Florida Sheriffs Association

Teen Driver Challenge

This course will provide you with the knowledge and hands-on experience to reduce your chances of being involved in a crash.

Sheriff Kevin J. Rambosk

Florida Sheriffs Association
Teen Driver Challenge

Student Workbook Introduction

On behalf of the Florida Sheriffs Association, welcome to the Teen Driver Challenge. Your attendance and participation in this training will provide you with life saving skills, techniques and education about the operation of a motor vehicle. You will need to utilize the skills demonstrated in this training every time you take control of a vehicle.

Traffic crashes occur every 12 seconds in the United States. Vehicular crashes are the No. 1 cause of deaths among young adults. **You are more likely to be killed in an automobile crash than any other way.** The first step in reducing these statistics begins with *you* and the challenge to become a more informed, safer and efficient driver. This course will provide you with the knowledge and hands-on experience to reduce your chances of being involved in a crash. The driving skills you will learn are the same techniques used by driving professionals, including NASCAR.

The class will consist of two training days. The first includes a four-hour block of instruction, and the second day, an eight-hour block of vehicle operations. Please note that you will be using your personal vehicle in the vehicle operations part of the training. Your instructor will be a certified law enforcement trainer. Upon the successful completion of this course, you will graduate with a certificate of completion. (You may present this certificate to your auto insurance company for a possible premium reduction.)

Driving is a complex task and often taken for granted by most drivers. The Florida Sheriffs Association is honored that you have chosen to rise above the rest and take the Teen Driver Challenge to become a better driver. By taking this challenge, you will become active in reducing the teen fatality rate and provide a safer driving environment for you, your family and your community.

• Drive safe • Pay attention • Be mature in your actions

Drive like every life depends on it, because it does.

Florida Sheriffs Association Teen Driver Challenge

This is the official training workbook for the Florida Sheriffs Association Teen Driver Challenge. It is intended to be combined with the TDC training course, which includes classroom instruction, video training and live driving maneuvers. The information contained in the course and workbook were compiled from numerous resources and consist of approved and accepted driving exercises and techniques. See inside back cover for additional resources. To find out about a Teen Driver Challenge course in your area, or to learn more about bringing the training to your community, contact: Florida Sheriffs Association, P.O. Box 12519, Tallahassee, FL 32308, Phone: 850-877-2165, E-mail: info@flsheriffs.org

1 Chapter One

Teen Crash Facts

The National Highway Traffic Safety Administration (NHTSA) reports motor vehicle crashes are the leading cause of teen fatalities in America. **Based on miles driven, teenagers are involved in three times as many fatal crashes as all other drivers.** Specific behaviors are associated with the cause of this high fatality rate. Inexperience combined with speed, alcohol-related driving, not wearing safety belts, distracted driving (cell phone use, loud music, other teen passengers, etc.), drowsy driving, nighttime driving, and drug use contribute to this high percentage of preventable deaths.

The Insurance Institute for Highway Safety (IIHS) reports that 54% of motor vehicle crash deaths among teenagers occurred on Friday, Saturday and Sunday. **The most dangerous time of the day is 9:00PM to Midnight.**

Can you explain why that is?_____

_____

_____

In the 12 hours it will take you to complete this training program, young people, just like yourself, will have died in traffic crashes.

The state of Florida is one of the highest in the nation for teenage vehicle collision deaths. Starting right now, we are going to make a positive change in those numbers.

Did you know that approximately 62% of the teenage deaths are actually the passengers in a car with a teenage driver? What do you think are the reasons for this?

_____

_____

_____

_____

It is your job as the driver to stay in control of the vehicle and the PASSENGERS so that you will arrive alive. According to IIHS, when a teen driver is involved in a fatal crash, 38% of the fatal victims are in the other vehicle that was struck. How would you like to live the rest of your life knowing that you are responsible for disabling or taking someone's life?

What type of crash is most common among teenage drivers?

_____

_____

What do you expect to learn by taking this driving course?

