Salting and gritting facts

What is Winter Service?

Winter Service is the salting and gritting service we provide from October through to April (longer if forecasts indicate that cold weather will continue).

This service operates on a standby basis, 24 hours a day, 7 days a week and includes:

- **Salting roads and snow ploughing**
- **Clearing pavements** during prolonged freezing or snowfall
- Providing **grit bins** at priority locations.

When roads are assessed to require salting due to low temperatures, icy conditions and/or snow our gritters are sent out to salt roads on the network. For more route information, see our **Surrey Winter Online Map**.

Do Road Surface Temperatures make a difference?

Yes, when making salting decisions we use weather forecasts, computerised ice prediction systems and information from roadside weather stations to get the most accurate indications of where and when ice is likely to form. However, road surface temperatures and air temperatures are rarely the same and the road surface temperature is also used to make decisions on when to apply salt. we use high-tech road sensors that are able to determine road surface temperature. We currently have 11 road sensors at our weather stations across Surrey, and a further 30 sensors in other locations in the process of being installed this year.

How does salt work?

Salting does not mean that the road surface will instantly become ice free. Salt works by turning the ice or snow surrounding each salt granule into a saline solution which has a lower freezing point than water. The action of traffic helps the salt to be more effective by moving the salt around and eventually melting all the ice or preventing ice forming.

Salt is less effective on road surface temperatures of less than 5°C and so will take longer to melt snow in these conditions. It also melts snow less than 40mm deep and only when traffic moves salt around.

Water freezes at 0°C - the presence of the salt prevents water from freezing until -6°C to -8°C. However, salt starts to become less effective at -5°C and almost ineffective at lower temperatures. In extremely low temperatures, or heavy snowfall, a mix of salt and grit may be used to help vehicles get about.

Rock salt needs vehicles to drive over it to work effectively. Vehicles grind the salt into smaller particles to spread it across the road - this means that grit is sometimes not effective when there isn't much traffic or when there is a lot of snow.

Why is the road still icy?

- It takes time for the salt to become effective after roads are treated (the more traffic a road has, the quicker the salt will take effect).
- Rain can wash salt off roads leaving them prone to re-icing. If the rain turns to snow during rush hour, any earlier treatment will be washed away and it isn't possible to re-salt in heavy traffic.
- If road temperatures fall below minus 7 degrees Celsius the effectiveness of salt diminishes and it will not prevent roads from icing up.
- If conditions are really bad, access to the roads is not always possible - even for the salt spreaders.
- Most minor roads and pavements are not routinely salted.

Why are the gritters sometimes not spreading salt?

This can be deceptive. Gritting vehicles have become more sophisticated, and lorries now dispense the required amount of salt directly down on to the road in a fine spray that you may not see.

However, sometimes a vehicle might not be spreading any salt. This might be because:

- it hasn't reached the starting point of its treatment route
- it is returning to the depot to refill
- It is driving on a road that is not on the gritting route.
- it is driving over a section of road that has already been treated by a fellow driver

- Treatments are occasionally treated prewet (salt and brine mixed) and treatments aren't clearly visible

Every gritting vehicle is fitted with a GPS system which tracks its route and speed, and it's part of the inspector's job to make sure the lorries don't deviate from their routes. The system also records at what time and location the vehicle is treating and this is monitored after each run to ensure routes are being treated correctly.

What should I do if a salt spreader was travelling too fast to be safe?

Contact the team and tell us when and where this happened and we will investigate your concerns. When spreading, salt spreaders should travel at no more than 34mph.

How do we decide when to salt?

We use weather forecasts, computerised ice prediction systems and information from roadside weather stations to get the most accurate indications of where and when ice is likely to form.

When deciding if salting is needed, we also consider:

- Whether or not the road surfaces are wet or dry.
- The likelihood of rain or snow.

- If there is any salt already on the roads from previous salting runs.

How do we decide where to salt?

There are approximately 3000 miles of roads in Surrey, therefore we need to prioritise which roads we salt and when. The full map of our gritting routes, and road priority designations can be viewed on the **Surrey Winter Online map**.

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Priority 1 roads

Priority 1 roads are the most important roads in terms of the volume of traffic carried, and are the first to be treated in advance of any forecast frost, ice or snow. Priority 1 roads include:

- all A roads, B roads and roads carrying more than 8,000 vehicles per day
- main access routes to hospitals
- major bus routes
- roads that link salting routes with those of adjoining counties
- any priority 2 road which meets three or more of the criteria for priority 2 roads.

High routes

High routes are a small area to the east of the county that cover the downs at a high altitude. Four gritting vehicles are dispatched from the council's Godstone depot. This particular area of the county is more prone to frost. Because of this, there may be times where we carry out additional salting on these particular routes.

Priority 2 roads

During periods of prolonged and persistent frost, ice or snow, we extend salting to include these roads, but only once priority 1 roads have been cleared. Priority 2 roads include:

- roads carrying more than 4,000 vehicles per day
- main access routes to important industrial areas and secondary education establishments
- single access points to villages
- access roads leading to railway stations
- roads used by other bus routes and depots
- steep hazardous gradients and on bridges where local icing conditions are known to occur.

Other roads and pavements

Priority 3 roads

During periods of snow clearing, the priority 2 network will be extended to include access routes to primary schools.

Roads we partly salt

Some roads are only partly salted. The part that is salted is shown on the **Surrey Winter Online Map**.

Pavements

We do not routinely salt pavements. However, when there is prolonged frost, ice or snow, we do try to clear pavements in towns and those areas serving hospitals. More details are on our **pavement and footways snow clearing** page.

Areas that we do not salt

We do not salt residential roads, alleyways, car parks and private property unless they are on the priority list above.

Full details of our salting criteria will be published in our Highways Cold Weather Plan, which will be available on this page in September 2020.

Motorways and trunk roads

Highways England are responsible for salting the motorways and trunk roads that pass through Surrey, including the M3, the M23, M25, A3, A23 at Hooley and the A30 (in Spelthorne only).

Salting during severe snow conditions or salt shortage

We will restrict salting to a limited number of priority 1 roads:

- A roads
- Main access routes to large and medium population hubs
- Main access routes to A and E, acute and some other hospitals, and all fire stations.