TEENS & TRUCKS

share the road

:: WORKBOOK ::

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SHARE THE ROAD

Workbook

Teaching Teens and Other Young Drivers About Sharing the Road Safely With Large Trucks

Developed by

The Arizona Trucking Association
The Commercial Vehicle Safety Alliance (CVSA)
The Federal Motor Carrier Safety Administration (FMCSA)
The Arizona Department of Public Safety—Commercial Vehicle Bureau

In Cooperation With
Tennessee Trucking Foundation
Tennessee Trucking Association
Tennessee Governor's Highway Safety Office
Tennessee Department of Safety
The American Trucking Association
PrePass

Contents

NHTSA
www.nhtsa.gov

Top 10 Leading Causes of Death in the United States for 2006, by Age Group[1]

National Highway Traffic Safety Administration's National Center for Statistics and Analysis

RANK	Cause and Number of Deaths											Years of Life Lost[2]
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Older Adults 65+	All Ages	
							25-34	35-44	45-64			
1	Perinatal Period 14,321	Congenital Anomalies 462	**MV Traffic Crashes 449**	**MV Traffic Crashes 1,272**	**MV Traffic Crashes 5,689**	**MV Traffic Crashes 4,667**	**MV Traffic Crashes 7,162**	Malignant Neoplasms 13,917	Malignant Neoplasms 151,788	Heart Disease 510,542	Heart Disease 631,636	Malignant Neoplasms 23% (8,908,211)
2	Congenital Anomalies 5,819	Accidental Drowning 395	Malignant Neoplasms 392	Malignant Neoplasms 723	Homicide 2,794	Homicide 2,749	Accidental Poisoning 5,267	Heart Disease 12,339	Heart Disease 103,572	Malignant Neoplasms 387,515	Malignant Neoplasms 559,888	Heart Disease 20% (7,685,448)
3	Heart Disease 346	**MV Traffic Crashes 351**	Congenital Anomalies 183	Homicide 472	Suicide 1,836	Suicide 2,162	Suicide 4,985	Accidental Poisoning 7,542	Diabetes 17,124	Stroke 117,010	Stroke 137,119	MV Traffic Crashes 5%(1,760,796)
4	Homicide 336	Homicide 317	Accidental Drowning 163	Suicide 410	Accidental Poisoning 1,086	Accidental Poisoning 1,821	Homicide 4,725	Suicide 6,591	Stroke 16,859	Chronic Lwr. Resp. Dis. 106,845	Chronic Lwr. Resp. Dis. 124,583	Stroke 4% (1,536,877)
5	Septicemia 269	Malignant Neoplasms 277	Homicide 141	Congenital Anomalies 256	Malignant Neoplasms 724	Malignant Neoplasms 812	Malignant Neoplasms 3,656	**MV Traffic Crashes 6,470**	Chronic Lwr. Resp. Dis. 16,299	Alzheimer's 71,660	Diabetes 72,449	Chronic Lwr. Resp. Dis. 4% (1,503,483)
6	Influenza/ Pneumonia 263	Exposure to Smoke/Fire 158	Exposure to Smoke/Fire 121	Heart Disease 249	Heart Disease 425	Heart Disease 598	Heart Disease 3,307	HIV 4,010	Chronic Liver Disease 14,929	Diabetes 52,351	Alzheimer's 72,432	Suicide 3% (1,176,020)
7	Nephritis/ Nephrosis 162	Heart Disease 144	Heart Disease 74	Accidental Drowning 198	Accidental Drowning 335	Accidental Drowning 239	HIV 1,182	Homicide 3,020	Suicide 12,009	Influenza/ Pneumonia 49,346	Influenza/ Pneumonia 56,236	Perinatal Period 3% (1,122,740)
8	Stroke 142	Influenza/ Pneumonia 111	MV Nontraffic Crashes[4] 50	Exposure to Smoke/Fire 113	Congenital Anomalies 230	Congenital Anomalies 188	Diabetes 673	Chronic Liver Disease 2,551	**MV Traffic Crashes 10,713**	Nephritis/ Nephrosis 37,377	Nephritis/ Nephrosis 45,344	Diabetes 3% (1,084,880)
9	**MV Traffic Crashes 139**	MV Nontraffic Crashes[4] 107	Benign Neoplasms 41	Chronic Lwr. Resp. Dis. 104	MV Nontraffic Crashes[4] 135	HIV 153	Stroke 527	Stroke 2,221	Accidental Poisoning 10,649	Septicemia 26,201	**MV Traffic Crashes 43,664**	Accidental Poisoning 3%(1,071,895)
10	Malignant Neoplasms 76	Septicemia 78	Influenza/ Pneumonia 37	MV Nontraffic Crashes[4] 100	Accidental Falls 116	Pregnancy Childbirth 124	Congenital Anomalies 437	Diabetes 2,094	Nephritis/ Nephrosis 6,613	Hypertension Renal Dis. 19,852	Septicemia 34,234	Homicide 2% (878,954)
ALL[3]	28,527	3,923	2,447	5,824	16,330	17,143	42,952	83,043	466,432	1,759,423	2,426,264	All Causes 100% (38,315,767)

