

Class 7

Sharing the Road with Other Users
&
The Effects of Fatigue and Emotions on Driving

The Importance of Sharing the Road with Other Users

Fact Sheet 8.1
Content Information

The Importance of Sharing the Road with Other Roadway Users

All types of people and vehicles use the roadways to travel from one point to another. If everyone shares the responsibility for the roadways, the transportation system will operate more safely and efficiently.

Single-vehicle crashes account for more than 50 percent of all motor vehicle occupant fatalities. However, most collisions occur when two or more objects try to occupy the same space at the same time. Vehicles of different sizes and power handle differently. Small vehicles, such as motorcycles, are light and can accelerate quickly. Large trucks and recreational vehicles take a lot of power just to accelerate to highway speeds. They also take a long distance to stop. A driver needs to be aware of these differences.

Other roadway users include:

- Pedestrians
- Bicycles
- Motorcycles, mopeds and scooters
- Large vehicles
- Trains, railroad crossings and public transportation
- Construction vehicles and work zones

Drivers must always share the road with other users. Every roadway user has a right to the roadway. All roadway users should be mutually courteous and civil. Crashes can be avoided by identifying and sharing the road with other users.

Sharing the Road with Pedestrians

Fact Sheet 8.2
Content Information

Sharing the Road with Pedestrians

Always recognize that pedestrians are especially defenseless, because they do not have the same protection drivers have in a vehicle. Drivers have a responsibility to take every precaution to avoid hitting pedestrians.

Pedestrians who do not drive, especially children and older people do not know the traffic laws and what a driver can do with a motor vehicle; therefore, they may take more risks and can cause serious problems. Pedestrians are also difficult to see, and drivers have difficulty determining their intentions. Allow for more time and space for pedestrians as you would for any other vehicle on the road.

- Yield to pedestrians at all times, even if they are not in a crosswalk and they are crossing the street where they should not be.
- Sometimes you will see mid-block crosswalks between intersections which require you to yield as you would at an intersection. Mid-block crossings have warning signs and pavement markings.
- Even when you are facing a green light, you must yield the right-of-way to all pedestrians in the intersection. You only have the right-of-way when your intended path is clear.
- When preparing to make a left turn or U-turn, check for pedestrians in your path, even if you have a green arrow.
- As you prepare for a right turn, especially on a red traffic signal, be cautious of pedestrians approaching on your right.
- When approaching a stopped vehicle from behind, slow down and do not pass until you are sure that there are no pedestrians crossing in front of it. You may not pass a vehicle stopped for a crosswalk even on multi-lane roads.
- Always check for pedestrians in your path before backing, especially in shopping centers or places where there are many pedestrians.
- Be careful in school, playground and residential areas where children could run out from between parked vehicles. It is a good idea to drive slower than the speed limit in these areas and be prepared to stop quickly.
- In a school zone when lights are flashing or children are present, you must obey a slower speed limit. At a school crossing where there is traffic patrol, stop and yield when you are signaled to do so.



Sharing the Road with Bicycles**Fact Sheet 8.3**
Content Information**Sharing the Road with Bicycles**

Bicycles are becoming increasingly more popular; therefore, it is important to become aware of how to share the road with bicycles. Bicyclists may not be easily seen in traffic. Drivers must to be alert for bicyclists and be extra careful when approaching them. Just as motorists have different levels of skill; bicyclists also have varying levels of skills. A skillful bicyclist rides predictably and holds a steady line. An unskillful bicyclist may swerve unpredictably, ignore traffic signs and signals, and ride without a light at night. If you see an unskillful bicyclist, be ready for any sudden movements.

- Bicycles are legally entitled to use the road and should be treated as vehicles. Drivers must yield to bicyclists as you would for pedestrians and other vehicles.
- Drivers must yield the right-of-way to a bicyclist when a bicycle path or bike lane intersects a road.
- Do not attempt to share a lane with the cyclist. Follow the bicycle and wait for a safe opportunity to pass.
- When approaching or passing a bicyclist, slow down and allow as much space as possible. If you are about to make a right turn, do not pass a bicyclist immediately before the turn, slow down and let the cyclist clear the intersection before making your turn.
- Be careful after you have passed a bicyclist. Do not slow down or stop quickly. A motor vehicle's brakes are more powerful than a bicycle's, and sudden stopping could cause a crash.
- Do not sound your horn close to bicyclists, unless there is a chance of a collision. Sounding your horn to alert your presence may startle them and cause them to steer into your path and crash.
- When making turns, watch carefully for bicyclists entering your lane. Be especially careful if you see children riding bikes on the sidewalk. They may come onto the road.
- Never turn sharply in front of a bicyclist and do not force a bicyclist off the road.
- Although bicyclists are required to ride in the direction of traffic, drivers should look for them riding anywhere on the roadway.
- Be particularly careful around bicyclists when the roadway is wet or covered with sand or gravel. Like motor vehicles, bicycles cannot brake as quickly or turn as sharply under these conditions. Road conditions which lessen traction affect bicycles much more than vehicles.
- You should check for bicyclists in your path before backing. Be especially cautious near schools or residential areas where bicyclists may be present.

Sharing the Road with Motorcycles, Mopeds and Scooters

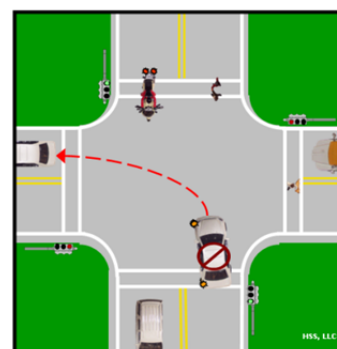
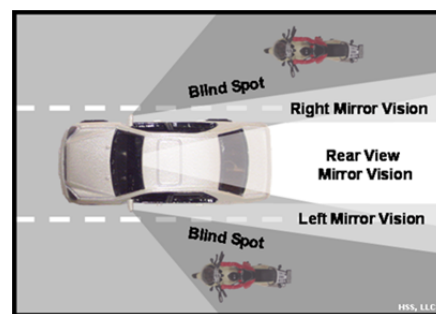
Fact Sheet 8.4 Content Information

Sharing the Road with Motorcycles, Mopeds and Scooters

Motorcycles, mopeds and scooters are small vehicles that accelerate quickly. Because of their size, they are also more difficult to see. Danger exists because the motorcyclist is exposed and has no protection should a collision occur. To stop a motorcycle, the motorcyclist must operate separate brakes for front and rear wheels. A motorcyclist must coordinate the hand throttle, hand clutch and front gearshift lever to accelerate smoothly. Unlike four-wheel vehicles, a motorcycle might have difficulty remaining upright.

