

## Chapter 2

# Signs, Signals, and Roadway Markings

### 2.1 Traffic Signs

### 2.2 Traffic Signals

### 2.3 Roadway Markings

#### **You Are the Driver!**

Imagine that you are driving on the street shown here. The red traffic light is about to turn green. Are you in the best lane to continue straight? Will you have to stop for other vehicles that plan to turn? How might pedestrians create a problem for

Safe, organized driving would be a lot more difficult without signs, signals, and roadway markings. To be a safe and responsible driver, you must know what signs, signals, and roadway markings mean. This chapter discusses these controls and how to respond to them properly.



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## 2.1 Traffic Signs

### Objectives

1. State the meaning of the eight shapes and eight colors used for traffic signs.
2. Describe the actions to take at STOP, YIELD, and speed limit signs.
3. List five situations where warning signs might be used.
4. Explain how guide signs and international signs help you when driving.

You will see hundreds of different traffic signs as you drive. While traffic signs serve many purposes, each traffic sign has a specific shape and color.

### Shapes and Colors

Note the eight sign shapes and eight sign colors shown on the opposite page. Each sign shape and color has a special meaning. By knowing the meanings of these shapes and colors, you can get valuable information from a sign—even at a distance.

Each traffic sign has a specific purpose. A **regulatory sign**, such as a STOP sign, controls traffic. A **warning sign**, including a signal ahead sign, alerts you to possible hazards and road conditions. A

**guide sign**, such as an interstate sign, gives directions.

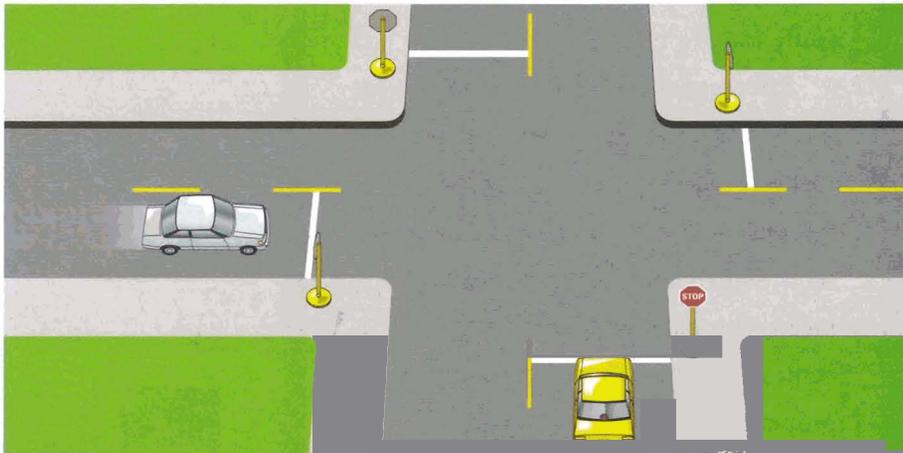
### Regulatory Signs

Regulatory signs tell you about laws that you must obey. The most important signs, STOP and YIELD, have unique shapes. All other regulatory signs are either white squares or rectangles with red or black lettering.

### Stop Sign

A STOP sign is used on a road that crosses a main highway or a through street. The STOP sign is a red octagon with white letters and border.

Always come to a **full stop** at a STOP sign. Once stopped, you must yield the right of way to pedestrians or other vehicles in or approaching



If you were driving the yellow car, the other car should yield the right of way at this 4-way stop. Car colors in all traffic model pictures are as follows:

