

**THE TEXAS A&M UNVIVERSITY SYSTEM
HEALTH SCIENCE CENTER**

CHAPTER X - VEHICLE SAFETY

1. Introduction

Motor vehicle accidents are the leading cause of death and crippling injury in the United States. Traffic safety laws are important components of vehicle safety, but the most important aspect of vehicle safety is the driver.

***IMPORTANT:** All TAMUS-HSC employees who operate a motor vehicle for company business (whether a company vehicle, rental vehicle, or personal vehicle) must possess a valid state driver's license for their vehicle's class.*

To ensure driving safety, follow these driving practices:

- Never drink and drive. Driving while under the influence of alcohol or drugs is strictly prohibited.
 - Obey all traffic laws, signs, and signals.
 - Respond to dangerous driving conditions as appropriate.
 - Maintain a safe distance between your car and any car in front of you. Allow at least one car length for each 10 MPH (e.g., three car lengths if you are driving 30 MPH).
 - Keep your eyes moving to avoid fatigue, especially if you plan on driving for a long period.
 - Always use your turn signal to indicate your intended action.
 - Leave yourself an "out" by either driving in the lane with a shoulder, driving in the middle lane of a multi-lane road, or following other vehicles at a safe distance.
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2. Defensive Driving

By taking defensive driving courses, employees can promote driving safety and lower their insurance rates. The principles of defensive driving include the following:

- **Knowledge:** Know your vehicle and know the law.
- **Control:** Always maintain control of your vehicle. To improve your control, perform routine vehicle maintenance and respond to road conditions as appropriate.

- **Attitude:** Be willing to obey all laws and be willing to yield to all other vehicles and pedestrians.
 - **Reaction:** Respond to driving conditions appropriately. Do not impede your reaction time by driving when tired or under the influence of alcohol or drugs.
 - **Observation:** Be aware of potential accidents and take preventive measures. Always try to anticipate the actions of other drivers.
 - **Common Sense:** Do not risk your safety to save time. Do not respond to rude or obnoxious drivers by violating traffic laws.
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3. Backing Vehicles

Backing a large vehicle can be very difficult. Try to avoid backing whenever possible. If you must back a vehicle, follow these guidelines:

- Get out of the vehicle and inspect the area you want to back into.
 - If possible, have someone outside help guide your vehicle into position.
 - If your vehicle does not automatically sound a horn when in reverse, sound the horn once before moving backwards.
 - Back slowly and check your mirrors often.
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4. Automobile Accidents

If you are ever involved in a vehicle accident, follow these guidelines.

1. Check for injuries. If anyone is injured, immediately call the police and Emergency Medical Services (EMS) (911 or 9-911 from a HSC telephone).
2. If there are no injuries, you are blocking traffic, and your car can be driven, move the car to a safe location nearby. (If the accident occurs on a freeway lane, ramp, shoulder, median, or busy metropolitan street, you *must* move your car if it is safe and possible to do so.)
3. If you cannot move your car, try to warn oncoming traffic to prevent other accidents:
 - Raise your hood.
 - Turn on your hazard lights
 - Light flares.

4. Exchange the following information with other drivers involved in the accident:
- Name, address, and phone number
 - Vehicle identification number, license number, and description
 - Insurance information
 - Driver's license number

Call the police in the following circumstances:

- Someone is injured.
 - A car cannot be moved.
 - A driver is intoxicated.
 - A driver has no insurance.
 - A driver leaves the scene of the accident without exchanging information.
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5. Alternative Fueled Vehicles

Although liquid hydrocarbon fuels, such as gasoline, are efficient and easy to handle, they are a finite energy source and a cause of various pollution problems. Alternative fuels, however, such as compressed natural gas and propane, are widely available and offer few emission problems.

NOTE Alternative fueled vehicles must be refueled by trained personnel. Employees should not refuel their alternative fueled vehicles themselves.

IMPORTANT: Any vehicle greater than 20hp must maintain a 2 1/2 pound, portable, class A-B-C fire extinguisher.

