

Winter Service Policy 2016

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Winter Service Policy October 2016

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1 Introduction

This policy sets out the principles that Worcestershire County Council uses to meet its obligations and duties in respect of the Winter Service.

This policy reflects the recommendations of Well-Maintained Highways: Code of Practice for Highway Maintenance Management 2005 (UK Roads Liaison Group, July 2005 and Appendix H revised September 2013). Derived from the 2005 Code, it takes into account the forthcoming risk-based approach of the replacement Code expected to be entitled 'Well-managed Highway Infrastructure' and due to be published in late 2016.

The County Council, as the Highway Authority, is responsible for providing a winter service on adopted public highways within the County except for motorways and trunk roads. The purpose of the Winter Service is to provide assistance to road users by prioritizing and treating parts of the highway network to mitigate the effects of ice and snow and to maintain traffic movements, whilst minimising the impact of service operations on the environment.

In this respect it defines the categories of road to be treated, in what order of priority, and the length of time in which they should be treated.

It is intended, through the use of this Policy, that a reasonably uniform level of service is provided throughout the County within the resources available.

The objective is that a network of treated routes should be reasonably accessible for the majority of residents and businesses, supplemented by targeted provision of self-help facilities.

The service is essential for public safety and to the local and national economy in maintaining movement of vehicular traffic, cycles and pedestrians. Owing to limited physical and financial resources it is necessary that provision of winter service reflects the relative importance of different elements of the road network. It is not reasonably practicable to provide the service on all parts of the network or to ensure that all surfaces are kept free of ice or snow at all times, even on the treated parts of the network.

2 Legislation

Section 41 of the Highways Act 1980 imposes a duty on highway authorities to maintain highways maintainable at public expense. In particular, Section 41 (1A), as inserted by Section 111 of the Railways and Transport Safety Act 2003, imposes a duty on highway authorities to ensure, *so far as is reasonably practicable*, that safe passage along a highway is not endangered by snow or ice.

The Department for Transport has advised that it is for the courts to decide what is reasonably practicable. The Department recommends that local highway authorities carry out winter service in accordance with the code of practice Well-Maintained Highways. Amongst other recommendations, the Code states that best practice would be for local

highway authorities to adopt and to publish a Winter Service Operational Plan, reviewed annually, to take account of changing circumstances.

Under Section 150(1) of the Highways Act 1980, there is a requirement for the Highway Authority to remove an accumulation of snow which forms an obstruction, and Section 150(3) of the Act states that the following factors should be taken into account:

- (a) The character of the highway and the nature and amount of traffic using it.
- (b) The nature and extent of the obstruction.
- (c) The resources of manpower, vehicles and equipment available to the Highway Authority and extent to which those resources are being, or need to be, employed on such work.

Thus it is recognised that it would not be practicable for a Highway Authority to treat all roads and footways in the event that frost or ice forms, or when snow falls.

3 Objectives of the Winter Service

The objectives of the winter service are to:

- Enable the safe movement of vehicles, cyclists and pedestrians on the highway network, so far as is reasonably practicable.
- Minimise delays to highway users, so far as is reasonably practicable.
- Minimise damage to the highway resulting from ice and snow and from treatment with de-icers.
- Undertake the winter service effectively and efficiently within the limitations of finite resources according to network hierarchy and severity of weather conditions.

The winter service season starts on 15 October and finishes on 15 April. Provision of winter service may be extended to suit seasonal variations in weather.

4 Winter Service Operational Plan

A Winter Service Operational Plan is to be maintained that details the necessary operational, procedural and functional arrangements and responsibilities needed to provide the service in accordance with this Policy.

The Operational Plan includes:

- Policies, Responsibilities, Procedures and Decision Making
- Treatment Routes, Networks and Self-help Facilities
- Weather Prediction and Information
- Organisational Arrangements and Personnel
- Facilities, Vehicles and Equipment

- Salt, Salt Storage, Testing and Critical Salt Level
- Operational Communications
- Information and Publicity
- Review Management

The Operational Plan is to be reviewed annually after the end of the winter season and before the next. The revision is carried out by the Winter Service Team and includes representation from the Highway Maintenance Service Contractor and from Highway Operations depots.

