

Class 6

**Fact Sheet 7.1** Content Information

### Characteristics of an Expressway

**Expressways** are high-speed roadways that typically carry a high volume of traffic. Expressways:

- Have multiple lanes, two or more lanes, going in the same direction
- Have barriers sometimes a guardrail, concrete barrier or grassy median to divide opposing traffic
- Have interchanges to control access at certain locations where a driver can enter and exit, cross traffic is not present because of interchanges
- Prohibit pedestrians, bicyclists and slow-moving vehicles
- Are designed to help drivers anticipate conditions ahead
- Reduce collisions with fixed objects by design
- Have a low frequency of collisions, but may have a high severity rate when a collision occurs because of higher speeds

**Highway safety design features** are rarely given much thought. Elimination of intersections, wide clear shoulders and wide lanes all contribute to the low crash/injury/fatality rate on the Interstate Highway System. Other occupant protection design features on expressways include but are not limited to:

- Rumble strips installed at the road edge to alert drivers that they are drifting off the roadway onto the shoulder or median, acting as countermeasures to driving off the roadway because of drowsiness or inattention
- Redesign of median barriers
- Breakaway sign support posts
- New design guard rails with ends angled away from roadway and buried
- Vinyl crash barrels filled with liquid or sand and placed at bridge heads and major decision points
- Reflective signs or delineators mounted near the edge of a roadway to indicate the roadway alignment and aid in night or poor visibility driving
- Mile markers located off the shoulder used as reference points along a route
- Protected left and right turn bays
- Collector/distributor lanes on high speed, high density highways to separate slower moving entering/exiting traffic from through traffic
- Message signs to alert drivers to problems

**Expressway Driving** 

Fact Sheet 7.1 continued Content Information

#### **Types of Interchanges**

An interchange is any of the places on an expressway or limited-access roadway that traffic can enter or exit, usually by means of ramps.

The types of interchanges on expressways include: diamond, cloverleaf and trumpet.

- 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.
- A **diamond** interchange is used when a road that has little traffic crosses a busy expressway.

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







### **Expressway Driving**

### Fact Sheet 7.1 continued Content Information

#### **Entering the Expressway**

**Before entering the expressway**, search guide signs for the correct route number and direction or destination. If entering what is believed to be an entrance ramp and it is marked with "DO NOT ENTER" or "WRONG WAY" signs that are red and white in color, immediately pull over to the edge, turn around and leave the ramp. Also, be sure the solid yellow line is on the left-hand side of the vehicle.

Expressway entrances include three areas:

- 1. The entrance ramp
- 2. The acceleration lane
- 3. The merge area

#### The entrance ramp

- Allows driver time to search for traffic flow and gaps and evaluate speed and space requirements before entering.
- May be uphill, downhill or level with the expressway.



• Each presents a different challenge when trying to search the traffic flow on the expressway. Drivers must search for traffic on the ramp as well as for a gap in traffic on the expressway.

#### Entrance ramp entering from the left

Some entrance ramps enter from the left instead of the right. This means that traffic is entering the far left lane, usually reserved for higher speed traffic.

- The potential for conflict is greater.
- The search pattern is different in that search is directed to the right and over the right shoulder instead of over the left.
- Also, additional lane changes to the right may be necessary once on the expressway if the driver's speed is less than traffic traveling in the left lane of the expressway.

A "weave" lane is both an entrance and an exit for an expressway. Traffic may come onto and leave the expressway at the same location.

- Causes conflicts for both drivers using a "weave" lane.
- Causes conflicts for drivers on the expressway and on the entrance ramp in terms of speed and space adjustments.
- The driver entering from the entrance ramp shall yield the right-of-way to the driver leaving the expressway.

### **Expressway Driving**

Fact Sheet 7.1 continued Content Information

#### **Entering the Expressway**

**The acceleration lane** is used to speed up to or near the speed of traffic on the expressway. The amount of acceleration depends on traffic flow on the expressway. Again, searching ahead for traffic in the lane and traffic signs such as "stop" or "yield" is just as critical as searching for a gap on the expressway.

**The merging area** is the area used to move onto the expressway and is usually marked with a broken white line. Attempt to merge at the speed of traffic. Avoid exceeding the posted legal speed limit.



