

West Sussex County Council Highways, Transport & Planning

Winter Service Plan 2023/2024



Balfour Beatty

Working in partnership

This is West Sussex County Council's Winter Service Plan for 2023/2024 and should be read in conjunction with the Operational Contractor's Winter Service Documents.

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1. Introduction

1.1 The purpose of the Plan

The policy has four key purposes:

1. To explain the County Council's Winter Service Duties and Powers.
2. To explain how these are achieved.
3. To ensure all staff and contractors involved in Winter Service understand their roles and responsibilities in delivering value for money to West Sussex residents; and
4. To inform anyone not normally involved or new to Winter Service.

1.2 The County Council's Legal Duties and Powers for Winter Service

The Highways Act 1980 sets out the main duties of Highway Authorities in England and Wales. In particular, section 41 imposes a duty to maintain highways maintainable at public expense. The County Council, as a Highway Authority (West Sussex Highways), has a duty to maintain the public highway in West Sussex. This does not include the A23 and A27 trunk roads or the M23. These are the responsibility of Highways England.

Section 58 provides for a defence against action relating to alleged failure to maintain on grounds that the authority has taken such care as in all the circumstances was reasonably required to secure that the part of the highway in question was not dangerous for traffic.

The statutory basis for Winter Service in England and Wales is addressed through section 41(1A) of the Highways Act 1980. This states, *"In particular, a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice."*

Section 150 of the Highways Act 1980 also imposes a duty upon authorities to remove any obstruction of the highway resulting from 'accumulation of snow...'.

In addition, the Traffic Management Act 2004 placed a network management duty on all local traffic authorities in England. It requires authorities to do all that is reasonably practicable to manage the network effectively to keep traffic moving. In meeting the duty, authorities should establish contingency plans for dealing promptly and effectively with unplanned events, such as unforeseen weather conditions, as far as is reasonably practicable.

Recommendations and advice for meeting obligations are given in the Road Liaison Group document, "Well Managed Highway Infrastructure – A Code of Practice". This states, *'Given the scale of financial and other resources involved in delivering the Winter Service, it is not considered reasonable either to:*

- *Provide the service on all parts of the network; and*
- *Ensure carriageways, footways and cycle routes are kept free of ice or snow at all times, even on the treated parts of the network.'*

2. Winter Service Plan

2.1 The Aim of Winter Service

Authorities should adopt a plan for Winter Service in accordance with the Code of Practice 'Well Managed Highway infrastructure', which supports wider objectives for transport, integration, accessibility, and network management. When formulating the plan, issues considered include:

- Network resilience
- Treatment of facilities for public transport users.
- Treatment of facilities for road users.
- Treatment of facilities for walking and cycling.
- Treatment for transport interchanges.
- Treatment for promoted facilities such as community or leisure centres.
- Extent of priority for emergency services.
- Extent of priority for key public services and critical infrastructure.
- Extent of priority for vulnerable users.
- Resilience of Winter Service resources; and
- Other local circumstances.

2.2 The Winter Service – Overview

Careful planning will result in a more resilient Winter Service and reduce the risk in the delivery of the Service during normal and severe winter conditions. It also has the potential to deliver the Service in a more efficient way. This includes the management of salt stocks and resources such as fuel, plant, and labour.

It is the policy of West Sussex County Council, via the Operational Contractor, to provide a service that:

1. Salts a network of identified carriageways (The Winter Service Network) to assist in the prevention of ice forming or snow accumulating.
2. Spot salt other roads, selected footways, and cycleways to assist in the removal of the winter hazard where deemed necessary and where resources allow.
3. Maintain, so far as is reasonably practicable, safety and traffic flows during snowfall by salting and ploughing the Winter Resilient Network. The Winter Resilient Network is smaller than the Winter Service Network and is based on defined priorities for treatment in the event of heavy snowfall. Generally, dual carriageways and multi-lane roads will be driven and treated in the nearside lane only.
4. Following snowfall, restore normality on a priority basis to its carriageways, footways, and cycleways as soon as possible.
5. The Winter Service operational period in West Sussex is from 1st October to 30th April. Outside of this period, extraordinary winter events are dealt with via normal contract procedures.

2.3 The Winter Service Network

The Winter Service Network consists of roads where precautionary salting is carried out to assist in the prevention of the formation of ice or snow accumulation. Annex 'A' details the criteria for inclusion.

