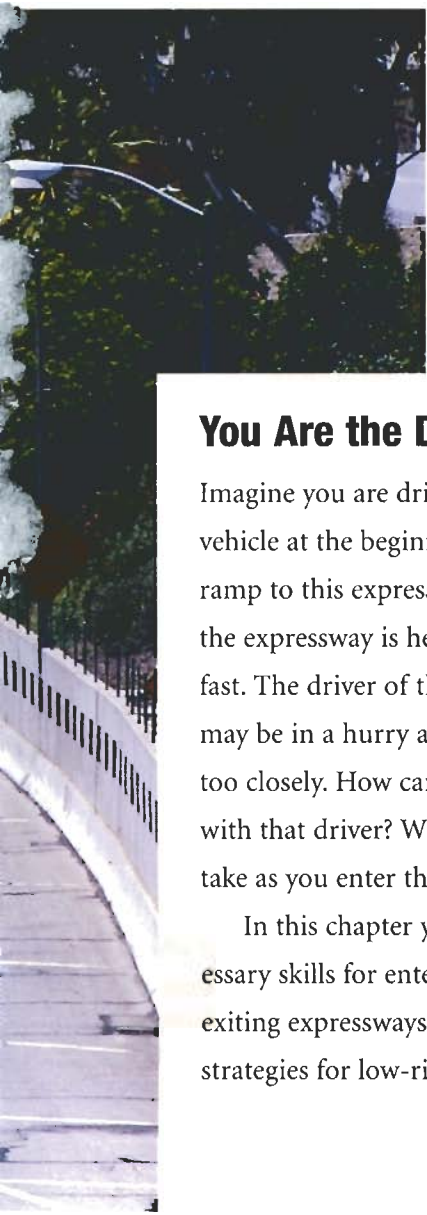
Chapter 11
Driving on Expressways



You Are the Driver!

Imagine you are driving the sport utility vehicle at the beginning of the entrance ramp to this expressway. The traffic on the expressway is heavy and is moving fast. The driver of the vehicle behind you may be in a hurry and is following you too closely. How can you communicate with that driver? What action should you take as you enter the acceleration lane?

In this chapter you will learn the necessary skills for entering, driving on, and exiting expressways. You will also learn strategies for low-risk expressway driving.

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11.1
Characteristics of Expressway Driving

Objectives
1. List five reasons why expressways have lower collision rates than other highways.
2. Describe four different types of expressway interchanges.
3. List strategies for low-risk driving on expressways.

An expressway is a limited-access or **controlled-access highway.** Vehicles can enter and leave expressways only at interchanges. Expressways include interstate highways, freeways, turnpikes, toll roads, parkways, and some beltways. Most of these terms are used interchangeably and designate any type of controlled-access highway.

Advantages of Expressways

Expressways are designed for low-risk higher-speed travel. Despite the high speeds and heavy traffic, you are safer on expressways than on other highways.

Expressways have fewer collisions for five main reasons:

- Cross traffic is eliminated.
- Expressways have a median or barrier between opposing lanes of traffic.
- Pedestrians, nonmotorized vehicles, and slow-moving vehicles are not permitted on most expressways.
- Wide shoulders and extra-wide underpasses provide good escape paths.
- Expressway signs are designed to help drivers anticipate conditions well ahead.

Expressway Interchanges

These pictures show the most common types of expressway interchanges. Interchanges are places where drivers can cross over or under as well as enter or leave the expressway.

Cloverleaf Interchange

A cloverleaf interchange has a series of entrance and exit ramps that resemble the outline of a four-leaf clover. This type of interchange enables drivers to proceed in either direction on either highway.

Diamond Interchange

A diamond interchange is used when a road that has little traffic crosses a busy expressway. A complete cloverleaf is not needed because left turns by exiting traffic can be made easily on the less-busy road.

Trumpet Interchange

A trumpet interchange is used where a side road forms a T intersection with an expressway.

Cloverleaf interchange

All-Directional Interchange

An all-directional interchange is used in complicated intersections with high-volume traffic. From this interchange, traffic is channeled in many different directions.

Safe Driving Strategies

Although expressways have advantages compared to other types of roadways, collisions on expressways are often more serious. Higher speeds often place greater demands on both drivers and vehicles.

When driving on expressways, you should travel at about the same speed as other vehicles. Driving faster than other traffic may cause you to be constantly passing other vehicles. If you drive too slowly, you can block the smooth flow of traffic and become a hazard. Conform to posted minimum and maximum speed limits. Have your headlights on at all times so you are more visible to other drivers.

Use the following strategies to help you become a safe expressway driver.

Prepare Yourself and Your Vehicle

Preparation for driving on any expressway should include a travel plan, regardless of the length of the trip. For short trips, know the name, route, or number for both the entrance and exit you will use.

For long-distance trips, plan stops for food, fuel, and rest. Make every effort to stay alert, use the IPDE Process constantly, and be aware of traffic conditions in all your zones at all times.

Mechanical failure can occur even on a short trip. Keep your vehicle in

Diamond interchange

Trumpet interchange

All-directional interchange

Until you gain experience, avoid driving in heavy rush-hour traffic.

TIP

SAFE DRIVING

Traveling at the same speed as other traffic on the expressway does not mean that you should keep up with drivers who are exceeding the speed limit or driving too fast for conditions.

top condition to guard against mechanical failure when driving on expressways.

Build Experience Gradually When you first drive alone on an expressway, choose a time when traffic is light. Avoid driving in the heavy rush-hour traffic like this photograph shows. Practice entering and exiting several times before driving in heavier traffic. When you are driving in very light traffic, practice lane changes even when there are no vehicles to pass. Once you develop self-confidence, you will be better prepared to drive in heavier traffic.

Concentrate on the Driving Task Traffic conflicts can develop more rapidly at higher speeds, especially on multilane expressways. Give full attention to the driving task and do not allow yourself to become complacent. Never lose sight of the fact that high-speed expressway driving can present a high degree of risk.

