



Highways winter service annual operational plan

2024/25 winter season

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1.0 General arrangements

1.1 Introduction and purpose

This document describes Kirklees Council's strategy to prepare for, prevent and respond to the impact of adverse winter weather conditions on the highway network, particularly relating to ice and snow. Other policies and operational plans exist for the management of other severe weather events.

This Plan covers arrangements for roads that are the responsibility of Kirklees Council only and it does not include arrangements for roads within the district that are the responsibility of National Highways. These routes include:

- M62 Junctions 22 to 27
- M606

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 citizens, town and parish councils are included in this plan.

The 'Highways winter service operational plan' will be reviewed annually. This plan is a live document, and the council reserves the right to update and amend it at any time.

The Highways Winter Service Operational Plan can be read as a standalone document but should be read in conjunction with:

- Kirklees Council 'Winter service policy
- [Well Managed Highway Infrastructure \(WMHI\) 2016, A Code of Practice](#)
- [The Kirklees Health and Wellbeing \(HWB\) Major Emergency Response Update](#)
- [The Kirklees Council Local Flood Risk Management Strategy](#)
- [The Kirklees Council Severe Weather Plan](#)

1.2 Definitions and abbreviations

A full list of the definitions and abbreviations contained in this Plan is included in Appendix A.

1.3 Statutory responsibility

The statutory basis for highways winter service in England and Wales is Section 41 (1A) of the Highways Act 1980 which states "a highway authority is 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 same Act puts a responsibility on the highway authority to clear snow from the highway, but only if it is causing an obstruction.

This duty is not absolute given its qualification of reasonableness and practicability as it is not considered reasonably practicable to carry out planned precautionary treatment of the entire network, or that the treated network is always kept free from snow and ice.

In addition, the Traffic Management Act 2004 places a network management duty on all local traffic authorities in England that 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 reasonable and practicable.

Kirklees Council as Highway Authority is responsible for providing its winter service on adopted public highways within the district, with the exception of roads that are the responsibility of National Highways.

1.4 National guidance

The council operates within the guidance provided by the UKRLG's Well Managed Highway Infrastructure (WMHI) 2016 Code of Practice, and the National Winter Service Research Group (NWSRG) Practical Guide for Winter Service.

Although not statutory, these documents provide advice to Highway Authorities on highways management; they promote the adoption of an integrated asset management approach, and the establishment of local levels of service through risk-based assessment.

Kirklees Council provides a robust adverse weather service responding to winter weather conditions. The extent of the service provided will vary depending upon the severity and nature of adverse weather conditions, and the availability of resources.

In practice, Kirklees Council aims to safeguard the travelling public from the hazardous effects of snow, ice, and 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.

1.5 Delegation of operational delivery

The Highways Winter Service Policy sets out the requirement to provide a highway management service during the winter season. The development and delivery of the Highways Winter Service Annual Operational Plan to manage the operational elements of the policy is delegated to the Executive Director Place Directorate in conjunction with the Portfolio Holder for Environment and Highways. This Operational Plan will be reviewed and updated annually prior to the commencement of the winter season.

1.6 Winter service season

The core winter service season is for 27 weeks from a nominated date in October to April the following year, with the option to extend as climatic conditions require. Table 1 below highlights the relative risks at various points throughout the season.

Table 1 Season Definitions

Season period	Definition	Months	Likely conditions
High	The period of the winter season when the frequency of freezing road conditions and/or snowfall is most likely	December, January, February	Severe - Probable
Medium	The period of the winter season when the frequency of freezing road conditions and/or snowfall is expected but less likely	November, March	Severe - May occur
Low	The period of the winter season when the frequency of freezing road conditions and/or snowfall is least likely but still possible.	October, April	Severe - Not expected

1.7 Winter treatment strategy

When icy road conditions are forecast precautionary salting will be carried out on routes detailed in the predefined Treated Road Network. These routes have been developed in accordance with guidance provided in WMHI and are based on the council's current Winter Service Policy.