The Head of Local Highway Operations, Winter Service Manager or nominated officer, will instruct the Operational Contractor to undertake 'spot salting' of areas in response to local conditions where resources allow. Any decision to undertake 'spot salting' will be recorded and passed immediately to the Operational Contractor.

Given the scale of financial and other resources involved in delivering the Winter Service, it is not considered reasonable either to:

- Provide the service on all parts of the network; and
- Ensure carriageways, footways and cycle routes are kept free of ice or snow at all times, even on the treated parts of the network.
- Positively respond to all ad-hoc requests to spot salt locations not included on the Winter Service Network.

2.4 Winter Resilient Network

As part of contingency planning West Sussex County Council has defined a minimum winter network called the Winter Resilient Network.

The Winter Resilient Network is the extent of the Winter Service Network that will be treated and/or ploughed in the event of heavy snowfall. Generally, dual carriageways and multilane roads will be driven and treated in the nearside lane only.

The Winter Resilient Network includes:

- Major Road Network, made up of 'A' and 'B' class carriageways.
- Access to emergency services.
- Access to hospitals, especially those with A&E.
- Principle public transport hubs.
- Key train stations.
- Bus depots and garages.
- Main bus routes
- Key infrastructure, including ports, water treatment works, electric generation sites etc.; and
- Connectivity between major communities.

It must be reiterated that given the scale of financial and other resources involved in delivering the Winter Service, it is not considered reasonable either to:

1. Provide the service on all parts of the network; and
2. Ensure carriageways, footways and cycleways are kept free of ice or snow at all times, even on treated parts of the network.
3. Positively respond to all ad-hoc requests to spot salt locations not included on the Winter Service Network.

2.5 Priorities for Maintaining Safety and Traffic Flow during Extreme Weather Events

Keeping the highway safe and passable during extreme weather events is a dynamic situation that requires the Head of Local Highway Operations, Winter Service Manager or nominated officer to constantly monitor and to ensure resources are mobilised in order to respond to changing circumstances. In extreme conditions, when even driving a gritting lorry is considered hazardous, salting operations may be temporarily suspended until conditions improve.

2.6 Contingency planning

The Winter Service Network is salted on a precautionary basis whenever temperatures are predicted to fall to a level where ice may form. In the event of heavy snowfall or other external issues impacting normal operations the following contingency plans may be invoked:

In the event of heavy snowfall, treatment may be reduced to the Winter Resilient Network

In the extreme event that weather and limited staff availability (for example due to Covid-19 outbreaks) then a decision may need to be made to reduce the area treated to key carriageways.

The trigger point for reducing salting operations to the Winter Resilient Network may vary depending on the severity of prevailing conditions at the time.

2.7 Road Closures

Under certain circumstances road closures may be required for public safety. The County Council Highways (Local Highway Operations) and the Traffic Manager, Street Works Team, will work with the Police when considering such closure in situations such as:

- Roads become impassable.
- Road conditions become excessively hazardous; and
- Closing them would facilitate better overall achievement of Winter Service objectives.

Section 64 of the Road Traffic Regulations Act 1984 grants the Police power to impose restrictions on the movement of traffic. Under more difficult conditions, Sussex Police may be requested to hold back certain vehicles while ploughing and/or salting takes place.

In all instances of road closures, the Head of Local Highway Operations, Winter Service Manager or nominated officer, will be responsible for arranging the provision and deployment of appropriate diversionary signing to facilitate minimum disruption to traffic flow as far as reasonably practicable.

3. Precautionary Salting

3.1 The Objective of Precautionary Salting

Precautionary salting is undertaken in order to:

- Assist in the prevention of moisture turning to ice.
- Assist in the prevention of heavy deposits of Hoar Frost turning to ice; and
- Assist in the prevention of the accumulation of snow and to help facilitate its subsequent removal on agreed routes.

3.2 Decision Process

A weather forecast is provided to the County Council and Operational Contractor by mid-day every day. The Operational Contractor, in conjunction with the Head of Local Highway Operations, Winter Service Manager or nominated officer, is then responsible for the decision to undertake precautionary salting of the Winter Service Network or to place personnel on standby. Guidance is issued to decision makers and is contained in Annex B of this document.

