Lawrence
KANSAS

SNOW AND ICE CONTROL PLAN

Field Operations & Inspections

Streets Division

01/05/2024

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Overview

The Snow & Ice Control Plan is the official policy for snow and ice control for the City of Lawrence, Kansas. Municipal Services & Operations intends to maintain roadway surfaces as described in the Plan as resources, capabilities, and weather conditions permit.

The policies and procedures contained in the Plan serve as a practical guide for the efficient and cost-effective means for snow and ice control. The Plan is both an operational guide and an informational resource for Lawrence residents.

The Plan aligns with the City of Lawrence Strategic Plan's Outcome and Commitment areas. It establishes efficient, effective, fiscally sound, and environmentally sustainable processes. The Plan ensures that essential transportation infrastructure is ready to move people, goods, and emergency personnel throughout the community. The Plan supports the City's Mission Statement.

"We create a community where all enjoy life and feel at home."

Snow and ice control is considered emergency work because roadways must be cleared at any time, day or night, and because of the potential hazards to the motoring public. Storms are unpredictable. The Snow & Ice Control Plan recognizes that operations staff encounter many variables during snow and ice control operations and must remain flexible. The City will continue to work within its resources to maintain the highest possible service level while balancing available resources. Although MSO staff will follow the guidelines in this document, actual operations may deviate from the Plan according to actual storm conditions.

Level of Service

The City of Lawrence, MSO Field Operations, maintains 871 lane miles of roadway 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** or **residential area roadways**. Priority roadways are treated first during a winter weather event.

MSO snow and ice control operators are assigned routes that cover both priority roadways and residential area roadways. Currently, the City is divided into 20 snow and ice control areas containing 436 lane miles of priority route roadways.

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.

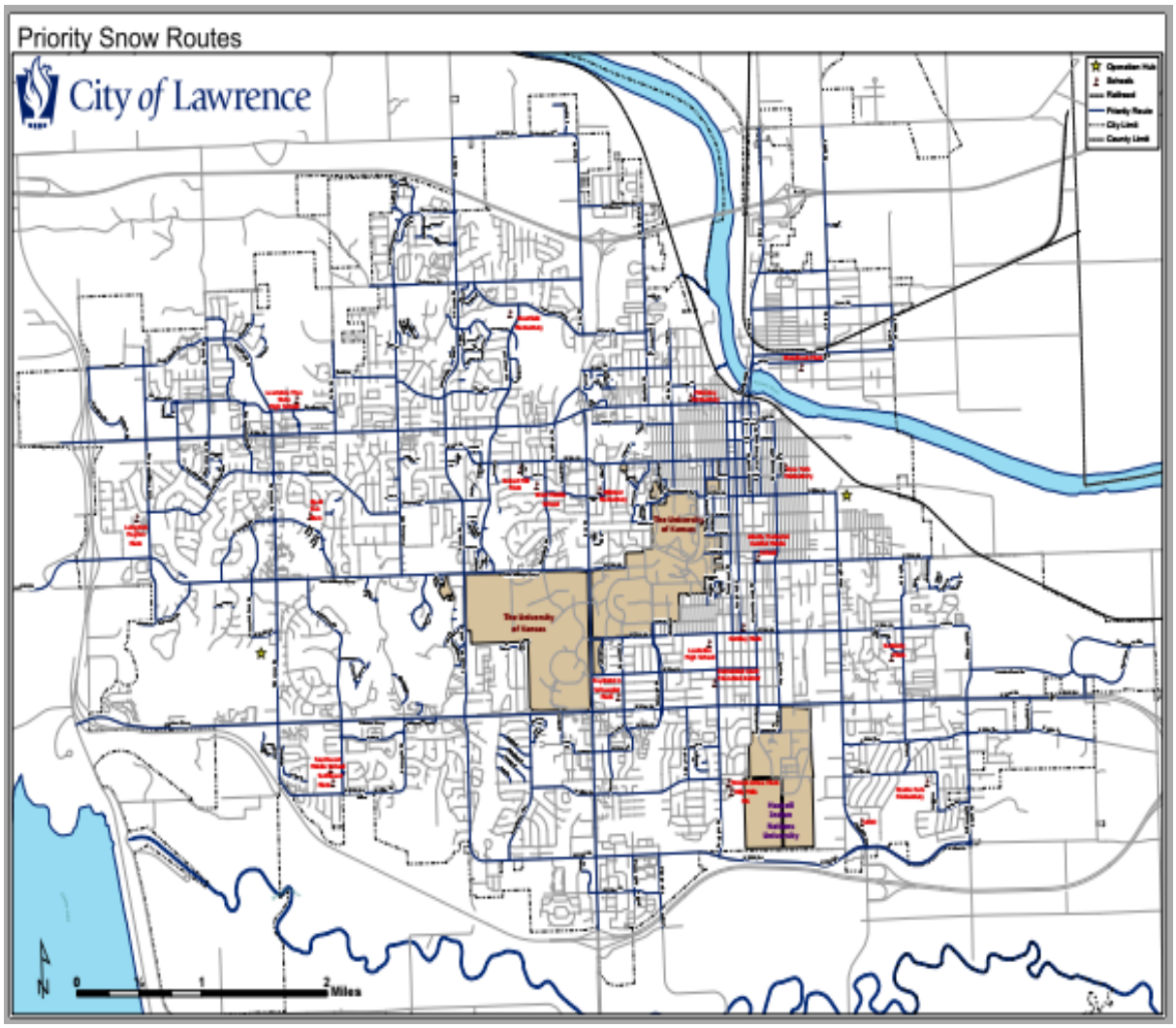
This Snow & Ice Control Plan does not intend that City crews remove all snow and ice accumulations from all City streets. When conditions are favorable, streets will be de-iced to the bare pavement. However, this level of service is not feasible during most of the winter due to the need to service many 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 or when icing occurs.