[1]When ranked by specific ages, motor vehicle crashes are the leading cause of death for each age 3 through 34.
[2]Number of years calculated based on remaining life expectancy [2005 data from CDC] at time of death; percents calculated as a proportion of total years of life lost due to all causes of death.
[3]Not a total of top 10 causes of death.
[4]A motor vehicle nontraffic crash is any vehicle crash that occurs entirely in any place other than a public highway.
Source: National Center for Health Statistics (NCHS) CDC, Mortality Data 2006.
Note: The cause of death classification is based on the National Center for Statistics and Analysis (NCSA) Revised 68 Cause of Death Listing. This listing differs from the one used by the NCHS for its reports on leading causes of death by separating out unintentional injuries into separate causes of death, i.e., motor vehicle traffic crashes, accidental falls, motor vehicle nontraffic crashes, etc. Accordingly, the rank of some causes of death will differ from those reported by the NCHS. This difference will mostly be observed for minor causes of death in smaller age groupings.

Module 1: Introduction, History and Facts

Trucks Are the Wheels of Commerce

Tractor-trailers and other large commercial motor vehicles are a vital, important part of our nation's economy. These vehicles are the "wheels of commerce" for our nation.

The principal purpose of the modern trucking industry is to move goods and products, including food, fuel and clothes, from one place to another over our nation's highways. Many estimates show that 81% of the nation's freight value and over 60% of the nation's freight tonnage moves by truck! One just has to look at our highways to see the vast number of trucks and other large commercial motor vehicles moving our nation's freight.

Because of the volume of heavy truck traffic hauling freight (which, by the way, also includes products vital to our national defense), and different handling characteristics of the various vehicles sharing our highways as well as a lack of quality driver education programs addressing these issues, it is only natural that crashes between vehicles do occur.

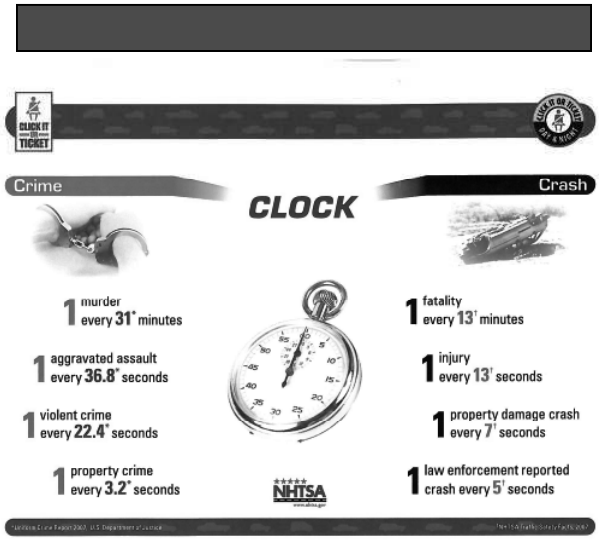

Fig 2: NHTSA Crime/Crash clock

Crash Statistics

In 2007, of all the people killed in motor vehicle crashes, 12% (5,099) died in crashes that involved a large commercial motor vehicle. Another 124,000 people were injured in crashes involving large trucks. While truck drivers do contribute to some of these crashes, the facts show that too many drivers of passenger cars, especially young people ages 17 to 24 years old, unnecessarily endanger themselves by failing to recognize that trucks and cars differ in their handling characteristics.

From 1997 to 2007, the number of large trucks involved in fatal crashes declined by 10%, from 4,917 to 4,584. The rate of large trucks in fatal crashes dropped 12% from 1.80 to 1.44 crashes per 100 million vehicle miles traveled. The rate for passenger vehicles fell 10% from 2.10 to 1.90 crashes per million vehicle miles traveled. While many factors are behind the reduction in crash rates, public and driver education played a key role. Increased use of safety belts was also a factor. But one crash is one too many, and much remains to be done.

Consulting the chart in Fig 1, we can see there were 5,689 motor vehicle fatalities in the youth group 16-20 years of age. Additionally, there were 4,667 motor vehicle fatalities in the young adult group 21-24 years of age. Taken together, this is a very significant number (10,356) of needless traffic fatalities.

Current statistics reveal a leading cause of crashes is distracted driving. A series of high-profile traffic and train crashes have deemed texting a major root cause of crashes. A driver's eyes can leave the road for five seconds out of a six-second window while texting--enough time for a vehicle to travel the length of a football field at 55 mph. A passenger car driver is 2.8 times more likely to crash while dialing a mobile phone. Texting while driving currently is already illegal in Alaska, California, Connecticut, Minnesota, New Jersey, Tennessee, Utah and the District of Columbia, and enforcement officers can stop and ticket a driver for texting while driving. Another six states have passed legislation to prohibit text messaging while driving, effective in January 2010.

Module 2: Types of Vehicles on the Road

Passenger Vehicles

Passenger vehicles come in all sizes, shapes, colors and body styles. Passenger vehicles range from 12 feet to 17 feet in length and are approximately 6.5 feet wide.

The typical passenger vehicle weighs approximately 3,000 pounds, with some pickup trucks and sport utility vehicles weighing up to 5,000 pounds.