Motorcycles, mopeds and scooters have the same rights and responsibilities as other drivers. However, it is more difficult to see them, and drivers find it difficult to determine what they will do. There are special situations and conditions we need to be aware of so we can safely share the road with motorcycles/scooters/mopeds:

- Do not share a lane with a motorcycle/scooter/moped. They have the right to use a complete traffic lane and they need space to react to other traffic.
- Always make a visual check for motorcycles/scooters/mopeds by checking mirrors and blind spots by turning your head and looking before entering or leaving a lane of traffic and at intersections.
- Before turning left, be alert for motorcycles/scooters/mopeds by looking carefully to the front and sides of your vehicle.
- When following a motorcyclist/scooter/moped, allow for a 3 to 4 second following distance or more in wet conditions or you may not have enough time or space to avoid a crash. Motorcycles/scooters/mopeds can stop quickly, and following too closely endangers your life and that of the motorcyclist.



Sharing the Road with Motorcycles, Mopeds and Scooters

Fact Sheet 8.4
Content Information

Sharing the Road with Motorcycles, Mopeds and Scooters

- When a motorcycle is following, check the rearview mirror often.
- Do not assume a motorcycle/scooter/moped is turning when you see its turn signal flashing. Motorcycle/scooter/moped turn signals may not self-cancel, and the motorcyclist/scooter/moped may have forgotten to turn them off. Do not pull out in front of a motorcycle/scooter/moped until you see that it is actually beginning to turn. Keep in mind that motorcycles/scooters/mopeds may not have turn signals, so it is important to leave enough space for the motorcyclist/scooter/moped to maneuver.
- Always signal your intentions before changing lanes or merging with traffic. Signaling allows the motorcyclist/scooter/moped to anticipate traffic flow and find a safe lane position.
- Remember that a motorcyclist cannot cope with adverse weather conditions as well as a four-wheeled vehicle can, so increase the space around the motorcyclist in bad weather.
- Always dim your headlights when approaching a motorcycle/scooter/moped. Because of their vulnerability, the blinding effect of high beams can be far more dangerous to them than to drivers of motor vehicles.
- When a motorcycle/scooter/moped is passing your vehicle, you should maintain your lane position and speed. Allow the motorcyclist/scooter/moped to complete the maneuver and assume proper lane position as quickly as possible. Never speed up or interfere with their ability to pass safely.
- Keep in mind that scooters and mopeds travel at much lower speeds than motorcycles.



Sharing the Road with Large Vehicles

Fact Sheet 8.5
Content Information

Importance of Learning About Large Trucks

According the National Highway Traffic Safety Administration (NHTSA) there were 3,380 fatalities and 74,000 people injured in crashes involving large trucks in 2009. In the U.S. 296,000 large trucks were involved in traffic crashes during 2009. Truck drivers contribute to these accidents. However, automobile drivers are most often at fault in collisions between cars and trucks. It is now becoming clear, however, that too many drivers of passenger cars unnecessarily endanger themselves by failing to recognize that trucks and cars differ in the way they behave on the road.

Sharing the Road with Large Vehicles

Fact Sheet 8.5
Content Information

Warning and Regulatory Signs for Large Vehicles

While traffic and road signs are for all drivers, there are specific signs that are more applicable to large vehicles. Some of these signs include:

- **Steep Grade** – take precautions and be prepared for the effects of this grade on the truck; braking and possibly gearing down to slow the engine
- **Rollover Potential** – highway design or condition may make the potential for a shift in stability of the vehicle resulting in a rollover
- **Low Ground Clearance** – know the truck's dimensions above as well as below the truck. Slow down when crossing this area.
- **Maximum Height Warning** – know the truck's dimensions and know the route. The driver may need to determine an alternate route
- **Truck Route** – the route, while used by others is designed for trucks because of highway design, traffic patterns, and construction specifically done to handle truck weights and high volume. Other highway users need to be prepared to drive with large trucks and know their handling.
- **Trucks Use Right Lane** – trucks on this roadway are to use the right lane because of highway design or grade, etc. Multiple trucks in this lane may slow traffic. Drivers should use caution when passing and returning to the lane shared with trucks. A truck may still come into the left lane.
- **Runaway Truck Ramp (Distance 1 mile)** – in some areas where steep grades have the potential to result in a truck speeding out of control or having brake failure, designated areas have been placed so trucks may use them in case of an emergency. These ramps may be used by cars in the event of brake failure or speeding out of control.
- **Use Low Gear** – lower gears are needed on steep or winding roads. This sign alerts drivers to the need for lower gears on this roadway. It is a warning to all drivers of the potential to create an emergency.
- **Reduced Speed Limit for Trucks** – in some areas, trucks need to drive slower than other vehicles. This sign warns truck drivers to slow down to posted truck speed.



As the driver of a car, you should be aware of these signs and potential situations that might arise around large vehicles. Be cautious and think ahead. Prepare for action in case of an emergency.

Sharing the Road with Large Vehicles

Fact Sheet 8.5
Content Information

Hazardous Materials and Large Vehicles

There are vehicles that are specifically designed for the transport of hazardous materials. Drivers of these vehicles have received special training to carry this cargo. Hazardous materials trucks are labeled on the back or side of the vehicle with a diamond shape and often contain a symbol, name or number of the substance and the class number.