_____

_____

_____

_____

_____

During this course you will learn new techniques on vehicle control and crash avoidance. The course will cover:

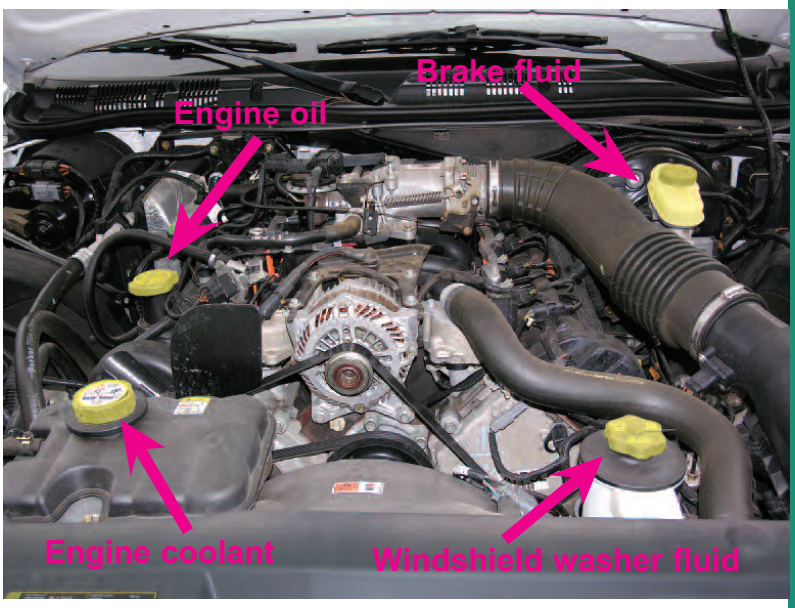
- **Knowing your vehicle**
- **Using your senses**
- **Safety restraints**
- **Vehicle dynamics**
- **Safe driving techniques**
- **Alcohol and driving**
- **Aggressive driving**
- **Driving exercises**

2 Chapter Two

Knowing Your Vehicle

Driving starts before you get behind the wheel. As a driver, vehicle maintenance is your responsibility. Maintaining the proper fluid levels includes:

- **Engine oil**
- **Transmission fluid**
- **Power steering fluid**
- **Engine coolant**
- **Brake fluid**
- **Windshield washer fluid**
- **Fuel**



In addition to fluid checks, you need to visually inspect the condition of your belts, tires and any body damage. Before we begin your driving exercises, you will be required to check under your hood and see that your vehicle is properly maintained.

Tire pressure is critical in vehicle control. What is more dangerous–an over inflated tire or an under inflated tire? _____.

How can you tell if your tire is over or under inflated? First, by visually inspecting the tire wear. If a tire is over inflated, the tire will wear unevenly showing excessive tread wear in the center of the tire. If the tire is under inflated, excessive tread wear will be on the outside edges of the tire.

Under-inflation ***Correct-inflation*** ***Over-inflation***

3 Chapter Three Use Common "Senses" When Driving

Question: What "senses" do we use when driving, i.e. sight, sound, smell, etc.?

_____

_____

Making sense of your "senses"

Our senses play an important role when we are driving. We need to *see* where we are going, *hear* what is going on around us, *feel* for problems with our vehicles or roadways and *smell* for other vehicle issues. This is how we use or senses while driving.

Sight

Sight accounts for **90% to 95%** of all information that your brain receives while driving. Think about it: if we don't see something, then how do we know it's there?

Our **Sharpness of Vision**, or acuity, allows us to read road signs and accurately see people or other objects at the greatest possible distances.

Our **Depth Perception** allows us to judge the distance between our vehicle and other vehicles, people and edges of the roadway.

Our **Field of Vision** is the ability to see not just directly in front of us, but almost 180 degrees using our peripheral vision.

Our **Color Vision** allows us to distinguish between the various colors, most importantly distinguish between red, yellow and green. The inability to distinguish between the colors is called "color blindness."

Our **Night Vision** allows us the ability to see clearly in the darkness.

Hearing

Hearing allows us to locate the source of sounds. If we cannot hear something going on around us, then how do we know it is there?

What are some things that we might use our hearing for (related to driving)?

_____

_____

_____

We have to train our hearing for other important sounds also. We need to actively listen for engine noises, auto crash sounds and screeching tires.
What are some things that can distract our hearing?

_____

_____

_____

Touch

We use our sense of touch to identify vehicle or roadway problems. You know how your vehicle "feels" when it is functioning properly. Vibrations can signal not only if your vehicle is having problems, but also the general area where the problem may be. Vibrations in the steering wheel tells you that there is a problem in the front of the vehicle; vibrations in the seat can tell you there is a problem in the rear of the vehicle. Things that we can *feel* can be a flat or low tire, alignment problems, brake problems, etc.

