The Unsafe Driving Acts of Motorists in the Vicinity of Large Trucks

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Speakers:

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Description:

The Federal Motor Carrier Safety Administration has produced this video to help drivers indentify the unsafe acts of motorist in the vicinity of large trucks.

[17:48]

Transcript:

Narrator: The fatal crash rate for large trucks has declined significantly during the past decade, even though the number of miles driven has increased by 36 percent. Despite these improvements, there are nearly 400,000 crashes involving large trucks in the US each year resulting in about 5,000 fatalities. Research shows that as many as 70 percent of those fatalities are caused by the actions of other vehicles rather than trucks. The Federal Motor Carrier Safety Administration has produced this video to teach the drivers of passenger vehicles some important survival skills – How to Avoid Crashes with Large Trucks.

Trucks make up about eight percent of all vehicles involved in fatal crashes, however, these crashes result in twelve percent of the total number of people killed on our nation's roads and highways. The disproportionate involvement of trucks in fatal crashes is a reflection of a fundamental law of physics, which is expressed by the equation:

Kinetic Energy = .5 x mass x velocity

There is no way to avoid the fact that all of the Kinetic energy generated by moving vehicles is dissipated in a collision by friction, heat, and the bending of metal. The more kinetic energy in a collision, the greater the potential for injury to vehicle occupants. Trucks typically weigh 20 to 30 times as much as passenger vehicles. In a collision the greater mass of a truck transmits more kinetic energy than a passenger vehicle which places the occupants of the passenger vehicle at a considerable disadvantage.

Ninety-five percent of the fatalities in these crashes are the occupants of passenger vehicles. That's right, 95 percent. Clearly when big and small collide, small loses. The disadvantage to smaller vehicles

that results from differential mass is compounded by speed. Kinetic energy increases by the square of the vehicle's speed, rather than by speed alone. For example, a 30 percent increase in speed say from 50 to 65 mph results in a 69 percent increase in kinetic energy. For this reason the probability of injury and the severity of injuries that occur in a crash increase greatly with vehicle speed.

Most people believe that because trucks are big, they must have terrific brakes. Well, they do, but they can't stop a large truck nearly as quickly as a passenger vehicle can stop. When a trucker slams on his or her brakes, air must travel through a hose for about 40 feet to reach a valve that releases more air under pressure to operate the mechanical portion of the brake system. The pneumatic and mechanical lag results in a delay of more than half a second, compared to the nearly instantaneous hydraulic connection in a passenger vehicle. Trucks simply can't stop as quickly as passenger vehicles. For example, a car traveling at 55 miles per hour can stop in about 160 feet. But a large truck traveling at the same speed can take more than 240 feet to stop; nearly the length of a football field.

Darrel Riccarri: When we try to apply our brakes a lot depends upon how much weight we're hauling. If we're empty and we put these brakes on we can literally almost stop on a dime. The brakes are very, very strong. But fully loaded, it takes probably three times the distance to stop one of these as it does a car.

Narrator: Truck drivers try to follow other vehicles at a safe distance. But when a passenger vehicle cuts in front of a truck, the safe stopping distance is gone. The disproportionate number of fatalities resulting from truck crashes, and the disproportionate representation of passenger vehicle operators among those fatalities, creates the perception among many motorists, and some law enforcement officers, that truck drivers must be disproportionately at fault.

However, the statistics show that drivers of passenger vehicles, rather than truck drivers, are responsible for most of the crashes involving passenger vehicles and large trucks. Ignorance of the performance limitations of large trucks appears to be placing a large number of motorists in very dangerous situations. In response to this condition, the Federal Motor Carrier Safety Administration sponsored research to identify the driving behaviors that lead to collisions between passenger vehicles and large trucks.

The researchers interviewed truck drivers, collision investigators, and other experts from across the country, and they reviewed thousands of collision reports. The study found 23 unsafe driving acts committed by motorists to be the primary causes of crashes between passenger vehicles and large trucks. The unsafe driving acts are presented here in four categories:

- Judgment Problems,
- Speed-Related Behaviors,
- Right-of-Way or Headway-Related Behaviors, and
- Lane Change or Lane Position Problems.

The research found driving inattentively to be the leading contributing factor to collisions between passenger vehicles and large trucks. We've all seen this before. Unfortunately, a lapse of judgment or

momentary distraction can be fatal when driving near a large truck. Pay attention to your driving at all times, but especially around large trucks. Failure to stop for a stop sign or light is another killer. You've might have seen this example before. Something like this happens nearly every day. You should never run a stop sign or light. A truck might be coming.

Driving while impaired by alcohol or other drugs is another judgment problem that contributes to crashes of all types. You already know that it's unsafe to drink and drive, but nearly 40 percent of all fatal crashes involve a drinking driver.

You might not know about this problem. It occurs primarily during pre-dawn hours, when a truck's headlights, far from the trailer, mislead a motorist to believe that the obstacle has passed. Operating at dawn or dusk without headlights also contributes to crashes between passenger vehicles and large trucks. Turn your headlights on and be especially vigilant when driving at dawn or dusk.

Maneuvering to the right of a truck that is making a right turn is called the "right turn squeeze." A large truck can't easily turn right from the right turn lane, so they slip in on the truck's right and either prevent it from turning, if they're lucky, or cause a crash, if they're not.

Thomas Le: If somebody comes up on our right side the possibility of fatality is almost guaranteed when they get crunched or pinched when the truck makes that wide turn to go around that curb because we need the tracking room. Some folks know that the truck driver is trying to turn, but they are impatient and insist on getting through, even if it means delaying everyone else. Be patient, don't get caught in a right turn squeeze.