In accordance with WMHI, Kirklees Council has developed a Network Hierarchy that prioritises its resources in the most effective way that allows it to better address the various risks and issues associated with the management of the highway network. Each road is categorised in accordance with the criteria outlined in Table 2 below:

Table 2: Network hierarchy

Road category	Criteria
Resilient Network	The category of roads to which priority is given for maintenance and other measures to maintain economic activity and access key services across the district.
Strategic regional routes	Trunk and some Principal 'A' class roads between primary destinations, routes for fast-moving, long-distance traffic with little frontage access or pedestrian traffic, with speed limits usually over 40 mph, and with few junctions,
Strategic district routes	Principal 'A' class roads between primary destinations that are used by local and some regional traffic.
Main distributors roads	'A' and some 'B' roads between major urban network and inter-primary links mainly used by local traffic.
Secondary distributors roads	Mainly 'B' and 'C' class roads and some unclassified urban routes carrying primary bus routes. Mainly in residential and other built-up areas, these roads generally have 20 or 30 mph speed limits and high levels of pedestrian activity with some crossing facilities.
Link roads	Roads linking between the Main and Secondary Distributor network with frontage access and frequent junctions. In urban areas these are residential or industrial interconnecting roads with 20 or 30 mph speed limits, random pedestrian movements and uncontrolled parking. In rural areas these roads link the smaller villages to the distributor roads.
Local access roads	Roads serving limited numbers of properties carrying only access traffic. In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs (Heavy Goods Vehicles). In urban areas they are often residential loop roads or cul-de-sacs.

Annual and interim reviews are undertaken by the council's Highways Winter Service officers to determine any potential changes to the winter treatment strategy; recommendations will consider several factors that include but are not limited to:

- Wider transport policy priorities.

- The protection of the Resilient Network.
- Safe and reliable access to emergency facilities such as fire and rescue, police, ambulance, hospitals, and medical centres.
- Public service and critical infrastructure where maintenance of access may be critical.
- Public transport routes and access to railway stations, transport hubs, bus garages and depots.
- Safe and reliable access to main industrial and business centres of key importance to the local and regional economy.
- Any variations between summer and winter traffic volumes and patterns.
- Accessibility dependencies of remote communities.
- Special needs of disabled people or older people where these can be effectively targeted.
- Known geographical problems such as significant gradients, exposed areas etc.
- Climatic and thermal capacity differences within an area.
- Coordination and cooperation with neighbouring authorities.

The [treated network](#) covers 1020km or 53% of the total highway network in Kirklees. Detailed routes maps for the treated network are defined in Appendix B to this plan.

1.8 Severe weather conditions and minimum winter network

It is recognised that during severe winter weather events, e.g. snowfall or prolonged freezing conditions, all available resources may be continuously employed in keeping the most important routes safe and available for use. The council has therefore developed a Minimum Winter Network that is less extensive than the Treated Network that provides a minimum essential service being maintained to communities including links to the motorway network, critical infrastructure, access to key facilities (e.g. hospitals), and other local community and transport needs.

The Minimum Winter Network covers 512km or 26% of the total highway network in Kirklees. Routes are shown in Appendix C to this Plan. The Minimum Winter Network includes roads identified in the council's Resilient Network. In times of exceptional adverse winter conditions, the council may consider further reducing the Minimum Winter Network as part of any wider multi-agency emergency response.

1.9 Footways, pedestrian areas, and cycleways

In accordance with the council's 'Winter service policy', routine pre-salting of footway and non-carriageway cycleways will not be undertaken. However, in the event of snow, and subject to resources being available, Kirklees Council may clear and treat key footway and cycleway routes.

Post-weather event treatments of footways will be prioritised using an assessment of the risk presented by the conditions, the available resources to treat the area, and the length of time that the conditions are likely to be present.

If the decision is made to treat footways etc, resources will be directed based on factors including significant population, town centres, routes to transport hubs, hospitals, schools, medical facilities, etc.

1.10 Salt stocks

Kirklees Council maintains a stock of salt to treat the Treated Network that meets the Department for Transport's resilience benchmark of 12 days of treatments; these supplies are replenished throughout the year as salt is used on the network. Emergency arrangements are available should there be a reduction in salt supplies that put the delivery of the winter service at risk.

1.11 Grit bins

Kirklees Council will provide salt bins at locations not on the Treated Network where it can be demonstrated that the site meets the minimum criteria for a grit bin to be provided, typically, this will be at junctions and bends, particularly with steep gradients.