- When passing, make sure there is enough space to allow you to pass and return to the lane and remember it is only safe to return when you can see the front of the truck and its wheels in your rearview mirror.
- When driving over hills, remember that trucks may go slow uphill, but when going downhill trucks will often gain speed quickly.
- Allow space and room to maneuver in the event of an emergency situation with the truck, another vehicle or with your own vehicle.
- Remember that a liquid load poses special dangers if sloshing or surging occurs.
 - **Slosh** – when the center of gravity shifts to the outside of the tank, the liquid load rocks from side to side inside the tank. If the liquid shifts or rocks past the balance point and the pull of gravity prevails the truck will roll.
 - **Surge** – As a result of sudden braking, the liquid in the tank rolls from front-to-back and then back-to-front causing it to slam into the front and back of the tank structure.
 - **Rollover** – When the truck loses its balance point and the center of gravity shifts, the truck will roll.
- Liquid slosh and surge are caused by speed, turning radius, sudden braking or acceleration, and by sudden maneuvers. Rollovers can happen anywhere but most happen on straight roadways.

Drivers may not know the specific contents inside vehicles carrying hazardous materials by their signs, but they need to recognize when a vehicle is carrying dangerous cargo and execute maneuvers with extra care and caution. Any unexpected or unsafe actions by other vehicles may cause the truck driver to take sudden, evasive actions to avoid a crash. Crashes with hazardous materials can endanger not only the drivers on the highway, but in some instances can affect people, animals and the environment in areas surrounding the crash.

Sharing the Road with Large Vehicles

Fact Sheet 8.5 continued
Content Information

Large Trucks and Stopping Distance

Total stopping distance is the distance a vehicle travels while making a stop. A total stopping distance is made up of perception distance, reaction time and braking distance.

There are many factors that affect the braking distance of a vehicle such as:

- **Speed of the vehicle** - Higher speeds will cause the vehicle to take longer to stop.
- **Vehicle condition** - Tires, brakes, suspension all can affect braking distance depending on their condition.
- **Roadway surface** - Rain, snow, leaves, gravel, and dirt can cause a vehicle to have a longer braking distance.
- **Hills** - Braking distances can be increased depending on the grade of hill.
- **Weight of the vehicle** - Large vehicles can have much longer braking distances depending on the vehicle weight.

Stopping distances between large vehicles and cars are drastically different. Studies by the Insurance Institute for Highway Safety have shown that at 55 miles per hour a fully loaded tractor trailer can take 49% more distance to stop than a passenger car (335 feet versus 225 feet).

Large vehicles traveling at 55 m.p.h. with a full load, under ideal conditions, will travel a total of 335 feet before coming to a complete stop. Large vehicles take much longer to stop than a passenger car and motorists must take this into account while driving.

Why do large vehicles have longer stopping distances than cars?

- The biggest factor in the difference in the stopping distance is the weight.
 - A tractor trailer can weigh 80,000 pounds.
 - The average passenger vehicle weighs 2,500 to 3,500 pounds.
- Speed of vehicle
- Size of tires
- Brakes
- Roadway conditions

Sharing the Road with Large Vehicles

Fact Sheet 8.5 continued
Content Information

Passing and Meeting Large Trucks

Passing - Many motorists are apprehensive about passing vehicles because of their size, but the same rules apply for passing a large vehicle as for passing cars.

1. Check the traffic to the front and rear. Do not pull out if being overtaken by traffic from behind or if there is other traffic approaching.
2. Once you have decided to pass and see that the roadway is clear, do not hesitate. Fewer accidents occur when there is clear, decisive action.
3. When moving into the passing lane, be aware that large vehicles can create turbulence.
4. Truck drivers work hard to get up to normal highway speeds, sometimes shifting through 15 gears. For this reason, and because vehicles take longer to stop due to their size and weight, truck drivers appreciate it if, after passing, drivers maintain their speed.
5. If the driver flashes his/her lights after you pass, it may be a signal that it is clear to pull back in. Do not trust this signal. Check to make sure you have cleared the front of the large vehicle and can now safely return to the lane.
6. Be sure to move back only when you can see the front of the truck in your rearview mirror. After you pass a truck, maintain your speed.

Being passed - When a truck passes, you can help the truck driver by keeping to the far side of your lane. You will make it easier for the truck driver if you reduce speed slightly. In any event, do not speed up while the truck is passing. After passing, the truck driver should signal to let you know that the truck will be returning to the lane.

Meeting - When you meet a truck coming from the opposite direction, keep as far as possible to the side to avoid a sideswipe accident and to reduce the wind turbulence between the two vehicles. Remember that the turbulence pushes the vehicles apart. It does not draw them together.

Also, because of its large size, a truck often appears to be traveling at a slower speed than it really is. A substantial number of car-truck collisions occur at intersections because the driver of the car does not realize how close the truck is or how quickly it is approaching. When in doubt about the speed of an oncoming truck, do not turn left in front of its path.

Turbulence from large vehicles – Because of their size, large vehicles can create turbulence, which is wind that can affect the stability of vehicles nearby. Two main areas of turbulence around a large vehicle are the front and the rear of the vehicle. Turbulence pushes the vehicles apart and affects your vehicle's stability. When passing or meeting large vehicles hold the steering wheel firmly and allow plenty of space between your vehicle and large vehicles.

Sharing the Road with Large Vehicles

Fact Sheet 8.5 continued
Content Information

Following Large Vehicles

One of the biggest problems resulting from tailgating a large vehicle is sight distance. If you follow too closely, the truck's size will almost prevent you from viewing the road ahead. You will be forced to depend on the truck's brake lights for a signal that something is going on in the front.