Priority snow routes

The City of Lawrence has designated 436 lane miles as priority snow routes. These include arterial roadways (245 lane miles), collector roadways (156 lane miles) and residential roadways (35 lane miles). These priority routes include school zones, bridges, hospitals, emergency facilities, bus routes, bike boulevards, commercial and industrial zones, and designated residential roadways. Most resources are first devoted to making priority routes accessible since they carry the greatest number of travelers. 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.

Lawrence Priority Snow Route Map



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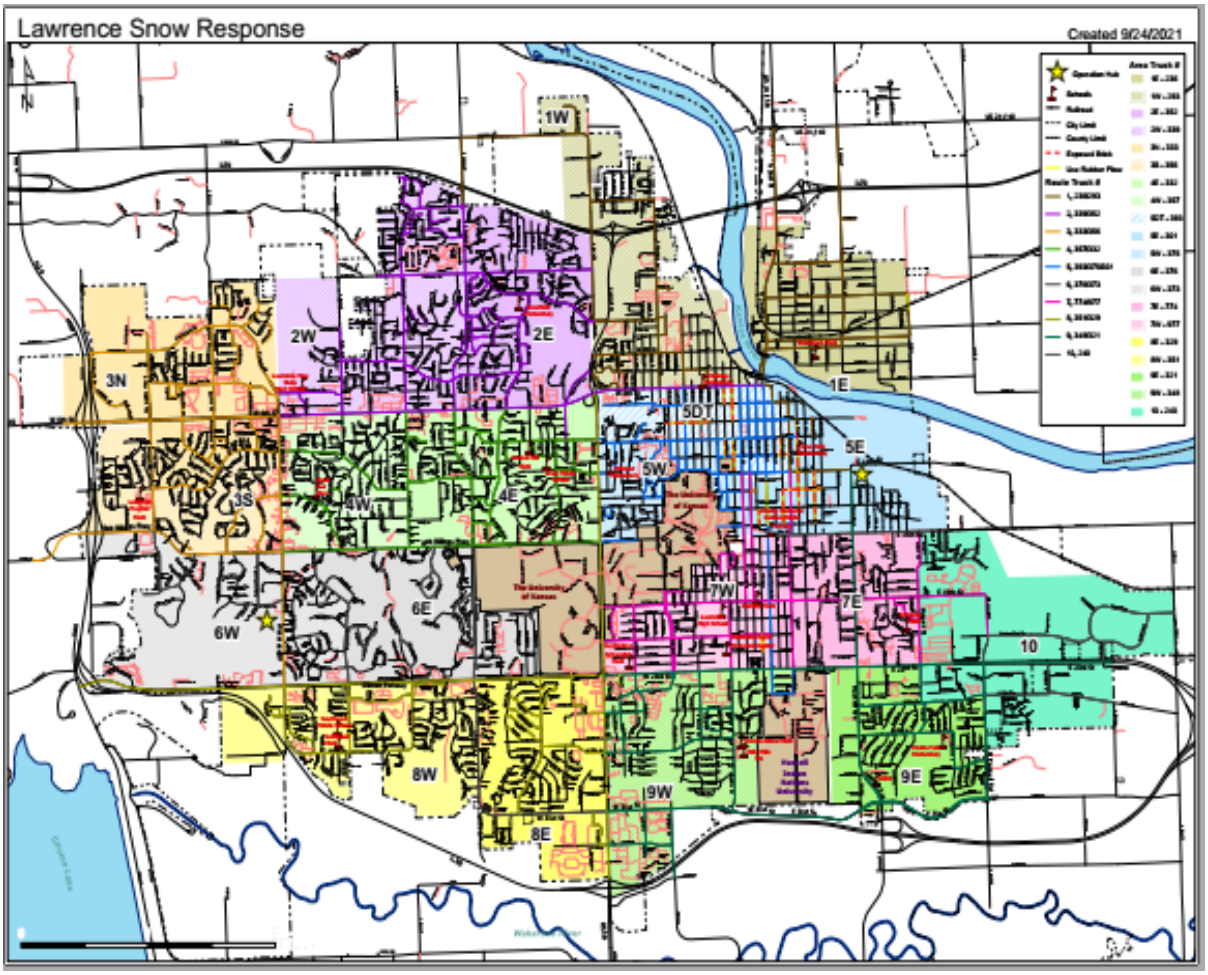
Residential snow areas

Residential snow areas include streets that are lower volume with lower speeds. There are 435 lane miles designated as residential routes. These are lower priority and generally receive a lower level of service due to limited resources.

