

COMMITTEE	Enterprise, Planning and Infrastructure
DATE	21 May 2013
DIRECTOR	Gordon McIntosh
TITLE OF REPORT	Winter Maintenance Operations 2012 - 2013
REPORT NUMBER:	EPI/13/099

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## 1 PURPOSE OF THE REPORT

This report is intended to provide Members with an overview of the strategy that the roads services operated throughout the City during the winter of 2012/13. Members will be aware that the Council budget for 2012/13 for winter maintenance was £1.512M. The final cost was £1.986M.

## 2 RECOMMENDATIONS

- a) to note the contents of this report
- b) to instruct officers to continue with the comparison of other similar urban authorities winter services operations, both in terms of operation and cost
- c) to incorporate, within the Winter Services Plan for 2013-2014, those recommendations in Section 13 of the Well Maintained Highways and any other relevant documentation not already included within the Winter Services Plan 2012-2013
- d) to report back to Committee in August 2013 with the updated Winter Services Plan

## 3. FINANCIAL IMPLICATIONS

This winter was not a “low action” winter as can be seen by the number of gritting actions carried out; these are detailed later in this report. The expenditure exceeded the Council’s Revenue Budget by £474K. The cost of providing the agreed Winter Service is expected to exceed the current budget in all but the mildest of winters. To reflect this, the budget for the financial year 2013/14 has been set at £1.977 M. based on an average winter cost of approximately £2 M.

In order to better explain the cost of Winter Maintenance, it is proposed to provide indicative costs for various operational requirements of the service when the updated Roads Winter Service Plan is submitted to Committee in August 2013.

#### 4. SERVICE & COMMUNITY IMPACT

##### SOA & Aberdeen the Smarter City

1. v,xviii Aberdeen is an attractive place to do business,
- 2.vii Aberdeen will have high quality employment opportunities for citizens
- 3.viii Ensure education is appropriate to pupil needs and ensure pupils leave school with skills essential to living

This report has no direct implications in relation to Equalities & Human Rights Impact Assessment.

#### 5. OTHER IMPLICATIONS

Lack of a Winter Services Plan will put the City at risk of snow and ice related problems and also increase the council's liability to claims for injury

#### 6 REPORT

##### **Background:**

##### **Winter Weather Pattern and Service Delivered**

The start of Winter Maintenance operations was again held back this year in order to achieve part of the approved budget savings. Overnight operations commenced 10 November and early morning operations commenced 19 November. Six early season frosts meant that drivers were required to treat priority routes prior to the start of the early morning operations. The winter period was colder and lasted longer than the previous year. There was at least one snow day in each month from October to March. The number of pre-treatments and early morning treatments was consistently high in December through to March. Road temperatures were at or below freezing on 114 nights, sometimes staying below freezing all day. Additional nights were marginal and required treatment. March was colder and had more snow than the past few years resulting in 6 days of snow operations.

Overall this winter saw many periods of continual changes in temperature, rain leaving wet road surfaces which require treatment prior to the formation of ice followed by the return of the rain, washing off or diluting the residual salt on the road surface.

##### Monthly Actions

Apr '12:	3x pre-salts,	1x early morning operations,	1x snow/ice operations
Oct '12:	2x pre-salts,	3x early morning operations,	2x snow/ice operations
Nov '12:	7x pre-salts,	7x early morning operations,	1x snow/ice operations
Dec '12:	13x pre-salts,	16x early morning operations ,	2x snow/ice operations
Jan '13:	10x pre-salts,	19x early morning operations,	6x snow/ice operations
Feb '13:	8x pre-salts,	17x early morning operations,	5x snow/ice operations
Mar '13:	9x pre-salts,	16x early morning operations,	6x snow/ice operations
<u>Apr' 13</u>	<u>2x pre-salts,</u>	<u>4x early morning operations</u>	
Total	54 pre-salts,	83x early morning operations,	23x snow/ice operations

In order to carry out a comparison with Edinburgh, Glasgow and Dundee Councils, an analysis of their salt usage for this winter was carried out. Each council is allocated a resilience daily salt usage, this equates to the minimum daily amount of salt required to treat their priority routes. Their total salt usage was divided by their resilience daily salt usage to provide an equivalent number of resilience level route treatments. Using this criteria Aberdeen City Council carried out more resilience treatments than any of these other city councils.

