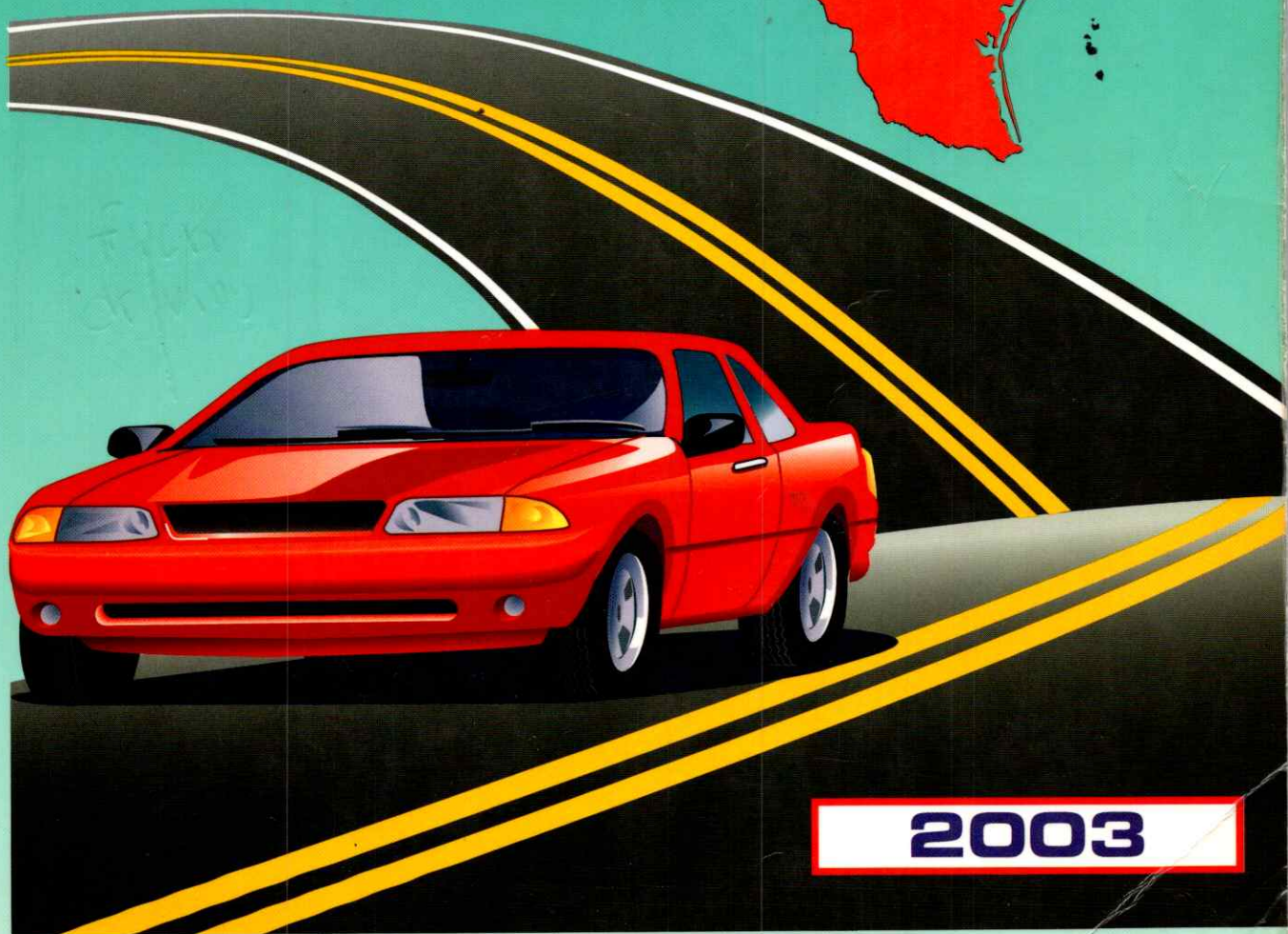




Texas

***Traffic Safety Education
Student Manual***



2003



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Traffic Control Devices

3

Could you imagine using the HTS if there were no traffic control devices at all? No lines on the pavement! No signs! No traffic signals!

Road signs and traffic signals are the visual vocabulary of all road users that facilitate the use of the HTS for everyone. It is an evolving language that all road users are required to know. Fortunately, the vocabulary is based on shapes, colors, and symbols, and once learned, permits the understanding of new signs that may not have previously been seen.

Attempts are in progress to achieve world-wide standardization of this vocabulary in our ever-shrinking global community. Until such time, you are responsible for interpreting these traffic control devices correctly, wherever you may drive a motorized vehicle or use the HTS.



AFTER COMPLETING THIS CHAPTER, THE STUDENT MUST BE ABLE TO IDENTIFY THE PURPOSE FOR AND THE CORRECT DRIVER ACTIONS ASSOCIATED WITH:

- traffic signs and signals.
- pavement markings.
- traffic control persons.
- hand signals.



Traffic Signs

National standards for road signs have been set up by the National Joint Committee on Uniform Traffic Control Devices. They use shapes, colors, and symbols, as the basis of a clear and accurate language which is easily understood. It is a universal language that even the non-reader can decipher.

Before studying these signs individually, some basic principles are:

- Sign symbols are generally read from the bottom towards the top.
- Arrows indicate the direction of the flow of traffic.
- A black shield indicates a fixed obstacle.

THERE ARE FOUR CATEGORIES OF ROAD SIGNS

1- REGULATORY SIGNS

- Remind road users of specific rules (obligations, prohibitions, etc.) that apply in each traffic situation where they are posted.
- The background colors are red, white and black.

2- WARNING SIGNS

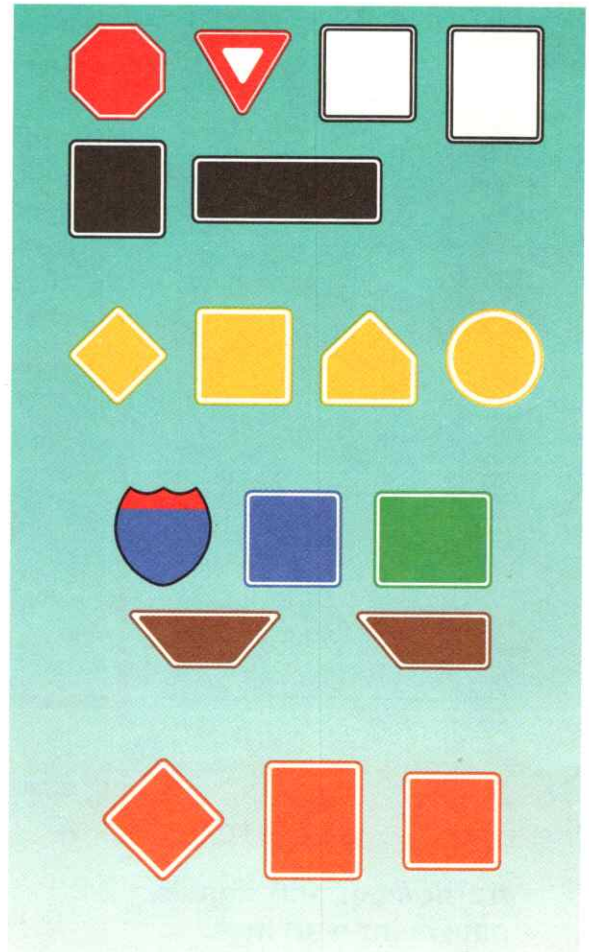
- Draw the attention to imminent danger or upcoming regulatory signs.
- The background color is yellow.
- The diamond shape indicates the danger is up ahead.

3- GUIDE SIGNS

- Provide information. - route markers, directions, destinations, services, points of interest or recreation, etc.
- The background colors are: BLUE + RED, WHITE + BLACK, GREEN, BLUE, & BROWN.

4- CONSTRUCTION SIGNS

- Draw the attention of road users to road repairs, detours, special road closing for sports events, etc.
- The background color is orange.
- The diamond shape indicates the danger is up ahead.



1 - REGULATORY SIGNS

Regulatory signs tell road users what they may or may not do in any specific area of the HTS. These signs are usually square or rectangular with black lettering or symbols on a white background, white lettering or symbols on a black background, or white lettering or symbols on a red background. Some regulatory signs are exceptions; they are :



UNIQUE PURPOSE REGULATORY SIGNS

The **STOP SIGN** is a red octagon with white markings. It requires a mandatory stop at the white line or before the crosswalk if there is no stop line. If there is neither a line or a crosswalk, stop before your vehicle reaches the cross street.

Check that you may proceed safely after yielding to all road users that do not have to stop.

The **YIELD SIGN** - a red and white triangle pointing downward - requires that you slow (stop if necessary) and give the right of way to the other traffic. Proceed when you can do so without interfering with the flow of traffic.

The **WRONG WAY SIGN** indicates that traffic is moving in an oncoming direction on this roadway. It prohibits you from entering the roadway. If you are already on the roadway, steer off the traveled portion of the road and change direction as soon as you safely can.

The **DO NOT ENTER SIGN** prohibits you from entering the roadway. Traffic is moving in an oncoming direction on the roadway; it is either a one-way road or an exit ramp from an expressway.

A white rectangle with black lettering - **DO NOT PASS** - posted on the right side of the road indicates a no passing zone. A yellow pennant with similar lettering posted on the left is a highly visible warning of the same regulation. A white rectangle with black lettering - **PASS WITH CARE** - indicates the end of the no passing zone.

The **RAILROAD CROSSBUCK** posted a few feet from the railroad tracks is a white X with railroad crossing in black lettering. This sign obliges some road users to make a complete stop whether a train is coming or not. Passenger vehicles should slow down and check both ways carefully. Be prepared to stop in case a train is approaching or you are following a vehicle that is required to stop.

SPEED LIMIT SIGNS

The **ABSOLUTE** or **POSTED SPEED LIMIT** is the maximum or minimum speed at which you can legally drive in this zone based on road and normal traffic conditions. These are intended for ideal driving conditions.

BASIC SPEED LIMITS (unless otherwise posted)

Near parks and playgrounds, alleys15 mph

Business and residential areas30 mph

Designated work areas45 mph

Numbered Highways - day70 mph

- night65 mph

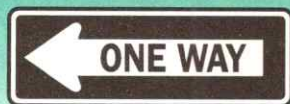
Rural (Not numbered) - day60 mph

- night55 mph

School buses / trucks55/50 mph

When road, weather, visibility, or traffic conditions are not ideal, the driver must determine the **BASIC SPEED LIMIT**; the safe speed for the existing conditions. (Minimum limits will no longer apply.)

REDUCED SPEED SIGNS inform the driver that a lower speed is posted ahead; the driver should reduce speed to comply with the limit when he reaches the zone.



ONE WAY SIGNS

The **ONE-WAY SIGN** designates the direction of the flow of traffic. Signs at intersections, are posted on the near right and the far left corners or above the roadway where they are most visible to traffic from both directions.

TRAFFIC DIRECTION SIGNS

Black lettering or symbols on a white background, these signs oblige drivers to pass on the indicated side of an obstacle or median in the roadway.



LANE-USE CONTROL SIGNS

LANE-USE CONTROL SIGNS whether mounted at the side of the roadway or above the lane - white rectangles with black arrows and lettering - oblige the driver in the lane indicated to travel in the direction shown, or restrict the use of the lane to certain vehicles. Both of these types of signs are usually accompanied by arrows and/or symbols painted on the pavement in the applicable lanes. (Example: HOV or High Occupancy Vehicle lanes, see Page XX.)

Drivers must plan ahead and place their vehicles in the correct lane to maneuver in the intended direction. Do not occupy the restricted lane unless permitted.



TURN PROHIBITION SIGNS



EXCLUSION SIGNS



NO TRUCKS

NO BICYCLES

NO PEDESTRIANS



NO HAZARDOUS CARGO

NO TRUCKS

NO MOTORCYCLES

PROHIBITORY SIGNS

New signs using a red circle and bar with a black symbol on a white square background are gradually replacing white rectangles with black lettering. The red circle and bar means NO.

TURN PROHIBITION SIGNS

Used in conjunction with black arrows to prohibit a left turn, right turn, or U turn.

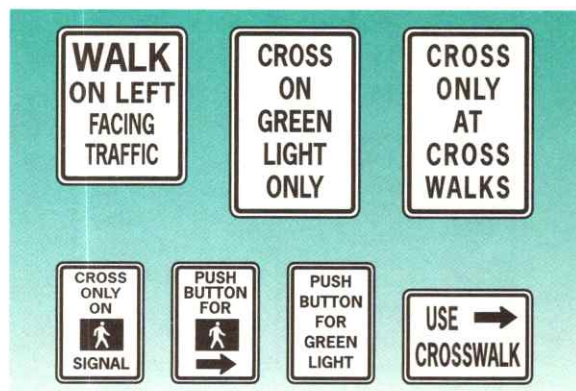
EXCLUSION SIGNS

When used with a black symbol, it prohibits the vehicle represented from using this roadway.

PARKING + STOPPING CONTROL SIGNS

These signs regulate the zones, times and days where parking or stopping is permitted or prohibited. Variations occur from one municipality to another.

- Red - No parking, standing, or stopping
- Green - Time limited parking.



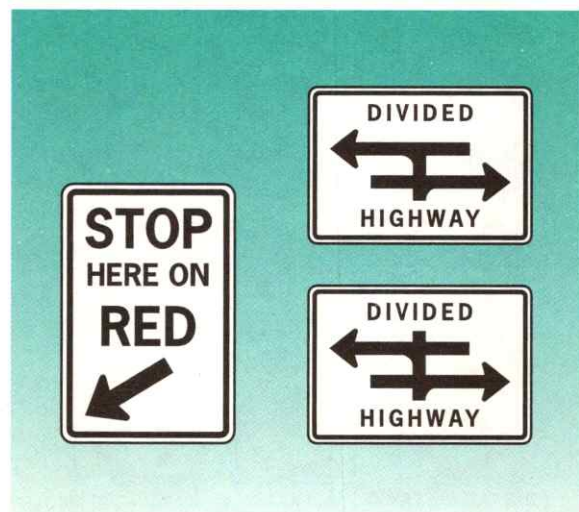
PEDESTRIAN CONTROL SIGNS

PEDESTRIAN CONTROL SIGNS remind pedestrians of the need to walk facing the traffic on rural roads where no sidewalks are provided, limit pedestrian crossing to safe places, and instruct pedestrians on the use of the traffic control lights.

OTHER REGULATORY SIGNS

The DIVIDED HIGHWAY SIGNS advise the driver of an upcoming intersection where the roadway is divided by a median or a separation. If the roadway does not continue, the driver must turn onto the highway.

The STOP HERE ON RED sign is posted near some intersections with traffic lights. When the stop is abnormally far from the corner for whatever reason, it indicates where you must stop your vehicle when the light is red.



2 - WARNING SIGNS

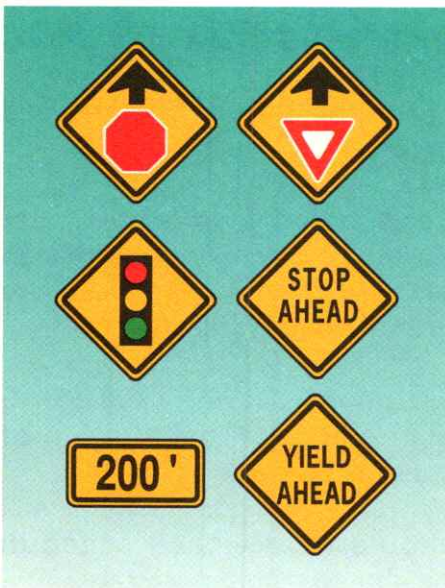
WARNING SIGNS draw the attention of road users to imminent or upcoming danger or, on occasion, upcoming regulatory signs.

- The background color is yellow with black lettering or symbols.
- The diamond shape is the most common and warns of upcoming danger. The pentagon, circle, and rectangle are also used in specific circumstances.

3

SCHOOL SIGNS

The yellow pentagon with black symbols of school children warns the driver of the beginning of a SCHOOL ZONE or a school crossing ahead. Whether or not special speed limits are present, prudent drivers will slow down and be extra vigilant for the possible presence of children. The addition of crossing lines on the pentagon indicates the location of the SCHOOL CROSSING. The possible presence of crossing guards or school patrols will help control the traffic.



ADVANCE REGULATORY SIGNS

The STOP AHEAD, YIELD AHEAD and SIGNAL AHEAD warning signs (whether using the symbols or the word messages) are intended for use on approaches to these regulatory signs. They are posted when the regulatory signs are not clearly visible for a sufficient distance to permit drivers to bring their vehicles to a stop in time under normal driving conditions. The problem may be a curve in the roadway or an overpass that obstructs the approaching driver's view.

A TAB indicating the distance to the regulatory sign may be installed below the warning sign.

Drivers should slow and prepare to stop.

ADVANCE TURN OR CURVE SIGNS

These warning signs, posted before turns and curves, are primarily for the benefit of drivers unfamiliar with the road. They do, however, by the symbol, inform all drivers what to expect.

The ADVISORY SPEED PLATE may accompany a curve sign and recommend the maximum safe speed in ideal conditions.

The CHEVRON ALIGNMENT sign may replace markers on a curve.