The typical passenger vehicle also has a low center of gravity. The height of a passenger vehicle is typically around 4 feet, while SUVs and some pickup trucks can be as tall as 6.5 feet. The taller the vehicle, the higher its center of gravity is and, therefore, the easier it is to roll it over.

Think of a race car and a tractor-trailer positioned side by side on a race track. Picture how much taller the tractor-trailer is than a race car. Picture the tractor-trailer starting around the race track and picking up speed with every lap it completes. Eventually, the truck would roll over. Let's say that happened in a turn at 70 mph. The race car will go around the track at ease with no danger of rolling over until it reaches much higher speeds because of the differences in the vehicles' center of gravity. Remember, the taller the vehicle, the higher its center of gravity and the easier it is to roll over.

Commercial Motor Vehicles

A **straight truck** (see Fig 3) is a single-unit truck with the engine, cab and cargo compartment all on the same frame. These trucks can be up to 14 feet in length, 13 feet high and weigh up to 80,000 pounds. Their high center of gravity and shorter wheel base make them as susceptible to rollovers as conventional tractor-trailers.

Fig 3: Straight truck

A **truck tractor** is used to pull non-motorized trailers. There are two general truck tractor styles: conventional and cab-over.

On **conventional tractors** (see Fig 4), the engine is extended from the cab. These vehicles have some disadvantages, such as long wheel bases, that make the vehicle more difficult to turn around in tight spaces. Another disadvantage is that the extended hood blocks the driver's sightline to the front of the vehicle.

Cab-over tractors (see Fig 5) have a shorter wheel base, which allows them to turn more easily in tight spaces. Because cab-overs sit higher off the ground and have no extended hood, drivers have a better view of the space in front of the vehicle. However, cab-overs represent a much smaller share of the trucks on the road today than they ever did.

Fig 4: Conventional tractor

Fig 5: Cab-over tractor

Module 2: Types of Vehicles on the Road (continued)

Fig 6: Tractor semi-trailer

A **tractor semi-trailer** (see Fig 6) is the model combination most widely used and seen on the highway. This is most commonly called an "eighteen-wheeler." In this configuration, the front of the trailer rests on the back of the tractor. The two are connected by a fifth wheel (located on the rear axle of the tractor) and a king pin (located on the bottom front of the trailer). The fifth wheel is the pivot point between the tractor and the trailer. A fully loaded tractor-trailer can weigh up to 80,000 pounds under federal law.

With all types of large trucks, the height of the vehicle combination affects emergency maneuvering. At around 13 feet 6 inches tall, these vehicles have a higher center of gravity than a passenger vehicle. This can make them "top heavy," which means they can roll over easily if they are forced to make quick lane changes or take quick evasive maneuvers. For this reason, professional truck drivers have been trained to a high degree of skill in handling their vehicles. They receive ongoing training in vehicle handling characteristics, through skid pad exercises and defensive driving classes.

Another style of trailer is called the full trailer. This trailer is built so that no part of its weight rests upon the vehicle pulling it. A full trailer is fully supported by its own axles. These are most commonly used as a second trailer in a double-trailer rig (see Fig 7).

This type of tractor-trailer requires additional training and a higher degree of skill to operate. Professional truck drivers driving doubles receive additional training and must pass additional driving tests to operate them. Because of the additional trailer and additional pivot point, this type of vehicle must make "slower" evasive maneuvers if and when required. However, because of the higher degree of training these drivers receive, these vehicles have one of the lowest accident records of all the different large truck groups.

Fig 7: Double-trailer rig

Module 3: Factors That Determine Stopping Distance

Stopping Distance

Total stopping distance is the distance your vehicle travels from the time you slow down or brake until it stops. Total stopping distance is made up of several components:

- perception distance
- reaction distance
- braking distance

Perception distance is the distance a vehicle travels while a driver is identifying, predicting and deciding to slow for a hazard. Perception distance can be affected by visibility and the placement and motion of the hazard itself. Reaction time is the time it takes for a driver to execute a decision once danger is recognized. The distance your vehicle travels while you react is called a reaction distance.

Most drivers have an average reaction time of 3/4 of a second. A variety of factors can influence a driver's reaction time, such as fatigue, drugs, alcohol, age and experience of driver.

Braking distance is the distance a vehicle travels from the time a driver begins pressing on the brake pedal until the vehicle comes to a stop. There are many factors that affect the braking distance of a vehicle, including:

- Speed—higher speeds will cause the vehicle to take longer to stop.
- Vehicle condition—tires, brakes and suspension all can affect braking distance depending on their condition.
- Roadway surface—rain, snow, leaves, gravel and dirt can add to a vehicle's braking distance.
- Hills—braking distances will increase on a downhill grade.

With large tractor-trailers, there are a few other factors to be considered in stopping distance, including:

Brake Lag Distance

The typical tractor-trailer is over 70 feet long. When a professional truck driver presses on the brake pedal, it takes time for that brake signal to travel to all the wheels on the tractor-trailer. All the time this signal is traveling to all the wheels, the truck is still traveling down the highway. The actual time is about 3/4 of a second. This delay is called "brake lag," and the distance the vehicle travels in this amount of time is called "brake lag distance."