114 nights of the winter (approx 76%) saw temperatures at or below freezing. There were additional nights when an intervention was required with temperatures approaching freezing and the forecast confidence for road surface temperatures to stay above freezing was low.

The lowest temperatures recorded by the sensors around Aberdeen were -8.6 °C road temperature on 06/12/2012 and an air temperature of -9.5 °C on 15/1/2013. This compared to minimum figures of -7.1 °C road temperature and -6.9 °C air temperature experienced the previous winter.

## **Staff**

### **Basic Winter Rota Operations**

	<u>Commenced</u>	<u>Finished</u>
Winter Maintenance Co-ordinators	22/10/2012	19/04/2013
Nightshift driver	10/11/2012	23/03/2013
Early morning operations	19/11/2012	24/03/2013
Standby operations	19/11/2012	24/03/2013

Provision for early morning and standby operations had to be continued on an ad-hoc basis to cover winter weather until 11/04/2013, due to continual cold spells it was necessary to continue to monitor forecasts and overnight temperatures until the end of April

The final date when the temperature was below freezing was 13/04/2013.

The Overnight Rota consists of the following resources:

- 1 Winter Maintenance Co-ordinator
- 2 Night Shift Drivers
- 1 Duty Officer

The Early Morning Rota consists of the following resources:

- 8 Early Morning Drivers
- 3 Plant Operators
- 3 Tractor Gritter Drivers
- 2 Kubota Drivers
- 1 Supervisor
- 1 Duty Officer

The Standby Rota consists of:

10 Drivers  
3 Plant Operators  
2 Kubota Drivers  
1 Supervisor  
1 Duty Officer

These operations were for the early morning gritting routes along with Priority 1 footpaths as described in the approved Winter Services Plan. Along with these early morning operations to the priority routes, salting was also carried out to the access roads and car parks at the two park and ride sites.

This basic operating system for staff was carried out throughout the winter but was added to when a forecast of snow or severe ice conditions was received. Two additional overnight drivers were deployed on one occasion to maintain the overnight routes and additional drivers were called in at 4.45 am to assist during extreme conditions. Additional treatment was required on 6 occasions for snow or icy conditions.

### **Footpath Operations**

The priority footpaths, as set out in the Winter Services Plan, were the only routes to be covered as part of the early morning operations. This change in operations was approved by the Policy and Strategy Committee in 2008. Extra early morning resources were however deployed during the most severe weather.

Footpath operations were given additional support by staff from Environmental Services when necessary, hand spreading to footpaths in agreed locations. With over 1200km of footways it was not feasible to have the widespread coverage anticipated by many members of the public. With a further 480 km of remote paths within our Council housing estates requiring treatment the widespread expectation of "black" footpaths and car parks is not achievable during the worst winter conditions

The rate of ploughing and gritting that a Kubota can carry out on footpaths is dependant on several criteria, depth of snow, whether there is ice on the footpaths. Street furniture, poorly parked cars and wheelie bins also make this process slower.

The operation requires a back up team of one pick up plus two staff to work along with two or three Kubotas in order that a continual supply of salt/salt sand can be provided to the spreader.

During extreme conditions and with a full compliment of staff it would take between 8 and 10 days to completely treat all routes. This is not allowing for any return visits to the shopping areas etc during periods of further snow.

## Resources Used

As will be seen from the above the clearing of snow from footpaths is a highly labour intensive operation. In times of severe winter weather operations on footpaths are carried out between 8 and 12 hours a day, gritting and ploughing of roads is a 24 hour operation.