Smell

Different smells can mean different problems with your vehicle. Things that might be detected by your sense of smell are: gasoline, fire, electrical problems, engine coolant and brakes. Each "odor" is unique and can be used to help identify different types of vehicle problems.

4 Chapter Four

Belt Yourself, It Won't Hurt!

Now let's talk about the most important safety devices in your vehicle. Do you know what they are? _____ and _____

Padded seatbelt

What is the purpose of seatbelts?

_____

_____

Do you need to wear your seatbelt if your vehicle is equipped with airbags?

_____

FACT: Teens have the lowest seatbelt use rate of all drivers! Believe it or not, the use rate becomes even lower when there are other teenagers in the car.

Seatbelts, without a doubt, save lives. A seatbelt must be worn properly to be effective. The belt should be fastened across the lap and across the chest. Some teens wear the shoulder strap underneath their armpit. This is dangerous because it will not protect you from going forward and striking an object like the steering wheel, dash, etc. Wearing seatbelts is not only a good safety idea, but also *the law*. Florida requires the use of seatbelt when in the front seat, or for people under the age of 18 years no matter where they are sitting.

Have you heard of Sir Isaac Newton? He studied the laws of motion and found that "An object in motion remains in motion unless acted upon by an outside force." How does this apply to seatbelt use? _____

_____

_____

Deployed airbag

Why do you need protection from the airbag in your vehicle? _____

_____

_____

In order to protect yourself from an exploding airbag, you should position yourself 12 to 14 inches away from the steering wheel. Should you be involved in a crash

that causes the air bag to deploy, the seatbelt will protect you from being thrown into the airbag at the same time as it explodes.

Seatbelt use is not only a safety factor, but it is the law. Seatbelt use is mandatory!

Safety belt usage. *Florida Statute* **316.614**

Title XXIII
MOTOR VEHICLESChapter 316
STATE UNIFORM TRAFFIC CONTROL
316.614 Safety belt usage.--

(1) This section may be cited as the "Florida Safety Belt Law."

(2) It is the policy of this state that enactment of this section is intended to be compatible with the continued support by the state for federal safety standards requiring automatic crash protection, and the enactment of this section should not be used in any manner to rescind or delay the implementation of the federal automatic crash protection system requirements of Federal Motor Safety Standard 208 as set forth in S4.1.2.1 thereof, as entered on July 17, 1984, for new cars.

(3) As used in this section

(a) "Motor vehicle" means a motor vehicle as defined in s. 316.003 that is operated on the roadways, streets, and highways of this state. The term does not include:

1. A school bus.
2. A bus used for the transportation of persons for compensation.
3. A farm tractor or implement of husbandry.
4. A truck of a net weight of more than 5,000 pounds.
5. A motorcycle, moped, or bicycle.

(b) "Safety belt" means a seat belt assembly that meets the requirements established under Federal Motor Vehicle Safety Standard No. 208, 49 C.F.R. s. 571.208.

(c) "Restrained by a safety belt" means being restricted by an appropriately adjusted safety belt which is properly fastened at all times when a motor vehicle is in motion.

(4) It is unlawful for any person:

(a) To operate a motor vehicle in this state unless each passenger and the operator of the vehicle under the age of 18 years are restrained by a safety belt or by a child restraint device pursuant to s. 316.613, if applicable; or

(b) To operate a motor vehicle in this state unless the person is restrained by a safety belt.

(5) It is unlawful for any person 18 years of age or older to be a passenger in the front seat of a motor vehicle unless such person is restrained by a safety belt when the vehicle is in motion.

(6)(a) Neither a person who is certified by a physician as having a medical condition that causes the use of a safety belt to be inappropriate or dangerous nor an employee of a newspaper home delivery service while in the course of his or her employment delivering newspapers on home delivery routes is required to be restrained by a safety belt.

(b) The number of front seat passengers of a pickup truck required to wear a safety belt pursuant to this section shall not exceed the number of safety belts which were installed in the front seat of such pickup truck by the manufacturer.

(c) An employee of a solid waste or recyclable collection service is not required to be restrained by a safety belt while in the course of employment collecting solid waste or recyclables on designated routes.