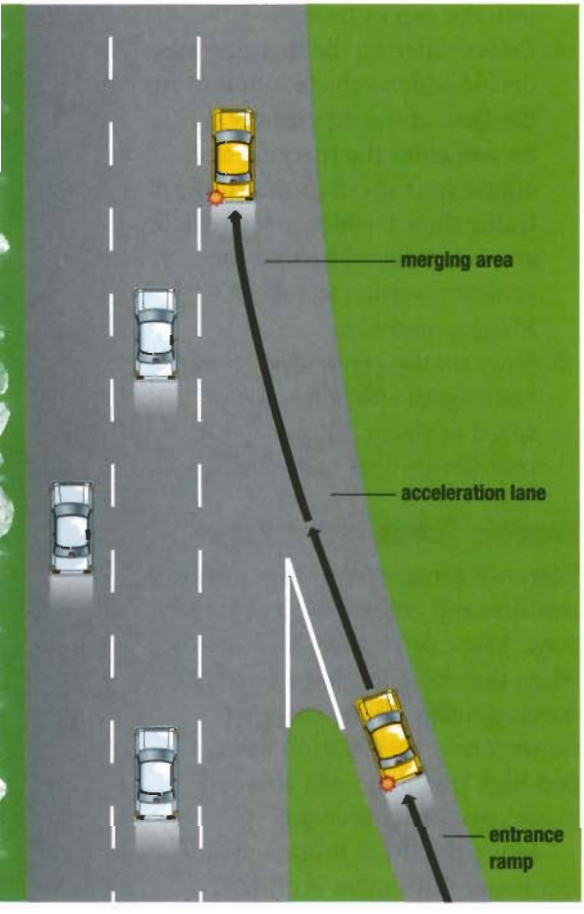
Cooperate with Other Drivers You must cooperate with others when driving on expressways. Resist the urge to challenge other drivers for any reason. Road rage, an extreme act of aggression, can be a serious factor leading to a major conflict in high-speed expressway traffic. React cautiously if someone cuts you off or moves into your front zone too soon.

Review It

1. What are five reasons why fewer collisions occur on expressways than on other types of roadways?
2. What are four different types of expressway interchanges?
3. Explain what strategies you can use to become a low-risk driver on expressways.

11.2
Entering an Expressway

Before you enter an expressway, make sure you are using the correct entrance ramp. Guide signs mark most entrances and give the route number, direction, and name of a major city located in that direction. Many drivers have mistakenly tried to enter an expressway by using an exit ramp. To help prevent this error, most states post signs saying WRONG WAY or DO NOT ENTER.



The parts of an expressway entrance

If you start to enter at an entrance you do not want, go ahead and get on the expressway. You can then safely exit at the first opportunity.

Expressway Entrances

Most expressway entrances have three parts:

- The **entrance ramp** gives you time to evaluate zone conditions and determine the best speed as you prepare to enter the expressway.
- The **acceleration lane** is usually long enough for you to search for a gap in which to merge and accelerate to the speed of traffic on the expressway. However, accelerating to expressway speeds in the acceleration lane is determined by the volume of traffic both on the expressway and in the acceleration lane.
- The **merging area** is the third part of an expressway entrance where vehicles blend into the expressway traffic. Evaluate how much time and space you have in your open front zones for merging into the flow of traffic. Try to merge at about the same speed as the vehicles in the nearest lane.

Steps for Entering

Follow these steps to enter an expressway smoothly and safely:

1. Make sure the entrance is the one you want. Look for a red and white WRONG WAY or DO NOT ENTER sign.

Objectives

1. Explain how to enter an expressway properly.
2. Describe four possible entrance problems.
3. Explain why entering an expressway from the left is more hazardous than entering from the right.

Make sure the entrance is the one you want. Check front and rear zones. Find a gap.

When in the acceleration lane, decide where to enter the gap.

Merge smoothly into traffic.

2. Once on the entrance ramp, check your front and rear zones. Signal and take quick glances through your left outside rearview mirror and over your left shoulder to find a gap in traffic where you can safely merge. Look for an entrance ramp signal light and be prepared to stop if it is red.
3. Once you are in the acceleration lane, gradually increase your speed. Continue to quickly glance over your left shoulder and through your outside rearview mirror. Decide when it is a safe time and place to merge into the gap in traffic.
4. Before entering the merging area, decide which vehicle to follow in the flow of the expressway traffic. As you enter the merging area, adjust your speed to match the traffic flow. Position your vehicle at a safe interval behind the vehicle you plan to follow. Merge smoothly.
5. Once on the expressway, cancel your signal and adjust to the speed of traffic. Keep a space cushion around your vehicle.

Possible Entrance Problems

Entrance driver errors cause many conflicts and collisions on expressways. Many drivers feel insecure when they have to merge into fast-moving traffic. Short entrance ramps, short acceleration lanes, and high dividing walls also can cause entrance problems.

Using the IPDE Process at all expressway entrances is critical.

- Make your visual checks and zone evaluations quickly. Identify possible problems on each part of the expressway entrance.
- Predict actions of other drivers.
- Decide on your entrance gap and speed.
- Execute your merge into traffic smoothly and safely.

Entrance Ramp Problems If you make an error and enter the wrong entrance ramp, continue onto the expressway. Drive to the next exit. *Never back up on an entrance ramp or on an expressway.*

If other vehicles are on the entrance ramp, adjust your speed to avoid conflict. Some ramps, particularly ramps with sharp curves, have yellow advisory signs posting a speed limit. Stay within the speed limit.

Begin looking immediately for a gap in traffic if the entrance ramp is short or there is no acceleration lane. If you have a closed front zone, reduce your speed to give the vehicle in front more time to find a gap. Check your rear zone and avoid a sudden slow or stop.

Some entrance ramps have high walls that divide expressway traffic and entering traffic. These walls restrict your line of sight to expressway traffic. On some ramps, you will be very close to the merge area before you can see the expressway traffic. Reduce your speed until you have a clear line of sight.

Entrance Ramp Signal Lights Some entrance ramps have signal lights to help space traffic entering the expressway. The lights are usually red and green. The timing of the signal lights is determined electronically by the volume of traffic at any given time. You must wait for the green light before entering the expressway, as the picture shows.

When the signal light on an entrance ramp is red, wait for the green light before proceeding onto the expressway.

Acceleration Lane Problems During rush hours, the large number of vehicles entering and on the expressway can make it almost impossible to accelerate to expressway speeds. Under these conditions, try to match the speed of traffic around you.

