

Contents

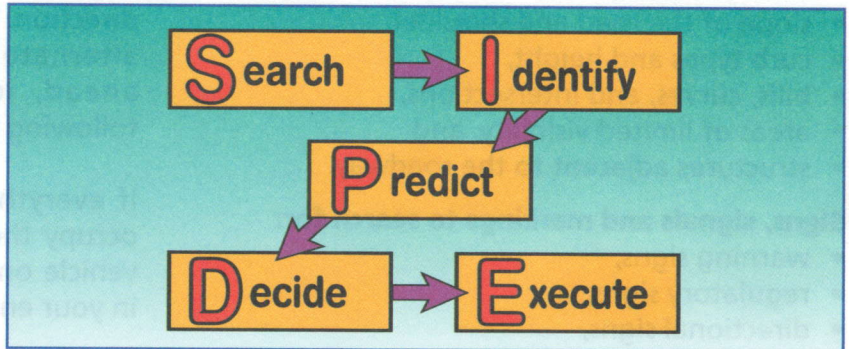
- 15-A Processing Information
- 15-B Space Area Management
- 15-C Risk Assessment
- 15-D Risk Reduction
- Module Five Review

Risk Reduction

Having studied the SIPDE system and visual skills, you must now apply these same skills to interacting with other road users and the changing driving environment (using selective seeing to gather the pertinent information).

Processing information is the brain's ability to interpret the information provided by the human senses and to employ critical-thinking, risk-assessment, decision-making, and problem-solving skills in executing legal and responsible reduced-risk driving practices in the HTS.

The heart of safe and responsible reduced-risk driving is the driver, his/her driving skills, and the level of their experience, as well as the proper application of the SIPDE Space Management System.



AFTER COMPLETING THIS CHAPTER, THE STUDENT MUST BE ABLE TO SYNTHESIZE INFORMATION AND APPLY PROBLEM-SOLVING SKILLS TO:

- information processing and verbalizing the risk-reduction process.
- immediate and potential risk situations.
- space management.
- risk-taking habits of novice and experienced drivers.



Processing Information

In order to process information, you must first gather the information by applying the SIPDE system.

VISUAL SEARCH

The key to seeing what is actually there is to develop a pattern to your search of the

roadway. This will enable you to search more quickly and more efficiently. It also, when performed often, will develop into a visual habit that will diminish the probability that you may miss something ("*Officer, I never saw the car,*" a common refrain).

A suggested pattern would be to search far



ahead (20 to 30 seconds - area 1), then closer (12 to 15 seconds - area 1), a glance in the rear-view mirror (area 6, 4 and 5), under the mirror to space area 3 (8 seconds ahead), sweep to the left to return to area 1, and then area 2. Glance at the instrument panel (for speed and any gauges), and then start the entire pattern over again.

WHAT TO SEARCH FOR

To be effective, when searching the highway and traffic scene, you must search for what is actually present within certain parameters.

Roadway features to search for:

- road and lane width,
- lane markings,
- roadway surfaces,
- shoulder conditions,
- slope of the road and shoulder,
- curb types and height,
- hills, curves, and intersections,
- areas of limited visibility, and
- structures adjacent to the roadway.

Signs, signals and markings to search for:

- warning signs,
- regulatory signs,
- directional signs,
- informational signs,
- traffic signals,
- lane-use, turning, or flashing signals,
- crosswalk markings, and
- stop line or intersection markings.

Motorized vehicles to search for:

- cars, SUVs, and mini-vans,
- trucks, vans, and tractor-trailer rigs,

- buses, school buses, and mini-buses,
- motor homes,
- motorcycles and motorized scooters,
- construction equipment,
- farm vehicles and tractors, and
- other slow-moving equipment.

Non-motorized road users:

- pedestrians,
- bicyclists, skaters, and skateboarders.
- horse-drawn equipment, and
- animals.

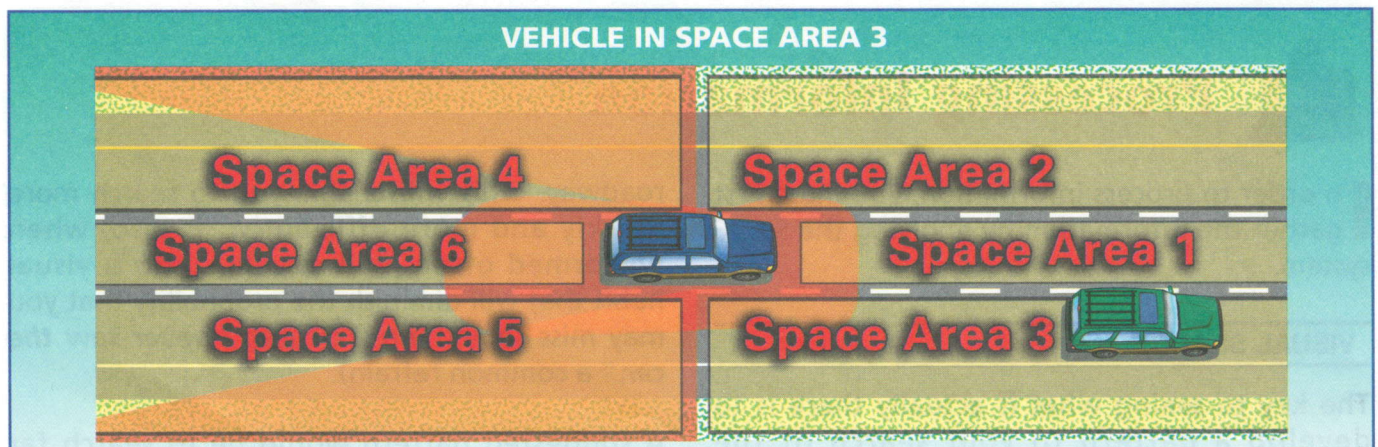
WHAT TO IDENTIFY

From all the information your eyes are searching, you must select the critical data. At 25 to 30 seconds ahead, identify potential problems. At 12 to 15 seconds ahead, identify objects that require a change in speed or direction. At 12 to 15 seconds ahead, identify alternate paths of travel. At 4 to 8 seconds ahead, identify your stopping zone and following interval.