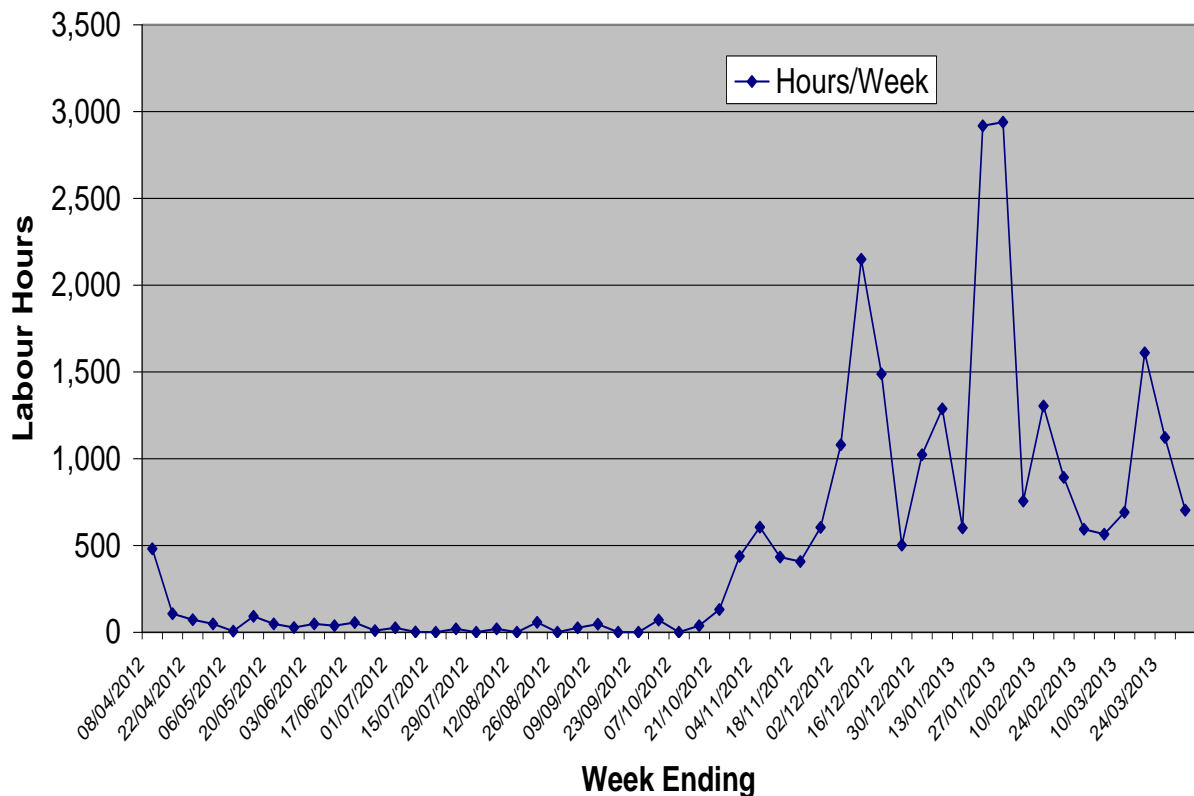
The following labour resource was used during the winter to carry out the operations

West Tullos	45
Culter	5
Bucksburn	30
Ground Services	42

Fleet Services provided on call mechanics who carried out ongoing maintenance and vehicle inspections to the plant during the period

The graph below shows the labour utilised on winter operations throughout the year.

### Winter Labour Resources



This graph does not include resources from Ground Services or Fleet

## **Grit Bins**

Aberdeen City Council provides over 900 grit bins across the city to allow self help for people, whether pedestrian or motorist, who may be stuck, or slipping. As set out in the Winter Maintenance Plan these bins are checked and filled during the period end of October /early November. The operation, which is labour intensive, takes 5 weeks to complete. In total these bins hold around 600 tonnes of salt.

During a normal season operations take place to top up the majority of bins with some needing to be completely refilled.

