

# CHAPTER 14

## EFFECTS OF DRIVER CONDITION

14.1 Emotions and Driving

14.2 Physical Senses and Driving

14.3 Physical Disabilities

Wednesday, May 17, 2006

## Study: Miami's vice is rude motorists

If you value highway courtesy, try Minneapolis or St. Louis, a survey says.

By **BETH RUCKER**  
ASSOCIATED PRESS

Stressed Miami drivers speed, tailgate and cut off other drivers so frequently that the city was named worst in terms of road rage in a survey released Tuesday.

AutoVantage, an auto club offering travel services and roadside assistance, also listed Phoenix, New York, Los Angeles and Boston in the top five cities for rude driving.

Minneapolis, Nashville, St. Louis, Seattle and Atlanta were rated as the cities with

the most courteous drivers, who were less likely to change lanes without signaling or swear at other motorists.

More than 2,000 regular commuters in 20 major metro areas were asked to rate road rage and rude driving in telephone surveys between January and March. The survey conducted by Prince Market Research has an error margin of 2.2 percentage points.

Drivers owned up to some rude behavior themselves: Nearly all said they had talked on a cell phone while driving, and 64 percent acknowledged driving too fast occasionally.

Young drivers and people with long commutes were found to be the most likely

to react to an aggressive or rude driver. The top reactions included honking the horn, cursing and making an obscene gesture.

No distinct differences were found between male and female drivers.

"Human behavior is so involved with crashes at all levels," said Elly Martin of the National Highway Traffic Safety Administration. "(Aggressive driving) is a pattern of behavior drivers exhibit over and over."

AutoVantage hopes to use the survey to educate people about how to resist road rage. Among its tips are remaining calm and not making eye contact with an angry driver.

**T**he word **emotion** is used to name a strong feeling. Anger, fear, and joy are examples of emotions. Emotions add a special flavor to life.

## How Emotions Affect Driving

Emotions influence the way you think and act. When emotions affect your thoughts and actions, they can change the way you normally assess risk and make driving decisions. They can lead you to accept more or less risk than normal for the gain you receive. Emotions can be infectious; they can affect others in your vehicle and in vehicles around you.

A driver can minimize the effects of emotions by using courteous driving strategies. Using courtesy to influence the effects of emotions on others empowers you. In effect it can help keep you in control of yourself and others.

## Physical Effects of Emotions

Strong emotions also can cause changes in your bodily functions. Your body prepares itself for the stressful event. Your heartbeat increases, your breathing quickens, your digestion slows, and your muscles tighten.

Some emotional stress is needed to sustain life. However, continued emotional stress can exhaust you and contribute to adverse effects on the body such as heart disease and digestive disorders. The more tasks to be handled, the more complex and stressful the situation. Rush hour traffic can cause stress and fatigue in all drivers. Bumper-to-bumper driving situations in the city can also cause stress.



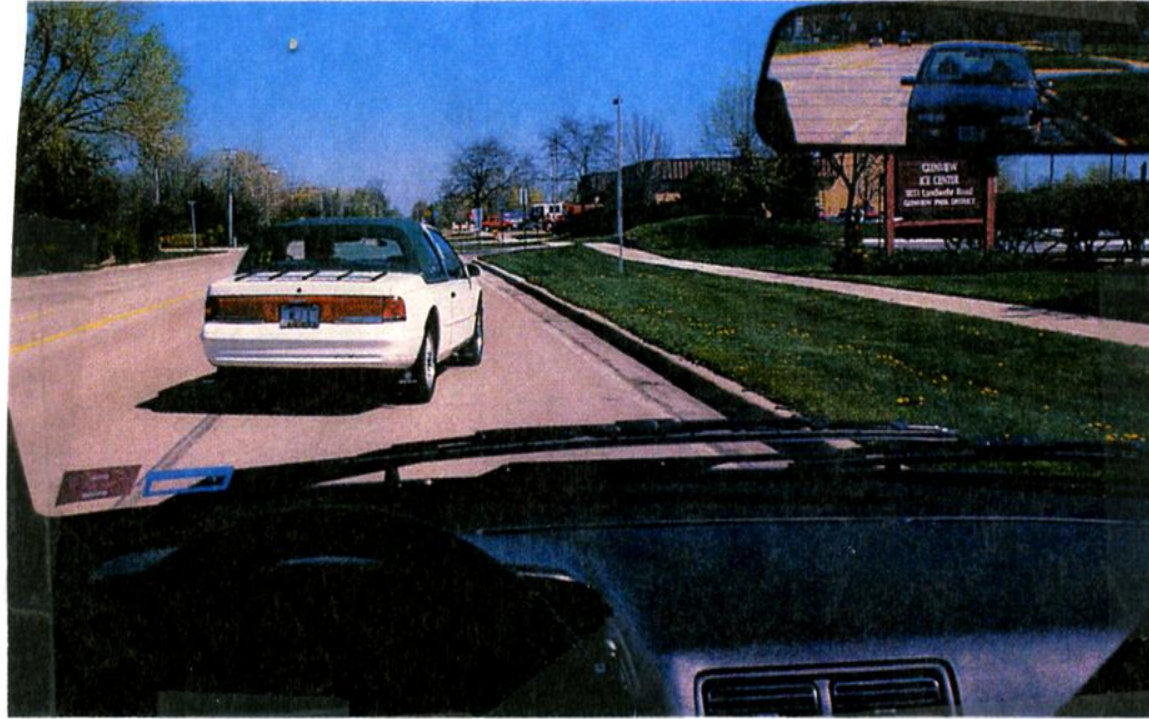
ASSOCIATED PRESS FILE PHOTO

Las Vegas traffic congestion in the Highway 95-I15 interchange, known as the “spaghetti bowl,” is shown.

## Mental Effects of Emotions

Strong emotions can interfere with your ability to think, reason, and make wise decisions. They can increase your chances of making a mistake. Emotions can affect the way you make judgments in a driving situation.

In some situations, a strong emotion can cause you to focus your attention on one event. You might miss other important events in a driving scene. In the picture, the driver in front has just cut over to the right lane and started to slow. This action could startle following drivers. It may cause them to become upset or angry. However, instead of becoming upset, they should increase the space between themselves and the vehicle ahead. Drivers need to reduce their own risk, rather than seek revenge or get even.



How would you feel if this driver cut into your lane? What might the driver behind you think of your response?

## Anger While Driving

You usually rely upon a set of assumptions or expectations when driving. You assume that others will drive and act in a safe, responsible manner. You might be tempted to react angrily when you must change your expectations.

In normal driving situations, other drivers might interfere with your intended speed or path of travel. They might slow or change lanes improperly. They might not yield, may fail to signal, or may not move quickly enough when a traffic light changes. Sometimes you might think that other drivers are trying to irritate you. As a result, you might become angry.

Anger occurs more often to drivers than any other emotion. It can range from mild irritation to furious rage and can result in aggressive actions or even violent acts of “road rage.”

In this picture, the driver is angry at the people who are talking and blocking his way. The driver is angry because he might be late for an appointment. If he cannot maintain emotional control, he might remain angry and react aggressively.

Anger can impair all of your driving skills. You might take risks

you would not take if you were calm. You also might not see everything you should see and miss an important clue. You might force other drivers to stop or swerve abruptly. These last-second actions can cause conflicts and added stress not only for you, but for other drivers as well. Good drivers never surprise others.

