



Economic Prosperity, Environment and Highways Board
8 September 2016

Winter Service cost saving recommendations

Purpose of the report:

Scrutiny of Services and Budgets / Policy Development and Review

This report is in response to the £340k saving identified against the Winter Service budget in the Medium Term Financial Plan (MTFP), as approved by The Council.

Winter Service budget reduction options were presented to the Winter Task Group on 28th July 2016. This report summarises those options.

Introduction:

1. In the Medium Term Financial Plan (MTFP) the Winter Service budget was identified for a reduction of £340k.
2. Surrey Highways officers and Kier have considered where savings could be made. These options were presented to the Winter Task Group and discussed at a meeting on the 28th July
3. Each option is detailed in the sections below. These include information about the potential saving value, the impact it would have on the Winter Service Policy, when and how this saving could be realised, and what risks there would be to delivery.
4. A summary table follows the detailed options.

Saving option

Salting Routes - Reduction in salting route lengths

5. Saving option:	A reduction in the number of Priority 1 (P1) salting routes would be one of the most effective ways to reduce Winter Service cost significantly. Routes are currently optimised
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	<p>as efficiently as possible, therefore to reduce the number of routes it would be necessary to stop treating some P1 road, to do this a change in policy would be required to change the salting route criteria (see Annexe 1 Section 3.9, page 7 for salting priority criteria in the Cold Weather Plan).</p> <p>There are currently 35 P1 salting routes. To cut any routes for the 2016-17 season a full review of the salting routes would be required to verify the reason it is treated on the P1 network, a decision would need to be made regarding which criteria would no longer be treated. Re-optimisation of all the routes would then be necessary, which has previously taken up to six months.</p> <p>This exercise could not be completed before October 2016, but will be possible for 2017-18 season.</p>
6. Saving value:	<p>£48k reduction in cost for every 54km of Priority 1 network that is removed. (Average route is 54km)</p> <p>£340k savings target = 7 routes cut (or about 380km)</p> <p>There are currently 1,900km of P1 salting routes in total. The data does not currently exist to estimate how many kilometres could be cut by removing each criteria. The Asset Planning Team is undertaking a project to record the criteria against each road. This will enable a consultation on how changing the criteria would impact the routes.</p>
7. Confidence in saving value:	Good confidence in accuracy of £48k cost per route
8. Saving value risk:	Requirement for agreement in change of policy to change P1 criteria
9. Impact on policy:	Requirement for agreement in change of policy to change P1 criteria
10. When saving could be realised:	<p>2017-18 Winter Season. High confidence of delivery.</p> <p>Dates for consultation and delivery still need to be established. The Winter Task Group will meet to progress this.</p>
11. Risks to delivery:	It is important that the ongoing Property Strategy's impact on the depots is considered alongside any route changes. The Property Strategy is timetabled for completion in Autumn 2018 ahead of the 2018-19 winter season.

