CHAPTER 7 ASSESSMENT

On a separate sheet of paper, write the letter of the answer that best completes each sentence.

1. When acceleration is applied, weight is transferred to the
   a. rear of the vehicle.
   b. front of the vehicle.
   c. center of the vehicle.

2. Unfamiliar happenings should
   a. keep your attention level the same.
   b. increase your attention level.
   c. decrease your attention level.

3. When watching for hazards, you should not
   a. look around.
   b. develop a fixed stare.
   c. keep your eyes moving.

4. Most crosswalks are marked with
   a. white lines.
   b. yellow lines.
   c. nothing.

5. After you have been exposed to bright lights, your eyes
   a. adapt to nighttime light levels slower.
   b. adapt to nighttime light levels faster.
   c. adapt to nighttime light levels at a constant rate.

6. What you can see to the sides is
   a. central vision.
   b. visual acuity.
   c. peripheral vision.

On a separate sheet of paper, write the word or phrase that best completes each sentence.

glare recovery

hearing loss

giving meaning

crosswalk

7. The _____ is the part of the pavement where the sidewalk lines would extend across the street.
8. _____ is a mental process that has to do with understanding what you perceive.
9. _____ is the ability of your eyes to quickly adjust from extreme bright light back to the dark.
10. _____ makes drivers less able to hear important cues.

Writing

Driver's Log

In this chapter, you have learned about ways to use your senses while driving. Write a paragraph on each of the senses discussed in this chapter, and indicate the one sense that is the most important to use while driving.

Project

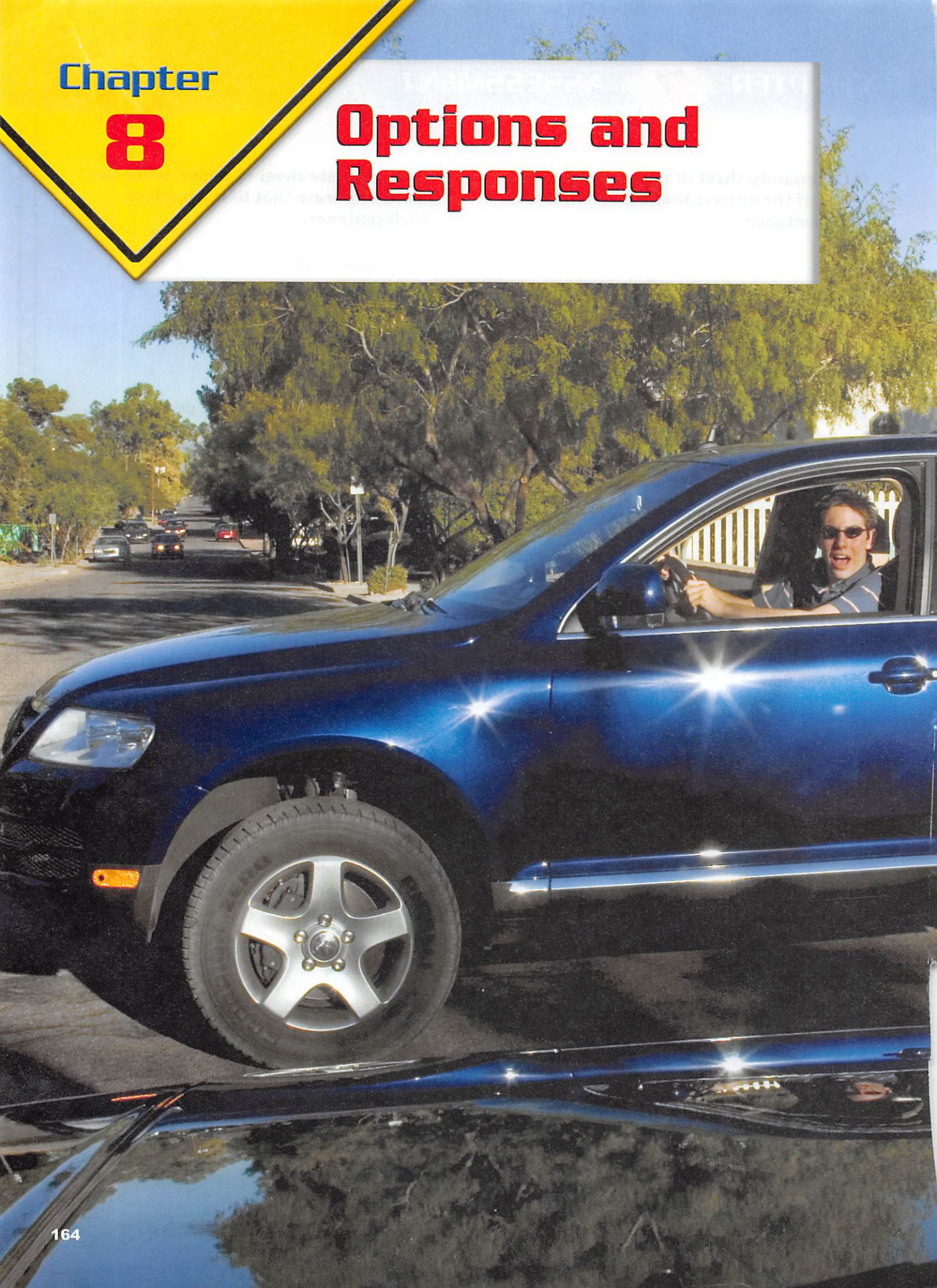
As a passenger, identify objects in the area ahead of the vehicle in which you are riding for 1 mile in a residential or business district. What meaning would you give to these objects along the roadway?

What might other drivers do in relation to these objects? Compare what meaning you gave to these objects in relation to what actually happens. Write a one- to two-page paper on these results.

Chapter

8

Options and Responses



Why Are Options Important?

Options allow you to understand potential choices in a driving situation. By knowing all of your options in any given situation, you can make an informed guess about what might happen while you are driving. Doing so will make you a prepared driver. In this chapter, you will learn about options as they apply to driving as well as responses and rules for maintaining space, time, and visibility.

Driver Ed Online

For additional activities, visit drivered.glencoe.com. Here you will find:

- **Web Link Exercises**
- **eFlashcards**
- **Practice Driving Tests**

Options and Choice

OBJECTIVES

1. **Define** options and explain their role in the driving process.
2. **Describe** the role of assumptions in the driving process.
3. **Explain** the importance of choices in the driving process.

KEY TERMS

- option
- comparison
- assumption
- choice

Like giving meaning, determining options is a mental link that involves thinking through the meaning that results from searching. The meaning you give to a situation determines your options and, ultimately, the response you choose. After you weigh your options, go beyond what is actually happening in a traffic situation, and make an informed guess as to what might happen next.

What Is the Role of Options in the Driving Process?

When you give meaning to a traffic scene, you are determining what to do now. When you determine your options, you forecast how events may affect you in the future. **Options**, or potential choices in a driving situation, are based on a driver's knowledge, experiences, and skills. In the driving process, you want to know all of your options in order to make the best and safest choice possible. Remember that you only have a moment or two to do so.