- Yellow—action car
- White—other cars in motion
- Blue—parked cars

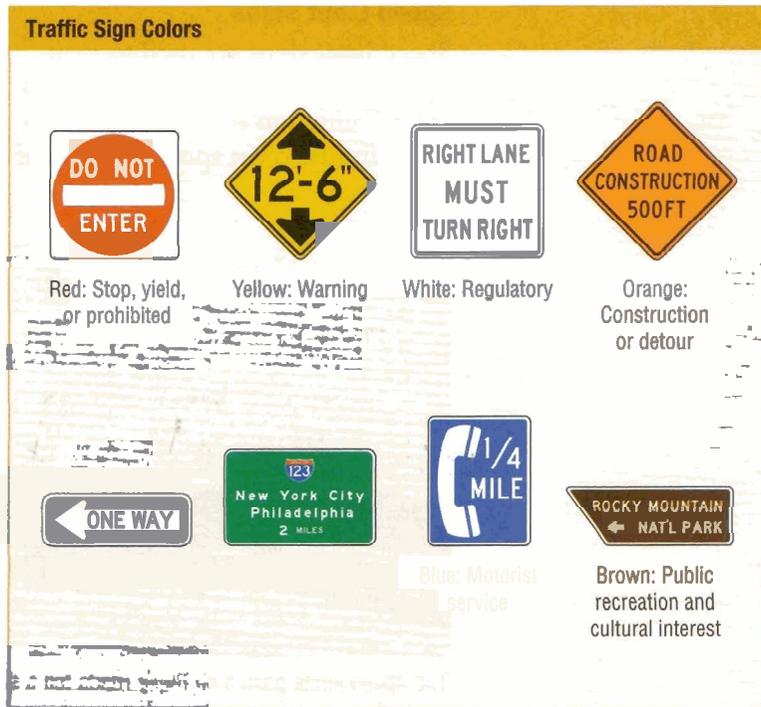
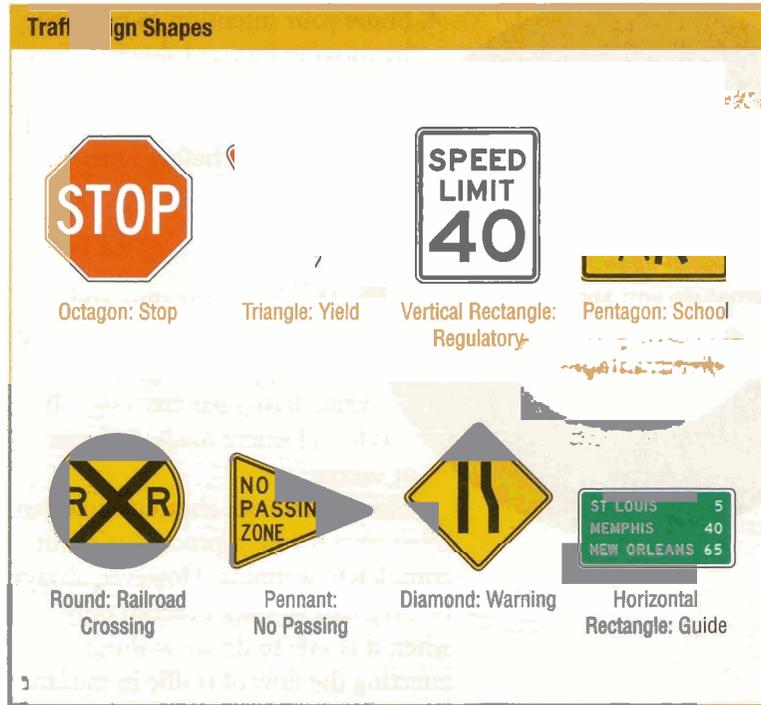
the intersection. To yield means to allow others to use the intersection before you do. Using the **right of way** means you accept the privilege of immediate use of the roadway. If another driver on a through street must slow or stop after you leave a STOP sign, then you have not yielded the right of way.

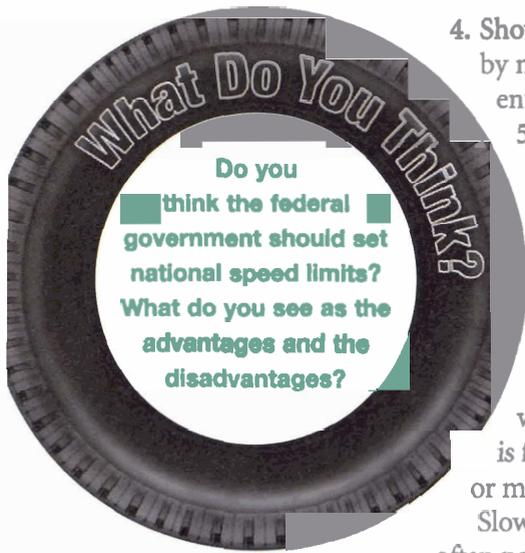
The location of a STOP sign or stop line indicates where to make a legal stop. If there is only a STOP sign, stop before entering the intersection. Stop where you can see approaching traffic, but stop before you reach any crosswalk. The yellow car in the picture on the left shows where to stop when a stop line is present.

If your view is blocked as you approach an intersection and you cannot see cross traffic clearly after stopping, move ahead slowly and prepare to stop again. Make sure the way is clear before driving into the intersection.

At some intersections, STOP signs are posted at all four corners. Each STOP sign might include a small sign that says "4-WAY" or "ALL WAYS." Follow these steps at a 4-way stop:

1. The driver who stopped first should be allowed to go first, as the picture shows.
2. When vehicles stop to the right or left of each other at the same time, the driver on the left should yield to the driver on the right.
3. When stopped across the intersection facing oncoming traffic, the driver going straight should be allowed to proceed. A driver turning left should wait.





4. Show your intention to proceed by moving forward slowly before entering the intersection.
5. Check for traffic ahead and to the sides before entering the intersection.