#### The steps for entering the expressway include:

- 1. Identify entrance at least 1/2 mile in advance
- 2. Check traffic in all directions
- 3. Signal, position in proper lane, and adjust speed as necessary
- 4. Enter ramp and adjust speed
- 5. Identify weave or collector distributor lane
- 6. Identify adequate space gap for merging
- 7. Signal presence and intent to enter
- 8. Adjust speed and merge into travel lane, remember that exiting vehicles are to be given right of way at weave lane interchanges
- 9. Adjust to travel speed
- 10. Check mirrors for following traffic



### Fact Sheet 7.1 continued Content Information

#### **General Problems Associated with Expressway Entrances**

General problems associated with expressway entrances include heavy traffic, short ramps and acceleration lanes and high walls that may block visibility. Also, traffic ahead on the ramp may slow or stop abruptly.

#### **Entrance ramp problems:**

- Wrong ramp choice
- Traffic ahead and behind on the ramp
- Sharp curves on the ramp
- Visibility problems ahead and to the expressway

#### Acceleration lane problems:

- Amount of traffic in lane and on expressway
- Short acceleration lane
- Limited space ahead
- Actions of drivers ahead and behind

#### Merging area problems:

- Heavy traffic
- Lack of a gap to merge
- Traffic slowing or stopping ahead
- Visibility problems ahead and to the side

#### Reducing risk on the entrance ramp:

- Search for the proper entrance
- Search ahead, behind and toward the expressway
- Make sure ramp is clear
- Avoid stopping or backing on ramp

#### Reducing risk in the acceleration lane:

- Search ahead and for gap on expressway
- Prepare to adjust speed
- Pull ahead onto the shoulder if no gap is available

#### Reducing risk in merging areas:

- Search ahead and to the side
- Prepare to blend speed with traffic
- Change lanes smoothly

Fact Sheet 7.1 continued Content Information

#### Driving on the Expressway

Expressway driving is challenging.

- High speeds, traffic flow, types of traffic and driver interaction all make expressways unique.
- Large trucks use expressways regularly and require the driver's special attention.
- Multiple lanes make lane selection critical. Stopping distances are increased with higher speeds.
- Lane markings and traffic signs play an important role.
- Search patterns need to be lengthened (20 to 30 seconds ahead) as potential clues approach more quickly with higher speeds.
- Any actions taken with the vehicle need to be smooth and timed. Sudden changes in speed or direction could cause conflicts.

Lane choice is dependent upon several factors:

- The volume of traffic, type of traffic, speed and the planned exit.
- The far right lane has potential for conflicts with drivers entering and leaving the expressway. Trucks and buses may use the far right lane when climbing hills, as their speed is usually slower going uphill.
- The center and/or far left lane is reserved for passing and high speed traffic.

**Driving at the speed** of traffic is the best way to establish and maintain a safe space around your vehicle. Avoid exceeding the legal posted speed.

- Following distance is critical on the expressway. It is important to maintain a 3-4 second following distance. Keeping an open area to at least one side of the vehicle gives an escape route if the lane ahead becomes blocked.
- Also, maintain at least a 3-second space to the rear of the vehicle by controlling space to the front.
- Increase following distance when following large trucks or buses, motorcycles, driving in bad weather, being tailgated, driving a heavy load or pulling a trailer and entering/ exiting the expressway.

### Fact Sheet 7.1 continued Content Information

#### Lane Changes on the Expressway

**The need to change lanes** on the expressway occurs often. It can be more dangerous when there are more than two lanes going in the same direction because several vehicles may want to move into the same lane. Searching techniques for changing lanes become even more important in these situations. Some reasons for changing lanes on the expressway include:

- Entering or exiting
- Changing lanes to allow someone else to enter
- Following large or slow-moving vehicles
- Lane ahead becomes blocked
- Passing

Lane change procedure:

- Maintain safe following interval
- Check highway and traffic conditions ahead, to the sides and behind
- Select a safe gap in traffic
- Signal
- Check mirror blind spot in direction of lane change
- Adjust speed and steer into lane
- Cancel signal
- Adjust speed to flow of traffic
- Check mirrors for following traffic

When changing lanes, change one lane at a time. Do not cross several lanes at once. Adjust speed to the flow of traffic once in the new lane.

