



Winter Weather Resources

Snow and Ice Program

Innovative Approach

WSDOT uses the most innovative technology for treating snow and ice on the roadway, which provides a more proactive approach to winter weather events. At WSDOT, prevention begins before snow and ice hits the roadway.

Maintenance crews use advanced weather forecasting to predict where snow and ice will accumulate, before it arrives. This information is then used to initiate a preventative response by applying de-icing agents to roadways in high priority areas. The de-icing agents also help during extreme cold temperatures, when precipitation on roadway surfaces turn into ice.

Advanced Weather Information Systems

The Highway Advisory Radio Systems (HARS) broadcast traffic and weather conditions to motorists in the immediate area. Southwest Region HARS stations are located on I-5 in Ridgefield, Castle Rock, Napavine and on US 97 in Maryhill.

WSDOT currently owns 65 Road Weather Information Systems Environmental Sensor Stations and has access to 6 additional sites. These systems record real-time weather information used for forecasting and operations, including air temperature, road surface temperatures, humidity, wind speed, and, in some cases, the percent of anti-icing solution on the roadways.



WSDOT Southwest Region Traffic Management Center (TMC) located in Vancouver



WSDOT snow blower near White Pass



A closer look at WSDOT's snow blower



A closer look at WSDOT's snow blower

What is the Snow and Ice Program?

The Snow and Ice Program is WSDOT's comprehensive strategy to maintain the state highways for winter driving.

The Southwest Region Snow and Ice Plan aids in preventing snow and ice buildup on the roadway and provides for the removal of snow and ice when winter weather arrives.

How to know which roads are clear?

The Southwest Region's highways are ranked in priority for snow and ice removal. WSDOT uses the most current statistics to determine this priority, including traffic volumes, number of steep hills, sharp curves, intersections, ramps, or other potentially dangerous areas. These statistics then determine what resources, equipment, and supplies are necessary on a particular highway.

The goal is to provide a bare and wet highway surface on all state highways in the region as soon as possible after a storm. The priority listed below is the order in which WSDOT deploys resources.

Road Condition Goals/Resource Allocation

Traffic Management Center

The Southwest Region's Traffic Management Center (TMC) is located in the Vancouver headquarters building, which is shared with the Washington State Patrol District 5 office. The TMC operates 24-hours a day, seven days a week, and uses HARS, Variable Message Signs, radio communications, and traffic cameras located throughout the region to ensure effective and timely response to incidents, and to help keep highways clear and safe for public use.

Traveler Information

WSDOT also utilizes Variable Message Signs, which are electronic message boards that advise travelers of changing traffic accidents, speed limits, and road conditions ahead. There are 18 Variable Message Signs in the Southwest Region located on I-5, US 12, US 97, SR 14, and SR 500.

Contact Us

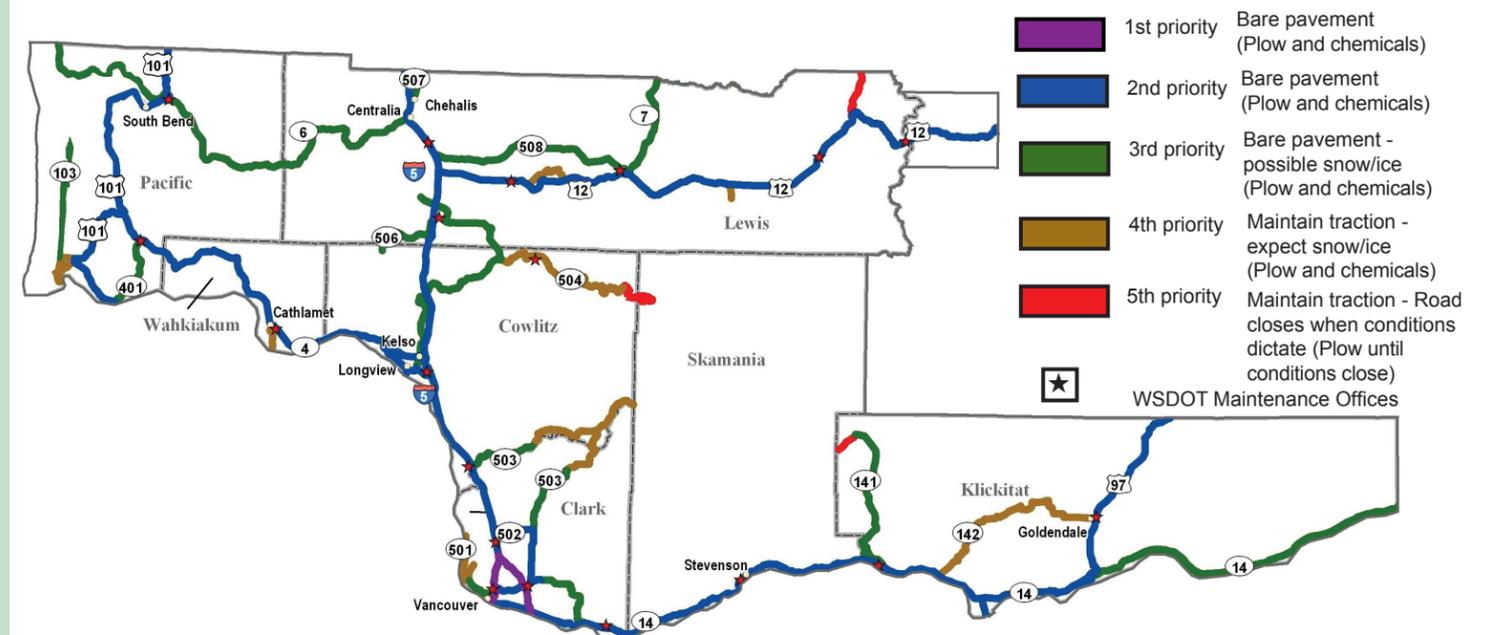
WSDOT Communications - Southwest Region
E-mail: SWWebInfo@wsdot.wa.gov
Phone: (360) 905-2000