- Avoid following too closely, and position the vehicle so the truck driver can see the car in his or her side mirrors.
- When coming to a stop behind a truck, always leave plenty of room between your vehicle and the truck. Also, move your vehicle to the left of your lane so that the driver can see you in his/her left side mirror. Being too close to the rear of a large vehicle 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/her foot off the brake and engages the clutch, the truck may roll backwards a few feet striking the vehicle to the rear.
- Another extreme hazard for passenger car drivers is striking the back of a large truck. This type of collision is known as an "**underride**." Underride is generally defined as a type of collision in which a portion of a passenger vehicle slides under another vehicle. Underrides can occur between two passenger vehicles but are more common and more dangerous between a large truck and a passenger vehicle.
- Following large vehicles too closely can place a motorist in danger if debris should fall from the truck. Tires can blowout. Cargo, large pieces of metal, spare tires, etc., can all fall off a large truck causing considerable damage to any vehicle following too close. In some cases, debris falling from large vehicles has caused some drivers to the rear to become seriously injured or killed.
- The road clearance of large vehicles is high enough to straddle road debris (blown tires, wood, dead animals) and unfortunately most of today's vehicles will not have the ability to avoid this debris if they are following too closely.

Sharing the Road with Large Vehicles

Fact Sheet 8.5 continued
Content Information

Turning in Front of a Large Vehicle

One of the main causes of collisions between cars and trucks at intersections is the inability of motorists to accurately determine the speed of an approaching truck before making a left turn.

- 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. The truck may be going faster than you think.
- Large trucks use air brakes rather than the hydraulic brakes found in cars and light trucks. These brakes take longer to engage; adding many feet to a big rig's stopping distance. It takes more than 100 yards - the length of a football field-for an average fully loaded tractor-trailer truck traveling at 55 miles per hour to stop.
- Do not cut off a large vehicle in traffic or on the highway to reach an exit or turn or to beat a truck into a single-lane construction zone. The few seconds that might be saved are not worth a life or lives.

Sharing the Road with Large Vehicles

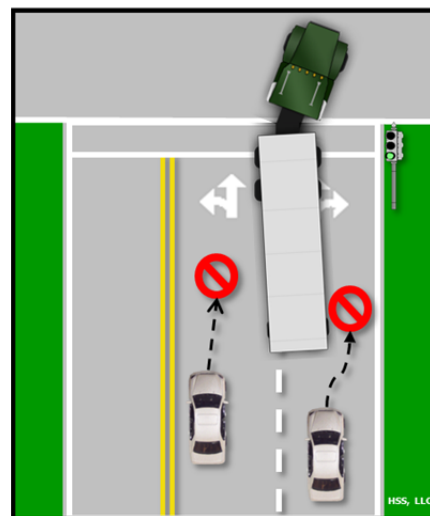
Fact Sheet 8.5 continued
Content Information

Large Vehicles and Off-Tracking

Off-tracking – Occurs when the trailer of a large vehicle follows a tighter path than that of the tractor. The longer the trailer, the more the off-tracking. As a result, the tractors will swing wide left or right to prepare for the turn and to compensate for the off-tracking. Because right turns are sharper than left ones, off-tracking is greater on right turns.

Off-tracking is dangerous, but often unavoidable, because of the large size and limited turning radius of trucks. Left-turning drivers will first swing wide to the right, and right-turning drivers will first swing wide to the left, to enter a cross street. The sharper the turn, the narrower the intersection, and the longer the truck, the wider the driver must go. Off-tracking can force a truck's trailer to cut off or "squeeze" roadway users to the sides.

Many drivers following a tractor semi-trailer assume that if the truck moves to the left it is preparing to make a left turn. However, drivers of large trucks usually swing out to the left as the first step in making a right turn.



- If a truck is stopped at or approaching an intersection, never attempt to "cut in" along the right side of the roadway as the driver first maneuvers left, or you will find yourself sandwiched between the turning truck and the curb.
- Trying to pass a right-turning truck driver 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 of the cross street.
- Always give a truck driver sufficient clearance and time to complete a turn safely.

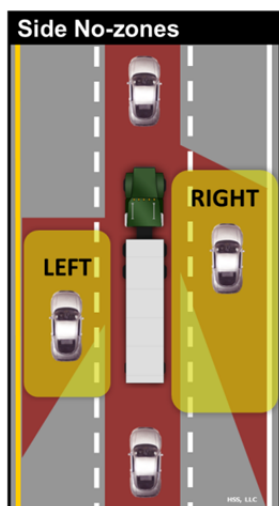
Many intersections are marked with stop-lines indicating where a driver must come to a complete stop. Stop-lines are designed to set motorists farther back at an intersection in order to give larger vehicles more turning space. These are called staggered stops.

Sharing the Road with Large Vehicles

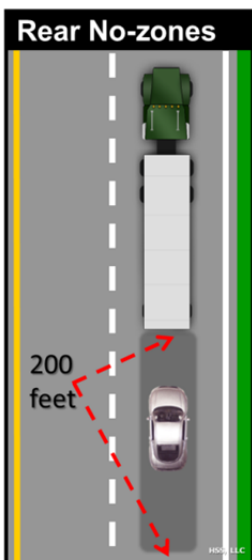
Fact Sheet 8.5 continued
Content Information

No-Zones Around a Large Vehicle

Many people think that because truck drivers ride much higher than other drivers that they can see better. Because of their large size, however, truck drivers have larger blind spots, called “no zones,” than do passenger car drivers. The no-zone represents danger areas around trucks where crashes are most likely to occur.

**Side no-zones**

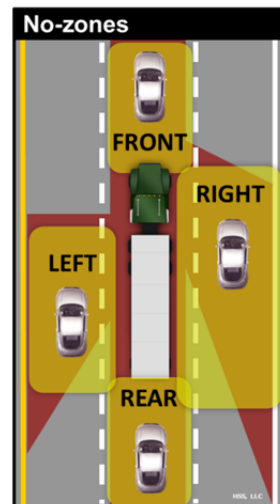
Large vehicles have no-zones on both sides. Trucks have larger blind spots on their right side starting behind the cab and extending up to the length of the truck. If you cannot see the driver's face in the side view mirror, s/he cannot see you. Avoid driving alongside a large vehicle for any longer than required. If the large vehicle needs to swerve or change lanes, the chances of a collision are greatly increased.