### **Expressway Driving**

### Fact Sheet 7.1 continued Content Information

#### Passing on the Expressway

**Passing** is one of the most dangerous maneuvers a driver can attempt. High speed passing on expressways increases risk. High volume of traffic on expressways increases the chances of collisions. Passing may occur on the left or right. Again, more than two lanes heading in the same direction present special search technique challenges.

#### Passing and being passed on multi-lane road:

#### When passing:

- 1. Check oncoming and following vehicles, vehicles slowing ahead, vehicles or other high way users about to enter roadway from driveways, intersections or the shoulder
- 2. Check mirrors and head check for passing vehicles
- 3. When safe, signal intention to pass
- 4. Initiate pass at least two seconds behind vehicle to be passed
- 5. Steer smoothly into passing lane
- 6. Maintain or adjust speed as necessary
- 7. Search highway ahead and check mirrors
- 8. Make sure vehicle does not drift toward vehicle being passed
- 9. Continue in passing lane until complete front of passed vehicle is visible in rear view mirror
- 10. Signal intention to return to lane
- 11. Steer smoothly into lane, maintain or adjust speed as appropriate
- 12. Cancel turn indicator

#### When being passed:

- 1. Check passing vehicle's position
- 2. Move slightly away from passing vehicle if it is too close by keeping to right side of lane
- 3. Maintain speed and slow if appropriate, to let other driver complete pass safely
- 4. Once passed, create space ahead and behind

**Expressway Driving** 

Fact Sheet 7.1 continued Content Information

#### **Exiting the Expressway**

**Exiting the expressway** should be a smooth procedure accomplished at an expressway exit. First, identify well ahead the exit needed. If the exit is missed or blocked with stopped traffic, do not stop and/or back up on the expressway; go to the next exit. The exit has two components:

- **Deceleration lane** area where speed should be reduced to exit safely
- Exit ramp these may be level or sharply curved, uphill or downhill. Be sure to adjust speed for ramp speed sign



**Identify the exit** needed early. Exits are marked with guide signs, usually one to two miles before the exit. The location of the exit number (left or right) on the top of the sign will give the driver a clue as to whether to exit to the left or right.

- About one-half mile (20-30 seconds) before the exit, signal and move to the lane that leads to the deceleration lane.
- At the deceleration lane entrance, perform a smooth lane change procedure and move into the deceleration lane.
- Check the posted ramp speed sign and begin to adjust speed to or below the posted speed.
- Also, check for traffic stopped ahead. Check mirrors and begin to slow down.
- Keep a space cushion ahead and behind your vehicle.

#### Possible exiting problems include:

- "Weave lane" conflicts -- search early and communicate with the other driver
- Traffic stopped on the exit ramp -- search early and prepare to slow or stop
- Short deceleration lane -- search rear and slow more on expressway
- Very slow ramp speed -- slow more in deceleration lane

Fact Sheet 7.1 continued Content Information

#### **Special Expressway Conditions**

- **Expressways through cities** The volume of traffic may increase dramatically. Speeds may slow to a crawl. Drive in the left or center lane to avoid merge conflicts in rush hour. Search for exits early and adjust position for exit.
- **Disabled vehicles** When there is a disabled vehicle ahead, reduce speed and increase the space between your vehicle and the disabled vehicle. This may involve changing lanes. Be alert for pedestrians, tow trucks and/or police vehicles.
  - Move-over laws have been enacted in some states. These laws, require drivers to slow and change lanes when approaching a roadside incident or an emergency/police vehicle. Make a lane change away from the incident when safety and traffic conditions permit. If a lane change is unsafe, slow down and proceed with caution.
- Work Zones Search ahead for warning signs. Adjust speed and adjust position to maintain a space around your vehicle. Follow directions on lane closure signs early, do not rush to the front of the line and attempt to cut into congested traffic.
- **Toll booths** Search well ahead for toll booth signs. Begin reducing speed early as traffic may be backed up at the booth. Search for green lights or signs for an open booth. When exiting, search traffic to both sides for merging potential. Accelerate smoothly and adjust speed.
- **"Emergency and official vehicles only" crossovers** This is a transverse roadway or opening that connects the separate roadways of a divided highway. Crossover lanes are to be used only by emergency and official vehicles. Watch for vehicles entering the roadway from a crossover.