The LARGE ARROW (on a yellow rectangle), when posted in a curve, warns of an especially dangerous point in the curve.



ADVANCE CROSSING SIGNS

ADVANCE CROSSING SIGNS alert drivers to unexpected entries into the roadway. The type of possible entry is symbolized on the sign.

If such crossings occur at a particular location, a tab or auxiliary distance sign may supplement these signs to indicate the distance to the exact location.

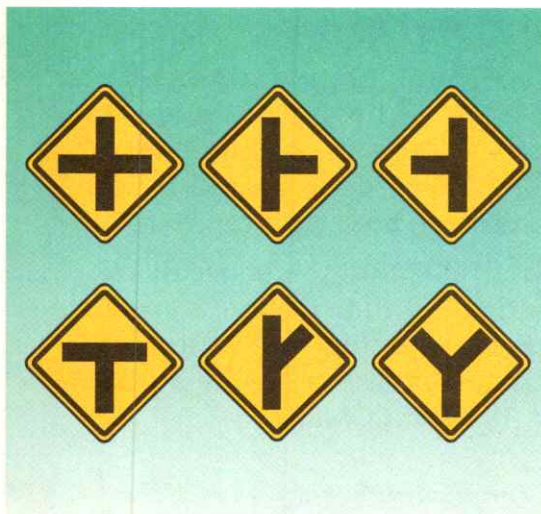
At the particular location, a CROSSING SIGN may be posted. (The addition of crossing lines to the same sign).

Drivers should reduce their speed in order to be able to stop if necessary.

ADVANCE INTERSECTION SIGNS

ADVANCE INTERSECTION SIGNS indicate the presence of obscured junctions ahead. The symbol represents the situation graphically, and the relative widths of the lines demonstrate the importance of the intersecting roads. These signs are not usually posted where junction or directional signing is already present.

Drivers should verify the situation ahead, be prepared for unexpected entries into the roadway, and remember that passing maneuvers are illegal when approaching intersections.



LANE REDUCTION SIGNS

LANE REDUCTION signs warn drivers of the loss of one or more traffic lanes on a multi-lane roadway. Drivers should safely enter the continuing lane as soon as possible, and/or facilitate the lane change maneuver for other drivers.

The NARROW BRIDGE sign warns drivers to adjust speed so that they will reach the bridge before or after the oncoming traffic.

DIVIDED HIGHWAY SIGNS

DIVIDED HIGHWAY AHEAD is posted on the approaches to a section of roadway where the traffic will be separated by a physical barrier.

DIVIDED HIGHWAY ENDS warns the driver that the highway ahead will no longer be divided by a physical barrier.

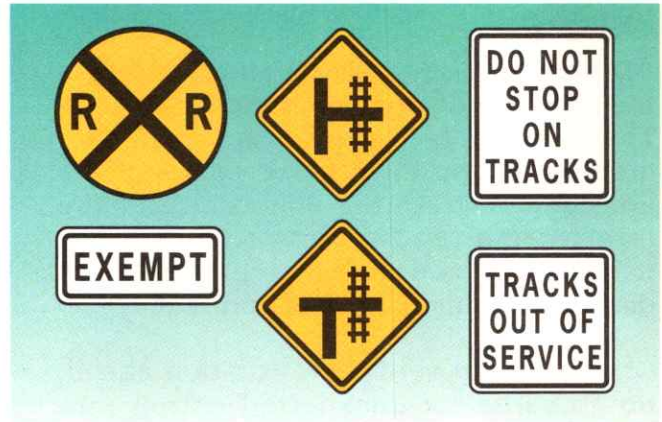
The TWO WAY TRAFFIC sign supplements the message and may be posted at intervals to remind drivers that they are no longer on a divided highway.



RAILROAD SIGNS

The round, yellow sign, with a black X and two R's, is a warning of a RAILROAD CROSSING AHEAD. Slow down, be prepared to stop, and check both ways carefully.

The "EXEMPT" tab under this sign indicates that drivers normally required to stop are free from that obligation at this crossing, UNLESS A TRAIN IS COMING.



CONVERGING ROADWAYS

This MERGE SIGN warns motorists that possible vehicles on an entrance ahead will attempt to join the flow of traffic. Drivers should be prepared to facilitate the merging maneuvers; if possible, a lane change to the left.

The ADDED LANE SIGN is posted in advance of a point where two roadways converge and merging maneuvers are not required - a parallel lane exists for the entering traffic. Drivers should still exercise caution as some vehicles might try to enter their lane.



WARNING - NO PASSING ZONE - SIGN

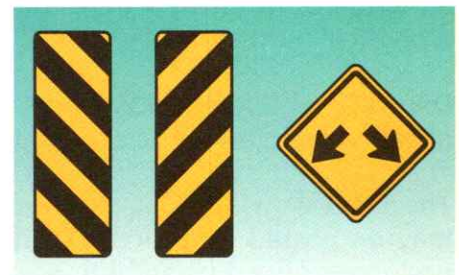
The yellow pennant posted on the left side of the roadway indicates the beginning of the no passing zone. The high visibility of this sign in passing maneuvers warns drivers from an adequate distance of the no-passing zone.

OBSTACLES IN THE ROADWAY

Signs posted on obstacles within or at the side of the road to warn drivers.

The DOUBLE ARROW indicates traffic may pass on either side of the obstacle.

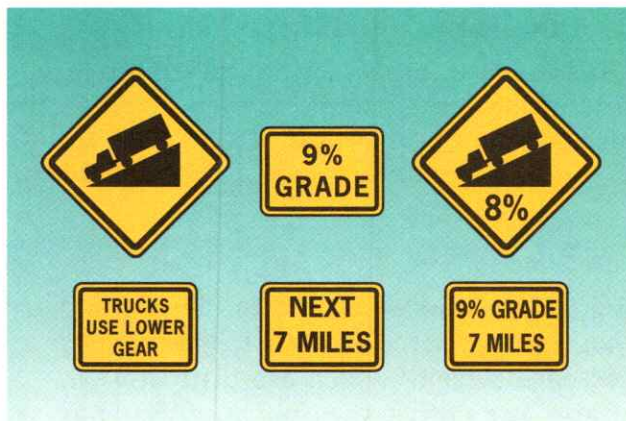
The HAZARD MARKERS channel traffic to the lower end of the stripes: to the right or to the left.



HILL SIGNS

The HILL sign is posted in advance of a downgrade that requires some special precautions. Supplemental plaques with respect to the grade and the length may also be installed.

Drivers should check their brakes by applying the brake pedal, and also prepare to downshift to an appropriate gear to take advantage of engine compression on the slope.



HAZARDOUS ROAD SIGNS

BUMP or DIP signs warn of a sharp rise or depression that creates discomfort for passengers or may deflect a vehicle from its true course. Drivers should reduce speed to minimize any possible effect on their vehicle.

PAVEMENT ENDS sign warns of a change in the road surface ahead. Drivers should slow down prior to the change, as road traction will decrease, and the danger exists of potholes at the end of the pavement.

The SOFT SHOULDER sign advises that the shoulder cannot safely support the weight of a vehicle. Drivers should avoid using the shoulder and proceed to a paved area if they must leave the roadway.

The SLIPPERY WHEN WET sign warns of a section of roadway where traction is severely reduced when wet. Drivers should reduce speed when the roadway is wet.



SAFETY TIPS

WARNING SIGNS ALERT YOU TO SITUATIONS ON OR NEAR THE ROADWAY AHEAD.

- You should reduce your speed and proceed cautiously.
- You should increase your visual search pattern to locate the hazards.
- You should manage your speed, time, and space to reduce the level of danger.

3 - GUIDE SIGNS

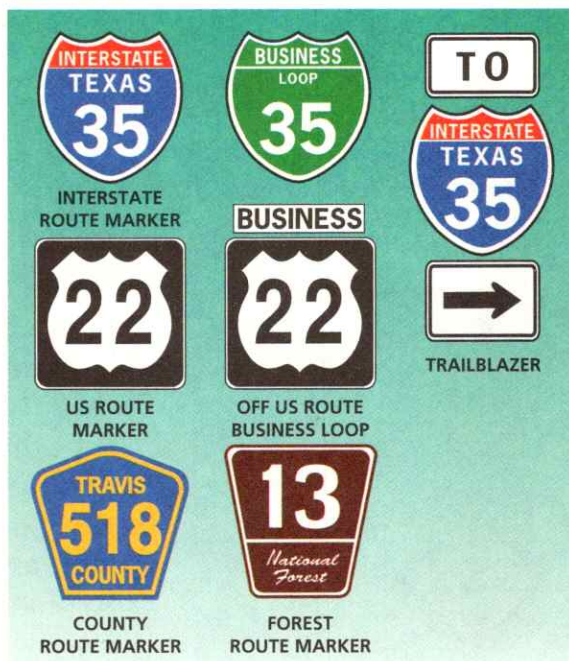
GUIDE SIGNS are essential to direct drivers along roadways; to inform them of interesting routes; to guide them to cities, towns, or villages; to identify nearby rivers, streams, parks, or historical sites; and to inform them of available roadside services. These signs are usually square or rectangular and color-coded as to their purpose.

ROUTE MARKERS

ROUTE MARKERS are used to identify and mark all numbered highways. The markers for each system, which are distinctive in shape and color, are used only on that respective system and the approaches thereto.

Auxiliary tabs such as TO, arrows, cardinal directions, or distances are often added to form trailblazers. The use of the tab with the word TO indicates that where the marker is posted is not a part of the indicated route, merely a progressive direction to the route in question.

These trailblazers inform road users and guide them to the nearest access point of the designated roadway.



DESTINATION SIGNS

DESTINATION SIGNS, green horizontal rectangles of varying sizes with white lettering, symbols, and numbers, are posted to assist travelers to their destinations. Arrows indicate the direction to travel, as well as distances to the indicated destination. The number of the roadway to be used may also be included. On major highways, there are at least three signs posted prior to the exit that is identified.

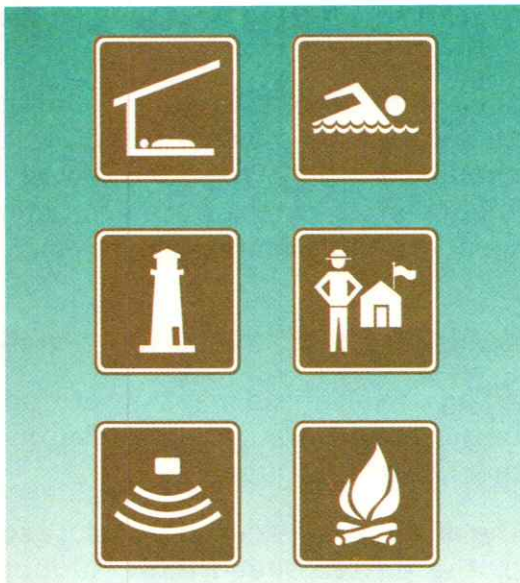
Drivers should have plenty of time to prepare to exit.

RECREATION SIGNS

A brown background (square, rectangle, or trapezoid in shape) with white lettering or symbols is reserved for recreational and cultural interest signs.

They may be posted on any conventional roadway or expressway to direct motorists to facilities; to identify recreational areas and services; and to inform of cultural interest structures and places.

The concept is to guide motorists to a general area and then to specific amenities within the area without confusing these signs with other traffic control signs.



ROADSIDE SERVICES

On conventional highways, services are generally within sight and available to the traveler at reasonably frequent intervals along the route. The blue square or rectangular SERVICE signs are not posted on these roadways.

When such services are infrequent and are found on intersecting highways and at crossroads, these signs will be posted to advise travelers as to the location, distance, and direction.

The service legends may be either symbols or word messages - they should not be mixed.

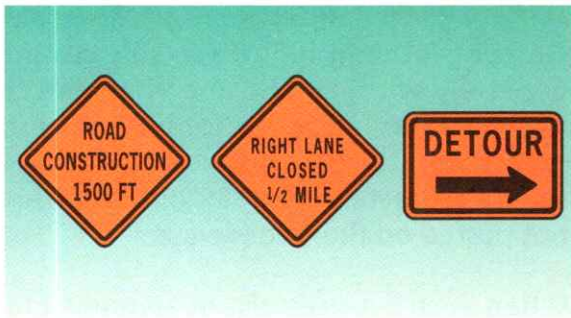
4 - CONSTRUCTION SIGNS

Signs with an orange background and black symbols or lettering are used when traffic must be moved through or around road construction work, maintenance operations, utility work, and special sporting events on or adjacent to the roadway. These signs (both construction and temporary signs) have to control a wide variety of situations and conditions, and as such, they present a wide assortment of messages.

SPEED

A flag person ahead may slow or stop the traffic (see 3-E Traffic Control Persons) as the situation requires.

The driver is well advised to reduce speed to the posted speed limit, suggested speed, or to a speed in keeping with the abnormal driving conditions.



WORK SITE LIMITS

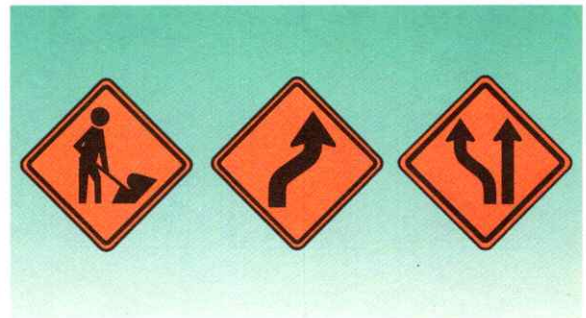
These signs indicate the distance to the work area, the length of the work site, and the end of the zone.

A DETOUR sign indicates that traffic must deviate around the work in progress ahead. Square detour signs are posted to designate the route to be followed.

CONDITIONS IN THE WORK SITE

These signs inform of the type of activity in the area, the conditions, changes in the number or position of lanes, etc.

A reduced speed and increased visual searching will permit the driver to adapt. This will produce extra time to judge, decide, and react to these conditions.





International Signs

3

As more people travel internationally, the need to recognize international signs increases every year. Local auto clubs should be consulted prior to road excursions in foreign lands; they can supply pertinent information with respect to signs and laws for the country where you intend to travel. INTERNATIONAL signs convey their message with symbols, colors, numbers, and shapes rather than words.



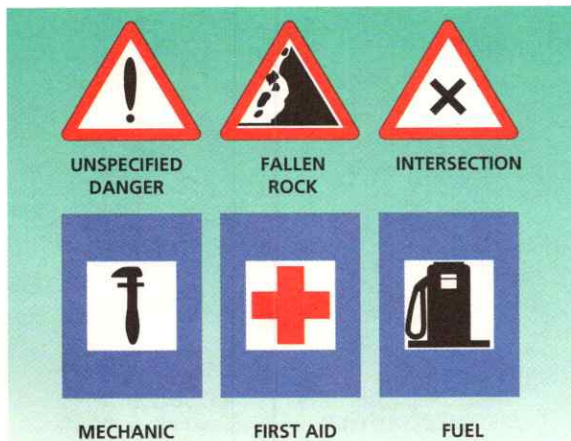
SPEED LIMIT SIGNS

White numbers on a blue circle indicate the minimum speed. Black on a white circle with a red border indicate maximum speed. In some cases, the word "maximum" replaces the words "speed limit." Remember, the speed limit is posted in kilometers per hour.

REGULATORY SIGNS

PROHIBITION SIGNS- a white circular sign with a red border and slash means NO. The black symbol indicates what is prohibited.

OBLIGATION SIGNS- white squares with green circles and black symbols oblige all of the traffic to proceed in the indicated direction.



WARNING AND GUIDE SIGNS

WARNING SIGNS- white triangles with red borders warn of hazards. The black symbol illustrates the upcoming danger.

GUIDE SIGNS- white squares on blue rectangular backgrounds provide information about services that are adjacent to the roadway. The symbols indicate the services.



Pavement Markings

Lines, lettering, symbols, and occasionally shading painted directly on the road surface make up PAVEMENT MARKINGS. Sometimes special markings may also be painted on curbs and other surfaces. They are normally white or yellow in color and are used to assist in regulating the flow of traffic. These markings define lanes, mark out roadways, reinforce information given by signs or signals, and sometimes warn of possible dangers.

The most common pavement markings are lines. They are painted in two colors: **yellow lines** that separate traffic traveling in opposite directions and **white lines** that separate lanes of traffic traveling in the same direction.