5 Weather Forecasting, Monitoring and Decision Makers

Weather information is obtained from a specialist forecaster, from roadside monitoring stations and supplemented by patrol inspections.

The County Council maintains a contract with an appropriate forecasting organization that provides daily and 5 day weather forecasts along with a longer term outlook detailed for Worcestershire. Forecasters are available at any time of the day or night to discuss the forecast and prevailing conditions.

Real-time information is provided by a network of roadside sensor stations around the County that report details such as air temperature, ground temperature, relative humidity, surface state and a number of other attributes. Some also provide local site forecasts and forecast graphs.

When forecast information is uncertain or conditions are changing unpredictably, winter service inspectors may be mobilized to report on conditions using pre-determined routes or at specific points of interest.

These sources of information inform treatment decisions made by the duty Winter Service Supervisor.

Winter Service Supervisors are to be experienced and trained in Winter Service and must attain the Professional Certificate in Winter Services for Decision Makers and Managers and keep it up to date. The standards required to attain the qualification demonstrate that the County Council is complying with its duty to employ suitably knowledgeable and competent decision makers.

6 Infrastructure and Equipment

Reliable delivery of the service is dependent upon infrastructure and equipment that includes operational depots, salt storage facilities, salt saturators and spreaders.

Effective and timely response to winter conditions is dependent upon proximity of spreader (gritter) locations to the routes they treat and the ready availability of salt for re-loading so that turn-around time is minimal. This is particularly critical during snowfall because white-

over can occur in a very short time resulting in loss of parts of the network if accumulations become excessive. The principal reason for this is private vehicles becoming stuck, causing obstruction and delays to spreaders.

A County-wide distribution of spreader operating locations and salt storage locations will be provided and maintained that enables spreaders to mobilise and treat their routes within the target times defined in section 7.

Salt storage

Salt supplied for de-icing has a low moisture content (typically 1%) and has to be spread within defined moisture content ranges (less than 3.5%) appropriate for the type of application being used. If the moisture content exceeds the range, it clumps together and 'tunnels' in the spreaders resulting in failure to spread.

Salt will be stored under cover in barns so that it is accessible for day-to-day operations. Reserve stockpiles will be stored under a system of sheeting specifically designed for the purpose or in barns.

Pre-wet spreading

Effective spreading is significantly improved by use of pre-wetted spreading involving brine which is carried in side-tanks on the spreaders and sprayed onto the salt as it is discharged. The benefits are significantly less drift in the airstream behind the spreader and thus more accurate placement, less bounce as the salt hits the road surface, and the coating of brine on the salt particles speeds up activation. The amount of rock salt needed to achieve effective treatment is reduced by 25-30% compared to dry salting.

All operational depots are currently provided with saturators and associated white salt storage facilities.

Salt saturators for the production and storage of brine will be provided and maintained at all locations from which spreaders operate.

Spreader fleet and storage

Salt spreaders have to operate and be reliable in harsh conditions, sometimes during sustained periods of low sub-zero temperatures. Modern spreaders are designed for these harsh conditions.

Their readiness for operation is improved by protection from the elements and some of the risks associated with open storage are mitigated. Currently most of the fleet is under cover. .

The principal risks to an accessible and reliable fleet of spreaders are their condition, adequate numbers of experienced drivers and sudden unavailability. These risks are mitigated as follows:

Condition is governed by regular maintenance carried out by experienced mechanics and technicians, and by a programme of planned replacement. Two spare spreaders are

included in the fleet to cater for operational incidents. Spreaders have an operational life of ten years, after which they become progressively more costly to maintain and are less reliable. They are also overtaken by improvements in spreader design.