**Fact Sheet 7.2** Content Information

#### **Characteristics of Urban Roadways**

**Urban roadways** typically carry a high volume of traffic with many hazards involved and can be of varying speeds (25 - 55 mph) depending on the area and location. Urban roadways also include residential areas.

- More roadway users such as cars, buses, trucks and pedestrians to interact with.
- Multiple intersections with left and right turn lanes, stop signs and traffic signal lights.
- City blocks divided by alleys, which create more intersections.
- Many stores and businesses are present.
- Public transportation (buses, light rail vehicles and trolleys) is present.
- Traffic that starts and stops frequently.
- "Rush hour" traffic.
- Rows of parked vehicles, delivery trucks and blind alleys creating path of travel restrictions.
- Parking difficult to locate.
- Work zones are common and make the area even more congested.
- Detours due to street maintenance, emergencies or special events (i.e. parades, concerts).
- Traffic hazards are closer to you than they are in rural areas and can quickly block your path.
- Many situations with a blocked path of travel and line-of-sight restrictions.

**Fact Sheet 7.2** Content Information

#### **Adjusting to Urban Roadways**

Students can begin driving in urban areas once they are comfortable performing basic maneuvers and are able to use the SEE system.

Speed – stay within the posted speed limit and choose to reduce speed to reduce risk.

Visual search – in the city, you should look at least two blocks or two traffic signals ahead.

**Use SEE** – as you drive, remember to use the SEE System. You will be vulnerable to many situations with closed zones and line-of-sight restrictions. You will need to either increase your following distance, change your lane position, slow or stop to give you time to solve the conflict.

### Fact Sheet 7.2 **Content Information**

#### **General Problems Associated with Urban Roadways**

General problems associated with urban roadways include heavy traffic, traffic slowing or stopping, tailgaters, traffic signals, adjusting speed to traffic, choosing the correct lane, parked vehicles on the side of the roadway, pedestrians and drivers going the wrong direction on onway streets.

#### Urban roadway problems:

- Heavy traffic
- Traffic slowing or stopping ahead
- Tailgaters
- Traffic signals
- traffic
- Choosing the correct lane
- Parked vehicles on the side of the roadway
- Pedestrians
- Drivers going wrong direction on oneway streets

#### **Reducing risk on urban roadways:**

- Increase following distance
- Search ahead, to the sides and rear
- Move slightly to the right and signal early for turns, stops and lane changes
- Look ahead, slow down as you approach, do not block intersection if light turns red
- Blending into traffic or adjusting speed to Drive with the flow of traffic, stay within the speed limit, adjust speed and position ahead of time for any hazards
  - Select the lane with the fewest number of hazards and traffic flow is smoothest
  - Move to the left portion of your lane and be alert for possible conflicts, yield to other vehicles if narrow roadway
  - Search ahead for pedestrians, yield to them at all times. When approaching a stopped vehicle from behind, slow down and do not pass until you are sure there are no pedestrians crossing in front of it
  - Slow, move to the right, sound your horn or flash your headlights

**Fact Sheet 7.2** Content Information

#### **Driving on Urban Roadways**

#### **Following Others**

It is important to maintain an adequate following distance so that a driver can see what is ahead, be seen by others, and so that drivers can create more time and space.

Be alert when driving on urban roadways for areas where sudden stops may occur. For example:

- Intersections where driving may have to stop for traffic or pedestrians
- Lanes next to parked vehicles
- Business entrances with high volume traffic

#### **Oncoming Traffic**

Keep as much space as possible between your vehicle and oncoming vehicles. On a two-way, single lane roadway, do not crowd the center line marking. It is safest to drive in the center of your lane, so your vehicle can move left or right to avoid a potential problem.

If a driver in the oncoming lane crosses the center line you should:

- Slow down until other drivers can return to their lane.
- Turn on or flash headlights and blow the horn.
- If the right path of travel is open, move to the right to give the oncoming driver more room.

#### **Driving on Urban Roadways**

#### Selecting the best lane

When driving where there are multiple lanes of traffic, you may use different lanes at different times.