This salt supply is for the benefit of the community to grit roads and pavements when winter weather is forecast and help to clear lying snow and ice in the vicinity.

1.12 Public self help

[Guidance](#) for the public has been published by TfL on behalf of the Department for Transport that explains how everyone can assist with the clearance of snow and ice in their local communities.

Kirklees Council also supports the Snow Warden programme, which is an initiative across the district where volunteers are supplied with training, equipment, PPE (Personal Protective Equipment), and grit to help clear local routes and in turn support their local community. In addition, the council may consider supplying salt bins or small salt supplies to parish councils and other key stakeholders on a chargeable basis to help keep areas free from ice and snow.

2.0 Winter service operational plan

2.1 Weather forecast and warnings

Kirklees Council manages its winter service operations by utilising a specialist Weather Forecast Provider to provide forecasts that are based on predicted conditions in the Kirklees district and particularly, how the forecast conditions will impact on the highway network.

The 11:00hrs weather forecast provided summarises the expected conditions for the area, with updates throughout the 24-hour period.

Forecasts are provided to the council by the Weather Forecast Provider as follows:

- 36-hour forecast (provided at 11:00hrs and updated hourly)
- 2-to-5-day forecast (provided at 1100hrs)
- Longer range forecasts are provided with reduced confidence for up to 30 days.

A 24-hour consulting service is also provided by the Weather Forecast Provider to allow clarification of weather forecast information.

Weather warnings are provided by the Weather Forecast Provider and other agencies using the National Severe Weather Warning System (NSWWS). There are two types of notification:

- Warnings - issued up to 24hrs ahead
- Alerts - issued more than 24hrs ahead

Weather forecasts and warnings are monitored daily, and appropriate actions determined.

2.2 Weather stations

The council has installed weather stations that provide detailed observational data on the prevailing weather conditions. This information is used in determining the council's winter maintenance response.

These devices measure road surface temperature, air temperature, relative humidity, presence of salt, dew, and freezing point, forecast of precipitation, wind speed, cloud cover, and cctv images. The weather stations in the district are located at:

- A635 Wessenden Moor (at 450m altitude)
- B6118 Grange Moor (at 220m altitude)
- A640 Junction Inn, Huddersfield (at 146m altitude)
- A638 Dewsbury (at 42m altitude)
- A6024 Holme Moss (at 550m altitude)

The council also has access to weather stations outside of the district to monitor conditions regionally.

2.3 Decision making

Road salting spread rates are determined with reference to the National Winter Service Research Group (NWSRG) Practical Guide for Winter Service.

The council's Winter Duty Manager uses the data provided in the weather forecast, their experience and knowledge of the highway network, and the advice provided in Table 3 to determine what course of action to take regarding precautionary treatments. This should be modified as necessary to suit local circumstances and the timing of operations should be influenced by the timing of expected weather conditions rather than other considerations.

Table 3 Decision matrix

Kirklees Council – Winter Service Practical Guidance (using NWSRG Practical Guide) V3

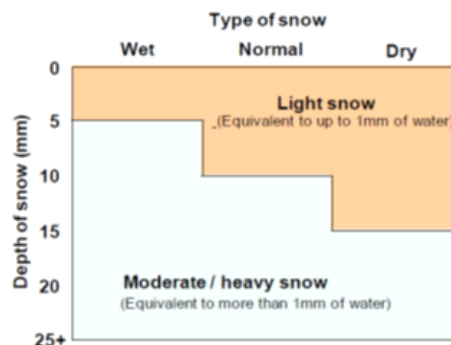
Precautionary Treatments:

Road surface = DRY/DAMP

Road Surface Temperature (RST)	Spread rate g/m ²
At or above -2°C.	10
-2.1°C to -4°C	15
-4.1°C to -5°C	20
-5.1°C to -7°C	25
-7.1°C to -10°C	40
-10.1°C to -15°C	2x25

Road surface = WET

Road Surface Temperature (RST)	Spread rate g/m ²
At or above -1°C.	10
-1.1°C to -2°C	15
-2.1°C to -3°C	25
-3.1°C to -4°C	30
-4.1°C to -5°C	40
-5.1°C to -7°C	2x25
-7.1°C to -10°C	2x35
-10.1°C to -15°C	2x40 + 1x20



Other

Freezing rain.	40g/m ²	Subsequent follow-on treatments as necessary.
Light snow forecast.	20g/m ²	See adjacent chart for snow type definition.
Moderate/heavy snow forecast.	40g/m ²	See adjacent chart for snow type definition.

