



Snow and Ice Control

Department of Public Works

Committee of the Whole
February 5, 2024

Snow and Ice Control

Goal and Priorities

Goal

Provide safe travel throughout the city by the removal of snow and ice by brining, salting and/or plowing.

Priorities

1. Main (thoroughfares) Streets
2. Residential Streets
3. Alleys
4. Dead-ends, cul-de-sacs, safety islands, sidewalks, parking lots...



Department Responsibilities

	Locations	Lane Miles	# of Routes
Main Thoroughfares		45	15
Residential		140	31
Alleys		44	5
Dead Ends	28	2.5	
Cul-De-Sac	30	2	
Public Sidewalks	140	10	
City Parking & Muni Lots/Open Spaces	35		
Safety Islands	75		
Bridge/walk areas	15		
Bus Stops	285		
Fire Hydrants near City Properties	46		



Equipment

Type of Equipment	Plow	Salt (Spread)	Brine	Haul	#	Notes
Dump Truck (Large)	x	x	x	x	1 1	Salt spreader/brine tanks must be removed before it can be used for hauling
Dump Truck (small)	x	x	x	x	9	Single and tandem, provide plowing, hauling, scraping, spreading operations.
Pickup Truck	x				7	4x4, turning radius, small areas. Light plowing.
Garbage/Recycling Packer	x				1 5	Primary refuse/recycling, turning issue-radius, long, not efficient.
Front End Loader	X				8	Used mains, residential and alleys
Bobcat Toolcats All Terrain	x	x	x		3	Used only for sidewalks and smaller paved areas
200 Series Dump	x	x			9	4x4 with plow and small salter. Dead ends and alleys when needed, parking lots.

Weather and Planning

Types of Winter Storms:

Sleet, ice, snow, -lake enhancement

Important Weather Factors:

- Start/end of precipitation.
- Type of precipitation.
- Total accumulation of precipitation.
- Event duration.
- Temperature before, during and after storm.
- Wind conditions (speed, gust).
- Surface Temperature.

Weather Sources:

National Weather Service – Sullivan (National Oceanic and Atmospheric Administration - NOAA).

Other factors:

- Time of day. (rush hour, during day/night).
- Day of week.
- Action-before, during and after.

Pre-event

- Monitor weather and prep accordingly to forecast.
- Verify equipment and staff availability-multiple divisions.
- Winter watchperson assigned to monitor after work hours.
- Determine plan of action: brine, salting operation, salting and plowing-driving lanes or curb to curb, re-plow legally parked vehicles, hauling of snow/clean up.
- Provide updates through social media.



Salt and Brine Information

Advantages

- Brining helps prevent snow and ice from bonding to streets. This makes it easier to plow.
- Brine also allows us to use less salt. This is better for the environment.

Considerations

- Depends on temperature, rain, humidity and other factors.
- Works best above 20°F with less than 1 inch of snow.
- The liquid helps salt activate faster to start melting. It also means less salt gets scattered.



Brining Video



Snow and Ice Control

General Information

- Plowing before salting makes the salt work more effectively.
- A salt/sand mix is used on alleys and residential areas when temperature is below 20 degrees.
- Compacted, bonded snow is hard to remove with salt or scrapers.
- Only dump trucks can spread brine with salt. Packers can't spread salt when plowing.

Full Plow Operation

- 70+ of our 110 employees work during big storms, across all divisions.
- Long storms mean scheduling shifts and breaks.
- Some regular services continue too, which limits plow staff.
- Inventory procures parts and fuel.
- Fleet repairs vehicles and prepares equipment.
- The goal is keeping services going while deploying plow resources effectively.



