

SNOWPLOWING

Snowplowing Start-Up, Priority Streets and Residential Neighborhoods

Plowing of snow will begin with an accumulation of **two inches (2") of snow** on the streets.

Plowing of driving lanes and bike lanes will begin with Priority 1 streets and continue with these streets until completed before moving to Priority 2 streets. Once Priority 1 and 2 driving, bike, and center turn lanes have been cleared, units may return to do additional cleanup work or be assigned to local streets.

Local street plowing will begin upon an accumulation of 2 inches of snow by five pickup plows between 8 a.m. to 4:30 p.m. Monday through Friday. Weekend plowing of residential areas may be done in response to severe events resulting in an accumulation of 6 inches or more of snow within 24 hours. City crews will not remove snow berms deposited in front of driveways, mailboxes or around cars parked on streets unless the berms are substantially higher than adjacent berms (Appendix F).

Citizens or contractors who choose to plow the public right-of-way must comply with traffic laws and use proper safety equipment when moving snow on City streets. Private snowplow operators must not deposit snow or ice in such a way that it obstructs traffic lanes, bike lanes or access to any fire hydrant.

Record Keeping

Upon every snow event, a record of plowed priority routes will be recorded on Snow Event Checklist forms (Appendix G) and on the snowplowing map at the Streets Operations & Maintenance Division office. At the end of each shift, the lead person shall update the snowplowing map before leaving. Superintendents shall review vehicle GPS data during snow events to track plowing progress and dispatch resources as needed.

Snowplowing Speeds

The operating speed of a plow truck is directly related to efficiency and effectiveness. Operators will maintain a speed that does not endanger life or property but provides reasonably prompt service. Excessive plowing speeds can result in damage to the roadway, damage to the plow, poor performance and rough roads. Excessive plowing speed in wet snow can damage mailboxes and other vehicles and cause injuries to pedestrians or cyclists. Plowing speed shall not exceed 25 mph and should be slower under most conditions.

To prevent accidents, vehicle damage and liability for the City of Missoula, the following procedures will be followed during snowplow operations:

Under no circumstances will a plow operator cause snow, slush, rocks or any road debris to come into contact with any other vehicle(s), pedestrian(s), cyclist(s), or personal property. This includes parked vehicles as well as moving traffic.

In circumstances in which other vehicles, pedestrians, cyclists or personal property are near a City plow vehicle, the operator will shut down sand/granular deicer application.

While operating City equipment, all operators will always exercise care and good judgment to avoid accidents and/or damage to City equipment or other property, including those not specifically mentioned here.

Bicycle Lane Plowing

The routes used by commuter bicycles are shown on the Bicycle Lanes/Routes map (Appendix H). Plow operators will exercise care to minimize plowing snow berms into bike lanes. Where bike lanes are adjacent to vehicle drive lanes and parking lanes are not present, or parked vehicles prohibit snow berm storage, a portion of the bike lane may be used to deposit snow berms. Maintaining at least $\frac{1}{2}$ of the bike-lane width clear of snow shall be the goal.

A special effort will be made to make remaining routes more usable by bicycles. After the priority routes are completed for motor vehicles and, as soon as time permits, the crews will return and do additional work. This additional work will consist of:

- a. Removing snow and slush from the sides of Madison, Reserve and Beartracks bridges as well as the Broadway overpass on Reserve Street, utilizing loaders and graders
- b. Pushing the snow farther to the sides with additional deicing to provide space for bicycles.

Sidewalks and Protected Bikeways

Traffic Services will prioritize snow removal on sidewalk routes adjacent to MDT routes first and other City R/W per existing construction agreements, with the goal of completing all routes in accordance with applicable City ordinance.

Protected bike lane snow removal shall be started upon completion of sidewalk routes. Newly constructed protected bike lanes, where connection to exiting routes has not been completed, will not receive snow removal.

Plowing Roundabouts

The two roundabouts located on Union Pacific and England Boulevard will be plowed and deiced in conjunction with bike-lane snow removal operations. Due to the wide turning radius of the full-size plowing/deicing trucks, the travel lanes adjacent to the roundabouts will be plowed and deiced by the Street Division's one-ton pickup mounted plow and deicer unit.

The roundabout on Higgins Avenue should be plowed through on Higgins and the other streets should be plowed as prioritized with a standard full-sized deicer. Additional plowing with a one-ton pickup may be done as directed.

The Miller Creek roundabout shall have both lanes plowed, with the snow from the inside lane going to the middle (left) and the outside lane going to the right side. The snowplow will then exit Upper Miller Creek, if it has not been done, and continue plowing. The plow will exit the

Lower Miller Creek leg if Upper Miller Creek has been done. When exiting the roundabout, snow will be bermed left along the dividing island and then transition right when passing the end of island.

The California/Wyoming roundabout driving lanes will be plowed to the edges and snow accumulation on top of the circle will be plowed off and carried through the intersection and placed along downstream curb lines where possible.

