

**USDA Forest Service**  
**Southwestern Region**  
**Apache-Sitgreaves National Forests**

**Hannagan Meadow Motor Vehicle Accident  
Facilitated Learning Analysis**



“It’s a good thing that I didn’t  
remove my hardhat before  
getting into the truck”

## Description of events

**Summary** – On Wednesday September 21, 2001 at approximately 1100 hours two persons were driving southbound on Arizona State Highway 191 in a Dodge Ram 2500 as part of a sign crew working on the Apache National Forests Alpine Ranger District. The work detail consisted of three Apache-Sitgreaves National Forest employees in two vehicles. As the vehicles approached the community of Hannagan Meadow, the second vehicle drifted off the right shoulder of the roadway immediately dropping six inches down from the roadway surface. As the vehicle began to drift the passenger called out to the driver to “look out”. The vehicle left the roadway at fifty miles per hour and began to traverse the forty-five degree declined soft shoulder parallel to the highway as the driver began corrective actions. As the vehicle began to turn back towards the highway it impacted an eight inch DBH tree at the front passenger door, uprooting the tree causing the vehicle to stop. One individual was injured in the accident.



“A serious head injury to the passenger because of impact with the crushed interior door frame was avoided because he was still wearing his hard hat”

**Narrative** – Three seasonal employees were assigned to a sign detail on the Alpine Ranger District to add additional signage and replace signs that were damaged due to the Wallow Fire that burned through the Apache-Sitgreaves National Forests from May through July 2011. The Wallow Fire burned over 535,000 acres and was declared 100% contained on July 8 2011. After completing work on Forest Road 37 the employees proceeded to their next work location in two vehicles. One employee drove the lead vehicle while the other two followed in a Dodge Ram 2500. After coming to the intersection of FR37 and FR26 the vehicles turned left and proceeded east

on FR26. Traveling approximately one mile on FR26, the work crew turned south at its intersection with HWY191. After following the lead vehicle for about eight miles, the driver of the second vehicle “started to sneeze”, tilting his head back slightly and closing his eyes. It was at this point that the road began to curve to the left. The passenger, noticing that the vehicle was “drifting to the right” and about to leave the roadway, yelled at the driver to “look out”. The right front tire of the vehicle dropped off of the asphalt surface, pulling the vehicle off of the highway. The driver attempted to correct by turning the steering wheel to the left. Departing the roadway at approximately fifty miles per hour the vehicle proceeded downward onto the soft shoulder as the driver attempted his corrective maneuver. As the vehicle began a slight turn back towards the roadway the right front fender impacted an eight inch DBH tree.



“The driver of the lead vehicle took charge of the situation by ensuring that 911 was called and that forest officials were immediately notified”

Due to the momentum of the vehicle and the angle and force of the impact, the tree began to collapse the passenger side of the vehicle. Upon impact with the right rear passenger door the vehicle came to a stop.



“First aid was immediately administered to the injured employee including using a compress to stop bleeding, stabilizing his arm, and NOT elevating his feet due to possible back injury”

After coming to a stop, the driver of the truck that had just impacted the tree called the driver of the lead vehicle for assistance. The lead vehicle turned around and went back to assist. Upon arrival at the scene, the lead vehicle driver turned on his flashers and “laid out cones” to warn oncoming vehicles. He then went to the cab on the vehicle and found that the driver had already out of the vehicle. The passenger still had the seat belt on along with a hard hat, his safety glasses came off during the impact. He was helped out of the vehicle and moved a safe distance from the vehicle and away from the roadway. A compress was applied to try to stop the bleeding and his right arm was stabilized. The accident occurred in a radio and cell phone “dead zone” on the forest. Fortunately a passer-by stopped who had a satellite phone and called 911. The Alpine Fire Department was dispatched to the scene and responded within thirty minutes. The passenger was stabilized and transported via air ambulance to the Regional Medical Center in Show Low, AZ.



“The side-curtain airbag, seatbelt, sunglasses, and hardhat prevented life changing injuries to the passenger”

**Environmental Conditions** – On this day the weather was good, temperatures in the 70’s with light winds and clear skies. The road surface was dry but received light precipitation the week prior. Traffic was light and was not a causal factor in the accident. The road surface was constructed using hot mix asphalt concrete and is in excellent condition. There is a minimal hard shoulder, no more than eighteen inches wide, that transitions into a soft shoulder consisting of gravel nearest to the roadway, shifting to a mixture of gravel and larger rocks further down the embankment. The soft shoulder fillslope is at a forty-five degree decline from the roadway to the forest floor. There appears to be a minimal recovery zone beyond the pavement limits with a non-traversable slope.

**Observations** – Driving a motorized vehicle while on duty with the Forest Service is a highly skilled task that has the potential for accident and serious injury even under the best circumstances. The forest roads and state highway that the employees were driving on were in excellent condition and there were not any environmental concerns that morning. The employees had participated in numerous tailgate safety sessions regarding the risks involved in their activities.

## Recommendations –

- 1) Ensure that all documentation regarding drivers training, defensive driving, and licensing is readily available for each employee.
- 2) Standard Forest Service issue first aid kits may not be suitable for crews that work in remote locations, consider adding additional items that may be needed for first aid response.
- 3) Ensure that all employees who respond to an accident scene have reflective vests available and that they are worn.
- 4) Policies and procedures need to be in place to ensure that there is a “lead” employee on scene who is in command.
- 5) Create a safety/tailgate training session on how to respond to a vehicle accident. Items that should be included are:
  - a. How to identify the lead employee on-scene,
  - b. How to properly document all actions taken,
  - c. Who should monitor radio/communications,
  - d. Duties of the 1<sup>st</sup> and 2<sup>nd</sup> person on-scene,
  - e. Duties and responsibilities of employees who arrive later on the scene
- 6) Work with the Arizona Department of Transportation to ensure that recovery area agreements are in place per ADOT roadway design guidelines where feasible on state highways that are located on Forest lands.
- 7) Ensure that all employees who conduct field work have CPR and 1<sup>st</sup> Aid training.
- 8) All FS vehicles that have mounted utility boxes need to be inspected to ensure that they are mounted per manufactures specifications. The utility box of the vehicle was only mounted using one bolt per side. As a result of the impact the box separated from the truck bed.



## FLA Team Members –

Clifford Myers – Interagency Safety Manager; U.S. Forest Service – Tonto National Forest, Bureau of Land Management – Phoenix District

Philip Tagg – Fire Training Specialist; Cibola National Forest

Dale Mance – Fleet Manager; Tonto National Forest

“While this was a very serious accident, the injuries suffered by the passenger were MUCH less than what they might have been”

“The employees at the Apache-Sitgreaves were very open with the FLA team and it was apparent that everyone interviewed was concerned for the injured employee and interested in working together as a forest toward preventing an accident like this in the future”