Item 10

5th December 2024

Glasgow Community Planning Partnership

Anderston/City/Yorkhill Area Partnership

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Winter Maintenance

Purpose of Report:

To advise and update Area Partnership on the winter maintenance policy and how winter maintenance will be undertaken during this forthcoming winter period November 2024 to April 2025.

Recommendations:

It is recommended that Area Partnership notes the terms of the report and the updated Winter Maintenance Plan which can be viewed using the following link: Winter Maintenance Plan 2024-2025

1. Introduction

1.1 The purpose of this report is to outline the policy and management procedures for the Winter Maintenance Service.

1.2 **Winter 2023/24 -** Last year, winter gritting operations commenced on 16 October 2023 and continued until 15 March 2024. 41 footway treatments, 56 cycle way and 56 carriageway treatments were instructed using 5,614 tonnes of rock salt and 5,000 litres of liquid brine. The amount of rock salt used was substantially less than in a severe winter when 24,000 tonnes of rock salt can be used. SCOTS and Transport Scotland will be consulted with regards to suitable rock salt resilience levels. Whilst, it may be desirable to reduce the amount of rock salt stored under cover, the unpredictability of climate change (as noted in paragraph 1.4 below) may result in repeated de-icing treatments being required.

1.3 Last winter was milder and wetter than recent ones with any cold snaps short-lived and limited to a couple of days. The mean temperature was 1.2C above the 30-year average with rainfall at 129% of the 30-year average. There were 17 Met Office Yellow Weather warnings, 1 Amber Weather Warning and 5 named storms. Storm Babet (19th- 21st October 23) brought the most disruptive weather of the season.

1.4 Climate change is causing an increase in the frequency of temperature extremes in the UK. New analysis in this year's comprehensive 'State of the UK Climate' report shows that the UK is seeing, on average, more frequent periods of hot weather across all geographic regions of the UK, bringing challenges for infrastructure, health and wellbeing. The observations also suggest an increase in rainfall extremes and in the number of very wet days in recent years.

The notable change in frequencies of extreme weather is having an impact on how we maintain our road network.

In winter, milder and wetter conditions are being experienced but may not reduce the amount of de-icing required. Marginal temperatures (road surface temperatures at or slightly below 0C) combined with wetter conditions must be treated with rock salt but may require repeated de-icing treatments due to wash off and this may increase winter maintenance costs.

The increase in very wet days will result in increased flood and blocked gully reports. In autumn, leaf fall combined with wet conditions will also increase flooding. Our routine cyclic gully and road sweeping programmes are based on risk (flood and blocked gully reports) but in our urban environment parked cars require a comprehensive engagement process, enforcement and vehicle lifting. More frequent storm events during the Winter are resulting in increased reactive response, often not because gullies are blocked, but because the intensity of rainfall exceeds the capacity of drainage systems.

Flood weather warnings are increasing and require additional specialised equipment such as large capacity tankers and road sweepers to be deployed.

These factors increase the cost of drainage and flood maintenance and are changing the balance of our Winter Emergency Response which now needs to respond to a mix of ice /snow/flooding conditions. Future Winter Maintenance plans will reflect this change.

2. Legislation

2.1 The Council has a statutory obligation under Section 34 of the Roads (Scotland) Act 1984 to take such steps as it considers reasonable, to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads.

2.2 The Glasgow City Council (GCC) Winter Maintenance Plan is based on the principles contained within the code of practice, 'Well–Managed Highway Infrastructure', the National Winter Service Research Group's practical guidance and sets out how the winter maintenance service will be provided for Glasgow.

2.3 The Council's aim is to provide an effective and efficient winter maintenance service within the resources available to allow for: the safe passage of pedestrians, wheelers, cyclists and vehicles minimise delays due to winter weather and ensure operations are undertaken safely.

2.4 The service is designed to cope with an average winter but having the capability to be extended or adapted when winters are more severe or of a longer duration than average.

3. Resources

3.1 The gritting of the road network will be carried out mainly by night shift operatives based at NRS's Gartcraig Depot. Operating on a nightshift basis addresses driver hours' legislation and reduces disruption to normal day time work activities. Gritting of the road network will also be undertaken during normal day time hours as and when required.

The gritting of the footway and cycle way network will be carried out by operatives during day shift but with the ability to start before 0500hrs when required.

