



Derby City Council

Derby City Council Highway Winter Service Policy

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Purpose of this policy

As a Highway Authority, we have a duty of care to maintain the safety and accessibility of highway infrastructure that is kept at public expense. As stewards and custodians of the highway infrastructure assets, in accordance with the Highways Act 1980, we must demonstrate that we have provided adequate provision for their upkeep and safety as can be reasonably expected.

The aim of this policy is to ensure the roads in Derby City are as safe as reasonably practicable and to minimise disruption for road users during the winter season, through effective and efficient highway operations.

Foreword

This document sets out the Council's policy for a Highway Winter Service, to meet our statutory duties in respect of ensuring the safe movement of vehicles and pedestrians in the event of ice and snow.

It is accompanied by a Winter Service Operational Plan, which includes the detailed processes and procedures to determine and deliver treatments to the network. It forms documents AM-018 and AM-019 of the Asset Management Framework, approved by Council Cabinet in 2018.

Both are live documents and will be updated regularly in response to changing legislation, outputs of annual review/research and adoption of innovation and technology.

As the Highway Authority, Derby City Council is responsible for providing a winter service on adopted public highways within the city, except for trunk roads, which are dealt with by Highways England. The aim is to treat the highway network, to mitigate the effects of ice and snow and extreme weather events, keeping the public safe, maintaining traffic movements and contributing to keeping the local, regional and national economy moving. The policy also seeks to minimise the impact of treatments on the environment.



Not all roads and footways are treated in the city and it is not reasonably practicable to provide the service on all parts of the network. The service reflects the use and functionality of our roads and priority is given to those which serve our greatest needs. This reflects the risk-based approach, as outlined in industry guidance. The Operational Plan provides further details on the decision-making process.

Our policy acknowledges that a changing climate is a driver to how we design the highway winter service going forward. With wetter winters, more frequent and prolonged weather events, the focus may not necessarily be on treating snow and ice, but excessive rain and flooding.

This policy is included in Derby City's Policy and Strategy Register.

Introduction

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

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

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

The Traffic Management Act 2004 also places a network management duty on all local traffic authorities in England that is reasonably practicable, to manage the network effectively to keep traffic moving, which means throughout the year.

The 'Well Managed Highway Infrastructure Code of Practice: October 2016' is a document released by the UK Roads Liaison Group (UKRLG) and designed to be used as a guide for authorities to deliver a safe and well-maintained highway network. Part B.7 focuses on Winter Service and recommends, although a very specialised area, local authorities formally approve and adopt policies and priorities for winter service, taking into account the wider strategic objectives of the authority. The winter service contributes to each of the core



objectives set out in the Code of delivering safety, customer needs, serviceability and sustainability.

Finally, the National Winter Service Research Group, NWSRG oversees and coordinates winter service research, providing practical and technical guidance documents to assist local authorities to implement the winter service, as the Code of Practice recommends.

This all underpins our work towards the Council Plan 2019-23 strategic priorities, in that:

- we're a council that are focussed on the things that matter
- our focus is on delivering for Derby, providing a winter service that is modern and efficient and value for money
- the winter service actively works towards a sustainable Medium-Term Financial Plan, where we have sought to understand each of the activities and associated costs, making step changes towards a stronger service and greater accountability
- the winter service contributes to the Council's Recovery Approach in the wake of Covid-19, in that we have developed a collaborative and intelligence led service, which enables the city to keep moving safely.

These are the national, regional and local policy drivers that support our policy and provide direction for our operational plan.

Our policy is a culmination of our research and development within the council, as well as with local authority benchmarking groups and our partners within the supply chain. It is a flexible and innovative policy in that we actively adopt a positive approach to new ideas and use innovation to promote change. Derby City over the last 10 years has excelled in creating a technologically advanced and efficient service delivering value for money.

The winter service is delivered solely by Derby City Council Streetpride. Our Highway Operations includes a skillset in winter decision making, experienced highway operatives and modern upgraded fleet to enable us to respond efficiently to our responsibilities. The winter service is 'business as usual', however each year we review the season and look at lessons learnt and opportunities to improve our provision, to ensure it remains robust, sustainable and fit for purpose.