Decision making simplifications for precautionary treatments:

Spreader capability = Fair.

+25% to NWSRG spread rates for light or congested traffic.

Salt moisture content = optimum.

Minimum spread rate = 10 g/m²

Dry Road = No signs of water or dampness but may be darker.

Damp Road = Clearly darker but no spray from traffic.

Wet Road = Traffic produces spray but not small water droplets.

Minimum RST and road surface condition (i.e. damp/dry or wet) is the worst case at any of the 4 weather stations for decision making purposes.

Post/during treatments:

See NWSRG Practical Guide for the following:

1. Treatments during snowfall.
2. Treatment for slush when freezing conditions are forecast.
3. Treatment for thin layers of ice (less than 1mm thick).
4. Treatments for medium or thick ice and compacted snow.
5. Treatments for extreme cold (below -5°C) for frost, snow, freezing rain, during snowfall

2.4 Information recording and monitoring

Records of winter weather forecasts, treatment decisions and operations will be recorded on the Weather Forecast Provider system action log, Winter Service Duty Manager's action log, and shared with communications teams and key stakeholders daily. Where incidents occur outside of the planned actions, the Winter Service Duty Manager will record their decision in their action log.

When major emergency operation occurs, the Emergency Control Centre will maintain a diary of each emergency, with a running record of all reports, times and action taken and will report appropriately to the Winter Service Manager actions and road conditions.

Any severe weather event may result in an Emergency Control Centre being activated, this may occur proactively or reactively.

2.5 Operational management

The delivery of the Winter Service in Kirklees is managed centrally by one Winter Service Duty Manager but through two Supervisors, one based at Headlands, and the other at Honley for this depot and the satellite depot at Pinfold. There are 31 routes in total, with a maximum of 11,000 tonnes of salt stored on both sites.

Honley and Headlands operational depots have facilities for the storage of gritters and welfare for staff. All weather-related matters are managed by the Winter Service Duty Manager who covers the whole of the district and is overseen by the Operations Manager.

2.6 Response and treatment times

The Winter Service Duty Manager will determine the action plan having considered the daily forecast; in most cases the treatments will be scheduled to commence outside of the peak travelling periods in the early morning or early evening.

Where a decision is made to treat the network at short notice, the council's target response time is 2 hours, that is the period between a decision being taken to begin treatment, and vehicles leaving the depot.

The target treatment time is 2 hours, that is the period between vehicles leaving the depot to start the treatment and their route completion.

During severe adverse conditions when significant snow falls are forecast or there is continuing cold weather, the target response time will be the same, but target treatment times may be extended.

Post treatment and snow clearance treatment times will be dependent upon the severity of the weather.

2.7 Precautionary treatments

Pre-salting/precautionary treatments will only take place on the Treated Network as necessary whenever hoar frost, ice, or snow is predicted.

Pre-salting operations will normally occur at either 05:00hrs or 18:00hrs but can vary according to weather conditions between 05:00hrs and 22:00hrs.

Kirklees has a varied terrain and altitude so depending on the forecast, the Winter Duty Manager may deploy resources to patrol (with a fully operational gritter) along a predetermined higher-level route. The deployment of this patrol will also feedback conditions to the Winter Service Duty Manager to inform their next decision and actions.

A night patrol will generally operate from 22:00hrs to 07:00hrs and will follow a pre-determined route recording and reporting weather conditions, plus 'spot treating' any hazards or sections of road. In extreme weather conditions more night patrols may be deployed.

2.8 Preparation before snow and ice forms

To prepare for and facilitate ice and snow treatments the following should be considered:

- When snow is forecast, ploughs should be prepared and positioned in order that snow clearance can start without delay as and when required.
- To facilitate the breakup and dispersal of ice and snow by trafficking, treatments must be made before snowfall or freezing rain so that sufficient de-icer is present on the surface to provide a de-bonding layer.

