



# Environmental risk bulletin

## Safe Lane Changes

**Have you received this phone call from one of your drivers: ‘I was trying to move over a lane and didn’t see the car until it was spinning out in the median’. How about a call from one of your salesmen stating: ‘I was on the highway, passing a tractor-trailer when it came into my lane and struck me’. Both are examples of lane change accidents.**

Lane change accidents can range from minor fender damage during a slow-moving accident in local traffic to bodily injuries and even death on highways at high speeds. Depending on complexity and severity of an incident, the cost of a lane change accident can range from a thousand dollars to multi-million dollar settlements. Companies experiencing frequent lane change accidents at a minimum are responsible for auto insurance deductible payments and at a maximum could be responsible for nuclear verdict payments that exceed their policy limits. These possibilities should provide plenty of incentive to focus additional driver awareness and training on this exposure.

### Accident Trends

There is not a day that goes by that we, as drivers, don’t change lanes while driving. Simple enough, right? The National Highway Traffic Safety Administration (NHTSA) estimates that there are approximately 530,000 lane change crashes per year which accounts for 10% of all roadway accidents annually. Additionally, at least 60,000 people are injured as a result of lane change accidents. It is estimated that 4% of lane change crashes were major injury crashes. Also, it is estimated that drivers of commercial motor vehicles were at-fault in more than half of the crashes.

**Even though drivers do this maneuver numerous times each day, why does such a simple task cause so many problems?**

**How can we reduce the risk of causing an accident during a lane change?**



The first thing we should evaluate is why a driver needs to change lanes. The appropriate reasons include:

- the lane is ending;
- there is an obstacle in the lane ahead;
- safely passing a vehicle in the same lane that is traveling slower than the posted speed limit (not just slower than you); and
- planning for a future turn that requires another lane to safely execute it.

Drivers who make numerous lane changes are aggressive drivers and are more likely to be involved in an accident. Every time a driver makes a lane change, it increases the risk of an accident.

## Making a Lane Change

We know why we make lane changes, now let's discuss the lane change itself. The first and most important rule is to always make sure there is enough room to make the lane change without "squeezing" in between two vehicles. Forcing your way between vehicles can create a very dangerous situation for everyone on the roadway.

Once a driver decides to change lanes, they should take a quick glance in the mirror to determine if there is enough room to move over. Make sure it is just a quick glance because returning attention back ahead is essential to ensure the driver in front isn't slowing down. Drivers tend to look in their side mirrors too long while preparing for a lane change. This is a leading factor in lane change related rear-end collisions.

When checking mirrors, not only check for vehicles adjacent to you, but also check that there are no vehicles approaching at a high rate of speed that will cause an accident. Estimating the speed of approaching vehicles behind you can be difficult – particularly at night. If it appears a vehicle is quickly approaching, it's probably best to wait until it passes. Besides, no driver wants another speeding/aggressive driver tailgating them.

After determining it is clear to make the lane change, activate your turn signal at least 100 feet prior to moving over. This gives other drivers time to notice your intent. Leave your signal on all the way through the movement. Make the movement smooth and gradual without any abrupt turns and maintain speed through the lane change. Once in the new lane, stop the signal. Drivers may need to re-adjust speed to reflect the flow of traffic in the new lane of traffic.

## Blind Spots

One of the biggest reasons "routine" lane changes lead to so many accidents is because of what is commonly referred to as blind spots. Blind spots are areas behind the driver that can't be seen by either looking in the mirrors or turning your head. When another vehicle passes into a blind spot, it is impossible to see it without turning your head from your natural driving position. This is why blind spots are the cause of so many accidents; drivers will change lanes believing the lane next to them is empty. Since the other vehicle is so close, a collision is hard to avoid.

For a commercial driver, blind spots are even more critical. Commercial drivers are operating large vehicles, both in length and height, that make seeing what's going on around the vehicle more difficult. Most commercial drivers also have a disadvantage of not having a rearview mirror. Because of these factors, it is even more important that drivers move their head and body around when looking in the mirrors ("Rock n Roll" in your seat) to get a better image and lessen the area of the blind spot.