Adequate numbers of trained and experienced drivers are provided by the Highway Maintenance Service Contractor drawing from their extensive pool of drivers and operatives on all aspects of the contract. Fleet maintenance is also a part of that contract. Those individuals are largely in a stable relationship working with Worcestershire and have statutory rights to continued employment in the event of a change of employer. This provides surety of continued immediate availability to provide the winter service.

Spreaders that are leased via a third party can become immediately unavailable without warning in the event of failure of the third party, its contract with Worcestershire, or the leasing company. Whilst the probability of any of these is very low, the consequences for providing the service are catastrophic. All of these risks can be eliminated by direct ownership of the spreading fleet.

A fleet of an adequate number of spreaders to deliver the service will be provided and maintained as a County Council capital asset on a ten year rolling programme of replacement.

In so far as is practicable and resources allow, covered storage will be provided and maintained for spreaders.

7 Precautionary Salting

Winter Service operations give priority to routes comprising the Principal Road Network, main and secondary distributor roads, links to villages, major bus routes, emergency service locations, regionally important infrastructure, public transport interchange locations and reasonable proximity to schools.

Precautionary salting is treatment that is carried out in advance of forecast hazardous conditions arising, so far as is reasonably practicable.

Precautionary routes are defined into two categories, Primary and Secondary networks.

They are reviewed annually by the winter service team taking into account any service requests received or difficulties encountered in delivering the service during the previous winter season.

Primary Network

The primary precautionary network comprises approximately 38% of the total carriageway length.

The rationale for defining the Primary Network is a risk and benefit approach in order to make best use finite resources on routes that serve greater numbers of road users, or that

provide access to facilities that are of local significance for greater numbers of users, or that are higher speed roads or are roads with higher traffic densities.

The Primary Network is pre-defined and comprises:

- The Principal Road Network, Main Distributor roads and Secondary Distributor roads (as defined in the network carriageway hierarchy).
- Commuter routes (rural roads carrying more than 2,000 vehicles per day).
- Locally important roads in the carriageway hierarchy.
- At least one route into each village so far as is reasonably practicable.
- Major bus routes (in urban areas roads with 4 or more service buses per hour and in rural areas 2 or more service buses per hour).
- 500m from schools and colleges.
- Emergency Service locations - police stations, fire stations, hospitals and ambulance stations.

Treatment of the primary network takes place in accordance with available forecast and local conditions information informed by the decision matrix in the Winter Service Operational Plan.

The aim is to treat the primary network in advance of the onset of potentially hazardous conditions so far as is reasonably practicable.

The response time for the primary network from the point at which treatment is called to the point at which all the spreaders leave the depots is 1 hour.

The target completion time for precautionary treatment of each route is 2.5 hours from the point at which the spreaders leave the depots to the point at which treatment is completed.

Secondary Network

The rationale for defining the Secondary Network is a risk and benefit approach in order to make best use of finite resources in more severe conditions on routes of lesser significance in the road hierarchy. These are local routes that serve greater numbers of road users, or that provide access to facilities that are of local significance for greater numbers of road users.

The Secondary Network is treated in response to forecasts of more severe conditions such as snow, very heavy hoar frost, freezing rain or sustained sub-zero temperatures over two or more days.

Secondary treatment is carried out on approximately 17% of the total carriageway length.

The Secondary Network is pre-defined and comprises:

- Key local, village and estate distributor roads having significant traffic flows.
- Industrial estate spine roads.
- Retail estate spine roads.

- Minor bus routes (in urban areas roads with 3 or less service buses per hour and in rural areas 1 or less service buses per hour).
- School transport routes operated by or for Worcestershire CC.
- Outside schools and colleges if reasonably practicable.
- Outside local health facilities.
- Outside or near to concentrations of people with disability or vulnerability, if reasonably practicable.

Treatment of the Secondary Network is carried out in more adverse conditions, and is dependent upon physical resources being available that are not needed on the Primary Network.

8 Snow Clearing of Carriageways, Footways and Cycleways

Priority for snow clearance in severe conditions is given to the Primary Network followed by the Secondary Network. During prolonged periods of adverse conditions footways and cycleways in town centres are cleared according to network hierarchy and resources being available.

