



City of Kennewick, Washington Public Works Department Snow & Ice Management Policy

POLICY:

The intent of this policy and procedure is to establish an operation that efficiently and effectively provides a Snow & Ice Level of Service. The policy provides for reasonably safe use and passage of vehicles using the City's public street system; and to insure that the City's emergency responders (Police, Fire, EMS, and Public Works) are able to ingress and egress from their assigned duty stations, travel on City streets in the event of emergency response, and to provide needed access to City facilities. This policy assumes that all motorists will drive in a cautious and responsible manner, in a vehicle that is properly equipped and maintained, given the prevailing roadway conditions.

PURPOSE:

Resources (labor, equipment and materials) and budget constraints direct the need to establish a prioritization system for the management of snow and/or ice events. When control measures exceed the total snow / ice control budget, including supplies and rentals by more than ten percent (10%), the City Manager or his/her designee shall review funding options and set forth priorities for on-going control measures for snow / ice events.

LEVEL OF SERVICE:

The City will attempt to provide the following minimal snow and ice control level of service within available budget, manpower, equipment, and other limitations. Level of Service (LOS) goals for all priority one (1) classifications will be to maintain a maximum of one (1") inch of snow on the roadway. LOS goals for all priority two (2) classifications will be to maintain a maximum of three (3") inches of snow on the roadway.

**Table 1: Snow control measures should begin under the following conditions
(Also refer to Table 2):**

ROADWAY CLASSIFICATION	SNOW ACCUMULATION	PRIORITY
Principal arterials	Greater than <u>4 inches</u>	1
Bridges and canal crossings on arterials and collectors	Greater than <u>4 inches</u>	1
Minor Arterial Streets	Greater than <u>4 inches</u>	1
Roundabouts on Collector Streets	Greater than <u>4 inches</u>	1
School Zones and school entry routes on Local Streets ⁽¹⁾	Greater than <u>6 inches</u>	2
Collector Street, or a Local Street ⁽²⁾ with >2,500 vehicles/day	Greater than <u>6 inches</u>	2
Local Streets with grades >10 percent and >500 feet long or >100 feet if it is an approach onto a Principal Arterial ⁽¹⁾	Greater than <u>6 inches</u>	2
Columbia Park Trail east of Edison and Roundabouts	Greater than <u>6 inches</u>	2
All Other Local Streets ⁽²⁾	Greater than <u>8 inches</u>	2

(1) Minimum of one public access street to a neighborhood or school to be maintained at this level

(2) Only during normal work hours and after higher priorities have been completed.

Table 2: Operations and Maintenance Guidelines for Ice, Frost, and Snow Events
Using Sodium Chloride (Road Salt) pre-wet w/ 28% concentration of Magnesium Chloride (Liquid Deicer)

Pavement Temperature Range, Trend, and relation to Dew Point	Initial Operation			Subsequent Operations		Comments N/R = Not Recommended
	Pavement Surface at Time of Initial Operation	Maintenance Action	Chemical Spread Rates (lbs/lane mile)	Maintenance Action	Chemical Spread Rates (lbs/lane mile)	
Above 32° F Steady or Rising	Dry, wet, slush, or light snow cover	None, see comments	N/R	None, see comments	N/R	- Monitor pavement temperature closely; begin treatment if temperature starts to fall to 32° F or below and is at or below dew point - Treat icy patches if needed with chemical at 15-35 gal/lane mile
32° F or below is imminent	Dry	Apply Pre-wet Sodium Chloride	200/20	Plow as needed; reapply Sodium Chloride when needed	200/20	200 lbs/lane mile, pre-wet at 20 gallons/ton
15° to 32° F Remaining in range and equal to or below dew point	Dry, wet, slush, or light snow cover					
Below 15° F Steady or Falling	Dry or Light Snow Cover	Plow or apply abrasives as needed	N/R	Plow or apply abrasives as needed	N/R	- It is not recommended that chemicals be applied in this temperature range - Abrasives can be applied to enhance traction
Plowing – Before applying any ice control chemical, the surface should be cleared of as much snow and ice as possible.						
Chemical Application Rates – The recommended snow and ice control material application rates depend on atmospheric and pavement conditions at the time of treatment and on how these conditions are expected to change over the time period (window) between the current treatment and the next anticipated treatment. These application rates are starting points. Local experience should refine these recommendations. Time chemical applications to prevent deteriorating conditions or development of packed and bonded snow. Monitor temperature and humidity to determine application timing.						