2.9 Treatments for snow and ice

- It is impractical to spread sufficient salt to melt anything other than very thin layers of snow and ice.
- Ploughing is the only economical, efficient, effective and environmentally acceptable way to deal with all but very light snow.
- Ploughing down to the road surface is preferred, however, snow ploughs should be set to avoid risk of damage to the plough, the road surface, street furniture and level crossings.
- Ploughing to the road surface minimises salt usage and makes salt treatments more effective.

2.10 Snow ploughing

In prolonged heavy snowfall the priority will be to maintain a single lane open with clearance of other lanes as conditions improve. The aim is to clear all lanes as soon as conditions permit.

- Clearance work may therefore proceed continuously where resources permit to prevent a build-up of snow.
- Speeds of snow ploughing vehicles will be regulated at features such as under bridges where snow could be thrown over the parapet and adjacent to central reserves where snow could be pushed onto opposing carriageway.
- Care will also be taken adjacent to temporary road works, traffic management, and permanent safety barriers to prevent ramping of snow and decreasing the effective height of the safety barrier.
- Prompt snow ploughing is recommended on porous asphalt and ploughs will be fitted with rubber skirts to avoid surface damage.

2.11 Effectiveness of salt

Sodium chloride (salt) is the most commonly used chemical de-icer in the UK because it is suitable for most UK winter conditions, is relatively low cost and is readily available.

All chemical de-icing/anti-icing salts are limited by their individual properties in their effectiveness to melt ice or prevent ice forming. The two most important properties are the minimum temperature at which they are practically effective and the rate at which they enter solution, which is also dependent on temperature. Sodium Chloride is suitable for use in the conditions predominantly encountered in the UK but not the more extreme cold conditions encountered on some occasions and in some areas.

The main factors to consider are included Table 3 the Decision Matrix.

2.12 Resilience

This plan covers the services required to manage a typical winter in Kirklees. In circumstances where the weather is extreme or prolonged, there may be the need to modify the actions in line with the arrangements in the Annual Operational Plan.

Depending on the severity of the weather conditions, the longer-term forecast, the availability of salt and other critical resources, it may be necessary for the council to implement an emergency or critical level of operations, including reducing the network of roads that are treated (see the Minimum Winter Network as defined in section 1.8).

The decision to move to a critical level of operations will be made in conjunction with the council's Emergency Planning team. Should this situation occur then the council will make this known to relevant organisations, communities, businesses, and those using the council's roads through various communication and media channels.

The council will also liaise with other local authorities regarding mutual aid.

Whilst the council maintains resilience in its level of salt storage, it may be necessary to conserve the use of salt and Kirklees Council will implement nationally agreed salt conservation measures when instructed.

Should it be necessary to temporarily close roads due to severe weather conditions then the council will implement emergency road closures procedures in liaison with adjoining highway authorities where applicable and emergency services.

2.13 Winter stakeholder communications

The Winter Service Duty Manager will notify of all proposed treatments to emergency services, adjacent Highway Authorities, National Highways, bus service operators, along with other key stakeholders included in the council's email distribution list. This will be no later than 15:00 hours each day.

Any other or subsequent actions, including changes to planned treatments, reactive treatments, and snow clearance, will be notified accordingly.

Social media platforms and the council's own website will be used to provide information regarding winter actions to the public.

2.14 Response to requests for gritting

If a call is received requesting salting or re-salting to a section of the Treated Network, the following will need to be considered when deciding to treat:

- Has the road been treated already, and the conditions have not changed since.
- What is the prevailing and forecast weather condition (improving or deteriorating)
- Is it an isolated call or an emerging situation

In general, if a request is made, there may be the requirement to assess the site before deploying resources to treat the network.

The Winter Service Duty Manager may determine that the following actions are appropriate and will record these in the Action Log.

- Erect 'ice' warning signs (diag. 557, TSRGD) either side of affected area
- Implement an emergency Temporary Road Closure (TTRO) if the situation is likely to be an on-going issue.