If everything is clear, you are fortunate. You occupy the enviable position of being the only vehicle on the road with no road users present in your environment.

Normally, you will have searched other road users or line of sight closures occupying some of the space areas surrounding your vehicle. Alter your pattern to search the opposing space areas. For example, if a road user is in space area 3 (see below), check space area 2, as well as area 4, and your left blind spot. Are they open, closed or changing areas?

15



DECIDE - Can you move your vehicle towards area 2 safely? Will this reduce a risk from area 3? Can this be done smoothly without upsetting your vehicle balance? Are there any other factors? Search again. Would a speed change suffice? Would a change of lane position reduce the risk sufficiently? When your evaluation is complete, **EXECUTE**.

DECISION-MAKING

This is just one simple example of visual searching (**SEARCH/IDENTIFY**) and the steps to reach a decision (**PREDICT/DECIDE**) prior to reducing the risk (**EXECUTE**).

These same general principles must be applied continuously to all the possible driving situations that may arise. With practice and continued application, these concepts and procedures will become habits. This will not happen by itself. You must apply and practice them; hence, the initial need for guided practice with a professional instructor.

Often, the situation will be much more complex and will require the application of the principles mentioned in Chapter 11, **Minimize, Separate and Compromise**.

Whatever the situation, applying good visual searching, thinking ahead, and evaluating the situation carefully will lead to reduced-risk decision-making.

CHARACTERISTICS OF ROAD USERS

Whether motorized or non-motorized, each road user has certain characteristics that affect their performance in the HTS.

LARGE VEHICLES

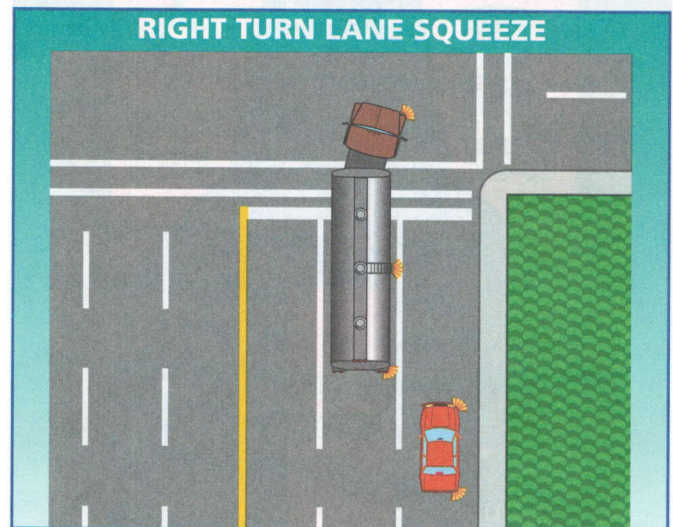
Large vehicles such as trucks, tractor-trailers, and recreational vehicles require lots of power to accelerate to the flow of traffic, even more so to accelerate to freeway speeds. This takes more time than an automobile; they seem to block the flow of traffic while they accelerate. They also take a longer distance to stop. You must be aware of these differences and make allowances for them.

TRUCKS

Trucks transport nearly everything we eat, wear, and use in our daily lives. They are an essential part of our national economy. With the advent of the North American Free Trade Agreement (NAFTA), studies indicate that the transportation industry will require more than a million more truckers over the next decade. The need to understand and to cooperate with truckers will become more vital as they use the HTS in ever-increasing numbers.

Despite the fact that truck drivers are professionals and are governed by strict rules (a log book controlling the number of hours of driving, as just one example), they are under tremendous pressure to meet tight scheduling requirements to deliver the goods they are transporting, and then pick up their next load. They often drive over long periods of time with a minimum of rest periods, which may lead to fatigue, loss of sleep, and/or inattention to the driving task.

Another factor to be aware of is that large trucks, tractor-trailers for example, often move to the left (partly or completely into the second lane) when preparing to make a right turn. This helps prevent the rear wheels from riding over the curb while turning right. Always check the turn signals on a truck before moving into the lane (to the right of the truck) beside the sidewalk. Not being aware of this problem can lead to your being caught in a right turn squeeze (between the truck and the curb),

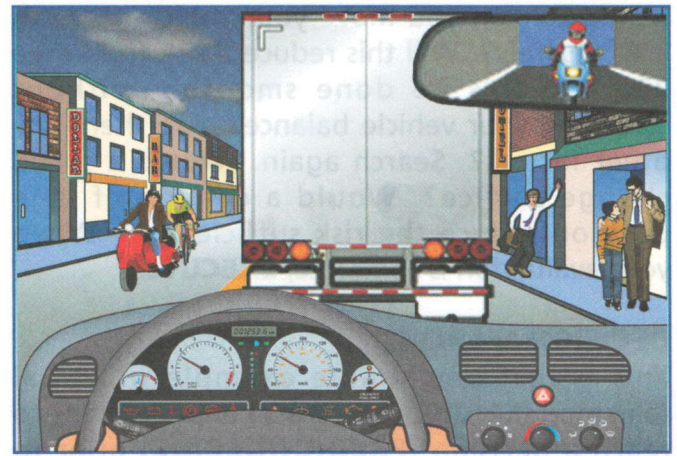


which can result in vehicle damage. Always keep out of the open space to the right of a tractor-trailer signalling a right turn. Leave the space open, follow behind the truck (in the lane near the curb), and then make your right turn after the truck has completed the turn.