During severe weather there are not enough resources available to continually refill the existing grit bins and, consequently a limit was approved at Committee on 13 September 2012 to only install 15 new grit bins this year. Roads Operations have been inundated with over 200 requests now awaiting assessment. It would not be sustainable to comply with the vast majority of these requests.

## **1 Tonne Salt Bags**

Aberdeen City Council Roads Service put in place a scheme which allows for the provision of salt and treatment advice to community groups. A press release was issued advertising the proposed issue of 1 tonne bags of rock salt to appropriate groups and locations. This scheme was included in the Roads Winter Services Plan approved at the EP&I committee on 11 September 2012.

Over the winter period a total of 34 Community Groups, expressed an interested in trialing the scheme, 1Tonne bags of salt for self help were seen as an alternative to grit bins on selected streets(See Appendix C for areas within in the City where community groups took up the offer to trial community salt)

This offer was conditional on the Community Group being able to provide a secure location for the 1 tonne bag, accessible to our Hi-ab lorry to allow easy of delivery.

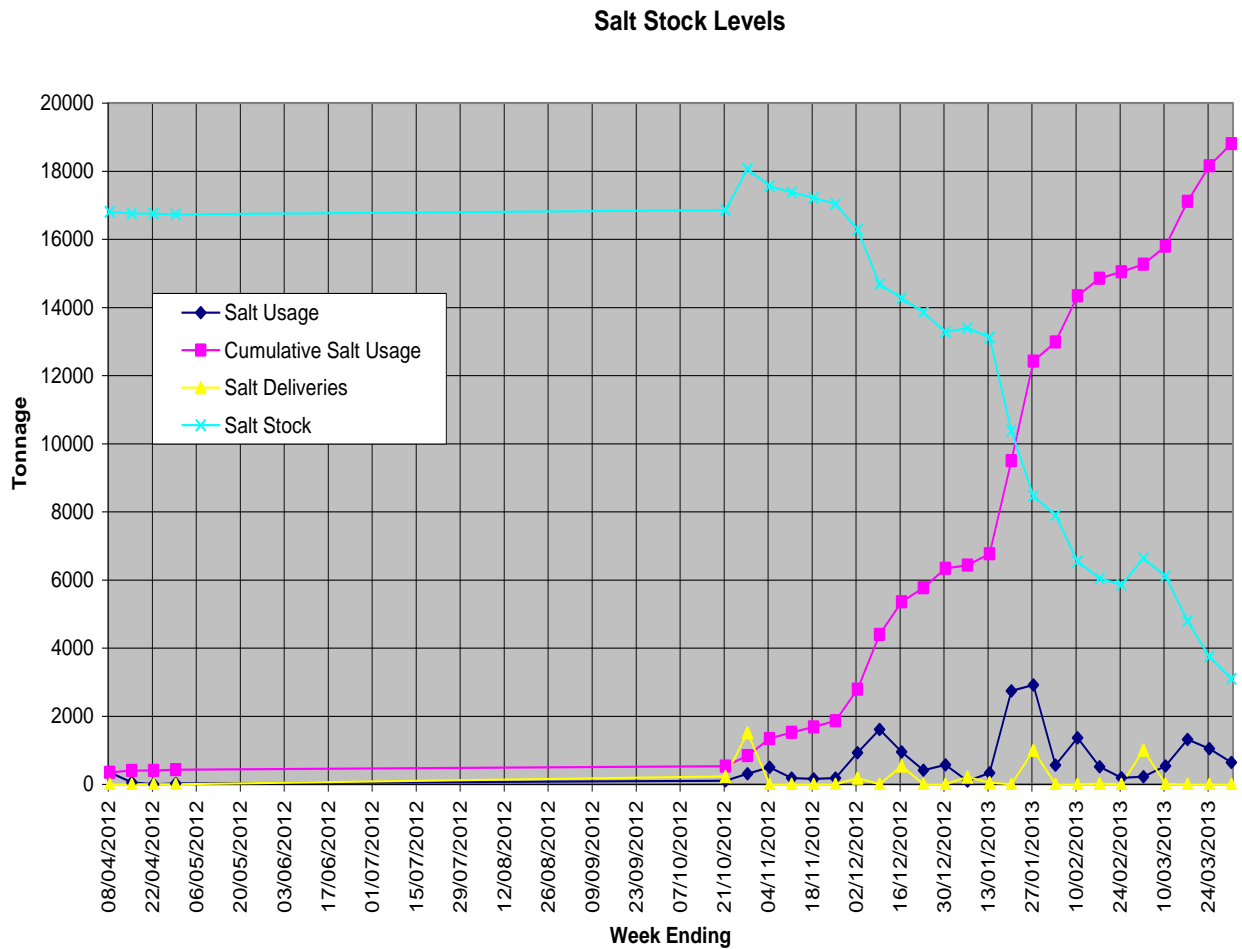
40 x 1 tonne bags of salt in were delivered to Community groups throughout Aberdeen. These groups were surveyed in April on how useful they found the service and if they would use this service again (Appendix B). The recipients were asked to gauge the value of the service with 1 being Poor and 5 being. The majority of those surveyed found the service Very Worthwhile not only for themselves and their neighbours and also for their ability to help those other people who were unable to clear and treat paths around their area.