3.0 Severe weather plan

The UK Met Office will issue severe weather warning messages to the council's Emergency Planning team and other responders ahead of adverse weather events.

Where applicable, the Emergency Planning Team may consider that the circumstances are of concerns and will activate the council's [Severe weather plan](#). This plan identifies the processes and actions for the relevant parties to take.

4.0 Appendices

Appendix A: Definitions and abbreviations

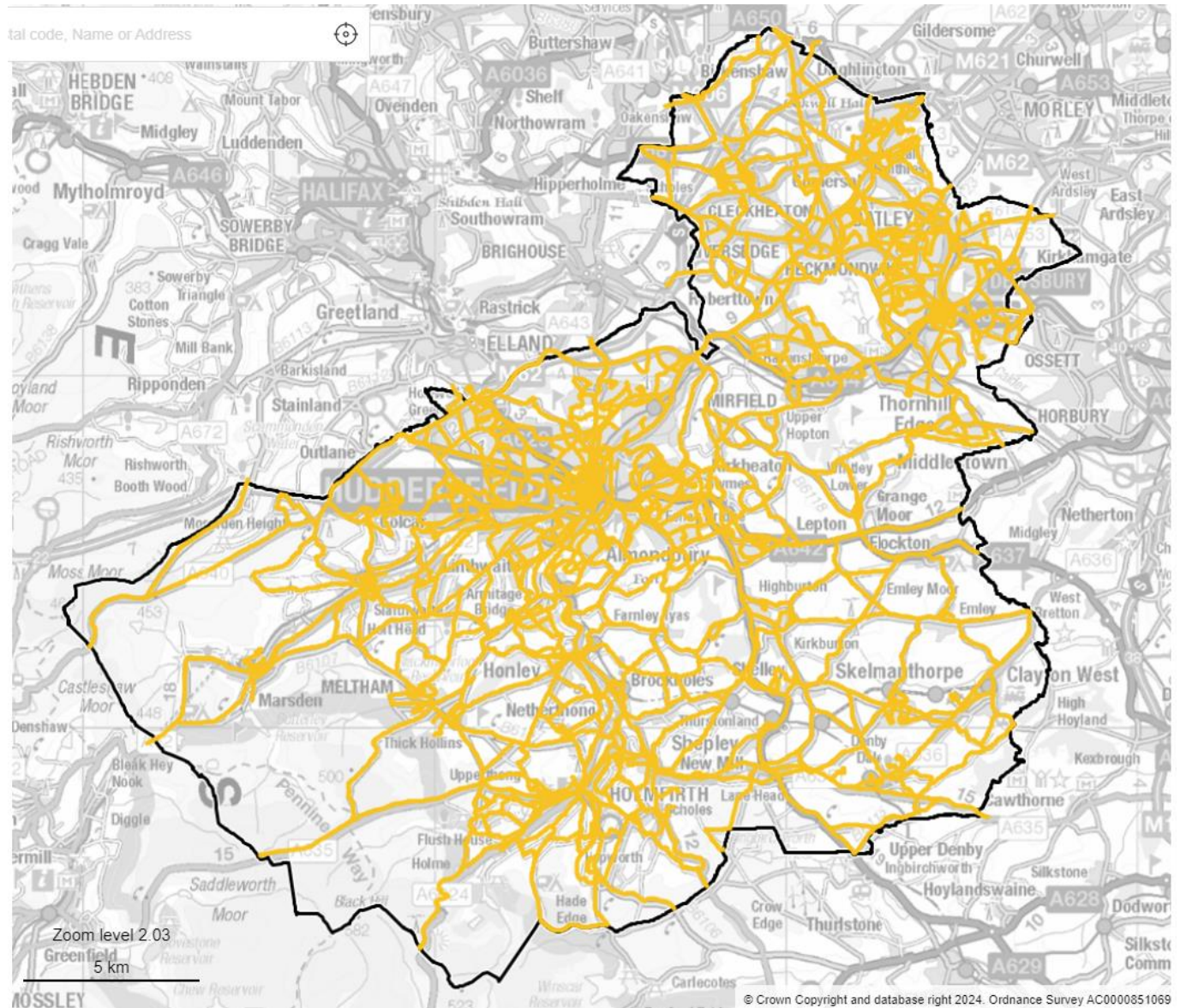
Term	Definition
Network hierarchy	The classification of all roads based on use, resilience, local economic and social factors.
Treated network	The defined roads in Kirklees that will be pre-treated before the onset of ice or snow.
Minimum winter network	The Minimum Winter Network (MWN) provides a minimum essential service to the public, including links to the strategic network, access to key facilities and other transport needs.
Resilient network	The category of roads to which priority is given for maintenance and other measures to maintain economic activity and access key services across the district.
Strategic regional routes	Trunk and some Principal 'A' class roads between primary destinations, routes for fast-moving, long-distance traffic with little frontage access or pedestrian traffic, with speed limits usually over 40 mph, and with few junctions.
Strategic district routes	Principal 'A' class roads between primary destinations that are used by local and some regional traffic.
Main distributors	'A' and some 'B' roads between major urban network and inter-primary links mainly used by local traffic.
Secondary distributors	Mainly 'B' and 'C' class roads and some unclassified urban routes carrying primary bus routes. Mainly in residential and other built-up areas, these roads generally have 20 or 30 mph speed limits and high levels of pedestrian activity with some crossing facilities.
Link roads	Roads linking between the Main and Secondary Distributor network with frontage access and frequent junctions. In urban areas these are residential or industrial interconnecting roads with 20 or 30 mph speed limits, random pedestrian movements and uncontrolled parking. In rural areas these roads link the smaller villages to the distributor roads.
Local access roads	Roads serving limited numbers of properties carrying only access traffic. In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.
Winter Service Manager (WSM)	The Winter Service Manager ensures resources are available to deliver the winter service.

