

The Alaska Department of Transportation and Public Facilities (ADOT&PF) has added a powerful tool in the fight to protect Alaska's highways from winter avalanches. The innocuous sounding "Daisy Bell" is a conical shaped blaster suspended on a long line about 100' beneath a helicopter. It packs a powerful punch large enough for triggering avalanches using a mixture of hydrogen/oxygen gas.

The Daisy Bell will primarily be used for the avalanche paths on the Seward Highway between Girdwood and Bird (Mileposts 90-99) where numerous avalanche paths exist adjacent to each other above a section of highway with the highest traffic volumes of any stretch of ADOT&PF roads susceptible to avalanches. This new device will be most effective when the weather is flyable and the snowpack is still reactive to explosive triggers. We see these types of conditions a several times per winter.

Currently ADOT&PF utilizes a WWII era howitzer to shoot the snow pack to reduce avalanche hazard. Artillery will remain the staple of the Department's hazard reduction operations because most avalanches that affect the road occur during storms or within 24 hours following a storm. Visibility is usually poor when we need to do most of our avalanche work; so, we rely on "blind fire" data which allows us to hit pre-determined targets with artillery in almost any type of weather. When visibility is good, we can shoot additional targets with the howitzer, but the Daisy Bell will allow us to conduct this work much faster, with more precision, and with fewer employees. For the howitzer to shoot from the 4 main gun mounts within the MP 90-99 area, it typically takes 3 hours of road closures. The Daisy Bell will be able to accomplish the same amount of blasting in just 45 minutes which will result in fewer impacts to highway travelers and increase the amount time spent by ADOT&PF employees on snowplowing and other winter maintenance.

The extra precision of the Daisy Bell will allow the Department us to conduct important preventative maintenance work to clean out some of the avalanche starting zones that are challenging to hit with artillery. This will reduce the probability of "larger than expected" avalanches during subsequent storms. Plus the Daisy Bell can accomplish this at a lower cost than using artillery for comparable work.



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