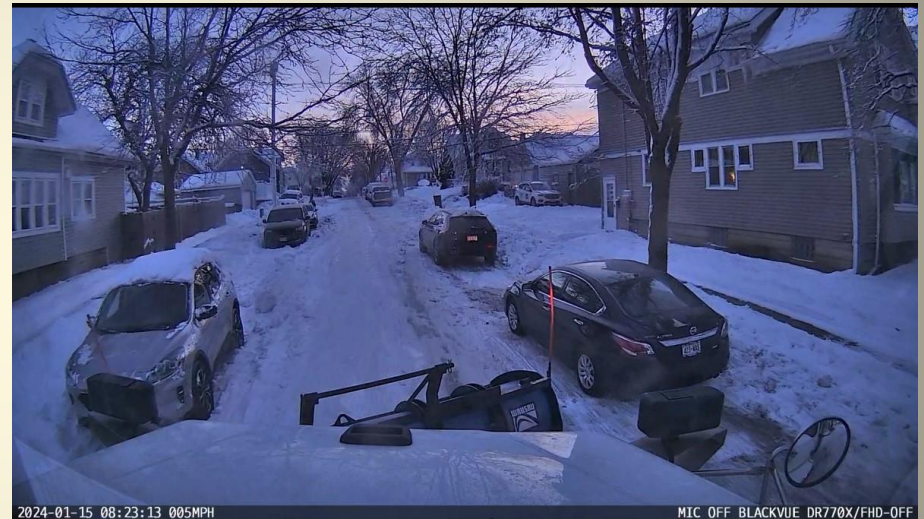
Internal Challenges

- **Duration:** Long duration storms-lake enhancement is unpredictable.
- **Residential Streets:** Provide intermittent plowing in residential and alleys during heavy storm.
- **Staffing:** Staff and equipment levels will not provide service levels to all areas of concern at one time-shifts/set priorities. Staff availability for plowing operation-hours worked, quick shift changes requested.
- **Inexperienced plow drivers:** 40% of current staff with 3 years or less snow plowing experience.
- **CDL Guidelines:** Hours on duty per CDL restricts ability to continue services.
- **Special Requests:** Special requests during and after plowing operation by citizens takes additional time away from operation.
- **Other Emergency Events:** Other infrastructure emergencies such as water main breaks, tree damage, power outages (traffic control), downed signs, etc. These events take staff away from plowing operations.
- **Other plowing:** Street, alley, sidewalk, municipal parking lot, safety islands, bus stops. 400-500 miles required for all responsibilities.



Snow Emergency Parking

- Unless a Snow Emergency has been declared, regular night time parking regulations are in force.
- Declaration of Emergency.
 - The Public Works Director may declare a “snow emergency” do this when falling or predicted snow on streets puts safety and welfare at risk.
 - When declared, no parking is allowed on [33 main streets/major thoroughfares.](#)



[§10.11 Snow Emergency Regulations](#)