Drivers of large trucks sit high above the roadway and have an excellent view of the road ahead. This is offset by their view of the space areas immediately surrounding their vehicle. Their view to the sides and to the rear is often restricted (see Chapter 7); they have an additional blind spot to the rear. Around the front of the truck, there are areas which may not be visible. These large areas where the trucker cannot see other vehicles, and where most collisions occur, are referred to as "no zones."

As the name suggests, you should not drive in the no zones; the trucker cannot see you and therefore you are at risk.

Because of the size of these vehicles, they block your field of vision ahead. When you follow a large vehicle (truck, bus, recreational vehicle, etc.), increase your time interval to diminish this



effect. If you increase your following distance to the point that you can see the side-view mirrors, then you are no longer in the rear no zone. The driver ahead can see you in the mirror, and your field of vision has been improved.

If it is safe, legal, and possible, you should pass the large vehicle; this will resolve the problem completely. Realize, however, that you will require a much longer distance to pass. Before passing, flash your high beams to warn the driver of your intentions (especially at night). The trucker will facilitate the maneuver by keeping to the far side of the lane.

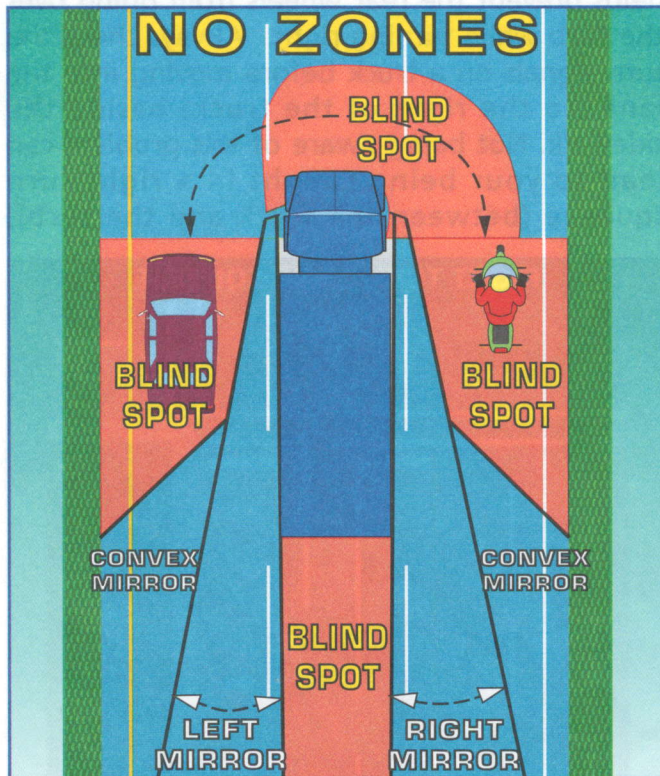
When passing or meeting an oncoming large vehicle, move as far as possible away from the vehicle to avoid being sideswiped, as well as to reduce the wind turbulence between the vehicles.

When driving on the highway, large vehicles climb hills more slowly and tend to increase speed on downhill grades. Be patient if you are following one on an uphill grade. The trucker is not blocking your path on purpose.

On a downhill grade, be alert. Check your rear-view mirror regularly. Be on the lookout for trucks approaching rapidly from the rear, especially if smoke is billowing out from under the vehicle.

The trucker may have overheated the brakes and is no longer able to control the speed. When this situation occurs, move out of the trucker's path

15



of travel. Do not try to outrun the truck, you will be placing yourself at greater risk.

Move onto the shoulder (out of the trucker's path) as far as possible and allow the truck to pass you. Once the truck has passed and is a good distance ahead of you, you may re-enter the roadway safely and proceed on your way.

TRAINS

Most railroad fatalities occur at the 188,000 crossings in America that do not have signals or gates (only a crossbuck). The major cause of mishaps at railroad crossings is inattention. Drivers who cross the same tracks frequently may forget to look both ways. Speeding, impatience, intoxication, and poor judgment add to the problem.

Trains can travel at very high speeds. Even at slow speeds, trains require at least one mile to stop (in some cases, two miles); in other words, they cannot stop in time. A train can cross at any time, in any direction. If you take these concepts into consideration, you will realize that safety at railroad crossings is your responsibility.

Use these countermeasures to reduce risk and cross safely:

- Never take familiar crossings for granted, or assume that no train is coming.
- Search and identify all warning signs, signals, and protective devices.
- Never stop on the railroad tracks; if you cannot cross completely, stop before the tracks.
- When you approach a level crossing, look and listen for approaching trains.
- Do not rely solely on lights and/or sounds; make sure the way is clear before crossing.
- After dark, be alert at crossings that are not protected by gates or flashing lights. Too frequently, people drive into the sides of trains at such crossings.

SPORT UTILITY VEHICLES (SUVs)

SUVs are very popular vehicles in America. They are four-wheel drive family vehicles, with a big motor to go fast (resulting in poor gas mileage). Sport utility vehicles have a higher center of gravity and are susceptible to rollovers when making sharp turns at high speeds. They are also heavy, and this provides added protection for the occupants in a collision.