### Yield Sign

Always slow or stop, and give the right of way to traffic when approaching a red and white triangular YIELD sign. It is found where roadways cross or merge.

Slowing enough ahead of time can often permit you to proceed without completely stopping. However, always be prepared to stop. Proceed only when it is safe to do so, without affecting the flow of traffic in the lane you are entering.

### Speed Limit Signs

Speed limit signs are used to manage traffic flow at safe speeds. States are permitted to establish their own speed limits. What speed limits exist

in your state? Check the speed limits of other states before traveling there.

Speed limits are set for ideal driving conditions. When traffic, roadway, or weather conditions are not ideal, you must obey the basic speed law. This law states that you may not drive faster than is safe and prudent for existing conditions, regardless of posted speed limits.

A **minimum speed limit** is set on some roadways to keep traffic moving safely, such as primary highways and expressways. This speed limit tells you not to drive slower than the posted minimum speed unless conditions are less than ideal. If conditions are bad, follow the basic speed law and drive slower than the minimum speed limit.

**Advisory speed limits** are set for special conditions such as sharp curves. The signs are often posted below a warning sign. They indicate the maximum suggested speed under



The speed limits posted on these roads tell a safe speed for ideal conditions. When conditions are bad, you must drive slower than posted speeds.

ideal conditions. Speed should be slower when conditions are less than ideal.

In some areas, special speed limits are set for different times of the day. For example, school zones have special speed limits when children are present or during school hours. Night driving speed limits may be lower than daylight limits.

### Other Regulatory Signs

Regulatory signs such as those shown above right are used to

- direct traffic to turn or go straight
- direct one-way traffic
- control parking and passing

Signs with red words on white or white words on red usually tell what *not* to do. Black-lettered words usually tell what you can do. Some signs have a black symbol in a red circle and crossed by a red, diagonal slash. The red circle and slash indicate that a certain action is prohibited.

### Warning Signs

A warning sign can help you avoid surprise situations. Most warning signs are diamond-shaped. Warning signs have black symbols or lettering on a yellow background.

### Diamond-Shaped Warning Signs

Yellow, diamond-shaped signs such as these warn of a danger ahead. Be prepared to slow or stop when you see a warning sign.



Turns and Lanes

One Way

Parking and Passing



Road Narrows (from right)

Signal Ahead

Divided Highway Ends

Sharp Right Curve

Side Road (Left)

Left Curve

Two-Way Traffic

Merging Traffic (from right)

Cross Ahead

Divided Highway Begins

Pedestrian Crossing

Hill

Deer Crossing

Low Clearance



**SCHOOL ZONE SIGNS** A different colored school zone sign was tested around the country in the 1990s. The yellow-green background is made from a new fluorescent material that makes the sign more visible. The fluorescent yellow-green signs are replacing the standard yellow on all school warning signs.



School Zone



School Crossing



No Passing

### School Signs

Two signs are used in school zones. A school zone is a portion of a street or highway near a school that is subject to special speed limits. A school zone sign, only showing two children, is posted within a block of a school. A school crossing sign shows children in a crosswalk area. This sign is posted near intersections or crossings used by children. Notice the difference between these two signs.

Be extra alert in a school zone. Children might dart out into the street without looking. They might ride bicycles on the wrong side of

the street or take other unexpected actions. Be ready to obey a crossing guard's directions in a school zone.

### No-Passing Sign

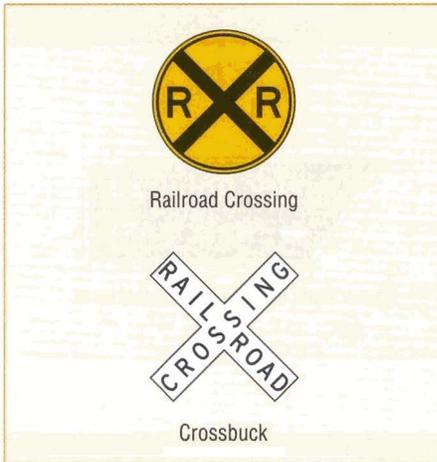
A yellow, pennant-shaped sign with black letters, as shown below left, may be posted on the left side of the roadway. The sign appears at the start of a no-passing zone and provides advance warning of where a no-passing zone starts. A no-passing sign is used together with a solid yellow line on the roadway. If you intend to pass, you must safely complete your pass before reaching this sign.

### Construction Signs

An orange sign, in a diamond or rectangular shape, alerts you to construction zones. Orange, triangular warning signs might be used on a construction vehicle to warn that the vehicle is slow-moving. Be alert in a construction zone, as shown in the picture below. Be ready to slow, stop, or drive around workers and equipment. Follow directions from signs and any worker directing traffic. Many states now increase fines for violations in construction zones.