- At the City’s discretion, snow control priority one (1) may be done in any order or combination of order for efficiency, effectiveness, or for the purpose of safety. Additionally, at the City’s discretion, snow control priority two (2) may be done in any order or combination of order for efficiency, effectiveness, or for the purpose of safety. For example, when going from one major arterial to another major arterial segment, the City may plow other segments with lower classifications in-between the major arterial segments. The City will normally begin plowing operations in the highest priority areas.
- The City will plow major and minor arterials and collector streets so, as a minimum, one through vehicular travel lane (approximately 10-feet wide) in each direction is passable. On multi-lane streets (those with 2+ lanes in each direction), the City will attempt to make passable two through lanes in each direction. In the event of heavy or on-going snowfall and/or storm events, these levels of service (LOS) may temporarily not be achieved. The City will reasonably attempt to obtain the described LOS as quickly as possible.
- When snow removal operations begin, the City will attempt to maintain a maximum of one inch of remaining snow cover on all arterial and collector streets once the initial level of service (LOS) has been achieved. On a local street, if plowed, the City will attempt to obtain a maximum of three inches of remaining snow cover in the travel lane once the initial LOS has been achieved.
- With the exception of cul-de-sacs, the City will normally plow snow to the side of all streets. Snow in cul-de-sacs will normally be plowed to the center of the cul-de-sac in an attempt to provide the largest turning radius possible for emergency services ingress/egress.

- It is the sole responsibility of the resident and/or property owner to remove all accumulated snow from the sidewalks along public streets adjoining their property. This includes any snow plowed from the public streets onto the sidewalk.
- Resident and/or property owner shall not shovel, blow or otherwise relocate or remove snow from their property, from the sidewalk, or from their driveway onto the public street or alley.
- The City shall not plow or remove any snow accumulation, including plowed snow, from the public streets, from any private property, other public organization, or other governmental jurisdiction, unless in accordance with prior interlocal agreement or as approved by the City Manager.
- The Kennewick Parkade (area between Dayton Street, Canal Drive, Washington Street, and 1st Avenue) will normally not be plowed to the point where the resulting snow piles prevent vehicles from using the on-street parking, because the resulting snow piles normally need to be hauled out in order for businesses to have effective use of on-street parking. The Parkade on-street parking areas may be plowed after all higher priority items have been completed and there is sufficient time to remove the resulting snow piles.
- Those streets designated as being snow routes, where parking is otherwise allowed, shall have parking removed during those periods when a snow emergency is declared by the City Manager. In the event of a declared snow emergency, locally available radio and cable media shall be notified of the declaration and public service announcements will be broadcast to the public at large.

Table 3: Ice control measures should begin under the following conditions (Refer to Table 2):

INTERSECTION AND ROADWAY CLASSIFICATION	PRIORITY
Bridges & canal crossings on Principal and Minor Arterials	1
Principal Arterial to Principal Arterial Intersections, Traffic Signals and Roundabouts	2
Principal and Minor Arterial Street Segments with grades >8 percent and longer than 200 feet	2
Principal Arterial to Minor Arterial Intersection	2
Minor Arterial to Minor Arterial Intersection	2
Collector Street Segments with grades >10 percent and longer than 250 feet	2
Bridges & canal crossings on Collectors	2
Local Street Bridges and Irrigation Canal Crossings (≥100 feet long)	2
Principal Arterial to Collector Intersections	2
Principal Arterial Street Segments	2
Local Street Segments with grades >10 percent and longer than 500 feet or > 100 feet and connecting to a Principal Arterial ⁽¹⁾	2
Minor Arterial to Collector Intersections	3
Collector to Collector Intersections	3
Minor Arterial Street Segments	3
Local Street Bridges and Irrigation Canal Crossings (< 100 feet long)	3
Collector Street Segments	4