Snow Berm Locations

On most streets, snow will be plowed to the edges with resultant berms stored along curb lines, shoulders and parking lanes, with exceptions listed below:

1. **Streets with Boulevard Sidewalks**. Snow will be plowed up and over the curb line and snow deposited on boulevards. Care will be taken to avoid depositing snow over the boulevard onto sidewalks.
2. **Streets with Sidewalk Adjacent to the Curb**. During severe storms on streets with narrow widths lacking parking lanes and adequate shoulder widths, City plows may be forced to deposit berms on sidewalks. Sidewalk berms placed by City plows must leave a minimum clear zone of four feet. If berm size reduces the clear zone to less than four feet, the City must attempt to push the berm toward street or remove within 48 hours of notice. Adjacent property owners are not responsible for removal of sidewalk berms created by City plows; however, property owners must still clear snow from the remaining width of sidewalk not covered by berms.
3. **Center-plowed streets** are those that are in commercial areas or may have arterial or collector traffic volumes, narrow widths, metered on-street parking, bike lanes, sidewalks adjacent to curb, minimal shoulder width, heavy pedestrian use, inverted crown, proximity to a school, identified storm water issues and bus stops.

On these streets snow will be plowed to the center and hauled to a disposal site. Snow berms in the middle of the street will be pushed back from the intersections so that crosswalks are unobstructed. Additions to the center plowing list will only be made at the discretion of the Director of Public Works.

- a. Arthur
- b. Scott Street Overpass
- c. Downtown Area
- d. Beartracks Bridge
- e. Madison Street Bridge
- f. Orange Street (Alder to S. 6th W.)
- g. Orange Street Bridge
- h. S. 3rd W. (Myrtle to Higgins)
- i. S. 4th W. (Myrtle to Higgins)
- j. South Ave. (Arthur to Higgins)
- k. South Ave. (Bancroft to Stephens)

Center-plowed streets (cont'd)

- I. South Ave. (Russell to Grant)
- m. Myrtle (3rd to 4th)
- n. SW Higgins Ave. (Pattee Canyon to High Park Way)
- o. Lincolnwood subdivision

Snow Berm Removal

Snow berms deposited in front of driveways, around parked vehicles or mailboxes will not be removed by City crews unless the berm is substantially larger than adjacent berms. The City recognizes that blocking driveways or plowing berms around parked cars causes inconvenience, but it is at times unavoidable to make the street usable. The responsibility for removing such snow deposits belongs to the property owners, occupant or vehicle owner.

Snowplow crews will respond to requests for berm removal at pedestrian crossing ramps after all priority routes have been completed. Snowplow crews will remove berms at elementary school bus stops at the request of school principals, after priority routes are completed. In addition, berm accumulations exceeding six inches in height shall be removed, primarily during night shifts or upon special request. A minimum of one ramp at each intersection corner (or four per intersection) shall be done per block.

The following list of pedestrian crossing-ramp areas shall be done in the order shown. Lead personnel shall record areas completed at the end of each shift. Other areas may be done upon request.

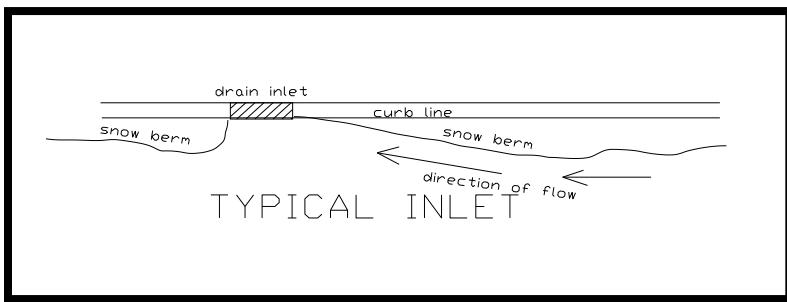
1. Higgins Avenue – from Front to Railroad
2. Spruce Street – from Higgins to Orange
3. Broadway – from Higgins to Orange
4. Orange Street – Bridge approaches
5. 1225 W. Broadway – Bruce Blattner Apartments
6. 565 Burton – Eagle Watch Estates
7. Reserve Street – in front of Super Wal-Mart and Target
8. Reserve Street and South Avenue intersection

All snow and slush will be removed to the parking lane in the downtown area and marked school pedestrian crosswalks at the intersection of crosswalks and sidewalks.

In heavy snow accumulation, after plowing the streets open, the Streets Operations & Maintenance Division will plow snow berms away from intersections, including the sidewalk/crosswalk area. When berms reach a height of two (2) feet, the Streets Operations & Maintenance Division will begin removing intersection berms six (6) feet back from the edge of the crosswalks. Center plowed berms shall not be over sixty (60) inches high. Intersection berm removal will follow the Priority 1 and 2 route designation and will be picked up during the night shift between 10 p.m. and 6 a.m. in commercial areas and during the swing shift between 2 p.m. and 10 p.m. in residential areas.

