# CHAPTER 12 OBJECTIVES

## LESSON ONE

### Sharing the Roadway with Pedestrians and Animals

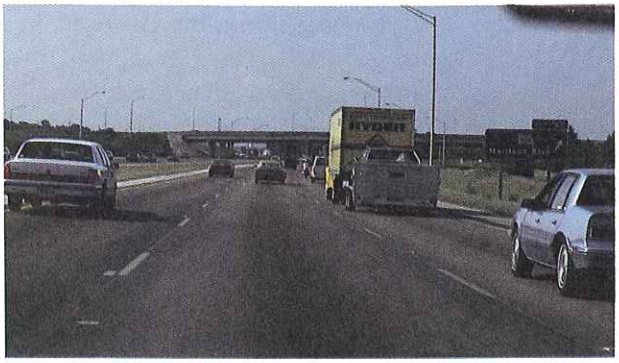
1. Describe problems that pedestrians can pose.
2. Tell how to avoid collisions with pedestrians.
3. Describe pedestrian responsibilities.
4. Identify ways drivers can avoid collisions with animals.

## LESSON TWO

### Sharing the Roadway with Motorcycles and Bicycles

5. Identify high-risk situations involving cyclists and explain actions that drivers can take to reduce the risk of collision with them.
6. Describe the responsibilities of motorcyclists on the roadway.

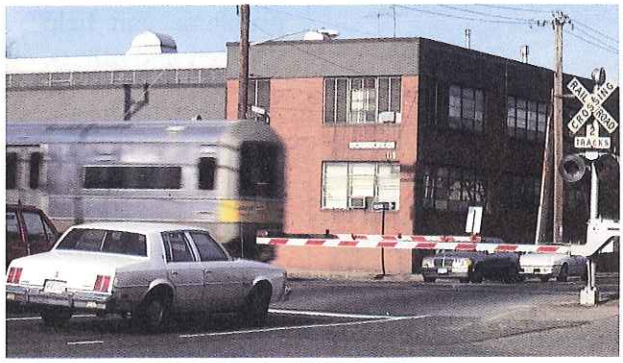
## LESSON THREE



### Sharing the Roadway with Other Vehicles

7. Describe ways to share the roadway with three vehicles other than cars and cycles.
8. Describe at least three precautions you should take around slow-moving vehicles.

## LESSON FOUR

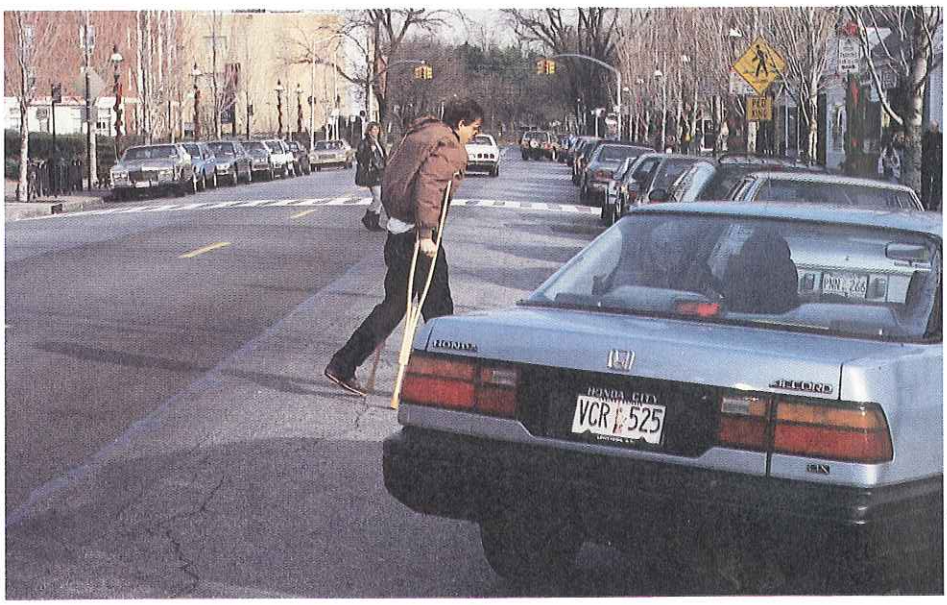



### Safe Driving Procedures at Railroad Crossings

9. Explain how to drive safely through a railroad crossing.

LESSON ONE

# Sharing the Roadway with Pedestrians and Animals



*Be on the lookout for pedestrians who cross the street illegally or who may need extra time to cross the street.* ▶

Drivers must be alert to all roadway users, not just other motorists. Other roadway users such as pedestrians and animals can present special problems. Anticipating these problems can help you to protect yourself and others.

## What Problems Do Pedestrians Pose to Drivers?

Every year, some 5,600 pedestrians are killed and about 80,000 injured in the United States.

Intersections are the most common scene of collisions with pedestrians. Drivers who must concentrate on traffic, signs, and signals, as well as other roadway users, often fail to check for pedestrians until the last moment, when it's too late.

Also, pedestrians may be distracted and cross streets without looking both ways. They might run across streets either against a red light or just as a light is turning red.

*Jaywalking,* crossing without regard for traffic rules or signals, is a common pedestrian error, as is walking into the street from between parked cars.

When traffic is light, pedestrians might cross at places other than intersections, because they assume no cars are coming. In areas without sidewalks, pedestrians walk in the street or roadway, posing an additional risk to drivers.

### Children

Children are at a disadvantage as pedestrians because they're smaller and less visible to drivers. They are

**FYI**

**More than 70 percent of collisions with pedestrians happen in urban areas. However, the likelihood of a *fatal* collision is greater in rural areas. The chance of a death occurring in an urban pedestrian collision is about 1 in 13. In a rural collision, it is 1 in 5.**

also less capable than adults of judging when it's safe to cross a street and less likely to fully understand the consequences of their misjudgment.

In many urban and suburban areas, children use the street as their playground. When playing on sidewalks, children tend to forget about traffic and dart into the street, often between parked cars.

Children on skateboards, sleds, roller skates, or bicycles sometimes lose control and shoot over the edge of a sidewalk into the street.