Your options depend on your situation. For the fullest possible understanding of your options, your searching process must be complete and accurate. If you have been realistic in giving meaning to the situation, the best option for the situation will be easy to identify and select. If what you give meaning to in the traffic situation is not accurate or realistic, the selection of the best option will be difficult and you might make a driving mistake.

When determining your options, you make **comparisons** of the information you have. You will know about or will have experienced certain situations while driving or watching other drivers. There are also certain actions you can take as a driver. First you assess, interpret, and evaluate all the information. Then, you forecast the potential for hazards that may affect you. Here are some examples of questions you can ask that enable you to select various options:

- What if a vehicle slows or stops directly in front of me?
- What if a traffic signal changes?
- What if a vehicle moves into one of my blind spots?
- What if I move into another vehicle's blind spot?
- What if a pedestrian enters the roadway?

You can evaluate a situation and select the best option by asking yourself three basic questions:

1. What is happening here?
2. What do I believe will happen next?
3. What can I do to increase the chance that nothing bad will happen to me?

INFORMED ASSUMPTIONS

As a driver who looks ahead, you often must make assumptions as to what other vehicles might do. **Assumptions** are events you think or assume might happen. For example, if you see the brake lights on the car ahead of you, you make an assumption that the car might stop. Assumptions are used when determining available options and making your final choice of which option has the greatest potential to make something good happen.

If you did not make assumptions, it would take longer to come to conclusions or decisions while driving. For example, if you are approaching a warning sign indicating a sharp 90-degree turn to the left and a recommended speed of 25 mph, you would make the assumption that 25 mph or less would be a good speed to travel around the curve. You assumed that the posted advisory speed was correct and that the 25 mph was the maximum safe speed for the turn.

You also make comparisons between the current situation and your previous experiences. When you make comparisons, you ask yourself questions such as:

1. Is this situation like others I have been in?
2. What happened in the other situation(s)?
3. Could the same thing happen again in this situation?

Making informed assumptions is an essential ability related to determining options.

In this situation, you should respond by using an option that increases space and time between the oncoming traffic and the pedestrian and you and the oncoming traffic. ***What type of option might you choose?***

FYI

Aggressive driving, which includes driving too fast, tailgating, and weaving in and out of traffic, causes more than 50 percent of all motor-vehicle crashes. Choosing not to practice this type of driving behavior will greatly reduce your risk of accident and injury.

CHOOSING AN OPTION

As a driver, you make many choices. A **choice** is the selection between two or more possible options. Some driving choices, such as selecting a route for travel, can be made before you start driving. Others, such as adjusting speed, selecting a safe travel path, and choosing how and when to communicate with others, are more difficult. Choices that occur as you drive are more difficult because they are made while the vehicle is moving and the traffic situation is changing. By making correct choices, you are able to reduce the risk that an unsafe event will occur, such as death or physical injury, and increase the chance that you will remain safe. As a driver, you constantly choose between your options and try to select the option that is best.

Driving choices must be made quickly, in real time, and usually without anyone's help. In any driving situation, you choose from five basic options: steering, braking, accelerating, signaling, and combinations of the first four. Your best choices help you cope with changing roadway conditions or sudden vehicle failures. Making good choices allows you to successfully manage space, time, and visibility and to drive safely.

WHAT WOULD YOU DO?

You are driving and encounter this traffic scene. What options are available to help you minimize the risk in this situation?

Lesson 1 Review

1. What role do options play in the driving process?
2. How do assumptions play a role in the driving process?
3. Why are choices an important aspect of the driving process?

LESSON 2

Responses to Manage Space and Time

Before you can successfully respond to a driving event, you must have adequate visibility and mastery of the skills to sense and search. You must give meaning to what is important in the driving scene. Then you must determine your options and make a choice. After you make a choice, you must also realize that it takes a little time for your choice to be translated into action. To respond properly, you must have the physical skills and the necessary space and time to complete the task. An awareness of how much time and space it actually takes for you and your vehicle to react is an important aspect of responsible driving.

OBJECTIVES

1. **Identify** highway conditions that determine a need for speed adjustment.
2. **Describe** how signaling helps you manage time and space.

KEY TERMS

- human-perception time
- vehicle-reaction time

What Happens After You Make a Choice?

In the split second after you have made a choice from your options, a set of mental instructions is sent to different parts of your body to respond as instructed. At that point, perception time ends and reaction time begins. It takes a little time for your muscles to respond and to carry out your choice to steer, brake, accelerate, or signal. During that time, the vehicle is moving. Once the action has been started, reaction time ends and vehicle-reaction time begins.

Controlling a vehicle takes a certain amount of time after an option is selected. The total time needed for a human being to determine his or her options and choose one is known as **human-perception time**. The time it takes a vehicle to respond is known as **vehicle-reaction time**. The four components of the total time and space needed to complete a controlling action are:

1. Human-Perception Time/Space
2. Human-Reaction Time/Space
3. Vehicle-Reaction Time/Space
4. Vehicle-Braking, -Steering, -Accelerating, or -Signaling Time/Space

ADJUSTING SPEED AND MANAGING TIME AND SPACE

As a driver, you will constantly have to adjust your speed. A change in highway conditions is one factor that determines whether a speed adjustment is necessary. Changes in visibility, traction, and space are the three most common highway conditions that require you to adjust speed.

The key idea of basic speed laws is to drive at a reasonable and proper speed for particular road and traffic conditions. This means you should be aware of conditions and drive accordingly. Both time and space are considerations. Every driver should allow a clear distance ahead to stop if necessary, because stopping takes a certain amount of time. If you travel too fast for conditions, it is more difficult for other drivers and pedestrians to predict your probable actions.

SAFETY TIP

If your vehicle is not equipped with automatic daytime running lights, drive with your low-beam headlights on, even during daylight hours. Doing so makes your vehicle more visible to other drivers.

Visibility. You need to be able to see a certain distance ahead. A safe speed to drive is affected by the distance you can see ahead along your path of travel. For example, imagine that you can only see 200 feet ahead of your vehicle because of road or inclement weather conditions. Assume that you are traveling at a speed of 55 mph, a speed that requires 300 or so feet to stop. With such poor visibility, you could not stop your car in time to avoid hitting a stationary object in your path.

Stopping distance. Driving too fast is a major cause of crashes, injuries, and fatalities. It takes a while to stop a moving vehicle. Many persons drive too fast in the false belief that if the car in front suddenly started braking, they would react and brake and end up stopped the same distance apart. To recognize and react to a problem takes time. You must adjust your speed to suit visibility (weather conditions), the road (such as hills and curves), and the amount of traffic. Recall from Chapter 5 that the total stopping distance of a vehicle is made up of human perception, human-reaction time, vehicle-reaction time, and vehicle-braking distance.