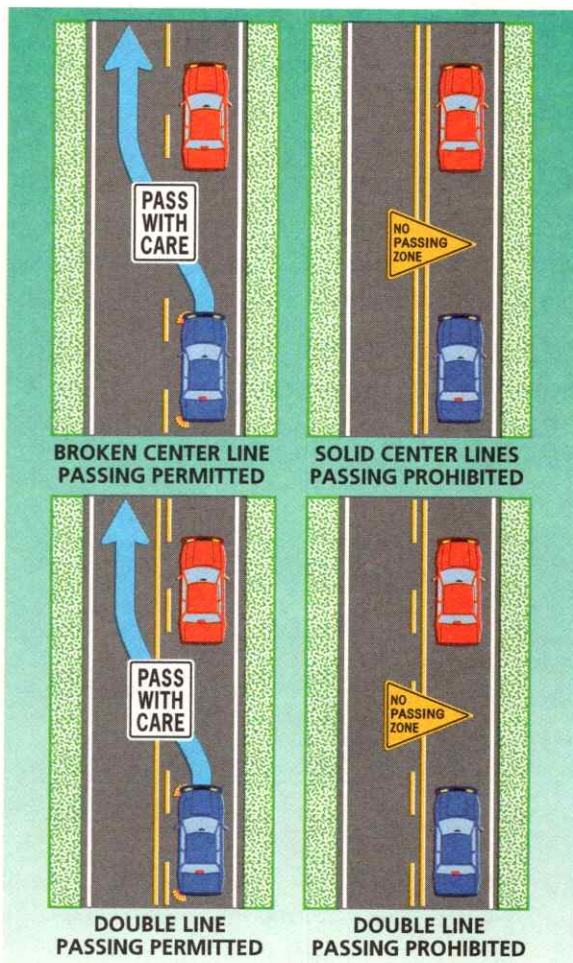
YELLOW LINES

A **CENTER LINE**, yellow in color, need not be at the geometric center of the roadway. It may be a single **BROKEN LINE** which permits passing if the way is clear; or a **SOLID YELLOW LINE** which prohibits passing (except in special cases: slow-moving vehicles, bicycles, etc.).

Center lines composed of double lines with one broken line and one solid line permit passing for drivers traveling beside the broken line and prohibit passing for drivers beside the solid line.

While driving on a two-lane roadway, you are required to use the right lane. You may use the left lane to pass another vehicle or in the event that your lane is obstructed or closed to traffic.

Before entering the left lane, you must yield the right-of-way to any oncoming traffic. The complete procedures for all passing maneuvers will be discussed later in the text in Chapter 13.





SAFETY TIPS

When driving, if you ever notice that a yellow line is on your right, you are traveling the wrong way. Immediately move onto the shoulder and when it can be done safely, turnabout and drive in the opposite direction.

Many highways use raised lane markers (reflectors attached to the pavement) to guide motorists in their lane. They should appear white or yellow depending on the color of the line which they represent. Should they appear red in color, you are traveling in the wrong direction.

THREE LANE ROADWAYS

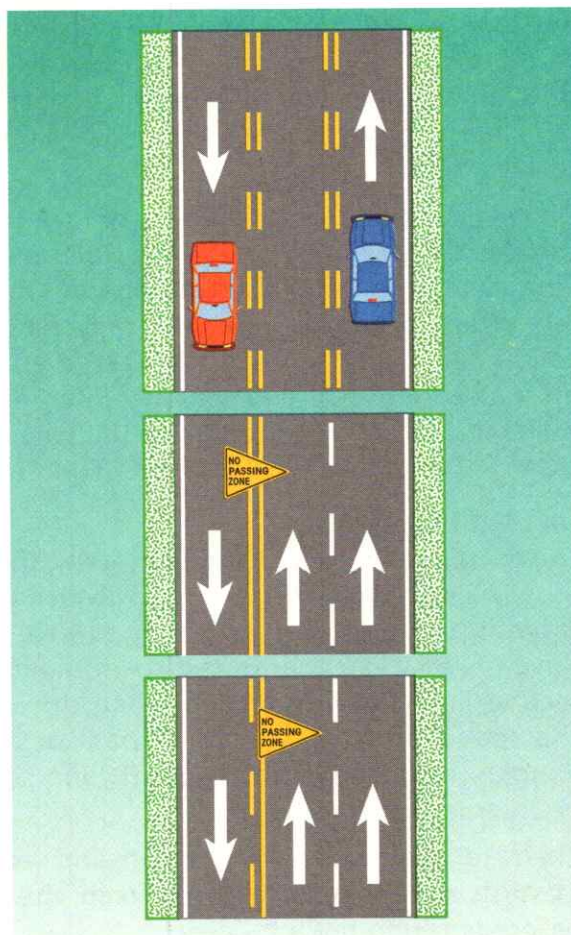
On a 3-lane roadway, a DOUBLE BROKEN YELLOW LINE on either side of the center lane indicates this lane is reserved for passing and turning left in both directions.

THEREIN LIES THE DANGER.

Extreme caution should always be maintained when driving on three lane highways. As much as possible, drive in the right lane and follow the flow of traffic.

If a passing situation should become necessary, take extra care in checking the roadway and the oncoming traffic in both the center lane, as well as the far left lane, before entering the center lane to perform the passing maneuver.

Attempts to reduce the hazard of a reversible lane have led to many variable lane markings to control access to the center lane (examples in the illustration, realize the yellow lines can also be painted beside the right lane).



FOUR LANE ROADWAYS

On 4-lane roadways, a double yellow median line or divider should not be crossed in either direction.

Drive in the right lane and follow the traffic flow. The left lane should be used when passing or to avoid hazards on the shoulder as well as when you approach hidden entrance ramps or entrance ramps where vehicles are entering the roadway.

FIVE LANE ROADWAYS

On a 5-lane roadway, the center lane is marked off by double yellow lines (one solid and one broken) on either side. This lane is reserved for vehicles turning left driving in both directions. At major intersections, the lane markings will change to highlight the left turning bays.

Drive in the right lane; however, to make a left turn, you must position your vehicle in the 2nd lane in time to enter the turning bay. To turn left at any other location, you may cross the solid yellow line to enter this reserved lane after checking carefully for oncoming and/or following vehicles in or entering the lane.

DO NOT DRIVE IN A TWO-WAY LEFT TURN LANE!

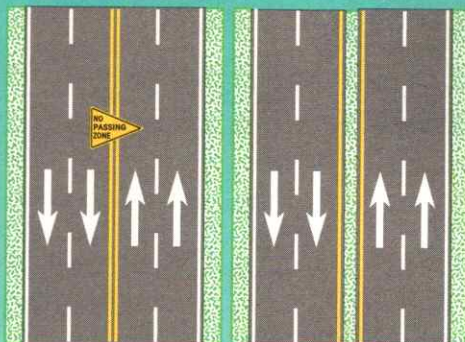
SIX LANE HIGHWAYS

The center line may be a double-yellow, though usually a median strip or concrete divider.

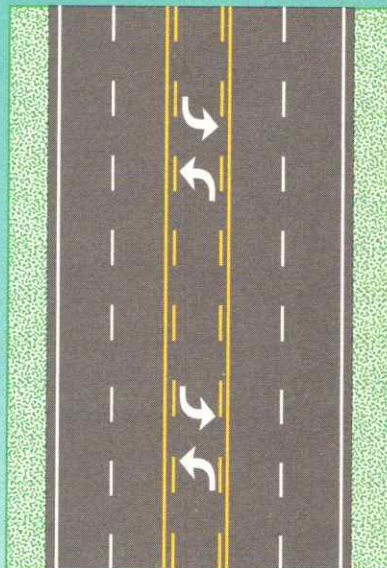
Drive in the right lane in order to exit or to drive at less than the posted speed limit. The second lane should be used when driving at the speed limit as well as to pass or avoid dangers from the right. The left lane should be reserved for passing.

Check for reserved lanes, left exits and vehicles at high speed approaching from the rear before entering the left lane.

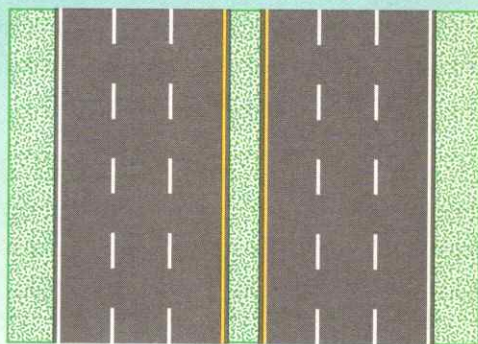
FOUR LANE ROADWAYS



FIVE LANE ROADWAYS



6 LANE ROADWAY



WHITE LINES ON THE PAVEMENT

White lines **separate traffic moving in the same direction**. They channel traffic into orderly lanes and assist drivers to control their path of travel. **Lines are also used as:**

EDGE LINES:

- Mark the right edge of the roadway.
- On one-way streets, the left edge line should be painted yellow, but is often white in color.

CROSSWALKS:

- Horizontal or perpendicular wide lines delineate walkways to guide pedestrians and warn drivers.

STOP LINES:

- Wide lines that mark where vehicles must stop at red traffic signal lights and stop signs.

OBSTRUCTION MARKINGS:

- Guide traffic around fixed obstructions.
- Slanted stripes indicate where vehicles should not pass.

PARKING SPACES:

- Controlled by white lines on the pavement. They encourage an orderly and efficient use of space while preventing interference with bus stop zones, fire hydrant zones, etc.

CURB MARKINGS:

- White, yellow, blue, green, and red may be used to control parking.

PAVEMENT LETTERING AND SYMBOLS

White lettering/symbols painted on the pavement supplement signs posted overhead or at the side of the road. They designate lanes, warn of hazards, provide information, etc. **Some examples are:**

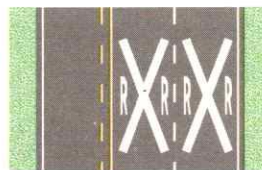
LANE DESIGNATION:

- Arrows indicate the direction drivers in a given lane must travel.



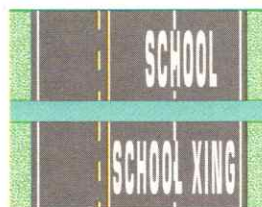
RAILROAD CROSSINGS:

- Are marked off by a white crossbuck and double R.



SCHOOL ZONES:

- Indicated by the word SCHOOL.
- SCHOOL X ing indicates where students cross.



WARNINGS:

- Stops and signal lights may be lettered on the pavement.



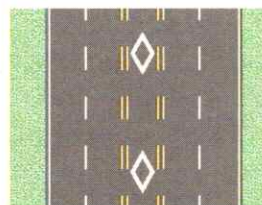
INFORMATION:

- Speed limits, route numbers, etc. may be painted on the roadway.



RESERVED LANES:

- White diamonds painted on the lane identify reserved lanes (HOV lanes).



RESERVED PARKING:

- Handicapped symbol reserves the space for disabled.

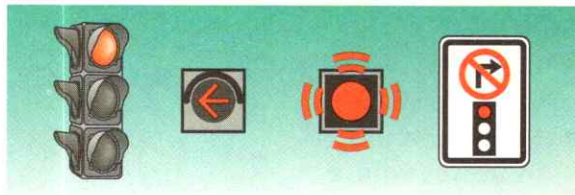




Traffic Signals

Traffic control signals are valuable devices for the regulation and orderly movement of vehicular and pedestrian traffic. They control traffic at one location and are clearly visible, mounted on posts at the corners of intersections, or hung over the roadway. The position and colors of the signals are standardized. **When lights are not operating, drivers should stop (proceed as if it were a four-way stop intersection).**

RED SIGNAL LIGHT



The **RED** signal light is located at the top when mounted vertically, or on the left when horizontal. If the **RED LENS IS LIT**, drivers must stop their vehicles at the indicated stop line. If no stop line, stop before reaching the crosswalk on the near side of the intersection. Unless a sign indicates otherwise, the driver may then cautiously enter the intersection in order to turn right. (Also to turn left onto a one-way street after stopping and yielding to traffic.)

WARNING: Turns on red lights are not universal; check with local authorities when driving in other countries.

If drivers intend to proceed straight ahead, they must wait for the signal to change before continuing.



RED ARROW:

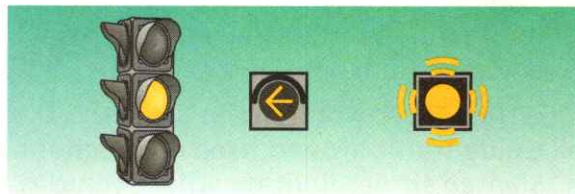
- Stop. Turns are prohibited in the direction of the arrow.



FLASHING RED LIGHT:

- Stop, then proceed only when it is safe to do so (similar to a stop sign).

YELLOW (AMBER) SIGNAL LIGHT



The **AMBER** signal light is located in the middle, whether mounted vertically or horizontally. If the **YELLOW LENS IS LIT**, the green signal has ended and the signal is about to change to red. Drivers are required to stop. However, if it changes to yellow and you cannot stop safely, you may proceed with caution (point of no return).

Crossing an intersection on a yellow signal is a hazardous maneuver! You are highly recommended to stop. In order to do this, good drivers are continually aware of the traffic situation, the signals ahead, and the traffic both ahead and behind. Approaching intersections, you should "cover the brake," and be

prepared to stop. How long has the signal been green? Will the traffic behind be able to stop? How much space will you need to stop? These questions must be considered as you approach a green signal.

The basic concept is, when a signal light changes to yellow, **you should stop!**



YELLOW ARROW:

- If you were intending to turn, you should stop.



FLASHING YELLOW:

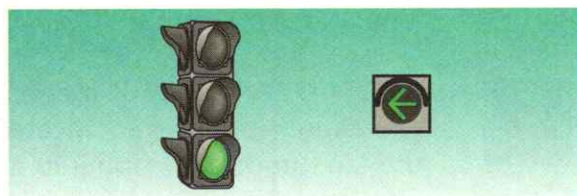
- Cover the brake, proceed with caution, and check before crossing the intersection.

"run their yellow light". **Check the traffic to the left, center, and right before entering.** Do not enter if other road users do not appear to be stopping or are still engaged in the intersection.

When approaching a green signal light, is it a "stale green?" (A light that has been green for some time or since you first noticed it. It might be ready to change to yellow at any second.) "Cover the brake," and check traffic to the rear; be prepared to stop safely prior to entering the intersection.

If the light is still green as you pass the "point of no return" (the last chance to stop safely prior to the intersection), check the cross traffic and then proceed to cross the intersection while returning to your normal cruising speed.

GREEN SIGNAL LIGHT



The **GREEN** signal light is at the bottom when mounted vertically and on the right when horizontal. When the **GREEN LENS IS LIT**, the driver is authorized to proceed into the intersection. This does not guarantee that the way is clear.

When a red light changes to green (fresh green), you should yield to any other vehicles or pedestrians that have not cleared the intersection. There is also a possibility of late arrivals who tried to



GREEN ARROW:

- You may turn in the direction of the arrow after checking and yielding to pedestrians.
- This light may accompany a red signal. You may move in the direction of the arrow.

PEDESTRIAN SIGNALS



PEDESTRIAN SIGNALS are used at intersections or crossings for the exclusive purpose of controlling pedestrian traffic.

The concept is to regulate the flow of traffic in order to allow pedestrians time to cross while minimizing the possibility of conflicts. Pedestrians are still required to check traffic with due care before crossing and also to avoid causing unnecessary delays for traffic.

Drivers must yield to pedestrians and pay special attention to those who are visually (white cane) or hearing impaired.



- The illuminated **WALK** or a walking person symbol indicates pedestrians may enter the crosswalk.
- When flashing, move quickly to safety.

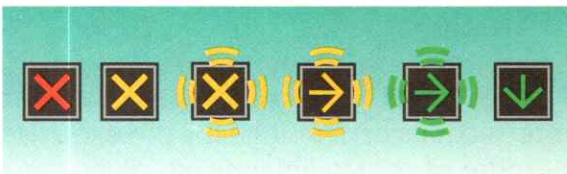


- The illuminated **DON'T WALK** or orange hand symbol prohibits entering the crosswalk.
- When flashing, move quickly to safety.

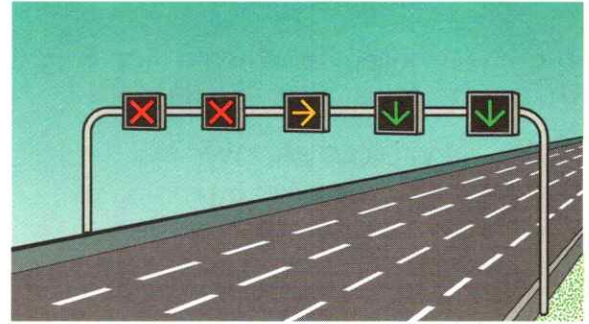


In some areas, an audio signal assists the visually impaired. It makes a continuous sound to cross; an intermittent sound when the lights flash; and no sound at all when they should not cross.

LANE-USE SIGNALS



Special overhead signals control the use of lanes on bridges, in tunnels, reversible lanes, etc. They inform road users of the availability of the lanes ahead.



A **STEADY RED X** identifies the lane below the signal as a lane you may not use.



A **STEADY DOWNWARD GREEN ARROW** indicates you are permitted to drive in the lane under this signal.



A **STEADY YELLOW X** means you should prepare to vacate the lane under the signal in a safe manner.



A **FLASHING YELLOW X** identifies a lane reserved for left turns in both directions.



A **FLASHING HORIZONTAL YELLOW OR GREEN ARROW** indicates the direction in which you should direct your vehicle to change lanes in complete safety.





Traffic Control Persons

3

Traffic control persons are authorized to direct and control the traffic flow for a specific purpose. Failure to obey them is hazardous, as well as illegal, and will result in penalties similar (in most states) to disobeying a traffic signal. Some examples:

FLAGGERS (FLAG PERSONS):

- Using a flag or a standard, they control traffic at construction sites, etc.