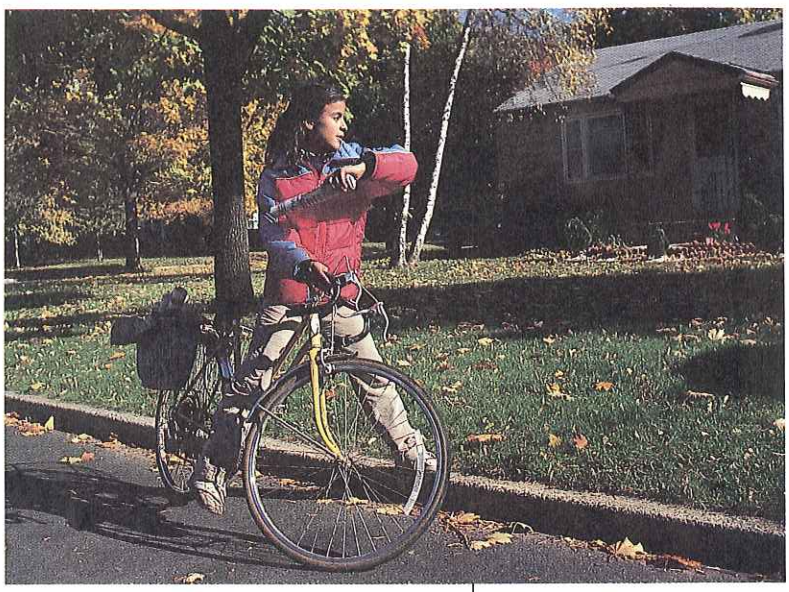
### Adults

Adults should know better than children, but they don't always act that way. Adults commonly jaywalk, particularly when rushing to get somewhere or to escape harsh weather. Adults often assume not only that drivers will see them, but that the drivers will always grant them the right of way. Making these two assumptions can prove fatal.

## How Can You Avoid Collisions with Pedestrians?

The SIPDE procedure—particularly the first step, Search—is essential to drivers in avoiding and preventing collisions with pedestrians.

Scan the roadway and sides of the road continuously as you drive. Watch for children on or near the roadway. Also look for clues that children may be present. Playground and school-crossing signs, toys in a front yard, or a tricycle in a driveway all indicate that children may be nearby.



▲ *Be on the alert for children on bicycles in suburban areas.*

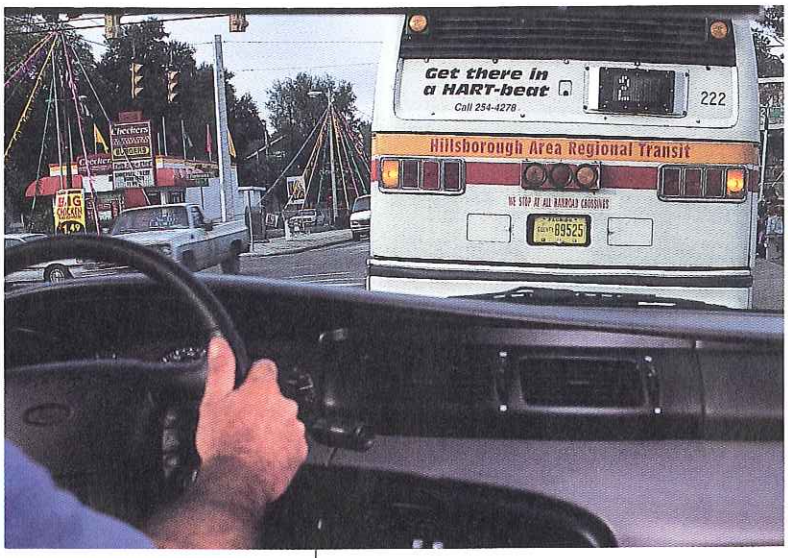
In residential areas, reduce speed and drive as far away from the curb or parked cars as you safely can. Use *ground viewing,* which means scanning beneath parked vehicles, for any sign of movement.

### Tips for New Drivers

**Pedestrians to Watch For**

Certain pedestrians require drivers to pay special attention

- Elderly pedestrians may have impaired eyesight or hearing. They may move and react slowly and require extra time to cross streets.
- The physically challenged, such as blind people and people in wheelchairs, may need extra time to cross streets.
- Pedestrians with strollers or carriages may need extra time to move onto or off a sidewalk.
- Joggers running with their backs to traffic can pose a hazard. Many do not wear reflective clothing, which makes them difficult to see when visibility is low.
- People on the job, such as mail carriers, delivery people, or roadway maintenance workers, may be distracted by their work and step out into the roadway without checking traffic.




*Because of their size, buses can block your view of pedestrians who are about to cross the street.*

**FYI**

**Most pedestrians who are hit at intersections are struck just as they step into the street. Many walk into the side of a moving vehicle that they fail to see.**

**SAFETY TIPS**

**When stopped at a red signal at an intersection, do *not* start moving the instant the light changes: first check for pedestrians and vehicles in the intersection.**

Exercise special care at intersections, particularly when you're making a turn. Be alert for people crossing against the light, stepping off a curb prematurely, or rushing to beat a changing light. Watch, too, for pedestrians who need more time to cross a street than the "Walk" signal allows them. Although not exactly a pedestrian, someone riding a skateboard or on roller skates should deserve your attention, especially near intersections.

Be alert for adults and children near bus stops, train stations, in school zones, near parks, and in shopping areas.

When backing up, never rely on your rearview mirror alone. Before backing, make certain there is no one behind or next to your car. This is particularly important with regard to children, who may be too small for you to see them when you are behind the wheel.

Never assume a pedestrian sees your car. A preoccupied pedestrian, or one who has been drinking, may not notice you. Always be ready to take evasive action. To warn a pedestrian of your approach, tap your horn. Blasting a horn may frighten pedestrians into doing something dangerous. Always yield pedestrians the right of way, even if the pedestrian is crossing illegally.

## What Responsibilities Do Pedestrians Have?

Like drivers, pedestrians, too, must pay attention to rules, signals, and signs. Pedestrians must learn to judge gaps in traffic, and then cross streets only when and where it is safe—and legal—to do so.

- Never assume that a driver will see you and stop.
- Cross only at intersections.
- Cross only when the light is green or red and yellow, or when a pedestrian signal shows a *walk* symbol.
- Do not step off the curb while waiting for the light to change.
- Pause before crossing to look and listen for approaching traffic.
- When walking on or near a roadway, walk facing traffic.
- When walking or jogging on or near a roadway, wear reflective clothing, especially when visibility is reduced. In addition, do not wear headphones.
- When walking with young children, always take them by the hand when crossing streets.