What might you do when you become angry while driving—or confront other drivers who are? Think positively. Leave punishment to the police. Your acts of punishment may just aggravate the other drivers even more. Model good behavior. Consider that other drivers may have good reasons for their actions. Can you recall times when you have made similar decisions?

## Other Emotions and Driving

Sorrow, depression, and anxiety are among other emotions that can adversely affect driving. These emotions can also slow body processes and reduce mental alertness.

Anxiety differs from anger. You might be anxious when driving in an unfamiliar, difficult situation. You might have trouble identifying hazards when you are confused. You might even feel panic-stricken. As a responsible driver, work to recognize difficult situations, and try your best to cope. It may mean delaying driving, but your risks will be reduced.

Excitement and happiness also can prevent you from fully concentrating on your driving task. A happy, excited driver can be just as impaired as an angry driver. After an intense event, such as a sports event, be sure that strong emotions do not impair your driving ability. Your emotional condition can drastically affect your driving ability.



The driver might remain angry long after the people have cleared his path.

## Passengers and Emotions

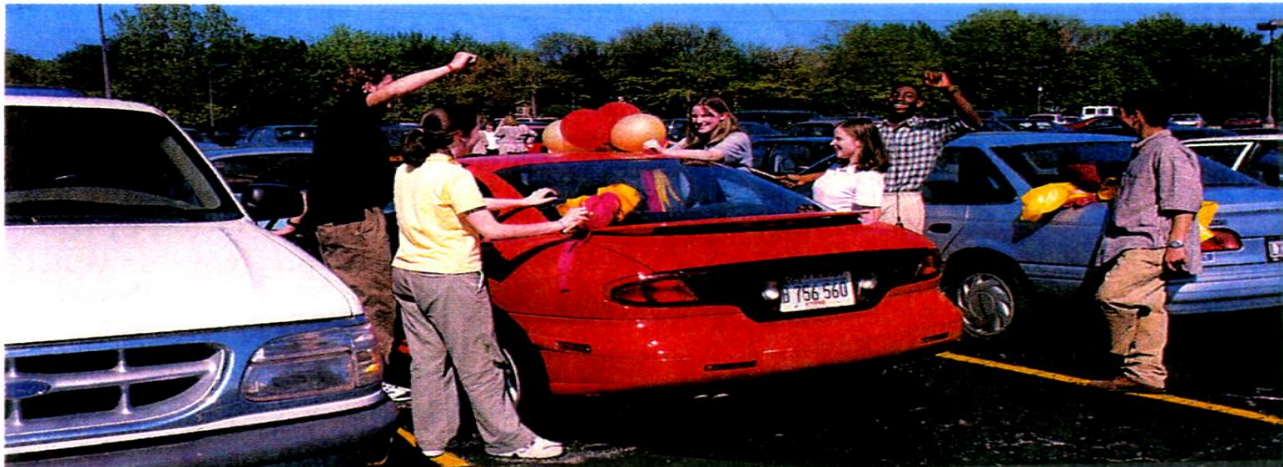
Peer pressure can be a very strong force, depending upon the situation. In a baseball game, team spirit can help win the game. In a vehicle, your passengers can strongly influence the way you drive.

In most group situations, one or more people need to assume responsibility and lead the group. When you are driving, you must be the leader and take control. You are responsible for the safety of your passengers.

In this picture, a championship soccer match has just ended. Everyone is going to celebrate. Emotions will be running high. The driver will be under special pressures to concentrate on the driving task. However, to make sure that nothing goes wrong, the driver must be the leader and maintain control of the situation.

Passengers can help the driver maintain control while driving. Here are actions you, as a passenger, can take to assist a driver:

- Avoid saying or doing anything that might distract or upset the driver. Refrain from heated discussions. Talk about positive events.
- Discourage the driver from taking reckless actions. Be prepared to intervene if the driver endangers others by reckless driving. Encourage the driver to let someone else drive, or refuse to ride in the same vehicle. Do what you must to protect yourself and others.
- Do not hesitate to compliment the driver for doing a good job of driving in a difficult situation. You might need the same support when you are the driver.



Spirits might be high after winning a game, but drivers must remain in control.

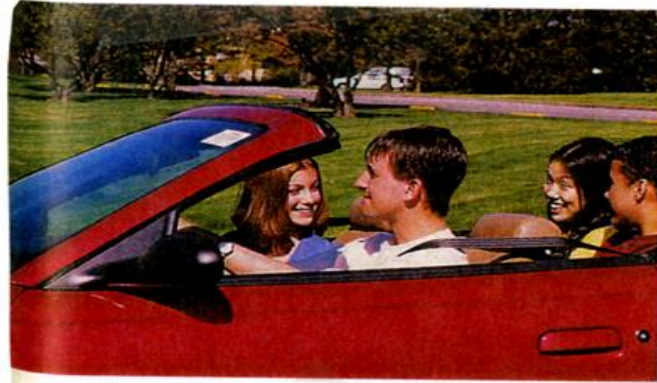
## Effects on Risk Taking

Your emotions have a big influence on the amount of risk you are willing to take. You probably will be more likely to take risks if you are angry than if you are happy. When a driver cuts you off after passing, you might want to get even by taking chances that you would not normally take.

Mature, responsible drivers do not let their emotions make them take unnecessary risks. Taking a chance while driving can be deadly. You must be mature enough to adjust your behavior so that you do not drive into or create high-risk situations. You also must be mature enough to refuse to take part when other people suggest activities that could endanger you, your passengers, or other drivers.

Your emotions might cause you to take chances at different times on the same roadway. For example, if you were driving an injured friend to the hospital, your concern might cause you to drive fast, increasing the risks. An hour later, you probably would not drive home in the same manner. You then would drive more cautiously and courteously.

On the other hand, sometimes you might be so uninterested in your trip that you don't give your complete attention to the driving task. Driving the same route over and over may cause you to pay less attention to the driving task.



You can earn the respect of others if your emotions do not interfere with your driving ability.



Even if you drive on the same street every day, always be aware of potential risks.



## **Controlling Emotions**

During some performances, you are asked to hold your applause until a certain point. You must manage your emotions until the proper time. In driving, you must develop this same type of emotional discipline. You must strive to keep emotions from affecting your driving ability.

**Coping with Emotions** High-stress driving situations can cause emotions to surface. These techniques can help you manage your emotions while driving:

- Use the IPDE Process to drive in an organized manner. Learn and use correct driving procedures until they become habits. You then will be more likely to execute the proper action, even when under emotional stress.

- Anticipate emotion-producing situations, and adjust your expectations. Say to yourself, “I know there will be delays during rush hour, so I will allow more time to get home. I will not let the actions of others bother me.”
- If you encounter an aggressive driver, do not challenge the driver. Avoid eye contact, ignore gestures, and remain calm. Adopt a “yield” attitude.
- Try to adjust your route to avoid irritating traffic situations.
- If you are tired, make a special effort to manage your emotions. A tired person can become upset more easily.
- Analyze your mistakes. Learn from them so that you are less likely to repeat the same mistakes.
- Keep courtesy as one of your personal rules of the road.

**Y**our senses play a vital role in using the IPDE Process. You use your abilities to see, hear, smell, and detect motion to know what is occurring in and around your vehicle.

Driving, like other activities such as sports and mowing the lawn, exposes you to risks. As you drive, your senses help you stay alert and be aware of changing situations. If you know your physical abilities, you have a better chance of maintaining control over your vehicle and minimizing your driving risks.