Be alert in a construction zone. What does the orange sign tell you to do?



The round, yellow sign warns you that a railroad crossing is near. The white crossbuck is at the crossing.

### Railroad Signs

A round, yellow sign with a black “X” and two “R”s warns of a railroad crossing ahead. This sign is posted about 250 feet before a railroad crossing in an urban area. A railroad crossing sign is posted about 750 feet before a railroad crossing in a rural area. A large “X” might be painted on the roadway as an additional warning. The crossing itself is marked with a white crossbuck sign. It may have the number of tracks posted below the sign. Flashing red lights and/or crossing gates might be added to alert you when a train is coming. A driver must treat the crossbuck sign as a yield sign and flashing lights as a stop sign.

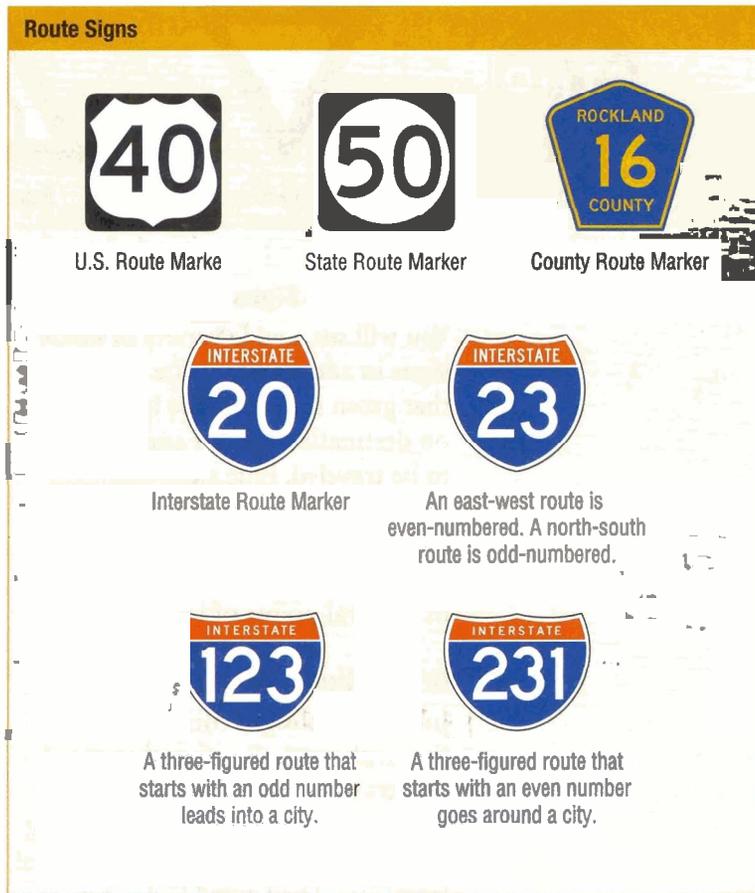
### Guide Signs

A guide sign provides a variety of information. Guide signs mark routes, intersections, service areas, and other points of interest or information.

### Route Signs

Local, state, U.S., and interstate routes are posted with route signs. Notice below that route signs vary according to the type of roadway. State and county route markers will vary from state to state. All the signs below display route numbers.

Interstate route signs are red, white, and blue shields. Notice below that a special numbering system is used for interstate routes.



## Guide Signs



Green signs provide information on mileage to other destinations



Blue signs guide you to services near the highway.

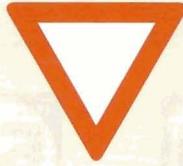


Brown signs indicate points of interest.

## International Signs



Stop



Yield



Road Narrows



No Right Turn

### Other Guide Signs

You will see a wide variety of guide signs in addition to route signs. Note that green signs provide information on destinations ahead and distances to be traveled. Blue signs highlight highway services such as fuel, food, lodging, and nearby hospitals. Brown signs direct you to recreation areas or cultural points of interest.

### International Signs

International signs convey information with symbols rather than words. Drivers who travel from country to country can understand the meaning of these signs without learning several languages. The United States has adopted several international symbols for use on highway signs. More

and more of these symbols will be used as international travel increases.

### Review It

1. What do the eight shapes and colors of traffic signs mean?
2. What actions should you take at STOP, YIELD, and speed-limit signs?
3. What are some situations where warning signs might be used?
4. What information do guide signs and international signs provide?

## 2.2

# Traffic Signals

Traffic lights, arrows, flashing signals, lane signals, and pedestrian signals are used to help traffic flow smoothly. Each of these devices is a **traffic signal**. All traffic signals have specific colors. Red means stop. Yellow means caution: be ready to stop. Green means go: proceed if the way is clear and safe.

