

Report to the Traffic and Transport Strategic Policy Committee (SPC)
on Winter Maintenance Operations – Planning and Response



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1st February 2023

1. Introduction and Background

During the recent period of severe cold weather; which extended from the 6th December to 18th December 2022; road surface temperatures and air temperatures fell below freezing during the nights and remained either at below freezing or just above freezing during the day. The wintery precipitation that fell during this period; froze on the footpath and road network that remained untreated. This December 2022 cold weather event resulted in icy conditions forming on the untreated footpaths and on the untreated roads within Dublin City Council's jurisdiction. A number of requests were subsequently received from Dublin City Council Elected Representatives to treat all roads, cycle lanes and footpaths during similar severe weather events. Furthermore, additional requests were made in relation to prioritising cycle lanes and footpaths ahead of the treatment of the City's main roads.

The purpose of this report is to provide Dublin City Council's *Traffic and Transport Strategic Policy Committee* with an overview of Dublin City Council's response to these events and to provide a high-level examination on the feasibility of treating all roads, all footpaths and all cycle lanes with gritting salt, during future severe cold weather and icy conditions.

2. Road Maintenance Services' response to the severe cold and ice event

In accordance with Dublin City Council's '*Winter Maintenance Plan*', Road Maintenance Services' priority is to focus on the treatment of 300km of the City's main roads. This length is equivalent to approximately twenty-five percent of the overall road network within the City Council's administrative area. This section of the road network includes the main public transport corridors, the main routes to the City's principal hospitals, access to Dublin Port, the main route from the City to the airport, access to the main bus, Luas and train stations, access to the City Council's operations depots and salt storage facilities and access to Dublin City's fire stations.

These routes are prioritised, in order to ensure that public transport services are maintained across the City to the greatest extent possible, that there is continued access to the City's main hospitals; that emergency services can safely traverse the City's main roads; that essential supply chains continue uninterrupted, such as the supply of food and medicines, can continue, insofar as possible, to supermarkets, shops, pharmacies and businesses. This Winter Maintenance Plan has effectively served Dublin City Council during adverse weather events in the past. For example, the response to Storm Emma in 2018; the severe snow and ice event, the City Council's response effort during this recent weather event resulted in the City's main road network being maintained in reasonably good condition. The prompt Roads Maintenance Division's response facilitated essential journeys to be undertaken on the City's roads network.

Most recently, from the 6th December to 18th December, Road Maintenance Services gritted the City's main roads on twelve consecutive nights. This activity was carried out between the hours of 2am and 7am. The operation involved the deployment of nine gritting lorries and the spreading of approximately 1,000 tonnes of salt on the road network during this weather event.

This essential work was supplemented by the Division carrying out additional gritting works during the day, the management of additional ancillary winter maintenance activities and responding to other priority operational issues on the road network. The Division operated on a continuous 24-hour per day basis and operated at full capacity, in delivering this critical service during the severe weather period. These works necessitated the full use of the Division's resources, including staff, lorries, plant, machinery and salt stocks. Despite the continued freezing conditions at night and temperatures remaining very low during the day, the Road Maintenance Services' Division maintained the City's main roads in a good condition over this twelve day period.



Photograph 1. RMS gritting in operation



Photograph 2. RMS tractor ready for gritting cycle lanes



Photograph 3. Salt Barn Collins Avenue



Photograph 4. Unloading salt Collins Avenue

3. Waste Management Services' response to the severe cold and ice event

In accordance with the '*Winter Maintenance Plan*', on the order of the Assistant Chief Executive and City Engineer, the clearing of footways/ pedestrian areas can be initiated using a variety of resources from various departments within Dublin City Council. This response includes the staff from other operational divisions, such as Waste Management Services, the Drainage Division, Water Pollution and the Surface Water and Incident Management Division.

As required within the Winter Maintenance Plan and due to the footpaths remaining icy during the period of severe cold weather during December 2022, Waste Management Services were requested to treat some footpaths with salt, at priority locations across the City. This included footpaths adjacent public transport hubs, footpaths with high pedestrian footfall and footpaths adjacent the main hospitals. This work was carried during the night and early morning hours. It involved approximately 135 staff members from the Waste Management Services' Division and the spreading of approximately 18 tonnes of salt per day. Waste Management Services treated approximately 30km on each of these day, which equates to 1.2% of the footpath network.