**Front no-zones**

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 unnoticed by the driver. Even truck cabs with no hood, called cab-overs, can have a front blind spot up to 10 feet long. Large vehicles take longer to stop than cars; therefore, it is essential not to enter a roadway in front of a large vehicle or change lanes in front of a large vehicle.

Rear no-zones

Unlike cars, large vehicles have a huge blind spot directly behind them that extends up to 200 feet. If you are too close, the large vehicle cannot see your car, and you cannot see what is ahead of you. Avoid following the vehicle too closely and position your vehicle so the driver can see it in his/her side mirrors.



Sharing the Road with Large Vehicles

Fact Sheet 8.5 continued
Content Information

Large Vehicles and Truck Escape Ramps

Truck escape ramps (TERs) have been part of our highway system for well over thirty years. They are found in many different settings including the mountains, the suburbs, and even in small urban communities.

The combination of heavy trucks and highway downgrades has long presented potentially dangerous conditions for truck drivers, other drivers on the road, and occupants of roadside property. The problem of runaway trucks generally results from brake failures which can arise for many different reasons. The inability of drivers to control vehicle speeds on downgrades is not only hazardous, but can also have costly consequences. These ramps are to be used by large vehicles that are out of control because of brake failure. Passenger car drivers should be aware of the location of large trucks around their vehicles, especially when being followed on steep grades. Passenger vehicles should never stop or park in the area of these ramps.

As of 1990, TERs numbered about 170 in the 27 states reporting them, three times as many as reported in 1970. While most are in western states, over 60 are in 12 states east of the Mississippi River. The states without escape ramps are primarily Southern, Midwestern or Great Plains states. Ramps already constructed report varying degrees of usage, but even rare usage can warrant ramp construction.

TERs are generally used in two situations: on long mountain grades in rural areas and on short steep hills likely to be in areas of dense traffic and development. Those located at the bottom of short steep hills are often in areas where there have been accidents involving fatalities or areas where serious property damage has occurred. TERs are likely to be found in locations that require a stop or slow-speed turn at the bottom of a grade.

Sharing the Road with Large Vehicles

Fact Sheet 8.5 continued
Content Information

Improving Your Road Sharing Skills with Large Vehicles

- Do not follow too closely or tailgate. Most tractor-trailers are 8 ½ feet wide, and if motorists are within 200 feet of the back of a truck, part of the car or even the entire car will not be visible to the truck driver. The rule of thumb is that if a motorist cannot see the truck driver in his side mirrors, the truck driver cannot see the motorist.
- Do not linger alongside a truck when passing. Remember that trucks have larger blind spots; always pass a large truck completely, at a steady pace, and on the left side. Also, if a motorist lingers alongside of a truck, even if s/he is not in one of the truck's blind spots, s/he limits the truck's maneuverability if an obstacle appears in the road ahead.
- Do not cut off a truck in traffic or on the highway to reach an exit or turn, or to beat a truck into a single-lane construction zone. The few seconds that might be saved are not worth a life or lives.
- Tractor-trailers need to make wide right turns. If it looks like the truck ahead is turning left, do not rush ahead on the right side of the truck, because the truck might be making a right turn instead.

Sharing the Road with Emergency Vehicles**Fact Sheet 8.6 Part I**
Content Information**Sharing the Road with Emergency Vehicles**

Drivers of emergency vehicles must drive with regard for the safety of other roadway users, but they may, under emergency conditions, be exempt from traffic control laws. Under emergency conditions, they may not obey traffic signals, may drive faster than the posted speed limit, or may disregard rules covering direction of movement or turning. Emergency vehicles have flashing lights and sirens. Examples of emergency vehicles include ambulances, fire department vehicles, and police vehicles.

When you hear a siren or see a vehicle approaching with flashing lights, pull over to the curb or edge of the road and stop. Always keep intersections clear. After the vehicle passes, carefully look behind you to check whether it is safe return to the roadway. Stay at least 500 feet away from the emergency vehicle.

Move-over laws

Require drivers to slow and change lanes when approaching a roadside incident. When approaching an emergency vehicle stopped on the roadway, proceed with caution by slowing and yielding the right-of-way by making a lane change into a lane not next to that of the emergency vehicle. If a lane change is unsafe, slow down and proceed with caution.

Police/traffic stops

If you are pulled over by law enforcement:

- Move to the right side of the road and position your vehicle out of the way of traffic.
- Turn off your engine and turn on your hazard flashers.
- Remain calm and keep your safety belt fastened.
- When requested, locate and provide your driver's license, proof of insurance and/or vehicle registration.
- Remain in the vehicle unless requested to get out.

Sharing the Road with Trains and Public Transportation

Fact Sheet 8.7 Content Information

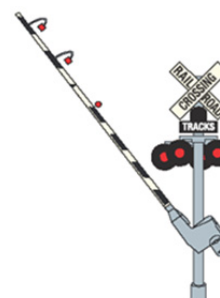
Sharing the Road with Trains

When approaching a railroad crossing always expect a train. Trains do not run on a set schedule. Even if you cross the tracks every day at the same time, do not take familiar crossings for granted. A typical locomotive weighs approximately 200 tons. Add 100 railcars to the locomotive, and the train can weigh approximately 6,000 tons. A 100-car freight train traveling at 55 mph will need more than a mile to stop, which is equivalent to 18 football fields. Trains can only travel in one direction and one path. They cannot swerve or stop quickly.

Railroad crossing signs

Many railroad crossings have signs, lights and gates to caution you about railroad crossings.

- A round yellow warning sign with an “X” symbol and black “RR” letters is placed along the road prior to a railroad crossing. The sign cautions you to slow down, look and listen for a train and be prepared to stop if a train is approaching.
- A white, X-shaped sign with “Railroad Crossing” printed on it is located at the railroad crossing. You must wait for a train or railroad vehicle that is approaching the intersection. Your vehicle must remain behind the stop line or prior to the intersection until the intersection is clear.
- At highway-railroad grade crossings with more than one train track, the number of tracks will be posted. These signs warn you that there is more than one track and there may be more than one train crossing.
- At some highway-railroad grade crossings, in addition to the signs, you may see side-by-side lights that will flash alternately. When a train is approaching and lights are flashing you must stop prior to the stop line or gate crossing area. At some highway-railroad grade crossings a crossing gate will lower when a train is coming. You may not move around the gate until the gate is lifted or the lights have stopped.