### Seeing

More than 90 percent of the information you gather while driving is received through your eyes. You must be able to clearly and quickly identify closing zones in your intended path of travel.

Your brain directs your eyes to focus on objects in and around your path of travel. Information is sent to your brain and combined with stored information. As a result, you can identify hazards, predict conflicts, decide to maintain or adjust your speed and position, and execute your decisions.

### Visual Acuity

When driving you need the ability to see things clearly both near and far away. For example, you may need to read the gauges on your instrument panel in one instant, then identify oncoming traffic in the next. The ability to see things clearly is called **visual acuity**.

A person with normal visual acuity—called 20/20 vision—can read 1 1/32-inch letters on an eye chart from 20 feet away. If you have 20/20 vision, you should be able to read the term IPDE in the block on this page from 20 feet away.

You must pass a visual acuity test in order to obtain a learner's permit, and possibly again to get a driver's license. Most states require a minimum corrected visual acuity of 20/40 to drive. A person with 20/40 vision must be twice as close to an object to see it as clearly as a person with 20/20 vision must be. With 20/200, the person would have to be 10 times closer. If you must wear glasses or contact lenses to pass the vision test, then you must wear them whenever you drive.

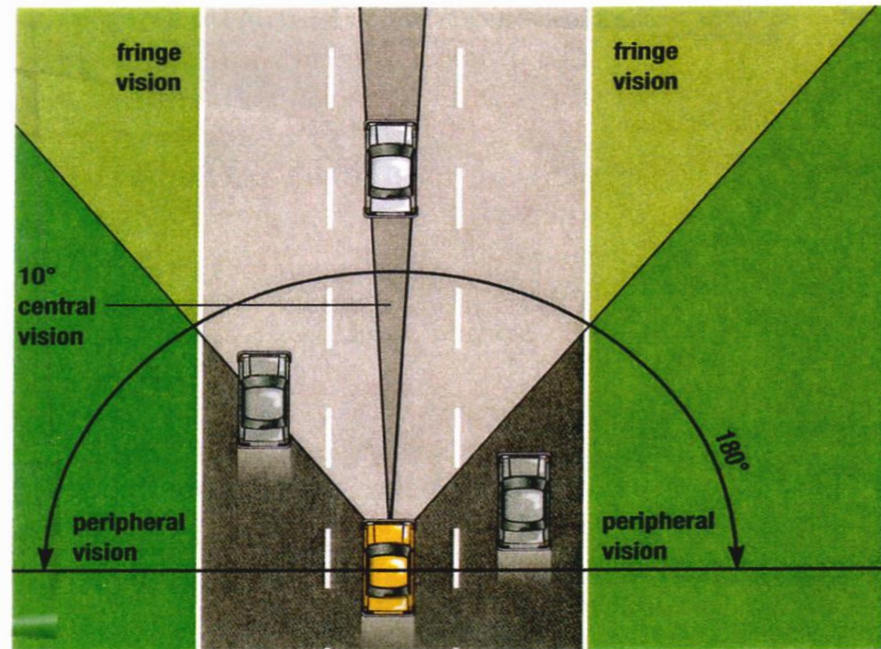
## Field of Vision

Your field of vision is all the area that you can see around you while looking straight ahead. From this position, most people can see about 90 degrees to each side, or about a half circle. However, you can only see clearly in your area of central vision as shown in the pictures. This straight-ahead part of your field of vision is a small, 10-degree, cone-shaped area. As you drive, direct your central vision to your target area and 12–15 seconds ahead to identify zone changes.

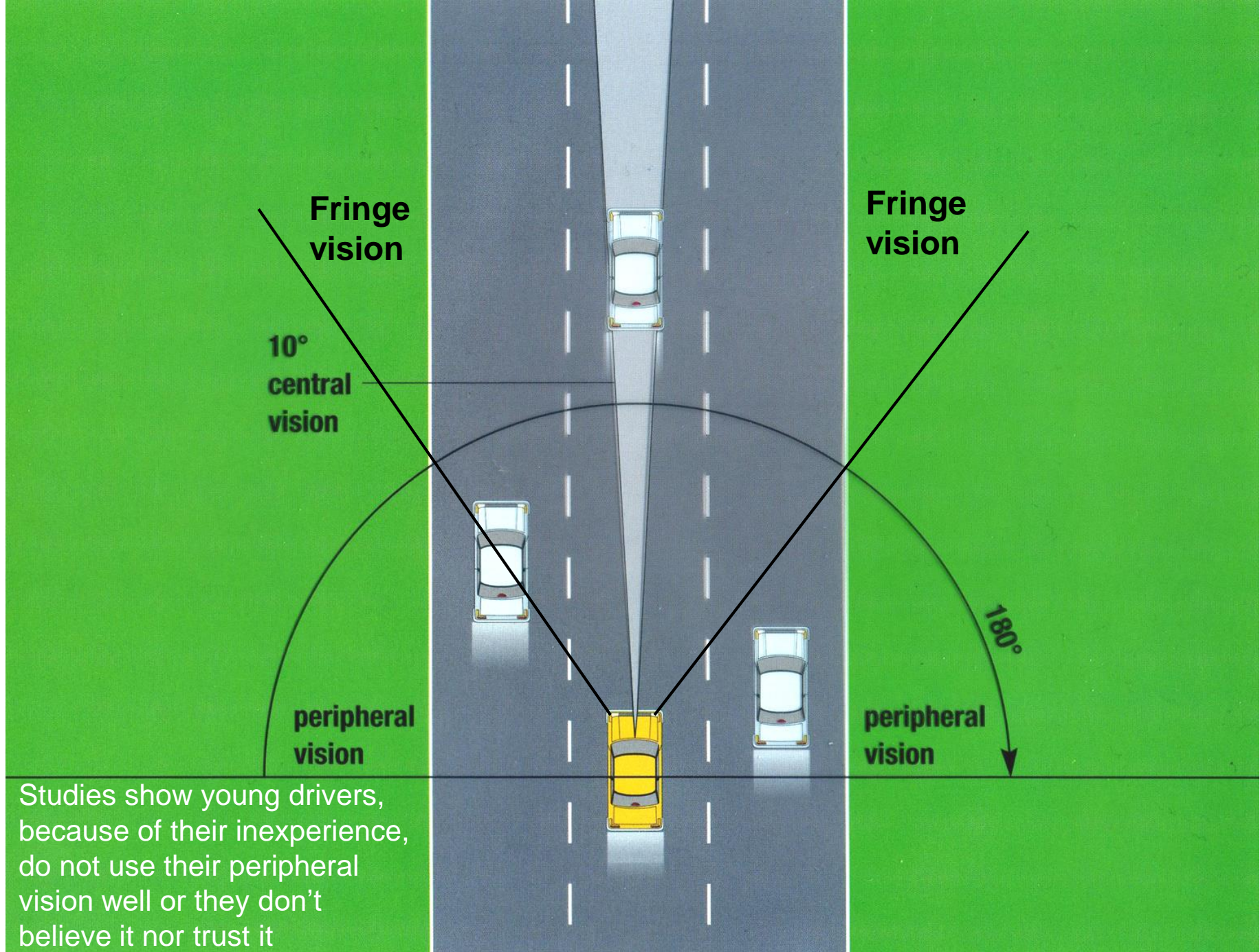
Surrounding your central vision is peripheral vision. The farther from the central vision, the less clear the view. The part of your peripheral vision closest to your central vision

is called fringe vision. Side fringe vision is used to monitor a zone condition after it has been identified in central vision. The upper fringe vision is used to detect changes in the rear mirror. The lower fringe vision is used to monitor reference points for vehicle position.