3.2 Arrangements are made each year to ensure the availability of sufficient specialist plant and vehicles, trained drivers and operatives, supervisors and decision makers. A full description of these resources is available within the Winter Maintenance Plan. All of the main carriageway gritting fleet has global positioning satellite and automated gritting technology. This technology improves the level of service provided in terms of accuracy, health and safety, monitoring and recording, resulting in a more cost-effective service.

3.3 This winter, 18 drivers can be on duty on any given night and when necessary this resource can be increased. Their primary duty is driving gritting vehicles but when carriageway gritting is not required the drivers can be used for business operations, cleansing, lighting, emergency response and any other duties directed by management.

3.4 Mechanised footway and cycle way plant and carriageway gritters deployed in winter maintenance operations are -

- 7 permanently mounted 9m^3 carriageway gritting vehicles
- 11 demountable 6m^3 carriageway gritting vehicles
- 2 small 3m^3 carriageway gritting vehicles
- 12 trailer carriageway gritters
- 21 carriageway snow ploughs
- 1 narrow gauge brine spraying vehicle for segregated cycle ways
- 7 large and mid-size tractor units with ploughs and 3 with mounted gritters
- 20 utility vehicles/small tractors with mounted gritters and ploughs
- 22 pedestrian gritters
- 23 powered footway ploughs

3.5 Plant deployed in cyclic gully maintenance and flood response –

- 3 permanently mounted large gully machines
- 2 smaller interchangeable gully machines
- 3000 litre large capacity tankers (hired)
- Large road sweepers (hired)

4. De-icing Treatment Priorities

4.1 The following criteria have been applied to determine the Priority 1, 2 and 3 categories for footways, cycle ways and carriageways:

Footways

Priority 1 Footway Routes -

- Access routes to schools;
- Pedestrian precincts;
- Prioritised city centre footways with high pedestrian traffic;
- Shopping centres out with the city centre;
- Hills steeper than 1 in 10 gradient with moderate pedestrian traffic.

This winter the following footbridges will be added:-

- Sighthill
- Govan Partick

Priority 2 Footway Routes -

- Locations which include the following amenities - local shopping; health centres; day care centres; community sports centres; libraries; places of worship and any other places of local significance. Appropriate link routes to main Priority 1 footways within each neighbourhood. Also a designated access through route has been determined for each Park.

Priority 3 Footway Routes -

- All remaining footways.

<u>Cycle Ways</u>

Priority 1 Cycle Way Routes/busy commuter routes –

The operational segregated cycle way network.

- The National Cycle Network Number 75 (NCN 75) that extends from Cambuslang Bridge/boundary with South Lanarkshire Council in the east to Riverside Museum in the west and Festival Park (Govan Rd at Pacific Dr to Harvie St)

- Designated route through Queens Park, Pollok Park, Kelvin Way and Glasgow Green cross paths.

- Carriageway areas that have been allocated to cycle lanes adjacent to an existing Priority 1 Carriageway route.

This winter the following segregated cycle way sections will be added:-

- South City Way extension
  - Gorbals St
  - Brigait
  - King St to Trongate.
- Connecting Battlefield - Langside Rd to Grange Rd.
- Avenues
  - Pitt St (Waterloo St to Sauchiehall St)
  - Cambridge St (Renfrew St to Buccleugh St)
  - ramp to Cowcaddens Underpass
  - Argyle St (York St to Robertson St).
- Clyde St (Glasgow Green to Oswald St).

Priority 2 Cycle Ways -

All remaining cycle ways.

<u>Carriageways -</u>

Priority 1 Carriageway Routes -

- All main bus routes within the City;
- The length of public road from the adjacent Priority 1 Carriageway Route to any designated school dropping-off points on the public road for Assisted Support Learning buses and emergency vehicles;
- The public road access to fire, ambulance and police stations and main bus garages from the adjacent Priority 1 Carriageway Route;
- Public access roads to Park and Ride car parks from the adjacent Priority 1 Carriageway Route;
- Buchanan Street bus station;
- A or B class roads;
- Hills steeper than 1 in 10 gradients;
- Industrial areas as appropriate;

Priority 2 Carriageway Routes -

- Locations which include the following amenities - local shopping; health centres; day care centres; community sports centres; libraries; places of worship and any other places of local significance. Appropriate link routes to main Priority 1 carriageways within each neighbourhood and industrial access roads.

