

REDUCING THE RISK OF ROLLOVER CRASHES IN PASSENGER VANS

Passenger vans typically have seating positions for a driver and multiple passengers. They are widely used by community organizations to take members on short trips and outings. Colleges use them to drive sports teams to intercollegiate games and vanpools use them for commuters.

What increases the risk of rollover crashes?

Recent research conducted by the National Highway Traffic Safety Administration (NHTSA) has found that the risk of a rollover crash is greatly increased as more people ride in a passenger van. This increased risk occurs because the passenger weight raises the vehicle's center of gravity and causes it to shift rearward. As a result, the van has less resistance to rollover and handles differently from other commonly driven passenger vehicles, making it more difficult to control in an emergency situation. Placing any load on the roof also raises the center of gravity and increases the likelihood of a rollover.

What situations can cause a rollover?

A rollover crash is a complex event, heavily influenced by driver and road characteristics as well as the design of the vehicle. In studies of single-vehicle crashes, NHTSA has found that more than 90 percent of rollovers occur after a driver has lost control of the vehicle and has run off the road.

Three major situations can lead to a rollover in a passenger van.

- **The van goes off a rural road.** If this occurs, the van is likely to overturn when it strikes a ditch or embankment or when it is tripped by an object or runs onto soft soil.
- **The driver is fatigued or driving too fast for conditions.** A tired driver can doze off and lose control. The driver can also lose control when traveling at a high speed causing the van to slide sideways off the road. The grassy or dirt medians that line highways can often cause the van to overturn when the tires dig into the dirt.
- **The driver overcorrects the steering as a panic reaction to an emergency or to a wheel dropping off the pavement.** Especially at freeway speeds, this situation can cause the driver to lose control, resulting in the van sliding sideways and rolling over.

What can organizations do to protect their passengers?

Over the past decade, 80 percent of people killed in rollover crashes in passenger vans were unbelted.

Passengers can dramatically reduce their risk of being killed or seriously injured in a rollover crash by simply using their seat belts. Drivers and passengers of University vehicles must use seat belts while the vehicle is in motion. (*RCW* 46.61.688) Drivers are responsible for enforcing the policy.

Seat belt use is especially critical because large numbers of people die in rollover crashes when they are partially or completely thrown from the vehicle. NHTSA estimates that people who wear their seat belts are about 75 percent less likely to be killed in a rollover crash than people who don't.

Does an experienced driver make a difference?

Significant differences in the design and handling characteristics of a passenger van make it drive differently from other passenger vehicles. Therefore, a department that owns or rents a passenger van should select one or two experienced drivers to drive the van on a regular basis. These drivers will gain valuable experience handling the van. This experience will help make each trip a safe one.

How can rollover crashes be prevented?

Because most rollover crashes don't involve other vehicles, they are often preventable. Here are some tips for drivers to minimize the risk of a rollover crash and serious injury:

- **Avoid conditions that lead to a loss of control.** Never drive while under the influence of alcohol or other drugs. Make sure you are well rested and attentive, and always slow down if the roads are wet or icy.

- **Drive cautiously on rural roads.** Be particularly cautious on *curved* rural roads and maintain a safe speed to avoid running off the road.
- **Know what to do if your wheels drop off the roadway.** If your wheels drop off the roadway, or pavement, *gradually* reduce speed and steer back onto the roadway when it is safe to do so.
- **Properly maintain your tires.** Make sure your tires are properly inflated and the tread is not worn down. Worn tires can cause your van to slide sideways on wet or slippery pavement. Improper inflation can cause handling problems and can lead to catastrophic tire failures, such as blowouts. Therefore, check tire pressure and treadwear once a month.

What are other considerations for safe driving?

When a passenger van is not full, passengers should sit in seats that are in front of the rear axle.

Never allow more people to ride in a passenger van than the vehicle is normally seated to hold (e.g., maximum of nine people in a 9-passenger van).

Because a passenger van is substantially longer and wider than a car, it:

- Requires more space and additional reliance on the side-view mirrors for changing lanes
- Does not respond as well to abrupt steering maneuvers
- Requires additional braking time