The City currently has twenty residential snow areas that include both priority snow routes and residential roadways within each area. City snow maintenance practices for residential snow areas begins after the accumulation of 2 inches or more of snow fall. This is a change in level of service from previous snow operation plans.

Lawrence Residential Area Snow Response Map



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Appendix A – Level of Service establishes the service levels and expectations for priority routes, residential areas, private streets, roadways owned by outside agencies, Downtown Lawrence, alleys, City-owned parking lots and other facilities, and sidewalks.

Governance

This Snow & Ice Control Plan provides for the planned and orderly control of snow and ice on City maintained streets during periods of inclement weather. This Plan is structured to fit average conditions. It is also intended as a flexible guide that can accommodate a wide variety of conditions. The City recognizes that conditions may be so unusual or unexpected that City crews must depart from these guidelines. The MSO Director, in consultation with the MSO Deputy Director and MSO General Manager, Fire Chief, or Chief of Police, may order a departure from these general rules when conditions warrant.

This plan is the official policy for snow and ice control for the City of Lawrence. Kansas.

City Code references

The **City of Lawrence** Snow and Ice Removal Ordinance **#8324** is a necessary part of the overall snow removal plan and outlines resident responsibilities for snow removal on sidewalks adjacent to their property.

During snow and ice control operations, City crews may need to deposit snow in the public right-of-way. **Ordinance 6159, Section 16-802** states that the City has the right to use the right-of-way for maintenance activities.

City Code (16-108) Gutter Drainage: Obstructions prohibits pushing or blowing snow back into the City streets.

The City of Lawrence does not have Emergency Snow Routes or Emergency Parking Bans.

This document follows best management practices outlined in Chapter 26 of the American Public Works Association *Management Practices Manual*.

Funding

The City's General Fund provides the funding for snow and ice control supplies and equipment, and contracted snow operations as needed.

Roles and Responsibilities

The Municipal Service & Operations (MSO) Department is responsible for snow and ice control on the City's 871 lane miles of the roadway network. The MSO General Manager Field Operations and Inspections (FOI) is responsible for coordinating the Snow & Ice Control Plan.

The MSO General Manager FOI, the MSO Manager for Streets, the on-call supervisor, or designee(s) has the authority to decide when to begin snow and ice control operations. During the conduct of snow and ice control operations, the MSO Manager for Streets, or designee(s) shall have the following authorities:

- Operational control of Field Operations and Inspection staff, including shift scheduling, establishing on-call requirements, and managing employee overtime accrual

- Purchase materials and equipment related to snow and ice control operations within budget limitations and according to the City's procurement and purchasing policies
- Assess the need for operational changes in response to changing conditions
- Temporarily block or close streets to protect workers and the public
- With the authorization of the MSO General Manager, deploy other MSO Field Operations personnel for snow and ice control operations
- Supplement snow and ice control operations with contracted services
- With the authorization of the MSO General Manager, request additional funds from the City Manager or City Commission
- Suspend operations due to weather, safety, or other factors, as necessary.

Data and Records Management

MSO records information about winter operations using the following systems:

Operator reporting cards

Individual operators are responsible for accurately completing a Winter Operations Reporting Card at the end of each shift. Each card captures the date, time worked, miles driven, truck number, working area, and material usage on specific roadway classifications. The card includes a required pre-trip equipment inspection checklist.

Solid spreader and liquid applicator in-cab controllers

Material usage data is collected electronically by the in-cab controller and downloaded onto a spreadsheet following each winter event. The *Snow Event Cost Spreadsheet* tracks materials usage by street classification (priority or residential).

Lucity work order system

Lucity is both a work order system and an asset management system. Lucity tracks equipment and personnel costs and is used to generate the *Event Report – Task/Resource Summary* for each event.

Snow event summary reports

The following event reports serve as planning tools and enable continuous improvement.

- Winter Event Summary
- Plan and Operational Event Outcomes and Assessments
- Proposed Changes and Recommendations

Weather Monitoring

Weather service

Each year, before the winter season, the Field Operations Manager – Streets reviews the contract with the City's weather forecasting service. Factors are cost and the service's ability to provide the City with vital planning information such as air and pavement temperatures, precipitation type, storm arrival time, event duration, and expected snowfall accumulation rates. The service shall include 24/7 alert notification, 24-hour meteorologist availability, daily forecasts, and post weather event summaries. **Weather or Not, Inc.** is the forecasting services provider for the 2021-2022 season.

Pavement Sensor Information
Roadway conditions are monitored and collected for event management at three locations throughout the city. Conditions collected include surface temperature, precipitation rate, and surface friction.

Weather applications
Weather applications provide hourly precipitation and temperature information and up-to-date radar images to aid in forecasting and decision making. Many weather apps provide National Weather Service Urgent Storm Warning Notifications that include Winter Weather Watches and Warnings.

