



DuPage River Salt Creek Workgroup

# Snow and Ice Operations in Carol Stream



Jason Pauling – Street Supervisor



# Facts about Carol Stream

- › POPULATION OF **40,609**
- › ESTIMATED **220** LANE MILES
- › APPROXIMATELY **300** COURTS
- › **28** Operational Employees
- › **16** Routes
- › **32** Pieces of Equipment
- › Contractor Assistance in the Courts

# Significant Areas Requiring Attention

## › Equipment

- Spreaders and spreader controls
- Loading and unloading salt
- Anti-icing liquid production and application

## › Training Training Training

## › Monitoring

- Equipment doing what we want?
- Drivers following the plan?

# Significant Areas Requiring Attention

## › De-brief

- How did we do?
- What worked? What didn't work?

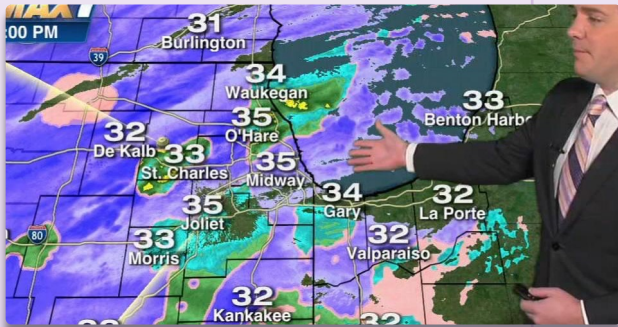
## › Try New Things

- Learn from neighbors and other professionals
- Listen to your drivers

## › Communicate

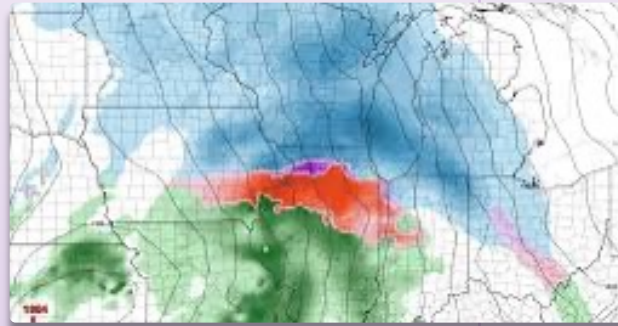
- What are we doing and why are we doing it?
- Employees, elected officials, residents, businesses

# GAME PLAN VARIOUS SCENARIOS



## Rain/Snow?!?!

- Know in advance what strategies to employ under various weather scenarios to avoid making rash or uniformed decisions.
- Pre-storm, confirm the best approach and communicate the plan



## Freezing Rain?!?!



## All Snow?!?!

How do we know how much salt is going into each truck?

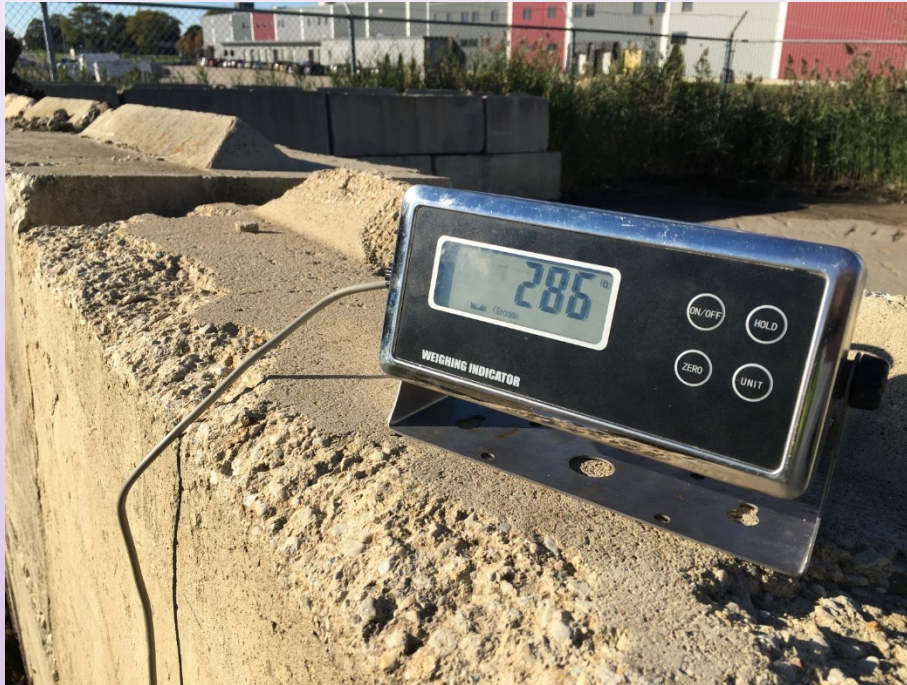
And how do we know how much gets dumped out of a truck post-storm?