RECREATIONAL VEHICLES (RVs) and TRAILERS

These vehicles have the same problems as described in large vehicles; however, they are not being driven by professionals who adapt to their limitations on a daily basis. As such, you should be more apprehensive of their performance.

Countermeasures to reduce risk:

- Leave a much longer following distance (interval) to diminish the blockage of your field of vision. Also, sudden braking can cause them to jackknife in front of you.
- Leave extra space from them when they are turning; they require a wider area to turn.
- Watch for any sway or possible hazards, such as crosswinds or curves, when you approach them.
- Realize that you will require a much longer distance to pass them safely.

TWO-WHEELED VEHICLES

Two-wheeled vehicles, bicycles, mopeds, motor scooters, and motorcycles, are considered to be vehicles in Texas. Though very vulnerable, they are legally entitled to the use of the roadway in the HTS.

BICYCLES

Cyclists are using the HTS in ever increasing numbers for pleasure, for work, or to commute. Motorists must yield the right-of-way to cyclists at intersections, when passing, and when turning (see Chapter 6).

SAFETY TIPS

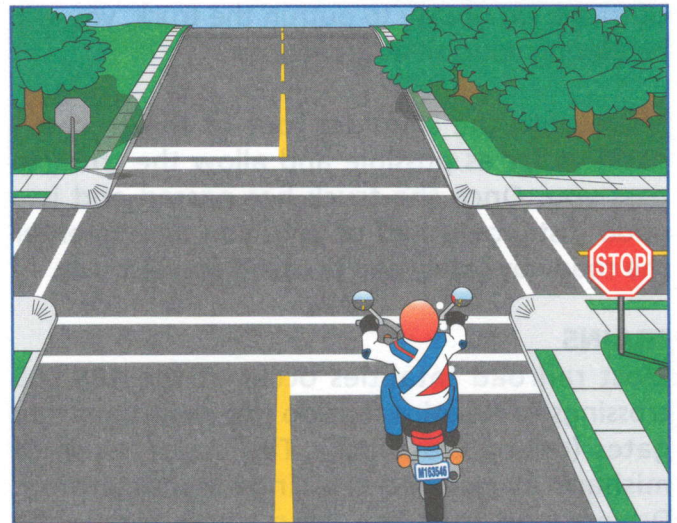


*In Texas, there are more miles of track, and more car and train collisions than in any other state in the nation. **Reduce the risk. Do not become a statistic!***



Avoid making right turns in front of a cyclist traveling on the shoulder. In areas where bicycle lanes have been marked on the pavement, check carefully, and then enter this lane about 100 feet before the intersection where you wish to turn right. Yield to cyclists preparing to turn left. On roads where the speed limit exceeds 50 mph, bicycles must use the shoulder, except where prohibited.

When following a cyclist, slow down as you approach him/her. Avoid the use of the horn, as loud noises can surprise the bicycle user causing a collision. Do not follow closely; bicycles can stop and maneuver quickly. Be prepared for a cyclist to swerve to avoid a road hazard. Young cyclists are likely to make surprising changes in direction. When passing, wait until it is safe and allow a safe clearance. Avoid sharing the lane with the cyclist.



just as powerful. They can accelerate very quickly.

To operate a motorcycle, the rider must coordinate the hand throttle, the hand clutch, and foot gear shift lever to accelerate smoothly. To stop, the rider must operate separate brake controls for the front (hand lever) and rear (foot lever) wheels. This requires considerable skill and coordination. If properly trained, the motorcyclist can be very adept; if not, the rider may not be able to maneuver very quickly or skillfully.

Danger exists because the motorcyclist is exposed and is offered no protection should a collision occur. Unlike four-wheel vehicles, a motorcyclist might have difficulty remaining upright while in motion. Like the bicycle, the rider may have to swerve to avoid road hazards.

A motorcycle cannot cope with adverse weather conditions as well as a four-wheel vehicle can. In inclement weather, leave more space than you normally would from a motorcycle.

When you are following a motorcycle, increase your following distance (to at least 3, preferably 4 seconds; due to the possibility of a quick stop or a fall). When being followed by a motorcyclist, check the rear-view mirror more often. Be aware of his/her presence and avoid making any sudden stops (communicate your intentions by tapping the brake pedal before applying firmly).

MOPEDS AND MOTOR SCOOTERS

A moped is a two-wheeled vehicle that can be driven with either a motor or pedal, as its name implies. Like a bicycle, a moped can be pedaled and can be stopped with a hand brake. Like a motorcycle, a moped is powered by an engine (though less powerful) and controlled by a hand throttle.

15

A motor scooter is a low powered two-wheeled vehicle. It is more powerful than a moped. A motor scooter is similar to a motorcycle, though most motor scooters do not require any shifting of gears.

Treat these vehicles with the same courtesy as you would a bicycle. However, you should be extra vigilant in searching for these vehicles, because, though they are similar in size to a bicycle (and are often mistaken for bicycles when they are oncoming from a distance), they travel much more quickly. When drivers are turning left, they are often surprised by the closing rate of these vehicles (they thought they saw a bicycle).

MOTORCYCLES

Motorcycles are smaller, more vulnerable and less visible than automobiles; however, they are



SAFETY TIPS



Motorcycles are **LESS VISIBLE** and **MORE VULNERABLE** than other motorized vehicles! Search for them vigilantly. Check for them before opening the driver's door after parking. Reduce the risk. In Texas, car-motorcycle collisions occur too frequently! 463 motorcycle fatalities in 2014 (Traffic Crash Highlights TXDOT).

