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HIGHWAYS AND TRANSPORT SERVICE

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ROAD SALTING AND WINTER MAINTENANCE

Purpose of Report

1. To confirm the arrangements for precautionary salting on roads and the arrangements for winter maintenance, including the extent of the network to be treated.

Relevance to the Council's Business Plan

2. Outcome 1 – Wiltshire has a thriving and growing local economy. Reducing delays because of weather and keeping the roads safe supports economic activity.
3. Outcome 2 – People in Wiltshire work together to solve problems locally and participate in decisions that affect them. Encouraging community involvement through schemes such as the one tonne salt bags for parish councils helps build local resilience.

Background

4. The Council carries out precautionary salting of key parts of the highway network when conditions require. Decisions to salt roads are based on road temperatures, rather than air temperatures, and salting is likely whenever road temperatures are near freezing. Other factors, like moisture, heat retention and time of day or night will influence the decision. Treatment by salt is normally carried out after the evening peak traffic period or before the morning rush. This is because frost and ice do not normally affect road surfaces until late evening or early morning. Usually it takes two hours to complete a salting route.
5. With such a large road network, it would be unrealistic and uneconomic to attempt to treat all roads. All key routes in Wiltshire will receive precautionary salting when ice is forecast. This will include all motorways, trunk roads, class A and B roads and the more important lower class roads. This should ensure the majority of road users live within a reasonable distance of a salted road. This network is under constant review and may be expanded during the current season. Road users need to remember that the majority of minor roads will receive no treatment and, because arrangements may not always go according to plan, should never assume a road has been salted.
6. If temperatures are predicted to remain below freezing after the morning rush, then a larger network may be salted. This additional network includes mainly lower class roads serving housing estates and main accesses to villages and hamlets. Should conditions persist, as much of the entire road network as possible will be salted on a priority basis.
7. The aim is to make the county's roads as safe as possible for road users and to reduce delays caused by bad weather. The Council salts key routes when there is a risk of ice. The key routes in Wiltshire total a length of 1,160 kilometres (725 miles), which is 25% of

the entire maintained road network. Using the fleet of specialist vehicles, the Council provides a 24 hour response in bad weather. A single precautionary salting treatment will cost, on average, £17,000.

8. In periods of prolonged snow the main snow clearing resources will be concentrated on priority routes until they have been opened sufficiently to maintain a reasonable traffic flow in both directions. Other roads are then treated in accordance with local priorities and conditions. Ploughing will commence as soon as there is sufficient depth to plough and it is apparent that snowfall is continuing. If heavy or continuous falls are predicted a snow emergency will be called and the Emergency Control Centre established. In this event, the county's entire fleet of gritters will be mobilised and supplemented with the Council's owned snow blades and blowers that are allocated to local farmers or contractors.
9. Footways (to include footways, pavements, cycle routes and cycleways) will only be treated in times of persistent ice or snow. When this occurs, salting and snow clearing will be confined to those footways where there is a high pedestrian usage. The time taken to clear footways will depend on the quantity of snow, the prevailing conditions and the available resources.

Main Considerations for the Council

10. The objective of the Council's winter maintenance arrangements is to ensure, as far as is reasonably practicable within the appropriate resource level, the safe movement of traffic on the entire highway network in a systematic and priority based manner. This objective is to minimise delay and accidents that could be attributable to adverse weather conditions for all road users throughout the year.
11. The policy of the Council, which was reaffirmed by the Cabinet in 2005 was:

“To adopt the group 1 roads as a basis for precautionary salting and note that any additions to this would be to progressively treat and plough the entire network if conditions so dictate”.
12. The relevant Code of Practice 'Well Maintained Highways - Code of Good Practice for Highways Maintenance' is in the process of being reviewed. The last version was updated to include additional recommendations with regard to winter maintenance in an Appendix H. Many of the recommendations in Appendix H are procedural and need little in the way of financial investment, and which Wiltshire follows as a matter of course during the winter season and during out of season maintenance and winter preparation. However, considerable investment would be required to satisfy some of the recommendations. It is the intention of this Authority to carry on with the high standard of winter maintenance, but without adhering to some of the specific recommendations in Appendix H.
13. Key examples where it is not considered appropriate to closely follow Appendix H are:
 - To achieve acceptable spread rates, salt must be stored so that its moisture content is maintained within an optimum range and kept at a constant level of between 2 to 3.5%.
 - To achieve this will require undercover storage and regular testing with the ability to alter conditions to achieve optimum moisture content.
 - Where moisture content exceeds 4.5%, checks must be carried out before and during spreading.
 - Spread rates have increased from three to seven different rates and so the operator will have to differentiate between road surfaces and road moisture

conditions before selecting a rate. Recommendations place greater responsibility on the operator which has the potential to introduce human error in correctly spreading specific rates in accordance with specific moisture contents.

