



Avoiding Rollover Collisions

Monthly Training Topic
NV Transport, Inc.
Safety & Loss
Prevention



Introduction

A rollover is a type of vehicle accident in which a vehicle tips over onto its side or roof. The most common cause of a rollover is traveling too fast while turning.

A driver's ability to negotiate a curve depends upon:

- ***the vehicle speed***
- ***the trucks loaded stability***
- ***the shape of the curve***
- ***condition of vehicle***
- ***condition of roadway***



Commercial motor vehicle rollovers are rare, but when they do occur, they are extremely severe and often fatal.

Most incidents where a heavy vehicle becomes unstable is triggered by heavy braking and/or rapid steering movements.

Facts & Statistics

The following statistics include all vehicle types from sedans to tractor trailers. Light trucks such as pickups, utility and van bodies had the highest share of fatalities involving rollovers.

Rollover crashes constitute about one-fifth of all fatal crashes.

Nearly three-fourths of occupants killed in rollover crashes were not using restraints and slightly less than two-thirds of them were completely ejected from the vehicle.

56% percent of rollover collisions involved light trucks, 6% were large trucks and the remainder were passenger cars and buses

Rollovers are more likely on rural roads and highways. The narrower the road, the less margin for error you have.

Most rollover collisions involve a single vehicle.



- The above facts and statistics are obtained from one or all of the following websites: The AAA Foundation, The Federal Motor Carrier Safety Administration, The National Highway Safety Administration, The National Safety Council

Types of Rollover Collisions

Lateral Force Rollovers – These rollovers occur when a driver attempts to make a turn while traveling too fast. Excessive speed while turning causes the vehicle to continue on its original path and the vehicle rolls. Vehicles with high centers of gravity are at a greater risk for this type of rollover.

Sideways Skid (and Trip) Rollovers – These rollovers occur when a driver loses control and begins sliding side ways. The tires hit a guardrail, curb, or other object. The tires get stuck, but the body of the vehicle continues moving causing the vehicle to rollover.

Ramp Rollovers – These rollovers occur when one side of a vehicle rides up onto an object (often a guardrail), while the other remains on the ground. These types of rollovers are typically caused by excessive speed, alcohol impairment and losing control of the vehicle.

Side Slope Rollovers – These rollovers occur when a vehicle rolls due to the slope of the ground beneath the vehicle. This usually occurs if a vehicle runs off of the road and up onto or over an embankment.

Factors Contributing to Rollover Collisions

Although rollover collisions are almost always the result of human error, below are some factors that may contribute to these types of events:

- **Road Conditions**
 - *Slippery roads (rain, snow, ice) and limited visibility (fog, heavy precipitation)*
 - *Drop offs and Roadway barrier design*
- **Vehicle Conditions**
 - *Wheelbase*
 - *Vehicle Weight*
 - *Center of Gravity*
- **Driver Related Conditions**
 - *Drowsiness*
 - *Overcorrection in steering*
 - *Failure to anticipate bad road conditions*
- **Cargo Related Conditions**
 - *Carrying more passengers than a vehicle is made to carry*
 - *Poorly loaded cargo – cargo shifting may shift the center of gravity*



Avoiding Rollover Collisions

Below are some ways to prevent a rollover from occurring:

- *Always ensure your vehicle is properly maintained.*
- *Perform quality inspections on a daily basis to identify any components that may be worn or broken.*
- *Always check and maintain tire pressure. This will improve traction, decrease your braking distance, reduce tire wear and decrease fuel consumption.*

Always drive safely for the weather and road conditions – adjust your speed and be extra alert

- *During inclement weather, slow down when the roads are covered in snow, ice and rain.*
- *On poorly maintained road.*
- *On winding or narrowing roadways.*

Always get enough rest between your trips to avoid fatigue – pull over if you begin to feel sleepy

Be a calm driver – do not over correct in a panic



Rollover Collisions and Seatbelts

Approximately 75% of occupants killed in rollover crashes were not using restraints and approximately 60% of those occupants were completely ejected from the vehicle.

*It is important to remember to **BUCKLE UP!***

- *Never drive or ride in any vehicle without putting on your seat belt .*
- *Seatbelts reduce the likelihood of being thrown from the vehicle during rollovers.*
- *The risk of being killed in a rollover accident decreases substantially if the occupants are wearing their seatbelts.*

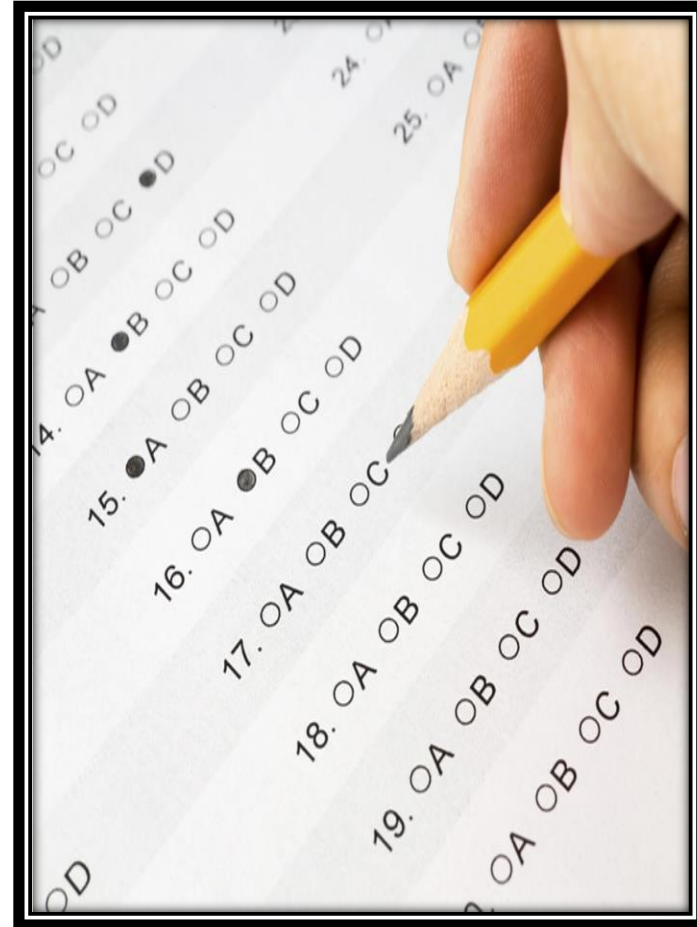


Quiz

1. *True or False? A driver's ability to negotiate a curve depends upon the vehicle speed, the trucks loaded stability and the shape of the curve.*
2. *True or False? Rollovers are more likely on rural roads and highways.*
3. *True or False? It is best to have your seatbelt off in the event of a roll over so the roof of the vehicle does not crush you.*
4. *True or False? Most rollover collisions involve single vehicles.*
5. *This type of rollover occurs when a driver attempts to make a turn while traveling too fast ?*
 - A. **Side Slope Rollover**
 - B. **Ramp Rollover**
 - C. **Lateral Force Rollover**
 - D. **Sideways Skid Rollover**
 - E. **Trip Rollover**
 - F. **None of the above**

Quiz Answers

1. *True*
2. *True*
3. *False*
4. *True*
5. *C*



Question or Comments?



Additional Information on Rules and Regulations

This document is intended to be a guide on applicable rules and regulations. Although it may be used as a guide/reference for your training needs, this document is not intended to be used as the standard for FMCSA rules and regulations.

Additional information can be found on the FMCSA website.

The FMCSA website will contain the most accurate and up-to-date information on any and all applicable rules and regulations.

<http://www.fmcsa.dot.gov>

