

Keeping the Highway Safe

El Paso County – The Colorado Department of Transportation (CDOT) has been faced with some serious challenges since the June 2012 Waldo Canyon Fire in El Paso County.

The catastrophic fire burned over 18,000 acres of vegetation leaving a burn scar that does not absorb water. Because of the burn scar, CDOT officials have been concerned about frequent rain storms that cause debris runoff. This runoff can result in floodwaters flowing over stretches of U.S. Highway 24 through Waldo Canyon.

This overflowing can quickly turn into a catastrophic event. Traffic on U.S. Highway 24 averages 25,000 vehicles per day between west Manitou Springs and Cascade, four miles to the northwest. This roadway is a key transportation corridor between Colorado Springs and communities nestled throughout the Front Range.

This problem was demonstrated on July 9, 2012, when a mudslide crossed Highway 24 just west of Cascade after an afternoon rainstorm in the region. It sent charred logs, mud, rocks, and ash to the roadway. CDOT quickly closed one lane of the road each way.

“For the safety of the motorist we have had to close the highways due to sediment and other debris on the road,” said Dave Watt, resident Engineer for the Department of Transportation. “The closing of Highway 24 affects motorists, commuters, gamblers, and tourists, along with local business owners and civic leaders.”

Several mitigation measures have been incorporated at state and county levels to address this risk. The top priority for CDOT involved stabilizing slopes on the north side of Highway 24 and installing sediment traps and cut off walls. These mitigation projects also improved drainage with expanded culverts. About \$75,000 was spent to stabilize the Fountain Creek embankment to prevent erosion south of the highway below the Rainbow Falls Bridge.

Another mitigation effort in El Paso County involved sediment ponds designed to collect sediment from flood waters.

“We have four ponds that absolutely help by holding the debris”, said Watt. “During rainstorms, 50 percent of what comes down is debris. These ponds are cleaned out by the maintenance department after every flood event.”

Constantly implementing procedures to keep the roads safe, the CDOT established a new protocol to help enhance safety for the traveling public on Ute Pass when flooding is likely or imminent. The Ute Pass is located west of Colorado Springs to the north of Pikes Peak and is located along Highway 24.

The new protocol requires CDOT maintenance crew to actively patrol Highway 24 in the Waldo Canyon burn area between Manitou Springs and Cascade, 24 hours a day, seven days a week until October 1, 2013. In addition, when the National Weather Service issues a Flash Flood Warning, or more than one quarter of an inch is detected in the burn area rain gauges, CDOT and the Colorado State Patrol will close the highway. The highway would remain closed until the warning is lifted, any debris is removed from the highway, and the road is safe to travel.



Electronic message signs along Highway 24 display current weather conditions or forecasts. This allows CDOT to spread the word in case stormwater events are anticipated, Watt said.

“Nothing is foolproof but all efforts give us a better chance of keeping the highway open,” Watt said. “The goal is to maintain a reliable Highway 24 to benefit the Ute Pass and Cripple Creek areas.”