Gloucestershire County Council

Adverse Weather Plan

2026 - 2027

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Adverse weather plan 2026/27

Gloucestershire County Council

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1. Introduction

1.1 In line with the Code of Practice "Well-managed Highways Infrastructure" our adverse weather plan covers all weather impacts on the highway network and does not just concentrate on snow and ice. Sections include:

- Flooding
- High Winds
- Heat
- Cold temperature and snow

This document describes Gloucestershire County Council's arrangements for dealing with adverse weather on the highway.

1.2 The plan covers arrangements for roads and structure in Gloucestershire that are the responsibility of Gloucestershire County Council. It excludes arrangements for roads that are the responsibility of the National Highways i.e.

- A417/A419 from the county boundary near South Cerney to Zoons Court roundabout east of Gloucester
- A40 from the M5 west to the county boundary near Boxbush
- A46 from the M5 east to the county boundary near Teddington
- M5 and M50 motorways

1.3 General description of service

Gloucestershire County Council (GCC) is committed to providing a robust adverse weather service including responding to winter and other adverse weather conditions. The adverse weather service is provided on behalf of GCC by our contractor Ringway. The extent of the service provided will vary depending upon the severity and nature of adverse weather conditions and resources availability.

1.4 Objectives

In practice GCC aims to safeguard the travelling public from the hazardous effects of snow or ice or other adverse weather conditions so far as it is practicably able to with the resources available. Proactive winter maintenance and other emergency operations will normally be undertaken based upon available weather forecast information, knowledge of prevailing local weather conditions and resource availability.

2. Flooding

2.1 Gloucestershire County has experienced a number of flooding events over many years and these fit under two headings, either river or surface water flooding. Working closely with the Environmental Agency and other bodies in the county, we have a good understanding of the impact of river levels on the county and the impact of intensive rain on surface water run-off.

2.2 Gloucestershire County Council hold a number of action plans for the impact of flooding or heavy rain in the county. Many of these are well tested after the events such as in 2007, 2012, 2014, 2019 and 2020. These action plans can be referred to in our Emergency Manual maintained by our contractor Ringway.

2.3 Tewkesbury Borough, Forest of Dean District, Stroud District and Cheltenham Borough Councils operate Flood Warden Schemes, and we can access them through our Civil Protection Team.

2.4 We have four cameras to monitor water levels on the River Severn, and these will enable us to keep an eye on river levels effecting our road network on the A417 at Maisemore and B4213 at Hawbridge (Tirley and Wainlode Lane). As well as one camera in Lydbrook to monitor the River Wye. We are also in the process of installing another 2 camera's at Gloucester Road & Ashchurch Road Tewskesbury which will be in place over the next couple of months.

3. High Winds

3.1 Gloucestershire County Council manages the impact of high winds, and our emergency response is provided by our contractor Ringway. The extent of the service provided will vary depending upon the severity and nature of high wind conditions and resource availability.

3.2 Ringway will have in house resources available and access to their supply chain to deal with any emergency situation which we are notified about.

3.3 Gloucestershire County Council has a tree policy (Link: Gloucestershire Tree Inspection Policy for Highway Trees)which states the inspection period for the highway trees. These are the trees which GCC are responsible for. We react to other trees and obstructions of the highway in an emergency response in line with the Highways Term Maintenance Contract.

4. Heat

4.1 Gloucestershire County Council monitors the weather throughout the year especially in times of prolonged periods of high temperatures when our carriageway surfacing could be affected as well as the delivery of our capital structural maintenance schemes.

4.2 Our Civil Protection Team and emergency management teams have access to the Met Office to provide weather warnings in period of high temperatures as this has an impact on other services provided by the Council. These weather warnings are circulated to the emergency works team.

4.3 An extended period of elevated temperatures can have a detrimental effect on the highway network.

Carriageway melting

Bitumen within the surfacing material can begin to melt, this can in extreme circumstances result in a reduction of skid resistance. The micro texture of the material becomes saturated. Remedial measures – Sites identified as becoming "soft" should be monitored throughout the period of elevated temperature. If the surface starts to appear "fatty" or polished the

site should be dusted with 3mm to dust aggregate. This will restore skid resistance by both binding with the bitumen and aiding removal through abrasion. This process needs to be repeated until skid resistance is satisfactory.

Cracking due to shrinkage
Prolonged heat can cause rapid drying of subsoil leading to contraction, if the contraction is significant it can result in surface cracking and failure. Remedial measures - make safe and repair in line with safety defect procedure.

4.4 We monitor conditions and when trigger points are reached remedial actions are undertaken. Our process is reviewed and updated following any event or situation which highlights an improvement or an amendment that would benefit all.

5. Cold Temperatures and snow

This section of the document describes Gloucestershire County Council's arrangements for dealing with ice, snow and other emergencies on the highway arising from cold temperatures.

5.1. Local self-help plays an important part in dealing with snow and other adverse weather conditions. Arrangements for work which may be carried out by Snow Wardens and Snow Plough Operators appointed by Parish Councils are included in this plan.

5.2 We have referred to the guidance set out in Well Managed Highways Infrastructure issued at the start of 2017. This document does not provide detailed guidance but refers to the National Winter Service Research Group (NWSRG) Practical Guide for Winter Service. We have also worked with our neighbouring Local Authorities in the Southwest to benchmark ourselves and to adopt a similar strategy on maximum spread rates for precautionary treatment. We have made improvements in line with the guidance for our salt storage and community resilience.

5.3 **Strategy**

Our core winter period is from October to April and when icy road conditions are forecast during this period precautionary salting will be carried out on the strategic road network which comprises:

- Class A and B roads
- Roads leading to main hospitals, ambulance stations, police stations and fire stations
- Some strategic public transport routes
- Roads serving main shopping centres
- The majority of Secondary schools

The strategic road network covers approximately 28% of Gloucestershire's total road network. We also refer to Strategic Road network as our Primary or Key routes. These routes are reviewed on an annual basis.

During prolonged severe winter weather conditions, when time allows and resources are available, salting may also be carried out on the secondary road network. The extent of the secondary road network to be treated will be determined at the discretion of the local Area Highways Manager on the basis of prevailing weather conditions and resource availability and may include:

- Major bus routes (operated every two hours or more frequently) not covered by the strategic road network

- Routes adjacent to major educational establishments (in term time) provided treatments can be completed by 0800 hrs using available spreading equipment
- Other locations where high traffic volume or local conditions dictate as well as access into rural communities

It is recognised that during severe winter weather conditions, e.g. snowfall or freeze/thaw conditions, all available resources may be continuously employed in maintaining the strategic road network. In prolonged severe winter weather conditions GCC will however work in partnership with local Parish Council, Snow Wardens, and Snow Plough Operators to establish local weather conditions and, where resources are available, arrange for snow clearance work to be undertaken on local roads.

If the country experiences prolonged periods of snow or extremely low temperatures which in turn causes problems with salt deliveries, then we will consider our actions within Gloucestershire to reduce salt usage through reverting to the treatment of only our Resilience Network (Minimum Winter Network). We will also use our Resilience Network if weather conditions are extreme or if available resource is limited due to pandemic disease or illness.

5.4 Statutory responsibility

GCC has a duty to "ensure, so far as is reasonably practicable, that safe passage along the highway is not endangered by snow or ice" (Highways Act 1980 Section 41 (1A)).
This duty is not absolute given its qualification of reasonableness and practicability.

5.5 Standards

The mobilisation time for precautionary salting will normally be two hours. The completion time for precautionary salting routes will normally be three hours (from start of salting to completion of salting routes). Depending on forecast weather conditions and wherever reasonably practicable, afternoon and morning treatments will be completed before periods of peak traffic flows (rush hours).

5.6 Operational management

The county is divided into four areas for normal operational purposes (West, Northern, Southern and East) each under the control of a GGC Area Highway Manager. However, the county is split into three climatic domains for the purpose of weather forecasting and winter decision making, these being West (Forest of Dean District), Central (Stroud District, Gloucester City, Cheltenham Borough, and Tewkesbury Borough) and East (Cotswold District).

East Domain is managed from Cirencester and Moreton Depots. The Central Domain is managed from Stroudwater Depot, and the West Domain is managed from Cannop Depot.

A network of weather stations are installed across the county to monitor weather conditions (location plan is attached in Appendix 5). Information from the weather stations is made available to GCC staff and Ringway via the Findley Irvine Icelert Weather Monitoring System. Weather forecast information is made available to GCC and Ringway staff by DTN via emails alerts and website.

Treatment decisions are made at an area level in accordance with the decision-making matrix shown in this document (Appendix 1).

5.7 Treatment of level crossings

Currently there are three Network Rail level crossing on our strategic routes in Lydney, Cheltenham and Blockley and a limited number on our secondary routes. The secondary

routes are salted infrequently, and the manual identifies that on pre salting operations salting is stopped before the crossing and restarting afterwards, however during snow conditions we would normally plough straight through but not salt.

5.8 **Communication**

Where possible, proactive communication with the emergency services and the media will be coordinated by GCC Communication Team and available Area Highways Manager.

During periods of severe weather close coordination will be maintained with the Police. The names and telephone numbers of appropriate GCC officers including their deputies are on record in the Police Control Room.

We will provide information to the Town and Parish Councils as well as members of the public on our Winter Operations including the distribution of winter guidance on our website. We will continue to use the X and Facebook to provide updates on winter operations and any emergency road closures (@GlosRoads). Our information directs the public to the Snow Code provided from on the DfT website (see Appendix 7) to provide self-help where possible.

We provide details of our planned operations to our Neighbouring Authorities that we have agreements with to ensure we provide a consistent approach across boundaries.

5.9 **Decision Making**

Refer to the information provided in Appendix 1 for winter decision making guidance. This information is based on guidance provided in Well Maintained Highways September 2013, Appendix H for the decision matrix and the NWSRG Practical Guide for Winter Service as well as working with our neighbouring Authorities within Southwest Winter Service Group.

5.10 **Roles and responsibilities**

The Highways Operations Manager for the Highway Authority and the GCC West Area Highways Manager are responsible for:

- Updating and providing the Adverse Weather Plan
- Salt Procurement

Gloucestershire County Council Duty Managers and Decision Makers are responsible for:

- The Winter Decision making process in line with the Adverse Weather Plan and following the NWSRG guidance.
- Reviewing the daily forecast's produced by forecaster
- Monitoring of the weather stations and various sensors strategically installed throughout the county to assist in winter decisions.
- To determine if treatments are required for each domain along with timings and spread rates in line with NWSRG guidance.
- Posting the Decisions on the Findlay Irvine system and notifying our Contractor

The Ringway Network Manager and their delegates are responsible for working in partnership with GCC Area Highways Managers to:

- Providing winter service in line with GCC Adverse Weather Plan
- Optimising the use of the available resources and co-ordinating actions across the county
- Undertaking an annual review of operational arrangements
- Assisting with the implementation and reviewing the Adverse Weather Plan

- Ensuring that in extreme conditions Area Offices are staffed at appropriate times to maintain communication with personnel and others on duty and relay instructions and situation reports
- Arranging where possible for the provision of roadside salt for self-help and working with communities to prepare and implement Parish Winter Action Plans and for local communities to hold a local stock of bagged salt to deal with local priorities

5.11 **Snow Wardens and Snow Plough Operators**

Appendix 6 provides details of the roles and responsibilities of the Parish Snow Wardens and Snow Plough Operators. Snow Warden's main duties are to collate local weather information and co-ordinate the response of the snow plough operator within the Parish. In the rural areas we are very reliant on snow plough operators to keep the local routes clear of snow while we concentrate our efforts and resources to the strategic network.