- Select the lane with the fewest number of potential hazards. If your front zone closes move to another lane.
- The right lane is usually for slower traffic and the left lane for passing traffic, but sometimes traffic turning left can cause the left lane to be congested.
- Avoid driving next to other vehicles on multi-lane roads. Another driver may crowd your lane position, try to change lanes, and pull into your lane space. Increase or reduce your vehicle speed to stay clear of the other vehicle that may be trying to enter your lane space.
- Always drive in the lane that applies to you, as indicated by the arrows on the pavement. This keeps traffic flowing and helps you get to where you are going easier.

#### **Changing lanes**

Try to maintain your lane position, but if you must change lanes:

- 1. Use your mirrors to check traffic to the rear
- 2. Signal your lane change early
- 3. Quickly check your blind spot area
- 4. Change lanes without slowing
- 5. Cancel your signal

#### Passing

Passing in a city can be dangerous. You must be alert for pedestrians, cross traffic, signals, and other restrictions.

- If you must pass another moving vehicle on a two-lane two-way street, make sure you can do so safely and legally.
- It is illegal to pass at intersections or over double yellow center lines.
- When passing use the lane change procedure above and drive past the slower moving vehicle.
- Signal briefly and return to your lane when there is a safe gap in traffic.

**Fact Sheet 7.2** Content Information

#### **Shared Left Turn Lanes**

**Using shared turning lanes** - Some left turns in business areas can be made mid-block from a shared turning lane. To use these lanes, search ahead for oncoming traffic and be prepared to yield to any vehicle whose path drivers may cross. Drivers who want to make left-hand turns onto a roadway can also use a shared turning lane and wait for a gap in traffic.

**Position within lane is important on turns** - While it is always important to move well to the left or right when preparing to make a turn, it is especially important in heavy traffic when pedestrians in the crosswalk may cause you to stop. By moving as far left as possible, stopping may be avoided.

#### Using a shared left turn lane to enter a driveway

Shared left turn lanes are marked with solid and broken yellow lines on both sides of the lane and white turn arrows that indicate that drivers traveling in either direction can use the lane.

- Shared left turn lanes are intended only for vehicles making left turns.
- As a rule, drivers should not travel more than about 200 feet while slowing to stop or turn across traffic or accelerating to enter traffic.
- When traffic is so heavy that a safe gap in oncoming traffic is not available, drivers can move out of the left travel lane, slow, or if necessary stop, and then complete the left turn when there is a safe gap in traffic.



**Fact Sheet 7.2** Content Information

#### **Shared Left Turn Lanes**

# When preparing to use a shared left turn lane to turn left from moving traffic, a driver must:

- 1. Check the shared left turn lane for stopped vehicles waiting to turn from or onto the highway
- 2. Check ahead on the right to see if anyone wanting to make a left turn onto the highway will be entering the shared left turn lane where you expect to turn or stop
- 3. Check oncoming traffic for vehicles signaling a left turn
- 4. Check the driveway to the left for any vehicle signaling a left turn with intentions of moving into the lane while waiting for a gap in traffic to the right
- 5. Check traffic to the rear and signal intention to turn left
- 6. Adjust speed and then enter lane
- 7. If an adequate gap is not available, brake to a stop
- 8. When oncoming traffic is clear, complete the turn

### Using a shared left turn lane to enter a street from a driveway

- 1. Signal a left turn and stop at edge of roadway
- 2. Check for drivers on the opposite side of the roadway waiting to turn left
- 3. Check for drivers approaching from the right signaling or waiting to turn left
- 4. Check for a safe gap in traffic to the left
- 5. If traffic is clear in both directions, enter the nearest through lane
- 6. If there is a gap to the left, but not to the right, turn into the shared left turn lane, stop and turn on the right turn signal
- 7. When traffic in the lane to the right is clear, accelerate and steer into the nearest traffic lane