Photograph 5. WMS using their motorised refuse cart with mini-gritter being towed



Photograph 6. WMS using mini-gritter to disperse salt



Photograph 7. WMS loading mini-gritter with white salt



Photograph 8. WMS spreading rock salt by shovel

4. Addressing the Councillors' request to treat all roads, all footpaths and all cycle lanes

It is important to note that severe weather events are infrequent and dynamic in their nature and Dublin City Council's response needs to adapt to the prevailing weather event, based on the critical needs of the City. The nature of this response will be contingent on a combination of factors, including the prevailing weather conditions, the road and footpath conditions, ensuring the health and safety of staff and the public, the availability of resources and other priority functions that Dublin City Council will need, in order to continue to deliver critical services during the event.

During severe snow and ice events, the Road Maintenance Services Division operates at full capacity in order to treat one quarter or 300km, of the City's road network. This work is generally carried out between the hours of 2am and 7am. It is carried out during the night because the roads are relatively free of traffic at this time. This allows the gritting lorries to avoid traffic congestion that may typically be experienced in the city during the day. It therefore allows the gritting process to be carried out efficiently and also ensures a reasonably extensive coverage of the city's main roads is achieved. In terms of the required fleet, plant and equipment, this work typically involves nine lorries, nine gritters, two JCBs and two 4x4 trucks. During periods of heavy snow it may also involve the use of up to five snowploughs. In terms of staff, rosters are in place for the Engineers, Inspectors, Drivers, General Operatives and Fitters to carry out winter maintenance activities during the night. There are over fifty staff on these rosters. The 'Driver and General Operative' rosters operate on a one week on one week off basis.

During periods of severe snow or ice, the Division will operate on a continuous 24 - hour basis. To keep the main roads accessible these roads may need to be treated and/or have snow cleared from them on more than one occasion over the course of a 24-hour period. The staff that have been working through the night, for example driving lorries, cannot operate on a continuous twenty-four hour basis and therefore additional ‘non-rostered staff’ will be directed to perform winter maintenance duties during the day, where necessary. Compliance with the *Working Time Act* is carefully managed by the Division’s Inspectorate, to ensure the continued health and safety of staff, which is the paramount consideration in our response effort.

There are additional resourcing considerations that need to be factored into planning the Division’s response effort, including that not all staff will be available at all times. For example in some cases overtime is voluntary, not all staff are available to work at night and some staff may be unavailable, due to annual leave, sick leave etc. These are additional factors that need to be carefully managed by the Division’s inspectorate, when planning the Division’s effective response to these weather events. While responding to a severe snow and/or ice event, the Division needs to be mindful of the other priority functions that it needs to continue to deliver, for example, responding to critical incidents on the road network. These activities may include tending to serious potholes, fallen trees, collapsed manholes, attendance and clean-up at road traffic accidents, oil spills etc. This operation needs to continue to be adequately resourced whilst winter maintenance activities are progressing.

Road Maintenance Services stores a total of 1,800 tonnes of this salt across four depots, namely Collins Avenue, Marrowbone Lane, Gullistan Terrace and Orchard Road. For a standard winter maintenance callout, i.e. when icy conditions have been forecast, Road Maintenance Services

uses approximately 70 tonnes of this salt per night. During heavy snows and severe ice, Road Maintenance Services may use over 300 tonnes per day. The existing salt stock will allow for the treatment of roads over a period of six consecutive days only, during periods of heavy snow. There is therefore a need to continue to manage this salt's use carefully and to restrict this use to the treatment of priority roads and to make some of this salt available to Waste Management Services for the treatment of footpaths at priority locations only. There are approximately 2,500km of footpaths in the City Council's administrative area. For both safety and operational reasons, salt cannot be spread on footpaths using gritting lorries. The spreading of salt on footpaths is therefore, both a slow and a labour intensive activity. As set out in section 3 of this report, during the severe cold and ice event that occurred during December 2022, approximately 135 waste management staff were dedicated to spreading salt at priority footpath locations. On a typical day, Waste Management Services treat approximately 30km of footpaths, which equates to circa 1.2% of the entire footpath network.