If the weather information systems are non-operational and the temperature is seen to be falling, the Operational Contractor's Responsible Officer should notify the Head of Local Highway Operations, Winter Service Manager or nominated officer and instigate treatment based on experience and local knowledge. Where rain is forecast the decision to salt should be delayed as long as reasonably possible; however, where there are specific forecasts of 'freezing rain' salting should be undertaken even on dry roads or during rain.

The Operational Contractor's Responsible Officer shall record all daily decisions, and amendments, via the County Councils forecasting provider, Metdesk. The 'Decision Board' is shown in Annex C. The completed document is then emailed to appropriate persons listed on the Distribution List. Metdesk retains every decision on file for future reference.

3.3 Salt Spreading – Rates of Spread

Recommended Spread Rates – dry salting (grams per meter²)

| Road surface temperature (RST) when frost/ice is predicted | Dry/damp road | Wet road |
|--|---------------|----------|
| At or above 1.0°C | 8 | 8 |
| -1.1°C to -2.0°C | 8 | 8 |
| -2.1°C to -3.0°C | 8 | 13 |
| -3.1°C to -4.0°C | 9 | 17 |
| -4.1°C to -5.0°C | 11 | 21 |
| -5.1°C to -7.0°C | 15 | 30 |
| -7.1°C to -10.0°C | 20 | 40 |

| | | |
|--------------------|----|----|
| -10.1°C to -15.0°C | 28 | 56 |
|--------------------|----|----|

3.4 instructions to undertake Salting Operations

During the Winter Service operational period, instructions to undertake salting operations, or to initiate standby procedures, should be issued by the Operational Contractor's Responsible Person before 1500 hours daily. In the event of 'No Action Required', this instruction should also be recorded and issued.

Subsequent changes to the instructions should be issued using the same procedure.

Following treatment, the next working day the Operational Contractor is required to send a copy of data for each treated route to the Head of Local Highway Operations, Winter Service Manager or nominated person to include:

- Date and time of salting operation.
- Spread rate used.
- Vehicle registration and name of driver.
- Amount of salt used.
- Time salting operation commenced.
- Time salting operation finished; and
- Any notes, observations (e.g., diversion routes followed, untreated sections, blast treated sections etc.).

The Operational Contractor is also required to update the electronic salt stock volumes after each treatment event, so that the stock levels can be monitored, and additional stock ordered to ensure service continuity.

4. Salting and Ploughing in Snow

4.1 Communications

During periods of snow, communications are key for the effective deployment of appropriate resources. Information should be gathered from a variety of sources including the emergency services and Operational Contractor, to include:

- The depth of settling snow.
- The location and extent of drifting snow; and
- Road closures and other restrictions on movement caused by obstructions such as abandoned vehicles etc.

During periods of heavy snowfall, the County Press Officer will remain the point of contact for the media. The Highways Customer Service Hub and Customer Service Centre should be kept informed of any developments in order to deal with initial enquiries from members of the public.

4.2 Salting and Snow Ploughing

In snow conditions the typical rate of salt spread is 20 to 40 grams per metre². The actual spread rate will depend on the severity of snowfall and the ambient temperature.

Simultaneous ploughing and salting should commence when snow reaches a depth of 75cm to 100cm (3 to 4 inches).

Ploughing may be required in lighter snowfall where there is a potential risk of drifting or other localised obstructions.

4.3 Short Term Snow Events and Emergencies

In severe snow events the Assistant Director of Highways, Transport and Planning (the Director), or Head of Local Highway Operations, may decide it is necessary to open the Emergency Control Room at County Hall, Chichester, a Highway Depot or virtually by Microsoft Teams, when there is a need to re-distribute resources across the County or when network availability is greatly reduced.

Short term snow events may not be severe or be expected to last for periods long enough to require the use of the Emergency Control Centre.

When deciding to reduce the network to the Winter Resilient Network, the Assistant Director may decide to prepare the Emergency Control Room as the base from which Winter Service operations may be controlled. The Assistant Director will be responsible for liaison with the County Emergency Planning Officer under these circumstances. Liaison with the Customer Service Centre and Highways Customer Service Hub throughout the operational phase will also be required.

The Assistant Director will remain responsible for the overall operation of the Emergency Control Room. Assistance will be provided by members of the Local Highways Operations staff, during normal working hours, and at other times as directed by the Director throughout the period of the emergency.

In the event of the scale of the emergency escalating so as to affect other County Council services, overall responsibility may devolve to the County Emergency Planning Officer.