### Traffic Lights

Various combinations of traffic lights can be placed at intersections to control traffic. Remember the following types of lights so you will be familiar with them while driving.

**Green Light** The first picture shows a green light. You can proceed only if the intersection is clear. When approaching a green light, check traffic to the left, front, and right before entering the intersection. When approaching a light that has been green for some time, be prepared for the light to turn yellow. The green light will be mounted at the bottom or to the right on the traffic signal.

**Yellow Light** The second picture shows a yellow light. Make every effort to stop safely for a yellow light. Sometimes you might be too close to stop safely when a yellow light appears. You then will have to proceed with caution. The yellow light will appear in the center on the traffic signal.

**Red Light** The third picture shows a red light. You must come to a full



Proceed at a green light only if the intersection is clear.



A yellow light means caution and prepare to stop.



At a red light, come to a complete stop before the entrance to the intersection.

### Objectives

1. Explain what to do at a green light, a yellow light, and a red light.
2. Describe the action to take when you approach a flashing red signal or a flashing yellow signal.
3. Describe the actions to take with pedestrian signals and traffic control officers' signals.

stop at a red light. Stop behind the stop line, crosswalk, or before entering the intersection if no stop lines are used. The red light will be mounted on the top or to the left side on the traffic signal.

### Computerized Traffic Lights

Computerized traffic light systems are often used to control the flow of traffic. A computer coordinates traffic lights at several intersections. With this system, traffic can flow for several blocks at or near the speed limit without stopping.

Traffic lights also can be set to change when traffic approaches. A sensor in the roadway detects oncoming or stopped traffic. This system can be used where most of the traffic comes from one direction, such as a left-turn lane. They can also be used to regulate traffic entering a limited access highway.

### Right-Turn-on-Red

All states now allow drivers to make a **right-turn-on-red**. This means turning right when the signal is red. However, some cities restrict such



Before you make a right-turn-on-red, make sure no pedestrians are in any crosswalks.

turns. Procedures for turning right on red are discussed in Chapter 7.

### Left-Turn-on-Red

Some states permit drivers to make a left turn on a red light when turning from a one-way street into a one-way street. This turn must be made cautiously and only after stopping. A few states permit left-turns on a red light from a left turn lane into a one-way street. Be sure state laws and local ordinances permit such



The flashing red light lets drivers at a distance know that they are approaching a stop.

turns. The intersection and cross-walk must be clear of traffic and pedestrians before you turn either left or right on a red light.

### Flashing Signals

A flashing signal alerts drivers to dangerous conditions or tells them to stop. These signals are used at intersections and other dangerous locations.

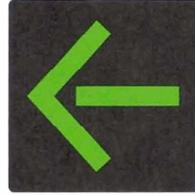
Note the flashing red signal in the bottom picture on the opposite page. Make a full stop when you come to a flashing red signal. A STOP sign and stop line may be used with this signal. After you stop, yield to traffic, and proceed only when the intersection is clear.

When you see a warning sign and a flashing yellow signal, slow down. Be prepared to stop at the traffic light.

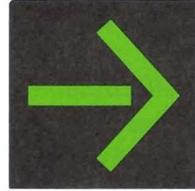
### Arrows

Traffic must flow in the direction that a green arrow is pointing. Look at the arrows shown here. These arrows are used together with traffic lights. If you are driving in a lane with a green arrow pointing to the left or right, you must turn in that direction. Remember first to yield to other traffic and pedestrians.

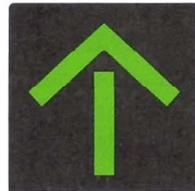
Some cities use left-turn arrows to permit drivers to turn left before oncoming traffic proceeds. Other cities use green left-turn arrows only after oncoming traffic has cleared or has been stopped by a red light. You should be cautious if you are unfamiliar with the left-turn signals you encounter. Always be prepared to yield.



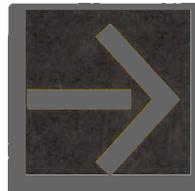
**GO** left only. Be sure that oncoming traffic does not run the red light.



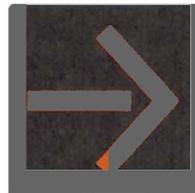
**GO** right only. Yield to pedestrians and vehicles already in the intersection.