Any recommendations given by the community groups will be considered and if practicable be included in next years operation.

For next winter it is proposed that those who trialed the service this year will be contacted to enquire whether they wish to continue to receive the service, if so it is intended that the material would be delivered mid October with any residual salt being collected by mid April. It is intended that the service would also be more widely advertised to generate more interest in the scheme.

## Salt:

In April 2012 there were 17,156 tonnes of rock salt in stock. During the year there was 4,745 tonnes delivered and at the end of the winter period 3,100 tonnes were left in stock. This means that a total of 18,801 tonnes were used during the winter period.



## Sand

After previous winters experiences of using sand to assist, and the subsequent problems arising from sand blocking gullies, its use will be reduced and only used if absolutely essential. Weather conditions and salt supplies this winter meant that it was not necessary to use any sand.

## Ecothaw

This is a chemical which is more effective than salt at very low temperatures. This is spread in liquid form and Roads Operations already possessed a vehicle suitable for spreading it. There were occasions that eco-thaw was used this season. Conditions were not severe enough to ascertain how effective eco-thaw will be in conditions of hard packed snow and ice. The equipment used for the trial was problematic. When

the vehicle stopped the eco-thaw continued to flow causing it to appear as an oil spill to members of the public. The eco-thaw also has to be agitated as crystals can form when left for a period of time. It did prove to be effective when used on footways as after a period of time it worked it's way to the surface of the footway which made it easier to be broken up. For next year better equipment for using eco-thaw will have to be researched.

### **Problem Operations**

During the winter period there were very few problems with the majority of roads being kept clear of snow and ice throughout the period.

### **Gritting Fleet**

A list of winter plant is given in Appendix A

As can be seen from on the appendix our gritter fleet is not a new fleet. Fleet Services provided a good service in keeping the machines on the road but there were problems in obtaining spare parts for some vehicles as their age means that spares are not available. Two gritters in the fleet were replaced with gritters hired for the winter period. In addition a gritter was hired for the winter period to replace the oldest of the Trunk Road gritters which Aberdeen City operate for BEAR. These gritters were a welcome boost to the winter operation, as they contributed to an improvement on the downtime for the winter fleet this year.