Some people see less than a total of 180 degrees. A narrow field of vision—140 degrees or less—is called **tunnel vision**. A driver who has tunnel vision must compensate with more frequent head and eye movements.



You see most clearly in the area of central vision, but the fringe vision is also important.



Studies show young drivers, because of their inexperience, do not use their peripheral vision well or they don't believe it nor trust it



Use your central vision to check your target area and front zones. Use your fringe vision to check reference points and detect changes in your rearview mirror.

Look directly at the word **CENTRAL**. Note how hard it is to see the boy on the bike and the car in the three mirrors

You have to keep your eyes moving except when you are in or very near the intersection; then you need to pause in your scanning just a bit. It takes practice and experience.

## **Depth Perception**

The ability to judge distance between yourself and other objects is **depth perception**. When driving you must judge the distance between your vehicle and other vehicles and other objects. Accurate judgment is more difficult when the other vehicle is moving.

A driver can compensate for poor depth perception by

- using a following distance greater than three seconds
- allowing for additional clear distance ahead before passing
- allowing greater distances at night than at daytime. (Darkness hides many guides you use in the daytime.)

## **Color Vision**

Color vision is the ability to distinguish one color from another. Not being able to distinguish colors is called **color blindness**. Being able to see the colors red, green, and yellow is particularly important since these colors give the messages stop, go, and slow or caution. The most common type of color blindness is the difficulty to distinguish red and green.

A color-blind driver can compensate by

- remembering the order of the lights in a traffic signal. If the lights are vertical, the red light is at the top. If horizontal, the red light is on the left.
- knowing the meanings of traffic signs by their shapes
- reading all signs that appear with traffic signals
- checking all zones and 90 degrees to left and right before proceeding at traffic signals
- taking cues from other drivers

## Night Vision

The ability to see at night varies from person to person. Some people who see clearly in the daytime have poor night vision. Not being able to see well at night is called **night blindness**.

All people see less at night than in daylight. Colors are harder to identify. Details of objects do not appear as sharp as in daylight.

Your night vision is limited to the area lit by headlights, streetlights, and other lights. In rural areas, you might be in total darkness except for the area lit by your headlights.

At night you might not be able to see anything to the sides. You might be less able to read signs and roadway markings. Compare the two pictures that show the same situation.



You can see nearby objects and distant ones clearly in daylight.



Your ability to see objects and judge distance is limited at night.

## Glare

Glare occurs in the daytime when bright sunlight is reflected off shiny surfaces. Sunroofs and convertibles let in additional sunlight that can produce glare. At night, glare occurs when bright lights reflect off shiny surfaces. The term **glare resistance** describes the ability to continue seeing when looking at bright lights. Glare resistance varies from person to person. Some people are more sensitive to light than others.

Sudden glare can blind a person temporarily, especially at night. Headlights turn toward you at intersections. Bright lights appear from over hills and around curves. A vehicle using high-beam headlights approaches from behind. Your pupils open wide at night to let in all available light. When your eyes are suddenly exposed to bright lights, your pupils contract. You might be temporarily blinded before your pupils can adjust to the bright lights.

The term **glare recovery time** describes the time your eyes need to regain clear vision after being affected by glare. Your pupils can take 5–10 seconds to readjust. At 40 mph, you can travel more than the length of a football field while partially blinded.

Take these steps to avoid or recover from glare:

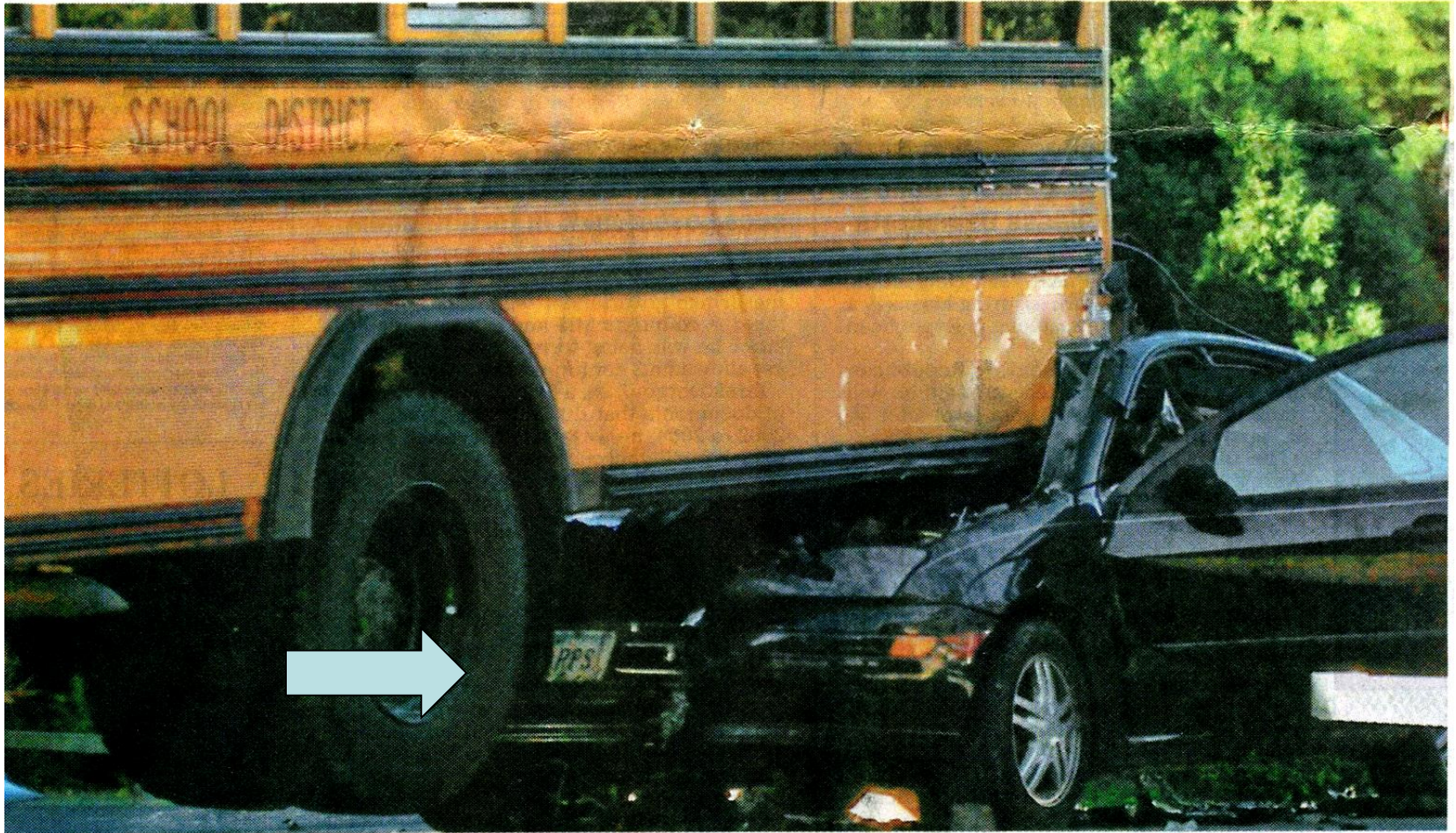
- Avoid looking directly at bright lights. Use the right edge of the roadway as a guide.
- Anticipate glare situations and glance away or squint.
- Use side fringe vision rather than central vision to check your lane position and the location of oncoming vehicles.
- If you are impaired by glare, slow until your vision clears.
- Wear sunglasses and use your vehicle's sun visor in bright sunlight.
- Adjust your rearview mirror for night use.





