

Highways/City Infrastructure Winter Service: Feedback on Snow Event Nov/Dec 2010

Overview

Generally, the operation was very successful. The preparation over summer and autumn that had gone into the Highway Winter Service Plan and the background operations associated with this paid off. This meant that both prior to and during the snow event, managers could utilise this preparation (such as maps and lists of pavement gritting areas) to mobilise staff quickly and efficiently with a co-ordinated approach.

Preparation

City Infrastructure managers met regularly for over 2 weeks; initially on a bi-weekly basis when snow was forecast in the final week of November and then daily at 8 a.m. from Monday 29 November onwards.

The meetings discussed the latest weather forecast, the predictions for 2-5 days ahead and how/when to mobilise staff.

Because of the unpredictable nature of weather patterns, it can be difficult to plan too far in advance. Any winter response needs to be proportional to the need; this includes use of salt as well as deployment of staff who will be pulled off other duties to carry out winter gritting operations.

With snow forecast, managers planned what we would mobilise for the required operations using the road and pavement priorities pre-defined in the Highways Winter Service Plan and backed up by operational packs such as maps and recording sheets.

Road Gritting

Road gritting is an activity carried out throughout the winter season whenever frost, ice or snow is forecast. This is a well set-up operation, tested through many winters, with a trained and experienced Duty Officer making decisions about treatments based on all the weather data from the Met Office and other meteorological sources as well as from our weather stations, plus calculations on previous treatments, levels of accumulations and levels of humidity.

In the week preceding the snow event, pre-treatment using 100% salt was carried out every night, and also during daytime on Saturday 27 November in advance of that day's predicted snow fall (which manifested in Brighton & Hove as light flurries). These treatments laid a good bed of well-trafficked salt onto the highway in preparation for the snow event of 30 November – 4 December.

The treatments were carried out on our Full Routes which include A, B and most C roads plus all bus routes.

Snowfall from 29 November to 30 November was fairly light and roads had responded well to treatment allowing traffic to move freely on gritted roads.

The Out of Hours Officer checked the network regularly throughout the night reporting back to the Duty Officer that the light snowfall had not settled on treated roads.

From 1 December onwards, road gritting was carried out both day and night time, using drivers from both shifts on the rota.

Wednesday 1 December early morning had seen only light snowfall and all services begun the day by carrying out their normal duties. The weather forecast had not predicted major snow accumulation during the day but when snow began to fall heavily from 9am onwards, all Cityclean crews were recalled from normal duties and switched to winter gritting operations, including gritter driving.

During and after any of the major snowfalls, the Duty Officer ordered a mix of salt/grit or pure grit to be used or ploughing only. This is because in heavy snowfall with freezing temperatures, salt alone is not the most effective treatment. Sharp sand (grit) will break down layers of compacted snow and allow the traffic to start working the salt underneath into a solution that will gradually result in the roads returning to tarmac again. We also need to be mindful of salt supplies and that there is yet no certainty whether UK salt suppliers can cope with the demand this winter.

By Wednesday afternoon, most roads had again responded well to treatment and traffic including buses was moving in the city.

During Wednesday night and all through Thursday when snow fell heavily and almost continuously, gritters concentrated on our priority routes (main A & B roads and routes to emergency services such as hospitals), going back over these routes again and again as they kept being covered by fresh snowfall. This is in accordance with our winter service plan which aims to cover all A, B and most C roads plus all bus routes but recognises that in extreme conditions, resources have to be targeted where they will be most effective and of the most benefit to the greater number of people.

The Duty Officer worked with the bus company and other key organisations throughout to keep them informed of our operations and to respond to feedback on routes that needed additional treatment.

Once snow ceased falling, gritter routes on Thursday night expanded to include our Full Routes again. On Friday daytime road gritting concentrated on problem areas around the Full Route network as reported by the bus companies, emergency services and highway officers driving the network.

Pavement Clearance

Pre-salting was carried out on city centre pavements on Tuesday 30 November. Pre-salting uses a lot of resources, both in terms of staff and salt so we have to balance the benefit of this with what is sensible to do prior to any major snow event. As with road gritting, a substantial amount of traffic – in this case pedestrian footfall – is required for the treatment to be effective.

The pre-salting was of benefit in the following days, both in terms of helping clear the main city centre thoroughfares and for public perception of the council's preparedness.

From Wednesday 1 December, pavement gritting was carried out on all the priority pavements identified in the Highways Winter Service Plan (Areas 1-5 which take in all main thoroughfares throughout the city).

On Thursday 2 December, the decision was taken to delay further pavement gritting as the snow would simply have covered up all our efforts and wasted stock. However, an exception to this was for all pavements around hospitals, the station and other key infrastructure. Otherwise Cityclean & Cityparks staff concentrated on getting grit drops out to pre-identified locations in the city whilst our highway contractors carried out a refill of grit bins. Tractors were used to reach the outlying areas of the city.