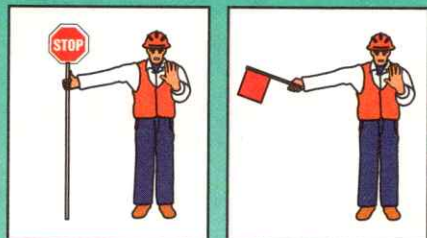
CROSSING GUARDS:

- Using a hand-held stop sign symbol, they control traffic to protect school children while crossing.

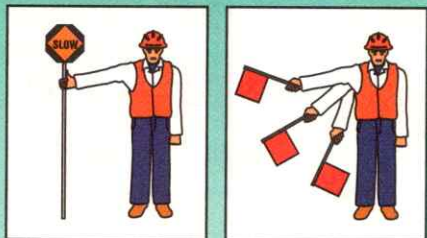
POLICE OFFICERS:

- Using hand signals and/or a whistle, they direct traffic.
- In any situation where there is a traffic signal or sign and a peace officer or other traffic control person, you must obey the directions given.

FLAG PERSONS



STOP



SLOW



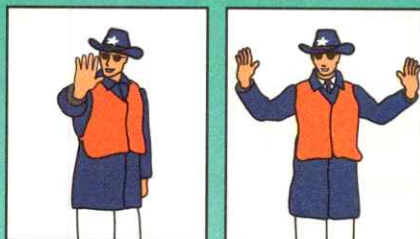
PROCEED

CROSSING GUARD

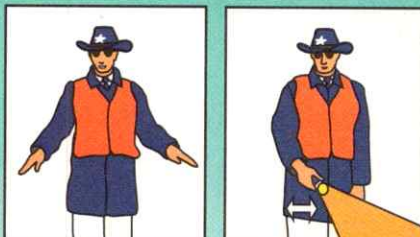


STOP

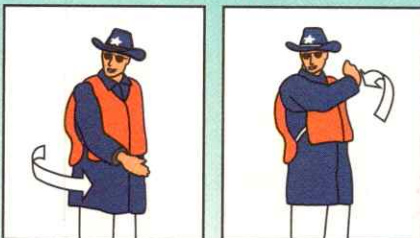
POLICE OFFICERS



STOP



SLOW



PROCEED

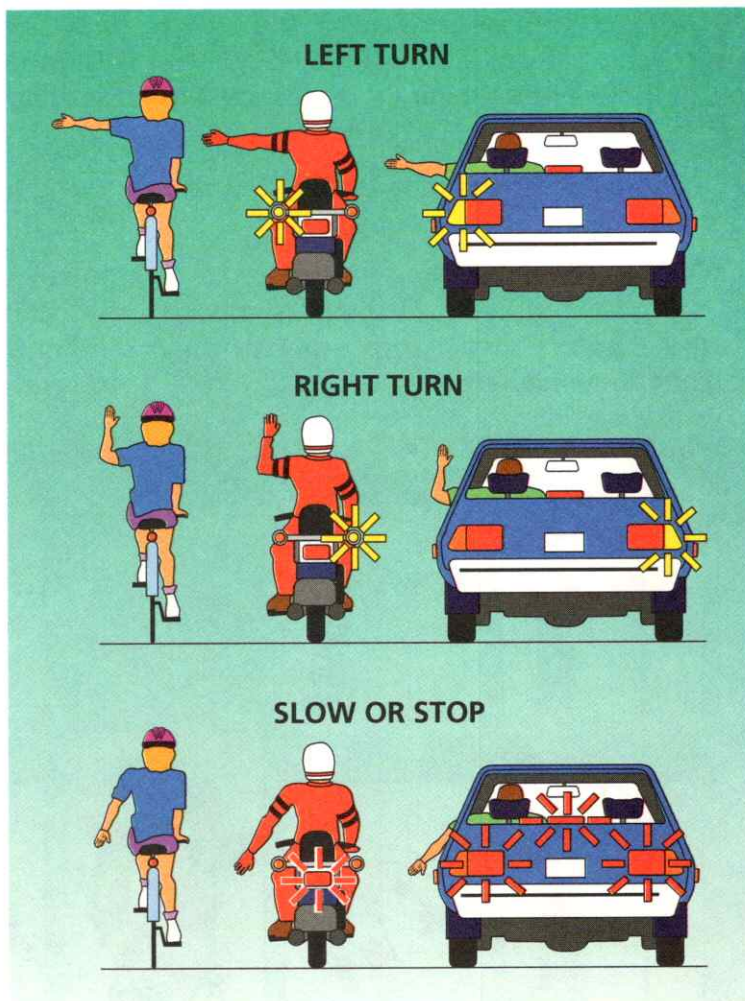


Hand Signals

Hand signals must be used to communicate road users intentions on vehicles not equipped with electrical turn signals or when the signals may not be operative.

Road users may supplement their mechanical signals with a manual signal. This adds a personal aspect to the communication and can be more effective. Positive results from other road users are much more likely.

You must signal your intentions (by law) with respect to any maneuvers (turns or lane changes) by signalling steadily for a sufficient distance (one hundred feet), doing so permits other drivers to react and take appropriate action, should it become necessary.



SAFETY TIPS



COMMUNICATION IS ONE OF THE ESSENTIALS TO SHARING THE HTS SAFELY. Hand signals can be used in conjunction with turn signals. They often result in a more positive response from other road users. Other hand signals can be used, as well, such as a gesture to proceed at a four-way stop intersection.

4

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Passed
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Stopping, Standing,
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- 4-D
Speed and Speed
Limits
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Winter Driving
Concerns

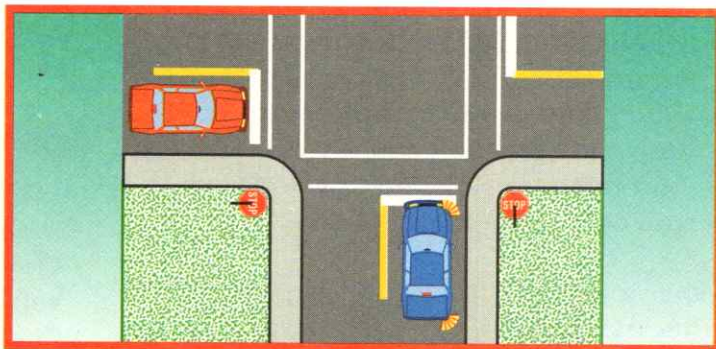
Controlling Traffic Flow

4

A good driver always communicates with other road users. A surprise move often results in conflicts and collisions. Moreover, all drivers expect other road users to abide by the rules. When they do not, crashes occur. To reduce risk, you must learn to expect the unexpected.

In this chapter, you will examine the rules that apply to a wide variety of maneuvers, from interacting with others when you are passing, are being passed, or are performing a turning maneuver to the rules governing stopping, standing, and parking.

You must obey maximum and minimum speed limits; however, good drivers know when to adjust their speed to road and weather conditions, as well as to the traffic density. This is especially important in winter driving.



AFTER COMPLETING THIS CHAPTER, THE STUDENT MO LIST THE LAWS RELATING TO AND TO DESCRIBE :

- the processes for passing and being passed.
- right and left turn procedures.
- procedures for stopping, standing, and parking
- speed limits and related stopping procedures in all conditions.



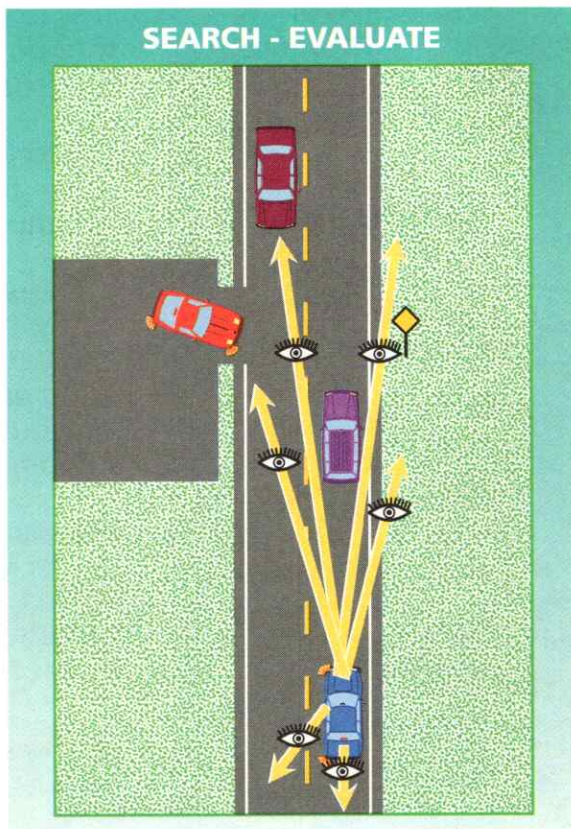
Passing and Being Passed

4 **P**assing is one of the most dangerous driving maneuvers. It is not always safe to pass. Before passing, you must decide whether it makes sense under the existing road, traffic, and weather conditions. You should be patient and wait until the time is right. Collisions that result from improper passing can be deadly. (See Chapter 17 for more details.)

You should never drive on the left half of the roadway (pass) when:

- you must cross a solid yellow line;
- a "no-passing" sign is posted or the triangular "no-passing zone" sign is posted on the left;
- approaching a hill or curve where your view ahead is obstructed;
- your view is obstructed upon approaching within 100 feet of a bridge, viaduct or tunnel;
- when within 100 feet of an intersection or railroad crossing;
- when there are two or more lanes of traffic in each direction;
- oncoming traffic is too close; and
- you cannot see ahead clearly.

When passing is permitted by law, your line of sight, your speed, and the situation ahead are items to be taken into consideration. When the vehicle ahead is driving at least 10 mph slower than both your speed and the speed limit, and the maneuver can be performed safely, you might come to the decision that you should pass.



PASSING ON THE LEFT SAFELY

EVALUATE

- Is passing permitted?
- Check the situation all around your vehicle.
- Check your mirrors and left blind spot (someone may be passing you).

IS IT SAFE TO PASS?

PREPARE

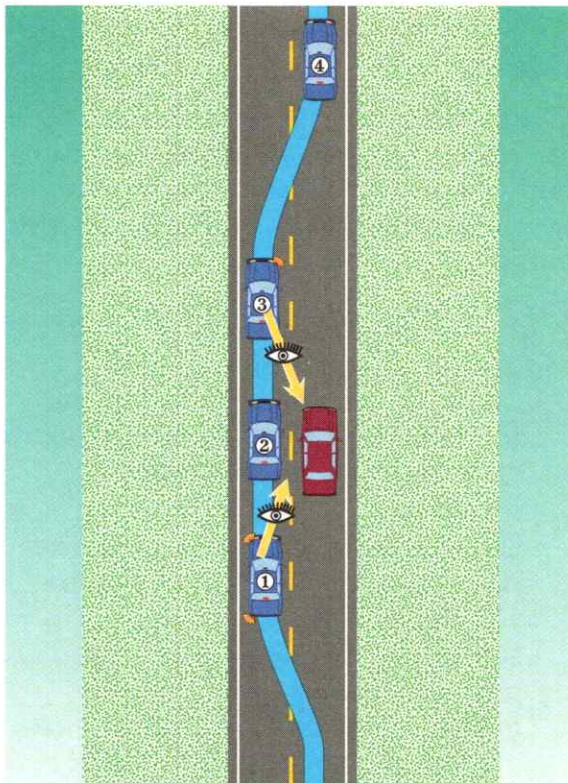
- Activate the left turn signal.
- Alert the driver ahead (honk - Texas)

law - or flash the high beams).

- Accelerate - get a running start.
- Recheck the situation ahead of and behind your vehicle.

EXECUTE

- Target and steer into the passing lane (change lanes to the left).
- Firmly maintain speed while moving by the vehicle.
- Make sure you can see the vehicle you have just passed in your rearview mirror.
- Activate the right turn signal.
- Check the right blind spot.
- Target and steer into the right lane (lane change right).
- Cancel the turn signal.
- Maintain speed until you have a safe space cushion behind your vehicle, then ease off the accelerator (return to normal cruising speed).



PASSING ON THE RIGHT SAFELY

In Texas, and many other states, you may pass on the right. You may pass on the right only under conditions permitting such movement without conflict and in complete safety.

You may pass:

- When the road is clear of parked vehicles or other hazards and is wide enough for two or more lanes in each direction.
- When you are on a one-way road.
- Using the paved shoulder of the roadway, when the vehicle you are passing is slowing or stopped on the

main traveled portion of the roadway, disabled on the roadway, or preparing to make a left turn.

Never pass on the right by driving off of the paved portion of the highway.

BEING PASSED

When a vehicle passes you, you should:

- Refrain from increasing speed.
- Stay in your lane.
- Move to the right as far as you can when the lanes are not marked.
- Make it as safe as you can for the other driver to pass you.



Turns

4

Turning a corner appears to be a simple operation. However, much confusion in traffic and many collisions are caused by drivers who do not turn correctly.

In general, there are seven steps to performing a good turn. They are:

- Make up your mind before you get to the turning point. Never make a "last minute" turn. It is too dangerous.
- Look behind and to both sides to see where other vehicles may be before you change lanes.
- Move into the proper lane as soon as possible. The faster the traffic is moving, the sooner you should move into the proper lane. If you cannot get into the lane at least one-half block prior to the turn, you should not turn, but continue straight ahead.
- Give the proper turn signal at least 100 feet prior to the turning movement. If you use a hand signal (not as visible at night), hold it until you are close enough to the intersection for others to know what you intend to do (communication). Do not hold the signal while making the turn; you need both hands on the wheel.
- Slow down to a reasonable turning speed. Do not use the brake or clutch while actually turning.
- Make the turn correctly. This will be easy if you are in the proper lane and

proceeding slowly enough at the time you begin to turn.

- Finish the turn in the proper lane. Watch for pavement markings and signs permitting turns from or into two or more traffic lanes, or giving other special turning or lane information.

RIGHT TURNS

In order to perform a right turn, your vehicle should be in the right lane in lane position 1 (lane center-position) at least 200' prior to the intersection (lane change if not in the correct lane). You should input steering control at the standard front reference point.

EVALUATE

- Is a right turn permitted?
- Search the intersection.
- Check the rear-view mirrors.
- Check your right blind spot (for cyclists, motorcycles, etc.).

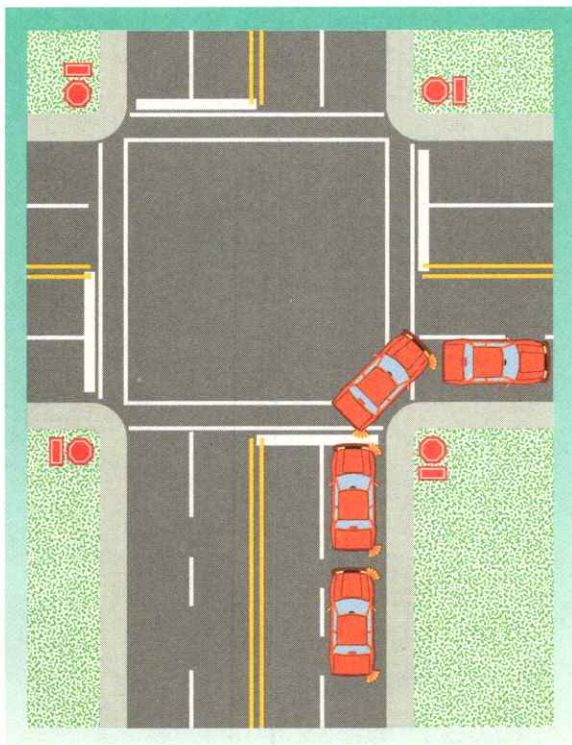
IS THIS MANEUVER SAFE?

PREPARE

- Activate the right turn signal.
- Tap the brake, check the rear-view mirror, and then reduce speed (Standard- shift to 2nd gear).
- Re-search the intersection.
- Recheck mirrors and blind spot.
- Move to the right in your lane (lane position, visual reference).

EXECUTE

- Check that the front wheels reach the curve of the curb (front visual reference point).
- Look through the turn (target intended path of travel).
- Release the brake.
- Steer quickly using hand-to-hand or hand-over-hand steering (following the intended path of travel).
- Target ahead in the right lane (or other lane, in some instances - see Chapter 15).
- Accelerate gently.
- Straighten the steering wheel.
- Accelerate to normal speed.
- Check the rear-view mirror.
- Verify the turn signal is off.



When performing a right turn from a stop, begin turning the steering wheel (visual reference point) as you advance slowly into the intersection to check traffic. When the way is clear, accelerate gently while using the hand-to-hand or hand-over-hand steering technique (see Chapter 10).

LEFT TURNS

To perform a left turn, you must be in the furthest left lane that you may use. Often, a left turn bay may be available (if delineated by lines; be careful not to enter the lane too soon). Occasionally, more than one lane may be permitted to turn left (see Chapter 17). On a two-way road, you must occupy the lane nearest the yellow center line; on a one-way road, use the lane closest to the left side of the road. This may necessitate one or more lane changes prior to the turn.