What we will do

The following sets out what actions are to be taken. We will:

- review all arrangements for delivering the winter service annually, with particular regard to changes in legislation, case law and good practice guidelines. Prior to



each winter season, we will explore any requirements for amending any part of the process, based on evidence of need and consultative processes to support the case. Good operational 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

- carry out a full technical review to ensure that the correct equipment, vehicles, plant and maintenance arrangements are in place and that salt management and de-icing materials are available and meet British Standards, as well as contingency measures for extraordinary events
- review the network for treatment on an annual basis to ensure we have considered any changes of use or to the physical environment. This will include a review of all facilities for road users, cyclists and pedestrians, emergency services, access to key community amenities and critical infrastructure, as well as vulnerable users
- proactively improve our approach through lessons learnt, introducing change and developing a mature approach to what is best for the city
- we will monitor the implications of the policy in practice i.e. amending routes or changes in treatments to ensure the service remains fit for purpose and in line with current guidance. This will include a review of current and future risks, understanding their significance to users, stakeholders and the authority. The information gathered will be used to evaluate impact and identify successes and challenges
- we will consult with all service partners, including adjacent and strategic authorities and highway operations, to ensure clear terms of reference for the provision and management of all resources, health and safety and insurance
- coordinate with adjoining highway and strategic authorities to ensure that route planning and treatment regimes' have cross boundary connectivity and can meet road users' reasonable expectations for consistency, ensuring wider impacts, both positive and negative are addressed
- treat at the optimum time based on a full understanding of the forecast and network and respond efficiently and effectively, taking measures to reduce the effects of adverse weather on the highway, providing travelling conditions as safe as reasonably practicable
- treat the Resilient Network or Minimum Winter Network (the bare minimum a highway authority needs to maintain, when events or extreme weather reduce the capacity of the authority's resources) giving priority to accessing key services and maintaining economic activity during extreme weather. (Note, these routes do not necessarily follow road classification or established winter gritting routes. The Depot from which the winter service operates is included on this network.) Other circumstances may



necessitate a change in the Resilient Network or our statutory duty, such as a pandemic where we are now considering additional winter service measures, where necessary, to keep the city safe. This includes the treatment of additional Active Travel Routes and access to testing centres and community hubs

- keep comprehensive and accurate records of all winter service activities, including the timing and nature of all decisions, the information on which those decisions were based, and the nature and timing of all treatments
- maintain, review and update our systems to ensure we hold sufficient accurate and current data, to continually improve our data integrity
- we will monitor our resources to check we have sufficient capabilities to meet our statutory and corporate objectives
- ensure all officers involved in the winter service maintain their competency, including necessary (refresher) training and qualifications to deliver an effective service and encourage retention of good Decision Makers
- continually research, embrace and monitor new technologies and innovative practices to maximise our performance and introduce further efficiencies in our service
- ensure the winter service policy is fair and inclusive, in that it does not negatively impact or disadvantage groups within the city
- develop business cases, when required, for additional funding to further improve the winter service
- investigate commercial opportunities to provide an extended winter service, delivering to privately owned land, introducing income streams, but not to the detriment of delivering our statutory duty
- continue to benchmark our performance on all winter service operations and activities with other authorities, regionally and nationally and learn from best practice
- maximise collaboration with neighbouring and national authorities to seek parity, where appropriate, and strength in the approaches adopted. Consult with relevant stakeholders, both internal and external, when necessary on changes to policy
- communicate with the public on our levels of service and provide timely and accurate information and advice of any planned interventions
- endeavour to make communities self-sufficient through the provision of salt bins within the community and plan for their replenishment as necessary. This builds community resilience
- seeks to minimise the impact of treatments on the environment, through a range of measures. These include using treated salt, lower spread rates, an upgraded fleet



which can adapt spread rates in 1mg increments as required and using a risk-based approach to treat the minimum length of network on marginal nights

- acknowledge that a changing climate is a driver to how the highway winter service should be designed going forward, with due regard to the growing potential impact of highway flooding and rising river levels. With consideration to the Local Flood Risk Management Strategy (2017), we will programme measures to ensure the winter service is working in optimum conditions, for example ensuring highway gullies are working to maximum capacity to remove surface water
- monitor the sustainability of the winter service activities on the surrounding natural environment, including salt use, gritter emissions and overall energy usage.