5.12 **Parish and Town Council Action Plans**

We work closely with a number of our Parish and Town Councils to ensure winter action plans are in place to deal with local issues as well as promoting community self-help. More details on these action plans are available from the Local Highways Managers, and each plan is specific to a Parish or Town Council.

5.13 **Operational procedures**

Ringway will provide a detailed Winter Maintenance Service Operational Plan which will include details of their rotas and process maps.

5.14 **Weather forecasting**

Weather forecasts are made available to Gloucestershire by DTN as follows:

- 36-hour forecast (generally provided at 7:00hrs, 11:00hrs and updated at 17:00hrs)
- 2–8-day forecast (generally provided at 11:00hrs)

A 24-hour consulting service is also provided by DTN to allow clarification of weather forecast information.

A network of weather stations is installed across the county at locations and are detailed in the map in Appendix 5.

If the weather conditions changes, from the forecast, then DTN will contact the GCC Duty Manager out of hours and they will then review this information and decide on the action required.

5.15 **Operational records**

Records of winter maintenance decisions will be recorded on the Findley Irvine Icelert Weather Monitoring System by the GCC Duty Manager or their delegate.

When emergency operations occur, Area Offices will maintain a diary of each emergency, with a running record of all reports, times and action taken and will report appropriately to the GCC Area Manager on actions and road conditions.

Salt run information sheet will be retained on Ringway SharePoint.

5.16 **Standby arrangements for adverse weather and other emergencies**

A 24-hour standby rota of staff will be maintained by GGC and Ringway with two Ringway duty supervisors with support from the Ringway out of hours contact centre and one GCC countywide Duty Manager and one GCC Decision Maker.

5.17 **Salt Storage**

Salt stocks are held at four salt domes across the county providing covered salt storage. At the start of the winter period the maximum available stock level will be approximately 11,000T. Additional salt supplies will be ordered when stock levels fall below GCC salt profile. We will endeavour to be restocked going into the Christmas period. Road salt complying with the requirements of British Standard BS 3247:1991 will be provided through a contract between GCC and its salt supplier. Salt will be supplied by the salt supplier using a salt management system.

Depot	Maximum Stock
Cannop	3,700T Dome
Cirencester	2,000T Dome
Moreton	2,000T Dome
Stroudwater	3,700T Dome
Total	11,400T

Salt condition - Moisture testing will be undertaken prior to the start of the season and then monthly through the winter season in line with NWSRG guidance.

5.18 **Treatment methods and technologies**

GCC's primary spreading fleet is designed for Dry Treatment using rock salt and abrasive material when required.

5.19 **Spreader management**

Ringway Fleet Management undertake our spreader calibration and management. These are detailed in the Ringway Gloucestershire Winter Operation Plan. We will monitor salt usage daily against runs undertaken and the expected salt usage for that run.

5.20 Salt spreading rates

In order to optimise salt usage, improve stock resilience and reduce the impact of salt on vehicles, infrastructure, and the environment, it is important that precautionary salt spread rates are no higher than necessary. Details of spread rates are included in Appendix 1 and following the latest guidance provided by the NWSRG.

5.21 Treatments for snow and ice

Refer to the information provided in Appendix 1 Section B for guidance on treatment for snow and ice. GCC uses rock salt and mixes this with grit when required. We currently have 29 gritters and all have snow ploughs available. We promote and support our local communities with self-help.

5.22 Extreme cold

It has been rare in Gloucestershire to experience road surface temperatures below -7C and we understand the limitation of dry rock salt. However, given the infrequency of extreme low temperatures occurring in Gloucestershire it is neither practical or cost effective to invest in plant and equipment for treatments methods and technology currently available for the treatment of roads in extreme cold. We will continue to monitor our winter service and look at products available if required in the future.

5.23 **Treatment of footways and cycleways**

Winter service is important to the County Council in improving road safety and preventing collisions and ensuring that the effect of adverse weather on road users is minimised. Whilst some precautionary treatment of footways and cycleways would be desirable, precautionary treatment of footways and cycleways is not undertaken. However, we are currently running a trial for using a small tractor mounted system treating a pre identified section of cycleway in advance of snow (Refer to Appendix 2 for details)

The policy is based on the level of risk (likelihood and impact) presented to drivers on carriageways; the level of usage of the County's carriageways in comparison to its footways and cycleways; the complexity of treating footways and cycleways by mechanical or manual methods in relation to its comparative benefit; and the level of available resource to achieve winter operations, both within a narrow window for precautionary treatment and across a full winter season.

At the discretion of the Gloucestershire County Council, Area Highway Manager and if time and resources allow, we may undertake reactive treatment during periods of heavy snow or prolonged freezing temperatures at high priority locations following inspections or reports from the Police.

We have a large number of communities within the county with Winter Action Plans which identify local priority areas. These documents set out how they manage their response during winter conditions including the treatment of priority locations with either a hand salt spreader and/or the use of bagged salt to either replenish grit bins or deal with local problem areas, co-ordinating with their local Parish Snow Wardens and Snow Plough Operators. Each community have different availability, and their plans reflect this and their commitment when resources are available.

Appendix 1 - Winter Decision Making

A. Decision Making step by step – Precautionary Treatments

Step 1 – Review forecast

Step 2 – Refer to Table 1 Gloucestershire Precautionary Treatment Decision Guide

Step 3 – Assess Salt Condition

Step 4 – Assess Spreader Performance

Step 5 – Assess expected traffic levels

Step 6 – Check for other special conditional

Step7 – Assess Road condition

Step8 – Review spreadrates

Step 1 – Review Forecast

Forecast information is provided by DTN and will be supplied daily to the Decision-Making team via email and available on their website via https://roadmaster.dtn.com

Step2 – Gloucestershire Precautionary Treatment Decision Matrix

Extract from Well Maintained Highways September 2013, Appendix H

<table>
<tr><th colspan="5">Gloucestershire Precautionary Treatment Decision Guide</th></tr>
<tr><th rowspan="2">Road Surface Temperature</th><th rowspan="2">Precipitation</th><th colspan="3">Predicted Road Conditions</th></tr>
<tr><th>Wet</th><th>Wet Patches</th><th>Dry</th></tr>
<tr><td>May fall below 1°C</td><td>No rain
No hoar frost
No fog</td><td rowspan="3">Salt before frost</td><td rowspan="2">Salt before frost (see note a)</td><td rowspan="2">No action likely, monitor weather (see note a)</td></tr>
<tr><td rowspan="4">Expected to fall below 1°C</td><td>No rain
No hoar frost
No fog</td></tr>
<tr><td>Expected hoar frost
Expected fog</td><td colspan="2">Salt before frost (see note b)</td></tr>
<tr><td>Expected rain BEFORE freezing</td><td colspan="3">Salt after rain stops (see note c)</td></tr>
<tr><td>Expected rain DURING freezing</td><td colspan="3">Salt before frost, as required during rain and after rain stops (see note d and H11.35)</td></tr>
<tr><td>Possible rain
Possible hoar frost
Possible fog</td><td colspan="2">Salt before frost</td><td>Monitor weather conditions</td></tr>
<tr><td colspan="2">Expected snow (See H11.35)</td><td colspan="3">Salt before snow fall</td></tr>
<tr><td colspan="5">The decision to undertake precautionary treatments should be, if appropriate, adjusted to take account of residual salt.

All decisions should be evidence based, recorded and require continuous monitoring and review.

Decision on treatment timing should account for traffic and road surface wetness at time of treatment and after, as well as forecast conditions.</td></tr>
</table>

Notes:

(a) Particular attention should be given to the possibility of water running across or ponding on carriageways and other running surfaces e.g. off adjacent fields after heavy rains, washing off or diluting salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions. See Warning 6.

(b) When a weather warning contains reference to expected hoarfrost, considerable deposits of frost may occur. Hoarfrost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoarfrost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to and as close as possible to the expected time of the condition. Hoarfrost may be forecast at other times in which case the timing of salting operations should be adjusted accordingly.If, under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases.

(c) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period. Authorities should be aware of the health safety implications of ice forming during freezing rain events, both to the travelling public and winter maintenance personnel carrying out treatments. They should be prepared to make follow up treatments on any ice that has formed or to take suitable actions such as road closures.

(d) By using domain-based forecasting, consideration can be given to differing actions from each depot.

(e) Where there is any hint of moisture being present, a pessimistic view of the forecast should be taken when considering treatment to negatively textured surfaces. See Warning 6

(f) Spreading salt alone at temperatures below about -7°C (the lower of air or road surface at time of spreading) or below about -5°C in low humidity conditions (relative humidity less than 80%) may not be practically effective. High spread rates will be required and even then salt may not enter solution quickly enough to prevent freezing or be able to melt ice or compacted snow. Consideration should be given to spreading at least 2 hours before the temperature reaches these values to allow salt to enter solution, or the use of alternative de-icers. See Section H12.

Step 3 - Assess Salt Condition

Extract from NWSRG Practical Guide for Winter – Section Eight Spread Rates for Precautionary Salting

8.6.6 Key guidance notes regarding potential spread rate modifications

Note 5 – Salt chloride content

The spread rates provided in the matrices are based on the use of UK indigenous rock salt. If salt with higher purity is used, spread rates can be reduced. For example, the recommended spread rates can be reduced by 7.5% if salt purity is 99% or higher. However, as discussed earlier in this section, a minimum spread rate of 8g/m² (7g/m² for treated salt) should be maintained in order to account for the inevitable variabilities that occur in coverage and losses.

Note 6 – Salt moisture content

The spread rates provided in the matrices relate to salt exhibiting a moisture content within the optimum range. Information relating to optimum moisture content of de-icing salt is provided in the Salt Storage section of the NWSRG Practical Guide.

For pre-wetted and treated salting, the optimum moisture content is less than 4%.

The optimum moisture content range for dry salting is dependent upon its fines content. Where the maximum fines content (<0.3mm particle size) is less than or equal to 7.5%, the optimum moisture content for dry salting is within the range 1.5% to 4%. Where the maximum fines content is above 7.5%, the optimum moisture content is within the range 2% to 4%.

When undertaking precautionary salting operations with salt that falls outside of the optimum range, the spread rates provided in the matrices should be increased by 20%.

Step 4 – Assess Spreader Performance

Guidance is provided within NWSRG guidance for Spreader Management to determine whether the spreaders are delivering “Good” or “Fair” coverage. The testing and calibration needed to determine this will be undertaken by our contractor, Ringway.

Step 5 – Assess expected traffic levels

Extract from NWSRG Practical Guide for Winter – Section Eight Spread Rates for Precautionary Salting

TABLE 8.4.3 TRAFFIC LEVEL CATEGORIES (RELATING TO THE PERIOD AROUND THE TIME OF THE PRECAUTIONARY SALTING OPERATION)	
Level	**Vehicles per lane per hour**
Light	Less than 20
Medium	20 to 250
High	250 or more and moving at normal traffic speeds
Congested	250 or more moving slower than normal traffic speeds

It is anticipated that traffic levels on the great majority of local authority road networks will fall within the 'Medium Traffic' category during the times periods that most precautionary salting operations are undertaken. Therefore, the recommended spread rates provided in the matrices contained within sub-section 8.6 relate to the 'Medium Traffic' category.