**Fact Sheet 7.2** Content Information

#### **Driving in Moderate to Heavy Traffic**

- Move with the flow of traffic Try to keep speed the same as that of surrounding vehicles. Avoid exceeding the legal posted speed limit. Any speed more than five miles per hour slower or faster than the flow of traffic tends to cause disruption in the flow.
- Anticipate lane blockages and select the lane that allows movement with the least conflict A visual lead of one to one and a half blocks (20-30 seconds ahead) helps to identify the better lane. Identifying blocked lanes due to pedestrian or oncoming traffic provides time to make a lane change if necessary.
- Sometimes there is no gap in which to make a lane change Do not force lane changes. Ask for permission to make the lane change by turning on the turn signal, positioning vehicle, and making eye contact. In short, ask the other driver to cooperate by helping to make a gap. Remember to return the courtesy when someone else needs help.
- **Predict traffic stoppages that could cause an intersection trap** Position the vehicle so that traffic can be searched 20 to 30 seconds ahead to better identify conditions that determine whether an intersection can be cleared before a signal light turns red.
- Identify streets as one or two -way streets One-way streets are usually marked with arrows mounted on corner posts.
- **Reversible lanes** During rush hours in some large cities, additional lanes are designated for traffic traveling into or out of the city. Identified as reversible lanes, they are marked with special double yellow broken lane line markers. In addition, signs at the side of the road and overhead signals identify which lanes can be used.
- **Plan ahead if turning is necessary** In heavy traffic, know where the turn must be made. Since it is frequently difficult to change lanes, plan to get into the proper lane two or three blocks in advance.
- **Yield to oncoming traffic and pedestrians in the crosswalk when turning left**—Finding a gap in oncoming traffic while yielding to pedestrians in the crosswalk, can be very difficult when turning left at a major intersection.
- Frequently turns are allowed from more than one lane It is important to remember that regardless of the number of lanes from which turns can be made, maintain the same lane throughout the turn on multi-lane urban roadways.

**Fact Sheet 7.2** Content Information

#### **Special Urban Situations**

- **Driving on two-way streets** Most city roadways are two-way streets with one lane going in each direction. Other streets have two or more lanes going in the same direction. Many city intersections do not have traffic controls, and the lack of traffic controls makes it hard to know what other drivers will do.
- **Driving on one-way streets** One-way streets are generally less congested than two-way streets and have fewer conflicts. To identify a one-way street, look for one-way signs posted, moving traffic and parked vehicles going in the same direction, traffic signs facing the same direction, and broken white lanes separating multiple lanes.
- **Parked vehicles** Angle or parallel parking is common on city streets. If you must drive close to parked vehicles, be alert for vehicles exiting parking spaces or other roadway users stepping out from a parked vehicle or from between vehicles. Keep extra space between your vehicle and parked cars by moving to the left portion of your lane space without crossing the center line. When you notice movement from a vehicle or pedestrian, slow, stop or move to another lane.
- **Blocking intersection** When turning left, make sure there are no vehicles or pedestrians blocking the travel path. You do not want to be caught in the intersection waiting for a path to clear while oncoming vehicles are coming toward your vehicle. Even if you have the green signal light, do not start across the intersection when vehicles are blocking the way. If caught in the intersection when the light changes to red, your vehicle will be illegally blocking traffic flow.
- Unexpected situations on crowded streets Vehicles could suddenly emerge from an alley and enter your path of travel. Slow down and cover your brake to maintain a safe path of travel. If necessary, let traffic clear before you move ahead. Maintain a continuous visual search pattern. Even though you may have a green light, you need to stop for pedestrians at intersections.
- **Pedestrians and bicyclists** Urban roadways have more pedestrians and bicyclists crossing than at other types of roadways. Bicycles can be difficult to see, and unpredictable with their intentions. Be alert for pedestrians at crosswalks, but also watch for jaywalkers moving into the path of travel. Yield to pedestrians and bicyclists at all times, even if they are not in a crosswalk.
- **Public transportation** Buses can create traffic jams as vehicles wait for them to load and unload passengers. Search 12 to 15 seconds ahead for buses moving to and away from bus stops. Move to another lane, if there is an available lane. Maintain a safe following distance from a bus, trolley or light rail vehicle. Do not proceed across light rail-tracks until you can see clearly in both directions, or if a signal indicates you may proceed.

### **Fact Sheet 7.3** Content Information

#### **Characteristics of Two-Lane Rural Roadways**

**Rural roadways** carry a low volume of traffic and speed limits range from (25 - 55 mph). Extra caution should be taken when driving on rural roadways because they are often not designed for high-speed travel like urban roadways and may present unfamiliar hazards to drivers. Drivers may find that driving on rural roadways may easily reduce attention to the road, and a sudden hazard on the road may then become dangerous.