Glare can come when the sun is high in the sky as in this picture, it can be in the morning or it can be as the sun sets in the evening.

# CAR RAMS STOPPED BUS



BRAD REINERS/FOR THE REGISTER



A car driven by a 17-year-old girl struck a stopped school bus west of Muscatine on Wednesday morning. Muscatine sheriff's officials, who expect to release the driver's name today, said early-morning sunlight may have been a factor in the crash. The Muscatine Community Schools bus was picking up children at the time of the accident, authorities said. The bus driver and the four students on the bus were taken to a local hospital, and the driver of the car was airlifted to University of Iowa Hospitals in Iowa City.

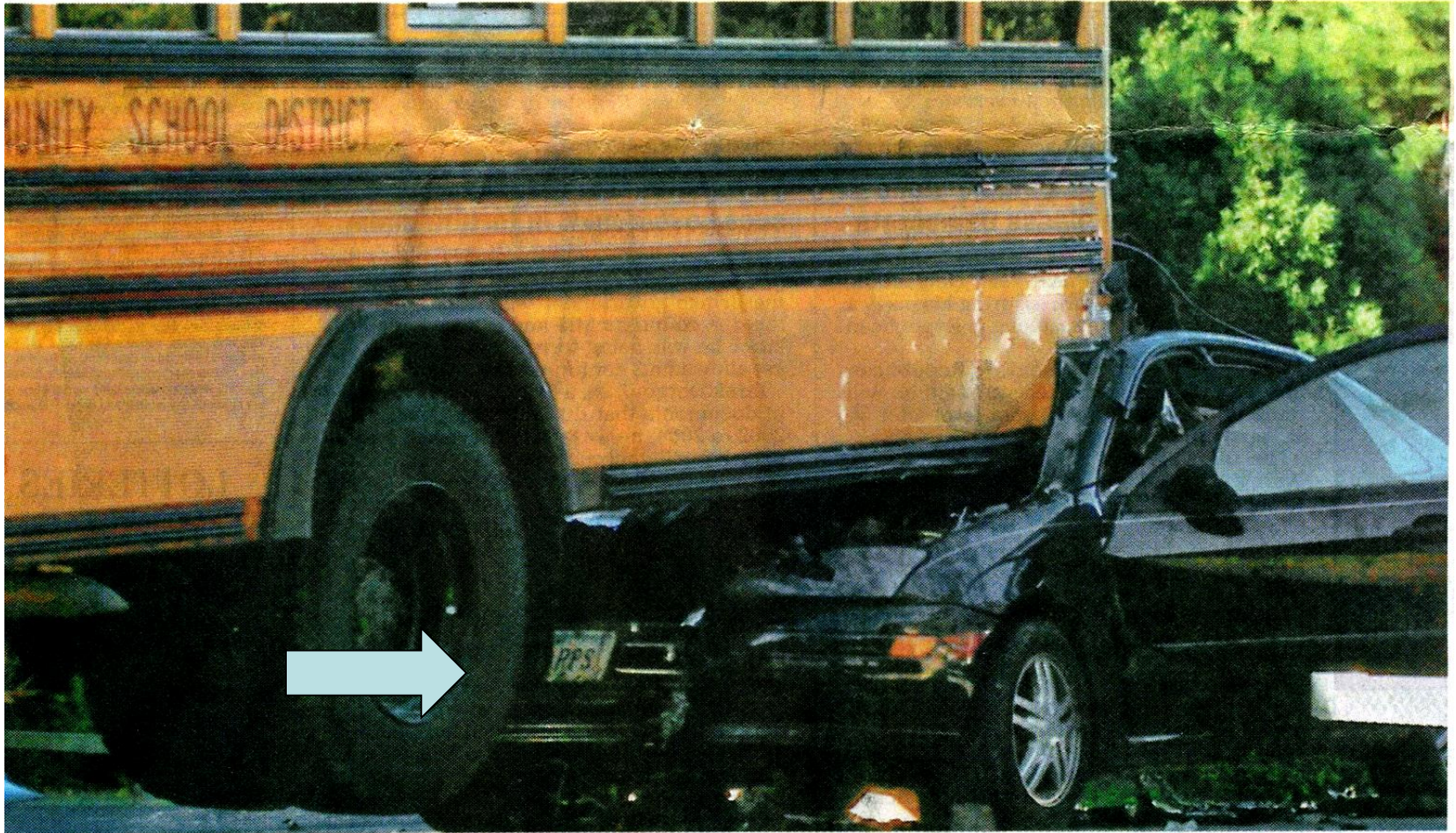
Des Moines Register, September 13, 2007

Even if the driver was driving into the sun, how could she not see something as large as a big orange school bus?

Look closely at the photo. What saved her life was the front of the car hitting the rear tire of the bus (blue arrow).

This teen driver was very fortunate

# CAR RAMS STOPPED BUS



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Des Moines Register, September 13, 2007

# Distractions a threat to teen drivers

By **JAN DENNIS**  
ASSOCIATED PRESS

**Bloomington, Ill.** — More teenagers are heeding warnings about drinking and driving, but they routinely face behind-the-wheel distractions ranging from cell phones to passengers that contribute to thousands of fatal crashes every year, according to a study released Thursday.

Teens often take the wheel amid commotion, angst or fatigue that would be challenging even for older drivers, said Dr. Flaura Winston, chief investigator for the study.

“We need to go beyond the message of drinking and driving and also talk about the message of distractions,” said Winston, a pediatrician with the Children’s Hospital of Philadelphia.

Des Moines Register January 26, 2007

The study by the hospital and State Farm Insurance Co. asked students what happens when their peers drive that makes them unsafe.

Ninety percent said they rarely or never drive after drinking or using drugs.

But teens reported a host of other in-car distractions that researchers say help make traffic accidents the No. 1 killer of U.S. teens.

Researchers found that one teen passenger with a teen driver doubles the risk of a fatal crash, while the risk is five times as high when two or more teens ride along. Most states have laws restricting passengers when teens drive.

Nearly 90 percent of teens reported seeing peers drive while talking on cell phones and more than half had seen drivers using hand-held games or listening devices or sending text messages.

Could being  
distracted have  
a been a factor?

**Meeting Other Vehicles** Take these actions if an oncoming driver fails to use low-beam headlights after you switch to low-beam headlights:

1. Is the oncoming driver far enough away to respond to you? Briefly flick your headlights from low to high to low to remind the oncoming driver to switch to low-beam headlights. Most new vehicles make this easy by having a flash-to-pass position on their high-beam control switch.
2. Is the oncoming driver still using high-beam headlights? Slow, move to lane position 3, and glance at the right edge of the road as shown here.
3. Could you be blinded by bright oncoming headlights? Look ahead with frequent quick glances to check oncoming traffic. *Do not stare directly into oncoming high-beam headlights.*
4. Is it possible you will encounter a hazard to the right after the oncoming vehicle? Be ready to adjust to a new situation beyond the oncoming headlights.



Be ready to adjust to a new situation beyond the headlights.

This is a very dangerous situation for about 5 to 10 seconds until your eyes adjust back to the darkness. The faster you are traveling, the more dangerous it is.