8.6.6 Key guidance notes regarding potential spread rate modifications

Note 10 – Traffic levels

The matrices assume 'Medium Traffic' around the time of the precautionary salting operation.

For 'Light Traffic' situations, the spread rates provided in the matrices should be increased by 25%.

Research has shown that salt losses do not increase significantly in 'High Traffic' situations and it is therefore considered that the spread rates provided in the matrices are suitable for use in these situations. However, where authorities maintain roads that regularly fall into the 'High Traffic' category for precautionary salting operations, they may opt to utilise the spread rates developed for Trunk Roads, although it is important to note that these only apply to 'Good' spreader capability.

Undertaking precautionary salting operations in 'Congested Traffic' situations should be avoided whenever practical considerations allow. However, when it is necessary to undertake precautionary salting operations in 'Congested Traffic', the spread rates provided in the matrices should be increased by 20%.

When undertaking precautionary operations in 'Congested Traffic' situations, it may be necessary to implement additional measures to aid the passage of spreaders and/or to consider undertaking additional treatments in order to ensure proper distribution of the de- icers.

Step 6 – Check for other special conditional

Extract from NWSRG Practical Guide for Winter – Section Eight Spread Rates for Precautionary Salting

8.4.1 There are a number of factors that can potentially cause the spread rates provided in the matrices to be modified. These factors are discussed below as a series of 'Key notes' and it is crucial that authorities properly consider the content of these notes when utilising the spread rates contained within the matrices.

8.6.6 Key guidance notes regarding potential spread rate modifications

Note 1 – 'Rounding'

The recommended spread rates provided in the matrices are derived from applied research and scientific analyses. It is recognised that authorities may consider 'rounding' some of the recommended rates in order to satisfy issues of practicability, which is an important factor in delivering an efficient and effective winter service.

However, during this process and as discussed earlier in this section, it is recommended that authorities do not utilise lower precautionary spread rates than the lowest rates provided in the matrices, i.e. 8g/m² for dry salt and pre-wetted salt applications, and 7g/m² for treated salt applications.

In determining the spread rates to be used on their networks, authorities should utilise the matrices as a basis, along with their experience and expertise in dealing with the conditions and circumstances prevailing in their local areas, so as to ensure that risks and resources are appropriately managed.

Note 2 – Interpolation within individual temperature bands

The amount of de-icer required to prevent frost/ice formation does not increase by way of step changes as surface temperature reduces. Therefore, when considering specific minimum road surface temperature predictions, authorities may decide to interpolate between the relevant recommended spread rates shown in the matrices.

Note 3 – Higher spread rates

In certain weather and road conditions, the spread rates provided in the matrices may be higher than the spread rate(s) utilised by the authority during their salting route optimisation exercises. Therefore, it may not be possible to deliver the recommended spread rate in a single application. In this situation, ensuring sufficient de-icing material is present on the road surface is likely to require more than one treatment.

Note 4 – Very low temperatures

Due to the amount of salt needed to prevent frost/ice from forming at very low temperatures, it is recommended that the use of alternative de-icing materials is considered on all roads when minimum road surface temperatures are predicted to fall below -7°C. These rates for salt are therefore shown in red in the matrices. When spreading salt for these conditions (and when lower than -5°C in low humidity conditions), it is important that the timing of spreading operations allows sufficient

time for the salt to enter solution before these temperatures are reached (see 'Treatments for Extreme Cold' for more information).

Note 7 – Porous Asphalt

When spreading on porous asphalt, the spread rates provided in the matrices should be increased by 25% and the increased spread rate should be maintained for a distance of 1 kilometre 'downstream' of each porous section (in two-way traffic situations, the increased spread rate should be maintained for a distance of 1 kilometre at both ends of each porous section).

Note 8 – Other negatively textured surfaces

With regard to its effects on de-icing materials, negatively textured surfacing can potentially exhibit similar properties to porous asphalt and authorities may wish to consider increasing spread rates by between 10% and 25% on negatively textured surfacing that is less than two years old. However, the porosity of such surfacing varies considerably with type and over time, and experience indicates that it is often impractical and unnecessary to increase spread rates on negatively textured surfaces, especially where these comprise only relatively short sections of treatment routes.

Note 9 – Bridge decks

In certain weather conditions, some bridge decks can exhibit lower minimum surface temperatures than those of adjacent sections of road. Some bridge decks can also cool down at an increased rate compared to other road sections. Therefore, it is recommended that authorities use their experience and/or a process of risk assessment to identify any bridge decks that exhibit significantly different thermal characteristics during winter conditions than the adjacent sections of road. It is further recommended that those authorities that maintain such bridges obtain weather forecasts that include specific reference to the bridge deck temperatures, and treat them accordingly. Due to the materials used in bridge construction, such treatment may include the use of alternative de-icing materials (see 'De-Icer Types' section for more information).

Note 11 – Precipitation

Precipitation will adversely affect de-icing materials on the road surface, reducing their effectiveness and, along with the action of traffic, significantly increase the rate at which they are removed from the road surface. It is therefore recommended that, whenever practicable, treatments are delayed and undertaken after any predicted or actual rainfall has ceased and before freezing road surface temperatures are expected.

It is recognised that a band of frontal rain crossing the area presents a different situation to that of scattered showers, for example, and that it is sometimes difficult, or even impossible, to undertake and complete an operation in the available time period after the cessation of precipitation. In these situations, which can be some of the most challenging of all for decision makers, it will be necessary for winter service decision makers to use their judgement, along with all of the relevant information available to them, to determine the optimum timing for these salting operations.

Note 12 – Wind speed and direction

Wind speed and direction can affect the spreading of salt and, in dry conditions, also affect the length of time that the salt will remain on the road surface. When practical, it is therefore recommended that authorities avoid spreading during the predicted high wind period, i.e. periods when mean wind speeds are predicted to be 20mph or more.

This issue is likely to affect some locations on the salted network more than others, and the precise effects of high winds are difficult to quantify due to the nature of the wind field close to the road surface and the number of variables involved which include, amongst other factors, the direction of the wind field relative to the salting vehicle, the treatment type being utilised (dry, treated or pre-wetted etc) and the grain size of the salt etc.

Authorities should also be aware that forecast mean wind speeds typically relate to those at a height of 10 meters above the ground and these are not likely to be the same as those closer to the ground and care should be taken when comparing wind data from RWIS to forecasts etc.

When treatments are carried out during high wind conditions, it is recommended that authorities monitor residual salt levels and carry out re-treatments if and where necessary. If this issue is considered to pose a significant risk, authorities may also wish to increase spread rates when carrying out precautionary salting operations during periods when forecast mean wind speeds are 20mph or higher.

Note 13 – Residual salt

Residual salt from previous operations can reduce the spread rates required to prevent frost/ice formation. However if, when decision making, residual salt levels are relied upon to reduce instructed spread rates, it is important that such decisions are evidence based. As with all other pertinent information relating to winter service decision making, the supporting data should be recorded and retained.

Step 7 – Assess road condition

Extract from NWSRG Practical Guide for Winter – Section Eight Spread Rates for Precautionary Salting

Water Film Thickness

The amount of water on a road surface considerably affects the ability of salt to prevent frost and ice from forming. Surface water reduces the concentration of brine and, in conjunction with the action of traffic, increases the rate at which salt is removed from the road surface.

Table 8.A1 below classifies the amount of water present on a road surface into four main categories of 'Water Film Thickness' (WFT). These are termed 'Dry', 'Damp', 'Wet' and 'Very Wet' surface conditions, and are significant to the spread rate guidance contained within the main body of this section of the Practical Guide.

Table 8.A1 - Road surface wetness

Definition	Description	Water film thickness (for when using WFT instrumentation)
Dry Road	A road that shows no signs of water or dampness at the surface but may be just detectably darker. It may have moisture contained in pores below the surface that is not 'pumped' to the surface by traffic.	0 to 0.03mm (=0-30 g/m²)
Damp Road	A road which is clearly dark but traffic does not generate any spray. This would be typical of a well-drained road when there has been no rainfall after 6 hours before the treatment time.	0.03 to 0.05mm (=30-50 g/m2)
Wet Road	A road on which traffic produces fine spray but not small water droplets. This would be typical of a well-drained road when there has been rainfall up to 3 hours before the treatment time.	0.05 to 0.1mm (=50-100 g/m²)
Very Wet Road and Flowing Water on Road*	A road on which traffic produces droplets of water in the air to visibly flowing water on the surface	Greater than 0.1mm (=>100 g/m²)

* *The amount of salt required to prevent ice from forming in these conditions is considered impractical for authorities to deliver during normal precautionary salting operations*

Step 8 – Review spreadrates

Extract from NWSRG Practical Guide for Winter – Section Eight Spread Rates for Precautionary Salting

8.6.6 Precautionary Spread Rates for Dry Salting

The matrix below provides recommended spread rates for precautionary dry salting operations on local authority roads in response to predictions of ice and frost formation.

When utilising these rates, it is crucial that the content of all of the 'Key Notes' above is properly considered, as these notes provide information regarding the interpretation of the matrix and discuss situations when the spread rates should be modified.

Recommended Spread Rates – Dry Salting (g/m²) Treatment Matrix 8.6.7				
Road Surface Temperature (RST) when frost/ice is predicted	Spreader Capability			
	Fair		Good	
	Dry/Damp Road	Wet Road	Dry/Damp Road	Wet Road
At or above -1.0°C	8	8	8	8
-1.1°C to -2.0°C	8	11	8	8
-2.1°C to -3.0°C	9	17	8	13
-3.1°C to -4.0°C	12	23	9	17
-4.1°C to -5.0°C	14	28	11	21
-5.1°C to -7.0°C	20	39	15	30
-7.1°C to -10.0°C	27	54	20	40
-10.1°C to -15.0°C	38	75	28	56

Please note: Southwest Benchmarking exercise 20g per meter squared is the maximum spreadrate in one operation.

B. Decision Making step by step – Snow, ice and freezing rain

Step 1 – Preparation and planning

Step 2 – Assess the amount and type of snow

Step 3 – Review forecast and assess optimum time for treatments

Step 4 - De-bonding layer

Step 5 - Treatment for Snow, ice and freezing rain

Step 1 – Preparation and planning

Extract from NWSRG Practical Guide for Winter – Section Nine Treatments for Snow and Ice

9.1 INTRODUCTION

9.1.1 This section provides guidance on effective treatments for snow, ice and freezing rain based on the operational experience of practitioners and in combination with a review of the available research and literature.
Further guidance on planning for snow events and prioritising the treated network is available in the 'Planning' and 'Route Selection and Optimisation' NWSRG Practical Guidance Sections.

9.1.2 Whenever practicable, it is crucial that de-icer is spread on road surfaces before snowfall and freezing rain occurs. This provides a layer which prevents the snow and ice bonding to the road surface (debonding layer) and this aids subsequent treatments.

9.1.3 It is impractical to spread sufficient salt to melt anything other than very thin layers of snow and ice, and ploughing
(or, in certain circumstances, cutting and blowing) is the only effective way to deal with more than a few millimetres of snow.

