



Mobility & Safety

Winter Snow & Ice Control Program



**Department of Public Works
General Services Division
City of Salina, Kansas
Website: www.salina-ks.gov
Phone: (785) 309-5725**

INTRODUCTION

Due to its geographic location, Salina, Kansas is subject to freezing rain, ice and snow at any time during the fall, winter and spring months. Winter storms may occur from November through March.

During snow and ice conditions, the Department of Public Works, General Services Division is responsible for the “mobility and safety” of the traveling public.

The following is a summary of the City’s snow and ice control program. Considerable time and effort is spent planning and preparing prior to the actual snow and ice removal season. A separate detailed Winter Snow Plan manual is maintained by the Department of Public Works/General Services for it drivers and shift supervisors to fully describe snow and ice control procedures.

PLANS AND PROCEDURES

The City snow removal operation is contained in the Winter Snow Plan manual. This manual is updated annually to account for new streets and any changes made to the overall street system. It calls for snow plowing to begin after accumulations have reached a level where effective plowing can occur. The first responsibility of the General Services Division is to clear priority roads, the main arterial streets, (like Ohio, 9th, Crawford, and Magnolia, etc.) so emergency vehicles can reach all areas of the community.

Once priority roads are cleared to an acceptable level, crews turn their attention to collector streets (like Quincy, North, South, and Oakdale, etc.) Collector streets connect residential streets to arterials. In most situations arterial and collector streets are plowed multiple times before crews enter residential areas.

Snow crews closely watch four-way intersections, hills and bridges for build-up of snow and ice. Salt and Magnesium Chloride ($MgCl_2$) is spread according to the conditions present. Those areas holding the greatest threat for accidents during a snow storm receive the most attention from City snow crews.

After the arterial and collector streets are cleared to an acceptable level, then residential streets are plowed as time permits. Residential streets are provided one pass in each direction (approximately 16’) to create an acceptable travel way and permit access of emergency vehicles.

Many factors affect road conditions and the ultimate cost of clearing streets. Wind and temperature are two such conditions. Moisture content, the time of day and whether or not snow falls on existing snow or ice-covered roads also have an effect.

PREPARATION

City crews begin preparing winter operations in September and October each year. Salt spreaders are inspected and recalibrated as necessary, the $MgCl_2$ is ordered and all snow equipment is tested and, if necessary, repaired. Drivers practice mounting plows and salt spreaders, changing plow blades and other required tasks during this time.

TRAINING

City crews run an obstacle course in September and October each year. The course reminds operators that driving a truck with front-end equipment requires a higher degree of care and skill than ordinary vehicles. The course is designed to improve the operator's skills in maneuvering the vehicle with a snowplow attached to the front of the truck. In addition, operators must be comfortable with using both side rearview mirrors.

INITIAL MOBILIZATION AND MEDIA OUTREACH

Snow is an inconvenience and can be a hazard for everyone. During a heavy storm, employees from many different Public Works divisions are pressed into action to get City streets cleared as soon as possible. Other Departments such as the Department of Parks and Recreation provide help with clearing snow from sidewalks at City facilities, recreational areas, the corners of the downtown business district, the downtown arcades, and the downtown brick alleys. During winter snow or ice conditions, City crews continue working 24 hours a day. Employees are divided into two shifts, each working twelve hour rotations until City streets become passable and safe.

As part of the forecast assessment prior to initial mobilization of crews for pre-treatment or plowing operations, the Operations Manager will contact the City Manager, the Directors of Public Works, Police, Fire, and Parks and the Media Coordinator via email, phone call and/or text message to relay the status of the storm and City crew responses. Updates will be provided as operational thresholds are met that signal a change in operations including initial mobilization, changing from pre-treatment to treatment operations or treatment to plowing operations, changing from plowing operations to snow collecting windrows downtown, and finally to termination of the City's response.



CHEMICAL AND ABRASIVE TREATMENT

The first step in snow and ice control is spreading road salt and $MgCl_2$ on priority routes where traffic congestion may occur when icy conditions develop.

Road salt will be used to melt snow and will help prevent the bonding of compacted snow to the pavement. $MgCl_2$ is mixed with road salt to increase its melting capacity of both snow and ice, and it helps the road salt adhere to the roadway.

The City realizes the use of chemicals and abrasives can impact long-term environmental quality. Therefore, crews only apply the amounts needed for adequate snow and ice treatment. Crews calibrate each of the salt/ $MgCl_2$ spreaders to distribute only the amount of material necessary.