Sharing the Road with Trains and Public Transportation

Fact Sheet 8.7 continued
Content Information

Sharing the Road with Trains

How to cross railroad crossings

- Slow down when approaching a railroad crossing.
- Pay attention to signs, warning lights and gates at crossings.
- Look both ways and cross the tracks quickly, without stopping.
- Always yield the right-of-way to trains at railroad crossings.
- If a train is crossing the roadway, wait to cross until the train has passed and well down the track or until railroad devices indicate it is safe to cross.
- If you need to stop for a traffic signal, stop at the stop line, prior the tracks. Do not stop on the tracks. Stopping on train tracks is very dangerous.
- Always wait for the vehicle ahead of you to clear the tracks before you start across.
- Only proceed through a railroad crossing if you are sure you can completely clear the crossing without stopping on the tracks.
- Never attempt to beat a train. A train can travel much faster than your vehicle.
- If there are no flashing lights or gates at the crossing, use extra caution. Slow down, look, listen and cross the tracks quickly if there is no train in sight.

Vehicle stalled on tracks

Do not shift gears when crossing railroad tracks, in case you might stall. If you do stall your vehicle:

- Check in both directions for approaching trains.
- Get everyone out of the vehicle and a safe distance from the tracks.
- Call the emergency number that is posted near the crossing, local law enforcement or 911. Give the operator the six digit number and letter that identify the crossing. The railroad will know which crossing is blocked and an oncoming train may be stopped by the dispatcher.
- Do not return to your stalled vehicles. Returning to your stalled vehicle is dangerous, for trains could approach at any time.

Sharing the Road with Trains and Public Transportation

Fact Sheet 8.7 continued

Content Information

Sharing the Road with Public Transportation

Transit buses

Buses make frequent stops and may drive at a slower speed.

- Watch for buses that have stopped. They may block your view of pedestrians about to cross the street, or they may be about to pull into traffic.
- Unlike a school bus, drivers do not have to stop for a transit bus when they drop off or pick up people, unless they are behind them.
- Look for passengers boarding and exiting the bus that might cross into your path.
- Do not be tempted to pass a stopped bus if you are caught behind a bus; wait until the bus starts moving before changing lanes.

Light rail vehicles and trolleys

Light rail vehicles and trolleys have the same rights and responsibilities on roadways as other vehicles. Light rail vehicles, because of their large size, require more room and handling ability.

- Be aware of where light rail vehicles and trolleys operate and what their limitations are.
- Trolleys differ from trains in that they are very quiet and they move more abruptly, but some of the same rules apply. For instance do not proceed across the tracks until you can see clearly in both directions or a signal indicates you may proceed.
- Some traffic signals are used to control traffic for trolleys and light rail vehicles only. The lights on these signals are marked with a “T” and the tracks are marked with railroad crossing signs and flashing red signals.
- A safety zone is a space set aside for pedestrians boarding, entering and waiting for trolleys and light rail vehicles. Do not drive through or park on tracks or in a safety zone for any reason. You may pass the zone as soon as it is safe to do so and at no faster than 10 mph.
- Do not overtake and pass on the left of a trolley or light rail vehicle, whether it is moving or standing, except when you are on a one-way street. When the tracks are so close to the right side of the road that you cannot pass on the right, or when a traffic officer directs you, pass on the left.
- Never turn in front of an approaching light rail vehicle or trolley. Let it pass before making your turn.
- Maintain a safe following distance from the rail vehicle or trolley if it shares the roadway with other users. In many cases, you may drive in the same lane as a trolley or light rail vehicle.

Sharing the Road with Construction Vehicles and Work Zones**Fact Sheet 8.8**
Content Information**Sharing the Road with Construction Vehicles and Work Zones**

A **work zone** is an area where roadwork takes place and may involve lane closures, detours and moving equipment. Highway work zones are set up according to the type of road and the work to be done on the road. The work zone can be long or short term and can exist at any time of the year, but most commonly in the summer.

Work zones on U.S. highways have become increasingly dangerous places for both workers and drivers. Approximately 35,000 people per year are injured as a result of motor vehicle crashes in work zones. There are a large number of work zones in place across America, therefore, highway agencies are working on not only improving devices used in work zones, but to change the behavior of drivers so crashes can be prevented.

- When approaching a work zone watch for materials such as cones, barrels, signs, large vehicles, or workers in bright colored vests to warn you and direct you where to go.
- All temporary signs in work zones have an orange background and black letters or symbols and tell you what to do, how soon you will encounter the work zone and the speed limit through the work zone.
- The reduced speed limits are necessary for the safety of the workers and motorists. If there are no reduced speed limit signs, you should obey the normal posted speed limit.



Sharing the Road with Construction Vehicles and Work Zones

Fact Sheet 8.8 continued
Content Information

Sharing the Road with Construction Vehicles and Work Zones

Safety tips in work zones

As a driver, you should learn and abide by the following safety tips for driving in work zones:

- Watch the traffic around you and be prepared to react by reducing your speed, obeying signs and flaggers, and increasing your following distance.
- Do not become oblivious to work zone signs when the work is long term or widespread, and be aware that traffic patterns in work zones can change daily including lane shifts or alternating lane closures.
- Merge as soon as possible. Motorists can help maintain traffic flow and posted speeds by moving to the appropriate lane at first notice of an approaching work zone.
- Use extreme caution when driving through a work zone at night whether workers are present or not.
- Adjust your lane position away from the side where workers and equipment are located when possible.
- Some work zones, such as line painting, road patching and mowing are mobile. Just because you do not see the workers immediately after you see the warning sign does not mean they are not out there. Observe the posted signs until you see the one that says “End Road Work.”
- Expect delays, plan for them and leave early to reach your destination on time.

When you can, avoid work zones altogether by using alternate routes.