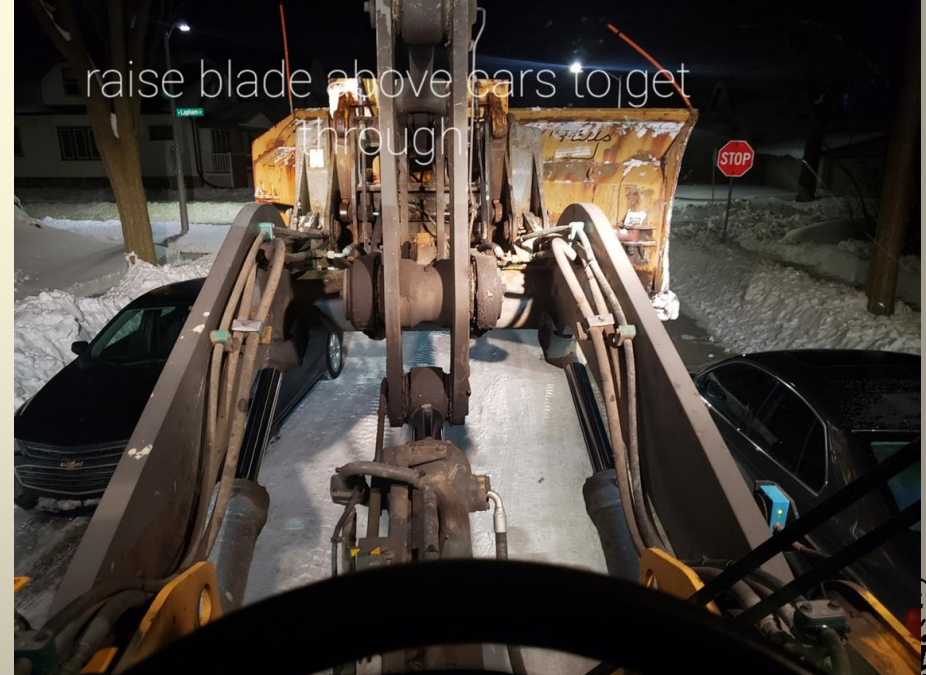
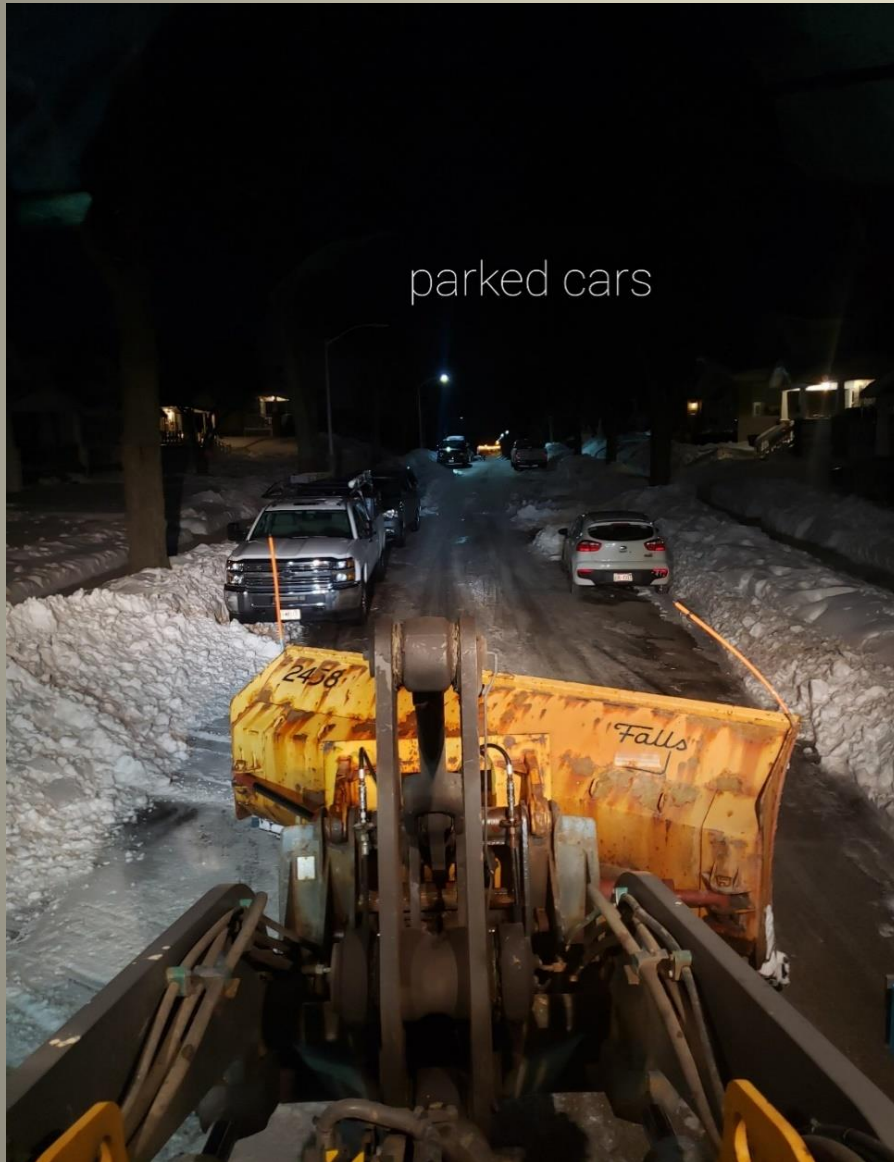
Snow Emergency Side Street Parking