- We currently have one dome, two open faced barns, one covered with scaffold and sheeting and four sheeted stock piles and we would find it difficult to achieve the required standards without major investment in storage facilities.
 - Salt spreaders should be sheeted during spreading to protect salt from the elements.
 - Regular calibration of spreaders should be carried out and adjusted in accordance to the specific moisture content of the salt on board and road conditions along the route.
 - None of the Council's fleet of 48 vehicles have the ability to be sheeted without modification and it would require investment to adapt them.
 - To achieve the recommended spread rates will mean an additional cost of providing or adjusting suitable SPARGO control boxes in all of the gritters increasing the onus on the driver of selecting the correct spread rate according to differing road surfaces and road conditions along his route.
14. The main thrust of Appendix H is to encourage minimising the amount of salt being spread. The benefit of the reduction in salt has to be carefully weighed against any negative impact. It is considered that the additional cost of providing new salt storage facilities to satisfy the salt condition requirements, improvements to the fleet to ensure consistent and lower spread rates combined with the increased responsibility of the operative and possibility of human error in accurately identifying the correct spread rate for different road surfaces and conditions, outweigh any benefit associated with the new guidance and would require significant investment to both fleet and supporting infrastructure.
15. It is proposed that that the Council follows key recommendations as described in 'Well Maintained Highways - Code of Good Practice for Highways Maintenance' as far as practicable including:
- Optimise our routes to ensure we are running the most efficient routes and using the least amount of vehicles and salt required.
 - Include places of local importance for example Police buildings, hospitals, industrial estates, recycling centres.
 - Investigate the possibility of reducing our current three route strategy to a single route strategy but increasing our route time from 2 hours to 2.5 hours using a smaller fleet.
 - Upgrade our existing weather stations so that they comply with the latest specification and improve the information for decision making, minimising the risk to the highway user and claims against the Council.
 - Continue with promoting and implementing one tonne bag self help schemes with parish and town councils and giving the associated 'competence' training sessions where appropriate.
 - Establish a more efficient way of managing the 1,600 salt bins already placed on the county network.

- Manage the 'Farmer assistance plan' during snow conditions and ensure equipment is accurately accounted for in the itinerary and well maintained.
 - Ensure existing salt storage arrangements are managed carefully including sheeted storage.
 - Ensure existing drainage and environmental requirements are maintained to minimise environmental impacts.
 - Rotation of stock piles out of season.
 - In addition to our pre season calibration, an additional mid season calibration will be carried out as recommended.
 - Continue to consider the effects that traffic flow has during the decision making process.
 - Provide best practise and recommendations during the decision making process for treatments of snow, ice and freezing rain.
 - Provide ploughing routes and locations for snow dumping.
 - Delivery of pre season exercise and discussion with operatives regarding routes.
 - Continue to provide public information of useful information on what is treated and when, as well as regular media updates, both on radio and the internet.
 - Liaise with parish and town councils regarding the provision of salt bins and establish a way of putting the ownership back with the parishes.
16. It would be impractical and financially draining to carry out precautionary salting of footways, pedestrian precincts or cycleways and therefore no provision has been made. However, there will be a certain amount of salt overspill onto footways and cycleways when precautionary salting is being carried out on adjacent carriageways. Post salting of footways and cycleways will be carried out on a priority basis during severe winter weather, as resources permit.

Safeguarding Considerations

17. There is no risk to the Council as a result of these proposals.

Public Health Implications

18. The precautionary salting of key parts of the highway network has safety benefits for the travelling public.

Environmental Impact of the Proposal

19. The precautionary salting of the highway network has safety benefits, but the use of excessive salt would have a detrimental impact on the environment. The current proposal would not significantly change the precautionary salting carried out by the Council.

Equalities Impact of the Proposal

20. There are none with this proposal.

Risk Assessment

21. No change is proposed to the extent of network being treated. The proposed changes to be implemented as recommended by Appendix H of the Code of Practice should improve the operation and effectiveness of the winter treatment, and reduce the risk of incidents.

Financial Implications

22. There are no significant financial implications in connection with the proposal.

Legal Implications

23. The Council needs to have clear policies with regard to winter maintenance policies, and this proposal clarifies the policy with regard to precautionary salting.

Options Considered

24. Reducing the extent of winter precautionary salting on the road network would reduce costs, but could have safety implications as the extent of salted network has not changed significantly for many years. Increasing the lengths of road treated would require additional vehicles, operatives and salt, which is not considered realistic in the current financial climate. Meeting the full recommendations set out in Appendix H of 'Well Maintained Highways - Code of Good Practice for Highways Maintenance' would have limited benefits and would have significant cost and resource implications.

Reason for Proposals

25. The Council's precautionary salting network and policy has developed over many years, and has proved to be effective. The objectives of Wiltshire Council's winter maintenance arrangements are to ensure, as far as is "reasonably practicable" within the appropriate resource level, the safe movement of traffic on the highway network in a systematic and priority based manner. The intention is to minimise delay and incidents that could be attributable to adverse weather conditions for road users throughout the winter period. The recommendations of Appendix H of 'Well Maintained Highways - Code of good practice for Highways Maintenance' have been reviewed, and improvements as described in the report are being introduced to the Council's winter maintenance procedures.

Proposals

26. That:
 - (i) The group 1 roads should continue as a basis for a precautionary salting network, (as shown on **Appendix 1**) and that any additions to this, if conditions so dictated, would be to progressively treat and plough as much of the highway network as resources allow in a priority order.
 - (ii) The changes being made to operations in response to Appendix H of 'Well Maintained Highways - Code of Good Practice for Highways Maintenance' as set out in this report be noted.
 - (iii) The Council's precautionary road salting policy should be reviewed after a revised Code of Practice is published.
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The following unpublished documents have been relied on in the preparation of this Report:

None