FROM A TWO-WAY TO ANOTHER TWO-WAY

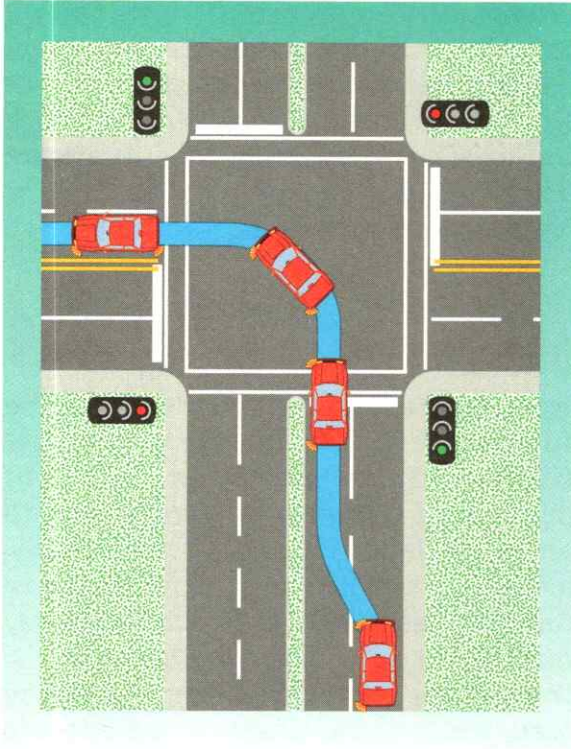
EVALUATE

- Is a left turn permitted (signs, signals, and pavement markings)?
- Search the intersection.
- Check the rear-view mirrors.
- Check your left blind spot.

IS THIS MANEUVER SAFE?

PREPARE

- Activate the left turn signal.
- Tap the brake then reduce speed smoothly (Standard- downshift to second gear).



- Advance until your vehicle nears the center of the intersection (front reference point).
- Re-search the intersection and the oncoming traffic.
- **Stop with the front tires straight if pedestrians or oncoming traffic impede the turn** (Standard- shift to first gear).
- Check mirrors and blind spot.

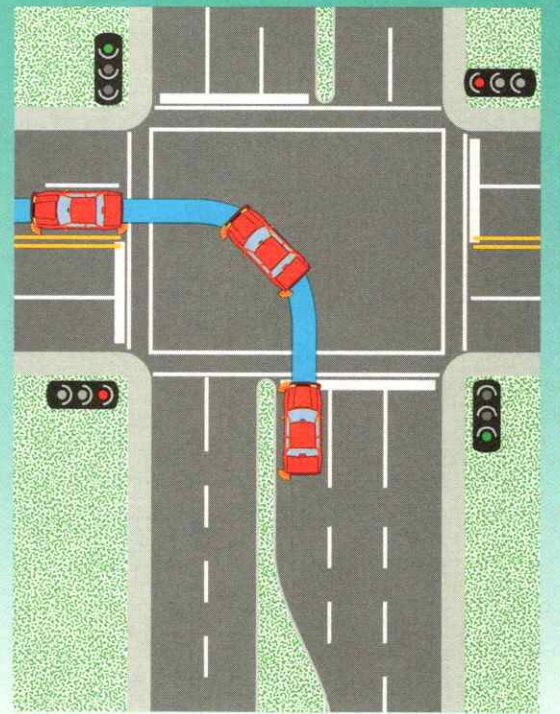
EXECUTE

- Target the center of the intended lane (path of travel).
- Release the brake pedal.
- Steer quickly using hand-to-hand or hand-over-hand steering (following the intended path of travel).

- Accelerate smoothly.
- Aim ahead into the left lane (target path of travel).
- Straighten the steering wheel.
- Accelerate to normal speed.
- Verify the turn signal is off.
- Check your rear-view mirror.

As soon as possible after straightening in the left lane, perform a lane change to the right (if a lane is available) to move out of the passing lane. The left lane should be kept clear whenever possible, and you are also required by law to drive as much to the right as possible.

TURNING LEFT FROM A LEFT TURN BAY

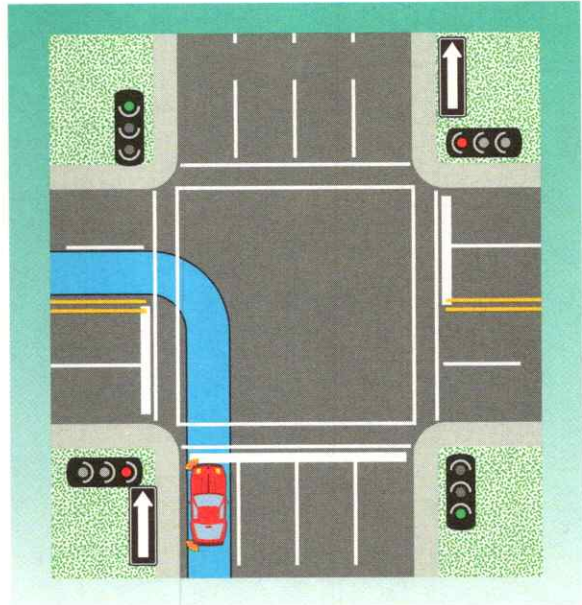
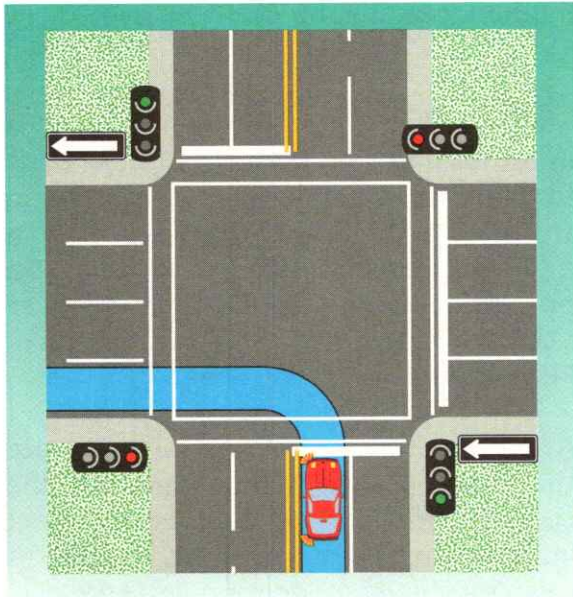


Special attention must be focused on space areas, gaps in traffic, sightlines, etc. prior to the left turn maneuver, as you will be crossing oncoming traffic from two directions (from ahead and from the left), as well as cross traffic from the right.

At many intersections, special turn signal lights (three left arrows) may control traffic to provide a protected left turn. This does not relieve the driver of the obligation to exercise due care and to yield to any other road users within the intersection or so close thereto as to constitute an immediate hazard.

FROM A TWO-WAY TO A ONE-WAY

The intended lane is the one beside the left curb. Stop, or begin the turn, when the front of your vehicle reaches the crosswalk. The remaining procedures are the same as the two-way to a two-way turn.



FROM A ONE-WAY TO A TWO-WAY

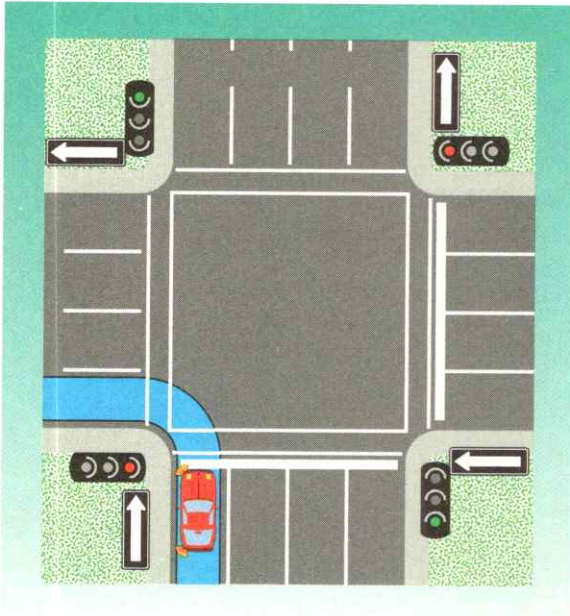
To perform a left turn, you must occupy the farthest left lane that you are legally permitted to occupy. On a one-way road, this lane is the lane closest to the left curb.

Change lanes into the lane closest to the left curb at least 200 feet (one-half block) prior to the turn. Reduce speed and signal your intention to turn from a distance of 100 feet prior to the turn.

Follow the same procedures as for a two-way to a two-way left turn.

FROM A ONE-WAY TO ANOTHER ONE-WAY

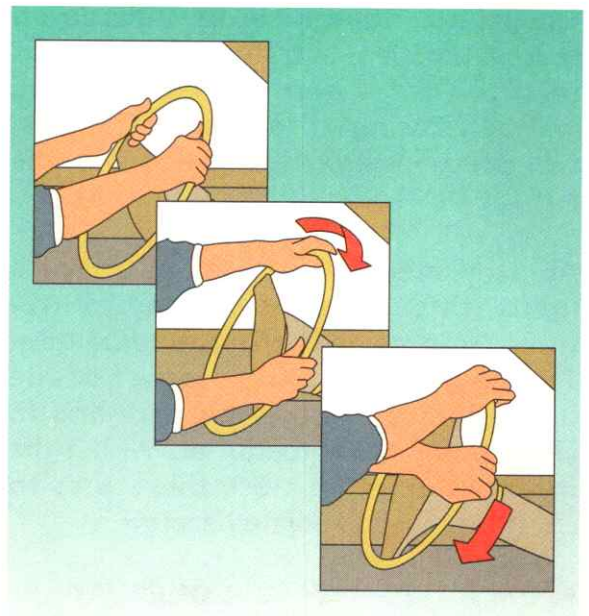
Follow the procedures for a right turn replacing the word "left" for the word "right".



When the left turn is completed, you should change lanes to the right if this is possible. Take into account the concepts of the lane of least resistance, leaving the left (passing) lane free, as well as your intended route, which may require another imminent left turn. In that case, you would not move to the right.

Remember, you may perform a left turn from a one-way road onto another one-way road at red signal lights (unless otherwise indicated), after stopping and yielding to all pedestrians or other traffic lawfully using the intersection.

In addition to the turns illustrated here, watch for pavement markings and signs which may permit turning left from or into two or more traffic lanes (see Chapter 17).



STEERING WHILE TURNING

The correct technique for steering input control while turning is either the hand-to-hand or the hand-over-hand steering method (see Chapter 9).

WRONG LANE FOR TURN

In all turning situations, if you are close to the intersection and find yourself in the incorrect lane to perform a turn maneuver, do not attempt to turn. Do not suddenly change lanes in order to occupy the correct lane for the turn; instead proceed straight ahead.

After crossing the intersection, evaluate the situation, then change lanes into the correct lane for turning at the next intersection. Or, make three right turns to access the intended road (left turn).



Stopping, Standing, and Parking

4

You must realize and accept the heavy responsibility that rests on the shoulders of every driver. Operating a vehicle improperly, without due respect for its lethal capabilities, is unacceptable. You must develop defensive driving skills and attitudes that will permit you to drive collision-free.

Not all crashes occur while vehicles are being driven; an improperly parked vehicle may become a runaway and cause a collision. You must act responsibly at all times, including when you park your vehicle and while your vehicle is parked, even though you are not in your vehicle.

PARKING RESPONSIBILITY

You must decide where to park in compliance with parking control signs, curb markings, fire hydrants, etc. When parking parallel to the curb, your vehicle must be within 12 inches of the nearest curb.

PROHIBITED PARKING

A vehicle shall not be parked, except if necessary to avoid conflict with other traffic, in compliance with the law, or the directions of a police officer or traffic control device, in any of the following places:

- a) on a sidewalk;
- b) in front of a public or private driveway;
- c) within an intersection;

- d) within 15 feet of a fire hydrant;
- e) on a crosswalk;
- f) within 20 feet of a crosswalk, or if no crosswalk, within 15 feet of the property lines at an intersection;
- g) within 30 feet of the approach to a flashing beacon, stop sign, or traffic control signal;
- h) between a safety zone and the curb or within 30 feet of the end of the safety zone;
- i) within 50 feet of the nearest rail of a railroad crossing;
- j) within 20 feet of the driveway entrance to a fire station and on the opposite side of the street, within 75 feet of the said entrance;
- k) alongside or opposite a street excavation or obstruction if the stopping, standing, or parking would obstruct traffic;
- l) on the roadway side of a vehicle stopped or parked at the edge or curb of a street (double parking);
- m) upon a bridge or other elevated highway structure, or within a tunnel;
- n) at a place where an official sign prohibits stopping or parking;
- o) within 500 feet of a collision at which a police officer is in attendance (outside of a city or village);
- p) in front of a theater;
- q) in a place or manner that blocks an emergency exit of a building;
- r) in a place or manner that blocks a fire escape from a building;
- s) in a parking space reserved for use by

- the disabled, or adjacent striped space;
- t) within 300 feet of a fire at which fire apparatus is in attendance; exception for volunteer fire fighters and vehicles legally parked previous to the fire;
 - u) in violation of an official sign restricting the period of time for or manner of parking;
 - v) in a space controlled or regulated by a meter when the time has expired;
 - w) on a street or highway in such a manner as to obstruct the delivery of mail to a rural mailbox; and
 - x) in a place or manner which blocks the use of an alley.

Temporarily stopping to comply with signs, signals, etc. is not considered parking or standing.

Outside of a business or residential district (rural area), never park or leave your vehicle standing on the paved part of any roadway when you can park off the roadway. If you cannot park off the road, you should:

- Leave plenty of room for others to pass.
- Make sure that your vehicle is visible for at least 200 feet in both directions.
- Use your parking lights or low beam headlights at night.

If you are the registered owner of the vehicle (your name appears on the registration), you will be held responsible for parking violations. If the owner was not responsible for the violation, he/she will surely want the person who was in

charge of the vehicle at the time to repay them for the infraction.

It is also common sense to secure articles, that are in your vehicle, in the trunk, or at least out of sight, in order not to encourage thieves to break in. Park in a lighted area, and be aware of your surroundings and who is around the vehicle in parking lots. Consider buying a vehicle alarm.

Your vehicle should always be locked when parked to avoid theft and to make it child-proof. Too many joy-rides and eventual collisions result from careless drivers who forgot to lock their vehicles. In Texas, you must apply the parking brake, shift into Park, stop the engine, turn the ignition switch to lock, remove the key, and when standing on a grade, turn the front wheels to the curb or side of the roadway whenever you leave your motor vehicle unattended.

When parking, after you stop your vehicle, it would be a good habit to apply the parking brake immediately, then ease up on the brake pedal to make sure the vehicle does not move. This tells you that the parking brake is engaged and operating before you shift into Park and turn off the ignition switch. In this way, your vehicle is secure and less likely to roll (most roads have a slight slope for water drainage) and become a runaway.

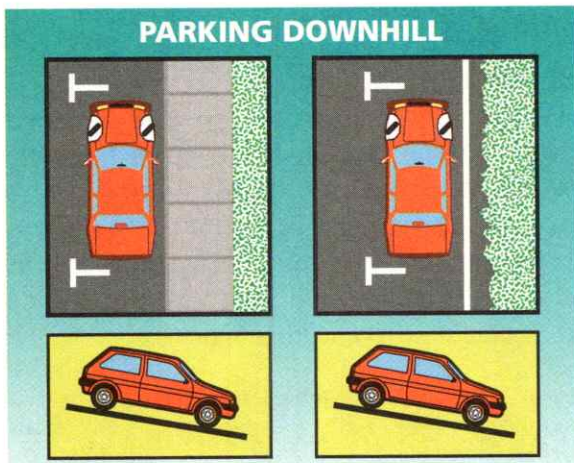
You should also check over your shoulder for any oncoming traffic before exiting.

PARKING ON A HILL

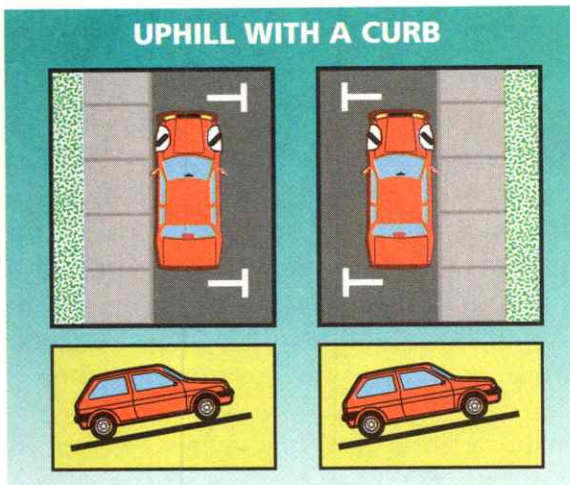
When you park on a hill or a sloping driveway, there is one extra precaution to observe. You must turn the front tires in such a manner as to cause the vehicle to roll out of traffic or against the curb should the vehicle start to move on its own. The parking brake and the shifter lock mechanism have been known to break or slip.

You will be held responsible for any damages that your vehicle may cause if it does move and becomes a runaway. A mechanical malfunction will not be acceptable as an excuse in a court of law!

When parking downhill, whether or not there is a curb, the tires should be turned toward the near side of the road.

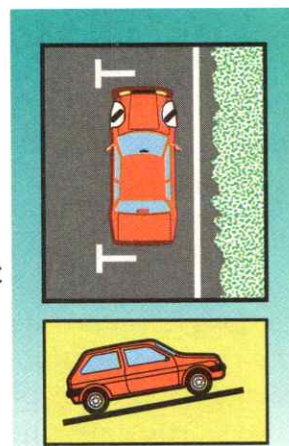


UPHILL WITH A CURB



When parking uphill with a curb, the tires should be turned away from the near side of the road. Ideally, you should allow the vehicle to roll lightly against the curb before applying the parking brake.