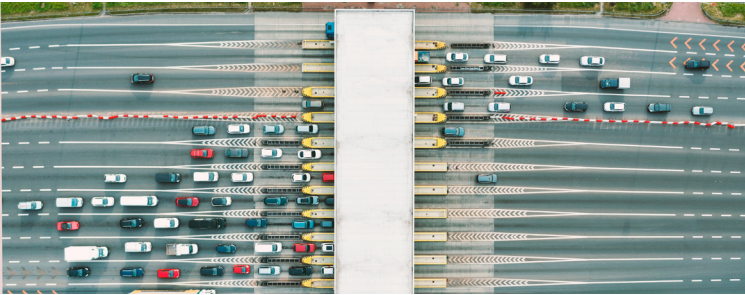
As well as thinking about your own blind spots, you should also consider the blind spots of other drivers. Other drivers may not be so aware of their potential blind spots. If you are passing another vehicle, avoid matching their speed too closely. The less time you can spend in another driver's blind spot the better, especially when adjacent to a commercial vehicle. Keep your vehicle moving safely and get out of the blind spot so you can be seen. If you find yourself in the blind spot of another vehicle, either speed up or slow down to get out of the spot.

Blind spots can be deadly for motorcyclists. Changing lanes when a motorcycle is in your blind spot can force the rider off the road, and potentially off the bike. Keep this in mind when driving on a road with curves, when approaching hills, or when the road grade is uneven. All these situations can make it more difficult to see a motorcycle. Conversely, motorcycle riders need to do everything they can to make themselves more visible. For example, they may be able to avoid blind spots by moving from one side of their lane to the other.

### Four steps to a smooth lane change

1. Check for safe space gap
2. Check blind spot and signal
3. Make gradual change
4. Make sure turn signal is off





## Lane changes take teamwork and cooperation by all drivers on the roadway.

### Lane Change Technology

As car technology advances, so do the safety features available in new models. One such Advanced Driver Assistance System (ADAS) is Lane Change Assist (LCA). LCA is a technology that aids drivers in changing lanes safely. This feature can be a real lifesaver when busy roads make it difficult to keep track of approaching vehicles in adjacent lanes. It utilizes sensors to detect and warn motorists about approaching vehicles in adjacent lanes. LCA can help warn of vehicles approaching your blind spots, which can prevent lane change accidents. When LCA senses the driver is making a lane change that might be dangerous, it will provide an audible and/or visual warning to help safely execute it.

All ADAS are characterized by their use of advanced sensors to provide safety warnings and actions. LCA uses rear radar sensors located in the back corners of the vehicle. If there is a vehicle in the monitored area and if a lane change is not taking place, the driver is informed by an LED light displayed in the right and left outside mirrors. Because the light intensity is low, the driver is not continuously distracted. The warning lamp in the outside mirror of the same side flashes brightly when the driver actuates the turn signal to change lanes and a vehicle is detected to be in that lane or approaching from the rear.

ADAS and LCA technology are now more commonly installed in commercial vehicles. Side mirror mounted sensors and cameras help to eliminate blind spots so commercial drivers can safely make a lane change when needed. Rear sensors and cameras warn commercial drivers of fast approaching vehicles before the driver initiates a lane change. Often this technology is tied to a telematic system in place within the vehicle.

### Final Thoughts

If you are the driver in a lane another vehicle wants to enter, let them in and maintain a safety cushion. There is no reason to speed up to keep them from completing their movement. Trying to keep another driver from changing lanes endangers yourself, your vehicle, and those around you. Whether you realize it or not, this is an aggressive response that can result in “road rage.” This kind of action can often lead to dangerous results.

Lane changes take teamwork and cooperation by all drivers on the roadway. Please keep this in mind. Even minor contact at high speed can result in a multi-vehicle accident and severe bodily injury and property damage claims. There are enough problems on our roadways without creating more. Drive courteous and stay safe.

### Sources

- ‘Injury-Severity Analysis of Lane Change Crashes Involving Commercial Motor Vehicles On Interstate Highways’ – National Library of Medicine, 2020
- ‘How to Eliminate Blind Spots When Driving’ – Drivesafe Online, 2020
- ‘Vehicle Lane Change Models – a Historical Review’ – Applied Sciences, 2023
- ‘Understanding ADAS: Lane Change Assist’ – CARADAS, 2022

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