## How Can Drivers Avoid Collisions With Animals?

The dangers posed by animals on the roadway should not be taken

lightly. Smashing into a 150-pound deer at 50 miles per hour, for example, will not only kill the animal, but will also wreck the car and may well kill the passengers.

The problem of animals on the roadway is particularly severe during the hours between sunset and sunrise, when light conditions limit visibility. Fog can also contribute to vehicle-animal collisions.

## Small Animals

Whether it's a cat darting across a city street or a raccoon crossing a highway, small animals cause a surprising number of collisions. In trying to avoid the animal, the driver might swerve and strike another vehicle or a fixed object along the road. Or, the driver might slam on the brakes—and be struck in the rear by the car behind.

## Large Animals

Hitting a large animal can prove fatal for both the animal and the car's occupants. Deer are the large animals most often struck, but drivers also have collisions with horses, cows, and other farm animals.

## Using SIPDE to Avoid Collisions with Animals

Whether you're driving on city streets or along country roads, using the SIPDE procedure will help you avoid collisions with animals.

Be especially cautious when driving through farmland or any wooded areas where you are likely to encounter deer or other animals along the road. Search for movement along the sides of the road. At night, search for sudden, unusual spots of light which may be identified as the reflection of your headlights off animals' eyes.


*Slow down when you see a deer on the side of the road. It may panic and bolt in front of you.*

**SAFETY TIPS**

**While hitchhiking may be legal in some areas, it is not a safe practice. The hitchhiker has no idea what kind of person the driver is, and there is no guarantee that the hitchhiker will not be robbed or assaulted by the driver.**

**FYI**

**Each year motor vehicles kill thousands of deer, antelope, and other wild animals. In 1994, there were 260,000 reported vehicle-animal crashes.**

**FYI**

**More than 120 people are killed each year in the United States in collisions with deer and other animals. An equal number are killed when drivers try to avoid striking an animal and instead crash into a vehicle or object or else cause their vehicle to roll over.**

**WHAT WOULD YOU DO?**

***What possible unseen hazards may be present in this situation? How can you manage risk?***

As you're driving, predict what you might do if an animal suddenly darts across the road.

What you decide to do, if you encounter an animal, will depend on the kind of road you're on, traffic conditions, and other factors. As a general rule, try to position yourself so that you can avoid executing a move hastily. If you're driving on a two-lane road, drive with your headlights on and move toward the center line to improve visibility. That way, you'll have more room to spot an animal on the side of the road without having to swerve immediately to avoid it. When driving near the center of the road, however, avoid swerving to the left into the path of oncoming cars.

Be especially careful when driving at night and in fog. During dusk and dawn, deer move around to feed, and these are also the times during the day when visibility is reduced. If you do spot an animal near or on the road, slow down and be prepared to stop. Leave as wide a safety margin as you can when driving around or past an animal. Also, if you spot one animal, assume that others are nearby.

If it appears impossible to avoid striking a large animal, brake firmly and steer to strike it at an angle. Let up on the brake pedal just before hitting the animal. This will cause the front of the car to rise and reduce the chance that the animal will come through the windshield.

If you see signs that say "Cattle Crossing" or "Open Range" or signs that warn of horseback riders, keep a lookout for animals on or near the roadway. Reduce speed as soon as you catch sight of an animal.

Always drive past any animal slowly and cautiously; a frightened animal may bolt in any direction.

Finally, keep in mind that in certain situations you have no real choice but to strike an animal rather than try to evade it. For example, if a squirrel darts in front of your car, and swerving or hard braking might cause a collision with a pedestrian or other vehicle, you must choose the less serious of the two collisions.

## CHECKPOINT

1. What are some pedestrian behaviors that lead to collisions with vehicles?
2. What precautions can drivers take to avoid collisions with children?
3. What are some of the basic safety rules pedestrians should follow?
4. If you can't avoid hitting a large animal, what steps should you take to minimize the damage to your car?

LESSON TWO

# Sharing the Roadway with Motorcycles and Bicycles

In 1994, 796 bicyclists and over 2,200 motorcyclists were killed in collisions in the United States. As the number of people riding bikes and motorcycles increases, the number of collisions with cars and other large vehicles may increase, too.

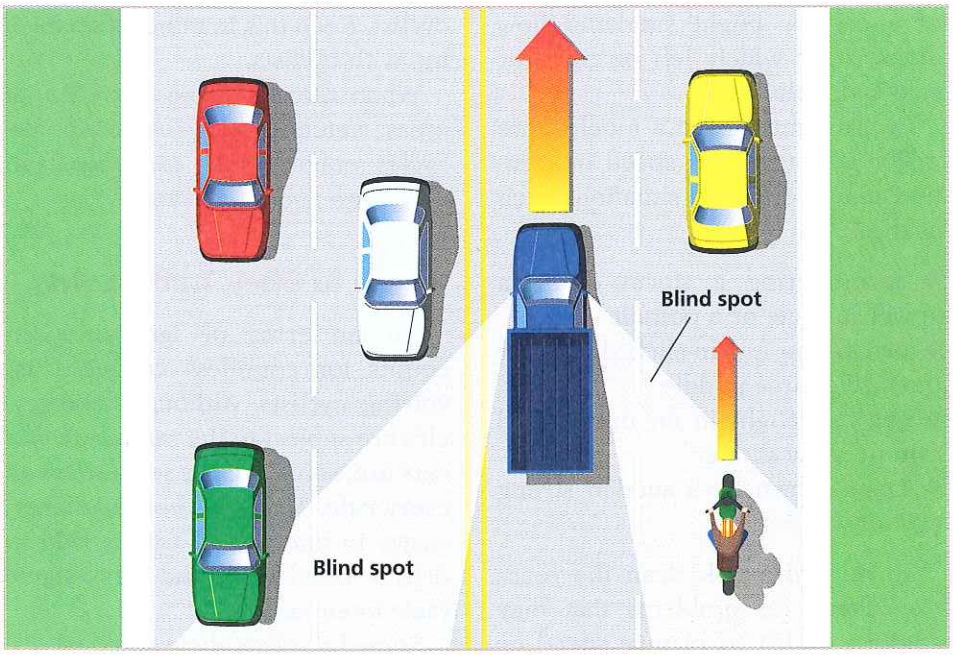
As a driver, you should recognize the potential risk of collisions posed by cyclists and take precautions to minimize the risk.