Some entrances have very short acceleration lanes. In such cases, you usually do not have the space to accelerate to the speed of expressway traffic. You need a longer gap to enter traffic and accelerate to the traffic speed.

Make every effort to enter an expressway without stopping. A driver behind you might be looking for a gap and not realize that you are stopped. If you must stop, take these precautions:

1. Flash your brake lights to warn drivers behind you.

Entering an expressway from the left can be more difficult than entering from the right.

If you have to stop before merging onto an expressway, you will need to accelerate more from a stopped position. Consider this as you determine the speed needed for your entry.

2. Pull onto the shoulder at the end of the acceleration lane or merge area.
3. You are now in an emergency situation. Wait for a large, safe gap. Signal and accelerate quickly as you join the traffic flow.

Merging Area Problems Adjusting your speed is critical to timing a smooth entrance into traffic. A closed front zone may cause you to reduce your speed and even to select a new gap. Once you are on the expressway, accelerate as you establish your safe following distance.

Entrance Ramp on Left Some expressway entrance ramps are located on the left of the expressway, as the picture shows. The acceleration lane merges into the far-left lane of expressway traffic. Since this lane is usually used for high-speed traffic, the potential for conflict is greater than when you enter from the right.

Checking fast-moving traffic over your right shoulder can be more difficult than checking to your left. Some vehicle roof supports and head restraints can obstruct your view of the oncoming expressway traffic. You might have difficulty seeing a motorcyclist or a very small car. Signal early as you look for a gap. When you see a gap, accelerate and merge into the traffic lane.

Review It

1. **What are the proper steps for entering an expressway?**
2. **What problems could make entering an expressway difficult?**
3. **Why is the chance for conflict greater when entering an expressway from the left than from the right?**

11.3
Strategies for Driving on Expressways

Once you are on the expressway, stay alert as you adjust to the constantly changing traffic scene. Use your IPDE Process continually. Use the process to predict any conflict and decide accurately how to respond.

Applying the IPDE Process

Expressway driving can make using the IPDE Process more difficult than when driving on two-lane roads. Higher speeds, multiple lanes, and a heavier volume of traffic can make the Identify and Predict steps more difficult.

Identify Expressways are designed to give drivers a long sight distance. However, higher speeds and multiple lanes reduce the amount of visual information you can gather. You need to identify the volume of traffic around you, as well as signs, signals, and roadway markings. You also need to identify closed front zones early. Never allow yourself to become trapped between two large vehicles, as the driver in the picture has done.

Be aware of drivers who do not seem to have their full attention on the driving task. These may be drivers talking on cellular phones or reading a map. Increase your space cushion when you are around these distracted drivers.

Predict A predictable traffic flow is a safety feature of expressways. However, you must search ahead to your target area to watch for sudden slowing traffic or drivers changing lanes. Anticipate closed zones and points of conflict before they occur. Predict that a parked vehicle on the shoulder might suddenly pull onto the expressway or even back up. At a distance, a vehicle backing up may still look like it is moving forward.

Decide Speeds seem to magnify a driver's indecision. Yet faster driving speeds demand that you make quicker decisions. Last-second decisions and driving adjustments can change your safe path of travel into a closed zone or point of conflict. Interchanges can be high-collision areas since so many driver decisions are made there. Open zones can very quickly become closed zones.

Execute Execute your decisions smoothly. Avoid sudden moves.

Objectives

1. Explain how to use the IPDE Process to achieve a safe path of travel.
2. Describe when following distances should be increased for expressway driving.
3. Tell what actions to take when you are being tailgated.
4. Describe three actions that should be automatic when you are changing lanes on an expressway.

The driver of this vehicle has become trapped with closed left-front and front zones and a line-of-sight restriction.

Signal early for every maneuver and maintain a safe following distance.

Lane Choice

On the expressway, decide the best lane in which to drive. Generally, it is safer to drive in the right lane and pass on the left. Reserve the center and left lanes for drivers who are passing and for faster traffic.

When traffic is heavy in the right lane, especially at entrance ramps during rush-hour traffic, use the center or left lane to avoid conflicts in the far right lane. Drivers entering, as well as drivers on the expressway, share responsibility for protecting each other from conflict.

Large trucks and vehicles towing trailers are required to travel in the right lane on many expressways. Although you may sometimes share the right lane with them, let the traffic dictate the lane you will use. Avoid driving between two large vehicles. Do not straddle lane lines because this prevents the other drivers from maintaining their proper lane positions.

Signs, Signals, and Roadway Markings

Part of your decision of lane choice is based on information from expressway signs, signals, and roadway markings. You are better able to maintain a safe path of travel and avoid making sudden last-second decisions if you

- know your destination
- read signs and roadway markings
- always think ahead

On some expressways, several overhead signs are posted at the same place. Scan the signs quickly to get the information you need to continue in a safe path. In many states, an overhead sign with a yellow panel indicates the exit lane, as shown in the picture. All traffic in this lane must exit.

Some overhead signs tell you if lanes are open or closed to traffic. A green arrow means that the lane is open for traffic. A yellow X over your

You Are the Driver!
What should you do if you suddenly realize this is the exit that you want to take?

Some signs show special speed limits for different times of day and types of vehicles.

lane warns you that the lane will be closed ahead. In this case you must prepare to move into another lane. A red X farther ahead indicates that the lane already is closed.

Many expressways into and out of cities often have express lanes. In most cases, these lanes have very few entrances and exits. If you are not sure where your exit is, do not enter the express lanes. Otherwise, you may be forced to drive beyond your intended exit.