Pavement clearance resumed on Friday morning from 7 a.m. onwards with priority given to key infrastructure as before especially around hospitals, and then completing Areas 1-5.

Grit bins

The council now provides 407 grit bins on the public highway around the city. These are located usually on steep hills or junctions that are not on gritted routes and are there for residents to help themselves.

The majority of grit bins are placed following public request and not surprisingly tend to be located in the north, north east and north west of the city where the weather will be more extreme and the topography is that of steep hills.

Grit bins are filled with a 50:50 mix of salt:grit although in extreme circumstances during persistent snowfall 100% grit may be used.

All grit bins were checked and filled in October but we had reports that some were already empty by November. In the final week of November, 5 highway contractor gangs were diverted to re-checking and filling all 407 grit bins. This was completed by Friday 26 November.

A further grit bin refill was carried out by 13 highway gangs during Thursday and Friday. There were some problems with access as our contractors only have 2-wheel drive vehicles but a huge effort was made to reach as many bins as possible. Where grit bins could not be reached, equivalent piles of grit were dropped on street corners as near as possible to the bin locations. Bins were also filled by Cityparks staff.

The issue with having over 400 bins is that it takes a long while and a huge amount of resources to fill them. Each citywide refill takes 40 tonnes of salt, which is a precious commodity required to last all winter for ice and frost as well as snow events. Although many residents started to request grit bins during the final week in November, we will not put anymore out this winter as

each site needs to be assessed and the amount of stock required to fill these calculated into pre-season salt stock orders.

The Highways team believe we have now reached a capacity issue with grit bins: if we are to expand the number we need to find much greater salt storage capacity as well as increasing the budget to take into account the requirements of refilling regularly throughout the season. This is without the issue about how quickly it is feasible to refill; if we increase the amount of grit bins everyone will wait longer for a refill.

Grit drops

35 locations were identified prior to winter for dropping piles or bags of grit by the roadside for residents to use. The locations were chosen as key points in areas most likely to suffer from greater snowfall – i.e. the outlying wards that are not on the flat. The locations link to the turn around points agreed with the bus company that they will utilise if they are unable to complete their full routes (largely due to narrow roads that do not respond well to treatment and are often very parked up leaving the large buses no room to manoeuvre safely). The idea is that the grit can be spread outwards from these key locations.

All the identified locations received a grit drop by Friday, carried out by Cityparks staff and vehicles. Further locations may well be identified but again we need to balance provision with what we can realistically achieve within reasonable timescales and with the resources available to us.

Other services

Highways do not have an endless supply of salt (nor necessarily of grit). Our storage area in the depot is limited to approximately 1,000 tonnes and this needs to see us through road gritting on any freezing nights, not just during snow events. Snow events unsurprisingly use a great deal of stock for the public highway, on roads, pavements and grit bins. The council's statutory duty is for clearance of ice and snow from the public highway and with limited stocks, we cannot give these out to other agencies without running a risk of depleting supplies for the critical highway requirements throughout winter.

A great deal of work was carried out by the Highways team over summer with other services, discussing how we can support their operations but also about what we can realistically provide.

The pre-winter preparation with other agencies was largely successful with the majority of services appearing to make their own arrangements and carrying out action accordingly during the snowfall. Liaison regarding schools was very useful during this time. Where a service was in real need and we had sufficient stock, grit (rather than salt) was donated by Highways.

Communications

Pre-winter preparations made a huge difference in how we communicated our winter service plan to the public. There was excellent support from the corporate Communications team as well as from Cityclean communications via Facebook, Twitter, the website and the contact centre.

Communications were joined up, pertinent, regular and consistent. Gillian Marston and Christina Liassides updated councillors, our Comms team and internal managers on a morning and afternoon basis. This was translated onto our website with regular feeds updating residents on the latest actions.

As a result, far more was managed at the front end and residents were kept extremely well informed throughout the snow event.

Because snow came very early this year and because Highways is such a small team reliant on IT support for the GIS mapping, we had not completed all our information tasks for winter such as updating the grit bin map and posting a map of our routes online. IT and Highways staff worked very hard to get these completed whilst snow fell and they are now successfully available on our website.

Further action points identified

We have a clear Winter Service Plan and we carried out everything we said we would do in this.

Operationally we need to train more highways staff on the shovel loader and clarify how best to use Cityparks staff and vehicles alongside Cityclean's.

We will refine the operational plans for Cityclean and Cityparks and look at whether it is feasible to extend grit drops with priority given to steep areas.

Time and budget permitting, we may train more gritter drivers so we have a greater pool to utilise in extreme conditions.

Christina Liassides
Head of Network Management 05.12.10