How will we know we have made a difference?

- Our Highway Operations tools include a Winter Performance Index, where we can assess whether our de-icing interventions have been worthwhile and successfully treated the network and grip recovery has been achieved
- There is increased public satisfaction of the service
- Through a treated network, accidents will be minimised and injury to highway users, including pedestrians and cyclists, as well as preventing damage to vehicles and other property
- There are no third-party claims as a result of untreated routes
- The authority's insurance claim repudiation rate will be maintained to a high level, through a robust risk-based approach to winter service provision
- Our council assets will be serviceable and safe through winter and extreme weather events
- Council Plan outcomes will be achieved through:
 - o delivering a modern and efficient service and securing the most benefit for every pound we spend, working towards a more sustainable Medium-Term Financial Plan
 - o keeping a city safe that has local, regional and national influence
 - o making the most of our assets, through a skilled and flexible front-line workforce, who feel recognised and valued.



Key Facts

- Winter Service Standby starts from 1 October to 30 April. During this time, we will be actively monitoring weather forecasts, as a precautionary measure (on the rare occasion we might get adverse weather hazards).
- Winter Service Operations starts from 1 November to 30 March. During this time, we will be on standby and actively responding to weather forecast conditions.
- We receive our weather reports, forecasts and analysis via DTN and Vaisala. These are monitored periodically at set times throughout each day, seven days a week and then as an when our forecast provider publishes a revised forecast. This forms part of our decision whether to treat the highway network.
- Data captured from our weather station sited at Morley Road, Oakwood, also supports decision making. A laser directed at the road surface records road surface temperature, air temperature, dew point, wind speed and direction, grip level, humidity and precipitation. The weather station also has a camera to allow a visual on weather conditions. We have access to neighbouring authorities weather stations as well, to give additional supporting data to inform our decision making.
- The decision to treat is made by one of five competent Decision Makers who observe and monitor the forecast. On a rotational standby, they assess all information to hand and will confirm a verdict on action/no action to be taken and will record all decisions. Each must successfully complete a Professional Certificate or Diploma course to gain the skills and information required to become a Winter Services professional, which is an industry benchmark, endorsed by the Department for Transport
- Forecasts are received and updated regularly throughout the day (5am, 11am, 4pm & 10pm). The 11am weather forecast is when the Decision Makers typically decides on any action to treat for the 24hours ahead
- We have four main gritting routes which treat 272km, which is 35% of the highway network. Up to 2019/20, we used to have six routes covering the same distance, but this has been reduced in 2020/21 to four routes (see Fig 1.1). These routes cover strategic routes within the city as well as the Resilient Network, which includes access to and from main emergency service hubs and most bus routes. This keeps the main routes of the city treated from ice and free from snow, as far as reasonably practicable
- We have three separate Cold Routes which treat 87.4km and are actioned on 'marginal nights', where a decision is made to treat the coldest and exposed parts of the city only (see Fig 1.2). These cold routes have been identified via thermal



mapping. This is a proven technique provided through our supply chain partners for producing accurate road temperature profiles to identify which sections of road are likely to freeze first, allowing us to quickly deploy resources to maintain safe conditions. It enables us to design maintenance routes, select treatment applications and predict with confidence.

