

Snow equipment preparation

Steve Stewart, CPFP

Fleet Manager
Public Works Department
City of Lawrence, Kansas

Snow equipment preparation strategies are as different as every city and county in the country. Each operation has its own issues and goals. Here in the Midwest, we do not experience great amounts of snow, but usually have multiple events each season. Normally, the season lasts from December through early March. In this article, I will attempt to explain our approach in the City of Lawrence, Kansas, and touch on the strategies used by some of our neighboring communities in the Kansas City area.

The Lawrence Street Division is responsible for clearing 805 lane miles in the city and keeping the airport open every snow event. They use twelve one-ton flatbed dumps, six single-axle dumps and four tandem-axle dumps. Our three levy-mowing tractors are fitted with drag blades and used to clear roundabouts and help with cul-de-sacs clearing.

We begin preparing for the next snow season at the end of the current one. Each truck, spreader and plow is thoroughly washed and inspected at the end of each event. When the forecast indicates clear and warmer weather, the spreaders and plows are removed and again inspected. Each Street Division employee generates a list of concerns covering the equipment he is assigned. The division manager goes over the list with his maintenance man and a schedule of repairs or reconditioning is established. By starting snow prep in April or May, we are able to make sure we have all attachments reconditioned and ready for our annual snow practice day the first week of November. This also allows us adequate time to replenish our spare parts and take advantage of off-season discounts offered by some vendors.

Attachments

The Street Division maintenance man is responsible for most routine maintenance and reconditioning of the plows and spreaders. Heavier work, such as panel replacement on spreaders, is done at the Central Maintenance Garage (CMG). CMG also takes care of repairs and reconditioning of loader and backhoe buckets.

Trucks and Equipment

Our trucks are used for all phases of street and stormwater activities. Each truck chassis and bed is evaluated at the same time as the attachments in addition to the evaluation done by CMG at every preventive maintenance check. If repair or paint is needed, it is worked into the schedule. Every effort is made to minimize the impact on the construction and street maintenance schedule while making repairs to the trucks.



City of Lawrence technician James Sparkes, Jr., checks engine parameters on a new plow truck.

Preventive maintenance schedules are based on mileage or hour use. Historical data is reviewed by the administrative staff. They tag repair orders with filter numbers for units that mileage indicates may need attention. This saves the technicians and parts personnel time. All medium and heavy vehicles in the fleet have fuel systems and air brake systems serviced every fall. Because of this attention to detail, we rarely have issues with frozen brake lines or fuel systems. We also manually stick our fuel tanks (for water) and change the pump filters every two months.

Like many cities, other departments participate in snow events also. Our Parks and Recreation Department clears snow from city parking lots and from sidewalks around some city buildings. They are equipped with one tandem-axle and one single-axle dump, as well as front-deck mowers outfitted with rotary brooms. Our Utility Department clears their plant roads and parking lots, as well as the roads leading to their lift stations. They are equipped with one single-axle dump. Fire/Medical uses a one-ton flatbed to clear the drives around their stations. All of these vehicles are also inspected and scheduled at the end of the current season.

The first Tuesday of November is snow practice. All equipment is installed and tested. Problems are addressed and all the routes are driven. New operators are trained and current operators are updated on equipment changes. For example, we discovered this year that our newest tandem-axle truck

corners differently than our older trucks. Rear suspension upgrades for lower maintenance and improved ride created a problem cornering because of increased axle spread.

As I mentioned previously, everyone approaches snow equipment preparation differently. Some area cities begin prep in the fall; others in the summer. Most field similar equipment during an event. Most cities in our area have or are moving toward centralized hydraulics. We began moving in that direction fifteen years ago because of issues with electrical and auxiliary engine systems during storms. A few cities are using auger-floor or live-floor dump bodies. Some have had success with these; others are moving away from them. Almost everyone has added liquid systems to their trucks. We seem to be the lone holdout. Our new truck that is on order is liquid equipped (one more thing to add to our technician training and prep schedule).

The following chart lists equipment, lane miles and other information pertaining to snow operations of various cities in the Kansas City metropolitan area. This information was provided by members of the Mo-Kan Street Supervisors and the Metro Fleet Services Committee.



City of Lawrence Street Department crews ready trucks for annual snow practice.

I would like to thank Danny Turner (City of Olathe, KS) for providing some of the information in this chart and the respective Fleet Managers from all the cities listed for their contributions.

Steve Stewart can be reached at (785) 832-3020 or [sstewart@ci.lawrence.ks.us](mailto:ss Stewart@ci.lawrence.ks.us).

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Agency	Blue Springs, MO	Gladstone, MO	Lawrence, KS	Leawood, KS	Lee's Summit, MO	Lenexa, KS	Olathe, KS	Overland Park, KS	Prairie Village, KS	Topeka, KS
Number of Miles Plowed	536	300	805	435	1400	560	1194	1700	300	2,000
Number of Trucks Deployed per Snow Event	26	12	22	18	18	29	46	48	9	24
Tandem Axle Dumps	0	0	4	2	2	7	8	18	0	3
Single Axle Dumps	18	6	6	9	7	15	28	25	6	9
1 Ton or Super Duty	8	6	12	7	9	7	10	5	3	12
Moving Floor Dump Body	Yes	Yes 5	No	No	No	Yes 1	Yes	Yes	Yes 3	No
Mounted Spreader	No	Yes 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes 3	Yes
Pre-Treat Streets	No	No	No	No	No	Yes	No	Yes*	Yes*	Yes*
Treat Mix Before Spreading	Yes	Yes	No	Yes	Yes*	Yes	Yes	Yes	Yes	Yes*
Type of Hydraulic System Used: #1 open loop, #2 closed loop, #3 ground speed	#2&3	#2&3	#2&3	#3	#1, #2, #3	#2&3	#3	#3	#1 #3	#3
When Snow Preparation Begins	July	Oct.	April	Sept.	Sept.	Sept.	June-July	Sept.	April	Aug.
Do You Use All Trucks All Year	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
If No Above What Do You Park	12 single axle	4 single axle						12 single axle		

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