4.4 Snow Clearance

The objective is to keep as much of the highway network open and safe as is reasonably possible. Where conditions mean it is not possible to keep all of the network open, resources will be focused where they will be of most benefit. This will incorporate a minimum network known as the Winter Resilient Network.

Where conditions are such that resources available through the Operational Contractor are insufficient to deal effectively with lying snow, the Head of Local Highway Operations, Winter Service Manager or nominated officer, may call on and co-ordinate additional resources from Borough and District Councils, Supply Chain partners, Parish/Town Councils, local farmers, and other contractors as appropriate.

4.5 Checking the Network for Damage

The Head of Local Highway Operations, Winter Service Manager or nominated officer, are responsible, so far as it reasonably practicable, for planning that highway-maintained drains are clear to help clear water from thawing snow.

During severe weather conditions, grit that has been deposited on the highway may be construed as litter under the terms of the Environmental Protection Act 1990. However, spreading salt and grit is considered a legitimate and reasonable duty of the Highway Authority and therefore is not actionable under the terms of the Act. The responsibility to clear these materials therefore rests with District or Borough Councils as part of their street cleansing duties.

Roads shall be regularly checked via formal and ad-hoc inspections for frost heave or other damage. In the event of frost heave, arrangements should be made to close the affected roads to heavy traffic in order to prevent further damage until repairs are completed.

4.6 Monitoring Service Delivery

The Head of Local Highway Operations, Winter Service Manager or nominated officer, is responsible for communicating requirements for continuous salting, to the Assistant Director.

During prolonged periods of snow or when the severity of the weather necessitates or is likely to necessitate, continuous salting, the Head of Local Highways Operations, Winter Service Manager or nominated officer, should report conditions on the highway to the Director as follows:

- On request.
- Where temperatures have, or are likely to fall, below freezing for 48 hours or more.
- By 09.30 hours when snow has fallen or settled overnight.
- Weather reports and forecasts; and
- Any other pertinent information.

These details will enable the Director to make informed judgements when deciding whether to reduce essential operations to the Winter Resilient Network.

5.1 Monitoring Effectiveness and Quality

Prior to the commencement of the Winter Service Period, salting operations are checked and all routes are driven to ensure there are no issues and timings are within acceptable levels. This is known as Operation Snowflake.

During the Winter Service Period, a range of Key Performance Indicators are recorded and monitored to ensure operations are running correctly. This will ensure the aims of this Policy are being achieved.

5.2 Winter Preparedness

To prepare for winter:

- Salting routes are planned to minimise wasted travel and ensure response time targets may be met.
- Salt barns at our three depots help to reduce salt loss by keeping stock dry which enables more effective spreading; and
- We fill salt bins before the start of the Winter Service Period, these are managed locally under Local Parish & Town Council's Winter Management Plans

- Where requested we provide salt for District & Borough councils who may, subject to resources, salt high footfall areas such as shopping precincts during icy conditions.

There is a process of annual review of the winter service.

We work with neighbouring authorities to share best practice and consider requirements for mutual aid in the event of significant disruption to service.

Some Local Parish and Town Councils operate “Local Winter Management Plans”. These include things such as:

- Monitoring salt bin levels; and
- Requesting and use of bulk bags of salt for local use.
- Localised salting by volunteers
- Agreement with local farmers to assist where significant snowfall requires clearing (5cm deep), and/or on request from the County Council.

ANNEX A

Criteria for Inclusion in the Winter Service Network

The National Code of Practice requires authorities to formally approve and adopt policies and priorities for Winter Service, which are coherent with wider objectives for transport, integration, accessibility, and network management. This includes strategies for public transport, walking, cycling and the wider strategic objectives of the Council.

Issues that have been considered include:

- Network resilience
- Treatment of facilities for public transport users.
- Treatment of facilities for road users.
- Treatment of facilities for walking and cycling.
- Treatment for transport interchanges.
- Treatment for promoted facilities such as community or leisure centres.
- Extent of priority for emergency services.
- Extent of priority for key public services and critical infrastructure.
- Extent of priority for vulnerable users.
- Resilience of Winter Service resources; and
- Other local circumstances.

In West Sussex the Winter Service Network includes:

- Major Road Network, made up of 'A' and 'B' class carriageways.
- Advisory Lorry routes.
- Access to emergency services.
- Access to hospitals, especially those with A&E.
- Transport hubs.
- Key train stations.
- Bus depots and garages.
- Busy bus routes
- Key infrastructure, including ports, water treatment works, electric generation sites etc.; and
- Access roads connecting communities.