9.1.4 The most effective ploughing technique is to plough down to the road surface ('Ploughing to black'), as this removes almost all of the lying snow and minimises the amount of de-icer required for subsequent treatments. Equipment designed for this purpose is available from manufacturers but the technique may not be suitable for all road surface types and/or conditions.
Therefore, authorities should assess the suitability of ploughing down to the road surface for their networks and, if practicable and appropriate, employ this technique during their snow clearance operations.

9.1.5 Preparation is essential - ploughs must be readied and in position before heavy snowfall if ploughing is to be effective.

9.2 OPTIMUM TREATMENTS FOR SNOW AND FREEZING RAIN

9.2.1 The factors which determine the optimum treatment include:

- The amount and intensity of snow or freezing rain forecast.
- The timing of both the predicted event and the remedial treatment.
- The effect of trafficking.
- The practicality of ploughing (for snow).

The effects of these factors on the decision making process are described in the following sections.

9.2.2 Particular care should be taken to manage the risks to personnel carrying out winter service operations in snow and freezing rain conditions.

Our 29 Gritters all have Econ ploughs located at the depots to enable us to react to forecasts of snow. When snow is forecast we will attempt to provide a de-bonding layer to all our Key Route network if time and resources allow. We will then consider where the snow is forecast and the implications on the county and at this point make clear decisions about when we concentrate on our Resilience Network before ploughing our Key and Secondary networks. We have reviewed the routes and all routes are capable to be ploughed "back to black".

Step 2 - Assess the amount and type of snow

Extract from NWSRG Practical Guide for Winter – Section Nine Treatments for Snow and Ice

9.1 LEVELS OF SNOWFALL

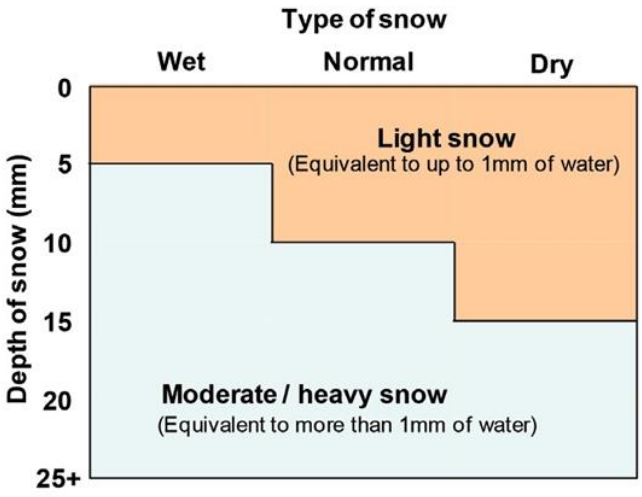
9.1.1 Based around three types of snow: **dry** (powdery), **normal** and **wet** this guide uses two categories of snow intensity: **light snow** and **moderate/heavy snow** for the purposes of allocating treatments.

Typically, 10mm depth of snow will contain the equivalent of approximately 1mm depth of liquid water. However, the ratio varies with the type of snow, and the same amount of surface water is present in approximately 5mm depth of 'wet' snow and 15mm of 'dry / powdery' snow.

9.1.2 Authorities considering this to be an important aspect of decision making may request their weather forecast service provider to provide information concerning the snow "wetness" factor in their predictions.

9.1.3 The highest spread rate used by most authorities for dry salting is 40g/m^2 (although it is recognised that delivering this onto the road surface may require more than one treatment). This spread rate, combined with the effect of trafficking, should be sufficient to melt and disperse snow depths which are equivalent to a maximum of 1mm of water at temperatures down to -2°C but will not be sufficient to melt heavier snow.

Therefore, in this guide, 'light' snow is taken to be snow equivalent to 1mm of water (or less) while snowfalls equivalent to more than 1mm are considered to be moderate to heavy, as shown in the diagram 9.3.2 below.



Step 3 – Review forecast and assess optimum time for treatments

Extract from NWSRG Practical Guide for Winter – Section Nine Treatments for Snow and Ice

9.1 TIMING OF TREATMENTS

9.1.1 When snow is forecast and issues of practicality allow, ploughs and snow blowers should be made ready to allow snow clearance to commence without delay as and when required. The recommended aim is to apply a precautionary treatment to the salting network immediately prior to snow fall or freezing rain, as this should significantly reduce the risks of snow settling or ice forming on the road surface.

9.1.2 When feasible, treatments should be carried out after any preceding rainfall has ceased and sufficient time and traffic has removed excess water on the road surface. It is, however, recognised that there may be insufficient time during the intervening period to undertake a full precautionary salting operation. These situations are some of the most difficult of all to deal with and, whenever snowfall or freezing rain is expected, decision makers will need to carefully consider the most appropriate and effective timing for operations. In some circumstances, treatments may be required to be undertaken during rainfall or on very wet road surfaces and repeat treatments may be required to prevent compacted snow or icy conditions occurring as snow continues to fall.

9.1.3 When snow is settling, ploughing should be carried out at an early enough point to prevent its compaction by traffic. During prolonged snowfall events and when issues of practicality allow, the time periods between successive ploughing passes necessary to prevent a build-up of snow should be kept short enough so that compaction is minimised. In some instances, this may require continuous ploughing operations.

9.1.4 Authorities should recognise that treating the network during periods of snowfall or freezing rain poses risks to their staff, as well as to the public. Therefore, risk assessments should be undertaken to ensure that these risks are appropriately accounted for and clearly communicated.

Depending on the prevailing conditions, subsequent treatments should be carried out as shown below:

TABLE 9.4.4 Timing of treatment	Treatment type
During freezing rain, or where there are minor accumulations of ice	Salt spreading[1]
During snowfall	Ploughing and salt spreading
After snowfall When there is slush on the road When there is compacted layers of snow and ice	Ploughing and salt spreading Salt and abrasive mixtures or just abrasives can be used on compacted layers of snow and ice

[1] In accordance with risk assessments

Step 4 – De-bonding layer

Extract from NWSRG Practical Guide for Winter – Section Nine Treatments for Snow and Ice

9.6 TREATMENTS BEFORE SNOWFALL AND FREEZING RAIN

9.6.1 It can be very difficult to remove a layer of compacted snow or ice that is bonded to a road surface and debonding layer is important so that:

- Snow is more readily removed by ploughing
- Compacted snow and ice are more easily dispersed by traffic
- To provide salt to melt small quantities of light snow with the aid of trafficking

9.6.2 Consideration should be given to the extent of the network that will be treated in response to predictions of snowfall and freezing rain. Guidance on this is provided in the 'Route Selection and Optimisation' Section of the NWSRG Guide.

9.6.3 Guidance relating to the range of recommended spread rates for these conditions is provided below. However, it should be recognised that definitive and/or precise recommendations in this regard are not possible because of the large variations that can occur in the amount of snow, its water content and the effects of traffic. It is also recognised that, for many authorities, the maximum spread rate achievable in a single pass of a salting vehicle will be no more than 20g/m².

9.6.4 The key recommendation is that one treatment within the range of spread rates is completed before snow occurs. As noted in Section
9.4 above, this may sometimes require spreading during rainfall with repeat treatments as necessary.

9.8.5 Where there is only a short time available, options can include mobilising the front line and reserve fleets where available to work in tandem. In such a case, two vehicles can spread a route at half the specified rate, and when a vehicle needs to reload the other vehicle continues spreading at the full rate.

Potential treatment rates to use before snowfall and freezing rain are outlined in Matrix 9.8.

TREATMENT MATRIX 9.8.5 TREATMENTS BEFORE SNOWFALL AND FREEZING RAIN	
Weather conditions	
Light to Moderate/Heavy snow forecast	Spread: ▮ 20-40g/m² of dry salt, or ▮ 20-40g/m² of pre-wetted salt, or ▮ 15-30g/m² of treated salt
Freezing rain forecast	▮ 40 or 2x20g/m² of dry salt, or ▮ 40 or 2x20g/m² of pre-wetted salt, or ▮ 30 or 2x15g/m² of treated salt
Note 1: In situations where time constraints dictate, a treatment of 20g/m² across the whole of the scheduled network before the commencement of snowfall or freezing rain will typically prove more advantageous than a treatment of 40g/m² on only part of the network.	

Step 5 - Treatment for Snow, ice and freezing rain

Extract from NWSRG Practical Guide for Winter – Section Nine Treatments for Snow and Ice

9.9 TREATMENTS DURING SNOW AND FREEZING RAIN

9.9.1 Treatments are undertaken during snowfall to:

- Limit the accumulation of snow on the road surface, thereby reducing the amount of salt required for subsequent treatments
- Help the dispersal/clearing of the snow by traffic
- Prevent snow from being compacted

The combination of ploughing and de-icer treatments should be as in Matrix 9.9.1

TREATMENT MATRIX 9.9.1 TREATMENTS DURING SNOW AND FREEZING RAIN		
Plough to remove as much material as possible e.g. slush, snow, compacted snow Ploughing should be down to the level of the road surface Ploughing should start and, where necessary, be continuous to prevent a build-up of snow As snow melts under the action of salt, keep ploughing to remove slush		
No ice or compacted snow on surface	**Ice or compacted snow on surface**	
	Is traffic likely to compact subsequent snowfall before further ploughing is possible?	
	YES	**NO**
To provide a debonding layer, spread: ▮ 20-40g/m² of dry salt, or ▮ 15-30g/m² of treated salt or ▮ 20-40g/m² of pre-wetted salt	To provide a debonding layer, spread: ▮ 20-40g/m² of dry salt, or ▮ 15-30g/m² of treated salt or ▮ 20-40g/m² of pre-wetted salt	No de-icer should be spread

9.9.1 De-icer should not be spread alone without abrasives to anything other than a thin layer of ice or compacted snow when snowfall has ceased or future snowfall will be less than 10mm. Applying salt alone to compacted snow and ice can produce dangerously slippery conditions if a weak brine film is formed on top of

the ice/snow layer.

9.10 TREATMENTS OF THIN ICE LAYERS

9.10.1 Treatments using salt or salt and abrasive mixes should be made in accordance with Matrix 9.10.4

9.10.2 For best performance, abrasives should be 5-6mm and angular. Salt and abrasive should be pre-mixed before loading onto the spreader (see below). The mix proportions should be approximately 50:50 by weight (similar to 50:50 by volume) – i.e. one loader bucket full of salt to one loader bucket of abrasive.

9.10.3 Care is needed when salt is mixed with abrasives. Checks should be made that the mixture is free flowing, does not clump and can be spread effectively.

9.10.4 On some spreaders, it is possible to place a baffle board in the spreader hopper so that salt is placed on one side of the hopper and abrasives on the other. The baffle board can be positioned so the belt is loaded with salt and abrasives in the correct proportions for mixing at the spinner during spreading.

After abrasives have been used, drainage systems should be checked and cleared if necessary. Recovered material, which will be contaminated with road oil, must be disposed of safely.