## How Can You Recognize and Reduce the Risk of Problems Caused by Cyclists?

Both motorcycles and bicycles are smaller, less stable, and less visible than cars. Two wheels provide less stability than four, making these vehicles harder to steer and handle than many people realize. As a car driver, you need to be aware of cyclists and of how the roadway problems they face are different from yours.

## Watching Out for Cyclists

Two-wheeled vehicles, particularly bicycles, are much more difficult than cars for drivers to spot, especially when they approach from behind or from the side. A moped is a low-powered two-wheeled vehicle that shares some of the same visibility problems as a bicycle or motorcycle and is most commonly driven on city streets. On highways a motorcycle




*Cyclists should be especially careful to stay out of a driver's blind spots.*

does not take up an entire lane and may easily drop out of sight in a driver's blind spot. In addition, drivers tend not to look for cyclists.

Motorcycles and bicycles also are easily hidden from drivers' sight by larger vehicles sharing the roadway. The small handlebar mirrors on both motorcycles and bicycles offer their drivers only a limited view to the rear. In addition, cyclists have no windshield wipers to aid visibility in case of a sudden shower.

Always make cyclists aware of your intentions and position. Drive with your headlights on, and signal well in advance when turning, changing lanes, or stopping. Tap your horn to warn a cyclist of your approach.

## Dangerous Roadway Conditions

Drivers must be aware of the problems that cyclists face in order to anticipate situations in which a cyclist might veer or skid into the path of a car, or might suddenly slow down, steer widely left or right, or stop suddenly.

Cyclists must make a much more major adjustment in speed or position than a driver in situations such as these:

- encountering a storm drain, a gravel surface, or a pothole
- driving on a rain-slicked road or through a large puddle
- getting caught in an unexpected rain or snow shower
- being blown by a sudden strong gust of wind

To minimize risk, scan the roadway ahead for problems that may cause a cyclist to change speed or direction, skid, or make a sudden stop. Anticipate potential risk by allowing cyclists as much maneuvering space as possible. When driving behind a cyclist, increase your following distance. *Never* try to pass a cyclist in a tight space.

If a cyclist is carrying a passenger, be especially careful. A passenger leaning the wrong way can throw a motorcycle or bicycle off balance.

Use your mirrors to check for cyclists approaching from the rear. They often squeeze between cars traveling in parallel lanes. Always check your blind spots, too, before changing lanes. Be on the lookout for cyclists approaching intersections and coming around curves.

## Lack of Protection

Unlike drivers, who have the protection of their cars, cyclists are unprotected. In the event of a mishap—collision, skid, blowout—the risk of serious or fatal injury is high to the cyclist. Keep this in mind when dealing with cyclists.

When driving through residential areas, watch for bicycles and motorcycles entering the roadway from driveways and side streets.

## Failure to Obey Traffic Laws

Human error or ignorance accounts for countless collisions involving cyclists. Although motorcycles are subject to the same laws that cars are, some cyclists seem to break every rule. They ride between lanes, weave in and out of traffic, ride in drivers' blind spots, and fail to signal their intentions.

Some bicyclists show an equal dis-

regard for safety. They ride on the wrong side of the road, shoot through stop signs and red lights, and cut in front of cars. Children on bikes, unconcerned with traffic laws, may ride up one-way streets or sail through intersections with barely a glance to either side.

Such careless riding poses a danger not just to the cyclist but to all roadway users. You should be alert to the possibility that cyclists may not follow traffic laws, and you should always be prepared to take evasive action if necessary.

On the other hand, you should follow all traffic laws so that you do not endanger cyclists and other users of the roadway.

## Irresponsible Drivers

Many collisions involving cyclists occur because drivers have difficulty seeing motorcycles and bicycles. However, some cyclists become the victims of careless or inconsiderate drivers. These drivers may tailgate cyclists, cut them off, or pass too close for safety. Such reckless actions put both driver and cyclist at risk.

## What Special Responsibilities Do Motorcyclists Have?

Motorcyclists have as much right to ride on the highways as any other drivers. They also have the responsibility of driving safely and watching out for drivers of other vehicles.

Motorcyclists should not take advantage of the smaller size of their vehicles to weave in and out of lanes of traffic at high speeds. This behavior is highly dangerous to the cyclist. Motorcyclists should take care to stay out of other drivers' blind spots. Other drivers might not be as aware as they should about looking in their mirrors for motorcycles to begin with, so it is important that a motorcyclist never be in a spot that is not visible to nearby vehicles.

### CHECKPOINT

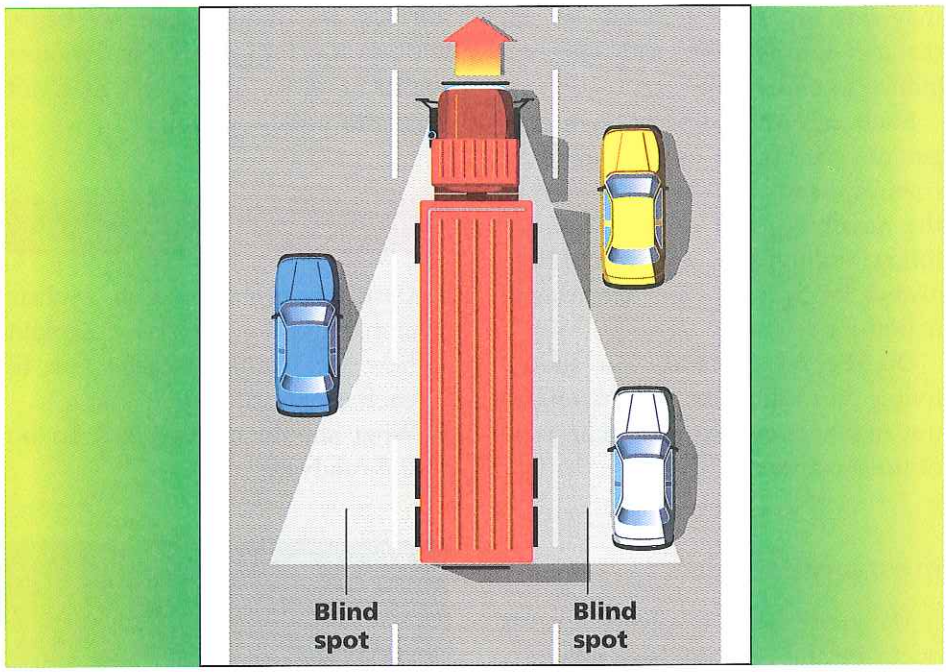
5. Describe problems that cyclists can cause for a driver. Explain how you would manage risk in each circumstance.
6. What should motorcylists do on the roadway?