(1) Minimum of one local public access street to a neighborhood area to be maintained at this level

- Ice control priorities one (1) through four (4) may be done in order or any combination of order for efficiency, effectiveness, or safety purpose. For example, when going from a priority two (2) to another priority two (2) the City may provide ice control measures for a lower priority area.
- It is the sole responsibility of the resident and/or property owner to provide ice control measures for sidewalks along public streets adjoining their property. (KMC 5.56.360)
- The City shall not provide ice control measures for any private property, other public organization, or other governmental jurisdiction, unless in accordance with prior interlocal agreement or as approved by the City Manager.
- The City will provide ice control to within 10-25 feet of railroad crossings that have gated crossings to minimize false gate down events. Note: The gate down circuit wiring is not insulated and can short circuit due to the conductivity of the salt if it gets down near the tracks and circuit.

General:

1. Snow and ice control activities exclude State highways (State Routes, SR) SR-395, SR-397, SR-240, and other State, County or adjacent City's streets and roads, unless per interlocal agreement; or the City is specifically requested to assist, has resources available to do so, and agrees to requested actions. City employees will be notified by management or supervisors of such agreements including specific actions to be taken and duration of the temporary agreement(s) when and if they occur.
2. The City's providing snow and/or ice control measures does not relieve the operator of private vehicles, pedestrians, property owners, residents, and all others that may be using public streets, of their responsibility to act in a reasonable and prudent manner given the prevailing conditions.
3. Following the completion of a snow /ice event, residents and/or property owners may sweep residue sand used in snow / ice control from the sidewalks along public streets adjoining their property into the street for eventual cleanup by the City's street sweeper. Sweeping will be accomplished as weather and other workloads allow.
4. Overall supervision of all street maintenance operations is the responsibility of the Traffic Engineer. The responsibility for directing and coordinating snow and ice control operations is assigned to the Assistant City Engineer. The decision to call out a crew for emergency work, after hours or on a weekend or holiday, shall be made by the Traffic Engineer, Assistant City Engineer, or Director of Public Works if, in his/her judgment, street conditions are such that the streets present an extreme hazard to the traveling public and immediate attention is required. Such conditions may be freezing rain, black ice, compact snow and ice, or drifting snow. In the event neither the Traffic Engineer nor the Assistant City Engineer is available, the Streets Crewleader, or acting Crewleader has the authority to make the decision whether or not to take action, and shall notify the Assistant City Engineer as soon as possible of the decision. The Assistant City Engineer, or his/her designee, shall notify the Traffic Engineer and the Director of Public Works whenever such operations are undertaken and keep them updated on the operations.
5. Snow and ice control operations have top priority in the Street Division's operation during periods of inclement weather and take precedence over routine activities, except those that immediately impact the health, safety and welfare of the public.

6. The Director of Public Works, or his/her designee, may reschedule the working hours when in his/her judgment it is necessary to more effectively and efficiently provide snow control. The rescheduling shall be implemented in accordance with the current labor contract.
7. The Traffic Engineer, or his/her designee, may reassign priorities when in his/her judgment it is in the best interest of the City or is necessary because of budget needs or other circumstances. Changes in priorities (lasting more than 4 hours) will be documented as to what caused such actions, why the change was necessary, and for how long the change is to be in effect. Those city employees and/or contractors affected will be notified immediately by radio or cell phone of such changes with all communications logged. Information logged will include the time and date of the communication, name of employee contacted and how they were contacted. Any changes of priorities lasting more than 24-hours must be made in writing and posted. In all cases, documentation of actions taken must be made and filed to explain the circumstances of such actions.
8. Contract labor and equipment or other local agencies shall be utilized to supplement City forces only in extreme conditions or when emergencies exist and with prior approval of the Director of Public Works or the Traffic Engineer.
9. The City will use the www.AccuWeather.com and to assist in the operations & maintenance decisions related to snow and ice weather forecasts or events.