(d) The requirements of this section shall not apply to the living quarters of a recreational vehicle or a space within a truck body primarily intended for merchandise or property.

(6) It is the intent of the Legislature that all state, county, and local law enforcement agencies, safety councils, and public school systems, in recognition of the fatalities and injuries attributed to unrestrained occupancy of motor vehicles, shall conduct a continuing safety and public awareness campaign as to the magnitude of the problem and adopt programs designed to encourage compliance with the safety belt usage requirements of this section.

(7) Any person who violates the provisions of this section commits a nonmoving violation, punishable as provided in chapter 318. However, except for violations of s. 316.613 and paragraph (4)(a), enforcement of this section by state or local law enforcement agencies must be accomplished only as a secondary action when a driver of a motor vehicle has been detained for a suspected violation of another section of this chapter, chapter 320, or chapter 322.

(8) By January 1, 2006, each law enforcement agency in this state shall adopt departmental policies to prohibit the practice of racial profiling. When a law enforcement officer issues a citation for a violation of this section, the law enforcement officer must record the race and ethnicity of the violator. All law enforcement agencies must maintain such information and forward the information to the department in a form and manner determined by the department. The department shall collect this information by jurisdiction and annually report the data to the Governor, the President of the Senate, and the Speaker of the House of Representatives. The report must show separate statewide totals for the state's county sheriffs and municipal law enforcement agencies, state law enforcement agencies, and state university law enforcement agencies.

(9) A violation of the provisions of this section shall not constitute negligence per se, nor shall such violation be used as prima facie evidence of negligence or be considered in mitigation of damages, but such violation may be considered as evidence of comparative negligence, in any civil action.

5 Chapter Five

Vehicle Dynamics

An automobile has no magical power. This lesson teaches you how physical forces affect your ability to control and safely maneuver an automobile. You will learn that an automobile will react to:

- Driver input. You control the vehicle's steering, acceleration and braking.

- Road conditions. The vehicle responds differently on wet/dry, straight/level or curved/graded surfaces.

- Natural forces. Gravity and laws of motion also affect the vehicle's performance.

As you prepare to drive, consider the automobile as a 3,500 lb. body resting on four, six-inch squares (tire contact). All the factors that were just described affect those four small areas and what happens to the vehicle.

Hey, I think you need . . . two hands for that!

Of course we are talking about hand placement on the steering wheel. You may have been taught two and 10 are the best position for your hands on the steering wheel. Since most vehicles are equipped with airbags, the best position is 9 and 3. The higher your hands are on the steering wheel, the more likely you are to injure your hands, should your airbag deploy during a crash. The airbag ignites with such force that it can literally blow your hands off the steering wheel into your forehead or the door post...ouch!

How were you taught to steer a vehicle? Hand-over-hand steering. . . shuffle steering at the bottom of the steering wheel. . . or is steering a one-handed affair? We want to teach you a new way to drive called, Pull/Push steering.

1 First, place your hands on the steering wheel at 9 and 3.

Let's say you want to make a right turn. Simply slide your right hand to the top of the wheel.

2

3 To begin turning, pull the wheel down with your right hand while sliding your left hand to the bottom of the wheel where your hands will meet.

4 Finish your turn by pushing the steering wheel up with your left hand. Your hands actually mirror each other while you turn the steering wheel.

When you want to turn left, make the same movements with your left hand. Slide your left hand to the top of the wheel and pull down while sliding your right hand to the bottom of the wheel where your hands will meet, then finish your turn by pushing the wheel up with your right hand.

It is important not to over grip the steering wheel. Use finesse! This type of steering allows you to have total control of your steering wheel at all times. More importantly, should an emergency arise and you need to make an evasive steering maneuver you will be able to do so quickly and efficiently with the 9 and 3 hand position.

