Avalanche Forecasting and Control

I-90 Snoqualmie Pass and US 2 Stevens Pass

What passes are closed in the winter?

SR 410 Chinook Pass (5,430') Chinook Pass is located on SR 410 between the towns of Enumclaw and Naches. Chinook Pass closes from Morse Creek (five miles east of the summit) to Cayuse Pass. When closed, the Crystal Mountain Ski Resort can be accessed from the west side, but cannot be accessed from the east closure point on SR 410.

SR 123 Cayuse Pass (4,675') Cayuse Pass connects to Chinook Pass and White Pass on the west side of Mount Rainier National Park. Crews close the gates in the north on SR 410 just south of Crystal Mountain Boulevard and in the south on SR 123 at the Mount Rainier National Park entrance. The closure affects eight miles of SR 410 and nearly 14 miles of SR 123.

SR 20 North Cascades Highway (4,855') SR 20 is the northernmost route across the Cascade Mountains. The highway is closed to traffic from milepost 124, the Diablo Gate, to milepost 171, the Silver Gate.

How does WSDOT maintain state highway passes?

WSDOT is committed to maintaining safe, efficient and reliable transportation systems. This commitment reaches beyond our highways to steep and often avalanche prone mountain slopes that threaten the highways and the traveling public.

WSDOT’s Avalanche and Forecasting Control team is a dedicated crew of experienced professionals who monitor the weather and snow to determine when avalanches may occur. The crew is split into two regional teams with full-time employees and seasonal employees. The Avalanche Control Supervisor for each team leads the crew throughout the year.

What is avalanche forecasting?

Avalanche forecasting determines the potential risk along a particular mountain slope. Avalanche forecasts are based on past, current and forecasted conditions. Some important factors used to determine the avalanche hazard include:

- New snow or rain
- Temperature
- Wind speed and direction
- Existing snow conditions

This information is combined with a mountain weather forecast to predict the chance an avalanche will occur on a particular mountain slope.
Why does WSDOT perform Avalanche Forecasting and Control?

The WSDOT Avalanche Forecasting and Control team was established to reduce the danger of avalanches reaching the highway. Numerous avalanche paths along state highways have the potential to impact the safety of the traveling public and the reliability of our transportation system.

Where does Avalanche Control happen?

Stevens Pass and Snoqualmie Pass are both maintained throughout the winter and avalanche control work is performed to keep the highway safe for the traveling public. WSDOT typically closes Chinook Pass, Cayuse Pass and the North Cascades Highway each winter due to avalanche danger. Avalanche specialists perform avalanche control work in the spring so these passes can reopen in time for busy summer travel.

Avalanche control may be necessary anytime between November and June depending on the amount of snowfall and conditions. WSDOT avalanche crews try to plan avalanche control during times when the traffic volumes are low. This is not always possible as safety takes priority over convenience. Crews reopen Chinook, Cayuse and the North Cascades Highway in the spring, but depending on conditions, more avalanche control work needs to be done.

How does WSDOT conduct avalanche control work?

WSDOT avalanche crews deploy explosives and trigger avalanches in a controlled manner. Explosives are delivered to an avalanche slope using aerial trams, artillery or by hand. When conditions warrant avalanche control measures, the avalanche crew will ask for traffic to be stopped in a safe area outside the avalanche zone.

What happened to the snowshed on Snoqualmie Pass?

In spring 2014, WSDOT and the contractor removed the 64-year-old snowshed to start construction on two new avalanche bridges. This work is part of the I-90 Snoqualmie Pass East Project that builds a wider, more reliable stretch of I-90 from Hyak to Keechelus Dam. Without a snowshed, clearing snow from I-90 after avalanche control work will take longer. However, the traffic pains are temporary. By winter 2016, both directions of traffic are schedule to be traveling on the first of two new bridges. A second bridge will open to traffic in 2018. Until then, drivers are encouraged to plan for added travel time over the next two winters.

How does WSDOT utilize new technology for avalanche forecasting and control?

WSDOT avalanche crews test new technologies that could be incorporated into the avalanche control program. WSDOT avalanche personnel continue to test, evaluate and research new and/or improved methods of avalanche forecasting and control.

What do recreationalists accessing backcountry areas need to know?

Skiers and snowboarders accessing backcountry areas could potentially trigger avalanches that will impact the highway. On Stevens Pass, signs mark the area between mileposts 60.15 to 66.24 as a designated No Parking, No Hitchhiking or No Pedestrian Zone from November 1 through April 15. On Snoqualmie Pass, signs are posted warning skiers and snowboarders about avalanche control zones. Hitchhiking and non-emergency stops are prohibited along Snoqualmie Pass.