Storm warning alerts
The following notification systems provide storm warning information in the region:

- The National Weather Service provides local forecast and safety information.
- Douglas County Emergency Management provides an EOC Situation Report for winter weather conditions. DCEM assigns an Activation Level to the report and updates relevant information and notifications, as necessary.
- The Lawrence School District (USD497) and the University of Kansas issue school closing information through press releases, text, and phone messages.

Notifications
Public notification and public awareness
Public information and community outreach are essential to keep Lawrence residents informed of winter events. Awareness of upcoming snow and ice events aids in public safety and helps MSO in their snow and ice control response. The MSO Public Information Officer coordinates public information and awareness.
The following are the main avenues for public information and outreach:

1. The **City Snow and Ice Website** reflects changing weather and street conditions.
- Priority Route Map
- Interactive GIS Map, detailing snowplow truck locations and visual stills from area traffic cameras
- Information regarding the snow and ice removal ordinance (#8324)
- A copy of this Snow and Ice Control Plan

2. **Print Media and News Releases** provide timely information to the public.
- Electronic news releases: Sign up to receive emails.
- The Flame, the City's online monthly newsletter

3. **Social media** resources include:
- Facebook: City of Lawrence

- Twitter: @LawrenceKS
- Nextdoor: Nextdoor

4. City residents may receive information about the Snow & Ice Control Plan in their **water bill inserts.** This informational flyer gives a brief description of the Plan and tips for the public.

5. Residents may also contact **MSO Administration staff** at (785) 832-7800.

Internal notifications

Weather Event Notifications

MSO delivers a Snow/Weather Event email notification to both internal and external contacts. The notification includes winter forecasts, operational information, staff scheduling, safety notifications, and updates as the event progresses.

Operational Impact Assessments (OIAs)

MSO staff conducts an OIA meeting with internal and external agencies to coordinate winter activities and responses to significant winter events, forecasts, or safety-related incidents.

Resident Information

Snow and ice service requests

Residents may request service by calling **MSO Administration (785) 832-7800.** MSO supervisors or First Responders review requests for verification, prioritization, and scheduling. MSO winter operations crews attend to service requests during Phase 6 of operations or upon completion of all de-icing operations.

Blocked driveway or sidewalk

Snow is plowed as near to the curbs as possible. As a result, driveways can become blocked with wet, heavy snow. City crews make a reasonable effort to minimize snow blockage on sidewalks, driveways, and entrances. However, the City is not responsible for removing windrowed snow from private entrances, sidewalks, driveways, or from the public right-of-way.

It is the property owner's responsibility to clear snow from the end of the driveway. If possible, wait to clear driveways until after trucks complete roadway plowing. Snow equipment may perform a second pass, depositing additional material.

It is a violation of the **City Code Chapter 16, section 16-108 Gutter Drainage; Obstructions, Changes** to blow or push snow back into the City Street.

Resident assistance

The City provides assistants to residents who may have difficulty removing snow from their sidewalks. See the Safe Winter Walkways Program for assistance options.

Damage response

Mailbox damage

Report suspected mailbox damage to **MSO Administration (785) 832-7800**. MSO staff will enter a request for repairs into a work order system.

Occasionally a snowplow damages a private mailbox. If the mailbox was installed correctly, City crews will reset the mailbox or replace it with a standard model at the existing location. Alternatively, the City of Lawrence Risk Management will send the mailbox owner a claim form and instructions. Upon verification of the claim, the City may reimburse the reasonable cost of replacement. Residents may contact **Risk Management at (785) 832-3400** for assistance.

Curb or driveway damage

Report suspected curb or driveway damage to **MSO Administration (785) 832-7800.** MSO staff will enter a request for repairs into a work order system. Requests are evaluated and prioritized for repairs based on roadway safety and severity of the damage.

Damage to private property in the right-of-way

The City does not remediate damage to sprinklers or personal property in the right-of-way. See **Article 9. Location of Private Facilities in Public Rights of Way. (Ord.9681)** for details. 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 ROW Inspector or Code Enforcement staff.

Parked vehicles

Avoid parking vehicles on the street if winter weather is forecast. Park cars in a driveway or off-street parking so MSO 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 clear snow from the street.

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 100 feet back from snow and ice control vehicles. De-icing materials may damage your vehicle.
- Avoid passing or driving beside snow plowing equipment. Some trucks are equipped with wing plows that extend to the passenger side and may be hard to see under blowing snow.
- 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.

Environmental protection

Monitoring

The City of Lawrence, MSO Environment, Health & Science Division samples local waterways to monitor environmental impacts of de-icing material and recommends strategies to protect the environment. **Winter Road Treatment (Pace Project #60345077) – 2020**

Street Sweeping

Cleaning snow and ice control sand and other debris from the City streets reduces pollutants in the environment and the City's storm water system.

Emergency Response

Emergency assistance

Department resources are available to assist emergency vehicles responding to calls within the City of Lawrence during snow and ice operations. The Lawrence Police Department and Douglas County Dispatch notifies MSO supervisors or the on-call supervisors by phone or using the two-way radio system. Supervisors dispatch available crews to the requested location.