- Footways are treated only unless there is an ice or snow event forecast, to which the city centre and approach to the main hospital entrance are salted. When a football match or event is planned at Pride Park, the footways around this area are also salted, due to these three locations having a high footfall.
- Our levels of service are:
 - o We will treat all routes, when the road surface temperature falls to 0 degrees and falling and there is a winter hazard forecast, or when snow accumulations are forecast
 - o We will treat cold routes only when the road surface temperature falls to plus 1 degree and falling and there is a winter hazard forecast, or when snow accumulations are forecast
 - o We plough and treat when snow has settled.
- Once action is decided, it is communicated to various stakeholders and the Press Office via our data management system, Vaisala Manager. This is via email and SMS. The decision is logged within this system, action is sent to Highway Operations who then carry out salting treatment on the highway network. The salt stock and amount used each run is also logged and managed on this data management system.
- Notifications of gritting are communicated via social media. #GrittingDerby is the campaign hashtag for winter/gritting and is promoted to residents and the press to follow for the latest updates and information on ice alerts, the weather forecast and when we will be out gritting.
- We supplement this with a 'We're Ready for Winter...Are You?' campaign to showcase how the authority are preparing for winter and practical tips for how residents can make sure they are ready in the case of ice and snow.
- We have eight qualified HGV driver/operatives on am/pm rotational standby shifts, with four reserve drivers for contingency (and in response to COVID restrictions). They must hold a City and Guilds accreditation in Winter Service Operations. A two-day course which qualifies them for four years and prepares them for driving and operating the relevant equipment. They also receive regular refresher training each year before winter season commences and are pivotal to the piloting of new technology or approaches.



- We have five new calibrated vehicles, which meet European emission standards, to treat the city's roads. Each vehicle has the routes preloaded on satellite navigation systems. Automated salting enables the driver to focus on driving the vehicle, sometimes in hazardous conditions, whilst the salt is automatically adjusted to the correct spread width, rate and in the right place.
- We typically have 4,000 tonnes of treated salt at the start of the start of the season, which is stored in a salt barn located at the Streetpride Depot at Stores Road. This promotes longevity of the stock and protects the environment from contamination. A full salt barn holds 4,400, but we keep space free to manoeuvre the JCB loadall and to load the salt onto the gritters.
- This is more than ample to last an average winter. Authorities are advised by the Department for Transport to have minimum resilience for 12 days heavy salt usage during the height of winter. On occasion, we may be asked to support the DfT or neighbouring authorities. With a full salt barn, we would have 18 days resilience
- On a typical night, treating all four routes with salt can cost around £1,200 and use approximately 13 tonnes. Treating the three cold routes only with salt can cost around £592 and use up to 7.6 tonnes.
- During the summer, we purchase all our salt (when it's cheaper) and have deliveries in good time to ensure that we are winter prepared.
- Our salt for gritting is rock salt which is then pre-treated with molasses. This enables the salt to stick to the roads when applied and prevents salt loss particularly, during windy weather. This makes treating the highway more efficient and effective.
- When deliveries of new salt stock are taken, moisture content testing is carried out to ensure between 2% and 4% moisture content is maintained through the entire salt stock. To ensure this is done evenly, the excess stock which wasn't used is turned and mixed with the new stock, completing a rotation and keeping the recommended moisture content throughout the entire stock.
- Salt use is monitored via the Vaisala database. This is kept up to date by manually inputting the data the drivers complete when they are fully loaded with the salt and weighed on the weighbridge. Stock levels can be monitored and replaced if necessary and deliveries arranged accordingly.
- We have also invested in liquid de-icer for the 2020/21 season. Approximately 20,000 litres is stored in a tank at the Streetpride Depot at Stores Road for use as appropriate. This will be used on the footways in the city centre, around the hospital main entrance and Pride Park.
- Our Multihog machine purchased in 2020 for road/footway maintenance can be adapted with attachments to assist with winter maintenance. Within minutes, a rear



mounted salt spreader, de-icing sprayer or snow plough can be attached for a specific purpose. The sprayer holds 50 litres and can spread at a 7m width. The de-icer (supermix clear) can be applied to the footway network within the city centre or other high footfall areas, or our Active Travel Routes, where the gritters cannot access.