Weight of the Vehicle

Tractor-trailers have much longer braking distances than passenger vehicles because of their heavier weight. Tractor-trailers and other large trucks are designed to haul many different loads of varying weights. As mentioned before, a typical tractor-trailer or other large truck can weigh as much as 80,000 pounds by law. Consequently, they have massive braking systems designed to allow them to safely stop. The heavier a vehicle is, the more energy it needs to stop. A lighter passenger vehicle will need less energy to stop than a large tractor-trailer.

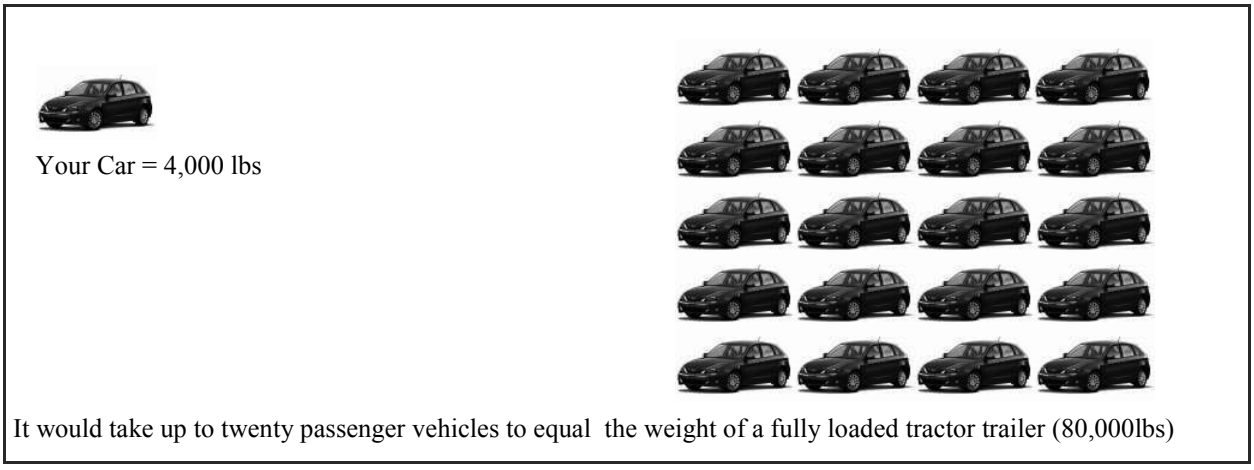

Fig 8: Weight comparison for a passenger vehicle vs. a fully loaded tractor-trailer.

Module 3: Factors That Determine Stopping Distance (continued)

Stopping Distance Comparison and Center of Gravity

A passenger vehicle weighing 4,000 pounds, traveling under ideal conditions at a speed of 55 miles per hour, will take 225 feet to stop, or less than the length of a football field.

A fully loaded tractor-trailer weighing 80,000 pounds traveling under ideal conditions at a speed of 55 miles per hour will take 430 feet to stop, or almost the length of two football fields. This is a 91% longer stopping distance than that of passenger vehicles!

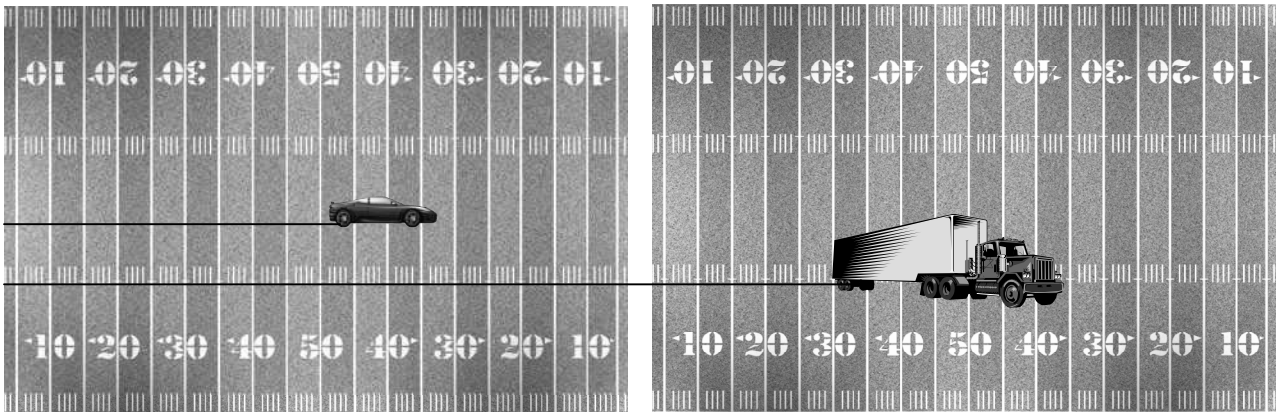

Fig 9: Comparison of stopping distances

Center-of-Gravity Differences

As previously mentioned, a typical passenger vehicle is approximately 4 to 6 feet high. A typical tractor-trailer (eighteen wheeler) is 13 feet 6 inches tall and, fully loaded, will have freight stacked up to the top of the roof of the trailer.