If the severity of a winter event requires suspension of operations, MSO will continue to provide access for emergency, fire, police, and medical services.

Street closures

The MSO Field Operations Manager or the Storm Operations Manager, in cooperation with the Lawrence Police Department and Douglas County Dispatch, make decisions on street closures. It

is the responsibility of MSO Field Operations to set the necessary barricades and inform local emergency services of any closures.

Reporting accidents

Operators report accidents or stalled vehicles to their supervisor, who relays the information to the Lawrence Police Department Douglas County Dispatch.

If a City vehicle is involved in an accident, the operator must immediately contact the Lawrence Police Department and the supervisor on duty. The supervisor will contact the Risk Manager (785) 832-3010, as needed. Staff will follow the guidelines in the Accident Packet located in each vehicle.

Towing or moving private property

In most cases, City personnel are not allowed to tow or move privately owned vehicles or other property obstructing public right-of-way. If an obstruction is a potential hazard, impeding traffic flow or affecting maintenance operations, MSO staff will notify the Lawrence Police Department. Operators may assist the public by hand-pushing stuck vehicles, placing granular de-icer for traction, or providing towing information.

FEMA Incident Command

The Governor of Kansas may declare a large-scale winter event a natural disaster. The declaration makes the event eligible for FEMA reimbursement, like other natural disasters. In such an event, the City of Lawrence will implement an Incident Command System (ICS) to coordinate a unified emergency response using the same language, command structure, and communications. All MSO Field crews have completed FEMA ICS 100 and 700, and NIMS IS 200 and 800 training courses. The City of Lawrence will track resources such as equipment and personnel, using ICS Form 201. Staff may be eligible for Extended Emergency Event pay.

Suspension of operations

The MSO General Manager or designee may decide to suspend operations for staff and the public's safety based on existing or forecasted conditions. MSO 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

MSO uses the following equipment for snow and ice control operations.

14	Large Trucks	Both equipped with plows, material spreaders, pre-wetting brine applicators
6	Flatbed Pickup Trucks	
3	Direct liquid applicator tanks	1000 gallons each (2), 300 gallon (1), for pre-treating
2	Backhoes	
1	Wheel loader	
2	Motor graders	
2	Uni-loaders	With snow blower attachments

Equipment types

During winter weather events, MSO deploys as much of the City's snow and ice control equipment on the roadways as possible. However, some equipment may require downtime for repairs. Strategies to accommodate downtime include adjusting route assignments and using equipment from other MSO functions such as water and sewer repairs. During extreme conditions, City-owned equipment may not be adequate. In that case, MSO may contract with outside contractors as outlined in this Plan. **(See Appendix B – Contractor Assistance).**

Snowplows

Snowplows remove snow and ice from roadways by mechanical means.

- Vehicles are equipped with front end plows with left/right capabilities. These are generally ten feet wide.
- Wing plows are used in conjunction with other plows and are side-mounted on single-axle and tandem dump trucks. These give a wider clearing path on primary and priority routes where conditions allow.
- Carbide cutting edge bits resist wear better than steel cutting edges.
- Operators use rubber cutting edges in areas that include brick streets and bike boulevards.
- Curb guards protect the end of the snowplow from being damaged by curbs and gutters.

- MSO does not use plow shoes or skids, preferring more direct contact of the cutting edge to the pavement.

Material spreaders

Solid material spreaders distribute granular material onto the roadway for consistent and measured results. These are slide-in V-box type spreaders with the following capacity:

- Tandem truck --12–15 tons
- Single-axle truck -- 7 tons
- Flatbed –2 ton

Liquid material applicators

Liquid material applicators apply liquid chemicals or materials directly to the roadway in a deliberate and controlled spray pattern.

- **Saddle tanks** of varying capacity apply prewetting materials under a pressurized system.
- **Direct application tanks** holding 400 to 1,000 gallons apply anti-icing and pre-treatment agents on designated roadways.

Loaders

Front-end loaders and **backhoes** load granular materials at storage sites into vehicles. In the event of heavy snow accumulations or drifting, loaders and backhoes are also used to remove piles of snow from the roadway. A scale on the front-end loader prevents overloading. Scales are calibrated each year before snow season.

Uni-loaders remove snow from roadways, bridges, and sidewalks in the event of major snow accumulations. Uni-loaders have a snow blower attachment or smooth bucket.

Motor grader

The motor grader provides additional plowing effort for roadway snow and ice removal, snow widening, benching, and stacking activities. Motor graders require a support vehicle to spread de-icing materials after initial plowing.

Brine and beet production equipment

MSO produces liquid brine and a beet-and-brine solution in-house. The equipment mixes water with granular de-icing salt or a combination of Beet 55 and salt brine. This automated system is an efficient and cost-saving method of production.

Technology

Spreading controls

In-cab spreader controls allow operators to control snowplow functions and to spread chemicals at preset rates. Ground speed control spreaders automatically adjust application rates based on vehicle speed. Material usage data is downloaded after each winter event. The data provides accurate material usage numbers and can help MSO avoid over-use of materials. The data also helps with operator oversight. MSO currently uses **Force** brand spreader controls.