**Measure it!!**



**OLD SCHOOL**

Loader Scale helps track  
salt in/out of each truck





Refresh

Week ▼

02/07/2022

02/13/2022

Report Models ▼

Loads v1 | 2/7/2022 | 2/13/2022 | Carol Stream (Service)

[Clipboard](#) [CSV](#) [Print](#) [Columns](#) [All rows](#) [Clear rows](#) [Edit](#) [New](#) [Remove](#) [Default view](#)

Showing 1 to 22 of 48 entries Click a row to select

Scale day ⌵⌴	Time ⌵⌴	Weight ID ⌵⌴	Weight ⌵⌴	Owner ⌵⌴	Scale ⌵⌴	Product ⌵⌴	Customer ⌵⌴	Reference 1 ⌵⌴	Reference 2 ⌵⌴	Reference 3 ⌵⌴	Reference 4 ⌵⌴	Reference 5 ⌵⌴	Scoop ⌵⌴
02/07/2022	7:54:00 AM	2298	3.240		80-444H-589269	salt	Kosnik	74		Undefined	Undefined	Undefined	Bucket
02/07/2022	8:08:00 AM	2299	2.940		80-444H-589269	salt	Kosnik	78		Undefined	Undefined	Undefined	Bucket
02/07/2022	8:29:00 AM	2300	1.570		80-444H-589269	salt	Kosnik	41		Undefined	Undefined	Undefined	Bucket
02/07/2022	8:46:00 AM	2301	2.650		80-444H-589269	salt	Kosnik	School Dist		Undefined	Undefined	Undefined	Bucket
02/07/2022	8:52:00 AM	2302	3.010		80-444H-589269	salt	Kosnik	82		Undefined	Undefined	Undefined	Bucket
02/07/2022	9:06:00 AM	2303	5.110		80-444H-589269	salt	Kosnik	83		Undefined	Undefined	Undefined	Bucket
02/07/2022	9:14:00 AM	2304	2.880		80-444H-589269	salt	Kosnik	73		Undefined	Undefined	Undefined	Bucket
02/07/2022	9:23:00 AM	2305	0.900		80-444H-589269	salt	Kosnik	88		Undefined	Undefined	Undefined	Bucket
02/07/2022	9:42:00 AM	2306	5.930		80-444H-589269	salt	Kosnik	84		Undefined	Undefined	Undefined	Bucket
02/07/2022	9:56:00 AM	2307	1.510		80-444H-589269	salt	Kosnik	79		Undefined	Undefined	Undefined	Bucket
02/07/2022	10:34:00 AM	2308	2.050		80-444H-589269	salt	Kosnik	72		Undefined	Undefined	Undefined	Bucket
02/07/2022	10:38:00 AM	2309	2.670		80-444H-589269	salt	Kosnik	46		Undefined	Undefined	Undefined	Bucket
02/07/2022	10:49:00 AM	2310	1.350		80-444H-589269	salt	Kosnik	47		Undefined	Undefined	Undefined	Bucket
02/07/2022	10:59:00 AM	2311	2.360		80-444H-589269	salt	Kosnik	50		Undefined	Undefined	Undefined	Bucket