SNOW PLOWING

Typically, after snow accumulation has reached a depth of several inches and has become “mealy,” crews are directed to begin plowing operations. In most cases, arterial streets are plowed first. These streets provide access throughout town for emergency vehicles and handle the most traffic volume. Collector streets are then plowed. Residential streets are plowed as time permits.

Ongoing assessment of snow accumulation on lanes, at intersections and bridges and on arterials and collector streets is critical in knowing when the deployment of snow plows needs to be initiated. The general rule is when snow starts to accumulate to 1.5” on arterials and collector streets and temperatures are expected to remain below freezing for the next 12-hour period, minimally the following streets will be plowed:

- Ohio Street
- 9th Street
- Belmont Boulevard
- Crawford Street
- Magnolia Street

Snow accumulations greater than 1.5” will result in crews plowing all arterials and collector streets. Snow accumulations greater than 2” or greater will result in crews plowing arterials, collectors, and residential streets.

DOWNTOWN

The Downtown Business District will have snow windrowed in the center of the streets. Downtown parking lots will be plowed with the snow piled in corners. The snow will be removed from these areas as time permits.



RESIDENTIAL SNOW AREAS

Residential snow areas include streets that are lower volume with slower speeds. These areas generally receive a lower level of service due to limited resources. However, City snow maintenance practices for residential areas includes a provision for pretreatment when a snow or ice storm is likely, which provides a single application of road salt and MgCl₂. The plowing of residential areas begins after the accumulation of 2 inches or more of snow fall and only after the plowing of priority snow routes is complete.



LEVELS OF SERVICE

The City of Salina maintains 746 lane miles of roadway. These include arterial roadways (142.5 lane miles), collector roadways (79 lane miles), residential or “local” roadways (504.3 lane miles) and park roadways (20.2 lane miles). Salina’s roadways are classified and prioritized by street function, street location, street characteristic, traffic volume, and importance to the community. Roadway classifications for snow and ice control operations are either priority roadways (arterial and collector streets) or residential area roadways. Priority roadways are treated first during a winter weather event.

Prioritizing roadways allows for more efficient use of snow and ice control resources and ensures an objective and citywide approach. Prioritizing roadways allows public safety vehicles access to most parts of the City.

This Snow & Ice Control Plan does not intend that City crews remove all snow and ice accumulations from all City streets. When conditions are favorable, streets will be de-iced to the bare pavement. However, this level of service is not feasible during most of the winter due to the need to service many lane miles and continually plow and de-ice road sections. Providing a higher level of service on all City streets would involve a commitment of resources and funding that is currently not feasible. In accordance to this plan, City snow and ice control operations practices for residential area roadways begins after the accumulation of 2 inches or more of snow fall (for plowing operations) or when icing occurs (for road/salt/MgCl₂ application).

SALT & MgCl₂ APPLICATION RATE GUIDELINES

1

Rain/Sleet/Snow
Temperature (32° and above)

Arterials
200lbs *without* Mag.

Collectors
200lbs *without* Mag.

Residential
200lbs *without* Mag.

2

Snow (< 2”)
Temperature (31° or below and falling)

Arterials
300lbs *with* Mag.

Collectors
300lbs *with* Mag.

Residential
300lbs *with* Mag.

3

Snow (2” or more)
Temperature (32° and above)

Arterials
200lbs *without* Mag.

Collectors
200lbs *without* Mag.

Residential
300lbs *without* Mag.

4

Snow (2” or more)
Temperature (31° or below and falling)