Speed Limits

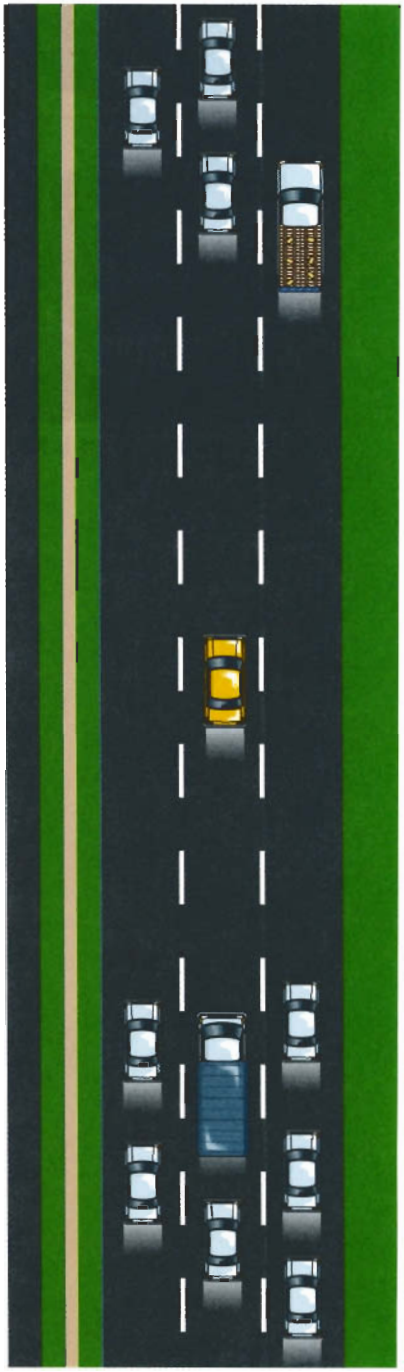
Most states post maximum speed limits on expressways. Some states have no maximum speed limit, and others post lower speed limits for trucks and larger vehicles.

When you drive in areas with no posted speed limit, follow the basic speed law. Drive at the speed that is safe and prudent for the weather and roadway conditions.

Minimum Speed Limit Driving too slowly could be very dangerous in fast-moving traffic and could cause rear-end collisions. A minimum speed limit is posted on many expressways to keep traffic from moving too slowly. This speed limit is the lowest legal speed you can drive under ideal conditions. During adverse conditions such as rain, fog, snow, or slippery roadways, driving under the minimum speed limit is both legal and wise. Use the far right lane when you are driving at or under the minimum speed limit.

Common Speed If you drive at the **common speed,** the speed used by most drivers, you can better blend with expressway traffic. Sometimes the common speed is above the maximum speed limit. Resist the temptation to increase your speed to keep up with the faster vehicles. Drivers who exceed the common speed are likely to weave in and out of traffic to pass other vehicles. This practice is dangerous not only to the driver exceeding the speed limit, but also to other drivers on the expressway.

Wolf Packs A responsible driver tries to avoid bunches of vehicles known as **wolf packs.** Reduce your chances of being involved in a conflict by being a "loner" on the expressway. This may be difficult to do in today's high-volume expressway traffic. However, when you travel in the middle of a pack, all zones may be closed. Adjust your speed to avoid wolf packs. The picture shows two wolf packs. The driver of the yellow car in the center lane has wisely chosen to be a "loner" by driving between the packs.


Adjust your speed to avoid being in a wolf pack.

Following

The high speeds of expressway traffic demand that you maintain at least

Which of these drivers is following too closely?

a 3-second following distance. A shorter following distance reduces your sight distance and leaves little time and space to react to a closed front zone.

Applying the 3-second following distance rule on the expressway is a safe plan under ideal conditions. The blue car in the left lane of the picture has a good space cushion and a safe following distance. However, the black vehicle behind the blue car is following too closely and does not have enough space in the front zone. Keeping an ample space cushion around your vehicle gives you both time and space for an "out."

Continually scan the traffic scene around you to be aware of any situation that may affect your safe path of travel. If a driver cuts into your space ahead, keep cool. Do not react in a manner that could cause another driver to exhibit road rage. Slow and reestablish a safe following distance.

Increase your following distance to at least 4 seconds when conditions are less than ideal. Increasing your following distance is especially important when you are

- following a large vehicle that is blocking your vision
- following a motorcyclist
- driving in bad weather or roadway conditions
- driving in heavy traffic
- being tailgated
- driving a heavy vehicle or pulling a trailer
- operating a motorcycle
- entering or exiting an expressway

Blind Spots Remember that you have blind spots in both your left-rear and right-rear zones. Check these zones often and be alert for other drivers who may pass you. When you are behind a vehicle in the next lane, keep far enough back so you are not in that driver's blind spot. Reduce your speed or accelerate and pass in order to stay out of another driver's blind spot.

Being Followed

Vehicles following you too closely, or tailgating, can put you in a dangerous situation. Many drivers tend to think that they have no control over the space in their rear zones. Encourage tailgaters to pass you by reducing your speed gradually. However, do not reduce your speed if heavy traffic prevents tailgaters from passing. If a driver continues to tailgate, change lanes when it is safe to do so. Frequently check your rear zones to stay aware of any tailgaters.

Lane Changing

Avoid changing lanes too often. Unnecessary weaving from one lane

to another can lead to a collision. Take these steps to change lanes on the expressway:

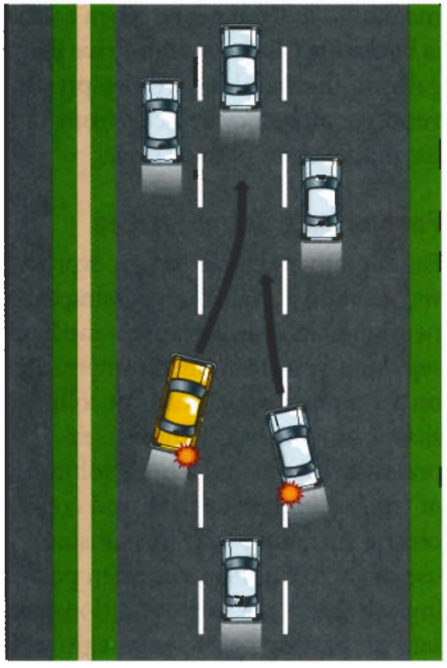
1. Change lanes one lane at a time. Signal *every* lane change, whether or not other vehicles are present.
2. Check traffic in the outside and inside rearview mirrors. Check the blind-spot area in the direction you want to move.
3. If your path is clear, accelerate gently and move to the next lane.
4. Cancel your signal after you have changed lanes.

Once you have made a lane change, establish your position in that lane before moving to another. Drive at the speed of traffic in that lane if it is within the speed limit.