There are several reasons why drivers may not see the motorcyclist approaching. Motorists tend to search for other vehicles, not motorcycles. The profile of a motorcycle is much smaller than other vehicles and does not stand out in the crowd (vision locates targets easily when the target is sufficiently different from the distracters).

PASSING

Always leave motorcycles a full lane of traffic, even though they may only occupy one third of the lane (usually the left third). This is especially important when passing. Do not share the lane with the motorcyclist. Be aware that they may change lane position frequently due to changing road or traffic conditions.

HIGH RISK SITUATIONS

Motorcycle collisions are most likely to occur at intersections; areas of concern are:

- **Left turns** - The most common collision is at an intersection when the motorist turns left in front of an oncoming motorcycle that he/she did not see.
- **Blind spots** - The motorcycle traveling in a driver's blind spot is struck when the driver changes lanes.
- **Hazardous road conditions** - Motorcyclists must respond to road obstructions such as potholes, debris on the pavement, railroad tracks, etc. that drivers may not notice. They may have to slow down, change lane position, or change lanes.
- **Weather conditions** - When the road surface is wet, sand covered, or icy, motorcyclists' braking and handling abilities are impaired.
- **Strong winds** - A strong gust of wind can move a motorcyclist across an entire lane of traffic if the rider is not prepared. Air turbulence from large vehicles can do likewise.

- **Large vehicles** - A large vehicle can create a closed line of sight that will block a motorcycle from a driver's view.

CONSTRUCTION VEHICLES

Construction vehicles are found at or near construction sites and work sites on the roadway. They are usually very large, lumbering vehicles and often very loud as well.

Many construction vehicles move very slowly starting out, and, because of the heavy loads they haul, acceleration takes much longer. The driver, because of the loud noise, is less aware of traffic.

To adapt to construction vehicles:

- Do not tailgate.
- Like large trucks (no zone), the driver may not see you in the side mirrors. Leave a longer interval.
- Keep a safe distance (side space) between your vehicle and any construction vehicles.

When a construction vehicle is behind you, check your rear-view mirror more frequently. Do not stop quickly unless absolutely necessary; many vehicles require a much longer braking distance.

Various traffic control devices are used in road construction and maintenance work areas to direct road users safely through the work site and to provide for the safety of highway workers.

The most commonly used controls are:

- standard signs,
- electronic variable message signs,
- cones,
- drums,
- barricades,
- flashing arrow panels, and
- flaggers (flagpersons).



SAFETY TIPS



Speed limits may be reduced in work areas. Texas law doubles the fines for speed violators in work zones. The maximum penalty for violating speed limits in work zones is \$1,000. Reduce the risk. Slow down and obey all traffic control devices.

SLOW-MOVING VEHICLES

Slow-moving vehicles present a special hazard in the HTS. When a large divergence of speed exists between road users on the same roadway, this creates a high risk situation. The possibility of misjudging speed and distance, the bottleneck that may be created, road users reacting at the last second, etc. are all factors that increase the risk.

In Texas, all slow-moving vehicles must display a special emblem, an orange triangle with a red strip on each side, in order to warn other road users. Be prepared to adjust speed or position when you see this emblem. Pass with caution. Allow extra space to increase sight distance and field of vision.



OVERSIZED VEHICLES: Be prepared to share the road with a number of special purpose vehicles. Snow plows can be expected in winter. Mobile homes being transported are often preceded and followed by vehicles displaying a "Wide Load" sign.

FARM MACHINERY: The machinery, though unlicensed, may be driven on roads to and from the farm.

HORSE DRAWN VEHICLES: They can be found on many roads in Texas.

Exercise extra caution; the operator (farmer) may not hear you; also, don't honk or rev the engine (this may frighten the horse and cause a collision).

INFORMATION PROCESSING

Information processing is the brain's ability to interpret information provided by the driver's senses, and to employ critical-thinking,

decision-making, and problem-solving skills to the information gathered in order to perform reduced-risk driving practices in the HTS.

All of the characteristics of the variety of road users discussed in this section must form part of the information that the brain interprets.

Seeing a tractor-trailer ahead is the first step; understanding the characteristics of this type of vehicle and implementing the countermeasures needed to reduce the risk that it presents is several steps further ahead in applying the SIPDE Space Management System.

COMMENTARY DRIVING

Commentary driving is a technique where the driver verbalizes (speaks out) all information processed including observations, interpretations, evaluations, and intentions related to the movement of his/her vehicle in the HTS.

The driver describes everything pertinent ahead, to both sides of the vehicle, and in the mirrors. When there is time, the driver should describe the various reduced-risk possibilities and the best choice. Comments should occur before the fact, not after; and do not have to be complete sentences. They should include signs, signals, road markings, hazardous situations, blocked lines of sight, evaluation of space areas, etc. Comments should be specific, not general.

Advantages of a running commentary are:

- Assists in evaluating and in developing searching skills and eye lead time.
- Helps driver visualize open, closed, and changing areas - their line of sight and path of travel.
- Reveals if the driver recognizes immediate and potential hazards.



- Creates an awareness of problems and provides practice in solving them.
- Calls attention to "driving is a full time job" and manages distractions.
- Reviews and reinforces the knowledge and skills previously learned.

During the first practice session, the running commentary should include the traffic control devices (signs, signals, and markings) and be of short duration. After some practice at verbalizing, the commentary drive should expand to include all aspects of the driving task (at each attempt, more information should be added).

