



Memorandum

TO: Mayor Laurel Lunt Prussing and Members of the City Council

FROM: William R. Gray, Public Works Director
John Collins, Operations Manager

DATE: May 11, 2016

RE: 2015/2016 Winter Summary

This past winter season was very mild but not short on precipitation. The season started with the first snow fall on November 21, 2015 and ended with the last measurable snow fall on February 25, 2016. During this time, the Operations Division responded to 11 separate snow or ice related events. According to the Illinois State Water Survey 12.6 inches of snow was recorded during this winter season, with the heaviest snow totaling 3.7 inches falling on February 25th. An average winter snow fall is around 24 inches. Also during this time, Urbana experienced 81 days of precipitation, no record low temperatures, and a record high temperature on December 13th of 62 degrees. During the month of December Urbana received 7.47 inches of rain, an amount which was 4.74 above the average rain fall amount with no measurable snow amount being recorded.

The total cost for addressing the 2015/2016 winter season events was **\$218,074**. Listed below is a breakdown of expenses for the most recent winter season.

Salt*	\$47,675
Salt Brine	825
Calcium Chloride	0
Ice Melt**	883
Employee Hours/Cost	65,086
Employee O/T Hours/Cost	34,700
Equipment Cost	57,245
Contractual Cost	11,660
Total Cost	\$218,074

Salt* This material cost includes salt used by the Mass Transit District, the Urbana School District, and the Urbana Champaign Sanitary District.

Ice Melt** This material is treated salt used at the Parking Deck and on the brick sidewalks at the City Building.

Here are some miscellaneous notes from this past winter season:

Materials consumed

755 ton of salt
3,298 gallons of salt brine
0 gallons of calcium chloride
1,550 pounds of Ice Melt**

Employee and equipment hours

1,547 employee hours worked (164 hours on sidewalks)
933 employee overtime hours worked (21 hours on sidewalks)
1,537 equipment hours

Materials carried over for next season

941 tons of salt
1,700 gallons of calcium chloride

The City's Sidewalk Snow Removal Ordinance was enacted twice this past season. The overall response to and coverage of the affected areas was very good throughout all the Urbana districts.

The Operations Division will continue working to reduce the cost of the City's winter operations; however it has been and will continue to be accomplished in small steps. Taking this approach will ensure that gaps in coverage are minimized to protect the safety of Urbana's citizens, motorists, pedestrians, and the biking community.

This year the Operations Division trained four new employees which included one supervisor, for snow removal and they all did a great job.

Attached is a spreadsheet of the 2015/2016 winter material, equipment, contractual and labor costs for comparison.

For any question regarding items presented in this report, please feel free to contact the Urbana Public Works Department.

9 YEAR SNOW SEASON COMPARISON 2007/08-2015/16

	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
Snowfall in Inches	26.3	18.7	27.1	41	11.4	23.3	43.2	26.1	12.6
Number of Snow/Ice Events	17	30	22	16	13	15	26	12	11
Plowing Events	4	5	5	7	1	4	9	8	4
Salting Only Events	13	25	17	9	12	11	17	4	7
Salt Usage in Tons	1,500	1,508	2,868	2,286	772/850*	755/817*	2149/2296*	1149/1263*	671/755*
Salt Usage Per Inch of Snow in Tons	57	81	106	56	68	32.4	50	44	53
Salt Cost per Inch of Snow	\$2,166	\$5,231	\$7,079	\$3,730	\$5,047	\$2,193	\$3,334	\$2,652	\$3,784
Total Salt Cost	\$56,962	\$97,822	\$191,841	\$152,911	\$57,537	\$51,106	\$144,025	\$69,262	\$47,675*
Salt Brine In Gallons				25,515	15,444	12,665	7,730	3,750	3,298
Salt Brine Per Inch of Snow				622	1355	135.9	179	144	262
Salt Brine Cost per Inch of Snow				\$156	\$339	\$34	\$45	\$36	\$66
Total Salt Brine Cost				\$6,379	\$3,861	\$3,166	\$1,933	\$940	\$825
Calcium Chloride in Gallons	7530	6,315	3,864	5,850	1500	0	5,230	4,194	0
Calcium Chloride Usage Per Inch of Snow	286	338	143	143	132	0	121	160	0
Calcium Chloride Cost Per Inch of Snow	\$123	\$161	\$93	\$97	\$89	\$0	\$79	\$115	\$0
Total Calcium Chloride Cost	\$3,238	\$3,009	\$2,512	\$3,978	\$1,020	\$0	\$3,400	\$3,001	\$0
Ice Melt in Lbs.	6,500	7,000	3650	4,750	3220	2,820	4,400	4,555	1,550
Ice Melt Usage Lbs. Per Inch of Snow	247	374	135	116	282	121	102	175	123
Ice Melt Cost Per Inch of Snow	\$89	\$139	\$54	\$46	\$113	\$48	\$41	\$100	\$70
Total Ice Melt Cost	\$2,340	\$2,598	\$1,460	\$1,900	\$1,288	\$1,128	\$1,760	\$2,610	\$883
Employee Regular Labor Cost	\$128,236	\$91,482	\$81,031	\$123,733	\$31,286	\$88,418	\$138,561	\$62,736	\$65,086
Employee Overtime Cost	\$51,914	\$40,253	\$66,198	\$95,038	\$26,390	\$56,806	\$153,600	\$88,748	\$34,700
Employee Cost Per Inch of Snow	\$6,850	\$7,045	\$5,433	\$5,336	\$5,059	\$6,233	\$6,763	\$5,804	\$7,919
Total Employee Cost	\$180,150	\$131,735	\$147,229	\$218,771	\$57,676	\$145,225	\$292,161	\$151,484	\$99,786
Equipment Cost	\$90,440	\$77,380	\$133,482	\$158,864	\$42,363	\$94,326	\$243,629	\$118,098	\$57,245
Equipment Cost Per Inch of Snow	\$3,439	\$4,138	\$4,926	\$3,875	\$3,716	\$4,048	\$5,640	\$4,524	\$4,543
Contractual Cost	\$5,520	\$4,947	\$8,724	\$10,674	\$3,873	\$16,176	\$25,903	\$15,350	\$11,660
Total Cost for Winter Operations	\$338,650	\$317,491	\$485,248	\$551,577	\$167,618	\$315,323	\$712,811	\$364,917	\$218,074*
Total Cost Per Inch of Snow	\$12,876	\$16,978	\$17,905	\$13,453	\$14,703	\$13,533	\$16,500	\$13,982	\$17,307*
* This includes salt used by the C-U Mass Transit District, Urbana School District and the Urbana Champaign Sanitary District									
Salt Brine was not used prior to the 2010/2011 Winter Season									