Snow Clearance Network (the Snow Plus network)

The pre-defined snow clearance network is used for treatment in advance of forecast snow and for priority snow clearance during and after snowfall.

It consists of the Primary Network with the addition of short lengths of public highway connecting emergency service locations where they are not already included, and links to important transport, regionally significant infrastructure and important local large warehouse and retail food supplies.

A risk and benefit approach is used in order to target resources firstly to routes that serve greater numbers of road users and ones that support important society functions. It is not practicable or prudent to divert available resources onto Secondary or other routes until the main routes are cleared and running. To do so would risk greater disruption to transport and loss of previously cleared routes.

The primary objective is to clear and keep running a principal network so that road users have reasonably proximity to access it, typically less than 2 km.

The objective is to carry out snow ploughing/clearing operations to maintain carriageways open to traffic, to remove blockages and to re-open routes by salting, gritting, ploughing, and mechanical clearing as appropriate to the conditions.

Where forecasts indicate that adverse conditions are likely to result in the need for snow clearance, appropriate resources are placed on standby to be mobilised. Appropriate resources can be any of the County Council's highway contractors, pre-assessed private contractors and individuals with suitable equipment and public liability insurance, and resources and contractors of other councils and public bodies.

In prolonged or very severe snowfalls, resources will be concentrated on keeping the principal traffic routes (A roads) open and only after this objective has been achieved will attention be given to the remaining roads on the Primary and Snow Plus routes.

When conditions require it, continuous 24 hour working will be used to maintain or restore the principal traffic routes to provide a basic network from which further snow clearance operations can proceed.

Other roads

Snow clearing of other roads proceeds only when the Primary, Snow Plus and Secondary network has been cleared and is running. Priority will then be given to re-opening a route into isolated small communities from the main route network.

Resilience Core Network

In exceptionally severe conditions such as very deep snow or in the highly unlikely event of salt supplies falling close to running out, or appear to be likely to run out, then operations will concentrate on the pre-defined Core Network. This consists of major A class routes between large centres of population connecting to the National trunk and motorway network, emergency services locations and hospitals.

The decision to revert to the Core Network would be taken at a Silver Command meeting involving Winter Service decision makers, emergency services representatives and senior representatives of the Highway Maintenance Service Contractor.

If salt stocks become severely depleted the decision would be taken in conjunction with salt conservation measures described in part 8, below.

Footways

The clearance of snow from footways is undertaken when labour resources normally employed on highway maintenance work and carriageway salting become available. Assistance from District authorities may be requested if they have resources available.

Priority attention is given to categories 1A and 1 footways in town centres and busy connecting routes to principal car parks and transport links such as bus terminals and railway stations.

The snow clearance routes are pre-defined using a risk and benefit approach in order to make best use of finite resources on routes that serve greater numbers of pedestrians.

Cycleways

The clearance of snow from cycleways is undertaken when resources become available after priority footways have been cleared.

Priority attention is given to cycleways in town centres and clearance work will be restricted to daylight hours.

9 Salt stocks

Salt is restocked during the summer in advance of the winter season. Restocking during the winter is dependent upon operational requirements.

Salt for use in gritters is 6mm size rock salt or marine salt. Salt for grit bins is mixed with fine grit to extend the quantity and to discourage inappropriate use and theft.

Salt is restocked over the summer months when prices are lower and the demand on salt suppliers is less. It can therefore be planned and coordinated with the supplier and contractor to minimise cost and to work around maintenance and repairs to the salt barns.

Salt barns and resilience stocks are replenished before the start of the winter season to the maximum available capacity. Stocks are maintained during the core winter period (December to February inclusive) above the resilience level recommended in Well Maintained Highways, 6 days of continuous operation on the Primary Network which equates to 7,000 tonnes.

By careful use of advance weather forecasts the aim is to reduce stocks towards the end of the winter season in order to enable salt barn maintenance and restocking at summer supply rates. However, a 5,000 tonne strategic reserve stock is retained and not used, unless salt stocks are depleted due to particular and ongoing severe winter conditions prevail.