Winter Service Duty Manager (WSDM)	The Winter Service Duty Manager is responsible for making daily decisions and is responsible for ensuring the service is provided.
Winter Supervisor (DS)	The Winter Supervisor acts as the operational co-ordinator and ensures that instructions are carried out.
Strategic Manager (Gold)	Where a strategic level of management is required then the Strategic Manager will be a representative from the Kirklees Council management team.
Tactical Manager (Silver)	Where a tactical level of management is required then the Tactical Manager, from Kirklees Highways, will provide operational management decisions and advice to the Strategic Manager where required.
Operational Response (Bronze)	Where an operational response is required, bronze teams will usually respond first and communicate with Silver Tactical Manager is there is an escalation in the situation.
Emergency control centre	A mechanism to draw together all the relevant officers to respond to unplanned activities for managing all non-typical adverse weather events.
KC	Kirklees Council
WYFR	West Yorkshire Fire and Rescue
WYP	West Yorkshire Police
EPT	Emergency Planning Team
DEPO	Duty Emergency Planning Officer
Climatic domain	A geographical area that exhibits similar climatic properties. In Kirklees there is one distinct climatic domain.
Freezing resulting in ice (freezing rain)	This is a weather condition where rain falls and freezes on contact with the surface.
Hoar frost	Where the temperature is below the dew point and below zero a hoar frost may form where small ice crystals will form on the surface.
Ice	Where there is water on the surface and temperatures fall below zero this will form ice
Snow	Snow forms when the atmospheric temperature is at or below freezing (0°C). If the ground temperature is at or below freezing, the snow will reach the ground. However, the snow can still reach the ground when the ground temperature is above freezing if the conditions are just right.
Treatment	Includes salting, gritting, snow ploughing, the application of any salt or equivalent solution, or any other process or activity that the council use in carrying out this function
Pre-treatment / precautionary treatment	Treatment that may be carried out before the on-set of ice or snow.
Post treatment	Treatment that may be carried out after the formation of ice or snow has fallen.
Snow ploughing	Removing snow accumulations by a vehicle fitted with a front blade
RST	Road Surface Temperature.
g/m2	Grams per square metre is the common method of expressing salt spread rates.

Salt stock	The supply of grit / salt retained on the council premises for treatments on the highway network.
Seepage	Water may be on the surface for reasons other than rainfall, such as through surface water run-off from verges and drainage systems.
Wash off	When it rains following a salting treatment much of the salt can be washed off. If temperatures are below zero, then additional treatments may be required.