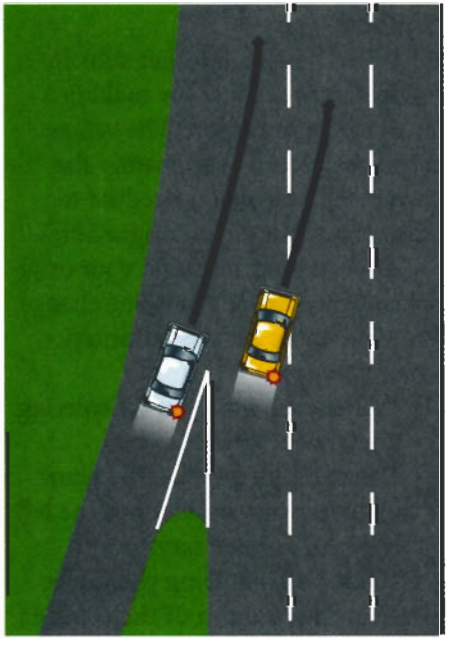
Changing lanes on an expressway is more complicated when three or more lanes of traffic are moving in the same direction. Many times a potential conflict is created when two drivers head for the same space at the same time, as the top picture shows. A quick glance over the shoulder lets you check the lane to see if it is open.

Sometimes you will change lanes so traffic entering the expressway can merge safely. Remember that some expressways have entrance ramps on the left as well as on the right. If you are driving in the left lane and see a driver entering from the left, predict a closed front zone. Signal right, check your right zones, and change lanes as the yellow car in the picture is doing.

Lanes are often closed for construction and road repair. When a lane is closed, drive only in the lanes open for traffic. It is both illegal and hazardous to use the shoulder or



A conflict can occur when two drivers head for the same space at the same time.



The driver of the yellow car predicted a closed front zone and decided to change lanes.

Use signals and constantly check traffic when passing on an expressway.

median as a driving lane when traffic is backed up. Drivers who drive illegally on the shoulder are also preventing emergency vehicles from having an open path of travel.

Passing and Being Passed

Passing other vehicles on an expressway usually is safer than passing on a two-lane highway. Because a median separates you from oncoming traffic on an expressway, a head-on collision is not a threat. However, expressway speeds and a high volume of traffic demand caution and concentration, along with the constant use of the IPDE Process, when passing. Always make sure conditions are safe for passing before you begin your maneuver.

Passing on the left is common on expressways. However, passing on the right is permitted if a slower driver is in the left lane.

When passing another vehicle, follow the procedure for making a lane change to the left. The yellow car in the picture is following the correct lane-change procedure to pass vehicles in the two right lanes.

After passing, return to your original lane by making a safe lane change.

Make these actions automatic when you pass:

- Evaluate the zone you are entering.
- Signal your lane change.
- Check blind-spot area by glancing over your shoulder to the left or right, as necessary.

When you are being passed, be aware of the position of the vehicle passing you. If you do not have enough space cushion to the side, move to lane position 2 or 3. Continue to check the vehicle that is passing you. Keep your speed steady and do not accelerate.

If you are continually being passed on the right, move to the lane on your right when it is safe to do so. When you are frequently being passed on both sides, you are in a potentially dangerous situation. You have reduced the space in your left and right zones and have greatly increased your degree of risk. Blending into the flow of traffic is just as important during passing as it is when entering or exiting an expressway.

Review It

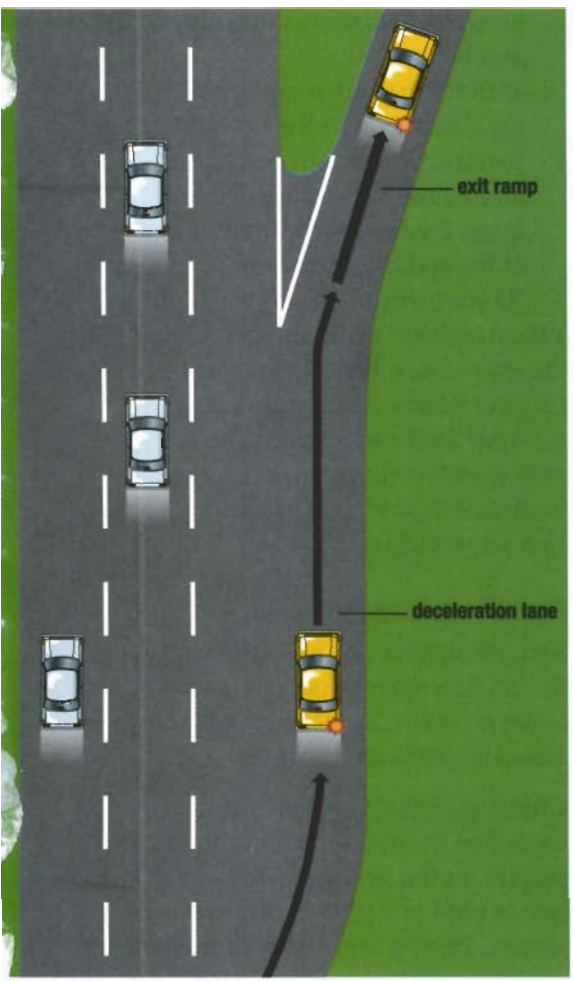
1. How can using the IPDE Process help you maintain a safe path of travel on expressways?
2. When should following distances be increased for expressway driving?
3. What actions could you take when you are being tailgated?
4. What three actions should be automatic when changing lanes to pass on an expressway?

11.4
Exiting Expressways

Leaving an expressway safely requires planning and skill. Plan for your exit as early as possible. Scan signs to know which exit to take. When you see the sign for your exit, move into the lane designated by the sign. Most expressway exits provide a **deceleration lane,** an added lane in which to slow your vehicle without blocking the vehicles behind. Try not to decelerate until you are off the expressway and in the deceleration lane.

The deceleration lane leads into the **exit ramp,** the ramp leading off the expressway. Identify the sign that shows the exit-ramp speed. If you do not slow your vehicle enough in the deceleration lane, you might enter the exit ramp at too high a speed.

Many exit ramps lead into a sharp curve. The posted ramp speed limit indicates the top speed possible for negotiating the exit safely. Remember, if you miss the exit you want, go on to the next exit. *Never stop or back up if you go past your exit.*



The parts of an expressway exit.