### **Winter Maintenance Budgets**

<b><u>Year</u></b>	<b><u>Budget</u></b>	<b><u>Spend</u></b>	<b><u>Emergencies</u></b>	<b><u>Spend</u></b>
2005-2006	£1641K	£2218K	£0	£328K
Contingencies	£1000K			
2006-2007	£1641K	£1615K	£300K	£245K
2007-2008	£1641K	£1741K	£300K	£327K
2008-2009	£1590K	£1878K	£0	£288K
2009-2010	£1499K+£500K	£2421K	£0	£0
2010-2011	£1498K	£2195 K	£0	£0
2011-2012	£1512K	£2116K	£0	£0
2012-2013	£1512K	£1986K	£0	£0

(2011-2012 spend includes £65K of storm damage)

### **7 Background Information**

#### **Web Link to Aberdeen City Council Winter Maintenance Plan**

[http://www.aberdeencity.gov.uk/Roads/roa/roa\\_winter\\_main.asp](http://www.aberdeencity.gov.uk/Roads/roa/roa_winter_main.asp)

*In the ACC Website*

*Click on R*

*Click on Roads*

*Click on Snow Clearance*

*Winter Maintenance Plan is available as a download on the right of the page*



## **Web Link to Aberdeen City Council Daily Gritting & Snow Clearing Operations**

[http://www.aberdeencity.gov.uk/Roads/roa/roa\\_winter\\_main.asp](http://www.aberdeencity.gov.uk/Roads/roa/roa_winter_main.asp)

*In the ACC Website*

*Click on R*

*Click on Roads*

*Click on Snow Clearing*

*Click on the link Gritting & Snow Clearing Operations updates*

This area of the website shows the priority gritting routes and is updated during gritting operations to advise the general public of the winter action taking place. This winter, additional information updated daily includes the expected weather conditions and road conditions.

## **Web Link to Well Maintained Highways**

[http://www.ukroadsliaisongroup.org/roads/well\\_maintained.htm](http://www.ukroadsliaisongroup.org/roads/well_maintained.htm)

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## Appendix B

How satisfied are you with the organisation and delivery of the one tonne bags?	How helpful did you find having the one tonne bag of salt?	How would you rate your overall experience of the service?	Would you use the service again?	Feedback
5	4	4	5	email response: I over ordered somewhat - we ended up using some of our own salt and hardly touched the 6 bags!!! less next winter!
5	5	4	5	neighbours used it too
4	5	5	5	improved advertising and staff unsure at start but helpful and everyone in cul de sac used it and none got stuck
			5	email response: Our bag is still half full, but it was well used. members of our community council, were able to clear belonging to old age pensioners, and also outside the Mastrick Church, And routes from local bus stops to the Shop. Local lane in Sheddocksley Drive/Road was also regularly gritted to prevent accidents. Luckily winter has not been too bad but the service is fantastic for the local community, and also helps people to take care and look after the more vulnerable providing a contact point (Checking they are okay in the cold) . To have the bags picked up and returned full in the morning yet another bonus to what has been a really good council initiative. pass on My thanks from the Summerhill/Mastrick community council.
5	4	5	5	road was cleared anyway so didn't use it much
4	5	4	5	arrived at a good time and was used by all neighbours to do their part of the street
				email response: Many Many thanks for this service this year, we have been able to get not just the resident's footpaths salted & made it easier for vehicles coming & going, the police even thanked us at the height of the snow. we have a bit of salt left in our bag & we would like to be on the list for the winter coming up
4	5	5	5	after original organisation and start was very helpful and appreciated by all
5	5	5	5	used by neighbours too and of great benefit to his stretch of street
				email response: my wife and I were delighted with all aspects of this scheme.
5	5	5	5	was very useful as yellow boxes aren't near to property
5	5	5	5	was very helpful but not happy with time for collection as had previously called to ask it to be collected, would like it to be placed on driveway or permanent box at end of his road
5	5	5	5	email response: I found this very useful. Our neighbours use the grit to make our section of the street driveable and appreciated. More advertising of the service might make it more widely used; also perhaps some flyers/leaflets for neighbouring properties advising them of the facility (and rules of use) would be helpful. I also found out recycling buckets/bins were available (for neighbours slightly further along the street) -but was never informed of this.
4	3	4	5	was happy with location next to garages but didn't use the bag
5	5	5	5	was very helpful for themselves and used by the community too
5	5	5	5	was very happy with all aspects and would like to keep the bag for next year

**Appendix C**