Automatic Vehicle Location system

The City's Automatic Vehicle Location (AVL) system is integrated with the City's Geographic Information System to show vehicle location and progress on a map. The system also monitors the status of vehicle spreaders and plows. This level of detail allows supervisors and managers to respond to changing conditions. The City currently uses **Network Fleet** as its current AVL provider.

Other technology

- Several snowplow vehicles are equipped with roadway temperature sensors. Pavement temperature is a crucial factor in operational decisions.
- MSO deploys KSICS compliant 800 MHz two-way mobile communications radios. Operators will limit radio chatter during operations.

Appendix A – Level of Service Details

Priority snow routes

The City of Lawrence has designated 436 lane miles as priority routes. These include most arterial and collector roadways, school zones, bridges, hospitals, emergency facilities, bus routes, bike boulevards, commercial and industrial zones, and some designated residential roadways. Most resources are first devoted to making primary priority routes safe since they carry the greatest number of travelers. 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.

- A snowplow with a granular spreader/liquid brine system is assigned to each designated priority snow route.
- Crews will pre-treat designated primary priority routes if conditions allow.
- De-icing and plowing commence when snow accumulations or icing occurs and is a continuous operation throughout a winter weather event.
- Crews plow priority snow routes to full width after the snowfall has ended.

Primary priority routes

Primary priority routes consist of the principal arterial classification of roadways in the City of Lawrence. These are the highest priority for snow and ice control operations due to higher traffic volumes at the highest speeds. Examples of primary priority routes are Iowa Street, 6th Street, Kasold Drive, and 31st Street. The City has designated 206 lane miles as primary priority routes.

Residential priority routes

Residential priority routes consist of residential classified roadways. Individual street characteristics such as curves and hills, school zones, and potentially unsafe intersections make these streets high priority. Examples of residential priority routes are Big Horn Court or Grandview Terrace. The City has 35 lane miles designated as residential priority snow routes.

Residential snow areas

Residential snow areas include streets that are lower volume with lower speeds. These are lower priority and generally receive a lower level of service due to limited resources.
The City currently has twenty residential snow areas that include both priority snow routes and residential roadways within each area. City snow and ice control maintenance practices for residential snow areas begins after the accumulation of 2 inches or more of snow fall.

- A snowplow with a granular spreader/liquid brine is assigned to each area.
- Residential roadways within a Residential Snow Areas are not pre-treated unless classified as a residential priority route.
- De-icing or snow removal operations commence when snow accumulations of two (2) inches or more are present or icing occurs and after priority snow routes are cleared.
- A full residential snow plowing operation goes into effect after heavy snowfall accumulations. Or, it may be initiated for several smaller snowfalls occurring over days.
- Upon significant snowfall amounts, the City's goal on residential streets is to make the streets passable and provide good traction at stop signs and along hills and curves.

Alleys
The City does not de-ice or plow alleys, except for emergencies, safety concerns, and solid waste requests.

Private streets
The City does not de-ice or plow private streets or areas that are not part of the City of Lawrence's street system.

Public parking lots & parking garages
City-owned public parking areas are cleared and de-iced on an as-needed basis by Facilities Maintenance or Parks & Recreation staff.

City facilities
Utilities facilities

- A snowplow with a granular spreader/liquid brine is assigned to clear parking lots and loading areas. See the MSO Snow Removal Policy: Utilities Plants in Appendix D
- Snowplowing begins after 3 inches of snowfall and after clearing all priority snow routes. Spreading Operations are performed on request.
    1) Kaw Water Plant – 720 West 3rd Street.
    2) WWTP – 1400 East 8th Street
    3) Clinton Water Plant – 2101 Wakarusa Drive.
    4) Wakarusa Wastewater Plant – 2300 East 41st Street

MSO facilities

- A loader is assigned to clear MSO facilities lots and the Fueling Stations
- During heavy snow events, a Solid Waste loader and operator clear snow at the Haskell Avenue facilities.
    1) Haskell Fuel Station – 1120 Haskell Avenue.
    2) Streets/Solid Waste Facilities – 1120 Haskell Avenue
    3) Central Maintenance Garage – 1141 Haskell Avenue
    4) W.40 Fuel Station – 1901 Wakarusa Drive

Other City facilities
Parks & Recreation, Fire and Police stations, City Hall and other City facilities are cleared and de-iced on an as-needed basis by Facilities Maintenance or Parks & Recreation staff.

Central Business District (Downtown)
The Downtown Lawrence streets between 6th Street and North Park Street and Vermont Street to New Hampshire Street require special spreading conditions.