When parking uphill without a curb, the tires should be turned toward the near side of the road. The vehicle will roll off the roadway if it should move downhill.



SAFETY TIPS

When leaving a parking space, exercise due care when backing. Children often play between parked cars. Look back before and while backing. Ideally, park so you can drive forward out of the parking space and avoid these potential risks.



Speed and Speed Limits

4 Generally, you should drive at the same speed as the flow of traffic. However, you must obey the maximum and minimum speed limits (except in adverse driving conditions, when the minimum limit no longer applies). You should always be aware of how fast you are traveling and the posted speed limit.

To be a good driver, you must do more than merely obey the speed limit. You must maintain a safe following distance (see Chapter 11) from the vehicle ahead. The faster you go, the greater the distance you should keep from the vehicle ahead. The absolute minimum would be to apply the "Two Second Rule" in ideal driving conditions.

When the driving environment changes, you must know when to reduce your speed. Many drivers find out too late what a little rain can do. Roads become slippery when wet (rain, snow, and sleet, see Chapters 20 & 21), making it harder to control your vehicle on reduced traction conditions. The only wise thing to do is to reduce speed in proportion to the reduced traction. Make sure you have complete control of the situation at all times. You must be able to stop your vehicle in complete safety, regardless of the road conditions.

The volume of traffic around your vehicle is another driving environment condition that requires you to adapt. When the

road is crowded, reduce your speed and increase your following distance. This will give you an extra margin of safety if anything unexpected should occur.

Visibility conditions (see Chapter 20) are another factor that good drivers adapt to by slowing down. You should always be able to stop within the distance that you can see ahead clearly. In darkness or bad weather, do not over-drive your range of vision ahead.

Good drivers always adjust their speed according to their own physical condition (see Chapter 13) and the condition of their vehicle. If you are tired or not feeling well, don't drive. Never force yourself to drive.

SPEED LIMITS

All drivers are required to obey posted maximum and minimum speed limits, which are designed to provide for the orderly flow of traffic under ideal driving conditions. When any of these conditions change, you must adapt your speed to reduce risk and avoid collisions.

BASIC SPEED LIMITS (unless otherwise posted)

In miles per hour	DAY	NIGHT
Urban District	30	30
Alley, Beaches & adjacent County Roads	15	15
Numbered Highways & Farm/Ranch to Market Roads		
- all vehicles (except school buses)	70	65
- school buses (commercial inspection)	60	60
Non-numbered Highways		
- all vehicles (except school buses)	60	55
- school buses (commercial inspection)	50	50



SAFETY TIPS

The economic cost of speeding-related crashes is estimated to be \$40.4 billion dollars each year in the United States. In 2001, 36 percent of male drivers 15 to 20 years old involved in fatal crashes were speeding. NHTSA - DOT HS 809 476 The Texas Department of Public Safety has identified speeding as the number one cause of crashes in Texas. SLOW DOWN AND SURVIVE! Respect the posted speed limits and adapt your speed to the driving conditions.



Special Situations

Never drive when you become sleepy. It is much more dangerous to drive at night than during the day. You cannot see as well after sundown. When taking a trip, do your driving in the daylight; it's safer.

HEADLIGHTS

When driving at night (see Chapter 20), reduce your speed. Make sure you can stop within the distance illuminated by your headlights.

Use the low beams when you are:

- Within 500 feet of an oncoming vehicle.
- Following closely (within 300 feet) behind another vehicle.
- Driving on lighted roads.
- Driving in fog, heavy rain, sleet, snow, or dust.

If you must park on an unlit highway at night, leave your parking lights or low beam headlights activated.

You must use your headlights between one-half hour after sunset to one-half hour before sunrise, or at any other time when persons or vehicles cannot be seen clearly for at least 1,000 feet.

Avoid looking directly into oncoming headlights. You should shift your eyes down to the lower right side of your traffic lane.

Turn signals flashing on only one side of the vehicle should not be used on parked or disabled vehicles to communicate their presence. Activate the hazard lights (emergency flashers).

FREEWAY DRIVING

Within the last few years, many thousands of miles of super highways have been built. Depending on where you are, they are known as freeways, toll roads, throughways, turnpikes, and expressways. These roads have been designed for maximum safety, but you

must know how to use them properly (see Chapter 18). In Texas, a freeway is defined as "A divided arterial highway with full control of access and with no crossings at grade."

Before you use a freeway, plan your trip in advance so that you know your entrance, direction, and exit. Make sure you and your vehicle are in good condition. If you cannot or do not wish to drive at or above the posted minimum speed limit, do not use the freeway.

ENTERING THE FREEWAY

You must yield the right-of-way to vehicles already on the freeway. Enter the acceleration lane, keep to the right in

this lane, activate the left turn signal, and when the way is clear, increase your speed so you can merge with the flow of traffic on the freeway.

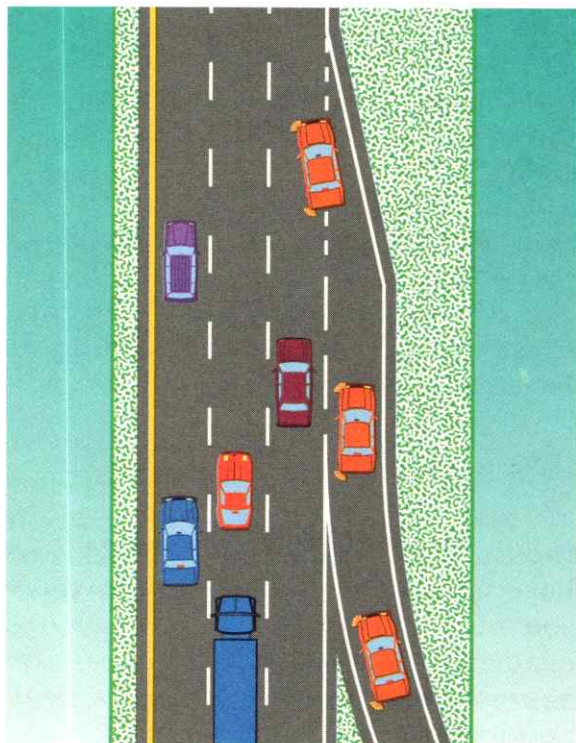
DRIVING THE FREEWAY

On the freeway, you should look twice before altering your speed or changing lanes, and always signal.

If you wish to drive at the minimum speed limit or below the normal flow of traffic, you should use the right-hand lane. When traveling at the speed of traffic (or faster), you should use the middle or left-hand lane. While driving, search ahead for signs instructing you as to which lane you must use to head for your destination. When you approach your intended exit, change to the exit lane as soon as possible.

Once you have chosen your lane on the freeway, stay in the middle of your lane. Do not weave in and out of traffic. Maintain a constant speed, keeping pace with the flow of traffic. Keep a minimum 3 second following distance from the vehicle ahead. In bad weather, increase the interval to at least 4 seconds. Search the vehicles ahead. Reduce speed as soon as you see brake lights ahead. Be ready if a vehicle ahead should stop suddenly.

Cooperate with other drivers. Adjust your speed to assist others to enter the freeway safely when you approach an entrance. Be prepared to move to another lane (toward the right) to allow faster traffic to pass.



LEAVING THE FREEWAY

You should know which exit you wish to use. Move into the proper lane well in advance of the exit. The greater the traffic, the earlier you should move into the proper lane. Exit signs are usually placed at least 1,000 yards ahead of the exit turn-off.

Maintain your speed until you reach the deceleration lane, and enter the speed change lane as soon as possible. Reduce speed quickly, check for suggested speed signs, and check your speedometer. Continue slowing while you exit, so that by the time you are off the freeway, you are traveling within the slower speed limit. Check the speedometer frequently until you become accustomed to the slower speed.

HIGHWAY HYPNOSIS

A condition of drowsiness can be brought about by reduced activity and steady sounds of wind, engine, and tire hum. This is known as highway hypnosis. To counteract this danger, stop and rest regularly, every two hours or 100 miles. Do not drive more than eight hours per day. Force your eyes to search near and far, left and right, and in the rearview mirror. Read the road signs. Keep your mind active.

EXTRA FREEWAY TIPS

Keep a window open slightly so that there is always fresh air in your vehicle to help keep you alert and awake. On sunny days, wear a good pair of sunglasses. (Never wear sunglasses at night.) Stay out of other driver's blind spots; traveling where a driver cannot see you can be dangerous.



Winter Driving Concerns

Most drivers realize that winter conditions create special problems and additional hazards for vehicles, but many of them don't know what to do about it. There are a few simple precautions which you should follow.

TIRES AND CHAINS

Equip your vehicle with snow tires and chains. Chains are by far the most effective in deep snow and ice situations,

and they should be used where ice and snow remain on the roadway.

One word of caution - neither chains nor snow tires will permit you to drive on slick pavement at normal speeds due to inability to stop and steer effectively, so don't let yourself get a false sense of security. Drivers may find themselves going faster than they realize when turning or stopping is required.

MAINTAIN A SAFE INTERVAL

You must increase the distance from the vehicle ahead (following interval) in bad weather conditions. Many needless rear-end collisions occur in winter conditions because drivers forget to leave a following interval in keeping with the conditions of the pavement (traction). Snow tires will slide on ice or packed snow.

To keep safe, you must keep your distance, regardless of the natural tendency to drive closer together in snow and fog conditions. A minimum six second interval is highly recommended.

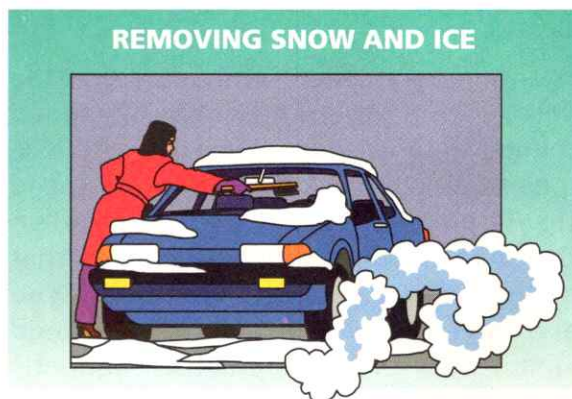
REDUCE SPEED

There is no recommended speed for snow and ice conditions. You must be extremely cautious until you are able to determine how much traction you can expect from your tires. Every city block and every mile of roadway may be different, depending upon sun, shade, and the road surface.

You must travel at a speed that allows you to stop or steer without losing traction. Anti-lock Braking Systems (ABS) and Traction Control Systems (TCS) technology will help, but will not allow you to drive at a higher speed because the vehicle is so equipped.

KEEP WINDOWS CLEAR

Remove snow and ice before you drive to allow for the best possible line of sight and visibility around your vehicle, even if you are just going to the corner store. Make sure the wipers and defroster are working properly and use them.



WATCH FOR DANGER SPOTS

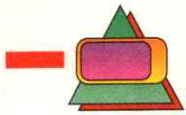
There may be ice on bridges or elevated highways when the rest of the pavement is clear. Snow melts more slowly in shady areas. Ice often forms in the braking zone near intersections. Take precautions when approaching any of these areas.

Curves, stops and turns are also critical. Get the feel of the roadway; test your brakes gently to determine how much traction is available. Start out slowly. Slow down earlier than usual.



SAFETY TIPS

*The Texas Department of Public Safety has identified speeding - both driving above the posted speed limit, **as well as driving too fast for conditions** - as the number one cause of crashes in Texas. **SLOW DOWN AND SURVIVE!** Adapt your speed to the driving conditions.*



Glossary

Absolute speed limit The maximum or minimum posted speed.

Abstinence Voluntary resignation from drugs/alcohol.

Acceleration Increase in speed.

Acceleration lane A highway merge lane allows drivers entering to increase speed to blend with traffic.

Accelerator Pedal controls volume of air-fuel mixture entering engine (press harder, increase speed).

Active restraint device Passenger protective item that must be engaged to become effective; i.e. seat belts.

Actual cash value Amount of collision coverage based on vehicle real value.

Administrative laws Laws that regulate licenses, vehicle registration, financial responsibility, vehicle standards, and the general operation of the HTS.

Adverse driving conditions Driving when it is more difficult because of weather, light, etc. Special precautions must be used.

Advisory speed limit Speed limit set for special conditions such as sharp curves.

Air bag A passive restraint device that inflates with air to cushion the occupants in the event of a collision.

Air pollution Driving vehicles causes the emissions of carbon monoxide, particulates, and hydrocarbons.

Alert light Instrument panel lights that indicate a system is functioning and turn off after a short period of time.

Alternator A device to produce electricity, when the engine is operating, to operate electrical equipment in a vehicle and to recharge the battery.

Alternator warning light Light or gauge on dash panel that can indicate charge system abnormality.

Angle parking Parking a vehicle diagonally to the curb.

Antifreeze A chemical mixed with water to prevent freezing and corrosion in the cooling system.

Anti-lock braking system (ABS) Computer-controlled braking system that keeps the wheels from locking when the driver brakes hard. It allows for steering and braking actions to occur at the same time.

Assessment To judge the importance or worth of a situation.

Assigned risk Type of insurance that provides minimum bodily injury and property damage liability coverage to a high risk driver for a higher premium.

Atmospheric conditions Weather and light conditions that affect your ability to see and drive.

Automatic transmission A system that shifts through

the forward gears as the vehicle speed increases.

Axle The shaft connecting two wheels on opposite sides of a vehicle.

Back-up lights White lights (rear of vehicle) illuminated when transmission is in reverse (automatic/standard).

Banked curve The roadway slopes down toward the inside of the curve to help overcome inertia.

Basic speed law Law that states drivers should drive at a speed that is safe and prudent for existing traffic, roadway, visibility, and vehicle conditions.

Basic speed limit The speed, below the absolute limit, that is adequate to the existing conditions.

Battery A unit that stores electricity in chemical form to permit starting your vehicle. Clean connectors.

BGE setting Side mirror setting that eliminates the blind spots and eliminates mirror glare from the lights of vehicles following to the left or right at night. Mirrors are set 15 degrees to the outside for viewing side positions. This does not completely eliminate making a visual check when searching for open zones and space.

Bias-ply tires Tires with cord layers criss crossing under the exterior material.

Blind spots Areas outside the vehicle that are neither visible in the driver's forward field of vision nor in the rear-view mirrors, unless mirror position is moved to BGE setting.

Blood-alcohol concentration (BAC) Percentage of alcohol in blood as measured by a standard test.

Blood test Chemical test in which blood is taken from driver's finger to determine BAC or drug usage.

Blowout A rapid loss of tire air pressure while driving.

Blue-book price Average market value for a specific model and age of a used vehicle.

Brake fade A temporary loss of brake effectiveness due to overheating of the brake pads or shoes caused by long, continuous, and hard braking.

Brake pedal A foot control enabling the driver to reduce the vehicle speed.

Brake system An hydraulic system to slow or stop a moving vehicle. A mechanical system for parking and emergencies.

Braking distance The distance a vehicle travels from the time the driver applies the brake until it stops.

Breathalyzer test (Intoxilyzer) Chemical test in which a driver blows into a machine to determine BAC.

- Carbon monoxide** Colorless, odorless, tasteless and toxic gas contained in the exhaust fumes of gasoline engines (a byproduct of combustion).
- Carburetor** Engine component that mixes gas and air in the proper proportions and sends it as a fine mist to the engine cylinders (replaced by fuel injection).
- Car pooling** Several individuals sharing transportation to one or more destinations in a vehicle.
- Catalytic converter** Part of a vehicle emission system that reduces harmful exhaust emissions by means of a chemical reaction.
- Center of gravity** The point around which the weight of the vehicle is balanced.
- Central vision (conic)** Three degree, cone-shaped area in which you can see clearly while looking straight ahead. Read and identify objects.
- Certificate of title** Official document certifying ownership of a vehicle.
- Choke** Device restricts air flow and raises idle speed when engine is cold (older models). Facilitates cold starts.
- Closed zone or area** A space not open to you because of a restriction in your line of sight or intended path of travel (occupied by another vehicle).
- Clutch** Driver operated device permits dis-engaging the engine from the transmission (to shift or stop).
- Collateral** Object of value presented as security for a loan.
- Collision** A crash between any two or more objects.
- Collision insurance** Pays for the repair or replacement of one's own vehicle in a crash regardless of fault.
- Color blindness** Inability to distinguish (certain) colors.
- Color perception** Ability to distinguish color.
- Commentary driving** System of driver verbalizing as he/she searches the roadway and the reasons for speed and position adjustments.
- Comprehensive insurance** Protection against damage or loss due to theft, vandalism, storms, or fire.
- Compromising hazards** Risk involvement with a less serious hazard to avoid a more serious one.
- Console** Compartment mounted between the front seats of a vehicle.
- Contributory negligence** More than one individual is at fault.
- Controlled-access highway** High speed roadway that vehicles can enter and exit only at interchanges.
- Controlled intersection** A regulated cross-road - signal lights, yield, or stop signs.
- Cooling system** A system to remove excess heat and maintain engine operating temperature.
- Countersteering** Returning the steering wheel in the opposite direction after an initial steering input.
- Covering the brake** Putting the foot just above the brake pedal, ready to apply pressure if needed (reducing response time for brake application).
- Crankshaft** The shaft turned by the piston movements that transmits the power to the drive train.
- Crest** The highest culminating point of a hill.
- Crossbuck** Large, white x-shaped sign located just prior to a railroad crossing.
- Crosswalk** A path marked on and crossing the roadway to guide pedestrians.
- Crowned road** Road higher in the middle than at sides.
- Cruise control** Device that permits maintaining vehicle speed without pressing on the accelerator.
- Crumple zones** Areas of a vehicle designed to crush and absorb impact, thereby protecting occupants.
- Cylinders** Bored holes in the block that house pistons.
- Dashboard** An illuminated panel with gauges, lights, and indicators that inform the driver.
- Dead pedal** Area on the floorboard designed for the driver to place the left foot to maintain balance.
- Decide** Fourth step (decision) of SIPDE process.
- Deceleration lane** Extra lane at expressway exits allows drivers exiting highway to reduce speed prior to the off-ramp (without blocking vehicles on expressway).
- Deductible** The amount of money the insured must pay (reduces premium) before the insurance company pays (specified limit) in the event of a claim.
- Defogger** Electric wires to heat / clear the rear window.
- Depreciation** The value a vehicle loses due to age and wear and tear.
- Depressant** Drug that slows down or depresses the central nervous system.
- Depth perception** The three dimensional perception of distance (ability to judge distance).
- Designated driver** Person who decides ahead of time not to drink alcoholic beverage and is appointed to drive others who do drink.
- Destination drive** The process of giving the student a location he/she will drive to, without assistance, using the most direct, efficient, and safe route.
- Detour** A deviation from the normal route.
- Diagonal parking** Parking spaces arranged at an angle to the curb or other boundary.