Here are some useful rules of thumb involving total stopping distance:

- When you double your speed, it takes four times the distance to stop your vehicle.
- When you double your speed, your vehicle will have four times the destructive power in a crash.
- Wet roads can double stopping distance. Reduce your speed by about one-third on a wet road. For example, slow down from 55 mph to 35 mph.
- On packed snow, which reduces traction, reduce your speed by one-half or more.
- If the road is icy, reduce your speed to a crawl. Stop driving as soon as you can.
- Empty trucks require greater stopping distance. An empty vehicle has less traction. The brakes are designed to control the maximum weight of the unit; therefore, the brakes lock up more readily when the trailer is empty or lightly loaded. This can cause skidding and loss of control.

Tips for New Drivers

MANAGING TIME

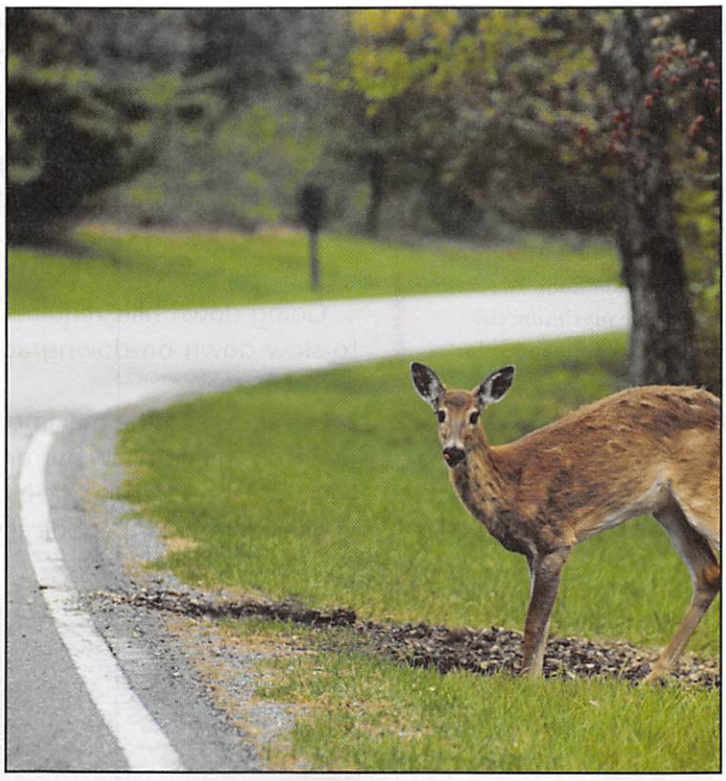
Effective time management begins before you get behind the wheel. Here are some tips:

- Make a conscious effort to understand and learn to judge time and speed factors. Try to develop a sense, for example, of how much longer it takes a vehicle to slow down and stop when moving at 50 mph than at 20 mph.
- Plan your route in advance, and always allow yourself plenty of time to reach your destination.
- Get traffic information from the radio or other sources to help you plan the best route of travel.

STEERING TO MANAGE TIME AND SPACE

One of the most-used driving techniques is steering. Steering helps you manage time and space. For instance, you manage time and space every time you make a lane change, because it takes you a few seconds of time and a certain amount of roadway distance to make the lane change. Lane changing can be a difficult and dangerous maneuver if you do not check your blind spots, but usually it is routine.

Under most circumstances, changing lanes involves gradual steering into the next lane. A gradual adjustment in steering should help other drivers who may not see your turn signal or drivers you don't see. Usually you should try to maintain speed and gradually steer to another lane. Turn the steering wheel gradually in the direction of the lane change and use a gradual steering recovery to straighten the vehicle when you're there.



At speeds above 30 mph, it takes less time (distance) to steer around an obstacle than to stop for it. But you must have identified an escape route in advance. ***How can you identify an escape route in advance?***

ACCELERATING TO MANAGE TIME AND SPACE

In situations where other vehicles are moving toward the same space as your vehicle, acceleration is sometimes the best way to respond. Another situation when acceleration might help is where you need to clear crossing lanes where cross traffic does not have to stop. If you are stopped at an intersection on a side street and attempting to move across a busy 30-foot wide street, you need to have 6 to 8 seconds to cross this street.

SIGNALING TO MANAGE TIME AND SPACE

Signaling other drivers helps you manage time and space. Use the turn signal to alert other drivers about your intent to change lanes while entering or exiting traffic, to change lanes, to pass, or to enter or exit an expressway. When you signal other drivers, they can make their own adjustments to allow you to make these lane changes.

The use of the horn is another way to alert other highway users to your presence. The horn is used to call attention to the presence of your vehicle when you want to manage time and space with other drivers, when you want to warn them you're coming, or ask them to safely share the road. Be certain that you use your horn when necessary and that you do not abuse the use of your horn.

ADJUSTING SPEED AND VEHICLE POSITION ON CURVES

If you take a curve too fast, your tires lose traction with the road. Losing traction and going into a skid could cause your vehicle to veer off the road or roll over. Trucks and some recreational vehicles with a high center of gravity can roll over even at the posted speed limit for a curve.

FYI

To find the recommended air pressures for your tires, check your vehicle owner's manual or look for a sticker that may be affixed to a doorpost or to the inside of the fuel-filler door. *Never* exceed the maximum tire pressure recommended for your vehicle.

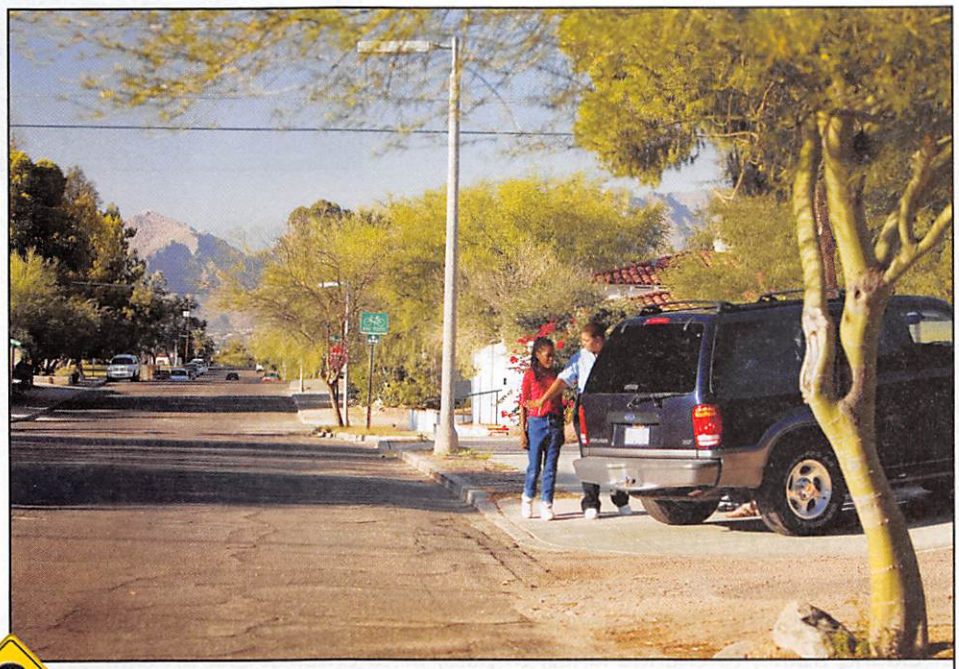
Here are some tips for adjusting your speed on a curve:

- Slow to a safe speed before you enter a curve.
- Braking in a curve is dangerous because you can lock the wheels and cause a skid.
- Never exceed the posted speed limit for a curve.
- If the curved road is wet, reduce your speed by at least a third.