### WHAT WOULD YOU DO?

***The motorcyclist reduces speed, but does not stop. Now you can pass the cyclist safely. What potential hazards should you watch for?***

LESSON THREE

# Sharing the Roadway with Other Vehicles




*Tractor-trailer mirrors are mounted high, so the driver loses sight of your car if you travel alongside the trailer.* ▶

Whether driving on city streets or superhighways, you'll share the roadway with vehicles that range in size from two-wheel, 30-pound bicycles to 18-wheel, 80,000-pound tractor-trailers. You've already explored some problems you might encounter with bicycles and motorcycles. To manage time and space near larger vehicles, you need to understand their characteristics and limitations.

## How Can You Safely Share the Roadway with Other Vehicles?

Keep in mind that differences in size, shape, and weight of a vehicle affect handling ability as well as the amount of visibility a driver has.

### Trucks and Tractor-Trailers

Trucks on the road today can be up to 120 feet long and weigh up to 60 tons. That's about eight times as long as the average car and 60 times heavier. Put yourself in the truck driver's place. Being aware of problems they face will help you manage risk.

**Visibility** Truck drivers sit high above the surface of the roadway and have excellent visibility ahead. However, it is hard for them to see what is to the side of and behind the truck. Despite the use of side-view mirrors, a car may be all but invisible to a truck driver.

Trucks create visibility problems for other drivers. With a truck blocking your view, you can't see traffic or the roadway ahead.

**FYI**

**A truck weighing 80,000 pounds traveling at 55 mph takes about 300 feet, or the length of a football field, to brake to a stop. This does not include the distance covered during the time the driver identifies a need to stop.**

**Time** Handling a truck is more difficult than handling a car. Weighed down with cargo, a truck accelerates slowly and tends to lose speed when climbing an uphill road. Going downhill, however, a truck's momentum causes it to pick up speed.

When you're passing a truck, allow much more time than you'd need in order to pass a car. Not only is the truck longer, but its bulk creates a wind factor that you'll also have to be aware of as you steer around the vehicle.

**Space** Trucks, of course, take up much more room on the roadway than do cars. As a result, it's much harder to see around one when you're following it. Increase your following distance when you're behind a truck. Remember that a truck requires a wide turning space and more time and space to stop than cars do. When you approach a truck in an oncoming lane, leave as much space as possible between the truck and your car.

## Buses

The same visibility and handling factors that pertain to trucks also apply to buses. Allow buses an equal amount of "elbow room," and follow the same 4-second-distance rule when following a bus. Remember that local buses stop frequently to pick up and discharge passengers, often disrupting traffic flow in the process.

You should be especially careful when you approach or pass a stopped bus. Reduce speed and keep alert for pedestrians rushing to catch the bus and discharged passengers hurrying across streets in front of the bus. Always be ready to stop.

Remember, drivers traveling in either direction on a nondivided roadway must stop for a school bus that has flashing red lights to indicate it is picking up or dropping off children.

## Small Cars

There are more small cars on the road today than ever before. While these cars may cost less to buy and operate than larger cars, they have some drawbacks.

Small cars may have less power than larger cars. As a result, a small car may have difficulty passing other

**ENERGY TIPS**

**Save fuel by using public transportation, such as buses, or riding a bicycle whenever possible.**

### Tips for New Drivers

**How to Safely Share the Roadway with a Truck**

Always allow at least a 4-second following distance to make you visible to the truck driver and allow you to see more of the roadway.

When stopping behind a truck stopped at a sign or signal, allow extra distance in case the truck rolls back when starting.

Allow yourself extra time and space when passing. When a large truck is about to pass you, steer to adjust to the gust of air caused by the truck.

If a truck is bearing down on you as you drive downhill, move into another lane or pull over to let the truck pass.

Try not to drive on the right side of a truck, especially just below the right-front passenger side. This is a blind spot for the truck driver.

Never try to drive by the right side of a truck at an intersection if the truck's right-hand signal is on, even if the truck is in the left lane. Large trucks make very wide right-hand turns.

Never pass a truck on the right side on the roadway.

After passing a truck, do not pull right in front of it after you clear it. Leave plenty of room in case you have to apply your brakes.

vehicles. Small cars may also have to strain to climb a steep hill.

When driving a small car, allow yourself extra space and time to pass another vehicle. If a small car is passing you, give the driver ample space and time to maneuver.

Also give small cars extra room when roads are slippery or there are strong winds. Lightweight cars tend to skid more easily on slick roadways.

## Other Kinds of Vehicles

You may encounter other kinds of vehicles on the roadway.

**Emergency vehicles** When you meet ambulances, police cars, and fire trucks with lights flashing or sirens on, you should yield the right of way. Pull to the right and stop, or otherwise provide a clear path for the emergency vehicle.

**Snowmobiles** Snowmobiles are allowed on certain roads in some states. They are hard to see, and are difficult for their drivers to handle and to stop. Allow extra time and space to adjust to any maneuver that a snowmobile makes.

**Recreational vehicles** Recreational vehicles are harder than cars for drivers to handle because of their size and weight. Allow an added margin of safety if you encounter one, especially in a strong wind. Remember that its driver has limited visibility to the rear and to the sides.

**Ice cream trucks** Approach ice cream trucks cautiously. Watch for children darting into the street and emerging from between parked cars. In some states, drivers must stop for an ice cream truck equipped with flashing red lights and must yield the right of way to pedestrians going to and from the truck. Check your state drivers' manual.

CULTURAL CROSSROADS

THE HISTORY CONNECTION

In Japan in the year 1635, a law was passed that caused Japanese lords and thousands of their household staff to take to the roadways of that island nation. The law required that the nation's lords, known as *daimyo* or "great names," build mansions in the capital city of Edo, now known as Tokyo. The lords were to keep their families in Edo, and spend every other year at the court of the ruler, or *Shogun.*

Because of this law, the daimyo had to travel once a year to or from their country estates and Edo. Moreover, the daimyo were told how many of their household staff must travel with them, what equipment to take, and what route to follow. The wealthiest daimyo had to bring 1,000 or more of their household staff both to and from Edo.

