill of the salt bin network takes approximately 350 person 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 Salting Network is subject to treatment when required. 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 ECC and other authorities is that a '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, this mix is to deter misuse, but it is also recognised that the contents most likely will be applied on top of compacted snow in which case this mix will be better suited to provide traction compared to a mix of pure 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 and other resources. There will be no individual refills.

4.3.1 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 ECC. 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 landowner's agreement) they will then be responsible for maintenance and stocking of the bin.

4.3.2 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 meters of another salt bin (by walking distance, not as the crow flies).

4.3.3 Salt bin misuse and issues

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

4.3.4 Damaged/stolen bins

If a bin becomes unusable because the bin is damaged or vandalised, the criteria relating to provision of a salt bin will be reviewed for the location and circumstances in question to determine if the asset will be replaced. ECC will provide no guarantee, however, that the

asset will be replaced, but if a decision is made to replace the asset, the corresponding works may be undertaken outside of the winter season, as resources within season will be directed to treating the Precautionary Salting Network. The bin in question will then be stocked with salt in line with our normal refill programme, not on an ad hoc basis.

If a bin location is shown on the map of recorded salt bin assets but the bin is known to be missing/stolen, the criteria relating to the provision of a salt bin will be applied to its mapped location and if it qualifies then ECC will consider replacing it. ECC will provide no guarantee, however, that the asset will be replaced, but if a decision is made to replace the asset, the corresponding works may be undertaken outside of the winter season, as resources within season will be directed to treating the Precautionary Salting Network. The bin in question will then be stocked with salt in line with our normal stocking programme, not on an ad hoc basis.

Bins which are not shown on the map may be privately owned. If a salt bin asset presumed privately owned is subsequently found to be an ECC owned asset, the location and circumstances will be reviewed to see if they meet the qualifying criteria. If it meets the criteria, ECC will consider categorising the asset as an ECC active bin. If it is categorized as an ECC active bin, it will be stocked with salt in line with our normal stocking programme, not on an ad hoc basis. However, ECC will not guarantee that it will be categorised as an ECC active bin.

4.3.5 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 Councilors or Parish Councils where applicable. If the Councilor or Parish Council in question considers the request appropriate, the details will be forwarded to Essex Highways' 'Highways Liaison Team' who will arrange for the required assessment against the qualifying criteria. If the request meets the qualifying criteria, and if the proposed bin location is suitable (i.e. is in a location that allows for stocking/use, doesn't reduce visibility) the request will be considered annually in line with available budgets and at the discretion of the Director for Highways & Transport.

There are alternatives to salt bins which may be more appropriate, such as the Parish and Urban Salt Bag Partnership which allows communities to target areas of concern that are not on ECC Precautionary Salting Network. This will provide local control of the routes in question using the salt supplied, once formal agreements to the scheme are in place. ECC will not be responsible for any claims for damages relating to application of salt supplied under these agreements.

This information is issued by: Essex County Council

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