Objectives
1. Explain how to apply the IPDE Process to exit an expressway.
2. List the steps for exiting an expressway.
3. Describe three possible exiting problems.

Applying the IPDE Process

Use the IPDE Process to plan your exit well in advance:

1. Identify the green expressway guide signs showing the distance to your exit.
2. Predict actions of other drivers who might be using the same exit.
3. Decide on the safe speed for exiting.
4. Execute your maneuver smoothly and blend with slower traffic.

Steps for Exiting

Follow these steps to exit an expressway:

1. At least one-half mile before the exit, check front and rear zones for traffic. Signal and move into lane position 3 in the lane that

Be in lane position 3 before you get to the deceleration lane.

Move into the deceleration lane.

Slow to the posted speed limit.

leads into the deceleration lane. This is shown in the first picture. Change only one lane at a time. Avoid last-second decisions and sudden moves. Do not reduce your speed until you are in the deceleration lane.

2. Move into the deceleration lane. Cancel your signal.
3. Flash your brake lights to warn drivers behind that you are slowing. Check your rear zones so you will know the speed of following traffic. Slow gradually and keep a safe space cushion ahead and behind you.
4. Identify the exit-ramp speed sign, as shown in the bottom picture. Check your own speed, and adjust to the posted speed limit. Predict a STOP or YIELD sign at the end of the exit ramp.

Be alert when entering traffic on a local highway or street after leaving the expressway. Expect two-way traffic, pedestrians, intersections, and the need for lower speeds. Check your speedometer frequently and be alert for the typical hazards of two-way streets and roads.

Possible Exiting Problems

Even though leaving an expressway should be a smooth operation, problems can occur. Be alert and ready to adjust to problem situations.

Crossing Paths On some expressways, like the one shown in the first picture on the next page, the same lane is used as both an entrance and an exit. Exiting traffic should merge

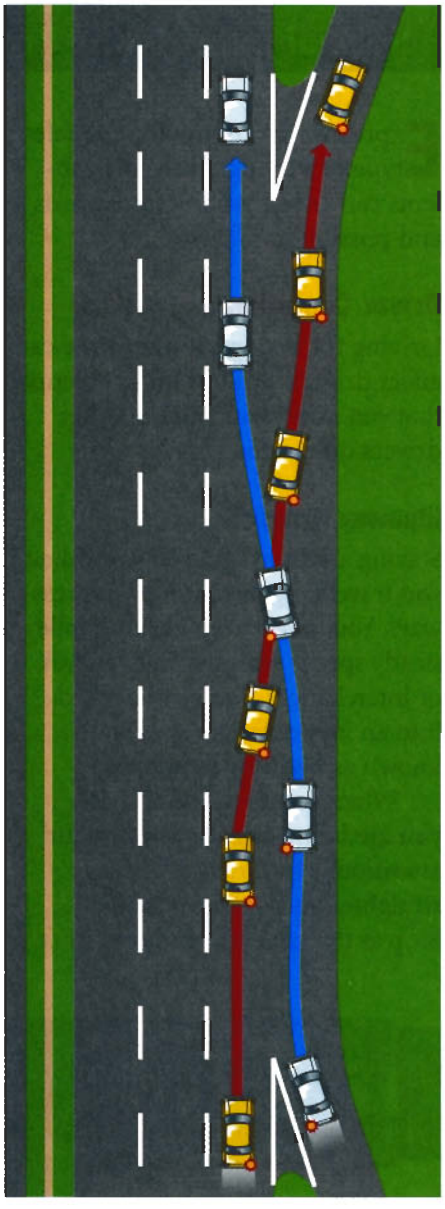
behind entering traffic since entering traffic is accelerating.

Ramp Overflow Traffic can back up from an exit ramp onto the expressway, as the second picture shows. Rather than joining the overflow and risking a rear-end collision, go past the exit and use the next exit. Some drivers pull off on the shoulder out of the lane of traffic. This is both unsafe and illegal.

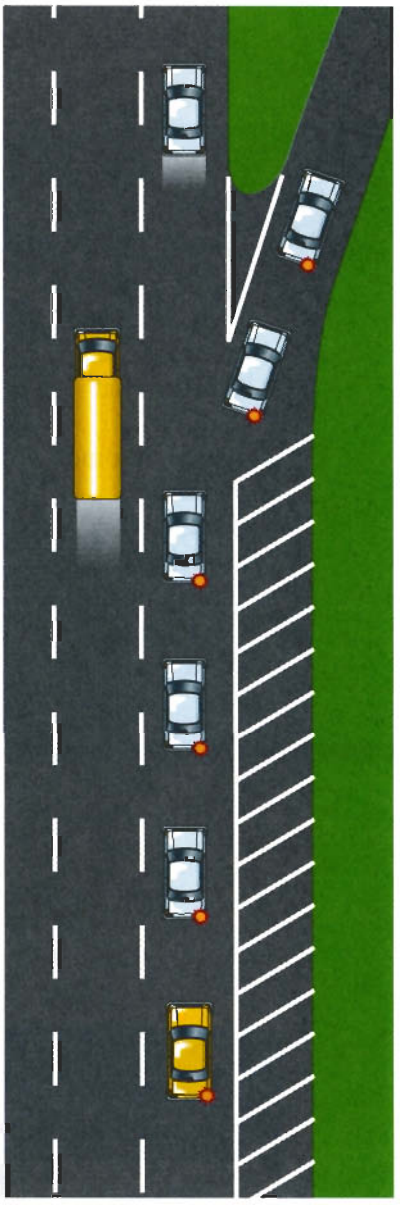
Start slowing early if you must use a backed-up exit. If you see vehicles backed up near the exit ramp, check your rear zone, flash your brake lights, and begin to slow. Check your rear zone again to make sure traffic is slowing. If traffic is not slowing, try to pass the exit area smoothly, and drive on to the next exit.

Short Deceleration Lane Slow more quickly if the deceleration lane is short. Evaluate your rear zones. This is critical in such situations. As you enter the deceleration lane

- judge the lane's length
- identify the exit-ramp speed
- check speed while braking
- check traffic in rear zones



Driver's paths might cross when the same lane is used for entering and exiting.



What should drivers do when traffic is backed up near an exit ramp?