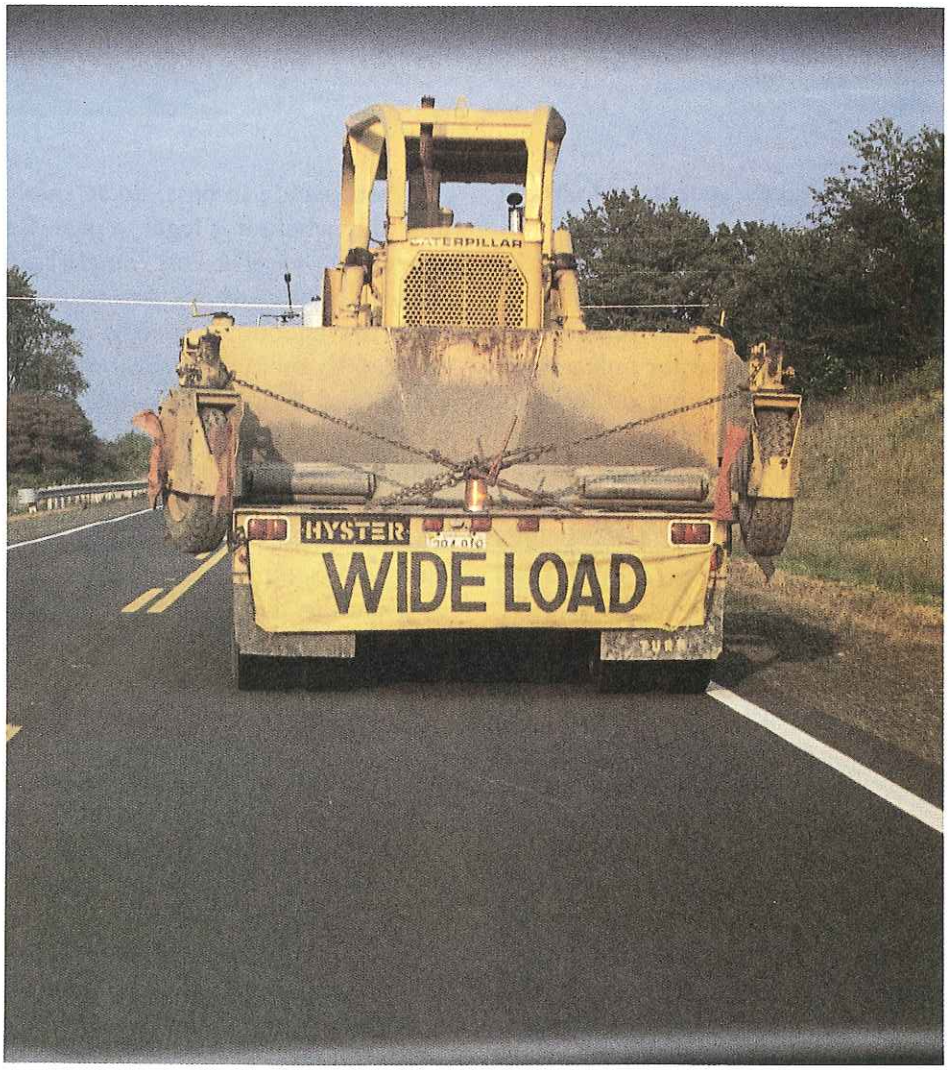
Since there were over 250 daimyo to which the law applied, there would be many great processions criss-crossing Japanese roads in all seasons. These groups, known as *Daimyo Gyoretsu* or "Processions of the Lords," were on the roadways for several weeks. Each night they would stop at one of a huge network of inns established along the national roadways to accommodate the travelers in this procession. In no other country of the world was there such an extensive and elaborate system of overnight accommodations at this time.

**Maintenance vehicles** Road work involves vehicles of many sizes and shapes with the potential to disrupt traffic. Drivers need to be alert to such vehicles and to adjust speed and position to accommodate sudden moves.

## How Do You Deal With Slow-Moving Vehicles?

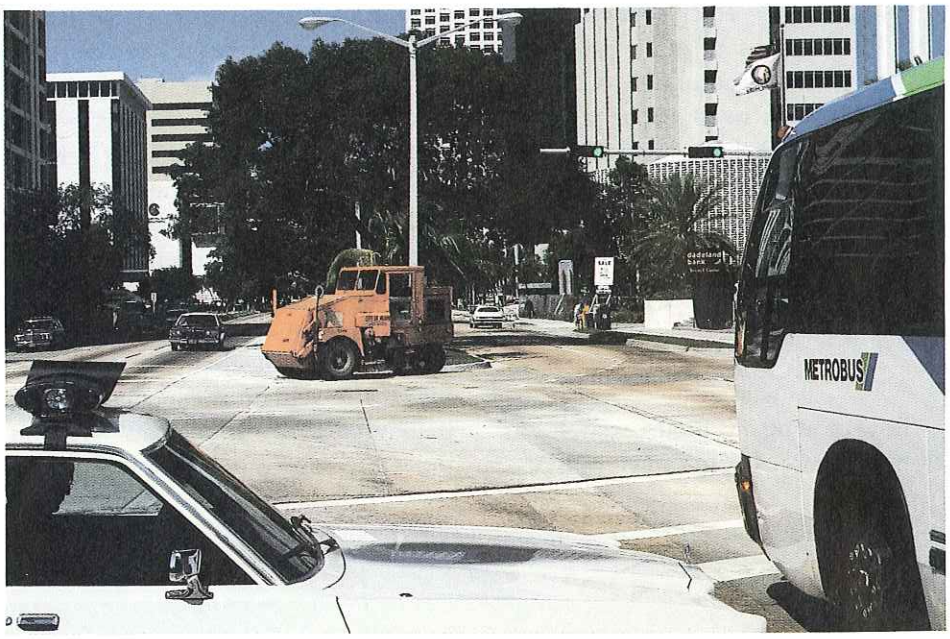
Slow-moving vehicles, such as farm tractors, horse-drawn wagons, and various special-purpose vehicles, move at a slow speed because they don't have the power to move any faster.

Try to spot a slow-moving vehicle as early as possible, because your car will approach the vehicle more rapidly than a vehicle traveling at a normal rate of speed. These vehicles often, but not always, display special signs identifying them as slow-moving. If the vehicle is especially wide, it may carry a "wide load" sign on the rear. Once you identify such




*Allow a wide vehicle more room to maneuver, especially on turns.*

*You may encounter slow-moving maintenance vehicles in city traffic.* ▶




a vehicle, reduce speed and follow at a safe distance.