SAFETY TIPS



The commentary drive is an excellent tool to assist your instructor, parent, and adult mentor to evaluate your vision and space management skills. With practice, you may utilize it for self-evaluation in your life-long learning process.



Space Area Management

As already discussed in Chapter 11, the SIPDE Space Management System is an early warning and resolution approach to the driving task. One of the basic problems is that everyday driving can be very forgiving. Drivers can get positive feedback (no collision occurred) for poor or dangerous decisions (negative behavior). It is for this reason that, with time, most drivers develop bad habits.

To start off on the right foot and maintain proper driving habits, you must develop correct decision-making ability from the outset. Guided practice in the use of the SIPDE system which lasts several minutes at first, and then increased until it is a continual procedure, is the

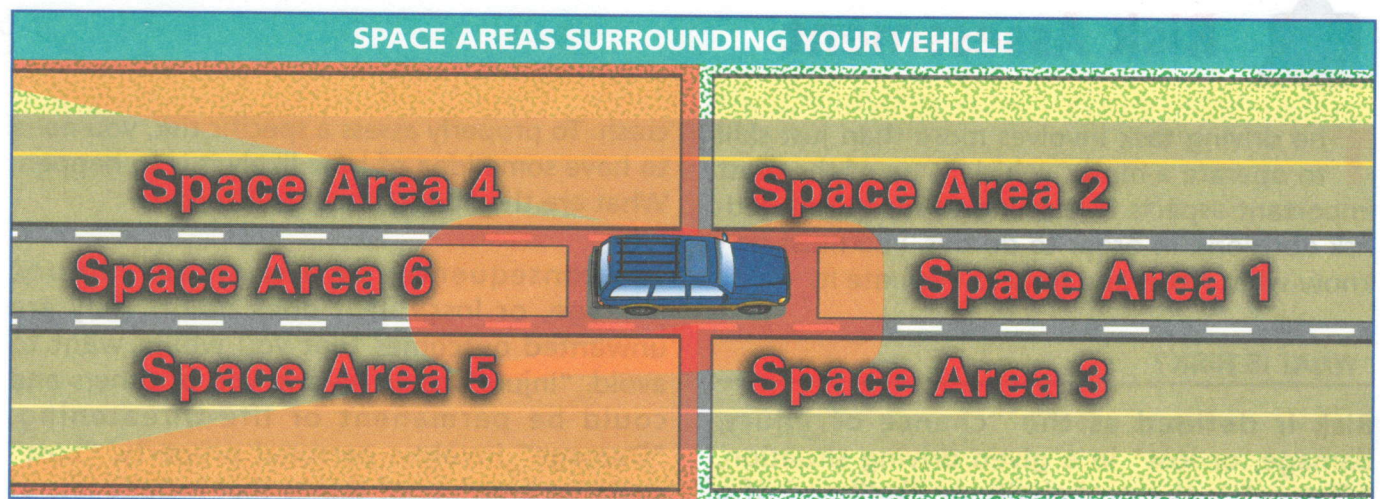
most beneficial method. These practiced decisions will become the norm and be instilled as good habits.

SPACE AREAS

While in motion, there are six areas that surround your vehicle, as well as the blind zone (see diagram below).

SEARCH

You must constantly search these areas for the ever-changing traffic situation. Search for whether the areas are open (clear of any other road users), closed (occupied by others), or changing (about to be occupied). This will indicate if you may use an area as a path of



travel and if your line of sight is clear.

IDENTIFY

What risk does the situation present?

DECIDE

Can you reduce the risk by adjusting your speed or by changing lane position? To what space area can you move to reduce the risk? Which space areas are open?

EXECUTE

Once you have evaluated the risk and decided what you should do, you must act.

Without losing vehicle balance, move your vehicle to the area or lane position that reduces risk. Adjust speed to further minimize risk. Communicate to reduce the risk of a conflict.

EVALUATION OF SPACE AREAS

The areas of concern (space areas) can present one of the following conditions:

OPEN SPACE AREA

There is a space or area available to operate your vehicle without any restrictions to your line of sight or path of travel. No road users occupy the space and nothing impedes your line of sight through the area.

CLOSED SPACE AREA

The space area is not available for your path of

travel because it is presently occupied by another road user or, of equal importance, your line of sight is restricted. You are unable to determine what the situation is.

CHANGING SPACE AREA

There is a space or area available to operate your vehicle at present, but some other road user is about to occupy the space area, or your line of sight is about to be restricted. It is in the process of becoming a closed space area. It could also be a closed space area that is about to become worsened by an additional factor coming into play.

DEVELOPING GOOD HABITS

The more driving experience you acquire, the more likely you are to become a victim of seeing what you expect to see. The key to proper seeing and evaluation is to look for what is actually present using your search pattern (Chapter 11) quickly and efficiently. Then you will be able to evaluate the situation properly, decide how to minimize risk, and finally, adjust speed, space, lane position, etc. to actually reduce the risk.

The more often you perform your visual search and apply the SIPDE system, the more it will become a habit. You'll never have to say *"Officer, I never saw the car!"*

15



Risk Assessment

The driving task involves more than just skill to operate a motor vehicle. One of the most important aspects is learning to make reduced-risk decisions. In order to do this, you must first know what risk is and how to evaluate it.

WHAT IS RISK?

Risk is defined as the "chance of injury, damage, or loss" in a given driving situation. "Chance" is the probability or likelihood of a

crash. To properly assess a specific risk, you need to have some idea of how likely it is to happen. What are the "odds" that it will occur?