SLOWING ON DOWNGRADES

Going down hills requires you to adjust your speed, too. It's a good idea to slow down on downgrades because as you go downhill, your vehicle's speed increases.

- Never exceed the maximum safe speed on a downgrade.
- Check you rearview mirror for following traffic.
- Pick a lane where traffic is traveling about the same speed you are.
- Use your brakes periodically to control your speed.



WHAT WOULD YOU DO?

How would you respond to this situation? What action or actions do you take to minimize risk?

Lesson 2 Review

1. Which highway conditions determine the need for speed adjustment?
2. How does signaling help you manage time and space?
3. How can effective time management help you reduce risk?

LESSON 3

Managing Visibility

The best way to avoid collisions is to maintain adequate space all around your vehicle. Maintaining good visibility gives you adequate time to search, give meaning, determine options, decide on choices, and respond. Adequate space gives you room and time to take evasive action in the event of a probable crash.

OBJECTIVES

1. **Describe** five margins that are important on your intended path of travel.
2. **Identify** the rules for maintaining a safe margin between your vehicle and what you can see on the road ahead.

KEY TERMS

- visual lead
- visual control zone
- response zone
- following interval
- potential immediate crash zone

How Do Time and Space Margins Relate to Your Intended Path of Travel?

The distance or margins of time you maintain between yourself and other vehicles on the road are important for safety purposes. It's important to understand these margins, which involve what you can see ahead. As a driver, you always need lead time to react, and during the time you react, your vehicle is moving forward in space.

Five margins that involve both time and space are important to your intended path of travel. From the most distant to the closest, these include:

- the visual lead margin
- the visual control zone margin
- the response zone
- the following interval
- the potential immediate crash zone

VISUAL LEAD MARGIN

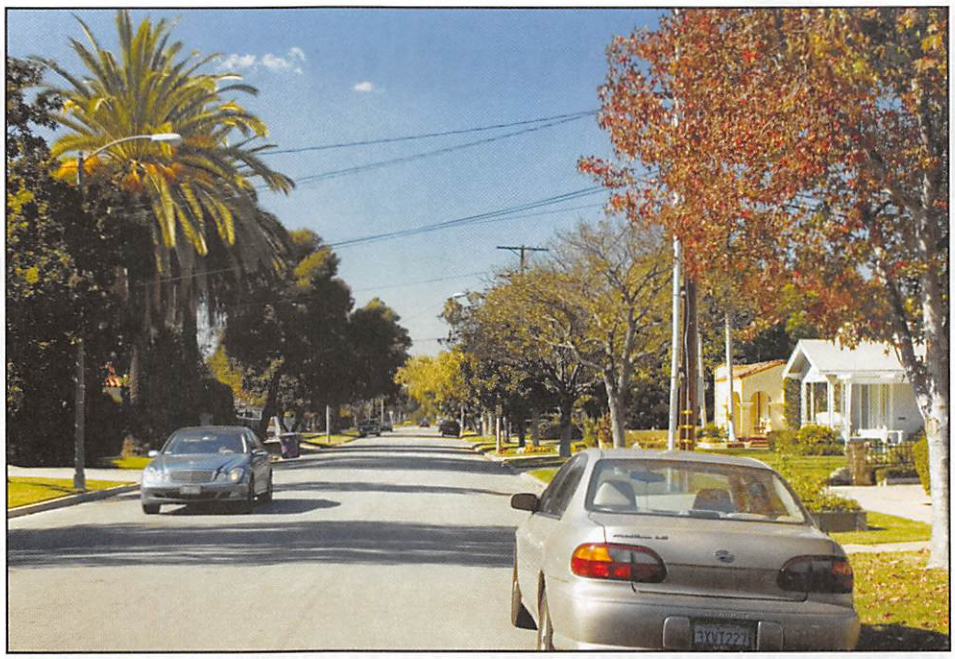
Your **visual lead** is the distance you can see ahead of your vehicle. Visual lead margin is how far down the road you need to look for closed or changing visual signs. Search the roadway and off-road areas 20 to 30 seconds ahead for information that can help you plan a safe path of travel. Looking ahead this far gives you a big cushion of reaction time and distance and an opportunity to gently adjust speed or position your vehicle to handle a threatening situation.

FYI

Dirty headlights limit visibility. Road grime on headlights can reduce illumination as much as 90 percent.

VISUAL CONTROL ZONE

The **visual control zone** is where you identify objects/conditions that may require a response or continuous attention. It is the area in which you can see ahead and safely control your vehicle. This zone is 12 to 20 seconds ahead of you. Actions in this area could interfere with your planned path of travel or line of sight. But if you can see what's coming, you can control your vehicle in plenty of time.



By adjusting speed, you can maneuver around the parked car after encountering the oncoming vehicle. ***In what other types of situations should you adjust your speed?***

RESPONSE ZONE

In the **response zone**, immediate risk to your vehicle comes into play. This is the zone where you begin to respond to what you perceive, if necessary by taking the action or actions you need to take control or reduce risk. While you're driving, one of the following scenarios occurs:

- A car in front of you suddenly stops.
- A child or animal runs from between two cars.
- A traffic light suddenly changes from green to yellow.
- An object, such as a tree, falls across the road.

How long will it take to determine your response time? The response zone is 8 to 12 seconds ahead of you.

Did You Know?

In 1903, Mary Anderson invented the first windshield wiper for automobiles. She wanted to improve visibility for drivers during bad weather.

FOLLOWING INTERVAL

The **following interval** is the safe amount of time you should allow when following another vehicle or when being followed. The following zone is the same for either situation, expressed in terms of the distance or space you should allow to react safely. Under ideal conditions, always try to maintain a 4-second following interval between your vehicle and the vehicle ahead. Four to 8 seconds should be the minimum interval for stationary and moving objects crossing your path of travel, because it usually takes a vehicle at least 4 seconds to stop.

POTENTIAL IMMEDIATE CRASH ZONE

If an object suddenly appears in front of your vehicle, you may not be able to avoid it if you only have a few seconds to see it and to react. The **potential immediate crash zone** is that area directly in front and to the rear of your vehicle that will likely cause you to crash when a potential hazard becomes a real hazard. This zone is 0 to 4 seconds ahead of you.