	<p>Route re-optimisation will be necessary at the conclusion of the depot re-location in 2018. Any route changes for the 2017-18 will require re-optimisation in 2017, therefore this work will be done twice in two years. The cost of the optimisation vs the savings made reducing the routes should be considered. The last optimisation exercise in 2012-13 season cost about £40k</p> <p>The Asset Planning Team are in the early stages of investigating methods of reducing the cost of re-optimisation by undertaking the process in house in future which would aim to significantly reduce the £40k cost of future re-optimisation.</p>
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<p>Saving option Salting Routes – Move to route based forecasting (Thermal Mapping)</p>
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<p>12. Saving option:</p>	<p>At present the county is split into 5 weather forecast domains. This means that salting decisions can be made for 25% of the county if only one domain is considered necessary for treatment.</p> <p>Thermal Mapping uses high resolution infrared thermometers to measure roads surface temperatures across the network through a whole season. Using this data, weather station data and historic data from the last 5 seasons a thermal model is created of the county assigning average road surface temperatures for every road section in Surrey.</p> <p>Route based forecasting groups roads into routes with similar average road surface temperatures. Using the thermal mapping model new routes could be created (re-optimisation) that grouped the coldest roads (on average) into routes.</p> <p>This would allow a move from domain based forecasting (where the minimum number of routes treated is 25% of P1 length) to route based forecasting (where the minimum number of routes treated is one route, or 3% of P1 length)</p> <p>It is estimated that 65% of treatment nights are marginal nights – i.e. nights when some roads could be treated, but equally some could not be. By grouping cold roads together this allows the decision maker to decide not to treat warmer routes.</p> <p>It is important to consider that Kier are the winter decision maker as part of the contract, therefore the risk of whether</p>
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	<p>or not to salt is theirs.</p> <p>Savings would come from reduced salt use (SCC funded) and reduced manpower due to fewer routes (Kier funded under lump sum from SCC). Lump sum adjustments would need discussing were this to progress.</p>
13. Saving value:	An estimated net saving of £150,000 per year based on an estimate from Vaisala account manager of company who provide the service.
14. Confidence in saving value:	<p>Low to medium.</p> <p>A feasibility study is required to understand how the forecast from Vaisala fits with the Surrey model. Data from the last 5 years has been shared with the company to hone this estimate and assess how Surrey measures against other authorities who have used this service.</p> <p>The estimate is based on there being 36 marginal treatment nights in a year. The cost of treatment on those 36 nights is £630,000. If it could be decided not to treat 25% of routes over those 36 nights Surrey (and Kier) would see a saving of £150,000</p> <p>An upfront cost of £115,000 is required to set the thermal mapping and route optimisation up. The £150,000 net saving (above) has had the upfront cost deducted from it.</p> <p>Pending Cabinet approval a business case is being developed to request funding for this activity from the 'Invest to Save' budget</p>
15. Saving value risk:	During a milder or colder winter the savings would be less. Maximum savings would be identified during a winter with more marginal nights.
16. Impact on policy:	None identified
17. When saving could be realised:	<p>2017-18 (providing Vaisala can still resource the thermal mapping in the 2016-17 season – they were still able to as of end July 2016)</p> <p>While some savings might be possible from 2017-18, the full benefit of this work could be realised in 2018-19 season with further re-optimisation of routes when the depot property strategy is completed.</p>
18. Risks to delivery:	Pending further feasibility study and funding.

Saving option
Alternative vehicles – Remove one mini salting vehicle from the fleet

19. Saving option:	<p>Two smaller vehicles capable of accessing narrower streets and roads with width restrictions were introduced to salting vehicle fleet following the bad winters of 2011. These vehicles are employed on two routes that have access restrictions, and in the event of a snow event they would be used to salt restricted access routes.</p> <p>Kier have identified that only one of these vehicles is necessary for treating the P1 salting network, therefore one vehicle could be removed for that purpose.</p> <p>However, were one vehicle removed the post-2011 policy decision to provide these vehicles would not be met.</p>
20. Saving value:	£15,700 would be saved by removing one mini salting vehicle
21. Confidence in saving value:	High confidence in the £15,700 value reported from Kier
22. Saving value risk:	
23. Impact on policy:	Policy would need to change for this vehicle to be removed from service.
24. When saving could be realised:	2016-17
25. Risks to delivery:	The order for this vehicle has already been made by Kier. A negative variation can be made if the decision is made not to use it.

Saving option
Grit Bins Option 1 – Do not fill any bins on the network

26. Saving option:	<p>There are 1,737 SCC maintained grit bins on the network, of which 228 are Member funded.</p> <p>Providing grit bins on the network is part of SCC's Winter Service Policy, but is not a legal requirement.</p> <p>Each summer a survey of the bins is undertaken to</p>
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	<p>identify which bins require filling. In 2015-16 winter season re-filling the bins cost £48,500.</p> <p>Assuming a similar cost this year, this money could be saved by deciding not to fill any of the grit bins.</p>
27. Saving value:	£48,500
28. Confidence in saving value:	This value of £48,500 is based on last year's cost so some positive or negative variation is to be expected.
29. Saving value risk:	If the decision were made to remove the bins from the network then this would incur a onetime cost
30. Impact on policy:	This saving depends on a policy change.
31. When saving could be realised:	2016-17
32. Risks to delivery:	Kier will need 4 weeks to fill the bins once the order is received. Therefore providing a decision is made in early September the bins could be full in early October.

Saving option

Grit Bins Option 2 – Only fill bins that have salt below a certain level

33. Saving option:	<p>Another option is to only fill grit bins that are below a particular salt fill level.</p> <p>As stated above, each summer a survey of the bins is undertaken to identify which bins require filling. The survey is nearly complete and indicates that 80% of bins are >75% full, and only 2% of bins are <35% full.</p> <p>Ahead of the 2015-16 winter season 50% of the bins were visited and filled.</p>
34. Saving value:	£20,500
35. Confidence in saving value:	The value of £20,500 was provided by Kier for filling bins <75% full for the 2016-17 season.
36. Saving value risk:	
37. Impact on policy:	This saving depends on a policy change.
38. When saving could	2016-17

be realised:	
39. Risks to delivery:	Kier will need 4 weeks to fill the bins once the order is received. Therefore providing a decision is made in early September the bins could be full in early October.