LEVEL OF SERVICE FOR SNOW REMOVAL ON CITY OWNED PROPERTY / FACILITIES

Table 4: Snow / ice control measures should begin under the following conditions

PROPERTY LOCATION	SNOW ACCUMULATION	PRIORITY
Fire Station #1, 600 S. Auburn St Fire Station #2, 414 N. Morain St. Fire Station #3, 7400 W. Quinault Ave Fire Station #4, 2620 W. 27 th Ave.	Greater than 2 inches	1
Kennewick Police Dept., 211 W. 6 th Ave	Greater than 2 inches	1
Dan Frost Municipal Services Campus 1010 E. Chemical Dr.	Greater than 2 inches	2
E. 10 th Maintenance Yard 414 E. 10 th Ave.	Greater than 2 inches	2
Kennewick Senior Center 500 S. Auburn St.	Greater than 2 inches	2
Kennewick City Hall 210 W. 6 th Ave.	Greater than 2 inches	2
Kennewick Branch Library 1620 S. Union St.	Greater than 2 inches	2
Southridge Sports & Event Complex – Pavilion (Consider Event Schedule for the day)	Greater than 2 inches	3
Keewaydin Branch Library 405 S. Dayton St.	Greater than 2 inches	3
Museum Parking Lot 205 Keewaydin Drive	Greater than 3 inches	4
Downtown Parkade Parking Lot N.W. corner Kenn. Ave. & Benton St.	Greater than 3 inches	4
Grange Hall, 1500 S. Union St. Water Filter Plant, 615 E. Col. Dr. Wastewater Plant, 416 N. Kingwood Col. Park Maint. Shop, 5111 Col. Park Trail Kiwanis Bldg., 6007 Col. Park Trail	Greater than 3 inches	5

Note: Priority 1 shall be completed prior to proceeding to other priorities listed. Priorities 2 through 4 should be done before 8 a.m. or after 5 p.m. Priority 5 will be done only during normal work hours and after higher priorities have been completed. Snow control priorities indicated with "priority level one (1) may be done in order or any combination of order for efficiency, effectiveness, or safety purpose.

LEVEL OF SERVICE FOR SNOW REMOVAL ON CITY OWNED SIDEWALKS

Table 5: Sidewalk snow / ice control measures will normally be done during standard work hours under the following conditions (Performed by Parks Personnel)

PROPERTY LOCATION	SNOW ACCUMULATION	PRIORITY
Kennewick Police Dept., 211 W. 6 th Avenue	Greater than 3 inches	1
Kennewick City Hall 210 W. 6 th Ave.	Greater than 3 inches	1
Fire Station #1 600 S. Auburn St.	Greater than 3 inches	1
Kennewick Senior Center 500 S. Auburn St.	Greater than 3 inches	2
Southridge Sports Complex - Pavilion	Greater than 3 inches	2
Kennewick Branch Library 1620 S. Union St.	Greater than 3 inches	2
Keewaydin Branch Library 405 S. Dayton St.	Greater than 3 inches	3
Other City Facilities	Greater than 3 inches	4

Note: Priorities 1 through 3 shall be completed prior to proceeding to other priorities listed. Other facilities may be completed after higher priorities have been completed and time & conditions allow.

Approved by: Peter Beaudry Date: 9/21/2012
 Peter Beaudry
 Director of Public Works

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