Compressed Natural Gas

Compressed natural gas (CNG) is a plentiful domestic fuel that is very affordable. Seventy cents of natural gas possesses the same amount of energy as one dollar of gasoline. CNG also produces low tailpipe emissions, no evaporative emissions, and low refining energy. Unfortunately, however, CNG requires bulky gas cylinders and higher cost vehicles. CNG vehicles must be tested and inspected annually for corrosion, pressure, and possible gas leaks.

Propane

Propane is a by-product of gasoline, but it can also be extracted from natural gas. Propane offers slow evaporative emissions and virtually complete combustion.

When filling propane tanks, operators should allow at least 10% free space for gas expansion. Safety valves should also discharge to the atmosphere and not to enclosed spaces.

6. Railroad Crossings

Compared with other types of collisions, train/motor vehicle crashes are 11 times more likely to result in a fatal injury. On the average, there are more train-car fatalities each year than airplane crashes. Unfortunately, driver error is the principal cause of most grade crossing accidents. Many drivers ignore the familiar tracks they cross each day, and some drivers disregard train warning signals and gates.

All public highway-rail grade crossings are marked with one or more of the following warning devices:

- **Advance Warning Signs:** Advance warning signs indicate that a railroad crossing is ahead. These signs are positioned to allow enough room to stop before the train tracks.
- **Pavement Markings:** Pavement markings may be painted on the pavement in front of a crossing. Always stay behind the stop line when waiting for a passing train.
- **Crossbuck Signs:** Railroad crossbuck signs are found at most public crossings. Treat these signs as a yield sign. If there is more than one track, a sign below the crossbuck will indicate the number of tracks at the crossings.
- **Flashing Lights and Gates:** Flashing lights are commonly used with crossbucks and gates. Stop when the lights begin to flash and the gate starts to lower across your lane. Do not attempt to cross the tracks until the gate is raised and the lights stop flashing.

IMPORTANT: You must stop at least 15 feet from a train track when: (1) warning lights flash; (2) a crossing gate or flagperson signals an approaching train; (3) a train is within 1500 feet of the crossing; or (4) an approaching train is plainly visible and in hazardous proximity.

Follow these guidelines when you encounter a railroad crossing:

- Always expect a train.
 - When approaching a crossing, LOOK, LISTEN, and LIVE.
 - Be sure all tracks are clear before you proceed. Remember, due to their large size, it is easy to misjudge the speed and distance of an oncoming train. If you have any doubts, stop and wait for the train to pass.
 - Watch for vehicles, such as school buses, that must stop before train tracks.
 - Never race a train to a crossing.
 - Always stop for flashing lights, bells, and gates. Never drive around a gate. (State law requires pedestrians to stop when a railroad crossing gate is down.)
 - Do not allow yourself to be boxed in on a track with cars in front and behind you.
 - Never stop on train tracks. If your car stalls on train tracks, call 911 immediately. If a train approaches, abandon the car and run away from the tracks.
 - When driving at night, look low to the ground for moving trains. (One third of all train-car collisions occur at night when cars run into moving trains.)
 - Watch out for a second oncoming train after the first train has passed.
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7. Bicycle Safety

Each year there are 700 fatalities and 39,000 injuries among cyclists in the U.S. Cyclists must take precautions when driving on city and University streets.

Follow these safety precautions when riding a bicycle:

- Always obey *all* traffic laws:
- Stop at stop signs.
- Ride in the correct direction on one-way streets.
- Stop at railroad tracks when the warning signals are operating.
- When riding with other cyclists, ride single file in traffic.
- When bike lanes are available, use them. If bike lanes are not available, stay as far right as possible on the street pavement. Watch for opening car doors, sewer gratings, debris, etc. Do not ride on sidewalks.
- Use hand signals when turning or changing lanes.
- Wear a helmet that is approved by ANSI or the Snell Memorial Foundation. (Head injuries account for 75% of all cycling fatalities.)
- If riding at night, make sure your bicycle has reflectors on the rear, front, spokes, and pedals. Wear bright, reflective clothing.