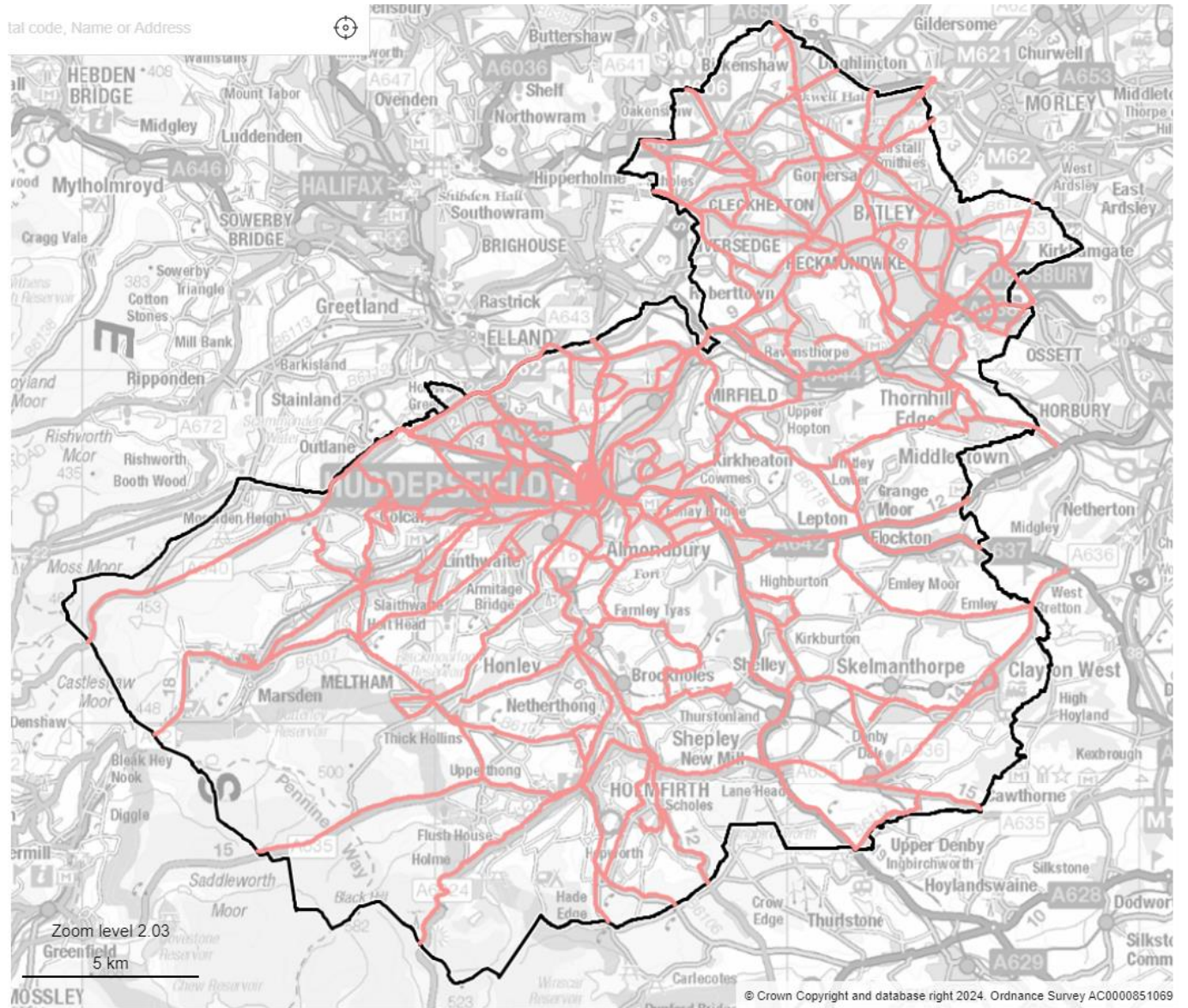
Appendix B: Treated network

[Interactive mapping available here.](#)



Appendix C: Minimum Winter Network

[Interactive mapping available here.](#)



Appendix D: Contacts Details – not for external publication

NOT TO BE SHARED OUTSIDE SERVICE DELIVERY TEAM