The consequences of a crash are "injury, damage, or loss," if it does occur. They are unwanted outcomes that you would want to avoid. "Injury" could involve you or others and could be permanent or life-threatening. "Damage" involves personal property. "Loss" could be a variety of things that include loss of



life, financial loss, loss of opportunity, loss of convenience, loss of time, or other losses.

RISK AND THE DRIVING TASK

Driving is a risk-taking activity. The only way to totally avoid the risks is to never get into a car at all. One of your major responsibilities as the driver of a vehicle is to minimize the risk for yourself, your passengers, and the other road users with whom you share the HTS (Highway Transportation System).

SEVEN LEADING CAUSES OF CRASHES

Recent Texas Department Of Public Safety statistics have identified **seven behaviors that most often lead to crashes**. They are:

SPEEDING - This is the **number one cause** of crashes in Texas and includes both driving above the posted speed limit, as well as driving too fast for conditions. Increased speed results in longer braking distances, less time to react, and more severe collisions. Young drivers are more likely to speed.

FAILURE TO YIELD - is the **second leading cause** of crashes in Texas. This includes trying to "beat" another car when entering the freeway, or a train at a crossing, or ignoring a yield sign at an access road. In 1994, 300 deaths occurred in Texas due to this error.

DRIVING WHILE INTOXICATED - This is the **third leading cause** of crashes in Texas. Impairment begins with the first drink. The risk of being involved in a fatal collision increases dramatically as blood alcohol concentration increases; even more so for young drivers. Driving and alcohol is a dangerous combination.

DISREGARDING TRAFFIC SIGNS OR SIGNALS is the **fourth leading cause** of crashes. It could result from inattention, from trying to "beat" a light, or "rolling" through a stop

sign. Other road users expect drivers to obey signs; the unexpected causes crashes.

FOLLOWING TOO CLOSELY - This is the **fifth leading cause** of crashes in Texas. Young drivers tend to follow more closely than older drivers. This is often mentioned as one of the reasons for the higher frequency of collisions among young drivers.

IMPROPER TURNS - In Texas, this is the **sixth leading cause** of crashes. Examples include: turning wide on a right turn, as well as cutting the corner on a left turn. Speeding or failure to control speed when entering a turn is often an extenuating factor.

UNSAFE PASSING - This could be illegal passing or passing without sufficient clearance. A lack of driving experience or an inability to properly assess risk is a major factor in these crashes.

A growing concern is distracted driving. A 2015 AAA study of teen driver crashes has shown that more than **70% of the crashes involved distraction**. In 2014, in Texas, there were **483 people killed** in crashes involving distracted driving (TX Traffic Crash Highlights 2014).

GUIDELINES FOR RISK-TAKING

To help evaluate risk in any given situation, there are a few basic concepts you should keep in mind.

Never risk more than you can afford to lose. In gambling, you would never bet more than you can afford to pay. In driving, what will you lose in this situation, if the worst case scenario occurs? Some time, your privilege to drive, or your life are all possibilities. Which could you afford? Which of these is likely to occur?

Do not risk a lot for a little. Ignoring a railroad crossing signal in order to save a few

15

Statistics



Based on over 477,817 reportable crashes in 2014 in Texas (one every 66 seconds):

- 3,534 traffic fatalities - 1 person was killed every 2 hours and 29 minutes
- 237,942 injuries - 1 person injured every 2 minutes and 13 seconds



SAFETY TIPS



Make sure all occupants are properly restrained - seat belts or the appropriate child safety seats. Even though failure to wear a seat belt is not the immediate cause of a crash, it makes the consequences of a collision worse. This error is associated with higher risk drivers and is usually symptomatic of other high-risk behavior. It is a prime example of poor risk-reduction decision making.

minutes delay is an example of risking a lot for a little. Don't do it. The risk of a severe crash or an expensive ticket is not worth the time savings.

Consider the odds and your situation.

In driving, there are many elements that are not under your control - the weather, road conditions, and other road users are just a few examples.

To diminish risk, you must learn to use the things that you can control in order to deal with the things that are beyond your control.

NOVICE DRIVERS

Driving involves risk - risk of injury to yourself or others, as well as risk of property damage. The only way to avoid driving risk is to eliminate all contact with the HTS.

15

The probability of a collision determines driving risk. The level of control and risk-taking behavior increase or decrease the likelihood of a crash. In Texas, the risk-taking behavior of novice drivers, and teens in general, is higher than that of experienced drivers.

2001 CENTER FOR DISEASE CONTROL STATISTICS FOR TEXAS 9TH THROUGH 12TH GRADERS

- **47.1%** - rode a motorcycle and never or rarely wore a helmet.
- **92.4%** - rode a bicycle and never or rarely wore a helmet.
- **10.4%** - rode in a vehicle with someone else

driving and rarely wore a safety belt.

39.7% - rode in a vehicle with a driver who had consumed alcohol.

- **16.3%** - drove after consuming alcohol.

These statistics for Texas students were in almost all cases higher for risk-taking behavior than those for the entire United States.

Occupant protection, especially safety belt use, among high school students is lower than among other occupants in passenger vehicles. Even when adults are driving and using belts, many teens riding with them do not buckle up.

The youngest driver age groups have the highest traffic violation and crash involvement rates. This is often due to poor judgment and inexperience. This problem is also due to a willingness of young drivers to take risks that include speeding, dangerous maneuvers, and violating red light signals and stop signs.