- Roads may be narrow, have a paved, graveled, or dirt surface, and may be smooth or poorly maintained. Sometimes surfaces may be soft from compacted gravel or dirt.
- Shoulders may be narrow or uneven. Guard rails may be present.
- Very few roadway signs and traffic signals. Pavement markings may not be present.
- Often have steep hills and curves. Blind curves are also present.
- May commonly have open bridge gratings, steel bridges, and uncontrolled railroad crossings.
- Typically have uncontrolled intersections.
- Many have different kinds of obstacles such as animals, slow moving vehicles, and debris.
- At night, there is a lack of adequate lighting since there are few street lights.

### Fact Sheet 7.3 continued Content Information

#### **Adjusting to Rural Roadways**

Speed – On rural roads you must manage your speed control.

- The slower you drive the more time you have to respond to a hazard.
- Drive at a speed where you will be able to brake and steer without losing control.
- When environmental or roadway conditions are unsafe, adjust your speed to give you more time and space to execute decisions.

**Visual search** – Maintain a 20 to 30 second visual lead to help you identify hazards. This will give you time to evaluate the situation and execute your decision.

### Fact Sheet 7.3 continued Content Information

#### General Problems Associated with Rural Roadways

**General problems associated with rural roadways** include gravel or dirt roadways, dust on the roadway, narrow bridges and roads, open bridge gratings or steel bridges, vision limitations, steep hills and curves, highway-railroad grade crossings without lights or crossing gates and uncontrolled intersections.

#### **Rural roadway problems:**

- Gravel or dirt
- Dust
- Narrow bridges and roads
- Open bridge gratings or steel bridges
- Vision limitations (i.e., wooded areas, corn fields or other tall crops)
- Steep hills and curves
- Highway-railroad grade crossings without lights or crossing gates
- Uncontrolled intersections (i.e., not controlled by yield or stop signs)

• Reduce your speed and increase your following distance. Gravel and dirt can affect steering and vehicle control.

**Reducing risk on rural roadways:** 

- Use low beam headlights, slow down and increase your following distance.
- Look for narrow bridge signs and be prepared to stop for oncoming traffic. Slow down and increase your following distance.
- Reduce speed, keep a firm grip on the steering wheel, and increase following distance.
- Stay alert and slow down.
- Slow down, move to the right side of the road and watch for oncoming vehicles.
- Slow down, look both ways, and be prepared to stop for a train before crossing the tracks.
- Approach with caution, slow down and be prepared to stop for crossing or oncoming traffic.

Fact Sheet 7.3 continued Content Information

#### **Driving on Rural Roadways**

#### Intersections on rural roadways

- Rural intersections can be very different. Some intersections may have traffic signals. Others only stop signs and some may be uncontrolled.
- A typical rural intersection usually consists of a side road intersecting with a main road. The side road usually will have a stop sign, which may be blocked by trees or tall crops.
- At intersections controlled by a stop sign where two side roads intersect, make sure to look left, right, and left again before crossing. You may not expect other vehicles, but you may pull in front of another vehicle if you do not look both ways.
- At uncontrolled intersections slow down and be prepared to stop for crossing or oncoming traffic. Look left, right and left again before crossing.

#### Following other vehicles on rural roadways

Maintain a 3-second following distance on rural roadways. An unexpected hazard may develop and you need the time and space to react.

#### **Oncoming vehicles on two-lane roadways**

Meeting traffic on two-lane roadways can be dangerous. There is not very much space between you and the other vehicle.

• If you see an oncoming vehicle approaching, slow down and move to the right side of the lane, without going on the shoulder to allow for enough space to pass each other. Moving right is especially important when there are no pavement markings on the roadway.

### Fact Sheet 7.3 continued Content Information

#### **Driving on Rural Roadways**

#### Passing on two-lane roadways

Passing on a two-lane roadway is more dangerous than passing on a multi-lane road. When you pass on a two-lane road you will be in the same space as oncoming vehicles for a short period of time.

Whenever signs and/or roadway markings permit passing other vehicles, you will have to determine whether you have enough space to pass in a safe manner. As a general rule, only pass one vehicle at a time since it is difficult to determine the amount of time needed to pass.



You must judge whether you will have enough space to pass safely. If you can see an oncoming vehicle, do not attempt to

pass. Even experienced drivers find it difficult to determine the speed of oncoming vehicles. Oncoming vehicles do not seem to be coming as fast as they really are in relation to your vehicle. If you can see an oncoming vehicle, do not pass.