SPEED AND VISIBILITY

Always try to maintain a safe margin between your vehicle and what you can see on the road ahead. There is an important relationship between safe driving visibility. Here are two general rules:

- You should always be able to stop within the distance you can see ahead.
- Fog, rain, or other conditions that impede your visibility require you to slow down.

In addition, you should slow down at night when you change to the low beams of your headlights, because you can't see as far ahead with low beams as you can with high beams.

WHAT WOULD YOU DO?

What options are available to help you minimize the risk in this situation?

Lesson 3 Review

1. What are the five margins that are important on your intended path of travel?
2. What are the rules for maintaining a safe margin between your vehicle and what you can see on the road ahead?
3. What is the potential immediate crash zone?

LESSON 4

Margins of Safety

OBJECTIVES

1. **Explain** how maintaining a margin of safety relates to minimizing risk.
2. **Describe** the rules for maintaining a space margin for safe driving.
3. **Describe** the rules for maintaining a visibility margin for safe driving.
4. **Describe** the rules for maintaining a time margin for safe driving.

KEY TERMS

- margin of safety
- space margin
- space cushion

To make any driving maneuver, you must allow a margin of safety. **Margins of safety** are areas of roadway large enough to allow you the space, time, and visibility you need for safe movement at any time. Keeping a margin of safety will help you become a more effective driver.

Why Do Drivers Need Margins of Safety?

You need a certain amount of distance for routine accelerating, decelerating, braking, and steering maneuvers. You need adequate space and even a little extra space to allow for mistakes that you or others make while completing a maneuver. This margin of space should provide room for quick lane changes, swerves, or a way out of an emergency situation. The size of the space margin will vary with weather, highway, and traffic conditions. In addition, you need margins of safety for managing visibility and time.

AN ADEQUATE SPACE MARGIN

As you drive, you must constantly deal with objects and vehicles that are close to your intended path of travel. You can minimize your risk by allowing a **space margin**, or an adequate amount of space between your vehicle and another. A safe space margin is called a **space cushion**. Adequate space margins allow a safe and appropriate amount of space to the front, sides, and back of the vehicle.

Here are three guidelines for maintaining adequate space margins.

Following distance. Under normal conditions, you should maintain a minimum 4-second following distance behind other vehicles. Following closer than this restricts your field of vision and doesn't allow you time to react safely to unexpected driving events. When following large vehicles or motorcycles, allow a 5- to 6-second following distance. As a matter of course, identify alternate escape paths in case of emergency.

Space behind. Controlling the space behind you is more difficult than controlling following distance. Avoid driving too slowly for conditions. When a car follows too closely (tailgating), encourage the tailgater to pass by slowing gradually and moving to the right side of the lane or roadway. As a precaution, allow more distance ahead and an escape route to at least one side. If you must stop suddenly, make every effort to signal. Be prepared to drive onto the shoulder of the road to avoid a crash, if necessary. When you find yourself in a long line of cars, change lanes or adjust your speed. Then get out of the situation as soon as is practical.

Dealing with the UNEXPECTED

INCREASING SPACE MARGINS

In certain circumstances, it is wise to increase your space margins. Increase your following distance to more than the normal 4 seconds in any of these situations:

- when weather or road conditions are poor
- when driving at night
- when driving at high speed
- when the driver behind you is following too closely
- when your vision of the road is impaired by a large vehicle in front of you

Space to the sides. The distance to your sides should be great enough to provide for errors in judgment and an escape path or way out. Therefore, you should try to have at least one car width of space to one side of your car. When feasible, it is best to have a space of at least 8 feet on both sides. If you must drive through areas of reduced space (less than one car width on either side), allow more space in front.

DETERMINING SPACE MARGINS

The space margin you maintain will depend on where you are going and what you intend to do. Lanes in the road are typically wider than the vehicles using them. There are normally at least five basic locations for a car in each lane. The center of the lane is the normal driving position and usually the safest and best place to be. When making a turn, one-half car width to the right of the lane is where you should be to prepare to make a right turn. Conversely, position your vehicle one-half car width to the left of the lane when preparing to make a left turn. At other times, you will straddle the lane line to the left (in the process of changing lanes to the left) or straddle the lane line to the right (in the process of changing lanes to the right). Other drivers may be expected to do the same.

SPACE MARGINS FOR WHAT YOU CANNOT SEE

You won't be able to anticipate every problem you encounter as a driver. Vehicles can pull into your path suddenly from concealed areas. For example, a car or bicycle you can't see could shoot out of a driveway. Therefore, try to leave an increased space margin for people or objects you cannot see.

Provide a little extra space when you pass driveways or intersections blocked from view by shrubbery, embankments, or buildings. If a left lane is available and free of traffic, move over one car width as you approach an area of reduced visibility. If a left lane is not available, move at least one-half car width or as close to the center of the roadway as possible.

Driver Ed Online

Topic: Space cushion

For a link to more information on the importance of a space cushion, go to **drivered.glencoe.com**.

Activity: Using the information provided at this link, create a quiz about maintaining a space cushion around a vehicle when driving. Exchange quizzes with a partner to test each other's knowledge.

Make sure the oncoming travel lane is clear before you pass. ***How can you see if the oncoming travel lane ahead is clear to pass?***

AN ADEQUATE VISIBILITY MARGIN

Selecting a path of travel is a continual process of deciding which options are best. Usually, a safe path of travel is where you want to go safely. Selecting a safe travel path depends to a great extent on margins you can see to either side. Under extraordinary circumstances, the shoulder of the roadway may sometimes be the best choice. Consider the following questions to help you in determining a good path of travel:

Which path best enhances visibility? Always try to position your vehicle so you have the best view for the situation. Hills, curves, obstructions, and other vehicles in the traffic stream often limit visibility. Positioning your vehicle where you can see well also allows others to see you more readily, particularly if you drive with your low-beam headlights or running lights on during the daytime.

Which path provides the clearest space to the sides? You need space to the sides to minimize risk from objects that could enter your path. You also need enough space to provide an escape path and extra space for possible errors.

Which path provides the smoothest flow of traffic? Going with the flow of traffic is a good idea in most situations. The path where all vehicles are moving at a reasonable speed for existing conditions provides the smoothest flow of traffic. Furthermore, the path with the smoothest traffic flow typically provides the best space visibility.

Energy Tip

Although a scenic route may be more enjoyable, a limited-access highway tends to be much safer and more energy efficient. You will have fewer stops, starts, curves, and hills, and you will be able to maintain a steady speed for longer periods of time.

Dr. Francis C. Kenel

Staff Director of Safety (Retired), AAA

Risk means the chance of injury, damage, or loss. You must develop the knowledge, skills, and habits that will enable you to determine options and respond to risk.

The most important skill of good driving is positioning the vehicle so that you can see others and others can see you. When a vehicle is positioned properly, adjusting speed becomes easier. Equally important is using safety belts and restricting driving if you are not in top physical condition.

