Winter Service Scrutiny: Pavement clearance

In common with most local authorities, Brighton & Hove rarely carries out pavement treatment except in severe and prolonged snowfall as our first priority is the road network. A salt/grit mix is usually used for pavements rather than pure salt.

Some pavements on gritter routes will receive a degree of treatment due to the spread width of the gritting operation although the amount of parked cars on the roadside will affect how much salt will reach the pavement.

Coverage of pavements, especially by hand spreading, is operationally and practically difficult as the work requires a high level of resources, including personnel, vehicles and materials. With road gritting, the vehicle is HGV size and can be loaded with enough salt to complete a lot of roads. With pavement gritting, smaller vehicles are used which need regular refills, as do the hand-operated "prams" for salt/grit spreading. This would be the case even if mechanical pavement gritting machines are purchased.

During the majority of winters, snowfall on pavements has tended to melt quite rapidly of its own accord. It has only been more recently and particularly in December 2009 and January 2010, that snow and ice have remained in situ for several days.

From the Winter Service Plan:

6.4. Handwork in the Event of Snow

Cityclean Operations Managers will be asked if they can provide sufficient labour and plant for handspreading of salt/grit in the event of severe snowfall and as directed by the WSDO. Contractors may also be used at the agreed rates during a snow event.

7.1. Snow Clearance - Footways.

7.3.1. Snow clearance of footways will only be carried out during severe and prolonged snow events and at the decision of the WSDO/Head of Network Management. Town centre and main pedestrian routes are to be cleared first.

Private shopping precincts and private forecourts are not to be treated. Attention is then given to important linking footway and local shopping areas. In the last phase residential footways may be tackled but only with the prior consent of Director of Environment. Footway clearance is a lengthy labour-intensive task and therefore the WSDO must decide on priorities and when the snow may be likely to clear naturally due to improved weather conditions. See Appendix M (*attached for information).*

Pre-treatment of pavements:
Very few local authorities carry out any pre-treatment of pavements. This is where salt/grit mix is laid down in advance of ice or snow.

There are logistical reasons for not carrying out pre-treatment:

1. Personnel would have to be diverted from normal duties such as refuse collection, street cleansing and highway repairs in order to carry out pre-treatment. This would have a big impact on those services even before any snowfall disrupts such services.
2. Weather forecasting is rarely absolutely exact especially more than 12 hours in advance. Because pavement clearance is so labour-intensive, personnel need at least 1-2 days to cover our main thoroughfares. There is a risk that a lot of work and service disruption would take place, only for the forecast to change and no major snow or ice to fall. This happened between Christmas & New Year when snow was forecast but did not actually occur in Brighton & Hove at all during that period.
3. Any pre-treatment can be washed off by rain. With road gritting, the routes can be completed within 3 hours maximum so there is a better window of opportunity to obtain network coverage after rainfall. With pavement gritting, because it takes so long, it is a waste to do it in advance of rain but there may not be much time to carry it out after rain. It depends very much on the circumstances for each individual weather event and would rely on an informed decision at the time. The snowfall in December was preceded by heavy rain the night before.
4. As with road gritting, pavement gritting requires a high level of traffic for it to work successfully as a pre-treatment. So streets with lots of footfall will respond better once the snow or ice has formed simply because the pre-treatment is getting tracked in and can start to work on the snow or ice. Where there is little footfall, including around local shopping parades, the pre-treatment will be quite ineffective.
5. As with road gritting, pavement gritting requires a degree of warmth to be effective. In very cold temperatures or with deep snowfall it will simply remain inert under heavy snow or ice. This tends to more problematic in outlying areas with less footfall, more exposure to the elements and less warmth generated by the proximity of buildings.

Treatment of pavements in advance of cold weather therefore requires considerable time and resources, which divert staff from other duties and also runs the risk a less effective use of time and materials depending on the actual weather conditions when they arrive.

Post-treatment of pavements:
Local authorities in the UK differ in whether and how much treatment of pavements is carried out after major snow or ice has formed.

Brighton & Hove has agreed rates with its Highway Contractors for carrying out snow clearance upon authorisation from the Winter Duty

Officer. At the agreement of the Heads of Operations, City Services staff will also be called upon to help, with staffing levels determined by availability and requirements for their normal duties.

Post-treatment also uses a salt/grit mix. In very cold temperatures or where there are heavy layers of snow and ice, pure grit is used to provide traction irrespective of the layers underneath.

The council has a priority list of pavements, which starts with the most heavily used and then, depending on time and resources, continues out from the main city centre to include local shopping centres and other pavements with reasonable footfall. This is because we aim to keep as many people as safe as possible and as with road gritting, there are simply not enough resources to do all of the city's 3,000 roads quickly.

As with road gritting, the Environment Directorate will only carry out clearance on the public highway not private land or other council-owned land. This is because the Highway budget cannot provide for all land across the city and because staffing and material resources need to be directed for the greatest general public benefit.

Statistics from the A&E department during December's ice and snow reveal that the greatest number of slips occurred in main shopping areas (including on private land).

During the December & January snow event, Highways and City Services carried out a huge operational clearance of many pavements within the city. Because December's snowfall was icy, pavement clearance was very resistant to treatment and it was slow work having to chip the ice away. In January, more resources were made available and much more grit was laid around the city including on routes to schools.

Use of materials:
To provide salt and grit for pavement clearance is an additional cost over and above road gritting. There is also an environmental impact, with salt and grit eventually washing away into the drainage system. Grit has the potential to cause blockages in the drains, and also remains on street for much longer than salt, which will dissolve more easily. However, salt can have a negative impact on trees and other vegetation if it enters the watercourse.

During the most recent snow events in the UK, national supplies of salt have run low, and the government formed Salt Cells to direct distribution to areas of greatest need. This means that Brighton & Hove may not be given enough salt supplies to support pavement clearance as the Salt Cell concentrates on the essential road gritting capabilities of each authority. Grit (sharp sand) is not usually a problem as there are vast quantities at Shoreham Harbour. However, it does have more of an obvious environmental impact.