TREATMENT MATRIX 9.10.4
TREATMENT FOR THIN LAYERS OF ICE (LESS THAN ABOUT 1MM THICK)

Forecast weather and road surface conditions	
Lower of air or road surface temperature Above -5°C	Spread: ▮ 40g/m² of dry salt, treated salt or pre-wetted salt, or ▮ 40g/m² of salt/abrasive mix
Lower of air or road surface temperature At or below -5°C	Spread: ▮ 40g/m² of salt/abrasive mix (50:50)

Note 1: Salt is ineffective in the short term at temperatures below -7°C. Abrasives only should be used when it is expected to be below -7°C for long periods. Other de-icers are available for low temperatures (see De-icer Types Section).

9.11 TREATMENT OF COMPACTED LAYERS OF SNOW AND ICE

9.11.1 Treatments should be made in accordance with Matrix 9.11.3

9.11.2 For compacted snow, when no further snow is expected, salt and abrasive mixtures or abrasives are applied to assist the action of traffic in breaking the layer. When further snow is expected, salt and abrasive mixtures treatments may be applied to provide grip as well as a debonding layer between the existing layer and any future snow to assist future ploughing operations.

9.11.3 Salt should not be applied on its own as it may eventually form a weak brine solution which may re-freeze to form an ice or ice/brine layer.

TREATMENT MATRIX 9.11.3 TREATMENT FOR LAYERS OF COMPACTED SNOW AND ICE	
Plough to remove as much material (e.g. slush, snow, compacted snow) as possible from the top of the compacted layer	
Medium Layer Thickness (1 to 5 mm)	**High Layer Thickness (greater than 5mm)**
For initial treatment, spread: ▮ 40g/m² of salt/abrasive mix (50:50) For successive treatments, spread: ▮ 20g/m² of salt/abrasive mix (50:50)	For initial treatment, spread: ▮ 40g/m² of abrasives only For successive treatments, spread: ▮ 20g/m² of abrasives only **After traffic has started breaking up the layer, spread:** ▮ 20g/m² of salt/abrasive mix (50:50) so salt can penetrate the layer and reach the road surface

C. Decision Making step by step – Extreme Temperatures

Extract from NWSRG Practical Guide for Winter – 8. Treatment for Extreme Cold

KEY MESSAGE

Spreading salt (sodium chloride) alone at temperatures below about -5˚C to -7˚C (extreme cold conditions) may not be practically effective or economical. High spread rates will be required and even then salt may not enter solution quickly enough to prevent freezing or be able to melt ice or compacted snow.

When utilized without additives specifically designed for extreme cold conditions, sodium chloride should be spread at least two hours before temperatures reach -5˚C to -7˚C to allow the salt to enter solution and become effective as a de- icer.

Sodium chloride is not considered to be practically effective as a de-icer on its own below -15˚C, even when spread at temperatures higher than -5˚C to -7˚C.

Alternative de-icers can provide more effective and economical treatments than salt alone when spreading has to be carried out in extreme cold conditions. Some alternatives can be spread in conjunction with salt to make the salt more effective. Other alternatives can be used on their own without salt to melt ice and/or compacted snow.

The ability to spread an alternative de-icer gives a further option to service providers for handling extreme conditions.

This guidance has been developed to allow service providers to spread alternative de-icers using existing spreading equipment where practicable.

We have experienced RST below -7˚C on very few occasions and with our existing fleet unable to apply alternative de-icers. We will monitor this annually as part of our Adverse Weather Plan review and if frequency of extremely cold temperatures increases, we will revisit but at present we are not preparing for providing alternative de-icers in the county.

Appendix 2 – Cycleway Trial

Gloucestershire County Council is promoting cycling and has been successful in securing funding through the Active Travel initiative. The aim of the county is to provide a 26mile cycle spine through the county from Stroud to Bishops Cleeve. Work is progressing well to design and implement these cycleways.

Our trial to treat cycleway extends between Estcourt Road roundabout and the junction of Gloucester Road and Lansdown Road adjacent to the A40.

Decision when to treat the cycle route will be taken by the Area Manager and GCC Decision Maker. Treatments will be undertaken with the use of a tractor mounted sprayer, based at our Bamfurlong Depot. Treatment of the off-carriageway cycleways require a specialist equipment and to undertake this trial we have leased for this winter season. This mini tractor uses a liquid de-icer, and the use of this de-icer is also on a trial basis.

Due to the usage of the cycleway, it has been agreed that treatments will only be applied outside peak periods between 09:30 – 15:00 during the normal working week, Monday to Friday. We will only treat the cycleway if snow is forecast. This will also allow us to undertake this operation in daylight hours and outside the higher usage periods of this section of cycleway.

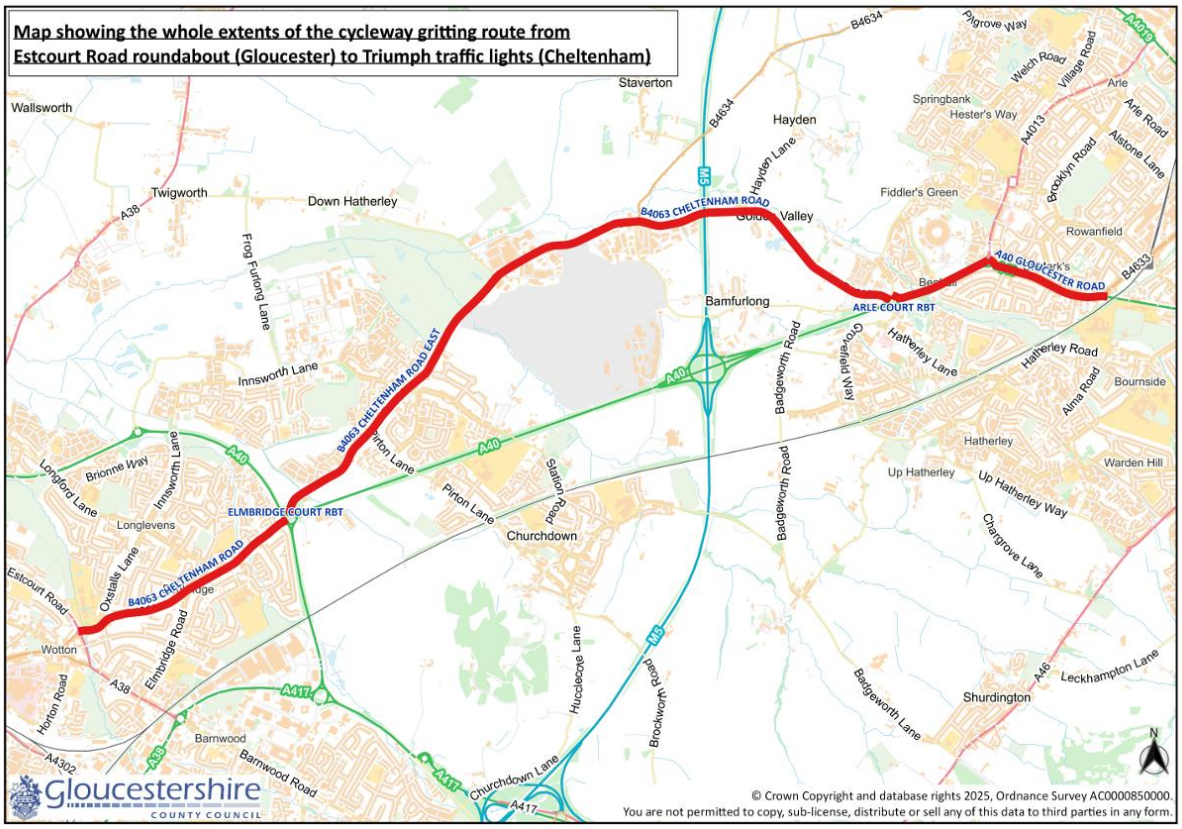
APPLICATION RATES

Temperature	Dry Conditions	Wet conditions
0 to -5	15mls/sqm	25 mls/sqm
-5 to -12	25mls/sqm	35mls/sqm
Lower than -12	35mls/sqm	45mls/sqm

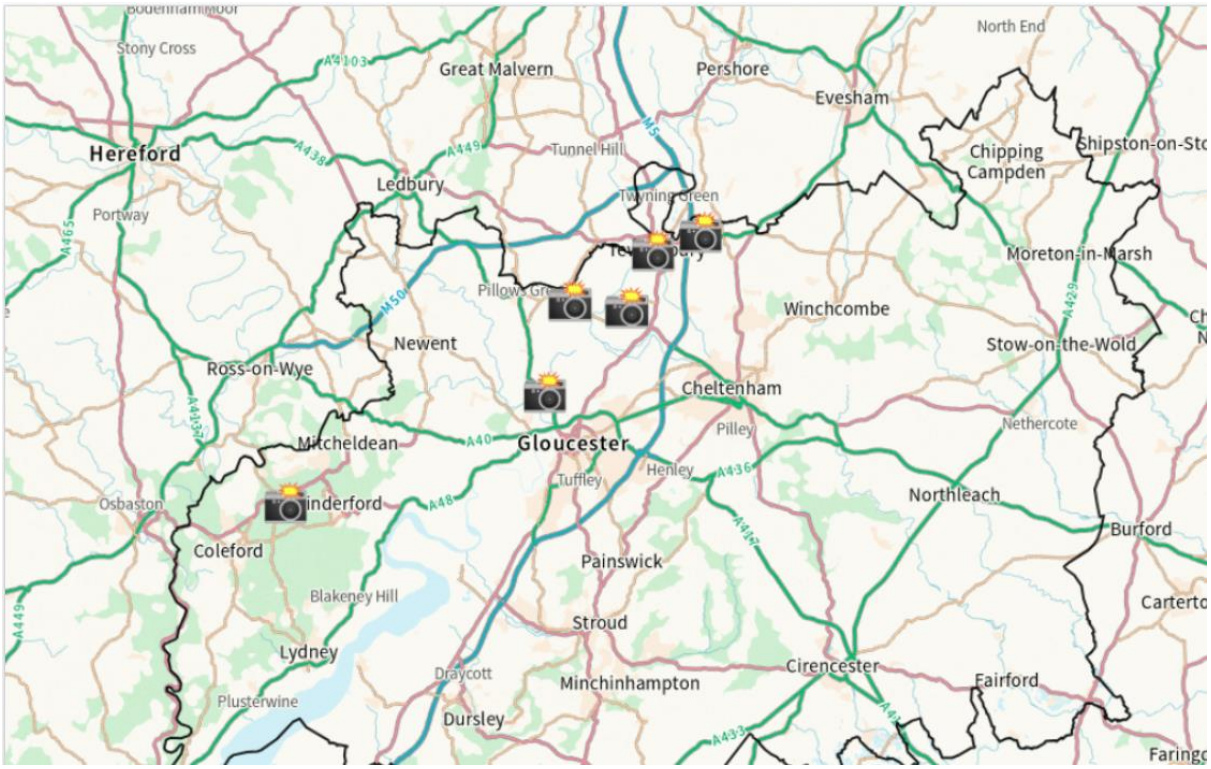
Treatments will be undertaken Monday to Friday and therefore on a Thursday lunchtime a decision will be made if treatment is required for the weekend period. As part of this trial, we will review the successfulness of the liquid de-icer and its length of effectiveness.

As part of this trial, we have installed a number of ground temperature sensors so we can review the actual temperature of the cycleway in comparison to the carriageway road surface temperature. As a trial we will monitor actions closely and look for any in-season improvements as we learn throughout the winter season.