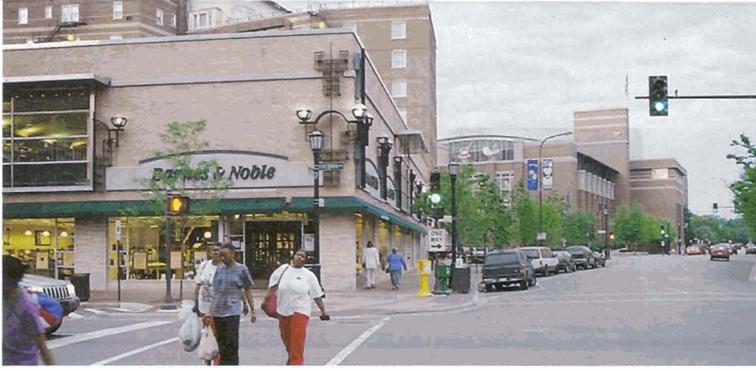
**GO** straight ahead only after yielding to vehicles and pedestrians within the intersection.



**WARNING.** The red arrow is about to appear.



**STOP.** You may not go in this direction.



When the pedestrian signal says DON'T WALK, predict that your green light will soon change.

### Lane Signals

Sometimes traffic in some lanes needs to go in one direction for a certain period of time and in the opposite direction at another period of time. The direction of these lanes is reversed on some streets and expressways to control morning and evening rush-hour traffic. In these situations, lights hanging overhead show whether or not a lane can be used at that time. Each light is a **lane signal**. These signals are different from the arrows that regulate turns. You will learn more about lane signals on expressways in Chapter 11.

### Pedestrian Signals

A **pedestrian signal** is used at an intersection with heavy traffic. These signals or symbols are mounted near traffic lights as seen in the picture. Pedestrians should only cross at an intersection when they face a **WALK** signal or symbol. Pedestrians must clear the intersection or wait on a curb when the **DON'T WALK** signal or symbol flashes or remains lit.

Normally, the **WALK** signal or symbol and the green traffic light will be on at the same time for pedestrians and drivers going in the same direc-

tion. The **DON'T WALK** signal or symbol usually begins to flash just before the yellow light appears for drivers. If you approach an intersection and see the **DON'T WALK** signal flashing, predict that your green light will soon change.

The pedestrian **DON'T WALK** signal will remain on when a green right- or left-turn signal is permitting a driver's path of travel to cross the crosswalk. Pedestrians must wait until their **WALK** signal or symbol is lit. When turning on a green left-turn signal, drivers should be alert to pedestrians crossing.

### Officer's Signal

You must obey signals given by a traffic control officer, even if the officer's signals contradict the traffic signal. A hand held up with the palm toward you means stop. A hand waving you on means go. Signals can be given with lighted wands during times of low visibility.

### Review It

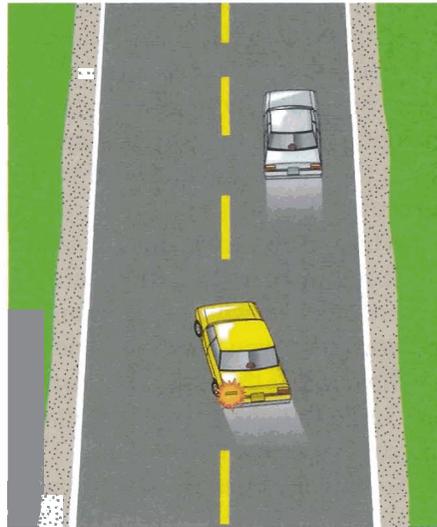
1. What should you do when you approach a red light? a yellow light? a green light?
2. What action should you take as you approach a flashing red signal? a flashing yellow signal?
3. How do pedestrian signals and officer's signals help you when driving?

**A** roadway marking gives you a warning or direction. These markings are usually lines, words, or arrows painted yellow or white on the roadway. Sometimes special markings are used on curbs and other surfaces.

### Yellow Line Markings

A broken yellow line separates two-way traffic. It also means a driver may pass only when no traffic is coming from the opposite direction.

A solid yellow line on the driver's side of the center line indicates that passing is not allowed. Passing is allowed only when the solid yellow line no longer appears on the driver's



Passing is allowed across a broken yellow line.

side of the highway. Turning left across a solid yellow line into a driveway or alley is allowed after yielding to oncoming traffic.

Two solid yellow lines that divide traffic prohibit passing that involves crossing the solid lines, as shown in the picture on page 32. Some cities permit you to make left turns across these lines after yielding to oncoming traffic.

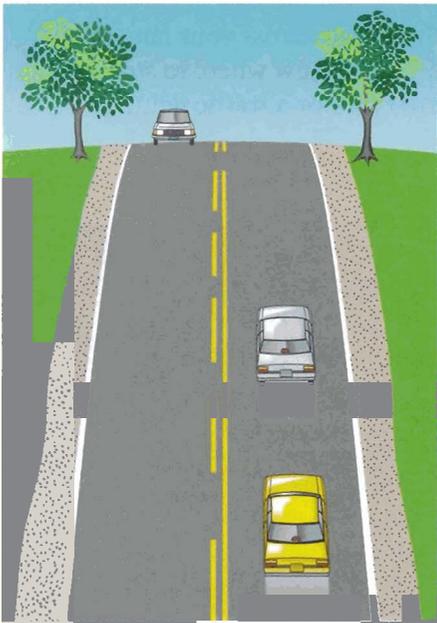
Many cities use a **shared left-turn lane** to help drivers make safer mid-block left turns to and from businesses on a busy street. Solid and broken yellow lines are used with left-turn arrows from both directions to identify a shared left-turn lane.