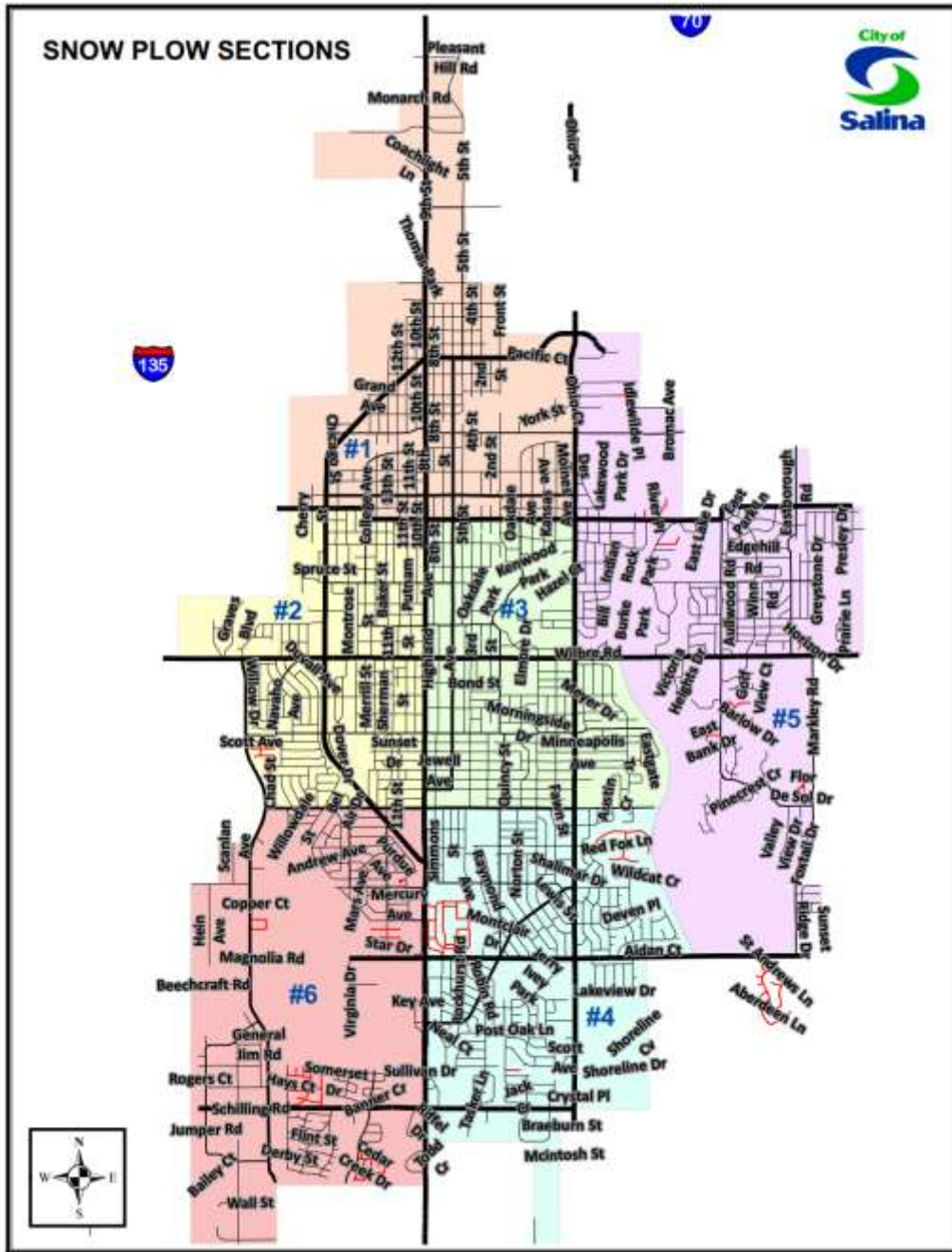
Arterials
200lbs *with* Mag.

Collectors
200lbs *with* Mag.

Residential
300lbs *with* Mag.

PRIORITY SNOW ROUTES

The City of Salina has designated 221.5 lane miles as priority snow routes. Most resources are first devoted to making priority routes accessible since they carry the greatest number of motorists. These must be clear for emergency, fire, police, and transit vehicle access, and to protect public safety. The City intends to keep these routes open to traffic. However, it may not be possible to keep them free of snow and ice.



WEATHER MONITORING

Each year, before the winter season, the Operations Manager and Street Superintendent review the contract with the City's weather forecasting service. Factors are cost and the service's ability to provide vital planning information such as air and pavement temperatures, precipitation type, storm arrival time, event duration, and expected snowfall accumulation rates. The service includes 24/7 alert notification, 24-hour meteorologist availability, daily forecasts, and post-weather event summaries. *Weather or Not, Inc.* is currently the forecasting service provider for the City of Salina.

Pavement conditions are monitored by *Weather or Not, Inc.* at various locations throughout the City. Conditions monitored include air and surface temperatures, wind speed, hourly precipitation and up-to-date radar images to aid in forecasting and decision making. City staff also use several weather apps that provide National Weather Service urgent storm warning notifications that include winter weather watches and warnings.

DAMAGE RESPONSE

Report suspected mailbox damage to General Services at (785) 309-5750. City staff will investigate the damage claim, notify the City Risk Management office and install a temporary mailbox. Upon verification of the claim, the City may reimburse the reasonable cost of replacement. Residents may contact Risk Management at (785) 309-5705 for further information.

Report suspected property damage to General Services at (785) 309-5750. Requests are evaluated and prioritized for repairs based on roadway safety and severity of the damage.

The City does not remediate damage to sprinklers or personal property in the right-of-way. The City is not responsible for damage to basketball goals, sprinklers, or other structures left in the street or right-of-way. These items should be placed at least ten feet from the street curb to allow for proper removal of snow from the roadway. Items placed in the street may be a City Code violation and are subject to enforcement by the City code enforcement staff.