- We have 192 salt bins across the city, which are all replenished at the start of the season. Most are sited on steep gradients, sharp bends or exposed locations, however some have been installed on behalf of local neighbourhood boards, to help the more vulnerable groups in the community, supplemented by the targeted provision of self-help facilities. This keeps the local estates treated for ice.

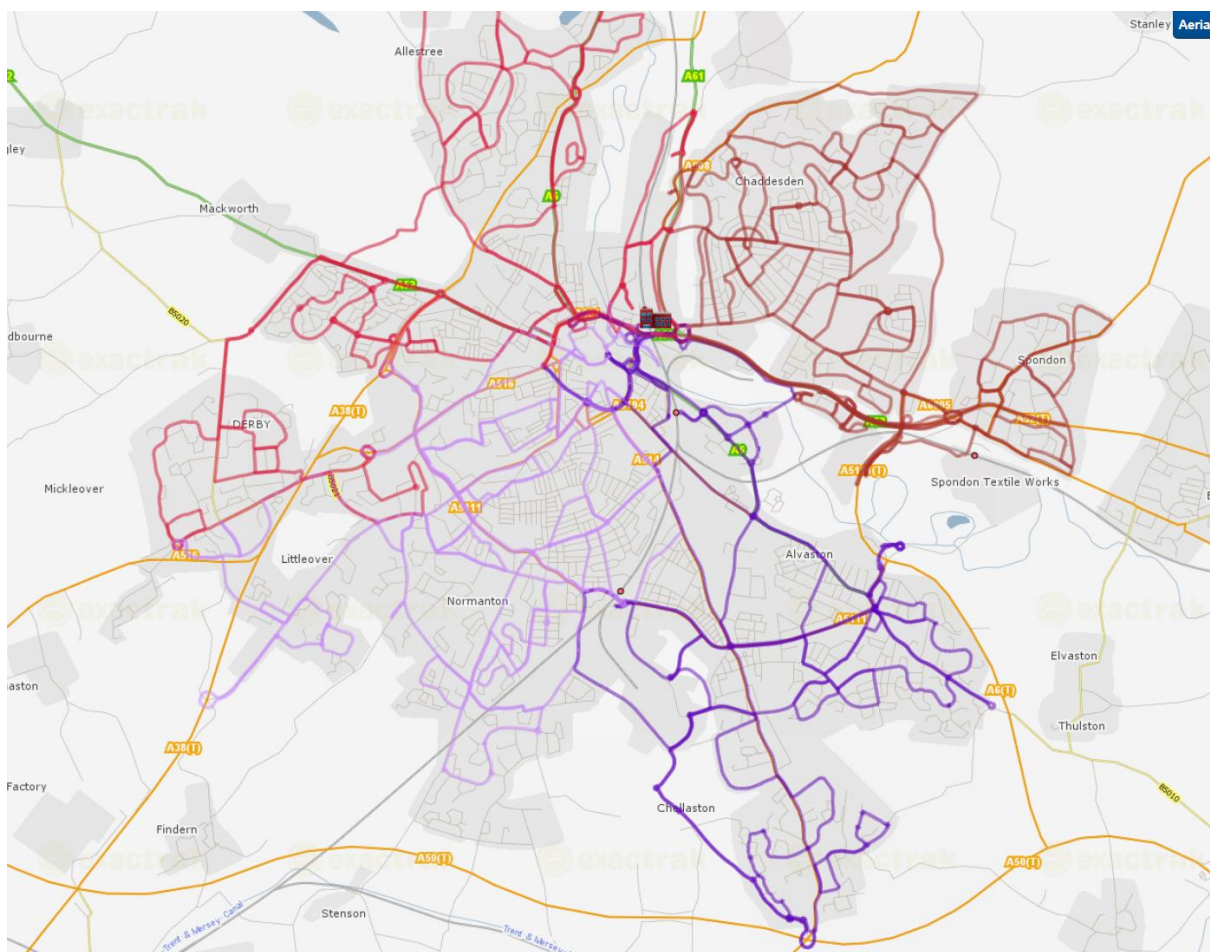


Figure 1.1 Highway Network Coverage during the Winter Season across four routes

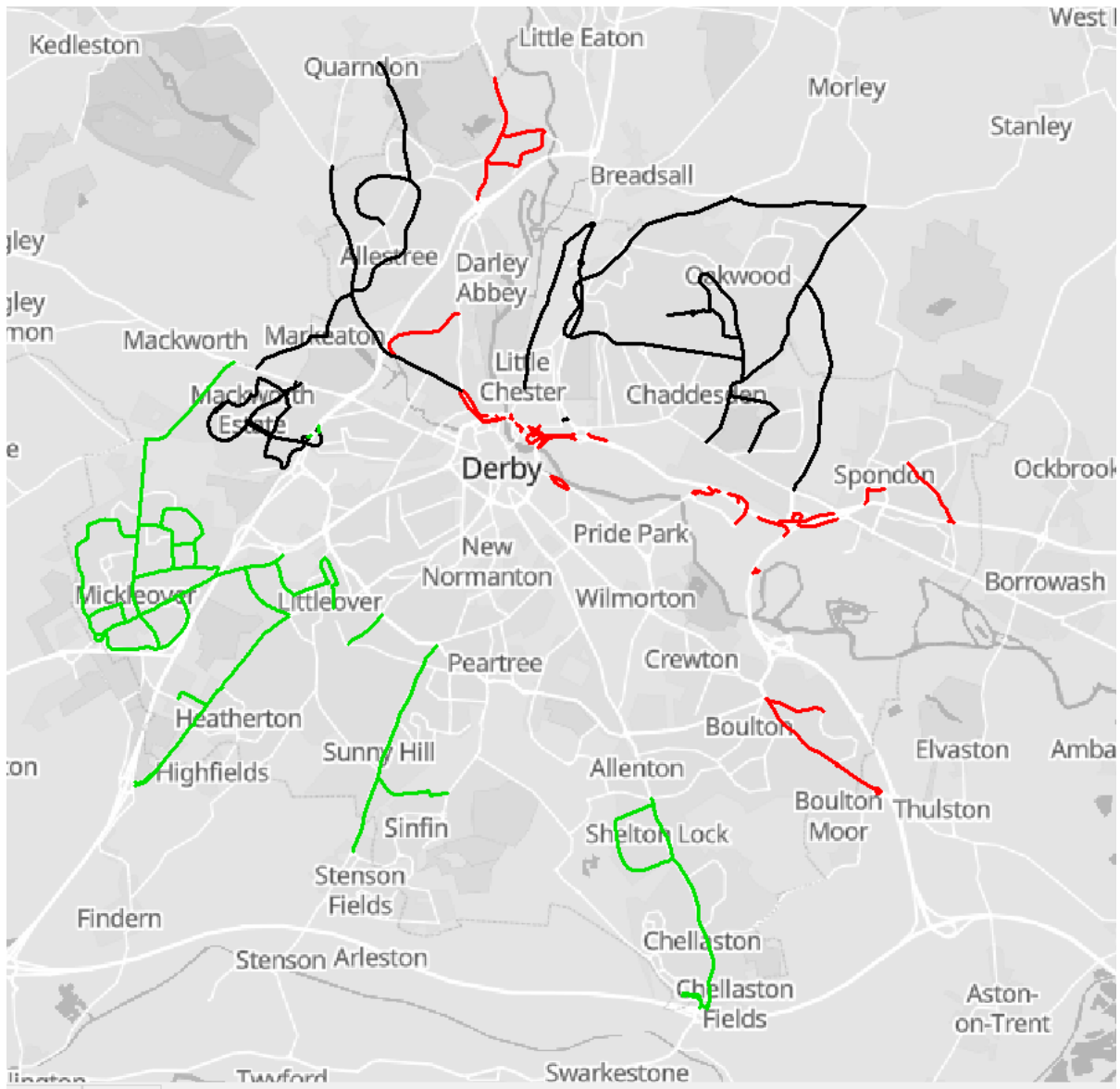


Figure 1.2 Highway Network Coverage – Three Cold Routes, during the Winter Season