Truck	Employee	Load #1	Load #2	Load #3	Load #4	Load #5	Load #6	Load #7	Dumped	Total Used
6		2.55								2.55
22		6.73							3.44	3.29
32		2.16								2.16
41		12.96							8.93	4.03
46		2.67							2.67	0
47		2.48							1.35	1.13
50		2.41							2.41	0
71										0
72		3.81							2.05	1.76
73		5.73							2.88	2.85
74		5.64							3.24	2.4
75		5.68							0.77	4.91
78		5.68							2.94	2.74
79		5.64							1.51	4.13
82		6.43							3.01	3.42
83		7.45							5.11	2.34
84		7.91							5.93	1.98
88		8.93							0.9	8.03
TOTAL		94.86	0	0	0	0				47.72

# CREW OF 2 MAKES THE BRINE AT A CONSISTENCY OF 23.3%

**OLD SCHOOL**



**VARITECH SB600 – 3600 GPH**



# 3 OF 5 ANTI-ICE UNITS WE DEPLOY TO APPLY TREATMENT


















Through addition of equipment and reducing choke points in production, loading and application, we can anti-ice every street (including courts) in one full day (down from 2.5/3 days)

Be precise in where, when and how to apply salt. **Smart** salt usage translates into **reduced** salt usage.



**Trickle Effect – Continuous salting at a low rate just down the crown to keep the brine effective and prevent bonding.**

# PAVEMENT TEMPERATURES DICTATE PLAN OF ATTACK AND MAY CHANGE AS CONDITIONS DEVELOP

Weather Condition															
Weather	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Sunny	Sunny
Temperature (°F)	44	43	41	40	39	38	37	36	35	34	33	32	31	34	38
Feels Like (°F)	40	39	37	36	35	34	33	32	31	30	29	28	27	34	38
Wet Bulb Globe (°F)	40	39	38	35	35	34	34	33	32	31	31	30	29	31	34
Wind Direction	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NNW	NNW	NNW	NW	WNW	WNW	W
Wind Speed/Gusts (mph)	7	6	6	5	5	3	LV	LV	LV	LV	LV	LV	LV	LV	3
Dew Point (°F)	27	27	28	28	28	29	29	29	29	27	27	27	26	27	27
Humidity (%)	51	53	60	62	65	70	73	73	76	78	78	82	82	76	65
Precipitation Chance (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precipitation Type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precip Amount (Rain in, Snow in)	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
24 Hr Snow/Ice Accum (in) (7 PM-7 PM)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blowing Snow Potential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Temp (°F)	46	44	42	41	39	38	37	36	35	34	33	32	31	32	36
Road Temp (°F)	45	43	41	39	37	35	34	33	31	30	28	28	27	29	40
Bridge Frost Probability (%)	0	0	0	0	0	0	0	0	0	0	0	20	20	20	0
Pavement Frost Probability (%)	0	0	0	0	0	0	0	0	20	30	50	70	70	40	0
Treatment															



# Truck Equipped with a (home-made) chute



# ALL-LIQUID APPLICATION


Under certain conditions all-liquid application is effective and reduces salt



# LIQUID APPLICATION RESULTS



# Getting the Message Out!

 Village of Carol Stream  
Oct 20, 2021 • 🌐

At this week's Village Board Meeting, our Street Supervisor Jason presented the 2021-2022 Snow & Ice Plan. This plan supports an "open-road" policy, which is intended to make all streets (220 lane miles and over 300 courts) passable no more than eight hours after the last snowflake falls. To learn about our [#SnowBusters](#) efforts, check out the reso... See More



Board Meeting

 Village of Carol Stream  
Jan 5 • 🌐

Public Works crews have been out this morning salting roads and clearing back drifts due to the high winds and light snow. They will be deployed again this afternoon to do another salt run and push back any drifts. Winds are not supposed to die down until the overnight hours so we expect we will have to repeat the process again tomorrow morning.

📢 With temperatures dropping to the single digits overnight salt becomes less effective, so please use caution while driving.

[#WeatherCommandCS](#)



Social Media



Village Managers  
Office