Common laws of physics dictate that the taller an object is, the easier it will be to tip over. Driving safely around large trucks and buses, and practicing these sharing the road driving techniques, will lessen the chance that their drivers will have to make any evasive moves!

Module 4: Don't Cut Off Trucks

Passing Large Tractor-Trailers

Many motorists are nervous about passing trucks because of their size. Another reason motorists are reluctant to pass is because of wind turbulence, or wind buffeting. Wind turbulence is caused by the large truck moving through the air and displacing the air all around it. That displacement causes wind turbulence and is felt by the passenger car driver as a buffeting effect on her/ his vehicle.

What you need to remember is that the turbulence will push the vehicles apart, not pull them together. The same simple rules apply for safely passing a large tractor-trailer as for passing another car.

The first step in safely passing is to check the traffic in front and behind. Don't pull out if you're being overtaken by traffic from behind or if there is other traffic approaching. Once you have decided to pass and see that the roadway is clear, do not hesitate. Declare your intention to pass by using your turn signal and follow through, making your pass as quickly and safely as possible. Fewer crashes occur when there is clear, decisive action.

Truck drivers work hard to get up to normal highway speeds, sometimes shifting through as many as 15 gears. For this reason, and because trucks take longer to stop due to their size and weight, the drivers appreciate it and you will be safer if you maintain the pace. After you pass, be sure to move back into their lane only when you can see the front of the truck in your rearview mirror. After you pass a truck, maintain a safe speed until you are well ahead of the large truck, keeping in mind the longer stopping distance required of a fully loaded tractor-trailer.

Fig 10: Don't be cited for unsafe lane changes.

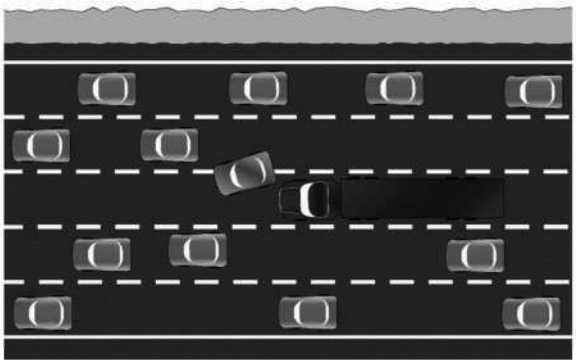

Fig 11: Signal your intention to pass and then do so safely.

When you pass and move in front of trucks without leaving enough room, you create an unsafe situation and actually break the law. Most states have a traffic law regarding lane usage or passing that requires you to leave a safe distance between your car and the vehicle you pass before moving into their lane.

Passenger car drivers can help truck drivers anticipate traffic conditions by signaling lane changes well in advance. Sharing the road is always safer than ignoring other vehicles and pushing your way through traffic.

Module 5: Stay Out of the Blind/No Zones

Explanation of Blind Spots/No Zones

Motorists are often under the false impression that because truck drivers sit up high, they can see more of the road. In fact, compared with passenger vehicles, trucks have more blind spots (also called No Zones). A federal study found that 65% of car-truck crashes in 2007 took place in No Zones.

In addition to blind spots on either side of the cab, there is a deep blind spot up to 200 feet long directly behind large trucks. When you are in that no zone the driver cannot see you and your view of traffic is severely limited. Drivers in truck cabs with long hoods cannot see up to 20 feet in front of their bumper. This is enough room for a car to slip into a position of danger and be completely unseen by the driver. Even truck cabs with no extended hood, called cab-overs, can have a front blind spot up to 10 feet long.

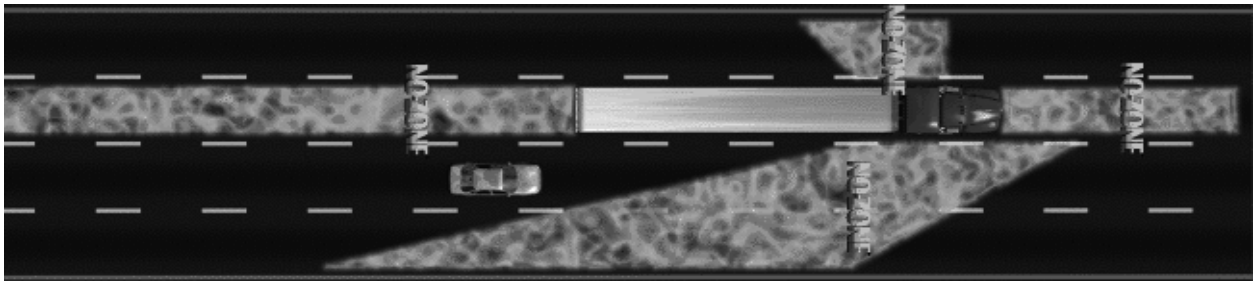

Fig 12: The No Zones

When drivers travel in a truck's No Zones, they put themselves at a high degree of risk because they cannot be seen by the truck driver (see Fig 13). When you are following a large truck, increase your following distance to allow clear sight distance ahead. Stay far enough back so you can see the side view mirrors of the truck. Refer to Fig 14 to see what you should not do. If you can't see one of the driver's side view mirrors, then the driver can't see you.