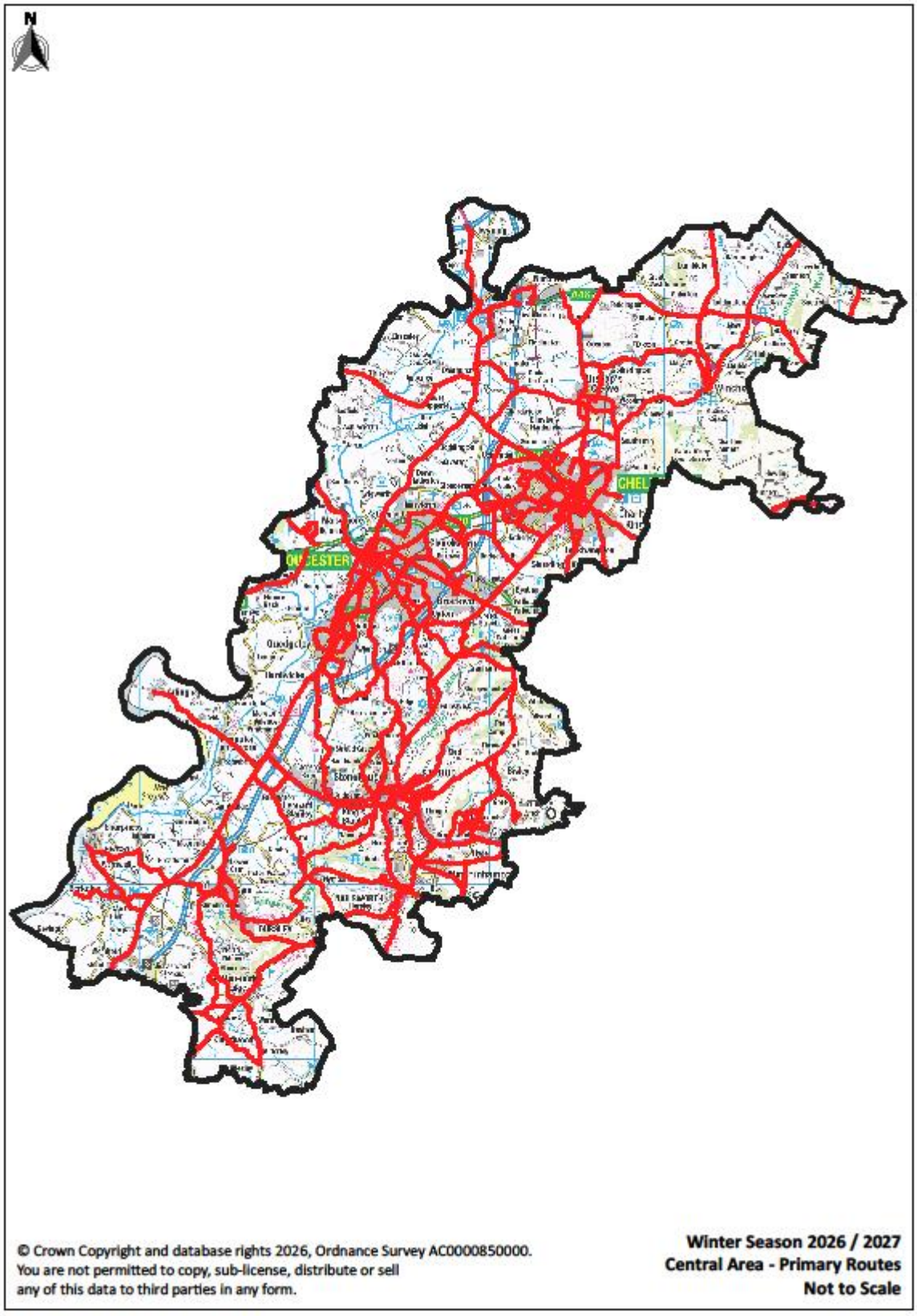
Cycleway Treatment Map

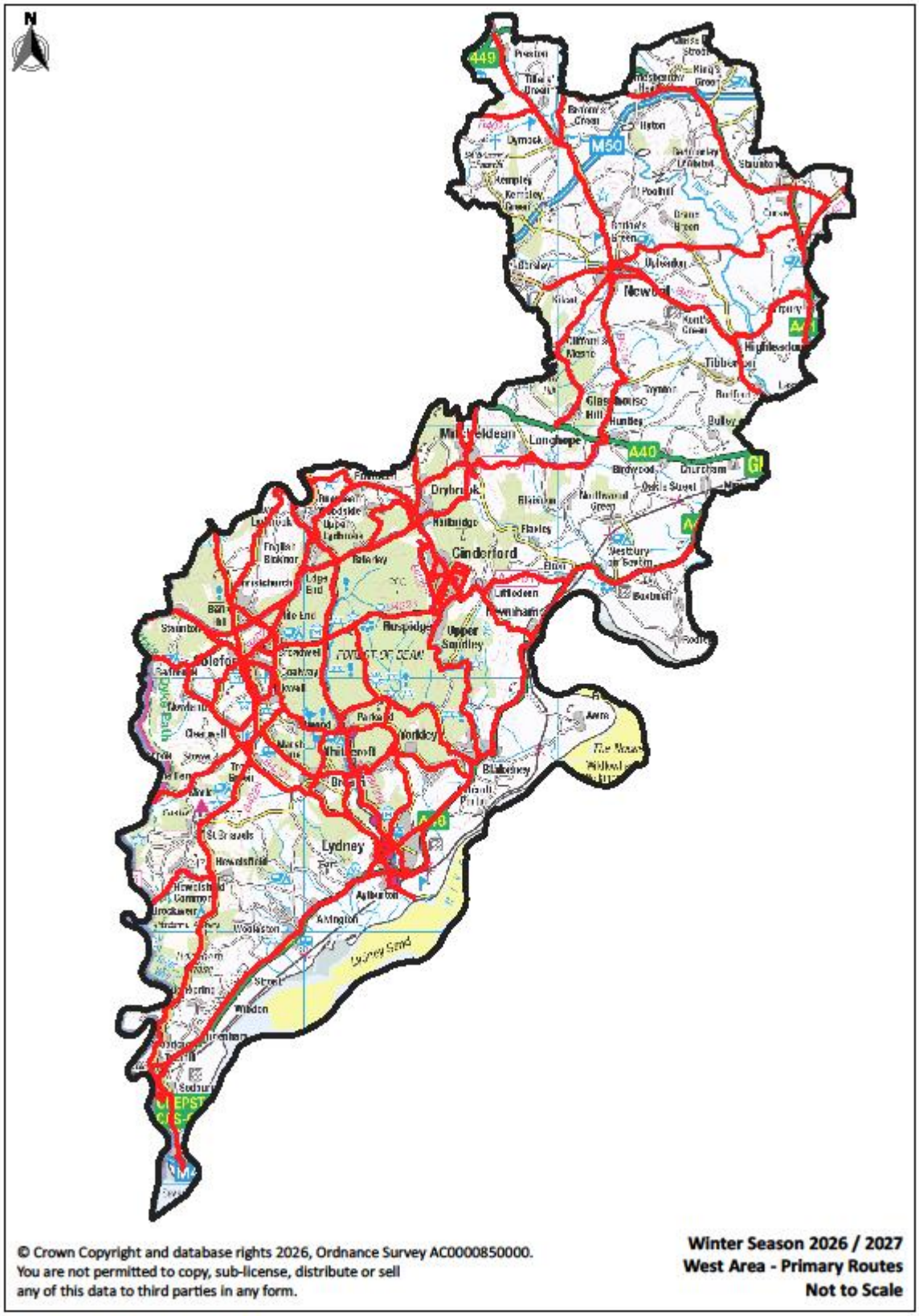


Flood Camera locations



Appendix 3– Primary Network




N
A49
M50
A40
Newent
Longhope
Drybrook
Cinderford
Ruspidge
Lydney
Lydney Sand
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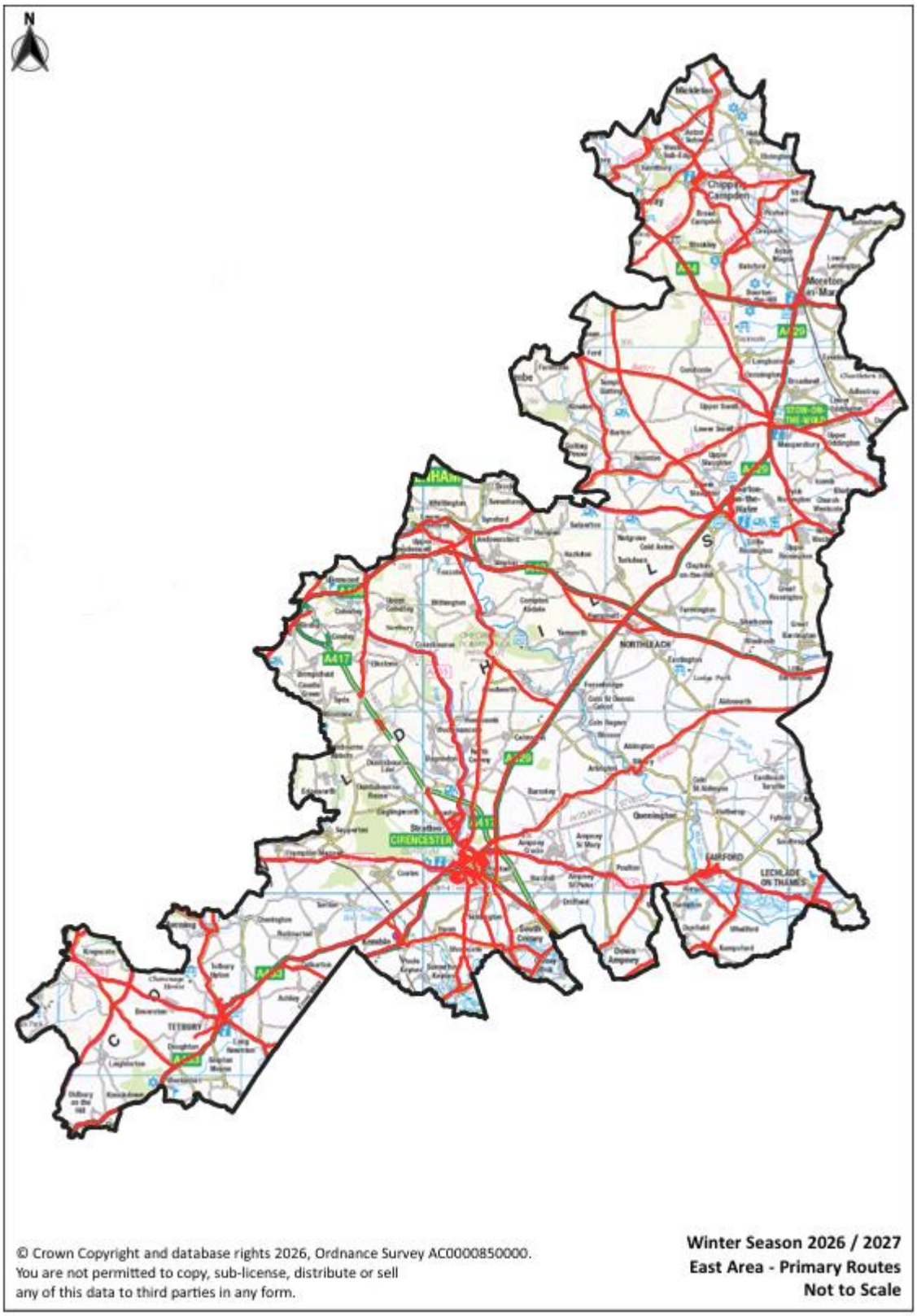
Winter Season 2026 / 2027
West Area - Primary Routes
Not to Scale