Construction vehicles

These are found at or nearby construction sites. They are very large and loud. Proceed with caution around them. Many construction vehicles start out slowly and because of heavy loads they haul, acceleration takes longer. Remember the following in order to drive safely around construction vehicles:

- Do not tailgate.
- Driver may not see you in his side mirrors.
- Keep a safe distance between your vehicle and any construction vehicle(s).

If a construction vehicle is following:

- Keep checking in the rear view mirror.
- Do not stop quickly unless necessary.
- Remember construction vehicles need a lot of braking distance.

The Causes and Effects of Fatigue

Fact Sheet 12.1
Content Information

Causes and Effects of Fatigue

Fatigue - Physical or mental weariness that can be caused by strain, repetitive tasks, illness or lack of sleep

Causes of fatigue

- Physical strain (hard work)
- Mental strain (stress) Monotonous tasks (long driving trips)
- Illness
- Lack of sleep
- Sun glare
- Overeating
- Riding in a warm passenger compartment

Effects of fatigue

- Impairs reaction time, judgment and vision
- Impairs the senses and abilities
- May not see objects clearly or in a timely manner
- May miss critical information – signs, lights and sounds
- Takes longer to process information or make decisions

Risks of drowsy driving

Drowsy driving is one of the leading causes of traffic collisions. The NHTSA estimates that 100,000 police-reported crashes year are the result of drowsy driving. According to the National Sleep Foundation's *Sleep in America* poll, more than one third (36 percent or 103 million people) admit to having actually fallen asleep at the wheel. Drivers may experience short bursts of sleep lasting only a few seconds or fall asleep for longer periods of time. Either way, the chance of a collision increases dramatically.

The Causes and Effects of Fatigue

Fact Sheet 12.1
Content Information

Who is Most at Risk for Drowsy Driving and Warning Signs of Fatigue

Drowsy driving - who is most at risk?

- Drivers who are:
 - Sleep deprived
 - Driving long distances without rest breaks
 - Driving through the night or at other times when they are normally asleep
 - Taking medicine that increases sleepiness
 - Driving alone
 - Driving on long, rural, boring roads
 - Frequent travelers, e.g. business travelers
- Drivers with undiagnosed or untreated sleep disorders
- Young drivers
- Shift workers
- Commercial drivers

Fatigue warning signs:

- Difficulty focusing, frequent blinking or heavy eyelids
- Yawning repeatedly or rubbing eyes
- Daydreaming; wandering/disconnected thoughts
- Trouble remembering the last few miles driven; missing exits or traffic signs
- Trouble keeping head up
- Drifting from your lane, following too closely or hitting a shoulder rumble strip
- Feeling restless and irritable

If you notice any signs of fatigue, stop driving and go to sleep for the night or take a 15 – 20 minute nap

The Causes and Effects of Fatigue

Fact Sheet 12.1 continued
Content Information

Preventing Drowsiness and Maintaining Alertness

Preventing drowsiness before a trip:

- Get adequate sleep – adults need 8 to 9 hours to maintain alertness
- Prepare route carefully to identify total distance, stopping points and other logistic considerations
- Drive with a passenger
- Avoid medications that cause drowsiness

Maintaining alertness while driving:

- Protect yourself from glare and eyestrain with sunglasses
- Avoid heavy foods
- Be aware of down time during the day
- Have another person ride with you, and take turns driving
- Take periodic breaks – about every 100 miles or 2 hours during long trips
- Stop driving and get some rest or take a nap
- Consume caffeine – can increase awareness for a few hours, but do not drink too much. It will eventually wear off. Do not rely on caffeine to prevent fatigue.

Ineffective actions:

- “Toughing it out”
- Playing the radio loudly
- Driving at a faster or slower speed
- Chewing gum
- Opening the windows

Rest is the key:

It is usually not a good idea to sleep in a vehicle at the side of the road, but there may be times when it is safer than continuing to drive. If you must stop along the side of the road:

- Find a populated, lighted area
- Stop where security is present or make sure you are as far off the highway as possible
- Open windows slightly, but not enough to allow entry from outside
- Lock all doors and turn off the engine
- Turn on parking lights and turn off other electrical equipment
- After you rest, if safe, get out of the vehicle and walk a few minutes before driving, sleeping for more than 20 minutes can make you groggy for at least 5 minutes after awakening

The Causes and Effects of Fatigue

Fact Sheet 12.1
Content Information

Are You at Risk?

Before you drive, consider whether you are:

- Sleep-deprived or fatigued (6 hours of sleep or less triples your risk)
- Suffering from sleep loss (insomnia), poor quality sleep, or a sleep debt
- Driving long distances without proper rest breaks
- Driving through the night, mid-afternoon or when you would normally be asleep
- Taking sedating medications (antidepressants, cold tablets, antihistamines)
- Working more than 60 hours a week (increases your risk by 40%)
- Working more than one job, and your main job involves shift work
- Driving alone or on a long, rural, dark or boring road
- Flying, changing time zone?

Emotions that Can Affect Driving Behavior

Fact Sheet 12.2
Content Information

Emotions

Emotions that affect driving:

- Anger
- Anxiety
- Joy, happiness
- Fear
- Hate
- Grief
- Love

General effects of emotions:

- Interfere with your ability to think
- Create mental distractions
- Create inattentiveness
- Can cause you to act out your emotions
- Increase risk taking
- Create a lack of concentration
- Interrupts ability to process information

Physical effects of emotions:

- Heartbeat increases
- Breathing quickens
- Digestion slows
- Palms sweat
- Feeling of exhaustion
- Physical stress

Controlling emotions:

- Understand one's emotional makeup
- Identify situations that cause emotional stress
- Expect other drivers to make mistakes
- Understand that emotions are contagious
- Direct emotions toward actions, not individuals
- Delay driving when upset
- If upset, ask someone else to drive

**Emotions that Can Affect Driving
Behavior**

Fact Sheet 12.2 continued
Content Information

Passengers and Emotions

In a vehicle, passengers can influence the way a driver thinks, feels and drives.