How can you position your vehicle properly?

AN ADEQUATE TIME MARGIN

Good timing may involve adjusting vehicle speed. An adequate time margin is critical for safe driving. To maintain it, you may have to adjust your path of travel, change speed, or both. Your first concern should be objects in your 4- to 8-second response zone. Making adjustments is especially important if an object is coming toward you or there is increased chance for error. For example, a motorist changing a flat tire near the road represents a higher level of risk that calls for a greater space margin as you approach.

When an object moves into your immediate 4- to 8-second path of travel, you must choose how much to decrease or increase speed and whether any adjustment to your space margin to either side is needed. Your decision depends on your ability to judge when and where other objects might enter your path of travel.

Timing is most important for situations involving multiple moving objects. This is especially true when you must deal with two or more objects at the same time and place, such as meeting traffic on a narrow bridge. Good timing allows you to deal with each object separately. It also provides you a chance to meet a moving object at a place with better space margins or visibility. Try to avoid meeting fast-moving vehicles in areas of reduced visibility.

TIME MARGINS IN EMERGENCY SITUATIONS

When any driving crisis occurs, the driver has limited time to interpret and react to it. The timing of driver response can be critical. Many collisions caused by inattention happen because drivers don't pay attention to the right thing at the right time and respond too late or not at all.

Allowing adequate time and space margins helps you drive safely. The driver must have an idea of how much time it takes to turn, change lanes, and complete most maneuvers. When you are busy with a maneuver, avoid spending time on any actions that are not part of the maneuver. The middle of a turn is not the time to downshift a manual transmission or to adjust the sun visor. You should plan and perform such actions before the actual turning process. If you forget or misjudge an action, recover from your mistake before you do anything else.

Many drivers don't pick the best times or places to perform maneuvers. Pick the best possible roadway and traffic conditions for what you want to do. For example, avoid passing or changing lanes in areas of reduced visibility. Avoid

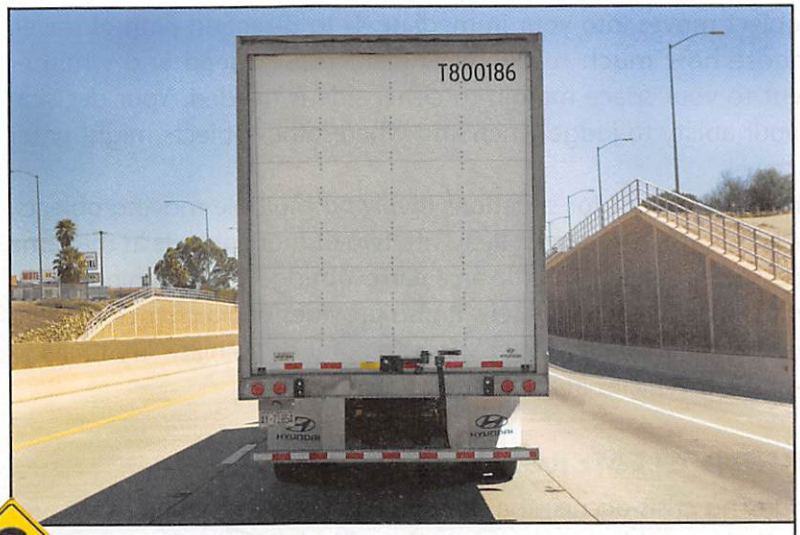
passing a big truck where there may be strong crosswinds. Remember that holes, bumps, and patches of wet leaves, ice, or water on the road can cause you to lose control.

Compromise. If you are faced with two dangerous situations, try to give the most room to the one with the greatest consequences and chance of happening.

TIME MARGINS AND TRAFFIC CONDITIONS

Traffic conditions can be more favorable at one time than another. Try to time your maneuvers for maximum safety. For instance, time a sharp turn into a narrow side road or driveway so that you can avoid meeting another car at the same moment you make a hard steering movement. Do not pass or change lanes when another vehicle is in your blind spot or when your vehicle is in another driver's blind spot. Proper timing of turn signals also is helpful. Time turning or other maneuvers so you can make them smoothly and gradually and also give other roadway users adequate time to react.

Missed turns. If you miss a turn, do not inconvenience other traffic because of your mistake. Simply go the next intersection, and turn there. Going around the block is much safer than a sudden or poorly positioned turn.



WHAT WOULD YOU DO?

What are your options in this situation?

Lesson 4 Review

1. How does maintaining a margin of safety relate to minimizing risk?
2. What are the rules for maintaining a space margin for safe driving?
3. What are the rules for maintaining a visibility margin for safe driving?
4. What are the rules for maintaining a time margin for safe driving?

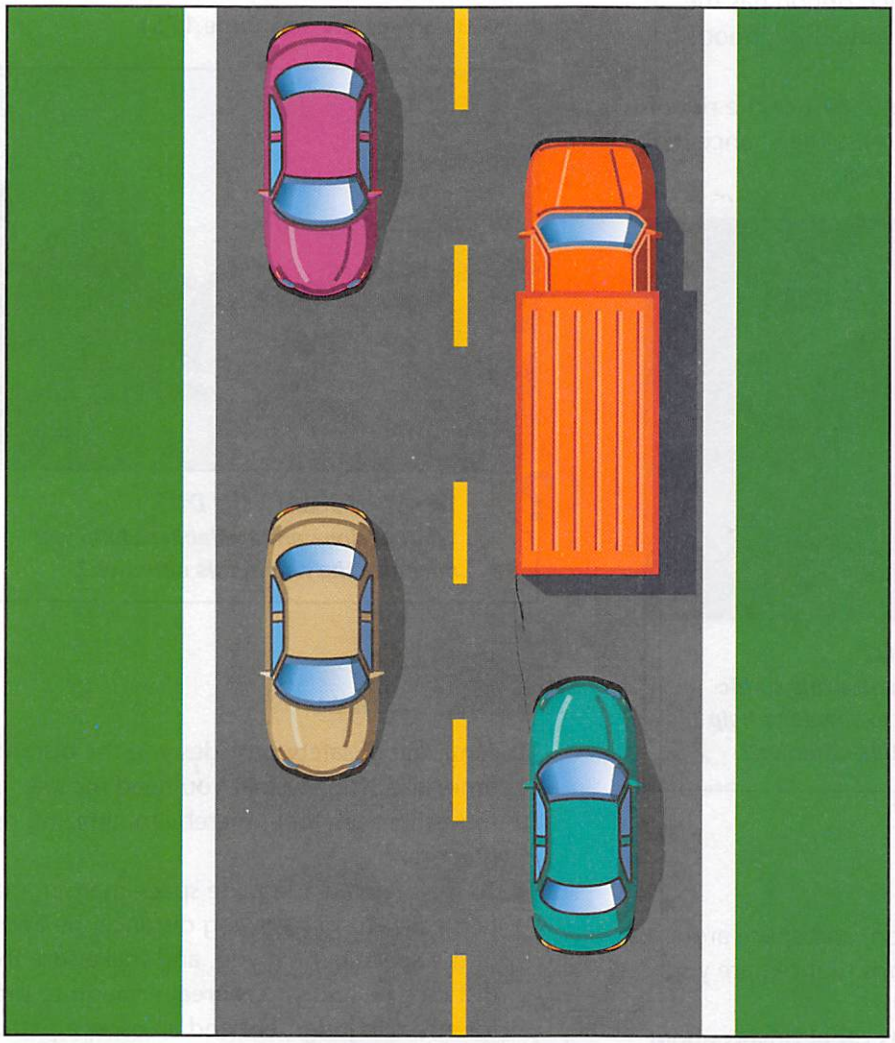
BUILDING Skills

Critical Thinking

DRIVING RISKS

Some drivers take many unnecessary risks. By doing so, they are sources of danger to themselves and other road users. Study the picture below. Answer the following questions.