- No Sand or Beet 55 usage
- Streets are plowed to the center of the roadways to allow access to parking and removal

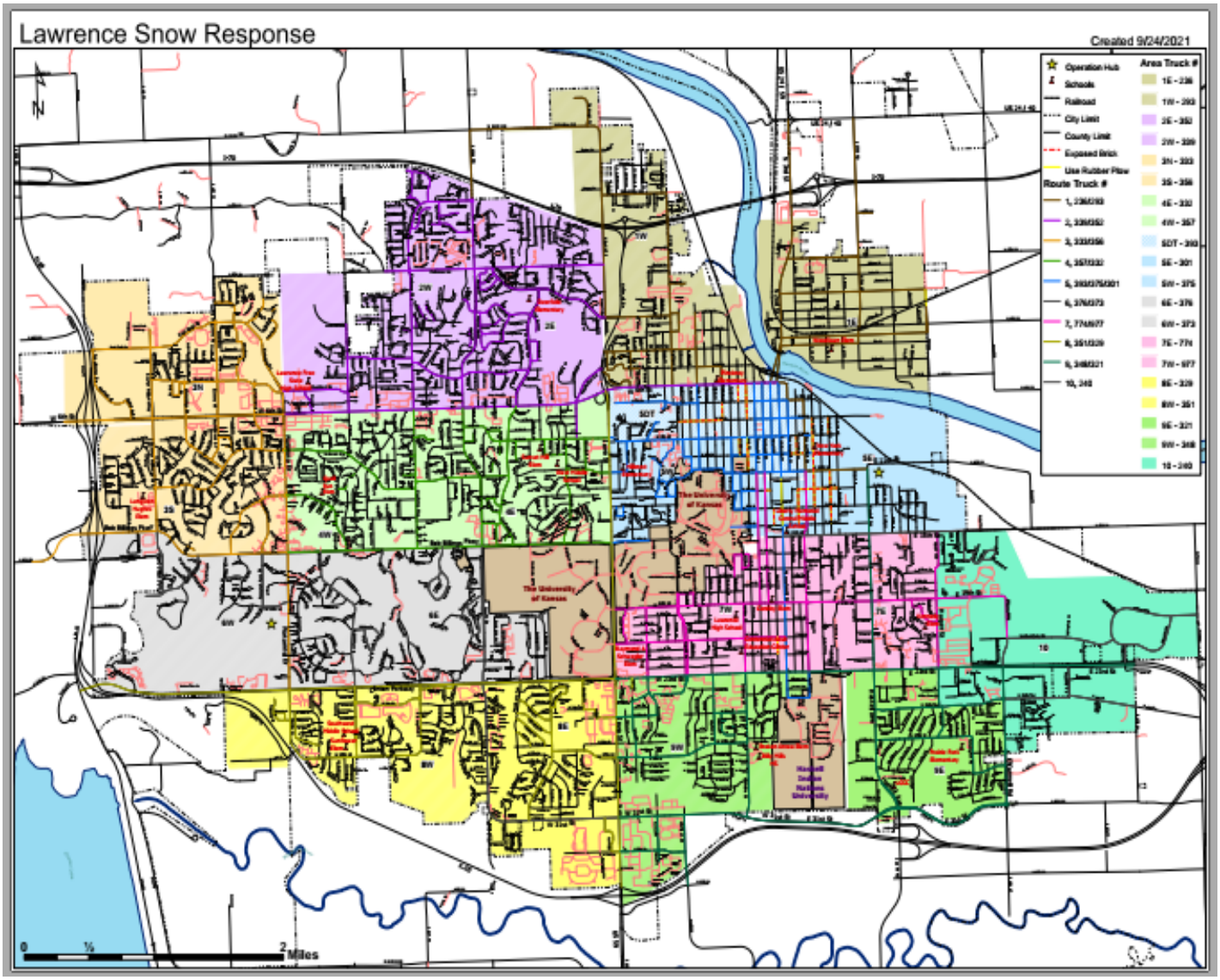
Outside agency roadways
County, Township, State and Turnpike Authority roads are not under the City of Lawrence's jurisdiction. However, the City of Lawrence may enter into service agreements for snow and ice control maintenance with outside agencies if an overall benefit to the City is determined. (Exhibit E) Through such agreements, MSO maintains several priority routes that fall outside the

City limits, such as 1750/Noria Road, North 1400 Road to East 23rd Street, and North 1300 Road to East 31st Street.
MSO Operators will not respond to service requests outside of the city limits unless the City has an agreement to service the specific area. An exception is to assist the Lawrence Police Department with an accident on a state highway in Lawrence.

Sidewalks

City crews clear the sidewalks adjacent to City-owned property. **All other sidewalks are the responsibility of adjoining property owners and must be cleared of snow and ice within 48 hours after a snowfall as per City Ordinance 8324** (Exhibit F). The Development Services Department receives complaints and issues citations for violations. Property owners will be assessed a fine of $20 for each day the violation occurs.

Map of Snow Response Areas



Appendix B – Contracted Assistance

General guidelines

When winter storm conditions warrant, the MSO General Manager, the MSO Field Operations Manager, or a designee may supplement the City's snow and ice control operations with private contractors.

Contracted entities will be required to provide proof of insurance. Contractors are responsible for any damages to public infrastructure and private property caused by the contractor's equipment and staff.
The contractor assumes responsibility to provide proper equipment. Wear and tear of equipment is the responsibility of the contractor.

When the cost of contracting with private entities exceeds available budgeted funds, the MSO General Manager may request an additional allocation of funds from the City Manager.