10 Critical Salt Levels Emergency Plan

In the event that salt stocks approach critical levels, a Silver Control is called and salt conservation measures initiated.

This Emergency Plan is for use before salt stocks across all storage locations in the County are predicted to fall below 1000 tonnes and prolonged severe winter weather is forecast.

It would be expected that such a situation would only be initiated if a winter was severe enough to create a nationally critical situation and Department for Transport and national planning and coordination was also initiated.

As soon as it is identified that this condition is likely to develop, a Silver Control involving internal and external stakeholders and the emergency services is called.

Salt supplies

In the event that supplies from the contracted supplier are insufficient or stopped the following action or actions are taken:

- Continually press the supplier to increase deliveries stressing how many grit runs remain so that the urgency is clear.
- Contact alternative suppliers.
- Contact adjacent highway authorities requesting supplies on loan or for purchase.
- Contact Highways England for potential assistance.
- Work with any national arrangements in place for priority salt distribution.
- Conserve remaining salt stocks.

Extending existing salt stocks

Targeting barns with the least stocks first, extend rock salt by pre-mixing with 3mm aggregate or sharp sand in a proportion of 1:1 or as may be deemed appropriate.

Conserving salt stocks – general actions

The purpose is to extend the availability of salt or salt mixtures for use on strategic routes.

Actions can be any of:

- Cease refilling grit bins.
- Cease responding to requests for spot treatment. Exceptions may be made for genuine immediate emergencies involving threat to life.
- In snow conditions, plough routes without salting and treat with fine aggregate grit. When snowfall ceases, assess the conditions and consider applying salt, salt/grit mixture or grit to the ploughed surface.
- Allow snow to compact under the action of traffic on some or all of the precautionary routes without salting. Fine aggregate grit may be applied to the surface if resources are available.

Conserving salt stocks – route restrictions

Actions can be one or any of:

- Reduce the extent of initial ploughing on Primary Network routes.
- Treat only Primary Network routes, no Secondaries.
- Treat ploughed routes only on the pre-defined Core Network linking major population centres to principle emergency facilities and to the national trunk network.

Media

Engage with the media to provide realistic expectations of people's ability to travel for essential purposes only.

Update the website and social media.

11 Grit Bins

Grit bins are provided and maintained with stocks of salt/grit mixture where they provide a necessary improvement to road safety and benefit to the community, subject to assessment of each location using consistent methodology and available resources.

Requests and reviews will take into account the available physical and financial resources for providing the winter service.

All grit bins provided and maintained with stocks of highway salt will be clearly labelled 'Only for use on the highway'.

Grit bins for carriageways

Grit bins will only be provided for locations meeting criteria in the Carriageway Grit Bin Assessment Process in the Operational Plan, subject to the following:

Grit bins for carriageway use will not be provided:

- On roads that form part of Primary or Secondary routes, except at known points of difficulty in severe winter conditions for HGVs on steep gradients and subject to site assessment.
- Where they attract anti-social behaviour or cause nuisance to nearby residents.
- Where their provision would create a further proliferation of street furniture to the detriment of disabled or visually impaired people or the community.
- Where there are no suitable local self-help arrangements for the use of the grit bin.
- On unadopted highways whether subject to future adoption or not.
- Where they are in place but are not being used (withdrawal).

For locations that are not on Primary or Secondary routes, higher weightings for provision of carriageway grit bins will be given to a combination of these attributes:

- Higher speed roads.

- Gradients at or steeper than 1:15 (6.7%).
- Locations serving greater numbers of premises.
- Locations with only single access to shops or industrial premises.
- Greater presence of people with disability or vulnerability.

Roadside rucks or salt piles are not to be provided because they are a source of concentrated localised environmental contamination.

