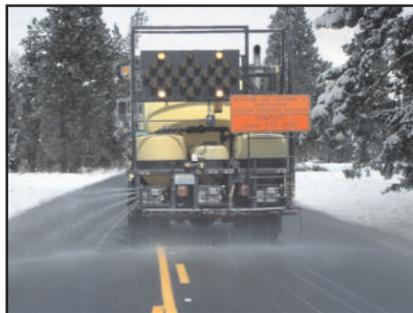


Chemical Snow and Ice Control

WSDOT has greatly reduced the use of sand for providing traction during snowy and icy conditions. Chemicals (salts) are now the primary method for controlling snow and ice to improve winter roadway conditions.

Sand is still used at times to provide traction at busy intersections and on certain curves and grades where chemical ice control is less effective. Sand is also used when temperatures drop below 15°F, as chemicals don't work as well when it's that cold. Today's snow and ice control strategy places a priority on the chemical treatment of roadways before and after snowstorms and periods of ice buildup.



Advantages of controlling snow and ice with chemical vs. sand

Controlling ice and snow with chemicals offers several advantages over using sand, and provides safer roads for the taxpayer. Overall, resulting in better pavement conditions, fewer accidents and improved freight mobility.

	Chemical	Sand
Applied before a snowstorm	Prevents ice from forming and freezing rain and light snow from sticking	Sand is not applied before a snowstorm. It does not prevent slick conditions.
Applied after a snowstorm	Melts the ice and compacted snow improving traction	Minimal improvement of traction
Amount needed	200 pounds per lane mile	1,500 pounds per lane mile
Staying in place	Sticks well to the roadway requiring fewer applications	Dry sand blows to the shoulders after the first few vehicles pass, requiring frequent application
Damage to vehicles	Contains anti-corrosion additive and little becomes airborne reducing effects to vehicles	Becomes airborne easily, chipping windshields, headlights and paint
Cleanup	Tax savings have resulted as spring clean up of sand has been dramatically reduced.	Expensive cleanup of sand that has accumulated along the roadside. Sand plugs drainage.
Environmental effects	Proper application of chemicals causes no negative effects to water or vegetation	Adds to airborne (dust) pollution and clogs spawning beds in streams adjacent to highways, causing buried fish eggs to fail to develop

BE SMART • BE SAFE • BE PATIENT

When you see the snowplows and trucks at work, be patient and stay back. Remember that your safety is most important.

Your best bet is to wait until the snowplow operator pulls over and lets you pass when it is safe.

Snowplows can throw snow to either side of the vehicle during removal. The vehicle may also have a wing plow that extends out from its right side, and may not be easily visible at night or in heavy snow conditions. When it is safe, use extreme caution to pass a snowplow.

Be smart, be patient, and don't pass unless there is a safe place to do so.



Looking for travel information?



or log on to our web site at: www.wsdot.wa.gov

For more information about the Snow and Ice Program, contact:

WSDOT – South Central Region
 Casey McGill, Maintenance and Operations
 P.O. Box 12560
 Yakima, WA 98909
 Phone – (509) 577-1901
 E-mail – CMcGill@wsdot.wa.gov