Priority 3 Carriageway Routes -

- All remaining carriageways.

4.2 Pre-treatment of Priority Footways, Cycle Ways and Carriageways will be instructed should the domain-based weather forecast predict that hoar frost, ice or snow is likely to be present on road surfaces.

4.3 Post-treatment of Priority 2 Footways, Cycle Ways and Carriageways and Priority 3 Footways, Cycle Ways and Carriageways will be instructed should there be ice or snow and a forecast that these hazards will last for longer than 48 hours. The post-salting will take place between 0730hrs and 1830hrs the following day and depending on available resources.

4.4 It should be noted that if Priority 1 Footways, Cycle Ways and Carriageways require treatment during any extended period of ice or snow this treatment will take precedence over Priority 2 and Priority 3 Route treatment.

4.5 Where lying snow requires to be ploughed on a Priority 1 Carriageways, the ploughing will move the snow to the nearside of the road. Where the ploughed snow covers a cycle lane or space for walking/wheeling, clearing of the snow will take place between 0730hrs and 1830hrs the following day as resources allow.

4.6 During sustained periods of winter hazards, all available operational resources will be deployed to gritting and/or snow clearing operations. Also, arrangements
are in place to call upon external contractors as and when winter weather conditions dictate.

5. Decision Making Process

5.1 Each day at 0600hrs, 1200hrs and 1800hrs a detailed hour by hour weather forecast highlighting expected hazards such as hoar frost, ice or snow for the next 36hrs is received as well as a 6hr interval forecast for the next 8 days. This alerts the decision maker, managers and winter supervisors as to whether any gritting operations are likely. For the purposes of winter weather forecasting, the city has been divided into two ‘climatic domains‘– City Centre and Outer. The weather systems and temperatures affecting the climatic domains vary and may allow for no gritting to be undertaken in the City Centre when road temperatures are marginal. The forecasts are supplemented by road sensors situated throughout the city which provide real time information on road surface and weather conditions.

5.2 Following receipt of the 1200hrs daily forecast a decision maker and nominated verifier will agree the de-icing treatment required. Wherever possible, pre-treatment will be carried out in advance of any anticipated frost, ice or snow. The timing of any gritting treatment will take account of forecast precipitation due to the risk of wash off reducing the effectiveness of the gritting.

Any required repeat treatments (caused by rain washing off de-icer) will normally be restricted to Priority 1 Footways, Cycle Ways and Carriageways.

5.3 Once instructed, the treatment decision is confirmed to managers, supervisors and depots by email.

5.4 The instructed de-icing treatment will be based upon the weather forecast conditions although the instruction may be changed or added to, should the later forecasts or actual conditions dictate. If marginal road surface temperatures are forecast over-night, vehicle patrols may be instructed and any hazards encountered reported to the on duty supervisor. The duty supervisor will then update the decision maker who may then issue a further treatment instruction.

5.5 The last daily weather forecast is received at around 1800hrs for review by the decision maker and verifier. The MetDesk duty forecaster will phone the decision maker to discuss any subsequent changes to the predicted weather.

6. De-icing Materials and Grit Bins

6.1 The de-icer used for precautionary treatment of Priority 1 Carriageway Routes is a proprietary product called Safecote. Safecote has a molasses additive which enhances the performance of rock salt in terms of accuracy, placement and longevity. Safecote can be applied at lower spread rates than untreated rock salt. These qualities allow gritting vehicles to travel greater treatment distances and as such improves the efficiency of the gritting fleet.

In addition to Safecote, untreated rock salt is used for reactive gritting and as required during severe weather situations.

6.2 As Safecote uses lower spread rates, it is less harmful to the environment. There is also the added benefit that Safecote is 82% less corrosive than untreated rock salt and so reduces damage to vehicles, plant and the roads infrastructure as shown in independent tests.

6.3 In designated city centre shopping pedestrian areas, white marine salt has been used successfully to minimise discolouration at shop frontages and entrances.

6.4 The de-icer used for precautionary treatment of Priority 1 Segregated Cycle Ways is a liquid brine solution applied by a low level rear mounted spray bar on a narrow gauge multi-purpose vehicle. The Priority 1 NCN 75 is shared by pedestrians and cyclists, is wider than the segregated cycle ways and is de-iced using rock salt spread by mechanised footway plant.