Grit bins for footways

Grit bins will be provided when determined from the Footway Grit Bin Assessment Process in the Operational Plan, subject to the following:

Grit bins for footway use will not be provided:

- Where they attract anti-social behaviour or cause nuisance to nearby residents.
- Where their provision would create a further proliferation of street furniture to the detriment of disabled or visually impaired people or the community.
- Where there are no suitable arrangements for the use of the grit bin.
- On unadopted highways whether subject to future adoption or not.
- Where they are in place but are not being used (withdrawal).

Higher weightings for provision of footway grit bins will be given to a combination of these attributes:

- Higher usage footways.
- Gradients at or steeper than 1:15 (6.7%).
- Greater presence of people with disability or vulnerability.
- Locations that are not on the precautionary salting network.

Grit bins for cycleways

Assessment of locations for provision of grit bins for cycleways shall be the same methodology as for carriageways.

12 Cross-boundary arrangements

Reciprocal arrangements with neighbouring authorities for precautionary treatment allows for practical and operational efficiencies.

Reciprocal arrangements for precautionary treatment may be made with neighbouring authorities under section 8 of the Highways Act 1980 and confirmed by exchange of letter before each season (using email).

13 Communications and Publicity

The means to inform the public about Winter Service is on the County Council web site and this may be supplemented by press releases and media communications.

Information necessary to assist the public in understanding the objectives of the Winter Service includes plans of the Primary and Secondary routes and the typical conditions in which they are treated.

Live data feeds from spreaders may be used so that their locations and progress may be visible on the website.

The principle criteria used in assessing placement of grit bins, and also where they are not placed, will inform people about this part of the service and may be placed on the website.

Supplementary information on how weather information is collected and used may be provided on the website.

Advice on winter driving can assist drivers to drive according to conditions and is provided on the web site and in publicity through social and the local media. In prolonged severe weather conditions additional information is made available through all available media.

Information on self-help clearance of footways may be provided on the website using current National guidance.

14 Equality Impact

People with a disability or vulnerability are taken into consideration within this Policy and in the Operational Plan.

Winter Service is important to all sections of society and business because they all rely on the highway network for transport and access to services.

Whilst winter conditions impact on all of society and most people and organisations are perfectly able to adapt, people with disability or vulnerability are more at risk during severe adverse conditions because they often rely on contact from support services and may have greater need of access to health services.

In compiling its policy for Winter Service, the County Council has taken account of people with disability or vulnerability by including criteria for defining delivery of relevant parts of the service. These criteria are applied where reasonably practicable and within the resources available.

Criteria are included for the siting of grit bins and determining Secondary routes that recognise a greater presence of people with disability or vulnerability, such as the elderly or children, for example. Reasonable accessibility to schools and accessibility to local health facilities as well as hospitals is included.

The obstruction of footways by grit bins and the inconvenience and detriment to safety this can cause to people with a disability is recognised by placing a minimum restriction on available residual footway width.

15 Parish, Town and District Council engagement

Parish, Town and District Councils have resources that can sometimes be deployed during adverse conditions. Assistance is available for preparing in advance for periods of adverse conditions, and feedback is used in reviewing service provision.

Assistance may be offered and provided to Parish and Town Councils by:

- Placement of Parish grit bins at cost by request of Parish and Town Councils subject to safe sites being identified. Parish bins are the responsibility of the local council and are identified as green in colour.
- Delivery of salt in 1 tonne bags at cost by request of Parish and Town Councils for use by Parish Lengthsmen and the community locally and in Parish grit bins.
- In advance of each winter season Parish and Town Clerks are contacted to establish if they have any new requests for grit bins and how much salt they need delivering at the start of the season. Additional deliveries can be made during the season as resources allow.

Assistance to District Councils may be provided by salt being available at cost for collection at the start of the season. Further supplies may be available during the season.

Grit bins and 1 tonne salt bags are offered to schools prior to the start of the season at commercial rates.

Members, local council clerks and councillors have contact with their local communities and during adverse conditions the information that they receive is of value in evolving provision of winter service. This information is used and assessed during each annual review that is carried out before the start of the next season.