www.wsdot.wa.gov/winter/



Snow and Ice Program



Dual use of equipment
Herbicide/Anti-icing applicator



Cottonwood and Rimrock
Maintenance crews



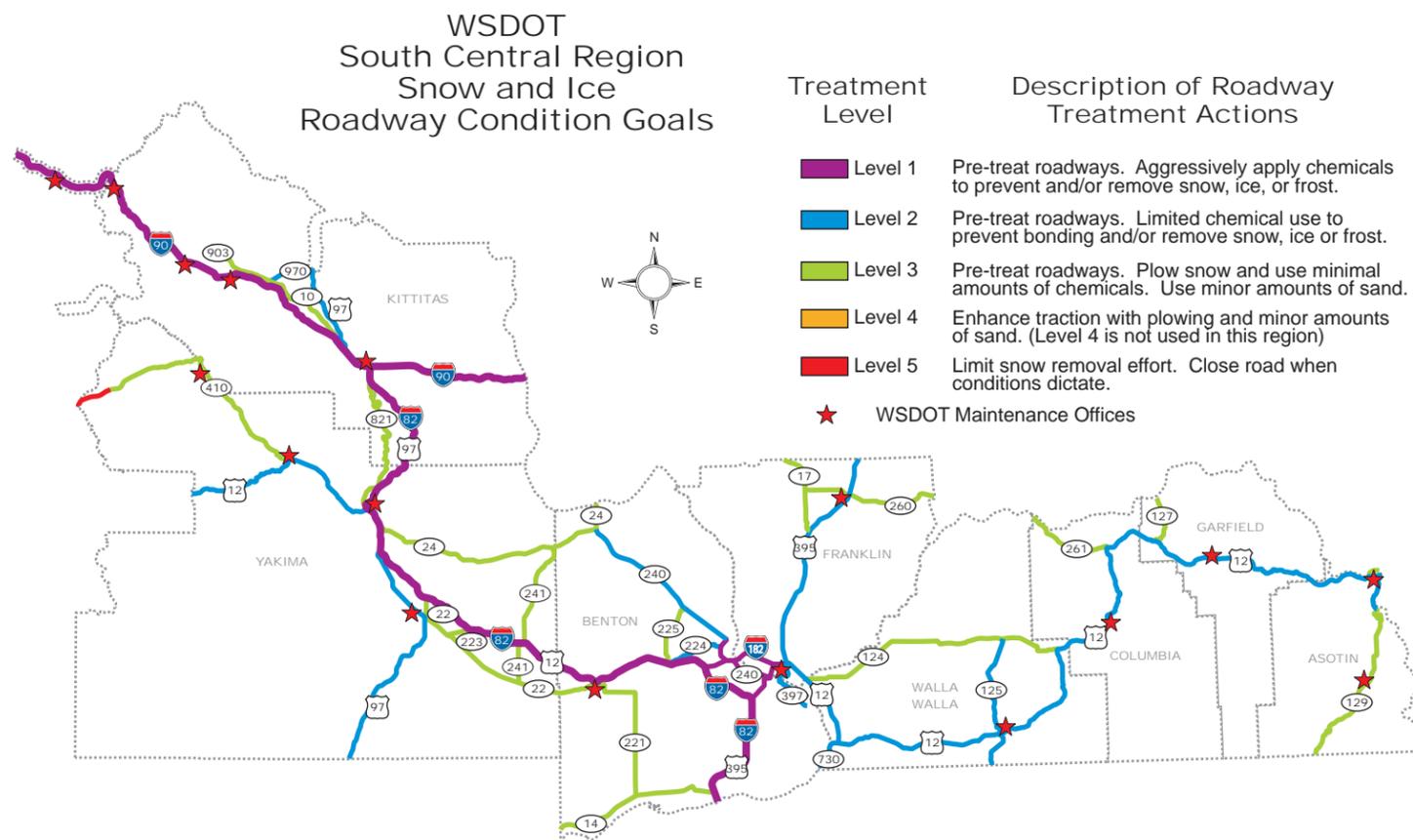
Tandem plowing at night helps
keep the highway open

What is the Snow and Ice Program?

The Snow and Ice Program is WSDOT's strategy to maintain the state highways for safe winter driving. This plan aids in the prevention of snow and ice buildup on the roadway and provides for the removal of snow and ice from the roadway when inclement weather arrives.

Which roads are cleared first?

The highways have been ranked using posted speed limits, traffic volumes, and highway continuity to determine which resources, equipment, and supplies are allocated to a particular highway when a snow or ice event occurs. This allows for the most economical and efficient use of these valuable resources.



Equipment and Methods

The WSDOT fleet includes a variety of equipment for battling snow and ice on our highways. These vehicles are used to apply chemical treatments to the road, remove snow, and spread sand to improve winter roadway conditions.



Liquid Spray Truck

These trucks are used to apply liquid chemical to the roadway.

When the road is bare liquid chemical can be applied to prevent ice from forming and to stop snow and ice from bonding to the roadway.

Once the snow falls, liquid chemical can also be applied to aid in the removing of snow or ice.



Snow Blower

The Kodiak snow blower shown in both pictures travels at 1½ to 3 mph. This blower can throw the snow well over 100 feet to the side at this speed.

Snow blowers are used during avalanche control, clearing deep snow on the mountain passes, and along the highway where the snow builds up and must be thrown clear of obstructions.



Snowplow

The truck on the left has a "Bat Wing" front plow and a wing plow mounted on its right side. The two way dump box is able to dump forward or backwards.

The truck on the right has a front plow blade and a hopper sander box that is used for applying sand and solid chemicals.