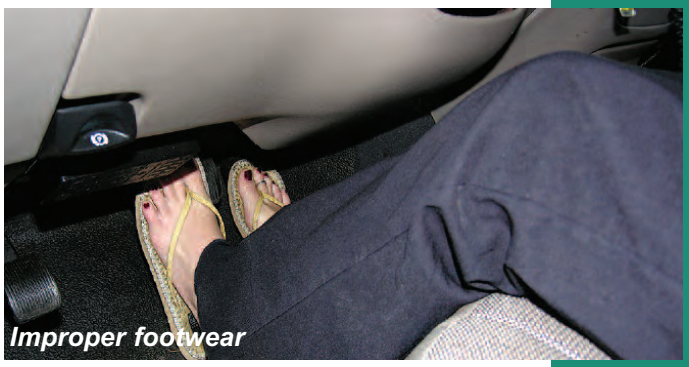
Poor sitting position

Another important aspect of driving is how you sit in your vehicle. Sometimes what looks “cool” can be really dangerous. Does this photo look familiar? Not the person, but the way she is sitting behind the wheel. This reclined, one-arm driving position (and no seatbelt) greatly reduces your reaction time should you need to brake or steer to avoid a crash.

Proper sitting position

The proper sitting position includes your seatback forward, approximately 12 to 14 inches from the steering wheel, and your hands at 9 and 3.

Finally, did you know the type of shoes you wear can affect your driving? What type of footwear do you think might be a problem when driving a car?



Improper footwear

_____

_____

If you guessed flip flops you are right. There have been many cases where teens and adults have caused their flip flop to become wedged under the brake or gas pedal. When they tried to dislodge the shoe…..CRASH!

You should wear shoes that will stay on your feet. Besides, we are going to teach you a new way to maneuver your foot from the accelerator to the brake pedal where you will learn to brake like a driving professional… and it cannot be done correctly wearing flip flops.

PHYSICAL LAWS

If you understand the Laws of Motion from physics, then you can better understand the forces acting on a stopped or moving vehicle.

Do you remember Sir Isaac Newton's first law of physical motion discussed in Chapter 4 ?

First Law of Motion
Every body continues in a state of rest or uniform motion in a straight line unless physical forces compel it to change that state. This means, once set in motion, a vehicle continues to move in a straight line unless an outside force compels it to do otherwise.

Second Law of Motion
The acceleration of a body is directly proportional to the net force acting on that body and inversely proportional to the mass of the body. This simply means that a small car with more horsepower accelerates more rapidly than a large car with less horsepower.

Vehicular Motion

There are three types of vehicular motion. Can you fill in the word that matches the definition?

1. _____ occurs during acceleration or braking. Motion transfers weight from front to rear or from rear to front.

2. _____ occurs when turning and shifts the vehicle's weight from side to side.

3. _____ is the end-of-end motion on a horizontal plane. It can cause the vehicle to turn 180 degrees so that its front is where its rear had been.

Stability

Vehicular stability affects the degree of pitch, roll and yaw that a vehicle experiences. A stable vehicle does not pitch and roll as easily as an unstable vehicle. The weight of the most stable and efficient vehicle is low and centered. The higher a vehicle's center of gravity, the lower its stability.

Weight Transfer and Distribution

Weight transfer during driving influences the vehicle's handling ability. Weight transfer and distribution occur when the vehicle's speed changes. The more abruptly you accelerate or brake, the more dramatic the weight transfer and its effects.

• As you apply the brakes, weight transfers in the direction your vehicle is traveling. This transfer affects the distance it takes to stop your vehicle and how hard you must push the brake pedal to stop the vehicle.
• As you accelerate, weight transfers to the rear tires, affecting acceleration and/or handling of the vehicle. During acceleration, the front of the vehicle lifts, causing weight transfer to the rear resulting in loss of traction for the front tires.

Weight transfer and distribution also occurs when a vehicle changes direction. When turning a corner, weight is transferred from one side of the vehicle to the other. This transfer of weight can force your vehicle out of your travel lane or off the road. When you turn a corner, weight transfers toward the tires on the outside of the turn.

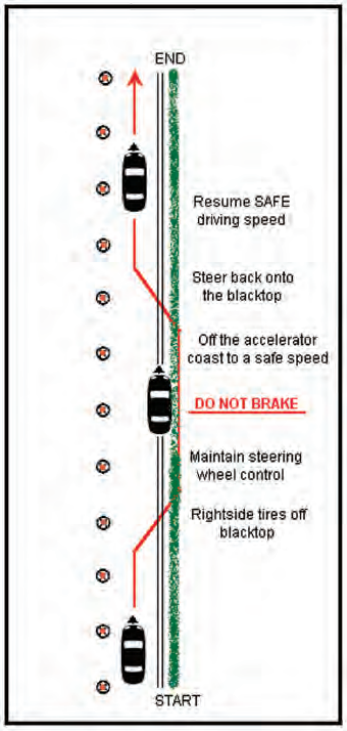
• Because of the diminished steering capability, you should not attempt to brake and steer at the same time. Always brake before turning, then steer into the turn.