1. General
    a. The contractor will mobilize upon direction from the City of Lawrence, MSO Field Ops.
    b. The contractor's equipment will be assigned to designated streets or areas by the MSO Field Operations Manager, on-call supervisor, or designee.
    c. The contractor's equipment shall have two or more high-intensity rotating lights, flashing beacons, or strobe lights, in compliance with **MUTCD Table 6C-2**.
2. Employee Conduct
    a. The contractor and their employees are representatives of the City and will treat residents and the public with respect and courtesy.
    b. Contractors must report any incident involving contracted crews and the public to the City supervisor immediately.
    c. The contractor and their employees will obey all traffic laws and regulations.
3. Supervision
    a. The contractor will always have a supervisor on duty.
    b. It is the contractor's responsibility to stay in contact with the City supervisor and keep them informed of progress.
    c. The contractor supervisor is responsible for contractor employee conduct.
4. Coordination
    a. MSO and contractors will make every effort to coordinate their operations.
    b. A City supervisor will be assigned to oversee and coordinate the work effort.
5. Demobilization
    a. The contractor will demobilize as assigned crews complete their areas, and the services are no longer required.
    b. The MSO Field Operations Manager or designee on duty is responsible for coordinating the demobilization.
6. Equipment/Employee Accounting
    a. The contractor is to provide the MSO Field Operations Manager, or designee, with the following:
        i. Equipment and employees mobilized
        ii. The time each unit started work

iii. The time each unit ended work
iv. The cost per hour of each unit, including operator cost

Contracted plowing procedures

1. The contractor follows the same plowing procedures as City crews.
2. During the storm, plow primary priority routes first so that traffic lanes remain open.
3. Once the storm subsides, plow priority routes to a width of two traffic lanes or curb-to-curb in areas where such plowing will not block driveways or sidewalks.
4. For residential areas, plow one pass down the center in both directions to avoid blocking driveways or covering residential sidewalks. If needed, plow additional passes to widen residential roadways if additional snowfall is forecasted.
5. Take care to ensure driveways are not unduly blocked, and sidewalks are not covered. Should a sidewalk get covered by accident, uncover the area immediately.
6. Snow in cul-de-sacs may be plowed from outside edge to center, if necessary, and noted for later snow removal and hauling.

The City-Wide Snow Removal Operations Plan states that, during heavy snow events, three contracted motor graders and operators with additional support staff apply de-icing materials for the following locations:

a. West of Iowa and north of 6th Street, working west
b. West of Kasold and north of 6th Street, working west
c. West of Kasold and north of Clinton Parkway, working west

City staff may substitute for contractual support staff to apply de-icing materials, if necessary.

Contracted snow removal procedures

Some areas throughout the City have limited or no snow storage areas. The removal of snow from these locations is necessary after heavy snows or a series of storms. The Downtown Central Business District is one such location.

The Downtown Snow Removal Operations Plan

1. Two wheel-loaders, six dump trucks, and operators are required to provide adequate service for downtown operations.
2. One wheel-loader and operator is assigned to push up snow at the designated snow storage site.
3. Downtown snow removal operations remove snow windrows located in the center of roadways resulting from City crew snow plowing and snow stacking operations.
4. Snow is loaded and hauled to a designated snow storage site starting with the 1120 Haskell Avenue backlot.
5. Snow is first removed from Massachusetts, New Hampshire, and Vermont Streets, followed by the numbered streets 7th through 11th street.
6. Snow removal operations proceed as conditions allow and will least impact pedestrian and traffic flow in the downtown.
7. City crews apply salt and provide temporary traffic control, as necessary.

Approval and Version Control

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Melissa Sieben, MSO Director Date

NAME	DATE	Changes to previous version
Tim Cast, MSO Manager Streets	11/13/2020	Transferred to new template. • Edited for plain language goals. • Added sections for Governance, Data and Records, Roles and Responsibilities.
Tim Cast, MSO Manager Streets	9/24/2021	Updated: • Lawrence Residential Area Snow Response Map • Level of Service Update regarding 2 inches of accumulated snowfall for residential area plowing Added: • Lawrence Primary Snow Route Map • Section on Pavement Sensor Information under Weather Monitoring
Tim Cast, MSO Manager Streets	10/30/2022	Added: • 400 gallon direct application tank under liquid material applicators • Additional Residential-Priority routes [street listings] (Snow and Ice Control Procedures - Appendix D) • Two replacement One-ton pick-ups with controllers [equipment List] (Snow and Ice Control Procedures - Appendix E)
Tim Cast, MSO Manager Streets	11/01/2023	Added: • Additional Residential-Priority routes [street listings] (Snow and Ice Control Procedures - Appendix D) • Updated Snow and Ice Control Equipment List (Snow and Ice Control Procedures - Appendix E) • Updated Snow Removal Policy: Utility Plants [Wakarusa WWTP] (Snow and Ice Control Procedures - Appendix G)
Michael Leos, MSO Communications	1/05/2024	Added: ▪ Changed document to reflect new branding and colors. ▪ Changed front image.