Drain Inlet Snow Removal

City crews shall remove snow from the Priority 1 drain inlets as identified on the maps included with Streets Operations & Maintenance Division Administrative Rule No. 3 (Appendix I). The snow will be removed in a manner that allows storm water access to inlets as shown in the following drawing. These inlets will be cleaned after snowplowing is completed on Priority 1



and 2 streets or immediately if the weather forecast predicts a high chance of thaw and/or rain on snowpack conditions. The priority drain inlet maps show the approximate locations of the inlets to be cleared first.

Additional inlets within the areas designated on the maps shall be

cleared after the Priority 1 inlets are completed. The snow shall be removed in a way that directs as much water into the inlet as possible. The upstream berm shall be angled to move water toward the inlet. The downhill berm shall be banked to divert water into the inlet as shown in the drawing above.

Snow Stockpile Locations

Snow removed from city streets is stockpiled at approved sites (Appendix J). Approved sites include: 1) Parks Department Greenway on the east side of Rattlesnake Drive between Tamarack and Foxfield; 2) the City's north side stockpile yard; 3) per agreement with Missoula County Public Schools, property south of Rattlesnake Drive and west of Applehouse Lane. In accordance with 13.26.080 of the Missoula Municipal Code, there shall be no dumping of snow into any stream, river or creek by City snow removal crews.

Private Parking and Commercial Snowplowing

Snow plowed from private parking areas, sidewalks or driveways by commercial contractors or private parties shall not be placed or deposited on city streets or alleys or in any way that impedes the safe movement of traffic. In accordance with 13.26.080 of the Missoula Municipal Code, private parties and commercial contractors are prohibited from dumping snow into any stream, river or creek. Violations of this section of the M.M.C. are enforced by the Missoula Valley Water Quality District and include both fines and incarceration.

Bridge Plowing

The City also clears bridge sidewalks of snow and ice. The bridge sidewalks that the Traffic Services Division is responsible to maintain are:

1. Broadway Bridge (over Rattlesnake Creek)
2. Beartracks Bridge
3. Madison Street Bridge
4. Orange Street Bridge

Bridge Plowing (*cont'd*)

5. Scott Street Overpass
6. Russell Street Bridge

These sidewalks are to be cleared of snow and ice, as required, by City ordinance. City codes require that the adjoining property owner clear sidewalks from the night's accumulation of snow and ice by 9 a.m. the following morning (MMC 12.16.30). The bridge sidewalks are normally cleared of ice and snow on weekdays only. Traffic Services Division does not have the resources to provide this service on weekends. If special conditions warrant, snow and ice on bridge sidewalks may be cleared on weekends.

Center Turn Lanes

Continuous center turning lanes on 3-lane and 5-lane streets will be plowed and deiced.

Railroad Crossings

Due to the risk of damage to railroad crossings and/or snowplows, snowplow crews will practice the following:

1. Truck-mounted and/or loader-mounted snowplows will not be used to remove snow from railroad crossings. When approaching a railroad crossing during snowplowing operations, the plow will be raised while passing over the crossing.
2. Care should be taken not to deposit a large pile of snow on the crossing. Lifting the plow just enough to clear the crossing by one (1) or two (2) inches will usually prevent damage. Extra care will be taken on crossings that have rubber approaches.
3. In the event of heavy snow accumulation, which would require snowplowing on a railroad crossing, BNSF/MRL should be contacted first about how to proceed.

Speed Table Plowing

Truck-mounted and/or loader-mounted snowplows will not be used to remove snow from speed tables. The plow will be raised while passing over the speed tables. Traffic Services will hand shovel snow accumulation as necessary.

Special Plowing Requests

The Streets Operations & Maintenance Division receives many requests during and after a winter storm. It is not possible to dispatch snow and ice control equipment immediately upon request. Once a request is determined to be valid by a superintendent, personnel and equipment will respond as directed by a superintendent. The response action to special requests will depend upon the time, resource availability and the number of requests. Unless directed otherwise by authority above the Streets Operations & Maintenance Division, special requests shall not be given priority over operational procedures outlined in this plan.

Private Street Service

Private streets or roads will be plowed only for medical, police or fire service emergencies, by request, if the street or road has an adequate width to accommodate Streets Operations & Maintenance Division equipment, has five (5) or more residences and will not impede regular snowplowing priorities on public streets. Requests will be reviewed on a case-by-case basis. A list of private streets within the city limits is available at the end of the Plan (Appendix K).

Emergency Parking Prohibition

Missoula Municipal Code (10.26.010 Emergency Parking Restrictions) provides that the mayor may determine that parking vehicles on city streets should be prohibited for snowplowing and removal or other emergency purposes and that the mayor may put into effect a parking prohibition on designated streets. This prohibition shall be publicly announced and the prohibition shall not go into effect until at least 8 hours after such public notice.