Trucks hauling oversize loads require even more space to turn, can take up more than one lane and can be required by law to travel at slower speeds. All these factors make it important for motorists to exercise patience and extra caution.

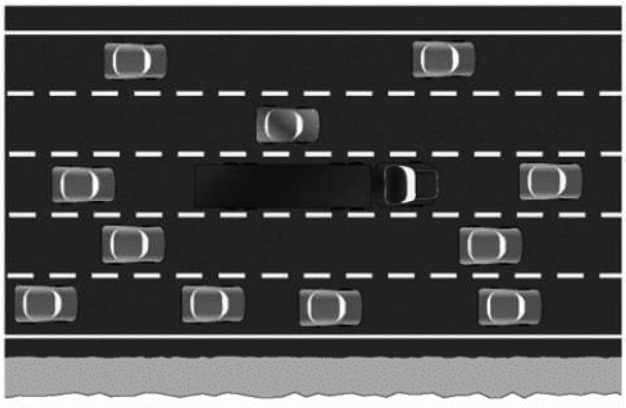
Fig 13: Make sure you can see the driver in his mirror so he can see you.


Fig 14: This car is following the tanker much too closely.

Module 6: Following Distances

Information Regarding the Following Distances

One of the biggest problems of tailgating a large truck or bus is that the tailgater has a very limited sight distance. If you follow too closely, the truck's size will prevent you from viewing much of the road ahead. You will be forced to depend on the truck's brake lights for a signal that something is going on or there is a hazard ahead. Avoid following too closely, and position your vehicle so the truck driver can see it and you can see him or her in the side mirrors of the truck.

When you stop behind a truck, always leave plenty of room between your vehicle and the truck. Also, move your vehicle slightly to the left side of your lane so that the driver can see you in his/her side mirror.

Being too close to the rear of a tractor-trailer when it is stopped can contribute to a rollback collision. This type of collision generally occurs when a truck driver is forced to stop on an upgrade. As the driver takes his foot off the brake and engages the clutch, the truck may roll backwards a few feet, and could accidentally strike the vehicle behind it.

Another extreme hazard for passenger car drivers is running into the back of a large tractor-trailer. This type of collision is known as an under-ride, in which a portion of the passenger vehicle slides under the rear of the trailer. Under-rides can occur between two passenger vehicles, but are more common and more dangerous between a passenger vehicle and a large truck.

Following large trucks too closely can place motorists in danger if, in rare occurrences, debris/objects should fall from the truck, or a tire should unexpectedly blow out. Even cargo that has been correctly loaded and secured can shift and fall due to no fault of the truck driver. Objects on the roadway can be thrown into the path of a vehicle that is following too closely.

Trucks and professional drivers today go through tough law enforcement inspections. Additionally, professional drivers receive ongoing training in how to recognize mechanical items that are about to fail or break. If you, the young driver, are aware of these possibilities and share the road safely with professional truck drivers, you can possibly avoid a crash resulting in property damage, injury or death.

Three-Second Following Distances

The three-second following distance rule:

1. A three-second following distance provides a safe space cushion from the vehicle ahead in most normal driving situations. Use these steps to measure your three-second following distance. Pick a fixed checkpoint on the road ahead. Road marks or shadows make good fixed checkpoints.

2. When the vehicle ahead of you passes your checkpoint, count: "one-thousand-one, one-thousand-two, one-thousand-three," for your three-second count.

3. Now, check to see that your vehicle is still short of your fixed checkpoint. If not, slow down and add more distance.

This three-second technique works well at all speeds for measuring a normal following distance. As your speed increases, so does the distance your vehicle travels during your three-second count. Thus, when you count off three seconds, your following distance will increase at higher speeds. This three-second distance is not the total stopping distance you need to avoid hitting a stationary object. A three-second following distance only protects you from colliding with the vehicle you are following. Increase your following distance to more than three seconds to avoid a collision.

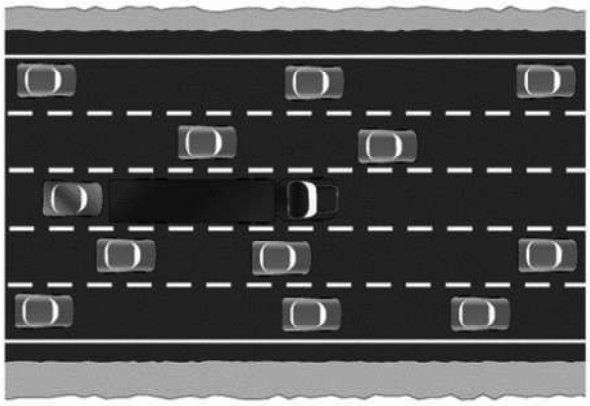

Fig 15: This car is not following the truck at a safe distance.

Module 7: Trucks Make Wide Turns

Trucks Turning

A common cause of collisions between cars and trucks at intersections is the inability of motorists to accurately determine the speed of an approaching truck before turning into the intersection. When in doubt about the speed of an oncoming truck, do not turn left in its path or drive toward it in an attempt to pass another vehicle. Even at legal speeds, the truck may be going faster than you think.