N
CIRENCESTER
TETBURY
FAIRFORD
LECHLADE ON THAMES
NORTHLEACH
STOW-ON-THE-WOLD
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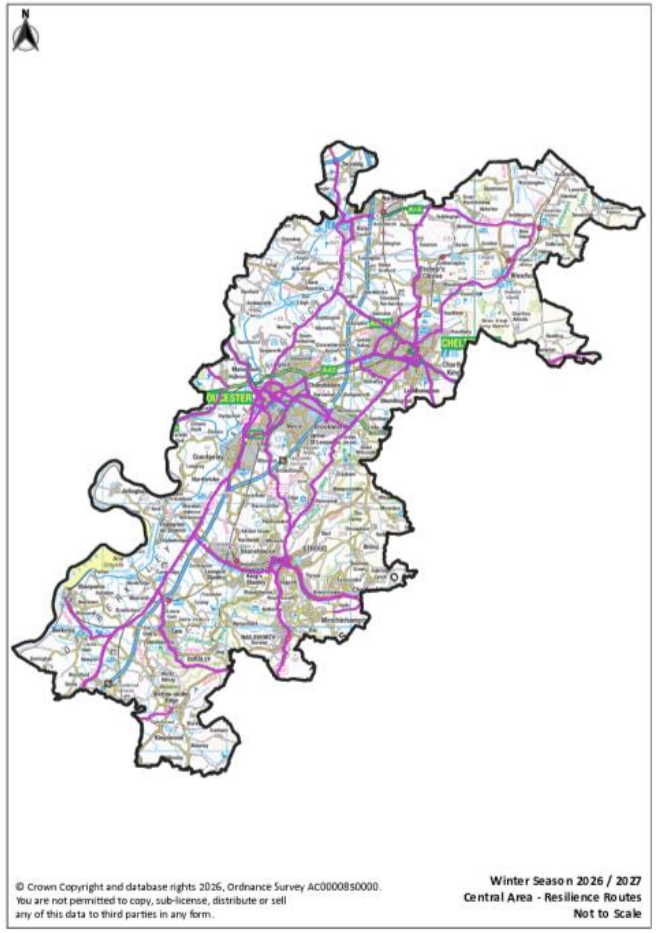
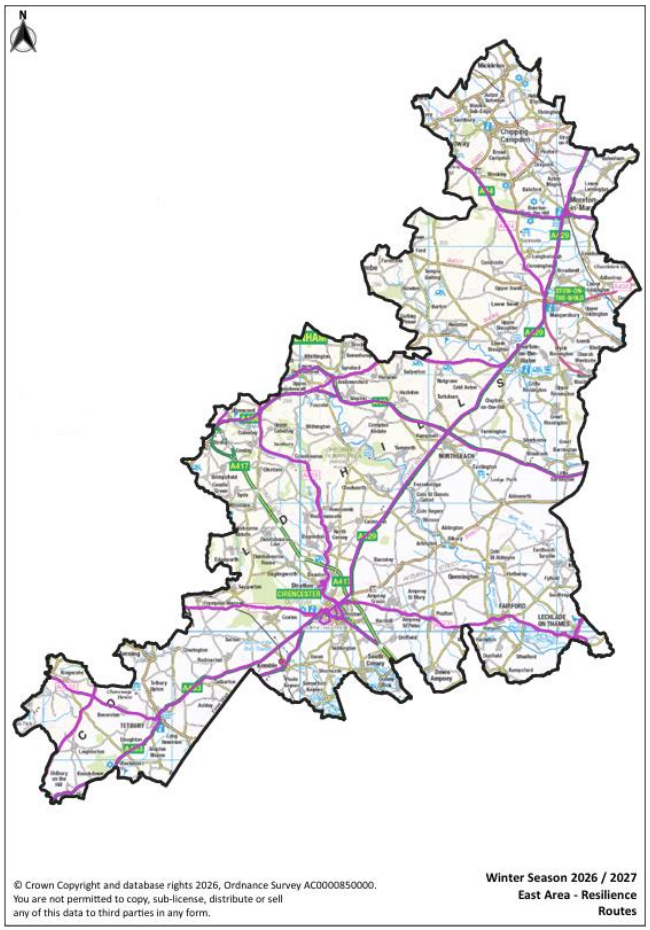
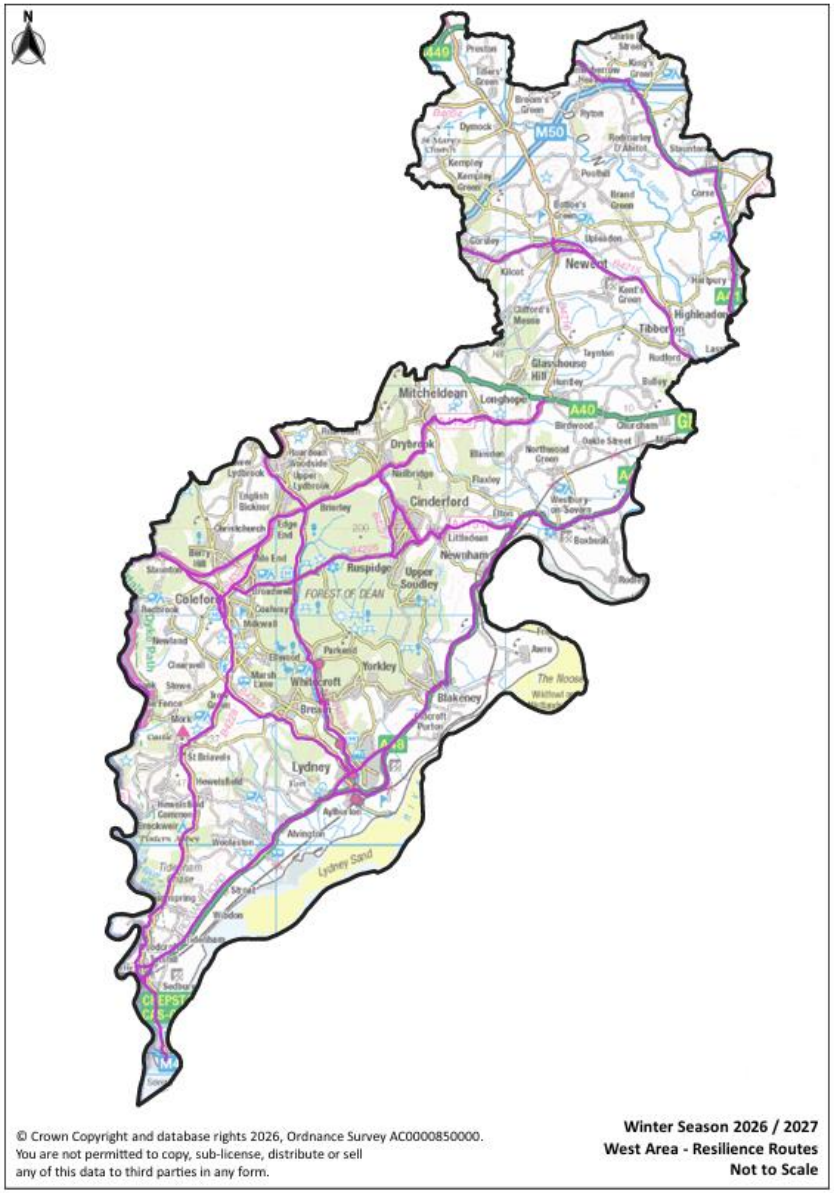
Winter Season 2026 / 2027
East Area - Primary Routes
Not to Scale

Appendix 4 – Resilience Network (Minimum Winter Network)







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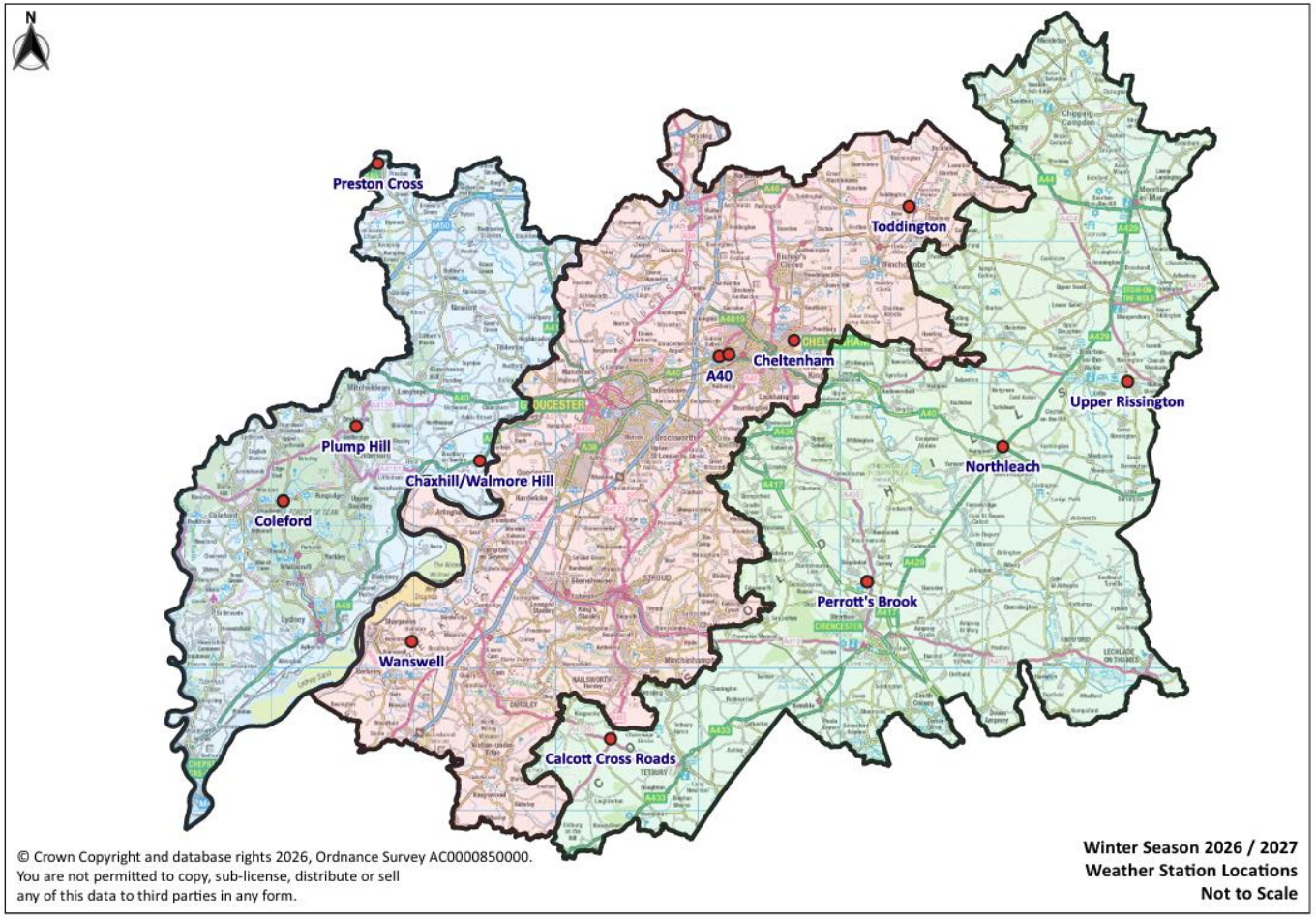
Winter Season 2026 / 2027
West Area - Resilience Routes
Not to Scale

Appendix 5 – Weather Station Locations



Appendix 6: Snow Code from DirectGov website

https://www.gov.uk/clear-snow-road-path-cycleway

Clearing snow and ice from pavements yourself



There's no law stopping you from clearing snow and ice on the pavement outside your home or from public spaces. It's unlikely you'll be sued or held legally responsible for any injuries on the path if you have cleared it carefully. Follow the snow code when clearing snow and ice safely.