Off-Road Recovery

The simple fact is that a car does not drive like a truck and a van does not drive like a car and an SUV does not drive like anything but an SUV. This means you need to know the vehicle you are driving and how it responds to different speeds and steering inputs. Many people, young and old, are killed every year due to vehicle rollovers. In most cases, this type of tragedy could have been avoided if the driver had some basic knowledge of vehicle dynamics.

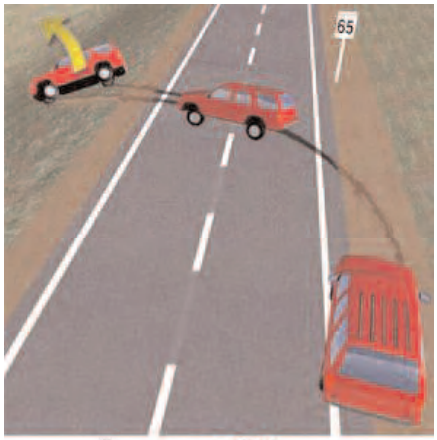
Center of gravity is very important in determining if a vehicle has a potential to roll over with aggressive steering inputs. Basically, the more narrow a vehicle and the higher it sits off the ground the more likely it could roll over with strong steering inputs. Notice the difference in the center of gravity in the photo between the SUV and the compact car.

One of the biggest mistakes an inexperienced driver makes is over-correcting the steering when their vehicle drifts off the edge of the roadway. Jerking the steering wheel when traveling at highway speeds can cause an out of control situation.



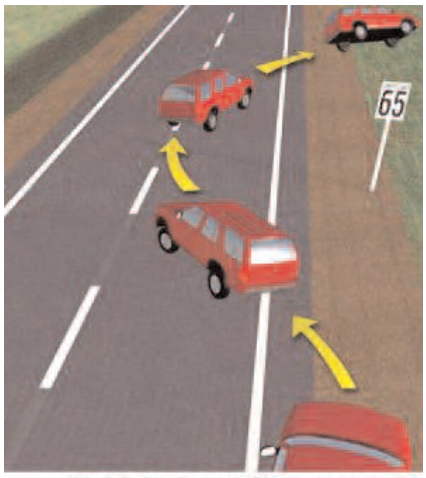
Rural Road Rollover

Rollovers can happen with any vehicle under certain driving conditions. As in the illustration, you can roll a vehicle if you take a corner too fast and run off the roadway. Once off the roadway may encounter a steep downhill embankment or a tripping mechanism such as logs, rocks, guardrails or sand which can cause a rollover.



Freeway Rollover

When you are driving a high center of gravity vehicle at highway speeds and you run off the roadway… and then over correct or jerk the steering wheel to re-enter your lane, this movement can cause a roll over.



Vehicle Out Of Control

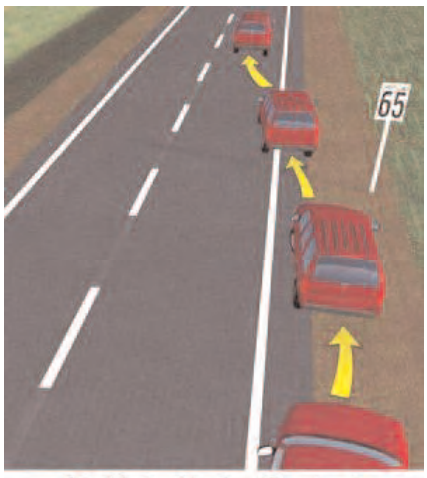
Let's say you are driving on the freeway and you decide to change the CD in your CD player. Your vehicle drifts off the roadway. What driving actions should you take in order to avoid an out of control vehicle?

_____

_____

_____

_____



Vehicle Under Control

The first thing you should do is, DON'T PANIC! Avoid slamming on the brake. Take your foot off the accelerator and drive along the edge of the roadway. Look over your shoulder and see if you can return the vehicle back onto the roadway. If your lane is clear, move back onto the roadway using controlled steering. If you need to stop, pull off the roadway far enough to avoid someone running into the rear of your vehicle. Use controlled braking to bring your vehicle to a stop. Only re-enter the freeway when it is safe. Remember, don't panic, and use controlled steering and braking movements to maintain control of your vehicle.