Mailing Address:
WSDOT Southwest Region
P.O. Box 1709
Vancouver, WA 98668-1709



Traveler Information Sign recently installed on SR 14 near Stevenson

Road Condition Goals/Resource Allocation



Methods and Equipment

WSDOT's innovative approach and preparedness helps keep our state highways open during the harsh winter months.

Snow Plows



The Southwest Region uses two types of snow plows to remove snow and ice from the roadway.

The snow plow 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, granting increased plow mobility during adverse weather conditions.

This snow plow on the right has a front plow blade and a hopper sander box that is used for applying solid chemicals and sand, if needed.



Tandem Plowing



Tandem plowing uses two or more plows working in succession at speeds up to 35 mph.

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

Tandem plowing works to clear the highways, fast and efficiently.



Snow Blower



Snow blowers are used to clear deep snow on mountain passes, and along the highway where snow builds up and must be moved clear of obstructions.

The Kodiak snow blower shown in both pictures travels at 1 1/2 to 3 mph. At this speed, the blower can throw the snow well over 100 feet.

The Kodiak snow blower in action, blowing snow to clear the roadway.



Liquid Spray Truck

Liquid spray trucks are used to apply a liquid anti-icing chemical to the roadway. When the road is bare, applying a liquid anti-icing chemical can prevent ice from forming.



When snow falls, applying liquid anti-icing chemicals to the roadway helps break up the snow and ice, making removal easier and more effective.

Treatment and Preparedness

WSDOT has reduced its use of sand and implemented a program that includes liquid and solid chemical treatments to control snow and ice, improving roadway conditions.

How it Works

The main anti-icing and de-icing agents used are solid and liquid forms of calcium chloride, magnesium chloride and WSDOT's new inhibited salt brine mixture.

The new inhibited salt brine was used on US 12, White Pass last year and will be applied to other state routes in southwestern Washington this winter.

The liquid is applied in advance of a storm to prevent ice from forming or snow from sticking, and after a storm to melt hard packed snow and ice after a storm. In addition, WSDOT uses a liquid salt brine mixed with a corrosion inhibitor on highways in Lewis County.

Region wide, WSDOT has reduced the use of abrasives (sand, gravel) significantly in favor of solid and liquid anti-icer and de-icer chemicals. Abrasives can be much more expensive to use than chemicals because of the need to continually reapply, as well as the extensive cleanup required.

De-icing Agents

Anti-icing - Liquid calcium chloride, magnesium chloride or inhibited salt brine is applied to a bare road before a storm to prevent a hard bond of ice from forming, to reduce the amount of snow buildup, and to accelerate the snow and ice break up after a storm.

De-icing - Liquid or solid calcium chloride, magnesium chloride or inhibited salt brine is applied to remove a thin layer of snow or ice already on the road. It can also be very effective for melting and preventing black ice and freezing rain from adhering to the road.

Pre-wetting - Wetting solid chemical material and sand with calcium chloride causes them to stick to snow better. Keeping solids on the road is nearly impossible in some circumstances, especially in very cold weather with high-speed traffic. In these instances, liquid calcium chloride can help keep the sand from blowing off the road.

Safe Winter Driving Tips

- Plan ahead, check your routes, and carry chains as a precaution if you don't have four-wheel drive.
- Drive with your headlights on.
- Slow down when approaching intersections, off-ramps, bridges or shady spots on the roadway.
- Plan ahead and distance yourself from other motorists on the road.
- Give yourself distance between snow plows on the roadway. They can throw up a cloud of snow that can reduce your visibility.
- Keep your vehicle clean during the winter. It helps keep snow and road grime from sticking to your vehicle, as well as corrosion caused from chemicals on the roadway.
- Avoid abrupt actions while steering, braking or accelerating to lessen the chances of losing control of the vehicle.
- Trucks take longer to stop. Don't cut in front of them.
- Stopping on snow or ice without skidding requires extra time and distance. If you have anti-lock brakes, press the pedal down firmly and hold it. If you don't have anti-lock brakes, gently pump the brake pedal.
- Never pass a snow plow when it's engaged in snow removal operations.
- Do not pass a snow plow on its right side, as that is where the snow is thrown. The plow may also have a wing plow that extends from the right side and may not be visible.

Get the most up-to-date information about weather impacts, travel alerts, highway closures or mountain pass conditions can be obtained on WSDOT's Traveler Information Web page (www.wsdot.wa.gov/traffic/), or by dialing 5-1-1 from any phone.