- How is the driver in the teal car taking a risk?
- How effective is the driver in maintaining space, time, and visibility?
- In what way is the driver in the teal car a danger to the truck driver?
- If you were the driver in the truck, how would you handle this situation?



CHAPTER 8 REVIEW

Key Points

Lesson 1

1. Options are potential choices in a driving situation. In the driving process, options are important because they help you make the best and safest choice possible. (Page 166)
2. In the driving process, assumptions are used when determining available options and making your final choice of which option has the greatest potential to make something good happen. (Page 167)
3. Correct choices enable you to reduce the risk of an unsafe situation and increase the chance that you will remain safe. (Page 168)

WHAT WOULD YOU DO?

You are driving and encounter this traffic scene. What options are available to help you minimize the risk in this situation?

Lesson 2

1. Changes in visibility, traction, and space are common highway conditions that require you to adjust speed. (Page 169)
2. Using your turn signal alerts other drivers about your intent to change lanes while entering or exiting traffic, changing lanes, passing, or entering or exiting an expressway. The use of the horn calls attention to the presence of your vehicle. (Page 171)

Lesson 3

1. Five margins that are important on your intended path of travel are the visual lead margin, the visual control zone margin, the response zone, the following interval, and the potential immediate crash zone. (Pages 173–175)
2. To maintain a safe margin between your vehicle and what you can see on the road, slow down in conditions that impede your visibility and always be able to stop within the distance that you can see ahead. (Page 175)

WHAT WOULD YOU DO?

What options are available to help you minimize the risk in this situation?

Lesson 4

1. A margin of safety provides you the distance, time, and visibility that you need for safe movement anytime, thereby minimizing risk. (Page 176)
2. To maintain an adequate space margin, maintain a 3-second following distance, be aware of the space behind you, and make sure the distance behind you is great enough to provide for errors in judgment and an escape path. (Pages 176–177)
3. In establishing an adequate visibility margin, consider which path best enhances your visibility, provides the clearest space to the sides, and provides the smoothest traffic flow. (Page 178)
4. To maintain an adequate time margin, you must be prepared to adjust your path of travel, change speed, or both. (Page 179)

CHAPTER 8 ASSESSMENT

On a separate sheet of paper, write the letter of the answer that best completes each sentence.

1. The minimum following interval you should maintain under ideal conditions is
   a. 1 second.
   b. 3 seconds.
   c. 8 seconds.

2. When a vehicle is tailgating, you should
   a. speed up gradually.
   b. keep a constant speed and remain in the lane in which you are driving.
   c. slow gradually and move to the right side of the lane or roadway.

3. On a wet road, you should reduce your speed by
   a. one-third.
   b. one-fourth.
   c. one-fifth.

4. When you miss a turn,
   a. make a U-turn the minute you realize your mistake.
   b. stop your car and put it in Reverse as soon as traffic is clear.
   c. go the next intersection and turn there.

5. Events that you think might happen are
   a. options.
   b. comparisons.
   c. assumptions.

6. In fog and rain, you should
   a. speed up.
   b. slow down.
   c. do nothing.

On a separate sheet of paper, write the word or phrase that best completes each sentence.

choice

human-perception time

visual lead

space cushion

7. A safe space margin is a _____.
8. _____ is the distance you can see ahead.
9. A _____ is the selection between two or more possible options.
10. The total time needed for a human being to determine his or her options and choose one is _____.

Writing

Driver's Log

In this chapter, you learned about options and choices and managing visibility, time, and space. Write two paragraphs in response to these questions:

1. In which driving environment do you think you will have the most difficulty managing visibility, time, and space?

2. What steps would you take to overcome these difficulties?

Project

Compare and contrast your responses to managing visibility, time, and space in urban and suburban driving to driving on a rural highway. As a motor-vehicle passenger, observe the differences in road surfaces, vehicle density, traffic signs, signals, and roadway markings, visibility, traveling speeds, etc. Write a one- to two-page paper on these results.

UNIT 3 CUMULATIVE REVIEW

This review tests your knowledge of the material in Chapters 7–8, and will help you review for your state driving test. On a separate sheet of paper, select the answer that best completes each statement.

1. Which is most important for driving?
   a. sense of vision
   b. sense of direction
   c. sense of smell

2. Your visual system consists of your
   a. eyes, perception, and central vision.
   b. color vision, glare vision, and night vision.
   c. retina, brain, and optic nerve.

3. Distance vision can be impaired if you
   a. fail to react to a potential hazard.
   b. wear scratched sunglasses.
   c. drive very slowly in heavy traffic.

4. Depth perception is important for
   a. judging the stopping distance of the vehicle in front of you.
   b. focusing on oncoming traffic.
   c. focusing while facing the sun's glare.

5. Good hearing is critical to your driving ability because
   a. you need to hear the center-line rumble strip.
   b. you use traffic sounds to alert you to situations around you.
   c. you need to respond to your vehicle's pitch.

6. A forward/backward movement of your vehicle occurs when you
   a. accelerate.
   b. turn the steering wheel back and forth rapidly.
   c. lose tire traction on the road.

7. When you can feel a vibration in your vehicle, you should
   a. accelerate gently.
   b. hit the brakes hard.
   c. have your tires checked for balance.

8. As you drive, you need to look 20 to 30 seconds ahead so you can
   a. react to potential roadway hazards.
   b. move with traffic.
   c. quickly change lanes.

9. When you approach an intersection with a traffic sign, you should
   a. rely on the traffic sign to determine who has the right-of-way.
   b. look first in the direction where you want to turn.
   c. look to your left, right, and back to your left before you proceed.

10. When you use a ramp to enter or exit the freeway, you should
    a. increase your speed gradually.
    b. glance over your shoulder to be sure the road is clear where you want to go.
    c. use your rearview mirrors to see vehicles in your blind spot.