It is clear from the above that if Dublin City Council is to expand the length of roads, footpaths and cycle lanes that are treated during these events, it would require significant additional investment. For example, to treat all of the City's roads could potentially necessitate the quadrupling of Road Maintenance Services' resources, including staff, lorries, depots, salt and salt storage facilities. Similarly, any proposals to expand the treatment of footpaths would require a significant increase in Waste Management Services' resources. The additional funding required to provide this increased level of service would need to be diverted from other priority works and projects that are currently being progressed by Dublin City Council. It is important to note that any decision on the re-allocation of funding to expand the winter maintenance response, will ultimately be a matter for the Elected Members.

While the treatment of our main roads, footpaths and cycle lanes improves their condition and safety during periods of severe snow and ice, it does not guarantee that they will be completely clear of ice. While there is a general perception that the risk of slips and falls has been mitigated, there is, however an increased risk of slips and falls during these conditions and therefore an increased likelihood of injury during these periods. For this reason, it is important that Dublin City Council continues to communicate and convey the clear message that people should exercise caution during these severe weather periods and that they should consider the risks, before making a decision on whether or not they should make a journey and by what means they make that journey.

When the City Council's resources are directed to assist in the response to snow and ice events, staff, plant and machinery assigned to this response are no longer available to deliver their core duties. Consequently normal core duties either cannot be performed or must be deferred to be performed at another time. For example, Waste Management Services staff reassigned to winter maintenance duties will not be available to empty bins or collect litter from the City's streets for the period they are assisting with snow and ice clearance. Similarly, Road Maintenance Services' staff, lorries, plant and machinery will not be available to repair defects on the road and footpath network. The delay or non-performance of these tasks can lead to other concerns and issues for the City Council.

If the footpaths and cycle lanes are to be prioritised for treatment ahead of the City's main roads, in such a scenario, based on the current level of resources available to Dublin City Council to respond to severe snow and ice events; there will be insufficient resources available to treat the City's main roads. This impact would in all likelihood lead to these roads becoming

more dangerous and / or impassable for the likes of public transport, emergency services and the delivery of essential food and medical supplies. It is therefore recommended that the hierarchy of the prioritisation system for the treatment of roads, footpaths and cycle lanes remains the same. Dublin City generally has mild conditions during the winter season. Periods of severe snow and ice are typically infrequent and when they do happen, they generally last for a relatively short period of time. Dublin City Council's Winter Maintenance Plan and Severe Weather Plans, coupled with the extensive operational response experience retained within this Department, has served Dublin City Council well during periods of severe weather.

5. Issues, Lessons Learned and Resulting Actions

Following the severe cold and ice event in December, the Road Maintenance Services and Waste Management Divisions have commenced an exercise to identify lessons learned and to identify any actions that should be undertaken to improve the City Council's response to future weather events of a similar nature. This exercise is presently ongoing and it is intended to incorporate the recommendations that come out of this process into the Winter Maintenance Plan for 2023/2024.

One of the emerging lessons emerging from this review, is that the organisation needs to explore innovative methods to disperse salt on priority footpaths in a manner that is less labour intensive, which ensures an even distribution of salt across the footpaths, avoids salt waste and allows for an increase in the number of footpaths that can be treated. It is recognised though that Dublin City Council can make some improvements in this area and Waste Management Services and Road Maintenance Services will collaborate and work to examine and trial options and innovations for the treatment of footpaths.

6. Conclusion

It is recommended that Dublin City Council continue to prioritise the treatment of the City's main road during periods of snow and severe ice. This is in the interest of ensuring that these roads remain accessible to the emergency services, public transport and for delivery of essential supplies. It is further recommended that Dublin City Council explore innovative options for the efficient treatment of priority footpaths with gritting salts during periods of severe ice.