Speeding is the number one cause of crashes in Texas. This includes both driving above the posted speed limit and driving too fast for conditions. Studies have shown that young drivers are more likely to drive at higher speeds than are older drivers.

An activity that young drivers are implicated in is "**Street Racing.**" This involves racing vehicles on deserted streets (after 2 a.m. on weekends). Crashes often result in several deaths, involve young males with previous driving offenses, and can result in severe criminal charges.

Statistics



*In Texas - Of all persons killed in vehicles where restraint usage was applicable and usage was known in 2014, **43.8%** were reported as not restrained when the fatal crash occurred. (TX Crash Highlights 2014)*





Risk Reduction

The driving task involves more than just skill in the operation of a motor vehicle. Learning to make reduced-risk decisions is of prime importance.

RISK REDUCTION TECHNIQUES

Risk reduction techniques allow you to choose legal and responsible reduced-risk driving practices. You apply them to the driving task by:

- Applying and understanding Texas laws.
- Utilizing driver preparation procedures.
- Using occupant protection and having passengers wear occupant protection.
- Applying driver readiness techniques.
- Utilizing vehicle control techniques while maintaining vehicle balance.
- Applying proper vehicle movement and maneuver procedures.
- Applying vehicle reference points for positioning and maneuvering.
- Utilizing the SIPDE Space Management System that includes information processing and adapting to the driving environment.
- Targeting line of sight and path of travel as well as space area assessment.
- Applying searching and attention techniques while minimizing and controlling distractions.
- Timing multi-tasking elements to maintain control of your vehicle while minimizing time away from the visual search process.

WAYS TO MINIMIZE DRIVING RISK

- Maintain your vehicle and understand how it operates.
- Drive only when alert and able to efficiently process information from the environment.
- Wear your seat belt and sit at least 10 inches from the air bag.
- Position your hands at 9 and 3 (or below) on the steering wheel with the thumbs resting along the rim.
- Drive with the headlights on at all times.
- Develop safe driving habits.
- Use a simple visual search process.
- Keep a safe margin of space from others and

- adapt this space to the changing conditions.
- Position your vehicle to maximize your ability to see and to be seen by others.
- Adjust your speed to conditions.
- Communicate and cooperate with road users.
- Continue to improve your traffic safety knowledge and to refine your driving skills.
- Always adhere to traffic laws - they are designed to improve safety and efficiency.

FACTORS REDUCING EFFECTIVENESS

- Driver conditions
 - Distracted / Fatigued
 - Aggressive while driving
 - Alcohol and other drug usage
 - Risk-taking behavior
- Weather conditions
- Light conditions
- Traffic conditions
- Roadway conditions
- Vehicle conditions

AS A NOVICE DRIVER

As a novice driver, you can use risk reduction techniques to reduce error and risk-taking:

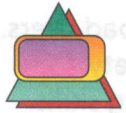
- Encourage driver readiness and vehicle preparation.
- Practice smooth and gradual starts / stops.
- Develop and apply reference points for vehicle placement and maneuvers.
- Find visual targets prior to maneuvers.
- Visually target the end of the path of travel.
- Be alert to line of sight/path of travel changes.
- Know restricted line of sight or path of travel means reduce speed.
- Adjust speed to create space.
- Adjust speed to time arrival at intersections.
- Clear rear, left, front, and right areas before entry.
- Check rear-view mirror before braking.
- Check mirror/blind spot before movement.
- Maintain a four-second interval to reduce risk and provide time for decision-making.
- Leave space when stopped.
- Communicate and be courteous.





DRIVING PLAN

The student formulates a Driving Plan incorporating the knowledge and skills of Module Five (Risk Reduction) to endorse, to promote and to sustain lifelong legal and responsible reduced-risk driving practices in the HTS.



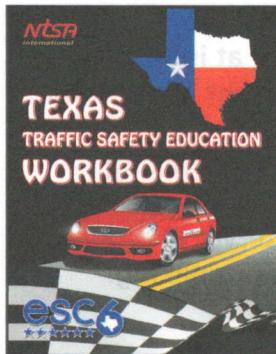
Module Five Review

VOCABULARY - WRITE A SHORT DEFINITION FOR THE FOLLOWING :

- Visual search
- Right turn squeeze
- No Zones
- RVs
- Construction vehicles
- Slow moving vehicles
- Farm machinery
- Commentary driving
- Open space area
- Closed space area
- Changing space area
- Risk
- Street racing
- Off-road crashes
- Risk reduction

TEST A- ANSWER THE FOLLOWING QUESTIONS.

1. A) Describe an effective pattern for visually searching the environment?
B) What would you be searching for?
2. A) What characteristics of large vehicles must you adapt to?
B) What countermeasures will help reduce risk at railroad grade crossings?
C) What special precautions apply to sharing the road with motorcycles?
D) What special precautions apply to construction vehicles and work zones?
3. A) What is a running commentary drive?
B) What are the advantages of performing a commentary drive?
4. A) Describe the three possible evaluations of space areas?
B) How would you adapt your driving to a closure of any space area?
5. A) What are the seven behaviors that most often lead to crashes in Texas?
B) As a novice driver, what can you do to reduce risk?



TEXAS TSE STUDENT WORKBOOK

Check your comprehension and mastery of the contents of this Module by completing the corresponding exercises that are found in the complement to the **TEXAS TSE STUDENT MANUAL:**

TEXAS TSE STUDENT WORKBOOK

Complete the assigned questions in the workbook. If necessary, review the chapters when uncertain of an answer and refer to your instructor for further guidance.