6.5 In addition to the gritting service and to promote ‘self-help’, 1626 grit bins will be sited in the city at the commencement of the winter season to allow members of the public to grit in areas out with the priority gritting routes. These grit bins will be filled with untreated rock salt prior to the start of winter. Grit bin locations can be viewed online via the Winter Gritting Story Map which can also be used to request a refill. QR codes on grit bins will allow residents to request a refill of request that a damaged grit bin is replaced.

6.6 Members of the public can also obtain small quantities of rock salt for their own use from NRS depots throughout the city. The NRS depot addresses 'Where can I get salt supplies' can be viewed on the www.glasgow.gov.uk Winter Maintenance (Winter Gritting Resident Information).

6.7 Also in any prolonged severe weather periods, large 1 tonne temporary grit sacks will be placed strategically within neighbourhoods to assist community resilience with free salt supplies during severe weather.

6.8 Winter wardens from the Neighbourhood Improvement Volunteer (NIVS) resource have been identified and further expressions of interest are currently being sought from the remaining registered NIVs. The aim is to have a winter warden available in each local neighbourhood area. The winter wardens are trained and equipped to undertake organised footway gritting within their neighbourhood.

7. Communication Strategy

The winter maintenance strategy provides adverse weather warnings, winter gritting operational and school closure information to residents and businesses. Social Media channels will be the primary means of communicating this information. Winter Gritting Resident Information is an interactive story map which can be viewed on the www.glasgow.gov.uk .During periods of severe winter weather elected member briefings will be issued.

8. Fleet Strategy 2020- 2030

8.1 The procurement of replacement small size mechanised plant and mounted gritters/brine tanks has commenced to support footway and cycle way de-icing.

8.2 GCC remain committed to working towards lowering emissions through the introduction of zero emission fleet and cleaner, lower emission diesel vehicles.

8.3 The current fleet replacement programme includes a combination of electric and Euro 6 diesel to provide a lower emission and financially sustainable modern fleet.

9. Winter Maintenance Business Continuity

9.1 Should there be another pandemic, local restrictions or lockdown which severely impacts on the resources available for delivery of winter maintenance, the normal service levels may not be possible to achieve.

9.2 Winter maintenance business continuity will be delivered in the following ways:

- Carriageway, footway and cycle way gritting and the replenishment of grit bins may take longer to complete.

- The Severe Weather Hub (Eastgate) may be set up to: co-ordinate resource deployment; have direct access to real time CCTV and provide regular situation reports to the NRS senior management team.
- Based on the detailed specialist roads weather forecasts, the Decision Maker may re-prioritise the deployment of the available reduced resources. Examples of this can be: deployment of resources to those routes with a greater risk from winter hazards eg main arterial routes due to higher speed limits; schools; accesses to emergency services and areas of higher ground (due to lower longer lasting road surface temperatures).
- Deployment of external contractors.
- Engage with neighbouring councils & Transport Scotland to provide mutual aid resources to ensure that routes of strategic importance are treated.
- Timeous bespoke stakeholder communications to inform of any disruption to the normal winter maintenance service levels. Social media, press releases and web site notifications will be used.

10. Review of Winter Maintenance

The Winter Maintenance Plan 2024-25 takes account of the following areas –

- Elected member feedback.
- Sighthill and Govan Partick footbridges added to Priority 1 Footways.
- Additional lengths added to Priority 1 Cycle Ways (details in Section 4).
- Replacement programme for small size mechanised plant and mounted gritters/brine tanks.
- Procurement of a replacement carriageway route navigation and automated de-icing system so as to be operational ready for winter 25/26.
- Covered rock salt storage in Victoria Park Depot, St Rollox Depot and Kings Park Depot.
- Transport Scotland have provided a £50K Transport Resource Grant that will be used to deploy operatives and supervisors on stand-by to allow for the commencement of active travel de-icing from 5am.
- Autumn leaf fall video and self-help advice on www.glasgow.gov.uk
- Winter Maintenance Business Continuity.

11. Recommendations

It is recommended that Area Partnership notes the terms of the report and the updated Winter Maintenance Plan which can be viewed using the following link: Winter Maintenance Plan 2024-2025