### White Line Markings

Broken white lines separate lanes of traffic that are moving in the same

## Objectives

1. Describe the difference between broken yellow lines and broken white lines.
2. Explain the differences between a shared left-turn lane and a left-turn lane.
3. List six types of special roadway markings.



No passing is allowed on the side of a road that has a solid yellow line.



## SAFE DRIVING

Do not use the shared left-turn lane to advance your position in preparation for a left turn at an upcoming intersection. Use the shared left-turn lane only for turning mid-block.

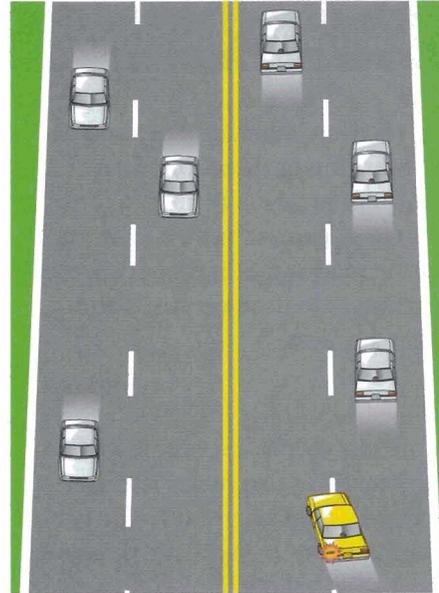
direction. You may cross these broken white lines when changing lanes.

Solid white lane lines keep drivers in their lanes and restrict lane changing. Solid white lines indicate that you should not cross them. These lines identify locations where changing lanes is hazardous. Plan ahead to prevent crossing solid white lane markings.

White arrows are painted in lanes to tell you when and where to turn. If you are in a lane with an arrow and the word **ONLY**, you *must* continue in the direction of the arrow. You may turn or go straight if there is a curved and straight arrow in your lane.

Solid white lines are used along the side of a roadway to mark the edge of the roadway. These lines help you to see the edge of the roadway at night or under poor visibility driving conditions.

Solid white lines are also used to mark pedestrian crosswalks and stop lines. Some crosswalks have diagonal or perpendicular lines between them or are painted a



No passing is allowed if it involves crossing a double yellow line.

different color to highlight the area. You must yield the right of way to pedestrians in crosswalks. Stop lines across your lane at intersections show where to stop at a **STOP** sign or a traffic light.



Solid white lines separate traffic lanes and mark pedestrian crosswalks and stop lines. Arrows with the word **ONLY** indicate the direction you must go when driving in these lanes.

## Rumble Strips and Raised Roadway Markers

Rumble strips are short sections of corrugated roadway. These strips alert you through the noise your tires make when you drive over them. Rumble strips warn of hazards such as a major or dangerous intersection, a toll plaza, or an unexpected need to stop or reduce speed. Sometimes a rumble strip is used to warn that you are driving too close to the roadway edge, as the picture shows.

On some highways, drivers might have a difficult time seeing the driving lane at night. Raised or lowered roadway markers are used in such situations. These markers act as small reflectors. They are raised in areas where snow seldom occurs. In snow removal areas, these markers will be lower than the surface of the roadway.



This type of rumble strip will let you know when you have wandered off the roadway.

Roadway markers are color coded. White markers are used at the edge of a roadway or between lanes, just as white lines are used. Yellow markers may locate the left edge of an expressway. If you are driving and see red roadway markers, pull off the roadway immediately. These red markers warn that you are driving in the wrong direction. Safely get your car going in the proper direction.

## Other Roadway Markings

A special white marking on the roadway is used to show you where an exit ramp starts. It is dangerous and illegal to make a last minute decision to cross this area.

The railroad markings using an “X” and two “Rs” on each side of the roadway warn you that a railroad crossing is ahead. Do not pass near railroad crossings.



Roadway markers shine when struck by headlight beams to help drivers see the driving lane at night.



You may not park alongside this yellow curb marking.

Notice the marking for the school crossing below. When you see this white marking, watch for children in the area.

Curbs alongside a road might be painted to indicate warnings or that parking is not permitted. No-Parking zones often are near fire hydrants, curves, and intersections. The curb marking in the top left picture shows a No-Parking zone. The markings may be red, yellow, or white.