Review It

1. How should you use the IPDE Process when planning an exit from an expressway?
2. What steps should you follow when exiting an expressway?
3. What are three possible exiting problems?

11.5
Special Expressway Problems

Objectives
1. Describe the cause of highway hypnosis and tell what actions to take to stay alert.
2. Explain what to do if your vehicle becomes disabled.
3. List three key factors that contribute to safe driving on expressways.

Expressways can provide the safest type of driving. Even so, problems can arise that present hazards and possible conflicts.

Driver Condition

Driving for long periods of time can affect drivers. Be alert for problems that can affect you and the other drivers on the road.

Highway Hypnosis

Staying alert can be a problem when you travel long distances on expressways. You may drive mile after mile at steady speeds with few hills, curves, or interchanges. You can be lulled into an inattentive, drowsy state known as **highway hypnosis.**

When you first notice that you are becoming drowsy or your attention is less focused, sit up straighter and open a window. Stop at the next exit and stretch or exercise. If you need more rest, stop at a safe place and take a brief nap.

Fall-Asleep Collisions

More than 100,000 collisions in the United States each year are caused by sleepiness. Fall-asleep collisions are twice as likely to involve fatalities as other types of collisions.

Sleepiness is a preventable cause of vehicle collisions. Drivers who fail to recognize their own fatigue and sleepiness, or even ignore it, pose a high-risk threat to themselves and to others on the roadway. All drivers are at risk for fall-asleep collisions.

Velocitation

Hours of driving can fool you into thinking your vehicle is traveling slower than it really is. You might then unconsciously drive too fast. This condition, called **velocitation,**

LEAVING EXPRESSWAYS Many drivers have difficulty adjusting to lower speeds after leaving an expressway. Some drivers fail to slow down to the posted speed limit and find themselves stopped by police officers. These drivers usually will be issued tickets for speed-limit violations.

can be especially hazardous when you exit an expressway.

The roadways you drive on after exiting usually have a lower speed limit than the expressway. If you are "velocitized," you might continue to drive at expressway speeds after making your exit. To prevent exceeding the local speed limit, check your speed often after exiting the expressway.

Roadway Conditions

Be aware of the characteristics of certain expressways in order to drive safely on them. Even under the safest conditions, roadway problems can still arise.

Expressways Through Cities

City expressways have more exit and entrance ramps than rural expressways. More ramps increase merging traffic conflicts and give indecisive drivers more opportunities for dangerous last-second decisions.

Remember the following points when driving on an expressway through a city, especially during rush hour:

- In most cases, drive in the center or left lane to avoid merging vehicles.
- Know well in advance where you want to exit. Get in the correct lane early. Fast-moving traffic can make lane changing difficult and dangerous.
- Search constantly for signs, signals, and roadway markings.
- Predict that other drivers are less alert and less aware than you are.

Disabled Vehicle

Take these steps with the first sign of trouble with your vehicle:

1. Check rear zones and signal. Pull as far as possible onto the shoulder or the median.
2. Turn on your hazard flashers. If the vehicle is not very far off the road, get everyone out and away from traffic.
3. When it is safe to do so, raise the hood and tie a white cloth to the antenna or door handle. If you have a cellular phone, call for help.
4. If you have emergency flares or reflectors, set them out at least 500 feet behind your vehicle when it is safe to do so.
5. Get back into your vehicle and lock all doors. Ask anyone who stops to assist you to go to a phone and call for help. Never get into a stranger's vehicle.
6. Do not stand in the expressway to direct traffic.

Roadway Repair

Be alert for roadway repair zones. Watch for orange construction signs and be prepared to slow as soon as you identify the first one. Early-warning construction signs with blinking lights indicate the construction-zone speed limit. Reduce your speed and follow the directions of the construction workers.

Rural Interstate Highways

Driving long distances on rural interstate highways can become monotonous. Check your speed frequently, and look as far ahead as possible into your target area.

If your vehicle becomes disabled, pull as far as possible onto the shoulder or median.

Fines are often doubled for speeding violations in construction zone areas.

Select your lane well in advance. Stay in that lane and have your money ready.

Try not to let larger vehicles tailgate you. Remember that they cannot stop as quickly as you can. Pass larger, slower-moving vehicles only when it is safe to do so.

Tollbooths

Tollbooth plazas are located along many expressways. You stop at a tollbooth and pay a fee, or toll, for driving on that expressway.

Rough sections of roadway, called *rumble strips,* are built into the approach lanes of some toll plazas. These strips warn you of the tollbooths ahead and remind you to check your speed.

When approaching a tollbooth plaza, look for a green light above a tollbooth. The green light indicates that the lane is open for traffic.

Many toll plazas have signs overhead in different colors, as the picture shows. These colors indicate the lanes for the tollbooths that are electronic, require exact change, or are attendant operated.

Toll plazas have at least three types of tollbooths. One type is automatic; the driver deposits coins into a machine. The second type is operated by an attendant for drivers without exact change and drivers of larger vehicles.

Another type of tollbooth is operated electronically. An electronic device is placed inside the driver's vehicle on the windshield or on the dashboard. As the driver approaches the designated toll lane, the device communicates electronically with a computer in the lane. The toll is then subtracted from a previously prepaid account.

Using Expressways Safely

Three key factors contribute to safe driving on expressways:

- cooperation among drivers
- concentration on the driving task
- use of the IPDE Process

Keeping these factors in mind as you gain expressway experience will enable you to contribute to low-risk expressway driving.

Review It

1. What are causes of highway hypnosis? What actions can you take to stay alert?
2. What should you do if your vehicle becomes disabled?
3. What are three key factors that can help you drive safely on expressways?