ANNEX B

Action Decision Guidance

The following guidance is issued to assist the Decision Makers and other nominated decision makers.

These matters should be considered wherever possible but not at the expense of safety. All decisions require continuous monitoring, recording and review.

Confidence in the Forecast

The forecast of hazards are given a 'confidence' rating. 'High' and 'Moderate' ratings should generally result in planned salting while 'Low' confidence should normally result in 'Standby'. Reassessments should be considered as appropriate.

Timing of Salting Runs

Hazards, other than snow, predicted to occur before midnight should ordinarily result in salting being undertaken in the evening. Wherever possible this will be undertaken after the evening peak traffic flow but must be completed before the predicted onset of the hazard, even if this means salting during peak traffic flow.

Hazards, other than snow, predicted to occur after midnight should normally result in salting in the early morning, however, salting must be completed before the predicted onset of the hazard.

Salting for snow should be timed for completion just before its onset.

Salting should be delayed until any forecast rain has ceased unless rain is predicted during periods of freezing.

Residual Salt

The Decision Maker may take account of the presence of residual salt in making their decision.

Impact on Normal Working Hours

The Decision Maker will be aware that timing affects an operative's availability for normal work under the Working Time Directive. In general disruption will be negligible if salting is carried out at 1800 hours.

Salting Decision Matrix

| Salting Decision Matrix | Road Surface Temperature – may fall below freezing | Road Surface Temperature – expected to fall below freezing | | | | |
|---|--|--|---|---|---|---|
| Predicted Road Condition | <u>No</u> Rain, Hoar Frost, Fog | <u>No</u> Rain, Hoar Frost, Fog | <u>Possible</u> Rain, Hoar Frost, Fog | <u>Expected</u> Hoar Frost, Fog | <u>Expected</u> Rain before Freezing | <u>Expected</u> Rain during Freezing |
| Wet | Salt before frost | Salt before frost | Salt before frost | Salt before frost | Salt after rain stops (see note C) | Salt before frost (see note D) |
| Wet Patches | Salt wet patches before frost (see note A) | Salt wet patches before frost (see note A) | Salt before frost | Salt wet patches before frost (see note B) | Salt after rain stops (see note C) | Salt before frost (see note D) |
| Dry | No action (see note A) | No action (see note A) | Supervisor to make decision based on latest data and local knowledge, crews standby in depots awaiting instructions | Salt before frost (see note B) | Salt after rain stops (see note C) | Salt before frost (see note D) |
| Pre-salted within last 24 hours with no rain since | No action (see note A) | No action (see note A) | Supervisor to make decision based on latest data and local knowledge, crews standby in depots awaiting instructions | Supervisor to make decision based on latest data and local knowledge (see note A) | Salt after rain stops (see note C) | Salt before frost or Supervisor to make decision based on latest data and local knowledge, crews standby in depots awaiting instructions (see note D) |

Notes

- A. Possibility of water running across carriageways washing off previously deposited salt, e.g. from fields. Monitor and consider salting at other times e.g. evenings and mornings.
- B. Hoarfrost may result in considerable deposits of frost, generally in early morning. Salt deposited prior to onset may be dispersed and thus become non-effective. Ideally treat just as hoarfrost is forming but it is recognised this is not always possible. May require salting on a dry road prior to, and as close as possible to, the expected onset of the condition. Where hoarfrost is forecast at other times then timing of salting operations may need to be adjusted accordingly.
- C. If, under these conditions, rain has not ceased by early morning then crews should be called out and action initiated as the rain ceases.
- D. This is a most serious condition as rain will freeze on contact with running surfaces and full pre-treatment is required even on dry roads. Close and continuous monitoring is required throughout the danger period.
- E. Weather warnings are often qualified by altitude. Different actions may be required from various depots.