Predict that children could be crossing ahead.



These parking spaces are reserved for handicapped drivers or passengers.

The top right picture shows a parking space reserved for vehicles having handicapped drivers or passengers. Check for signs that say HANDICAPPED PARKING ONLY and signs and pavement markings with the handicapped parking symbol. It is illegal to park in this space without proper permit.

## Review It

1. What is the basic difference between broken white lines and broken yellow lines?
2. What are the functions of shared left-turn lanes versus regular left-turn lanes?
3. What are six types of special roadway markings?

# Chapter 2

## Review

### Reviewing Chapter Objectives

#### 1. Traffic Signs

1. What are the meanings of the eight shapes and eight colors used for traffic signs? (20–21)
2. What actions should you take at STOP, YIELD, and speed limit signs? (20–23)
3. What are five situations where warning signs might be used? (23–25)
4. How can guide signs and international signs help you when driving? (26)

#### 2. Traffic Signals

5. What should you do at a green light, a yellow light, and a red light? (27–28)
6. What action should you take when approaching a flashing red signal or a flashing yellow signal? (29)
7. What actions should you take with pedestrian signals and traffic control officers' signals? (30)

#### 3. Roadway Markings

8. What is the difference between broken yellow lines and broken white lines? (31–32)
9. What is the difference between a shared left-turn lane and a left-turn lane? (31)
10. What are six types of special roadway markings? (31–34)

### Projects

#### Individuals

**Research** Find out about the speed-limit laws in your state. Then find the same information about neighboring states. Notice any similarities or differences in the laws. Write a report comparing the laws.

**Observe Traffic** Observe for fifteen minutes pedestrians and vehicles at an intersection that has a pedestrian signal. Count the number of pedestrians that cross the street. Notice whether the pedestrians and the vehicles are obeying the signals. Compare your results with those of your classmates.

#### Groups

**Debate** Divide your group into two and debate the pros and cons of having the federal government set speed limits. Make a list of all the reasons your group mentions. Compare your list with the other groups in your class.

**Practice** Make color flashcards for all the signs shown in this chapter. With a partner from your group, test each other on the meanings of the signs.

# Chapter 2 Review

## Chapter Test

### Check Your Knowledge

**Multiple Choice** Copy the number of each sentence below on a sheet of paper. Choose the letter of the answer that best completes the statement or answers the question.

1. What does a round traffic sign mean?  
(a) yield to other traffic (c) stop  
(b) railroad crossing (d) pedestrian crossing
2. A construction zone sign is  
(a) yellow. (c) green.  
(b) blue. (d) orange.
3. Which of the following is not an example of a traffic signal?  
(a) flashing lights (c) school zone sign  
(b) arrows (d) pedestrian signals
4. Two solid yellow center lines on a two-lane highway indicate  
(a) no passing from either way.  
(b) passing both ways.  
(c) passing only with caution.  
(d) passing on the left only.

**Completion** Copy the number of each sentence below. After each number, write the word or words that complete the sentence correctly.

5. A \_\_\_\_\_ signal is used at heavy traffic intersections to tell people who are walking whether they should proceed or wait.
6. International traffic signs use \_\_\_\_\_ rather than words.
7. A lane on a busy street that helps drivers make safer mid-block left turns is called a \_\_\_\_\_.
8. A \_\_\_\_\_ sign controls traffic.

### Review Vocabulary

Copy the number of each definition in list A. Match the definition in list A with the term it defines in list B.

#### List A

9. sign that alerts you to possible hazards and road conditions
10. signal that alerts drivers to dangerous conditions or tells them to stop
11. sign set on roadways like primary highways and expressways to keep traffic moving safely
12. signal, usually overhead, that tells whether a lane can or cannot be used at a specific time
13. speed limits set for special conditions such as sharp curves
14. sign that gives directions

#### List B

- a. flashing signal
- b. lane signal
- c. warning sign
- d. advisory speed limits
- e. guide sign
- f. minimum speed limit

### Think Critically

Write a paragraph to answer each question.

1. What is the difference between a *basic speed law*, a *minimum speed limit*, and an *advisory speed limit*?
2. You are planning to drive in a foreign country that has a different language from yours. What can you do to be sure that you will understand the traffic signs?

## Decision Making



1. What is the speed limit in this situation? What speed law might make driving at the posted speed limit illegal?



2. You will be making a left turn at the traffic light ahead. Are you in the correct lane to make that turn? Explain your answer.



3. The orange sign and arrow ahead are used to warn drivers about what condition? If you were driving the vehicle that the scene is viewed from, what mistake would you have already made?



4. You want to pass the slower moving vehicle ahead. Is it safe and legal to pass here? Why or why not?