## Vehicle Speed and Vision

As your vehicle's speed increases, your need for accurate vision also increases. Yet, at higher speeds, you have less time to see clearly. Your field of vision also is narrowed. At 55 mph, your clear side-vision area is less than half as wide as at 20 mph.

Objects off to your sides become blurred and distorted as your speed increases. This blur, or **speed smear**, as shown in the picture, has an effect much like tunnel vision. Your eyes tend to focus far ahead to where the roadway appears to come to a point. You see less and less of what is happening on the sides. Increase the frequency of your side glances when driving at highway speeds.



When you drive at higher speeds, your side vision is less clear.

A good example of speed smear

## **Other Senses and Driving**

Sometimes you need to depend on other senses to identify threats to your path of travel. In complex driving situations, you may have to use more than one sense at a time.

### **Hearing**

Your sense of hearing can alert you to the sounds of vehicle horns, train whistles, emergency-vehicle sirens, and engines and brakes of trucks and buses. You can also get early warning of mechanical problems by listening for unusual noises from your vehicle.

Drivers who have sounds blocked from them can be dangerous to themselves and to others. Driving with closed windows and with stereo or headsets on may make a driver unaware of critical traffic sounds. Using a cellular phone while driving creates a similar problem.

Drivers who are deaf know that they must compensate for what they cannot hear. They use their eyes more than drivers who have normal hearing.

### **Smell**

Your sense of smell can identify an overheated engine or overheated brakes. Smelling exhaust fumes inside your vehicle can give you an early warning to the presence of deadly gases.

**Your sense of motion is especially useful**

**Sense of Motion on ice and snow**

Certain sensations can give you clues to the movement of your vehicle. Your sense of balance tells you that you are veering right or left, changing speed, or going around a curve. A sudden vibration of the vehicle or jerk of the steering wheel might warn you of a mechanical problem, a flat tire, or a change in the roadway surface.



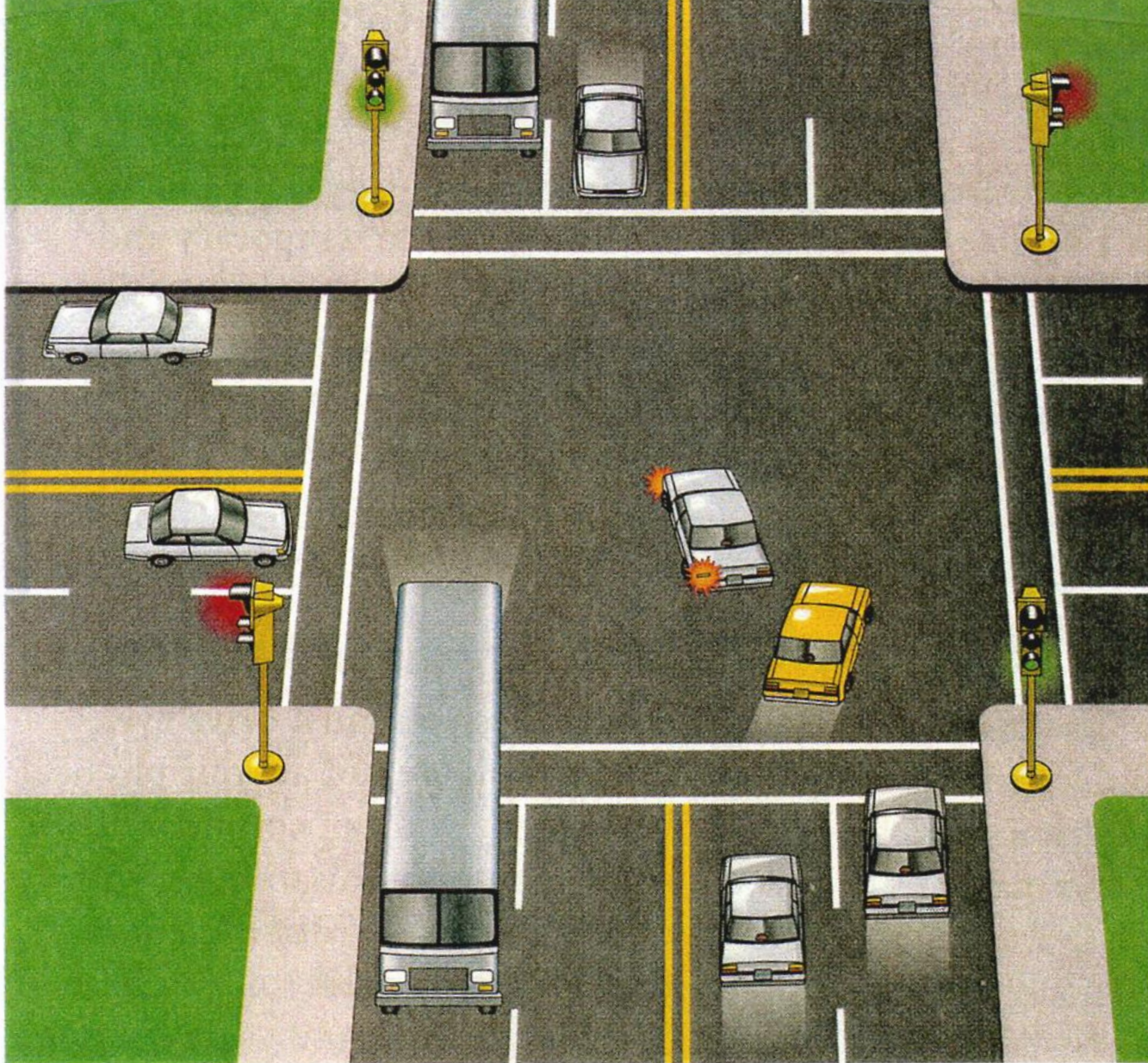
## **Risk Management**

Your physical senses affect your perceptions of the risk involved in each driving situation. If your vision is not clear or is blocked, you might inaccurately judge the risk of a driving situation. You then might respond with an action that will expose you to a greater risk.

Being aware of how keen your senses are is a big step in managing the risks of driving. Inadequate senses of vision, hearing, smelling, and motion will affect how you manage driving risks. If you are not aware of your impaired senses, you are at an even greater risk of being involved in a collision.

## **High-Risk Situations**

Drivers sometimes create high-risk situations like the one shown in the picture. Risk is increased when more than one task must be performed at the same time. It is more difficult to use your senses in multitask situations. Your eyes have rapid adjustments to make with cellular phones and stereo sound systems, controls on the turn-signal lever, and other people in your vehicle.



The driver of the yellow car has created a high-risk situation. By pulling around the car making a left turn, the driver of the yellow car risks causing a collision.

### Temporary Disabilities

Sometimes you must drive even though you are not at your physical best. While you can compensate for some temporary disabilities, with others you should not drive until they no longer exist.

#### Fatigue

Mental or physical work, emotional stress, or loss of sleep can cause fatigue. Fatigue lessens your fitness to perform tasks, including driving. It dulls your senses and slows both mental and physical processes. If you are fatigued, you will need more time to use the IPDE Process.

Fatigue can also cause drowsiness. Drivers who fall asleep at the wheel cause many collisions.