ANNEX C

New Decision Board

Author

Instruction Number

Client

Duty Officer

West Sussex County Council

Select a Duty Officer

Alternative Contact Number

Posting

☐ email

Add Action

No Action

Defer Action

No Action - monitoring

Post

Action #1

Hazards

☐ No Hazards
 ☐ Hoar Frost

☐ Ice
 ☐ Snow

☐ Freezing Rain

Action Type

Full Grit

Application Rate

dd/mm/yy hh:mm

Route Type

Vehicle Reg

☐ ☐ ☐

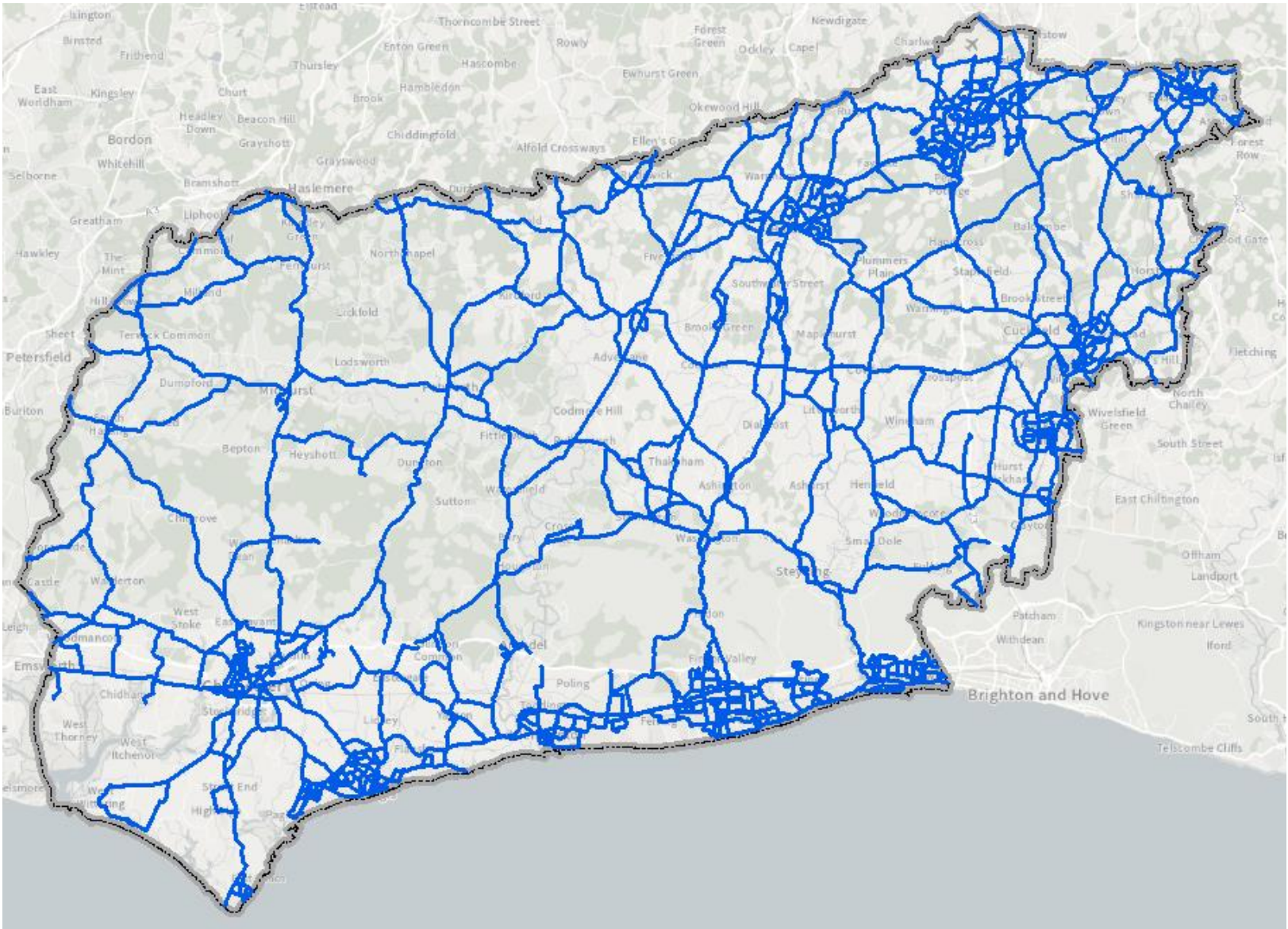
| Name | Min RST | Zero Cross Time | Application Rate | Start Time | Route Type | Vehicle Reg |
|---------------|---------|-----------------|------------------|------------|------------|-------------|
| Coastal Strip | 1.4 | | | | | |
| Fernhurst | 0.9 | | | | | |
| Inland | 0.9 | | | | | |

Comment

1000/1000

ANNEX D

Winter Service Network



ANNEX E

Winter Resilient Network