Differential Gear system in power train that transmits rotation to the drive wheels while permitting them to turn at different speeds.

Dimmer switch A switch to select high or low beam headlights.

Disc brakes Brake units that slow/stop wheel rotation by squeezing a rotating disc.

Distributor An electrical unit controlling production and distribution of electrical surges to spark plugs.

Downshift To shift from a higher to a lower gear.

Drive belt A cogged, grooved or V belt that transmits rotation to other engine components in vehicles.

Drive train The components that transfer the engine power to the drive wheels.

Drive wheels The wheels that receive engine power to move the vehicle.

Driving record A file kept by the DPS that lists all traffic violations that a driver has committed. It is used by the courts and insurance companies.

Driving task All social, physical, legal, and mental skills required to drive.

DUI (Driving under the influence) Operating a motor vehicle while the blood alcohol concentration (BAC) is above the legal limit of .08% for adults or any trace whatsoever for minors, and/or while impaired by drugs - whether legal or otherwise.

DWI Driving while intoxicated.

Drum brakes Brake units that slow/stop wheel rotation by rubbing curved shoes (pads) against a drum.

Dry steering Turning the steering wheel while the vehicle is not moving. Prematurely wears out the steering, front suspension, and tires.

Edge lines Lines (white, yellow) painted on the pavement marking the limit of the roadway.

Electrical system A system to supply all the electrical needs of the vehicle.

Emergency brake The parking brake system.

Emergency flashers The hazard lights that activate all four turn signals to warn of danger or breakdown.

Emergency vehicle A police vehicle, fire department vehicle, ambulance, etc. which must be given the right-of-way by all road users when the siren or flashing lights are activated.

Emotion Strong feeling of any kind (anger, fear, joy).

EMS Emergency medical services.

EMT Emergency medical technician.

Endorsement License qualification needed to be legal to drive special vehicles (motorcycle endorsement).

Energy of motion See Kinetic energy.

Engine-management system Computerized system that monitors and adjusts the fuel, ignition, and emission systems.

Entrance ramp Roadway, often elevated, leading onto an expressway.

EPA Environmental protection agency.

Escape path A place to drive in case of unexpected conflict - an "OUT".

Euphoria False sense of well-being developed as a result of alcohol or other drug consumption.

Evaluate To examine and judge carefully. The first step of the EPE system in which drivers evaluate potential options before acting to adjust speed or position and communicate based on risk, habits, judgement, and experience.

Evasive action steering Emergency steering technique used to quickly steer around an object in your path and to move to an open travel path.

Evasive or bump-to-bump steering Without leaving go of the steering wheel, turn until wrists bump each other, then turn in the opposite direction until arms touch. Then return to center position.

Execute The final step of the SIPDE process in which a driver inputs proper vehicle control responses to avoid conflicts or reduce risk.

Exhaust manifold A collector pipe with passages through which exhaust gases exit combustion chambers and enter the exhaust piping system.

Exhaust system Collects burned gases from each cylinder, directs the harmful gases and heat through pipes to release them behind the vehicle.

Exit ramp Roadway, often elevated, to exit expressway.

Expressway A controlled-access, divided highway with more than one lane in each direction intended for high speed driving (freeway).

Fatigue Temporary physical or mental exhaustion due to lack of rest or sleep.

Field of vision The area that the eyes can perceive without moving the eyes or head; approx. 180 °.

Field sobriety test Series of on-the-spot tests that help an officer detect impairment of a driver suspected of DUI or DWI.

Financial responsibility Law requiring proof of the

ability to pay claims resulting from collisions before issuing registration/plates for a vehicle.

First aid Emergency treatment given to an injured person before medical professionals arrive.

Focus vision (foveal) That part of the field of vision which allows the driver to read signs and make distinctions between vehicles and objects (often measured as visual acuity).

Flywheel A metal disc attached to crankshaft to balance engine rotation, transmit power to the drive train, and is turned by the starter motor to crank engine.

Following distance The space that a driver maintains from the preceding vehicle in his/her travel path.

Following (interval) time Recommended time interval (3 or 4 seconds) to follow another vehicle in your lane. Calculated by using a fixed reference point, as the vehicle ahead passes, start counting "one thousand and one," "one thousand and two," etc., until the front of your vehicle reaches that point.

Force of impact The energy with which a moving vehicle collides with an object; varies according to speed, weight, and distance between impact and stop (based on forces of inertia and momentum).

Foresight The act of foreseeing. The thoughtful regard or provision for the future; prudent forethought.

Four wheel traction loss The driver has no vehicle control (all tires have lost contact with the road).

Fresh green light A traffic signal light that has just changed from red to green.

Friction The resistance to motion between two objects in contact (each tire and the road).

Friction point The clutch position when the engine begins to move the transmission and the vehicle.

Fringe vision Wide area (peripheral) used to judge depth and position without the clear focusing ability of central vision.

Fuel-injection system System (replaces the carburetor) that pumps vaporized fuel to the cylinders.

Fuel system The system that stores fuel and supplies the correct fuel-air mixture to operate the engine.

Fuse A device designed to open a circuit when the current is excessive, to protect equipment in the circuit. A "burned" fuse must be replaced.

Gap Distance, between approaching vehicles, which a driver can utilize to cross or merge with traffic.

Gear Toothed wheel that meshes with others of varying

sizes to transmit (the same, increased or decreased) rotation thereby increasing speed or power.

Gear selector lever The driver control permitting choice of gear position (automatic transmission).

Gearshift lever The driver control that permits choosing a gear position (standard transmission).

Glare recovery time The time required to regain clear vision after having been temporarily blinded by strong headlights of oncoming vehicles.

Glow Plug Unit to preheat combustion chamber (diesel).

Graduated driver licensing program A system requiring young drivers to progress through a series of licensing stages with various restrictions.

Gravity The force that pulls objects toward the center of the earth.

Green driver A driver that properly maintains a vehicle with scheduled servicing, recycles oil, and conserves fuel (reduces speed, smooth acceleration).

Ground viewing habit Scanning near the pavement to determine position of other vehicle's wheels and to notice any signs that warn of vehicle movement.

Guide sign Informational sign giving distance, services, points of interest, and directions.

Habitual offender A driver who commits a number of serious driving offenses.

Hallucinogen A mind-altering drug that affects the senses and distorts vision/perception.

Hand-over-hand steering A technique to turn the steering by crossing one hand over the other to provide smooth, consistent steering input.

Hand position Placement of hands at "9 and 3" or "8 and 4" on the steering wheel for best balance based on the vehicle steering wheel and input.

Hand signals Arm motions that warn others (communicate) of your intention to slow, stop or turn.

Hand-to-hand steering Pushing with one hand while pulling with the other hand on the opposite side of the steering wheel using positions at 10-7 on the left and 2-5 on the right. Used to input steering control with impending air bag deployment.

Hazard lights A signaling device that activates all four turn signals to warn of danger or breakdowns.

Hazardous materials Items (inflammable, explosive or toxic), often transported in tanker trucks.

Headlights White lights mounted on the front of the vehicle that should be illuminated when driving.

Headrest Restraint device attached to the top of the seat to cushion the head in collisions. Often adjustable.

High beams Brighter white lights on the front of the vehicle to see further than low beams.

Higher learning center Area of the brain, where decision-making starts, affected first by alcohol

Highway hypnosis Drowsy or trancelike condition (reduced attention to the driving task) brought on by long periods of high speed driving.

Highway transportation system (HTS) A complex system made up of people, vehicles, and roadways.

HOV lane High occupancy vehicle lane reserved for vehicles transporting more people (van or car pools, buses).

Hydraulic pressure Pressure exerted on a fluid is transmitted by the fluid.

Hydroplaning A layer of water between the tire and the road eliminating traction.

Identify The second step of the SIPDE process in which the driver, using selective seeing, selects hazards.

Idle Engine speed when operating without any pressure on the accelerator.

Ignition switch The control to activate/deactivate the vehicle electrical systems and to crank the engine.

Ignition system Components that produce, control and distribute the spark that initiates combustion.

Implied consent law A state law that, upon receiving a license, a driver agrees to take a chemical test for intoxication if arrested on suspicion of driving under the influence or give up his/her license.

Inertia The tendency of an object in motion to stay in motion in a straight line and for an object at rest to remain at rest.

Inhibitions Inner forces of personality that restrain or hold back impulsive behavior.

Internal factors Attitudes, values, emotions, maturity, motivation and peer influence affecting driver performance.

International signs Symbolic (message without using words) road signs used in many countries.

Intersection A place where two or more highways meet. Caution must be exercised due to closed sightlines.

Intervention strategies Activities to change the status quo; re alcohol, responsible decision making, resiliency skills, alternatives, letter writing, designated driver and community support.

Intoxicated Under the influence of alcohol or drugs. Driving while intoxicated is a very dangerous and serious offense.

Intoxilyzer Chemical test in which a driver blows into a machine to determine BAC.

Jack A hand operated device for lifting one corner of the vehicle, generally used when changing a tire.

Jaywalking The pedestrian practice of crossing a roadway without regard for rules or signals.

Jump starting Using another vehicle to boost a "dead" battery.

Kinetic energy The energy of motion or the energy an object acquires because it is in motion.

Knowledge test A test on signs, signals, road markings and rules of the road at the Driver License Office to acquire an instruction permit or driver's license.

Laboratory sessions Behind the wheel, simulation, and multiple-car range practice sessions.

Lane change Moving the vehicle from one lane of traffic to another using proper space management procedures.

Lane changer device Use of the turn signal by hooking thumb on steering wheel and pushing signal lever halfway just to activate the signal so that release of lever will deactivate signal.

Lane position Location of the vehicle within confines of the lane of traffic using reference points.

Lane-use signals Lights mounted above lanes to control the flow and direction of traffic in the lane.

Leasing Long term rental contract, alternative to purchasing a vehicle.

Legal limit The amount of alcohol legally allowed in a driver's bloodstream in Texas = .08 for adults and 0 for those under 21.

Legend Key explaining symbols/markings used on a map.

Liability insurance Protection from financial loss due to a collision when the insured party is responsible.

Low beams The normal headlight setting.

Lubrication system The components that supply oil to the moving parts to prevent damage/overheating.

Lug nuts Devices that attach the wheel to the vehicle.

Mass transportation Vehicles or devices that move large numbers of people from place to place at the same time (public transportation).

Maintenance Checkups, service and repairs required to keep a vehicle in proper operating condition.

Maneuverability Ability to maneuver or change

direction of a vehicle.

Manslaughter Accidental killing caused while driving a motor vehicle.

Margin of safety See safety cushion

Master cylinder Unit in the brake system where fluid is stored and pressurized to activate the brakes (pressure sent to wheel cylinders). Most vehicles have dual system to eliminate brake failures.

Median A width of space (area of ground) that separates traffic moving in opposite directions.

Medical payments insurance Insurance that covers the cost of hospitalization and treatments for injuries incurred during a collision.

Merging area The section of roadway at the end of an acceleration lane (expressway) where vehicles must join the flow of traffic.

Minimizing hazards Reducing risk of a collision from a hazard by adjusting speed, lane position or both.

Minimum speed limit Lowest legal speed a vehicle may travel (under normal conditions) on certain roadways to prevent wide differences in speed among vehicles.

MIP (Minor in possession) Anyone under age 21 in possession of alcohol.

Moped Two-wheeled vehicle that can be driven with either a motor or pedal.

Motor scooter Low-powered, two-wheeled vehicle that is more powerful than a moped.

Muffler A device in the exhaust system to minimize noise. A leaky muffler can be noisy and dangerous because of poisonous exhaust fumes.

Multifunction lever A lever next to the steering wheel having many functions.

Multilane A road with two or more lanes in each direction.

Narcotic drug An illegal drug that is used to change the way a driver feels and acts.

Navigating Following a route by reading a map or a Global Positioning System (GPS) device.

Neutral A transmission position in which the gears are not engaged and cannot transmit power. Used when starting a manual transmission.

Night blindness Condition of not being able to see well at night.

Night vision The ability to see clearly, judge depth perception, and recover from glare in the dark.

No-fault insurance Insurance that pays claims to the insured up to specific limits regardless of fault.

No-zones Large mirror blind spots where truck drivers cannot see other vehicles (front, sides, or rear).

Nystagmus Involuntary jerking of the eyes as a person gazes to the side. Part of the field sobriety test is called gaze nystagmus.

Odometer Device that indicates the total distance a vehicle has been driven.

Oil filter Device in the lubrication system that removes dirt from the oil.

Oil pressure gauge Light or indicator that shows the pressure at which the oil is circulating through the engine.

Oil pump Device forces oil to all engine moving parts.

Open zone or area Space where the driver can move without a restriction to his/her line of sight or path of travel.

Overdrive A gear that permits the vehicle to cruise efficiently at high speed. Saves fuel.

Overdriving the headlights Driving at such a high speed at night that your stopping distance exceeds the area illuminated by the headlights.

Oversteer When the rear tires lose traction causing a spinning effect around the vehicle's center of gravity (yaw). The vehicle has a tendency to spin (left or right) even though the driver is not turning the steering wheel.

Over-the-counter drug (OTC drug) Drug that can be legally purchased without a doctor's prescription.

Owner's manual Manufacturer's booklet providing detailed information about the vehicle, its operation and recommended service/maintenance.

Oxidation The way the body eliminates (or burns) alcohol by the action of the liver.

Parallel parking Parking with the vehicle lined up parallel with the curb. The vehicle must be from 6 to 18 inches of the curb in Texas.

Parking brake A mechanical unit that acts on the rear wheels to keep them from moving when parked. Also used to slow /stop if the hydraulic brake system fails.

Passive restraints Safety devices that act without requiring any action by the user. (Air bags, some safety belts)

Pedestrian An HTS user on foot.

Pedestrian signal Traffic signal/symbol controlling pedestrian movement.

Peer education Process in which young people help other young people make decisions and determine goals.

Peer pressure Mental and social influence of others of a similar age on decision-making skills.

Perception distance The distance a vehicle travels during the time a driver sees and identifies an object or situation ahead.

Peripheral vision The portion of the field of vision around the central conic vision.

Perpendicular parking Parking at a 90° angle to the curb or boundary.

Personal injury protection (PIP coverage) Insurance that covers medical expenses and loss of income for the driver and passengers.

Personal reference point Adapting the standard reference points to the vehicle used by the driver.

Pitch of the vehicle A suspension change to the front or rear that affects the tire patch contacting the road surface; initiated by driver actions of braking or accelerating. Sudden or excessive pitch changes may cause traction loss.

Point of no-return Point beyond which a driver can no longer stop safely without entering intersection.

Policy Contract between a vehicle owner and an insurance company specifying the amount and type of insurance coverage for which a premium is paid.

Position Location of vehicle in relation to environment and other vehicles.

Piston A cylindrical-shaped component that moves up and down in the cylinders.

Power brakes A system that facilitates stopping the vehicle by increasing pressure applied by the driver.

Power steering A system that facilitates steering by using hydraulic pressure supplied by a pump.

Power train Components that transmit engine power to the drive wheels.

Predict Third step of the SIPDE process in which driver, after identifying a hazard, predicts what might happen.

Premium The sum an individual pays the insurance company for insurance coverage - the policy fee.

Prescription medicine Drug that can be purchased legally only when ordered by a doctor.

Preventive maintenance Routine care and attention to your vehicle to keep in proper working order.

Probationary license A temporary license that allows driving for specific purposes (to school/work).

Progressive acceleration Gradual increase in pressure on the accelerator to increase speed and shift vehicle weight toward the rear.

Proof Rating of alcohol content in a beverage equal to doubling the percentage (100 proof = 50%).