There are several danger signs of drowsiness:

- trouble keeping your head up
- drifting between lane positions
- wandering, disconnected thoughts
- inability to stop yawning
- eyes closing or going out of focus
- inability to concentrate on driving task

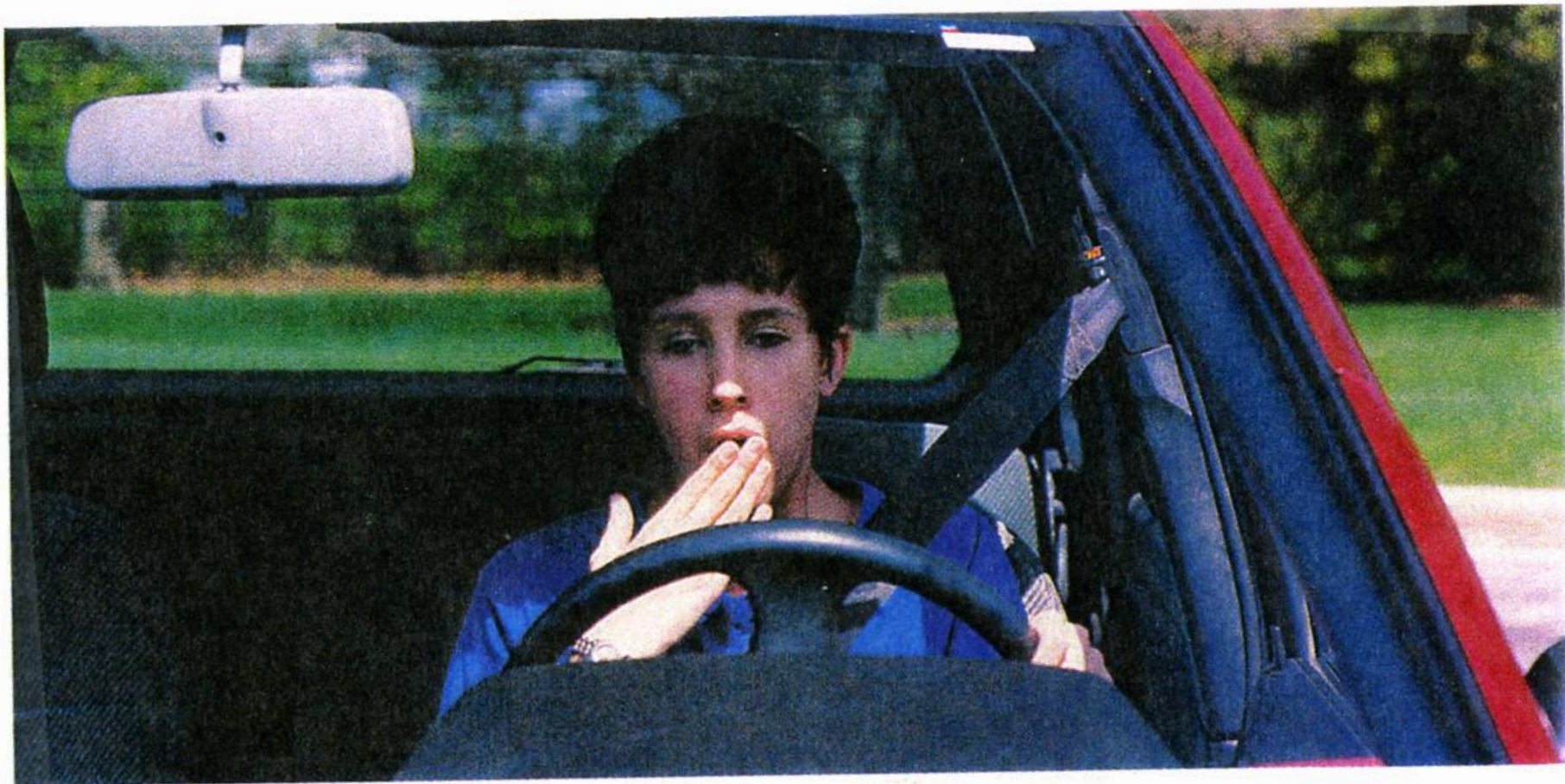
When are you about to fall asleep? That is hard to predict. Your body biologically prefers to sleep between 12:00 A.M. and 6:00 A.M., and again around 2:00 P.M. You may experience drowsiness during these times. Be cautious.

**Rest is the only safe remedy for fatigue.** However, people often need to drive even when they are tired. If you are tired after work or school, take a break for a few minutes before you drive. You might also choose a quieter, less congested route home.

Take these actions to compensate for fatigue on long drives:

- Rest before you start.
- Change drivers often.
- Stop every two hours. Walk, stretch, get a beverage or snack, or take a nap on long trips.
- Wear sunglasses in bright sunlight and to shield against snow glare.
- Use your orderly visual search pattern to keep your eyes moving.
- Be active—listen to the radio, sing, or talk with your passengers.
- Stop in a safe, well-lighted place if you feel drowsy. Lock the vehicle and take a nap.

If you feel tired often, check with your doctor. You may have a chronic illness or sleep disorder.



Drowsiness can interfere with a person's driving abilities.

**Nearly one of five fatal crashes involve drowsiness. Many drivers involved in those crashes did not recognize their condition at the time.**

## Breakthrough Research on Real-World Driver Behavior Released

Thursday, April 20, 2006

Contact: Sherri Box, VTTI  
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Contact: Elly Martin, NHTSA  
Telephone: (202) 366-9550

### NHTSA, Virginia Tech Transportation Institute Release Findings of Breakthrough Research on Real-World Driver Behavior, Distraction and Crash Factors

Driver inattention is the leading factor in most crashes and near-crashes, according to a landmark research report released today by the National Highway Traffic Safety Administration (NHTSA) and the Virginia Tech Transportation Institute (VTTI).

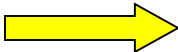
Nearly 80 percent of crashes and 65 percent of near-crashes involved some form of driver inattention within three seconds before the event. Primary causes of driver inattention are distracting activities, such as cell phone use, and drowsiness.

"This important research illustrates the potentially dire consequences that can occur while driving distracted or drowsy. It's crucial that drivers always be alert when on the road," said Jacqueline Glassman, acting administrator of NHTSA. Her remarks were made during a news conference today at VTTI in Blacksburg, VA.

The 100-Car Naturalistic Driving Study tracked the behavior of the drivers of 100 vehicles equipped with video and sensor devices for more than one year. During that time, the vehicles were driven nearly 2,000,000 miles, yielding 42,300 hours of data. The 241 drivers of the vehicles were involved in 82 crashes, 761 near crashes, and 8,295 critical incidents.

"The huge database developed through this breakthrough study is enormously valuable in helping us to understand—and prevent—motor vehicle crashes," said Dr. Tom Dingus, director of VTTI.

In addition, a follow-on analysis to the 100-Car Study has also been released. Focused on the types of driver inattention and their associated risk, key findings include:

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- **Drowsiness** is a significant problem that increases a driver's risk of a crash or near-crash by at least a factor of four. But drowsy driving may be significantly under-reported in police crash investigations.
  - **The most common distraction for drivers is the use of cell phones.** However, the number of crashes and near-crashes attributable to dialing is nearly identical to the number associated with talking or listening. Dialing is more dangerous but occurs less often than talking or listening.
  - **Reaching for a moving object** increased the risk of a crash or near-crash by 9 times; **looking at an external object** by 3.7 times; reading by 3 times; applying makeup by 3 times; dialing a hand-held device (typically a cell phone) by almost 3 times; and **talking or listening on a hand-held device** by 1.3 times.
  - **Drivers who engage frequently in distracting activities** are more likely to be involved in an inattention-related crash or near-crash. However, drivers are often unable to predict when it is safe to look away from the road to multi-task because **the situation can change abruptly leaving the driver no time to react even when looking away from the forward roadway for only a brief time.**

The 100-Car Study and its follow-on analysis were co-sponsored by NHTSA, the Virginia Transportation Research Council (the research division of the Virginia Department of Transportation) and Virginia Tech.