- When you are the driver, you need to take responsibility for the safety of your passengers
- Do not let peer pressure or group pressure allow you to take more risk
- Do not get into an argument or discussion with other passengers while driving, which may cause you to become upset

Passengers can help the driver maintain control while driving by taking actions to prevent aggressive driving or speeding.

- Avoid distracting or upsetting the driver
- Discourage the driver from driving recklessly
- Do not encourage the driver to speed or drive in a reckless manner
- Praise the driver for doing a good job in a difficult situation

Aggressive Driving and Road Rage**Fact Sheet 12.3**
Content Information**Aggressive Driving and Road Rage**

Aggressive driving – occurs when a driver operates a vehicle in a pushy or bold manner, without regard for others' safety. Examples of aggressive driving include:

- Exceeding the speed limit
- Following too closely
- Failing to obey traffic controls
- Making improper turns and maneuvers

Road rage – occurs when a driver uses the vehicle or some other weapon to threaten or cause harm to another roadway user in response to a traffic incident with the intent to harm others. Road rage is an escalation of emotions generally ignited by aggressive driving behaviors.

Examples of road rage include:

- Throwing objects at a vehicle
- Yelling at a specific roadway user
- Attempting to ram another vehicle

Formula for road rage:

This formula comes into play when we look at how our society has normalized disrespectful and hostile behavior. When these elements are added to our roadways that contain more cars, less space and more driver interactions, the result is a social normalization of behaviors that are more aggressive and violent in nature.

Types of aggression:

- **Verbal aggression:** yelling, cussing, gesturing, honking, insulting (**aggressive driving**)
- **Quiet aggression:** complaining, rushing, competing, resisting by not letting others in (**aggressive driving**)
- **Epic aggression:** cutting off, blocking, chasing, physically fighting, shooting (**road rage**)

Aggressive Driving and Road Rage

Fact Sheet 12.3
Content Information

Aggressive Driving and Road Rage

Degrees of aggression

1. The “rush-in” area (aggressive driving)

- Constant rushing and lane jumping is your style.
- Others are just in your way. Get ahead.
- Ignore road signs and regulations. They are for other drivers.
- Driving with distraction, low alertness, inattention.

2. The “total aggression” area (aggressive driving)

- Constantly ridiculing and criticizing other drivers to self or passengers.
- Closing gap to deny entry into lane.
- Giving the “look” to show disapproval.
- Speeding past another car, revving engine.
- Prevent others from passing you.
- Tailgating to pressure a driver to go faster or get out of your way.
- Fantasizing physical violence.
- Honking, yelling through the window.
- Making visible insulting gestures.

3. The “violence” area (road rage)

- Carrying a weapon, just in case.
- Deliberately bumping or ramming another vehicle.
- Trying to run a car off the road to punish.
- Getting out of the car, beating or battering someone.
- Trying to run someone down.
- Shooting at another car.
- Thoughts of killing someone.

**Strategies for Anger Management and Responding
to Aggressive Driving and Road Rage**

Fact Sheet 12.4
Content Information

Strategies for Anger Management

Anger is the basis for rage

The irrational actions of others create anger. There is potential for rage if a driver feels he/she has been violated or his/her safety has been threatened.

Self-imposed anxieties and dangerous reactions/maneuvers

Anyone can enter a driving situation with varying amounts of anxiety which can negatively influence driving behavior. The idea is to recognize these thoughts and not allow them to influence his/her driving.

Examples include:

- “I am going to be late if I don’t hurry up.”
- “Why are these cars going so slow?”
- “We will never make it.”
- “If only I had gone a little faster I could have made it.”
- “Oh no. Red light!”

Dangerous maneuvering includes:

- “All of these cars are trying to squeeze in!”
- “I have a lead foot!”
- “Ha! I will speed up and show him a lesson!”
- “Everyone else is speeding!”
- “Let’s tailgate this car in front of me.”
- “He’s driving too slowly!”

Strategies for Anger Management and Responding Fact Sheet 12.4 continued
to Aggressive Driving and Road Rage Content Information

Strategies for Anger Management

Reduce your stress

- Leave plenty of time
- Drive the posted speed limit
- Minimize distractions: take out glasses, put purse/briefcase, phone away
- Don't drive when angry, upset or overly tired
- Alter your schedule to avoid peak drive times
- Monitor your physical / emotional condition. Loosen your grip on the wheel. Sit back.
- Know where you are going – keep directions out. Know alternate routes.
- Relax and concentrate on driving
- Be polite

Don't trigger aggression in others

- Keep a safe following distance from the car ahead. You will need the room if something unexpected happens.
- Don't cut off other drivers
- Leave plenty of room when merging
- Give others the space they need to merge safely. Don't "close the gap."
- Keep right except to pass
- Move right to let others pass
- Always use your turn signals before changing lanes
- Avoid gestures that might anger another driver
- Use your horn sparingly
- Do not park across multiple parking spaces or touch adjacent vehicles while parking or entering or exiting the vehicle
- When using high-beam headlights, return to using low-beam headlights as soon as you detect an oncoming vehicle

Strategies for Anger Management and Responding to Aggressive Driving and Road Rage **Fact Sheet 12.4 continued**
Content Information

Responding to Aggressive Driving and Road Rage

Dealing with anger:

Just like all other driving skills, containing or managing your anger on the roadway requires training and thought prior to engaging in the driving task. One should realize that responding to another driver's negative behavior can lead to a dangerous situation. Keep in mind that everyone makes errors in his/her driving.

To deal with anger:

- Get out of his/her way
- Don't respond – do not challenge him/her by speeding up or attempting to hold-your-own in your path of travel
- Don't engage – avoid eye contact, which can sometimes anger an aggressive driver
- Ignore gestures and name calling – refuse to return them
- Be tolerant and forgiving – the other driver may be having a bad day and looking for a way to vent anger
- Be polite and courteous – your behavior may help reduce the other driver's anger
- Do not get out of your vehicle
- Drive away from the area, if possible, drive to a public space, not home – report serious road rage