Avoid parking vehicles on the street if winter weather is forecasted. Park cars in a driveway or off-street parking so City staff can work safely, efficiently, and quickly. To avoid damage, do not allow your vehicle to extend into the roadway. When vehicles are parked on narrow roadways, on hills, or both sides of the street, the City may not be able to properly clear snow from the street.

Report suspected vehicle damage to General Services at (785) 309-5750. City staff will investigate the damage claim and notify the City Risk Management office. Upon verification of the claim, the City may reimburse the reasonable cost of repair. Residents may contact Risk Management at (785) 309-5705 for further information.

CHILDREN'S SAFETY

Children may be attracted to heavy equipment like snowplow trucks and loaders. Keep children away from the roadway when crews are performing snow and ice control operations. Do not allow children to build forts and play areas in the roadway or at the back of the street curb. Do not let children sled or play in the street during winter weather events.

DRIVING SAFETY

- Be alert and drive with caution. Watch out for slick road conditions.
- Maintain safe distances between vehicles and decrease your driving speeds to allow additional time to stop.
- Expect some delays. Allow plenty of extra driving time for planned trips and appointments.
- Keep at least 25 feet back from snow and ice control vehicles. De-icing materials may damage your vehicle.
- Avoid passing or driving beside snow plowing equipment.
- Brake gently to avoid skidding. If your wheels start to lock up, ease off the brake.
- Turn on headlights to increase visibility and keep your windshield clear of snow and ice.
- Use low gears to maintain traction, especially on hills.
- Use extra caution on bridges, overpasses, and infrequently traveled roads.
- If possible, stay off the roadways. City crews can clear the road faster when there are fewer vehicles.

SUSPENSION OF OPERATIONS

The Director of Public Works or designee, may decide to suspend operations for staff and the public's safety based on existing or forecasted conditions. City staff will continue to provide minimal emergency service.

- Weather conditions that endanger the safety of City employees or equipment such as extreme temperatures, significant winds, limited visibility, or whiteout conditions.
- Limited staffing may occur due to pandemic or other illness, employee exhaustion, or other personnel issues. The remaining staff will focus on a limited number of priority roadways and emergency routes.
- Vehicles and equipment rendered inadequate or disabled by the depths of the snowfall, drifts, or icy conditions.
- Equipment breakdown and maintenance issues, such as extreme temperatures, fuel issues, unsafe conditions or accident volume may require a suspension of operations. The remaining equipment is deployed on priority roadways and emergency routes.
- Illegally parked or stalled vehicles that restrict or prevent access may suspend operations in affected areas.
- Other unforeseen emergencies may result in the suspension of snow and ice control operations.

EQUIPMENT

The following equipment is used for snow and ice control operations:

Number	Description of Equipment
12	Single axle truck with plow and material spreader
2	One-ton truck with plow and material spreader
3	¾ ton pickup truck with plow and material spreader (Supervisors)
2	Motor grader
2	Wheel loader
3	Backhoe (for downtown parking lots)
1	Snow blower attachment for wheel loader

FREQUENTLY ASKED QUESTIONS

Why does it take so long for the City to plow snow from the street in front of my house?

Arterial streets are always our first concern. The streets provide access for emergency vehicles and handle the most traffic volume. Collector streets are then plowed, followed by residential streets as time permits.

Why doesn't the City have snow emergency routes?

The City of Salina does not feel snow routes are necessary at this time. Snow emergency parking bans are costly, time-consuming, and confusing to the general public. In addition, most of the City's busiest streets either do not currently allow parking at any time or are wide enough for snow plows to pass.

Why do City snow crews always throw snow on my sidewalk and driveway?

Snow plows must maintain a minimum speed to remove snow out of the street. We understand and apologize for the inconvenience this may cause. Snow plow operators have been instructed not to throw snow any further than necessary.

Why doesn't the City plow sidewalks?

There are simply not enough funds available for the personnel and equipment necessary to remove snow from all City sidewalks.

What can the City do to get people to shovel their sidewalks?

City ordinance requires property owners to shovel sidewalks which may pose a hazard to pedestrians. If you see a dangerous snow-covered sidewalk, please notify the Police Department at 826-7210.

3 THINGS CITIZENS CAN DO AFTER A SNOW STORM

- **Stay off City streets until they have been cleared.**
Any traffic slows the snow removal effort. Stranded and stuck vehicles may bring street clearing to a halt.
- **Clear your gutters.**
This allows the maximum melt water flow to the nearest storm-water inlet.
- **Clear your sidewalks.**
City ordinance requires property owners to shovel their sidewalks.
This is to ensure pedestrian safety.

For Additional Information Please Contact:

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