The background and results of both studies are available on NHTSA's website under Research and Development at <http://www-nrd.nhtsa.dot.gov/departments/nrd-13/newDriverDistraction.html>

## Temporary Illness or Injury

Any illness, even a cold, can impair driving to some extent. A temporary physical injury, such as a broken bone or a sprained ankle, also can impair your driving. These and other temporary conditions can cause discomfort and pain, limit physical movement, lessen endurance and strength, or dull your senses.

**Effects of Medicines** Many medicines have side effects that can interfere with your driving ability and risks. For example, medicine that reduces headache pain or relieves hay fever, might also cause drowsiness, dizziness, or reduced alertness.

If you take medicine, consider these points before you drive:

- Read the label to learn the possible side effects, as shown in the picture. Ask your physician or pharmacist about side effects.
- A medicine can affect you differently at different times.
- If possible, drive to your destination before taking the medicine.
- If you must drive after taking medicine, try to choose a quiet, less-congested route.



Many commonly used medicines can affect your driving ability.

### ALLERGY TABLETS

**INDICATIONS FOR USE:** provides relief from hay fever, upper respiratory allergy symptoms; sneezing; runny nose; itchy, watery eyes.

**DOSAGE:** Adults and children over 12, 1 tablet every 4 to 6 hours. Not to exceed 6 tablets in 24 hours. Children 6 through 11 years, ½ the adult dose (break tablet in half) every 4 to 6 hours. Not to exceed 3 whole tablets in 24 hours. For children under 6, consult a physician.

**WARNING:** Do not take this product if you have asthma, glaucoma, or difficulty in urination due to enlargement of the prostate gland, except under the advice and supervision of a physician.

**CAUTION:** Do not drive or operate heavy machinery as this preparation may cause drowsiness. Avoid alcoholic beverages while taking this product. May cause excitability, especially in children.

**WARNING:** Keep this and all drugs out of reach of children. In case of accidental overdose, contact a physician or poison control center immediately. As with any drug, if you are pregnant or nursing a baby, seek the advice of a health professional before using this product.

**FORMULA:** Each tablet contains Chlorpheniramine Maleate 4mg.

May also contain: Cellulose, Color, Croscarmellose Sodium, Dicalcium Phosphate, Lactose, Magnesium Stearate, Povidone, Sodium Starch Glycolate, Starch, Talc, and other ingredients.

Store at room temperature (59°-86°F)

Protect from excessive moisture.

Keep tablets in carton for better identification until used.

Be a smart driver. If you can smell exhaust assume carbon monoxide is present and take precautions

**Effects of Carbon Monoxide** Your vehicle's exhaust fumes contain **carbon monoxide**, a colorless, odorless, and tasteless gas. Carbon monoxide is present in all engine exhaust gases.

You can sometimes detect carbon monoxide in a vehicle because it is mixed with other exhaust fumes that do have an odor. However, you cannot tell how concentrated the carbon monoxide is by the odor of the exhaust fumes. If there is no odor, you cannot be sure there is no carbon monoxide.

Take these actions to prevent carbon monoxide exposure and combat its effect:

- If your vehicle is parked in a garage at home, open the garage door before starting the engine.
- Avoid running the engine inside a garage. Move your vehicle outside after starting the engine.
- In stop-and-go traffic, keep a three-second following distance. Stop where you can see the tires of the vehicle ahead touching the pavement.
- In traffic jams, especially in enclosed areas, turn off the engine when possible.
- Check your exhaust system regularly.
- Do not drive with the rear windows open.
- Move a person who is overcome by carbon monoxide into fresh air. Seek medical help immediately.

**The traffic situation below might be a good place to use the recirc feature of your climate control system provided it is in the spring, summer or fall. Don't use recirc in the winter in this situation. Drop back from the car in front of you to give yourself more space**



In heavy traffic, your intakes might draw in carbon monoxide from the exhaust of the car ahead.

## Permanent and Physical Disabilities

Special vehicle equipment and controls can make it possible for many people with permanent disabilities to drive, as shown in the picture. Still others can control their disabilities with medication.

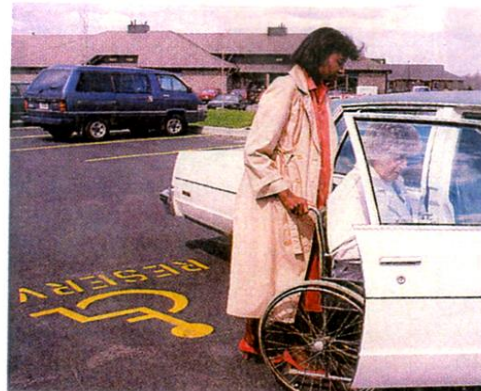
**Older Drivers** As a nation, we are healthier and living longer. As a result, more older drivers are using the roadways. One in six drivers is over age 65. Eighty percent of drivers over age 75 take prescribed medicines. Aging slows reflexes, dulls vision and concentration, can make muscles weaker and inflexible, and reduces depth perception and field of vision. Failure to yield the right of way is the main factor in collisions involving older drivers. However, drivers over 65 are still involved in fewer collisions per mile driven than those under 30.

**Chronic Illnesses** A chronic illness is an ailment that lasts over a period of years. Some chronic illnesses have little effect on driving. Other illnesses, such as heart disease, could seriously impair a person's ability to drive.

Some chronic illnesses require regular medications that can cause side effects that interfere with driving. Some people have diseases that cause sudden loss of consciousness or muscular control. Before these individuals can receive a driver's license, they must provide medical proof that their chronic illness is under control.



Vehicles are often adapted to help physically challenged people maintain independence.



Special parking areas and license plates help disabled drivers reach their destinations safely.

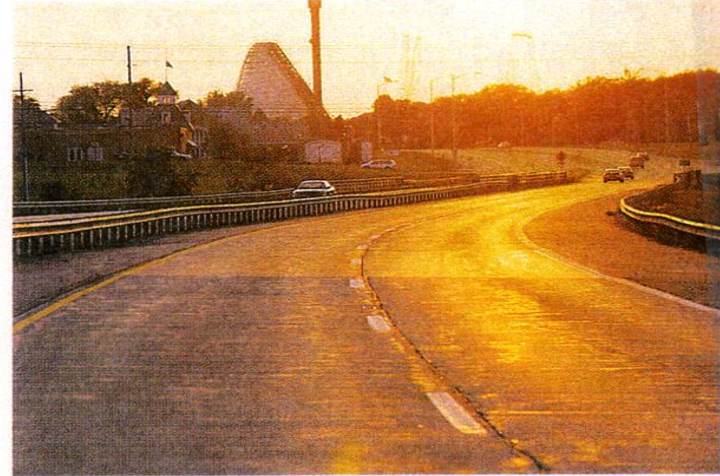
It is illegal to park in handicapped-designated parking spaces unless you have special identification.



## Decision Making



1. Where should you direct your clear central vision in the next few seconds of driving?



2. What is causing this driver to be impaired for a few seconds? What actions could the driver have taken to prevent this impairment? What can the driver do now to minimize the danger?



3. These people are having an argument. How could the argument affect the driver's ability to drive?



4. How are these passengers affecting the driver? What should they be doing to help?