Before passing, consider the driver's likely actions. For example, the driver of a construction vehicle may drive on the roadway for only a short distance before turning off. A road-maintenance or utility truck may stop or pull over to the side.

If you decide to pass, do so safely and only where it is legal to pass. Be especially careful on single-lane country roads, where you're more likely to encounter a slow-moving vehicle. Visibility is limited on such roads, and if the vehicle you're following is large, you'll have added difficulty seeing past it.

If you see a slow-moving vehicle traveling in the opposite direction, be alert for oncoming cars moving into your path as they pass the vehicle.

**WHAT WOULD YOU DO?**

***The driver of the truck wants to pass. What should you do?***


## CHECKPOINT

7. Name three types of motor vehicles with which you might share the roadway. Explain how you can reduce risk when interacting with these vehicles.
8. When you are sharing the roadway with a slow-moving vehicle, what are three precautions you should take?

LESSON FOUR

# Safe Driving Procedures at Railroad Crossings

Despite warning signs and signals, many collisions occur at railroad crossings each year. Among the causes of these crashes are driver impatience and poor judgment.

## How Can You Drive Through a Railroad Crossing Safely?

Too many drivers forget, or ignore, safe-driving procedures at railroad crossings, often with fatal consequences. This lesson describes those procedures.

### Determine When It's Safe to Cross

Slow down as you approach a railroad crossing. Look for warning lights or signals or lowered crossing gates.

Stop no closer than 15 feet from a railroad crossing if a train is approaching. *Never* attempt to cross a track if warning lights are flashing.

Even if warning lights are not flashing, look both ways and listen to make sure no train is coming before crossing. Never rely solely on mechanical warning equipment—it could be broken.

If there are no lights or crossing gates present at a railroad crossing, proceed with extra caution. Stop, look, and listen for approaching trains before moving ahead.

After a train has passed, check in both directions to see that no other trains are coming before you start across the tracks.

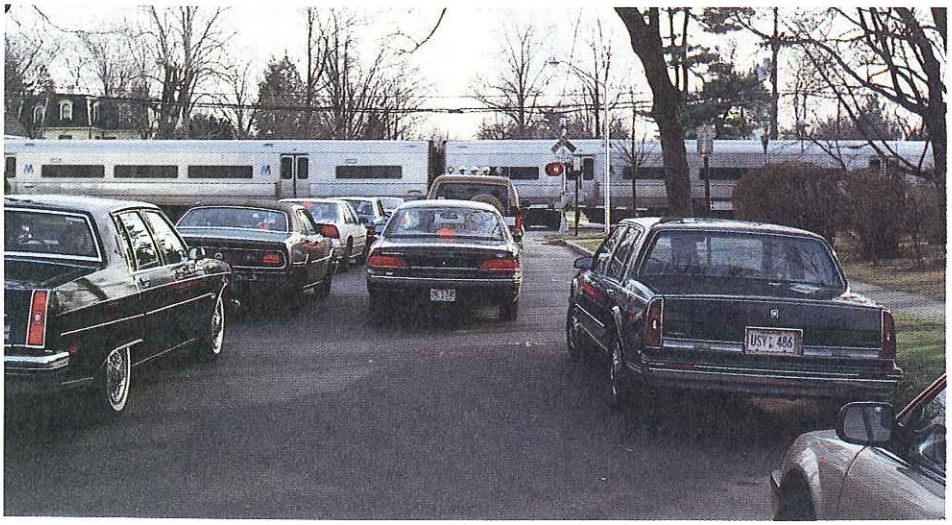
Always wait for the vehicle ahead of you to clear the tracks before you start across.

### Stay Alert

Drivers who travel the same route day in and day out tend to pay less

**FYI**

**As unbelievable as it may seem, the greatest increase in railroad crossing fatalities is occurring at crossings that have signals or gates. Drivers ignore these control devices, try to cross the track ahead of an approaching train, and often lose their life as a result.**



*Be patient and very cautious at railroad crossings. Never think you can beat the train to the crossing.*

## Advice From the Experts

*Bruce J. Oliver, Manager of Driver Training, AAA Mid-Atlantic*

*Bruce J. Oliver*

Remain alert to share the roadway safely:

- Bicyclists are expected to obey all traffic laws and regulations. Bicyclists have the same rights, privileges, and responsibilities as drivers.
- By thinking ahead, drivers can often anticipate dangers involving pedestrians.
- Even if you obey all traffic laws, unexpected events can and do occur. Managing time and space effectively will help minimize risk should an emergency occur.
- Maintain respect for all roadway users to aid in the safe, smooth flow of traffic.

**WHAT WOULD YOU DO?**

***The train has just about passed. Describe your procedure as you get ready to resume movement.***

attention to their surroundings. Such inattention can have tragic consequences at a railroad crossing.

Don't take familiar crossings for granted. Never assume that the track is clear: stop, look, and listen for trains.

### Don't Panic If Your Car Stalls

Never stop your car on railroad tracks for any reason whatsoever. In the rare event that your car stalls on the tracks, don't panic.

Immediately check in both directions for approaching trains. If a train is coming, leave your car at once, and move away from the tracks. If no train is approaching *and* you have a clear view of the track in both directions, try to restart your engine. Continue to check for trains.

If you can't start your car and you're sure no trains are coming, try to push your car off—and well away from—the tracks.

**CHECKPOINT**

**9.** What must you do to negotiate a railroad crossing safely?

# CHAPTER 12 REVIEW

## KEY POINTS

### LESSON ONE

**1.** Pedestrian problems include people who cross a roadway without regard for rules or signals, children who run into the street and who play in the street, adults who have been drinking, people who need extra time to cross, and joggers.

**2.** To prevent collisions with pedestrians, use SIPDE to develop effective visual search habits. Position your car for maximum visibility, take special care at intersections and when backing, and never assume a pedestrian sees your car.

**3.** Pedestrians should obey all rules, signals, and signs, walk facing traffic if walking on the roadway, wear reflective clothing when jogging, hold children by the hand, cross streets only when and where it is safe and legal to do so, never assuming that a driver will see them.

**4.** To avoid collisions with animals, be careful when driving through wooded areas, especially when visibility is reduced. Watch for signs indicating that animals may be nearby.

### LESSON TWO

**5.** Cyclists pose different problems than a driver because cycles have less stability and protection than automobiles. To reduce the risk of collision with cyclists, anticipate problems they may have, and adjust your speed or position. Always make cyclists aware of your position and intentions.