Chapter 11
Review

Reviewing Chapter Objectives

1. Characteristics of Expressway Driving

1. What are five reasons expressways have lower collision rates than other highways? (222)
2. What are four different types of expressway interchanges? (222–223)
3. What strategies can you follow for low-risk driving on expressways? (223–224)

2. Entering an Expressway

4. How do you properly enter an expressway? (225–226)
5. What are four possible problems you may have when entering an expressway? (227)
6. Why is entering an expressway from the left more hazardous than entering from the right? (228)

3. Strategies for Driving on Expressways

7. How can you use the IPDE Process to achieve a safe path of travel? (229–230)
8. When should following distances be increased for expressway driving? (232)

4. Exiting Expressways

9. How can you apply the IPDE Process to exit an expressway? (235)
10. What steps should you take when exiting an expressway? (235–236)
11. What are three possible exiting problems? (236–237)

5. Special Expressway Problems

12. How is highway hypnosis caused and what actions can you take to stay alert? (238)
13. What should you do if your vehicle becomes disabled on an expressway? (239)
14. What three key factors contribute to safe driving on expressways? (240)

Projects

Individuals

Observe Traffic As a passenger in a vehicle, observe vehicles that pass both the vehicle you are in and other vehicles. Record the number of vehicles you see passing in a five-minute period. Note the number of vehicles passing on the right and the number passing on the left. Also note whether the vehicles seem to be exceeding the speed limit. Discuss your observations in class.

Investigate Locate the interchanges on a map of your area and nearest city. Identify each as cloverleaf, diamond, trumpet, or all-directional. Discuss your findings in class.

Groups

Use Technology Use the Internet or other sources to research the use of tollbooth plazas in your state and neighboring states. Find out how many tollbooth plazas are being used. Find out whether the tollbooths operate with toll attendants, automatically, or electronically. Also find out how much money the booths collect annually and how the money is used. Write a group report based on your findings.

Demonstrate As a group, make an expressway model and label the various components. Present your model to the class. Group members should take turns explaining the purpose and potential problems related to each expressway component.

Chapter 11
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. Expressways are safer than other types of roads because
   (a) there is less traffic.
   (b) there are no intersections or cross traffic.
   (c) average speeds are higher.
   (d) there is no barrier between opposing traffic lanes.
2. If traffic is backed up on the exit ramp you want to use, you should
   (a) pass the ramp and use the next exit.
   (b) stop on the expressway until the ramp is clear.
   (c) pull onto the shoulder and wait.
   (d) none of the above
3. Expressway collisions tend to be more serious than those on other types of roads, because expressways
   (a) have median strips.
   (b) have so many conflicts.
   (c) have higher-speed travel.
   (d) have more hazards.

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

4. You slow your vehicle without blocking those behind you when you are in the _____ lane.
5. A _____ interchange is used when a side road forms a T intersection with an expressway.
6. The right edge of the expressway should be marked with a _____ line.

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

7. group or formation of vehicles traveling on an expressway
8. speed used by most drivers on an expressway
9. condition of unconsciously driving too fast as a result of driving for long periods at high speeds
10. lane that permits drivers entering an expressway to accelerate to the speed of expressway traffic
11. stretch of roadway at the end of an acceleration lane where vehicles join the flow of traffic

List B

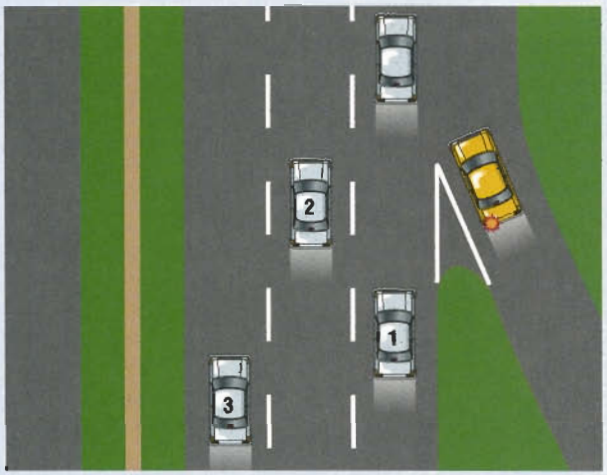
a. acceleration lane
b. velocitation
c. wolf pack
d. common speed
e. merging area

Think Critically

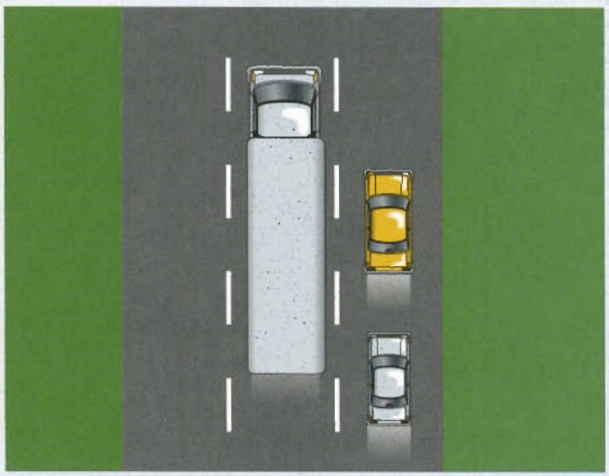
Write a paragraph to answer each question.

1. What are the pros and cons of higher-speed driving on an expressway?
2. How do you think wolf packs form on expressways?

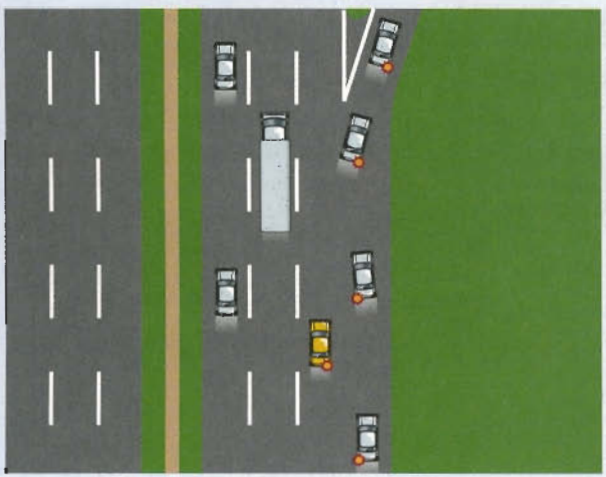
Decision Making



1. The yellow car is about to enter the merge area. What should car 1 do? How can car 2 help? What should car 3 predict? What action should the driver of the yellow car be executing?



2. What unsafe practice is the driver of the yellow car following? What options does this driver have to improve the situation? How might the tailgater affect the yellow car driver's decision?



3. The driver of the yellow car plans to exit the expressway. The same lane is used for exiting and entering. What should the driver of the yellow car do? Why is this a wise decision?

4. What is the driver of the car required to do when driving through the construction zone?