11. When you are driving, your attention level should increase
    a. when the vehicle in front of you makes a sudden move.
    b. when you drive on a familiar road.
    c. when you have been daydreaming.

12. Commentary driving can help a new driver by
    a. providing feedback about your vehicle's safety features.
    b. requiring a change in driving time.
    c. identifying important traffic clues.

13. To make the best possible choices in a driving situation, you should
    a. take as much time as you need to evaluate the situation.
    b. choose your first option.
    c. assess, interpret, and evaluate the available information.

CUMULATIVE REVIEW UNIT 3

14. If the road on which you are traveling has a posted recommended speed of 25 mph,
   a. assume all drivers will drive at 25 mph.
   b. see how fast other vehicles are moving.
   c. assume the posted recommended speed is the maximum safe speed for this part of the road.

15. A driving choice that you might make as the traffic situation changes is
   a. yelling out your window.
   b. selecting the most direct travel route.
   c. adjusting your speed for road conditions.

16. To drive at a reasonable speed, consider
   a. how close you are traveling to the vehicle in front of you.
   b. the time at which you need to arrive at your destination.
   c. the posted highway markers.

17. When driving on a road with limited visibility,
   a. allow at least a car length between your vehicle and the vehicle in front of you.
   b. adjust your speed downward.
   c. travel just slightly above the posted speed limit.

18. The distance required to stop your vehicle
   a. increases as your speed increases.
   b. decreases when roads are wet.
   c. decreases when traction decreases.

19. When changing lanes,
   a. signal and slow down.
   b. try to maintain your speed as you gradually steer into the other lane.
   c. signal and quickly accelerate into the lane.

20. To safely drive through a curve,
   a. reduce your speed if the road is wet.
   b. maintain your speed in curves.
   c. brake in curves to avoid locking wheels.

21. For safety purposes,
   a. allow a visual lead of 20 to 30 seconds.
   b. maintain your speed when you change from high beams to low beams.
   c. allow a larger interval of time between your vehicle and the vehicle ahead than the vehicle behind you.

22. Margins of safety are
   a. needed to allow adequate visibility, time, and space to maneuver your vehicle.
   b. not affected by traffic conditions.
   c. needed to correct defective vehicle equipment.

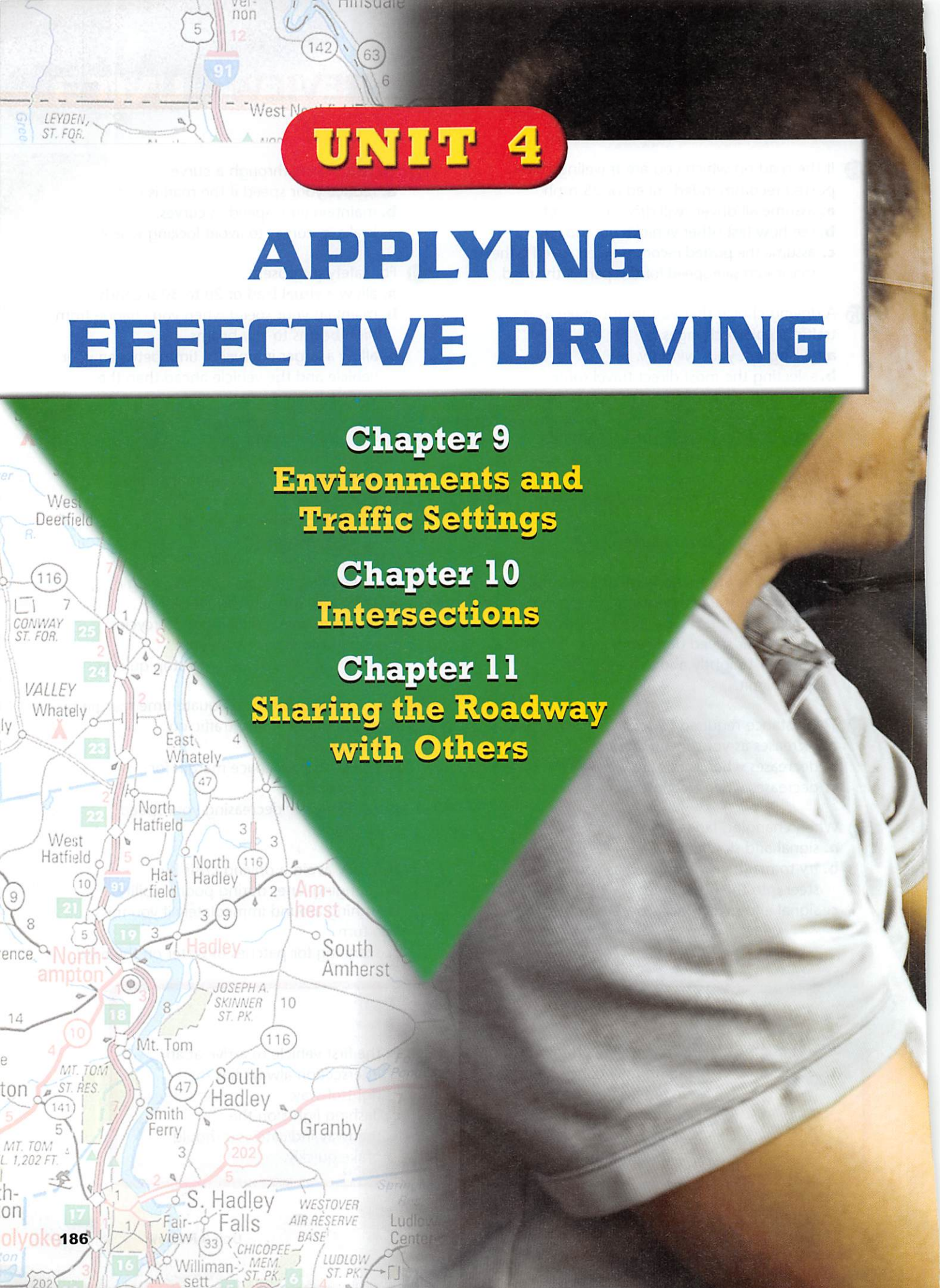
23. To maintain an adequate space margin,
   a. allow a 4- to 5-second following distance when following motorcycles.
   b. signal tailgaters to pass you.
   c. drive onto the shoulder to stop quickly.

24. You can maintain an adequate time margin by
   a. avoiding oncoming traffic on narrow bridges.
   b. adjusting your space margin for wide vehicles.
   c. increasing or decreasing your speed as needed.

25. You may avoid a driving crisis by
   a. changing lanes during poor visibility.
   b. turning around immediately if you miss a turn.
   c. scanning for patches of water on the road.

Challenge Question

Drivers who are adept at giving meaning may conclude that
a. an emergency vehicle is approaching when other vehicles slow and pull to the side of the road.
b. the first vehicle to arrive at an intersection always has the right-of-way.
c. flashing lights on the roadway indicate you should brake quickly.



UNIT 4

APPLYING EFFECTIVE DRIVING