Crashing into the rear of a truck or trailer that is stopped or moving slowly in traffic is another way that motorists die as a result of judgment problems. The drivers were traveling too fast for the conditions, they misjudged the speed of the truck, or they looked away from the road for just a moment. Always search the road ahead when driving and be alert for trucks or other vehicles that have slowed down or stopped in your lane.

A related driving act is to drift onto the shoulder, then strike the rear of a truck that is parked at roadside. This occurs mostly at night when fatigue or alcohol impairment cause a driver to think a parked truck is actually moving in the lane of traffic. Don't drink and drive and if you are tired, pull over and rest so you don't hurt yourself or someone else.

Narrator: The research found unsafe speed to be one of the leading contributors to crashes between passenger vehicles and large trucks. Faster vehicle speeds mean less time for a driver to react to the movements of other vehicles, including slower trucks.

Philip L. Decoy: The most dangerous thing I find is that they speed up to keep us from executing to allow people to come on the freeway or off of the freeway, or changing lanes, they increase their speed.

Narrator: Speed also contributes to the severity of a crash by generating kinetic energy. Related unsafe driving behaviors are failure to slow down in a construction zone, and failure to slow down in response to environmental conditions, for example fog, smoke, rain, or bright. It is difficult to understand why

some people continue to drive at highway speeds in a construction zone with workers and trucks nearby, or when they can't see more than a few feet in front of their vehicles. Slow down in construction zones and when visibility is degraded by environmental conditions.

Narrator: One of the most frequent unsafe driving acts is following too. Tailgating always is dangerous, but it is especially dangerous to follow a truck too closely. Debris can fall from a truck or be kicked up by its tires. Tailgating a truck greatly restricts a drivers visibility, and reduces the time available to react to an emergency.

Thomas Lettenberger: The most dangerous thing I've seen is tailgating, following us too closely, not giving us the room to change lanes when we need to, and that kind or cuts off out our emergency exit, in case we have to shut them down real fast and get out of the way to keep from hitting anybody.

Narrator: Everyone knows that following too closely is dangerous, but you see it every day. Back off leave yourself enough space to stop safely. Especially when following a large truck.

Here's a behavior that makes following too closely even more dangerous--Driving between large trucks. There are three, closely-related unsafe driving acts that involve a driver accepting an unsafe headway. Headway is the distance from one vehicle to another that is approaching. Some drivers become frustrated or impatient when their progress is slowed by traffic, and some take chances when attempting to pass. Unsafe passing usually involves passing with an insufficient headway, or distance to the oncoming traffic. Sometimes the oncoming traffic is a large truck and there is no escape. Wait for a passing lane. It's more likely that you will reach your destination.

Unsafe turning and Unsafe crossing result in many fatalities each year. Some drivers are fooled by a truck's size into thinking it is moving slower than it is; others are willing to take a chance, believing the truck can slow down in time to avoid a collision. Whatever the motivation, the driver of a passenger vehicle will lose in a right of way conflict with a large truck. Don't take chances when turning left in front of oncoming traffic or when crossing roadways. The truck you see coming probably is moving a lot faster than you think. Consider the consequences of that misjudgment. Wait for a safe gap in the traffic before making your move.

The final unsafe driving act in this category is driving left of center or into opposing traffic. This was found to be the most dangerous of all of the unsafe driving acts. Sometimes, the motorist's reason for being left of center is to pass another vehicle, but the research found a large proportion of cases to have no clear explanation. One analysis found passenger vehicles to be hit head-on in the trucks' lane in 23 percent of all fatal collisions between large trucks and passenger vehicles.

Narrator: The research found several driving behaviors related to lane changes and lane position to be contributing factors in collisions between passenger vehicles and large trucks. Pulling into traffic from roadside without accelerating sufficiently, and merging improperly, in a manner that causes a truck to maneuver or brake quickly, are particularly dangerous, because of the response lag in the braking systems of trucks. It is not safe to assume that the driver of an oncoming truck can slow down or even

stop the rig in the same distance as a passenger vehicle. Failure to permit a truck to merge is not just rude, it's dangerous driving behavior.

Changing lanes abruptly in front of a truck, or changing lanes in front of a truck, and then braking are very dangerous maneuvers. Cutting into the open space in front of a truck to reach a highway exit is aggravating to truck drivers or to any driver for that matter. Slow down and exit behind the truck--it only takes a few more seconds.

Margaret Peterson: One of the things I fear most is people cutting me off. I am driving down the road and see an exit ramp and I assume that somebody might drive up along side me and almost take the front bumper of the truck off in order to get an exit ramp. And it terrifies me because my friends and my family are on the highway. I don't want to run over someone. I don't want to kill someone on the road.

Narrator: Cutting in front of a truck to beat it to a single-lane construction zone places you and everyone around you, including the road workers, in great jeopardy by reducing the truck driver's ability to stop safely. Don't cut in front of a truck for any reason.

Finally, one of the most unsafe things a motorist can do is to ride along in a truck driver's blind spot. The areas immediately behind and to the left and right of a truck are called the No Zones, and for good reason. Vehicles in those zones cannot be seen by the truck driver and if the truck must maneuver quickly, well, you can imagine what can happen. Pass the truck safely or stay several car lengths behind. But don't drive in the No Zones.

Nearly every possession we own and nearly all of the food we eat are transported to us, at least part of the way, by trucks. Sometimes it is difficult to appreciate what trucks do for us, but it is important for all motorists to remember that trucks are not "large cars"--they accelerate and stop slower than passenger vehicles, and the truck driver's ability to see other vehicles in the vicinity is limited. When a friend or love one performs an unsafe driving act described in this video, explain why their behavior is dangerous. You just might save a life.

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