Because of their overall length, large trucks have a larger turning radius. Often large trucks will move into adjacent lanes prior to and after a turning movement to avoid driving over a curb or sidewalk. This can be dangerous for drivers who are not aware of or don't expect these movements.

When making a right turn, large trucks will often move left prior to making the turn. Car drivers may see this as a lane change to the left, not the beginning of a right turn, and attempt to pass on the right. If the truck's right turn signal is on, do not attempt to pass on the right.

Passing any large truck on the right can be risky. Occasionally truck drivers will fail to signal or the trailer signal light may be inoperative. Safe drivers will wait to assess the truck driver's intent before passing.

If a truck is stopped at or approaching an intersection, never attempt to "cut in" along the right side as the driver first maneuvers left, or you will find yourself "sandwiched" between the turning truck and the curb.

Fig 16: The driver of this car tried to pass the truck on the right side as the truck driver was preparing to make a right turn.

Trying to pass a right-turning truck on the left can also present dangers. If the truck swings wide enough, it can force you to stray into oncoming traffic or the median. Always give a truck driver enough clearance and time to complete a turn safely. Similar concerns arise when large trucks make left turns. Truck drivers turning left may first swing wide to the right to enter a cross street. The sharper the turn, the narrower the intersection, and the longer the truck, the wider the driver must go. Wide turns can cause a truck's trailer to cut off or "squeeze" car drivers on either side, especially if vehicles move into the truck's no zones during a turn.

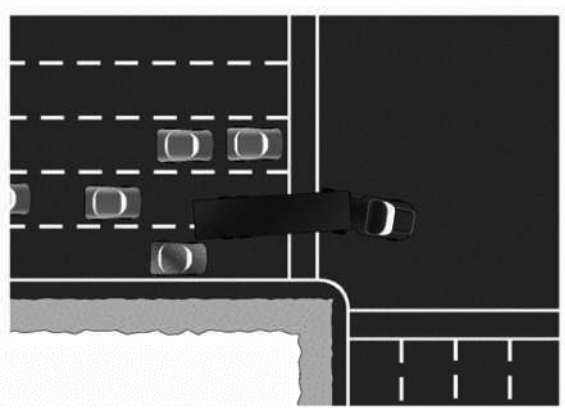

Fig 17: While not ideal, narrow intersections can force a truck driver to make a wide turn to avoid hitting a curb or barrier.

Many intersections are marked with stop lines, indicating where a driver must come to a complete stop. Stop lines keep cars far enough back from the intersection to be out of the path of turning traffic and of pedestrians. Crowding the intersection by stopping beyond the stop line can leave your vehicle exposed to trucks attempting to turn, as well as to other cross traffic. Failing to observe stop lines can also result in a traffic ticket.

Passing large trucks on city streets and at intersections can be risky. Sharing the road means determining as best you can the intent of the truck driver and driving defensively. Avoid passing trucks when they are turning.

Module 8: Moving Off the Road/“Move Over” Law

Moving Off the Road

Anytime a mechanical or other problem forces you to exit the highway or road, move as far off the roadway to the right as possible. Please keep in mind that some of the most deadly traffic crashes occur when distracted, inattentive or impaired drivers drift off the road to the right and strike stopped cars or trucks. Investigations into these accidents often show that the driver never applied his or her brakes. As a result, the impact force and the severity of the crash were much greater.

Additionally, there is evidence of a trend with people developing tunnel vision while driving. Tests have shown that people tend to steer where they are looking. Therefore, when professional race car drivers witness a crash of two other vehicles, they look for and steer towards the gap in the crash. This tunnel vision is also one of the reasons that patrol cars sometimes get hit when making a routine traffic stop. Dust storms, heavy rains and other weather that obscures visibility can cause motorists to pull over and stop or, worse, stop in the roadway. Remember, drivers behind you cannot see you, either. Pull over as far to the right as possible before stopping.

“Move Over” Law

Most states, Tennessee included, have enacted “move over” laws that require motorists to move over or slow down when police officers and other emergency service personnel are present on the side of the road. These states normally post signage indicating motorists should move over or slow down in these situations.

Even in states that do not require moving over for emergency vehicles, it is a good idea to do so or to slow down. Professional truck and bus drivers are trained to employ this safety practice on the road. Passenger car drivers should be aware that trucks may move over to avoid obstacles on the shoulder. Because of the limited visibility around large trucks and buses, passenger car drivers may not see a hazard and therefore not anticipate the truck responding to the hazard.

Sharing the road means anticipating large trucks and buses moving over to avoid police officers and other hazards on the shoulder.