Saving option
Grit Bins Option 3 – Increase score criteria for bin to remain on network

40. Saving option:	Grit bins must currently score 100+ points to remain on the network. Bins not meeting the criteria are removed, unless a Member chooses to fund the bin. (As outlined in Appendix F on page 45 of the Cold Weather Plan – Annexe 1 of this report) The required score for a bin to remain on the network could be increased. For example if the requisite score was increased to 120+ then 300 bins could be removed.
41. Saving value:	£17,811
42. Confidence in saving value:	Based on current fill cost of £57.57 per bin for 300 bins
43. Saving value risk:	
44. Impact on policy:	This saving depends on a policy change.
45. When saving could be realised:	
46. Risks to delivery:	

Saving option
District & Borough salt provision - Discontinue provision of salt

47. Saving option:	The Districts and Boroughs hold stockpiles of 40 tonnes of salt for use treating footways during snow events, as detailed in Appendix E of the Highways Cold Weather Plan (Annexe 1, page 41). Each year they are contacted and are provided with salt to top their stocks up to 40 tonnes. Surrey could stop providing this salt. Footway clearance would suffer as a result, unless the Districts & Boroughs were to provide salt.
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48. Saving value:	£10,000 estimated from previous years and based on 2015-16 being a relatively mild winter.
49. Confidence in saving value:	Medium - Some positive or negative variation is to be expected depending how much salt each District or Borough has remaining.
50. Saving value risk:	
51. Impact on policy:	This saving depends on a policy change.
52. When saving could be realised:	
53. Risks to delivery:	

Saving option

Farmers plough maintenance – Do not maintain them this year

54. Saving option:	<p>52 farmers and contractors provide standby ploughing capabilities throughout the winter on a call off basis. SCC provide the farmers with ploughs, and pay to maintain the ploughs each summer ahead of the winter season.</p> <p>The ploughs have not been used for two seasons due to there not being a snow event.</p> <p>Maintenance of the ploughs could be postponed for a year.</p> <p>This would run the risk of some ploughs not performing correctly if called upon.</p>
55. Saving value:	<p>£6000 to service all ploughs</p> <p>It is important to note that emergency maintenance call out in the event of a plough not working during winter would cost much more per plough than servicing ahead of the winter season.</p>
56. Confidence in saving value:	High confidence in the £6000 figure based on previous years. But there is risk of further, greater cost if the ploughs are called upon and do not work correctly during the season.
57. Saving value risk:	As above
58. Impact on policy:	This saving depends on a policy change.
59. When saving could	2016-17

be realised:	
60. Risks to delivery:	

61. Summary table of savings options

Saving Option	Saving value estimate	Possible delivery year
Reduce P1 route length	£48,000 (per route 52km)	2017-18
Thermal mapping/Route based forecasting	£150,000	2017-18
Remove 1 mini gritter	£15,700	2016-17 (possibly 2017-18 if order already committed)
Grit Bin option 1	£48,500	2016-17
Grit Bin option 2	£20,500	2016-17
Grit Bin option 3	£17,811	2016-17
Discontinue D&B salt provision	£10,000	2016-17
Do not maintain farmer ploughs	£6,000	2016-17

Conclusions:

62. As outlined above it will be difficult to make a saving of £340k from the Winter Service budget for the year 2016-17.
63. Savings the size of £340k can only be realised in the next two winter seasons through a change in winter policy.
64. More than 70% of the winter service budget is directly linked to the carriageway salting activity.
65. As detailed in the first two saving opportunities above, the two places the biggest savings could be found are by:
- 65.1 Reducing the treated network length – In particular P1 routes. P2 and P3 routes are rarely treated except in a snow event or particularly cold winter.
- 65.2 Reducing the number of times each route is treated in a season. Significant work has already been done on this in the past, but further options are available by thermally mapping the routes as detailed above

66. The two biggest saving opportunities could not practically be made until the 2017-18 season

Recommendations:

- a. For the Economic Prosperity, Environment and Highways Board to note the content of the task group report and decide whether it wishes to make any recommendations to Cabinet.

Next steps:

To identify any next steps.

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Sources/background papers:

Annex 1- Cold Weather Plan

Annex 2- Winter Task Group meeting notes