Property damage liability Insurance coverage that pays for property damage to others during a collision caused by the insured.

Protected left turn Left turn made on a left-turn light, green arrow, or delayed green light while oncoming traffic is stopped.

Pull-out area Additional right lane on narrow mountain roadways for slower-moving vehicles.

Push-pull steering Using the hand-to-hand steering technique (see hand-to-hand).

Pumping the brake Applying pressure on the brake pedal, releasing the pressure sufficiently to allow the tires to roll and then re-applying.

Radial tires Tires with the plies straight across the tire parallel to each other encircled by a steel belt.

Radiator A heat exchange unit that stores and cools the engine coolant before it circulates in the engine.

Ramp meters Stop and go signals at the entrance to freeways controlling traffic entering.

Reaction time The time it takes a driver to input vehicle control actions once a course of action is decided upon.

Reckless driving Driving in a very careless manner that endangers the lives of others.

Recreational vehicle (RV) Large vehicle used mainly for pleasure and travel (van, motor home, camper).

Reference points Positions (points of reference) on the vehicle that relate to the roadway and help the driver in vehicle positioning with respect to the environment and maneuvering (when to input).

Reflexes An automatic response of the body to a signal it receives.

Regulatory sign A sign that controls the flow of traffic at a given location.

Release form Paper signed by the person who has been injured or who has property damage stating that he/she is not going to hold someone responsible.

- Reverse** Gear position used to move a vehicle backwards.
- Reversible lane** A lane in which the direction of the traffic flow changes at specific times.
- Revocation** Cancellation of driver's license (at least one year) for serious driving violations (DUI, manslaughter, etc.).
- Rheostat** A device regulating the intensity of light in the instrument panel.
- Right-of-way** Traffic rules determine who should yield to other road users in given situations.
- Right turn on red** Turning right after a stop when the signal is red unless specifically prohibited.
- Risk** The possibility of a conflict that results in a crash or collision with another vehicle or road user.
- Risk-taking behavior** Taking chances when the consequences can be dangerous.
- Rocking a vehicle** Repeating the sequence of driving forward a little and then backing a little to move your vehicle out of deep snow, mud, or sand.
- Roll of the vehicle** A suspension change to the left or right side that affects the tire patch contacting the road surface; initiated by driver action of steering the vehicle. Sudden or excessive roll changes may cause traction loss.
- Rumble strips** Sections of rough or grooved pavement intended to alert drivers of a change in roadway conditions ahead (tollbooth, construction, etc.).
- Runaway vehicle ramp** Place on mountain roads for vehicles to safely get out of traffic and stop when their brakes are no longer effective.
- Running start** The point, behind the vehicle to be passed, where the driver begins to create a speed superiority prior to moving into the passing lane.
- Safety belt** A restraint device (anchored to vehicle) designed to prevent occupants from striking the interior of the vehicle - seat belts.
- Safety chains** Extra connection for a trailer used as a backup in case a trailer hitch fails.
- School safety patrol** Person(s) designated by school to assist children across intersections. Vests or special belts identify them. Drivers must obey stop signal.
- School zone** Area of roadway near a school that is subject to special speed limits set by state/local law.
- Searching** The visual skill of searching the area around and ahead of the vehicle in an orderly search pattern. The first step of the SIPDE process.
- Selector lever** Device in an automatic transmission vehicle used to select gears.
- Selective seeing** Searching only for those clues and events that restrict your line of sight, require you to change your path of travel, or adjust to a specific regulation (signs, signals, etc.).
- Separating hazards** The technique of dealing with multiple hazards one at a time.
- Shared left-turn lane** Center lane on a busy street that helps drivers make safer mid-block left turns into business areas from both directions.
- Shock absorbers** Devices that limit and stop the bouncing action of the vehicle springs.
- Shoulder** The strip along the sides of a roadway (may or may not be paved) intended for emergency use.
- Sight distance** Distance a person can see.
- Sightline** An area in which you can see; used as a basis for steering and speed adjustments.
- Simulation** Laboratory exercise similar to driving.
- SIPDE system** Five step driving strategy (search, identify, predict, decide and execute) to process information and evade potential danger in organized manner.
- Skid** When tire patches lose part or all of their traction with the road surface due to abrupt suspension balance changes or roadway surface conditions.
- Slide-hand or Shuffle steer** Turning the steering with a sliding hand or a push-pull movement.
- Smith System** Systematic approach to defensive driving, which includes: (1) Aim high in steering, (2) Keep your eyes moving, (3) Get the big picture, (4) Make sure they see you, (5) Leave yourself an out.
- Space areas** Designated positions around the vehicle to identify relationships to the environment or objects or other road users.
- Space cushion** A open area around the vehicle that a driver should maintain to have room to maneuver.
- Space management** Five step process (SIPDE) that can serve to change a driver's awareness from the procedural habit level to the process judgement level of driving.
- Spark plug** An ignition component that supplies the spark to initiate engine combustion.
- Speed superiority** Represents a safe difference in speed (10 to 15 mph) of a passing vehicle over the vehicle being passed in order to complete the pass in a designated time period.
- Staggered stop** Stopping before the stop line to

maintain front space control and diminish risk of a collision (space for left-turning vehicles).

Stale green light A traffic signal light that has been green for some time and is likely to change to yellow.

Standard transmission A system in which the gears are shifted by the driver.

Steering control Driver inputs appropriate steering techniques and movements.

Stimulant Drug speeds up the central nervous system.

Stopped position Stopping behind a vehicle (to see the back tires) in a position that allows the driver space to steer around the vehicle to avoid a stalled, turning, or backing vehicle. (Also to avoid carjacking problems in heavy traffic.)

Substance abuse Excessive use of alcohol and/or drugs.

Suspension The withdrawal of a driver's license for a period of 90 days, 6 months or 1 year due to many traffic violations or a serious driving offense.

Suspension control Adjusting vehicle balance at the strut or shock absorber (using fluid or air pressure) to dampen forces when weight transfer occurs.

Suspension system Components support vehicle weight in a flexible manner while absorbing road shocks.

Switchbacks Sharp turns on mountain roads, similar to a U-turn, that allow the road to climb a steep slope.

Synthesizing Combining elements so as to form a new complex product.

Tachometer A gauge indicating the engine revolutions per minute (RPM) to inform the driver.

Tailgate Driving too closely behind another vehicle.

Target area A fixed location in the center of the travel path you intend to follow.

Temperature gauge An indicator light or gauge that indicates the engine operating temperature.

Thermostat A device that regulates the engine temperature by controlling the flow of the engine coolant to the radiator.

Threshold braking A braking technique in which the driver applies brakes just short of wheel lock-up.

Thrust acceleration Pushing down on the accelerator sharply in order to increase speed to avoid a collision. Also used in passing and when entering expressway (kickdown). Shifts weight to rear wheels.

Title Legal proof of vehicle ownership (certificate of title).

Tolerance The manner in which the body responds to alcohol/drugs; dependent upon individual weight

and experience with alcohol or drugs.

Tort Law Wrongful act or damage (not involving breach of contract) for which a civil action can be brought.

Tort liability Civil rules imposed by government concerning government, people's property or any damage or injury that you are liable for.

Total stopping distance The total distance required to stop a vehicle that is in motion.

Towing insurance Optional coverage that protects against the cost of on-the-road repairs and towing.

Traction The friction between the vehicle tire patches and the road surface.

Traction control system (TCS) Device that allows acceleration inputs without traction loss.

Traffic circle Intersection formed by several roadways meeting at a circle.

Traffic control device Any light, sign or pavement marking used to tell road users what to do.

Trail braking Controlled braking pressure that does not change the speed, but maintains vehicle balance and control while turning.

Transverse Perpendicular to your path of travel. Lines across the road to direct vehicles and pedestrians into and through intersections.

Travel path Actual or potential path a vehicle might be going; a combination of targeting, sightlines, visual references, and experience.

Tread The raised pattern on the outer surface of a tire that grips the road and provides a channeling action for water on the roadway.

Tread wear indicator Bars that appear in tire grooves when they are less than 1/16 of an inch deep.

Trip odometer An indicator that registers mileage a vehicle travelled since it was reset to zero.

Tunnel vision Very narrow field of vision (standard of 140° or less) with little peripheral ability.

Turnabout A turning maneuver to travel in the opposite direction.

Turning bay A special turn lane found on multiple-lane highways, two-way roads, and at some city intersections.

Turn signal Lights activated by the driver to warn of his/her intentions (communicate). Also hand signals.

Two second rule Technique for calculating and maintaining a minimum following distance under ideal driving conditions. A three or four second minimum count is highly recommended.

- Uncontrolled intersection** An intersection at which there is no traffic control signal, sign or roadway marking to regulate traffic (including railroad crossings that do not have flashing red lights or crossing gates).
- Uncontrolled railroad crossing** Level crossing at which there are no signals/bells/crossing gates regulating the flow of traffic.
- Understeer** When the front tire patches lose varying degrees of traction and the rear tire patches have more traction causing a pushing effect on the vehicle due to momentum and inertia forces. The vehicle has a tendency to continue straight even if the steering wheel is turned.
- Uninsured motorist insurance** Protection from financial loss due to a collision caused by a driver without insurance coverage or a hit and run, as well as any amount that may exceed the other party's coverage.
- Universal joint** Connectors that permit a change of angle while transmitting power (part of power train).
- Unprotected left turn** Left turn at a signal-controlled intersection without a special left-turn light.
- Urine test** A chemical test that uses the driver's urine to determine the amount of alcohol or the presence of drugs in the driver's system.
- U-turn** A turnabout (without reversing) maneuver performed by turning sharply left.
- Van pooling** Several individuals sharing transportation to one or more destinations in a van.
- Variable message signs** Signs that post messages to inform drivers of road conditions ahead.
- Vapor lock** Fuel vaporizes in the fuel lines and the fuel system cannot pump it into the injectors.
- Vehicle balance** Transfer of weight of the vehicle (from center of gravity) to different points on the vehicle (chassis or frame).
- Vehicle balance sensitive** The shoulder belt locks when the brakes are applied and the balance of the vehicle leans one into the shoulder belt.
- Vehicle code** Federal and state laws that regulate the highway transportation system (HTS).
- Vehicle registration** A form that must be carried in the vehicle to prove who owns it, that it is licensed, and that the vehicle taxes have been paid.
- Velocitation** The improper sensation of vehicle speed.
- After high speed driving, the sensation of moving more slowly than the vehicle actually is, resulting in driving too fast unconsciously.
- Visual acuity** The ability to see details up close and from afar.
- Visual eye-lead-time** The time (and distance) that the driver's visual search precedes the vehicle.
- Visual referencing** Points on the vehicle that are used to assist the driver in positioning the vehicle with respect to curbs, lines, lane positions and control input timing for maneuvers.
- Visual tracking** Aiming and steering in the desired travel path of the vehicle.
- Warning lights and gauges** Dashboard indicators to inform the driver of the condition of the vehicle systems and warn when problems occur.
- Warning signs** Traffic signs that warn of danger ahead.
- Warranty** A written guaranty from the manufacturer to repair or replace defective components for a limited time or mileage.
- Water pump** A device that circulates the engine coolant under pressure.
- Weave lane** When an entrance and an exit use a common extra lane (for acceleration as well as deceleration) on a freeway or expressway.
- Weaver** A person who moves their vehicle back and forth between lanes. This often results in collisions.
- Weight transfer** Moving the concentration of weight from one point of the vehicle to another caused by acceleration, deceleration and cornering forces.
- Wheel alignment** Mechanical adjustment of the steering system components to vehicle specifications.
- Wolf pack** Group of vehicles traveling together in a bunch on an expressway.
- Yaw** The spinning effect of a vehicle around its center of gravity (oversteer).
- Yield** To give another road user the right-of-way. Allowing another to proceed first.
- Zero tolerance law** Law stating it is illegal for persons under the age of 21 to drive with any measurable amount of alcohol in the blood.
- Zone** One of six areas of space around a vehicle that is at least the width of a lane and extends as far as the driver can see to the front, side, or rear.



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Date: ____/____/____

Name: _____

VOCABULARY MATCHING EXERCISE

SESSION 2 - CHAPTERS 3 & 4

Match the description in Column B with the term(s) in Column A. Write the letter in the space provided.

Column A

Column B

- | | |
|---------------------------|--|
| ___ 1. Running start | A. Provides information like route markers, directions, services, points of interest, etc. |
| ___ 2. Space cushion | B. Extra lane at an intersection reserved for vehicles performing a left turn. |
| ___ 3. Visual reference | C. Person using a flag or standard to control traffic at construction sites, special events, etc. |
| ___ 4. Left turn bay | D. An open area around your vehicle that consists of an adequate interval between it and the vehicle ahead and/or behind that allow the driver to stop. |
| ___ 5. Disabled parking | E. Area reserved for use by the disabled and often having an adjacent striped space for disembarking. |
| ___ 6. Guide sign | F. Draws attention to imminent danger or upcoming regulatory signs. |
| ___ 7. Flag person | G. The point, behind the vehicle to be passed, where drivers begin to create a speed superiority (10 to 15 mph more than vehicle ahead) prior to moving into the passing lane. |
| ___ 8. Regulatory sign | H. Draws attention to road repairs, detours, road closings for special events, etc. |
| ___ 9. Warning sign | I. Reminds highway users of specific obligations that apply in each traffic situation where they are posted. |
| ___ 10. Construction sign | J. Point used by driver to position vehicle on the roadway. |



Date: ____/____/____

Name: _____

FILL-IN THE BLANKS EXERCISE

SESSION 2 - CHAPTERS 3 & 4

Fill-in the blanks in the spaces provided below.

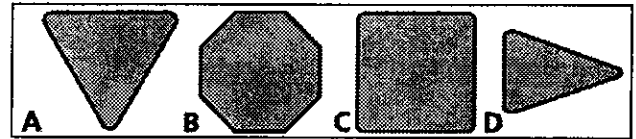
1. _____ signs tell road users what they may or may not do in any specific area of the HTS. These signs are usually _____ or rectangular with _____ lettering or symbols on a white background, white lettering or symbols on a _____ background, or _____ lettering or symbols on a red background.
2. _____ Signs draw the attention of road users to imminent or upcoming danger or, on occasion, upcoming _____ signs. The background color is _____ with black lettering or symbols. The _____ shape is the most common and warns of upcoming danger.
3. Signs with an _____ background and black symbols or lettering are used when traffic must be moved through or around road _____ work, maintenance operations, utility work, and special _____ events on or adjacent to the _____.
4. Lines, lettering, symbols and occasionally shading painted directly on the road surface make up _____. Sometimes special markings may also be painted on _____ and other surfaces. These markings define _____, delineate roadways, reinforce information given by signs or signals, and sometimes warn of possible _____.
5. Before passing, you must decide whether it makes sense under the existing _____, _____, and _____ conditions.
6. To perform a right turn, your vehicle should be in the _____ lane in the lane _____ - _____ at least _____ prior to the intersection.
7. All drivers are required to obey _____ speed limits, which are designed to provide for the orderly flow of traffic under _____ driving conditions. When conditions change, you must _____ your speed to reduce _____ and avoid _____.



Session 2 Review Test**Chapters 3 and 4**

Circle the the letter that best answers or completes each question or statement.

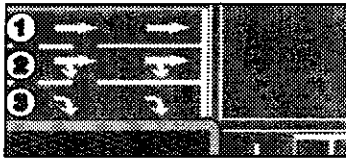
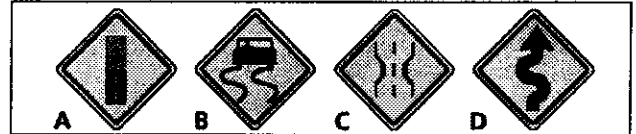
1. Which of these sign shapes, would oblige you to stop?



2. Which sign indicates the maximum speed permitted in this zone?



3. Which of these signs warns that the pavement ahead is slippery when wet?



4. If you want to turn right at this intersection, you can turn from:

A) lane 1 only.
B) lane 2 only.
C) lane 3 only.
D) lane 2 or 3.



5. Which of these traffic control persons is signalling you to stop?

6. In the illustration, is vehicle A permitted to pass vehicle B?
- A) Yes.
B) Yes, if the way is clear.
C) No, never.
D) No, unless vehicle B is a slow-moving vehicle.



7. You must not pass on the left when:
- A) you must cross a solid yellow line or a sign is posted prohibiting passing.
B) your view ahead is obstructed (hill, curve, etc.).
C) you are within 100 feet of an intersection, railroad crossing, bridge, viaduct, or tunnel.
D) all of these.
8. When a vehicle passes you on the left, you should:
- A) refrain from increasing speed.
B) remain in your lane, or move to the right as far as you can when the lanes are not marked.
C) make it as safe as you can for the other driver to pass you.
D) all of these.
9. As you are about to enter the intersection if you are in the wrong lane to turn, you should:
- A) stop, and wait for a break in the traffic which would permit you to turn.
B) signal the driver beside you and ask him/her for permission to turn.
C) proceed straight, and then move to the correct lane to turn at the next intersection.
D) all of these.
10. When parking downhill, whether or not there is a curb, the front tires should be:
- A) turned toward the near side of the roadway.
B) turned away from the near side of the roadway.
C) straight ahead.
D) in any position provided the parking brake is properly applied.