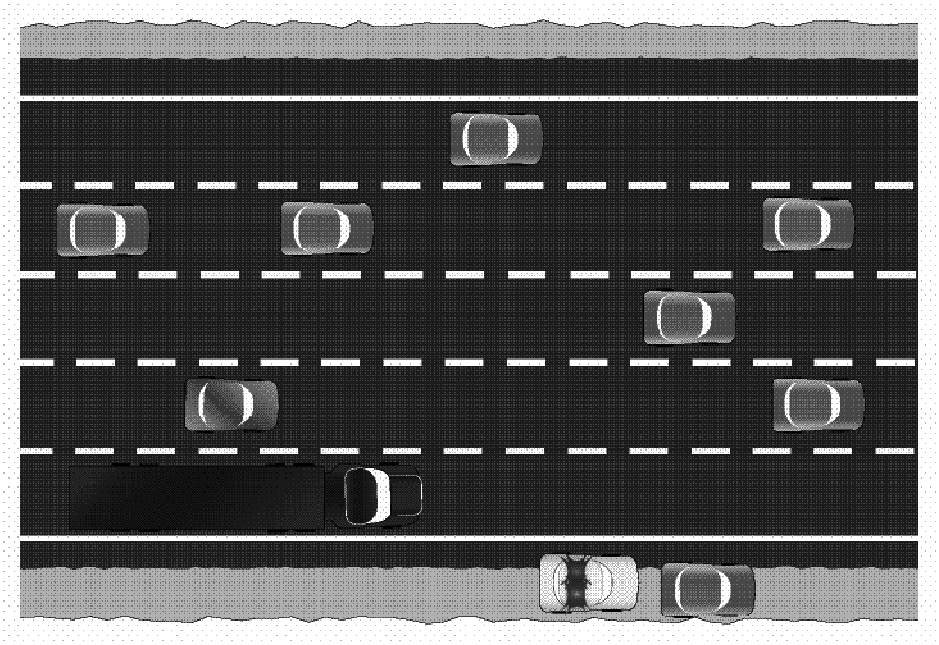

Fig 18: Typical situation requiring you obey state “move over” laws

Case Study and Worksheet

Module 9: Real-Life Case Study

Sky County Daily News Dispatch

Local Teen Killed in Wreck!
by John Rowski

A 16-year-old local teenager was killed this morning in a crash at Deep Creek Parkway and Ivanhoe Boulevard in town. The identity of that victim is being withheld until all of the family is notified.

The crash was reported shortly after 8:30 a.m. on July 31. The crash occurred in the 900 block of Southwest Ivanhoe Boulevard at the intersection with the Deep Creek Parkway access ramp. Southwest Ivanhoe Boulevard is a two-lane, one-way road at that point. It is part of a four-lane divided highway.

According to the on-scene police sergeant, the 18-wheeler was in the right lane on Southwest Ivanhoe Boulevard attempting to exit on to Deep Creek Parkway. The 18-wheeler made a wide right turn, and as it did, the pickup attempted to pass the 18-wheeler on the right side.

The pickup made glancing contact with the 18-wheeler. The pickup then veered to the right, went off the road and rolled. The sergeant said witnesses reported that the pickup driver was traveling at a high rate of speed.

A representative from the Sky County Medical Examiner's Office pronounced the driver of the pickup dead at the scene. A passenger (16 years old) in the pickup did not suffer any major injuries. The driver of the 18-wheeler was not injured. The identity of the passenger of the pickup and the driver of the 18-wheeler are not available yet.

The Police Department, Fire Department and Department of Public Safety worked the crash. The incident is still under investigation.

END

Field Police Report
Facts of the Crash

Two large commercial motor vehicles (CMVs) were traveling south on Ivanhoe Boulevard in the #1 lane (left lane). The teenager driving the pickup truck came up in the #2 lane (right lane) at a "minimum" of 65 mph (speed limit is 55 mph), and was passing the commercial motor vehicle (truck) just as the CMV was starting to make a right turn into the #2 lane. The pickup truck glanced off the tractor-trailer and left the roadway to the right, rolled, and the driver was crushed as the cab of the pickup truck collapsed. This driver was wearing a seatbelt, but his upper body came out of the window area.

The truck driver was driving the speed limit and used his turn signal, but apparently did not see the pickup truck.

The investigating officer revealed that the pickup was being followed by another vehicle (his friends) and they had been playing a game of "cat and mouse"! While they were not racing, the car had passed the pickup earlier, and the pickup had just passed the car again, and was now passing to the right of the two tractor-trailers when the crash occurred. The investigating officer further revealed that the teenager driving the pickup was driving at a "minimum of 60 – 65 miles per hour," but the damage suggested he may have been driving faster. The teenager probably didn't see the turn signal because it was on the lead vehicle of the two trucks. The investigating officer indicated that evidence showed had the teenager been driving at the speed limit, he could have avoided the crash.

Although the trucker is being charged, the teen contributed significantly to the outcome of the crash. Furthermore, the teen's actions not only cost him his life, but will forever change the life of the truck driver.

The weather was clear and dry, and the sun was not a factor.

Accident Case Study

Local Teen Killed in Wreck Worksheet

Student Name: _____ **Instructor:** _____

School Name: _____ **Date:** _____

1. Who was involved? _____

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2. What happened? _____

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3. What time of the day did the crash happen? _____

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4. On what type of road did the crash happen? _____

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5. Why did the crash happen? _____

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6. How could the crash have been avoided? _____

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7. What were the road conditions? _____

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8. Were there any driver errors? _____

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9. What were the speed conditions? _____

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10. What Share the Road principles could have been applied to avoid this crash and needless death?

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TEENS & TRUCKS
SHARE THE ROAD PARTNERS

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AAA OF ARIZONA • AIT SCHOOLS • ARIZONA DEPARTMENT OF TRANSPORTATION/
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