The snow code - tips on clearing snow and ice from pavements or public spaces

Prevent slips.
Pay extra attention to clear snow and ice from steps and steep pathways - you might need to use more salt on these areas.

If you clear snow and ice yourself, be careful - don't make the pathways more dangerous by causing them to refreeze. But don't be put off clearing paths because you're afraid someone will get injured. Remember, people walking on snow and ice have responsibility to be careful themselves. Follow the advice below to make sure you clear the pathway safely and effectively.

Clear the snow or ice early in the day.

It's easier to move fresh, loose snow rather than hard snow that has packed together from people walking on it. So, if possible, start removing the snow and ice in the morning. If you remove the top layer of snow in the morning, any sunshine during the day will help melt any ice beneath. You can then cover the path with salt before nightfall to stop it refreezing overnight.

Use salt or sand - not water.

If you use water to melt the snow, it may refreeze and turn to black ice. Black ice increases the risk of injuries as it is invisible and very slippery. You can prevent black ice by spreading some salt on the area you have cleared. You can use ordinary table or dishwasher salt - a tablespoon for each square metre you clear should work. Don't use the salt found in salting bins - this will be needed to keep the roads clear.

Be careful not to spread salt on plants or grass as it may cause them damage.

If you don't have enough salt, you can also use sand or ash. These won't stop the path icing over as well as salt but will provide good grip under foot.

Take care where you move the snow.

When you're shovelling snow, take care where you put it, so it doesn't block people's paths or drains. Make sure you make a path down the middle of the area to be cleared first, so you have a clear surface to walk on. Then shovel the snow from the centre of the path to the sides.

Offer to clear your neighbours' paths.

If your neighbour will have difficulty getting in and out of their home, offer to clear snow and ice around their property as well. Check that any elderly or disabled neighbours are alright in the cold weather. If you're worried about them, contact your local council.

Appendix 7: Snow Wardens and Snow Plough Operator roles and responsibilities

Snow Wardens

General Duties & Responsibilities

1. Snow Wardens are volunteers normally appointed by Parish Councils. Full contact details should be provided to the parish council and the parish clerk should be kept update on any changes.
2. During periods of severe winter weather, information regarding snow conditions should be provided to the Area Office by Snow Wardens each morning - ideally before midday. This will allow the Area Highways Manager to make a comprehensive review of weather and road conditions across each area of the county before the West Area Highways Manager considers countywide conditions. The information provided should include:
    - The extent and estimated depth of snow including degree and direction of snow drifts.
    - Location of blocked roads
    - Progress already made in clearing blocked roads and snow drifts.
    - Locations that are causing local communities the greatest problems
3. The primary objective of Snow Warden's is to assist in making arrangements for the clearance of blockages on local roads and routes leading to villages and hamlets whilst GH's resources are prioritised in maintaining the strategic road network.
4. The Area Office will request that the snow warden brings into operation any available local snow ploughs, as necessary. In the event of extreme conditions, the warden may initiate such operations as are appropriate to open a priority route to each community and to overcome emergency situations. Snow Wardens shall report emergency actions at the earliest opportunity to the Area Office.
5. Local self-help plays an important role in helping to deal with snowfall particularly when GH's resources are prioritised in maintaining the strategic road network. Self-help arranged by the Snow Wardens should be carried out in accordance with the DFT guidance document; "Snow Code".
6. The aim of the snow warden is to foster and encourage local self-help from the voluntary spirit that is so apparent in emergencies to organise and direct local resources to best effect.
7. Prior to and during severe winter weather conditions wardens should establish contact with local Snow Plough Operators and with wardens of neighbouring Parishes. They should familiarise themselves with the geography and road system in the parish and with the normal routine of transport services such as school buses and milk tankers.
8. The Snow Warden should pass on to the Snow Plough Operator any advance adverse weather information received from the Area Team during the winter season. This is normally by telephone call following the lunchtime forecast update and would allow the plough to be prepared for action.
9. If a Snow Warden is unable to operate temporarily at any time during the period November to March (e.g. because of sickness or absence from home) a deputy should be

appointed and briefed on the duties by the warden or by the Parish Council. The Area Office should be advised accordingly.

10. Where Parish Councils have accepted a locally controlled stockpile of salt from Area Team, the Snow Warden should co-ordinate the appropriate action of the volunteers by either salt spreading as previously agreed between Parish Council/Area Team and/or the replenishment of existing grit bins.

11. Where parish councils have not accepted a locally controlled stockpile of salt from the Area Team the Snow Warden should monitor existing grit bins and report to the Area Team if they require refilling or any misuse of the salt stock.

12. The snow warden should keep a record of all authorised snow plough activity, and forward approved expenses claims from the Snow Plough Operators to the Area Team at the earliest opportunity. Where a Snow Warden is also the operator of plant it is essential that certification of records is made by an independent person able to agree on the work carried out from the local Parish Council. Any claims received directly by the Area Team will be checked against Area Team ploughing records or confirmed with the appropriate snow warden.(Document Reference – Snow plough operator timesheet)

13. Records and claims for payment shall be submitted as soon as possible after completion of work (and not later than the end of March) using the form of invoice provided by the Area Team.[Document Reference – GHWIN08]

14. The Snow Warden shall supply and keep up to date a list (or plan) of all grit bins located within the parish boundaries.

15. It is intended that Snow Warden will also operate in the event of widespread flooding and gale damage where traffic routes are disrupted. Emergency response activities during these conditions will be managed by GH's Area Highways Managers. Snow Wardens may be called upon to provide information on local conditions including blocked roads and recommended alternative routes.

16. Requests for assistance by Snow Wardens outside of the normal interests of GCC as a highway authority should be made directly to the police.

Snow Plough Operators

Operations

1. During periods of severe winter weather, the Area Office will request that the Snow warden brings into operation any available local snow ploughs, as necessary. In the event of extreme conditions, the warden may initiate such operations as are appropriate to open a priority route to each community and to overcome emergency situations. Snow Wardens shall report emergency actions at the earliest opportunity to the Area Office.
2. Ploughing should ideally be commenced when traffic starts to have difficulty and when drifting begins and should be continued as snow melts to remove the slush which otherwise may become compacted by traffic.
3. When heavy snowfall and drifting persists, efforts to clear certain lengths of road may become a 'losing battle' and operations should be diverted to an alternative route if that may be readily kept open. (Diversion signs should be arranged via the Area Office if resources are available).
4. Snow Ploughs and other equipment provided by GCC are solely for use on the public highway for the general community benefit. Other than in providing an essential route for community use and in providing assistance on request from the emergency services, requests for clearance of routes to individual premises and of private roads should be resisted and referred instead to private plant operators who can make their own arrangements with the individual requiring assistance.
5. GCC has no authority to deposit snow on private land. In exceptional circumstances when this action is unavoidable to enable an obstruction to be cleared Snow Plough Operators must take every care to minimise damage to private property. When fences, walls and other private property are damaged, whether by accident or by deliberate action, the details including the extent and reason for the damage shall be reported as soon as possible to the Area Office
6. Snow Plough Operators should contact the area office prior to the start of ploughing giving details of their proposed route. They should contact the office again on completion of operations. In Parishes with more than one Plough Operator, the Snow Warden for that Parish can (by prior arrangement) notify the Area Office for all operating snow ploughs.

Payment

7, GCC will pay for equipment operated on the legitimate authority of a Snow Warden or Area Office at operation rates/prices based upon those fixed annually. GCC will not pay for any additional manual labour used without the prior agreement of the Area Office.
8. Records of all equipment and approved labour used by Snow Plough Operators shall be recorded on copies of the record sheets provided by the Area Team and passed to Snow Wardens for certification before forwarding to the Area Office. Where a Snow Warden is also the operator of plant it is essential that certification of records is made by an independent person able to agree on the work carried out from the local Parish Council. .(Document Reference – GHWIN09)
9. Records and claims for payment shall be submitted as soon as possible after completion of work (and not later than the end of March) using the form of invoice provided Area Team. (GHWIN08 and 09)
10. The rates have been previously agreed between GCC and the National Farmers Union. The rates are inclusive of all bonuses, insurance, fuel, and operator charges but exclude V.A.T. (GHWIN10)

Inspections

11. Periodic checks will be made as to the accessibility and condition of ploughs and tractors by our term service contractor**.** Any change of tractor for which there is a snow plough ready should be notified to the Area Office so that a check can be made on the mounting/attachment.

12. Plough Operators will be issued with safe working practice guidance prior to the start of the Winter season. (Document Ref.GHWIN05)

Appendix 8 - Grit Bin Guidance

Grit Bin Guidance

Grit bins are provided by Gloucestershire Highway at strategic locations or by Town and Parish Councils at agreed locations. Gloucestershire Highways will refill grit bins before each winter season and encourage Town and Parish Councils to hold stocks of bagged salt to replenish bins within season and treat local problem areas if local resources are available. New grit bins are not provided by Highways apart from some strategic locations; however, bins can be provided by the local parish or town councils if the location is agreed in writing by Highways. Bins shall only be located at strategic points on steeper inclines and on some tight bends or if there is a significant level of pedestrian usage. Grit bins will only be provided on key routes in exceptional circumstances. Grit bins on secondary routes may be provided at key locations if deemed appropriate and subject to the criteria.

Unsecured grit bins are often subject to theft and vandalism and when the salt contained within is used by members of the public during winter weather it is often spread in far greater quantity than is necessary for de-icing purposes and the supply is exhausted prematurely. For these reasons, the control of a local stock of salt by the parish/town council is encouraged. Arrangements for specific communities will vary, however Highways will work with local snow wardens to establish suitable means of local salt use and distribution. A suitable secure storage area would be a minimum requirement for any such agreement. Highways will supply a limited amount of bagged salt and training to parish/town councils to allow local communities to direct resources to locations in most need of attention.

The control of local salt stocks by responsible and trained members of the community will help to make efficient use of the resources by spreading at the correct rates, reducing theft from roadside stores, and allow the management of that stock level within the community during times of severe winter weather when restocking may not be possible.

It should be noted that during periods of severe winter weather Highway's resources are generally prioritised on a 24-hour shift pattern to maintaining the strategic road network. Resources are therefore unlikely to be available for restocking of bins.