**6.** Motorcyclists should not weave in and out of traffic at high speeds and should be careful to make themselves visible to drivers.

### LESSON THREE

**7.** Trucks and tractor-trailers: when passing allow extra time; when you approach a truck in an oncoming lane, leave plenty of space between it and your car. Buses: react as you would to a truck, but approaching and passing requires special care as buses may be picking up or discharging passengers. Small cars: allow extra room on slippery roads or windy days; give drivers ample time and space to manuever.

**8.** Try to spot a slow-moving vehicle early. Reduce your speed and follow at a safe distance. Pass only where it is legal.

### LESSON FOUR

**9.** Slow down as you approach a railroad crossing. Look for warning lights or signals or lowered gates. Before you cross, stop, look, and listen for trains. Never assume the track is clear.

## PROJECTS

**1.** Observe the interaction between pedestrians and traffic at a busy intersection for about 15 minutes. Make note of unsafe actions taken by both pedestrians and drivers. Discuss your observations with the class.

**2.** Visit a bicycle shop or sporting goods store. What products does the store sell to help make cyclists, joggers, and others more visible in dim light?

# CHAPTER 12 REVIEW

## BUILDING MATH SKILLS

### Figuring Travel Time

Travel involves rate of speed, distance, and time. To find how long it will take you to get somewhere when you know your distance and speed, divide the distance by the speed. (To get an exact answer, you may have to change miles per hour to miles per minute by dividing mph by 60.)

T = D ÷ S, where T = time, D = distance, and S = speed.

For example, suppose you will drive 270 miles at an average speed of 45 mph. How long will the trip take?

$$T = 270 \div 45$$
$$T = 6$$

The trip will take 6 hours.

Figure the time for each distance and speed below.

| TIME | DISTANCE | SPEED |
|---|---|---|
| (a) | 20 miles | 30 mph |
| (b) | 40 miles | 35 mph |
| (c) | 115 miles | 50 mph |

To estimate distance when you know speed and time, multiply the speed and the time.

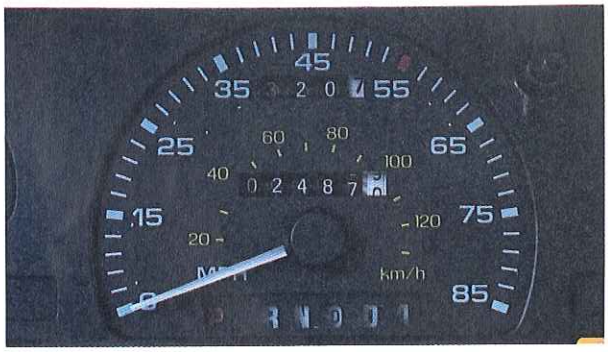
$$D = S \times T$$

How far can you travel in 5 hours at an average speed of 35 mph?

$$D = 35 \times 5$$
$$D = 175$$

You can travel about 175 miles.

Figure the distance for each speed and time below. Round your answer to the nearest whole mile.




| DISTANCE | SPEED | TIME |
|---|---|---|
| (d) | 25 mph | 30 minutes |
| (e) | 45 mph | 2 1/4 hour |
| (f) | 30 mph | 1 hour 20 minutes |

Now look back at each problem. If you wanted an estimate instead of an exact answer, what shortcuts could you take?

### Try It Yourself

1. Traveling at local speeds, about how many miles away is someplace 20 minutes from your house?
2. Use a map to plan a trip from one city to another. Estimate the amount of time it will take to travel the distance between the two cities.
3. Use a map to figure out which cities or towns are about 3 hours away from your house.

# CHAPTER 12 REVIEW

## CHAPTER TEST

Write the letter of the answer that best completes each sentence.

1. When driving behind a tractor-trailer,
   **a.** allow at least a 4-second following distance.
   **b.** attempt to pass.
   **c.** tap your horn lightly.
2. Collisions with pedestrians occur most often
   **a.** at intersections.
   **b.** on highways.
   **c.** on weekends.
3. Drivers who travel the same route every day,
   **a.** have fewer collisions than other drivers.
   **b.** pay less attention to their surroundings.
   **c.** fall asleep at the wheel more often.
4. As the use of cycles increases,
   **a.** the number of collisions involving cars will decrease.
   **b.** air pollution will decrease.
   **c.** the number of collisions with cars might increase, too.
5. Drivers use *ground viewing* to
   **a.** scan the road for animals.
   **b.** scan beneath parked vehicles for signs of movement.
   **c.** avoid large puddles.
6. Because truck drivers sit high above the surface of the roadway, they
   **a.** don't have any blind spots.
   **b.** have great visibility of the road ahead.
   **c.** are able to see above fog.
7. If it appears impossible to avoid striking a large animal, you should
   **a.** accelerate and move forward.
   **b.** turn off your car's engine.
   **c.** steer to strike it at an angle.
8. When driving behind a cyclist you should
   **a.** increase your following distance.
   **b.** pass at the first opportunity.
   **c.** turn on your high beams.
9. Most small cars have
   **a.** more power than larger cars.
   **b.** the ability to pass easily.
   **c.** less power than larger cars.
10. If you approach a railroad crossing when a train is coming, you should
    **a.** stop at least 15 feet from the crossing.
    **b.** stop directly in front of the crossing signal.
    **c.** try to cross the tracks, if the gate is open.

Write the word or phrase that best completes each sentence.

traffic flow  parallel  hazard
stability  stalls  jaywalking

11. Crossing a street without regard for traffic rules or signals is called ____.
12. Motorcycles are harder to steer than people realize, because two wheels provide less ____ than four.
13. If your car ____ on railroad tracks while a train is coming, you should leave your car at once.
14. Cyclists often squeeze between cars traveling in ____ lanes.
15. Local buses stop frequently to pick up and discharge passengers, often disrupting ____ in the process.

## DRIVER'S LOG

In this chapter, you have learned about the responsibilities and risks of sharing the roadway with motorists, pedestrians, cyclists, and animals.

Write what you think are the five most important responsibilities a driver has when sharing the roadway.


CHAPTER ◆ 13

# NATURAL LAWS AND DRIVING

The natural laws, which include inertia, gravity, and momentum, affect the driving task. It is important to understand natural laws so that you can use your knowledge of them to help you manage risk in different driving situations.