### Fact Sheet 7.3 continued Content Information

#### **Driving Through Curves**

Rural roads typically have many curves. Many crashes occur at curves because the driver is going too fast through the curve.

- Searching as far ahead as possible and identifying the existence of a curve will provide more time to evaluate and control the level of risk.
  - Does the roadway curve to the left or right?
  - What is the sharpness of the curve, lane width, shoulder condition, posted speed, traffic volume?
  - Is the curve on a grade, up or down hill? Is the field of view restricted?
- Answering these questions and checking traffic to the rear enables a driver to determine the best speed and lane position for negotiating a curve.
- This is one more situation where **driving with headlights on during daytime hours** helps manage the level of risk since the vehicle is more visible to oncoming drivers.

#### Procedures for driving through curves

- It is generally best to **approach the curve in the right portion of the lane**, as far away as possible from oncoming traffic. This position also provides the best target line.
- Always reduce speed prior to entering the curve and slow prior to the apex or the point where your path is closest to the inside of the curve, not necessarily in the center of the curve, and then accelerate out of the apex. If you apply your brakes in a curve then you have entered the curve too fast.
- Maintain a safe speed through the curve and follow posted warning signs.
- It is easy to drive too fast in a curve due to the vehicle's momentum. If you drive too fast, the tires will lose traction.



### Fact Sheet 7.3 continued Content Information

#### **Driving Through Curves**

On narrow rural roadways with limited traffic and limited visibility, curves to the right present special problems since oncoming drivers are more apt to drive over the center line.

- Under such circumstances, with headlights on, after making appropriate speed adjustments, approach the curve in the left portion of the lane to maximize the probability of being seen by the oncoming driver and establishing a line of sight and target line.
- As you approach the apex of the curve, move to the right portion of the lane and assess the road conditions as if an escape path is required.

### Narrow Rural Roadway Curve to the Right



### Fact Sheet 7.3 continued Content Information

#### **Driving Over Hills**

**Cresting Hills -** Hill crests on roadways with opposing traffic and limited sight lines should generally be approached in the right portion of the lane, near the right edge of the roadway. Also, it is essential to check traffic to the rear and reduce speed prior to cresting to be in a better position to respond appropriately if some object is blocking the roadway on the downgrade.

## Driving over Hills



**Traveling downgrade** - When driving down long, steep grades (5 degrees or greater), it is important to control speed and to check to the rear about every five seconds for the presence of large vehicles. Any rapidly approaching large vehicle, particularly one with white smoke boiling out from beneath the rig, is apt to be a runaway, generally one that has lost its brakes. Do not attempt to outrun the truck. Instead, pull off the road as far as possible to give the driver as much room as possible.

Fact Sheet 7.3 continued **Rural Roadways Content Information Special Rural Road Conditions** Slow Moving Vehicles – Vehicles that are unable to travel at highway speed. Be alert for slow moving vehicles, especially in rural areas. - A fluorescent or reflective orange and red triangle displayed on the rear of vehicles drawn by animals, farm equipment or construction equipment means the vehicle is traveling less than 25 mph. - Use caution when approaching a slow moving vehicle and be sure it is safe before you pass. Remember the operator of the slow moving vehicle may not hear your vehicle \_ approaching. - When approaching vehicles drawn by animals, do not honk your horn or "rev" the engine because this may scare the animal and cause a crash. Animals – There may be times when an animal suddenly runs in front of your vehicle. Do not swerve into oncoming traffic or off the roadway to avoid hitting the animal. - Big game animals, mostly deer, are large enough to cause damage to a motor vehicle. The size of the animal may cause you to take drastic action to prevent a collision. This may result in a more serious crash than if the vehicle collided with an animal. Regretfully, the safest alternative may be hitting the animal. - Concentrate on regaining control of the vehicle before, during, and after the collision with the animal. **Railroad Crossings** – In rural areas many railroad crossings are uncontrolled, meaning they do not have flashing lights and gates. - Before crossing tracks look left, right and left again and never cross a railroad crossing unless you know it is safe to cross. Trains travel at high speeds in rural areas. Be alert for railroad crossing warning signs.