With overnight parking permit, vehicles may park on each street that is not an emergency thoroughfare only in the manner described in the table below.

Parking vehicles before midnight, park on the side of the street that matches the current date. Those parking after midnight will have to identify the date prior to midnight.

Park on Even Side of Street	Park on Odd Side of Street	Park on Either Side of Street
From 12:00 a.m. to 2:59 p.m. if the previous day was an even-numbered date.	From 12:00 a.m. to 2:59 p.m. if the previous day was an odd-numbered date.	From 3:00 p.m. to 11:59 p.m. every day.

Snow and Ice Control Challenges



Common Questions

Q. Do we plow and salt all the streets in the City?

A. It depends on the amount of snow. Main thoroughfares are considered priority and will receive more materials due to maintaining access for emergency access.

Residential areas and alleys will be treated after the mains are completed.

Residential/alleys are addressed intermittently during a large storm to increase accessibility.

Q. Will the snowplow ever completely clear my residential street down to bare pavement?

A. No. The goal for the City is to allow for safe passage to get to the main thoroughfares. Due to high vehicular traffic and the length or volume of the snow event, the snow may become compacted onto the street.

Q. Why is my street always plowed last?

A. The City's residential plowing area is divided into 39 residential sections. It takes approximately 6 hours to plow each section depending on amount of snow, duration of, equipment functionality and staff.

The routes for each section are designed to plow efficiently by eliminating unnecessary left turns, crossing traffic, etc.

Common Questions

Q. I only have on-street parking. Why do you always plow snow against my vehicle?

A. Even though there are cars parked on the streets, plows still need to fully clear the driving lanes. The snow gets pushed to the right side against the curb. This means snow ends up piled against any cars parked along the street.

Tip - If you are able, keep vehicles in driveways or garages or find alternative off-street parking until plowing is fully finished on your street. This will prevent heavy snow buildup around parked cars from the necessary work of our plow crews.

Q. What can I do about snowplows that block my driveway with snow?

A. To make the roads passable, snowplows have to push snow off to the sides of the road. Unfortunately, that means they leave snow piles at the end of driveways and on sidewalks. Our plow drivers take several passes to clear the full street width, which might drop more snow after you've shoveled. Plowing streets fully results in snow piles, but our crews work hard to reduce the cleanup needed.

Tip - To reduce how much you must shovel, we suggest shoveling snow to the right side of your driveway when facing the street.



What can residents do?

Tips

- Sign up for notifications to know when there is a Snow Emergency.
- Keep vehicles in driveways or garages or find alternative off-street parking until plowing is fully finished on your street.
- Shovel snow to the right side of your driveway when facing the street.
- Assist neighbors, especially elderly and disabled, in clearing their snow.
- Use main streets until secondary streets are plowed and leave distance for braking.
- Be patient, our dedicated crews are doing their best to ensure that they safely and efficiently remove the snow despite the long hours required to do so.

Requirements

- Park legally and follow winter and Snow Emergency parking rules to allow best curb clearing. Park farther from intersections for equipment access.
- Clear sidewalks within 24 hours after snowfall.
- Do not move snow back into streets.
- Corner properties must clear sidewalks on both streets and all crosswalk areas.
- Clear snow/ice around and on top garbage and recycling carts for safe access. Carts may not be collected if crews can't access.
- Clear snow and ice away from fire hydrants to keep them accessible.

Questions?