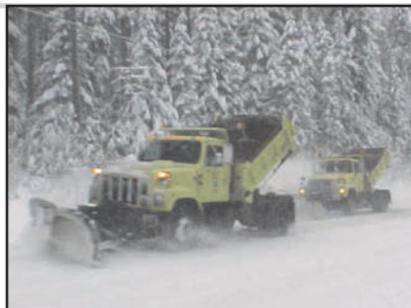


Tandem Plowing

Tandem plowing is used when plowing can only be done in one direction, such as multi-lane divided highways.

Tandem plowing can involve two or more plows working in succession at speeds close to 35 mph.

- BE SMART • BE SAFE • BE PATIENT
- PASS WITH EXTREME CAUTION



Avalanche Control

Heavy snowfall in the mountains followed by rain or warm weather can lead to avalanche hazards. WSDOT maintenance crews use explosives to set off controlled avalanches to direct when and where the snow comes down the mountain. When possible, avalanche control is done during off-peak travel time – and many times traffic is stopped for safety. Snoqualmie (I-90) and Stevens (US 2) passes are two areas that experience a heavy amount of avalanche control work.



Keeping I-90 Snoqualmie Pass Open

During the winter, keeping I-90 Snoqualmie Pass open and safe is a challenge. The pass is a primary west-to-east route for four million Puget Sound residents, as well as a key east-west path for commercial traffic. It is estimated that every hour the pass is closed imposes a commercial and societal cost of \$700,000. WSDOT has developed two tactics to help keep the pass open: Active Resource Management (ARM) and Traffic Flow Management (TFM).

Active Resource Management (ARM)

ARM is a system for concentrating statewide snow removal equipment and operators at Snoqualmie Pass during severe winter weather.

When a significant snowfall event is forecast for the pass, WSDOT coordinates the transfer of snowplows, snow blowers, operators, and incident response vehicles to the scene; the equipment is rolling hours in advance of the forecast event. Personnel and equipment are shifted from maintenance facilities between Bellevue and Pasco to work at the pass. The areas that have sent equipment and personnel to the pass are covered by other resources from as far away as Dayton and Walla Walla.

ARM allows for aggressive, around-the-clock snow removal and deicing operations at Snoqualmie Pass, with twice as many vehicles and people available to help keep the roadway passable and safe.

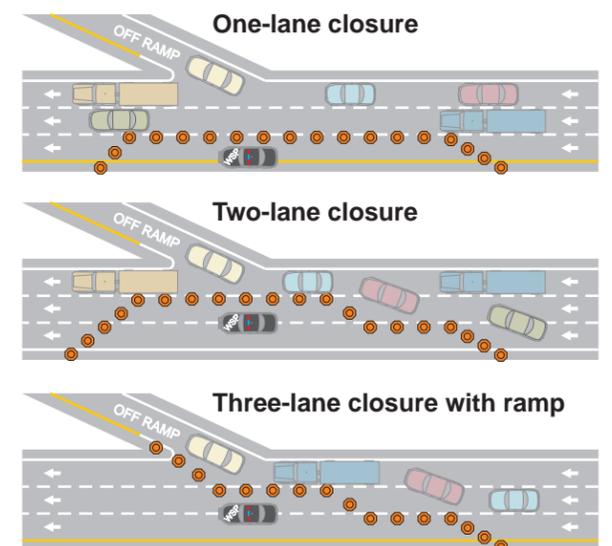
Traffic Flow Management (TFM)

Traffic Flow Management (TFM) is a system designed to regulate the number of vehicles crossing the pass in a given period of time. It involves temporarily closing some of the lanes to create more space between vehicles.

Increased spacing and fewer vehicles improves traveler safety and allows snow removal to happen more quickly.

TFM Benefits:

- Reduces the chance of multiple-vehicle accidents by increasing the spacing between cars and trucks.
- Aids in snow removal efforts by making it easier for snow removal equipment to get into the traffic flow, allowing for more frequent snowplow runs.
- Reduces compaction of snow on the roadway, making it easier to clear the road.



Incident Response Team (IRT): Clearing Roads, Helping Drivers

The Incident Response Team (IRT) is a specially-trained group of WSDOT maintenance employees that provide assistance to motorists on our state's freeways and highways. Motorist and incident scene safety is the IRT program's top priority. This priority is accomplished through safe, quick responses and incident clearance. IRT members are on standby during winter weather at I-90 Snoqualmie Pass 24 hours a day, seven days a week, to provide motorist assistance, traffic control, mobile communications, and incident clearance and cleanup.

Incident Response Truck



Passenger Vehicle Tow Truck



Heavy Vehicle Tow Truck