Speed (Velocity)

Speed is a major factor in determining how a vehicle will react when forces are put upon that vehicle.

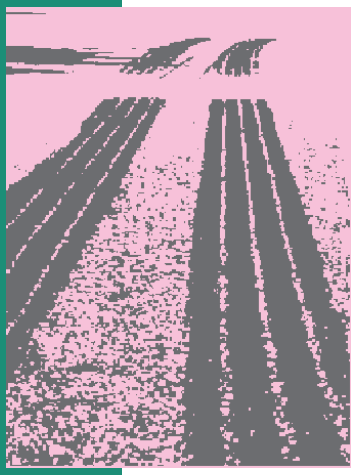
Question Do you consider 45 MPH to be a high rate of speed?

Generally 45 MPH is a standard speed limit posting on most community roadways. It is *not* considered by most people to be a high rate of speed. When thinking in terms of velocity, most of us don't consider mile-per-hour to be as critical of a factor in reaction time as if we considered that velocity in feet-per-second.

- Velocity in feet per second can be figured out like this:
  Speed in MPH X 1.466

In other words, if you are traveling at 45 MPH, you are actually traveling at 66 feet per second every second. That means that in just as little as 3 seconds (or the amount of time that it may take to look at your cell phone to see who is calling) you will have traveled 199 feet or two thirds the length of a football field.

• Did you know that Indy race car drivers actually train themselves to blink their eyes as little as possible due to the amount of distance that they lose because of their tremendous speed? At 300 MPH (or 440 feet per second) these drivers can fail to see the next football field length of track *just by blinking!*



Let's Brake!

What type of brake system do you have in your vehicle?

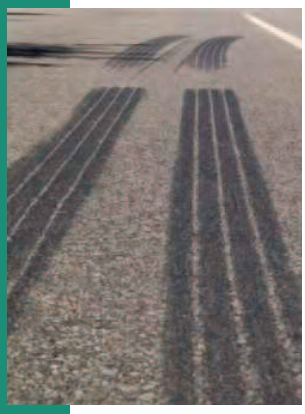
_____.

How do you know what type of brake system you have in your car? It is important you find out what type of brake system you have and how to use it before you begin to drive a new vehicle.

There are two types of braking systems. Prior to the 1990s, most vehicles had a conventional or skid based braking system. If you slammed on the brakes, the brake system would stop your tires from rolling and you would skid. Let's think about this for a moment.

You are driving down the road when your cell phone rings. You look around the vehicle to find your phone, and when you look back at the road someone has stopped in front of you. You then slam on the brakes as hard as you can to avoid a rear end collision. But your wheels lock up and you begin to slide….slide right into the vehicle you are trying to avoid. What would have happened if you tried to turn the wheel right or left while you were in the braking skid?

When your wheels lock up, you no longer have rolling traction and it does not matter which way you turn the steering wheel. The vehicle will continue to travel forward usually in a straight line. So if rolling traction is what we need to turn the steering wheel and steer around the car we are about to impact. How do we regain rolling traction when we are skidding?

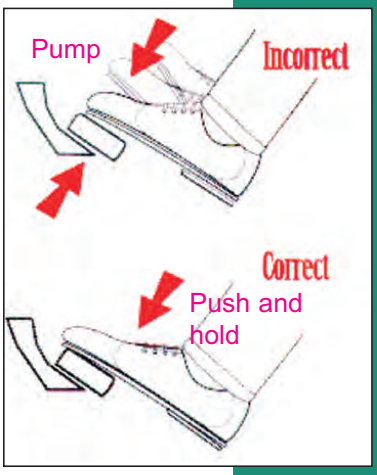


If you have a conventional brake system, and your brakes lock the wheels in a hard braking situation, the moment you feel the vehicle sliding you need to let enough pressure off the brake pedal to stop the skid and allow the wheels to roll. When your wheels are turning, try to steer around the vehicle you are about to impact. If you need additional braking to slow down, apply enough pressure on the brake pedal without causing the wheels to lock.

When you depress the brake pedal to the point before the wheels lock up, you are threshold braking. Threshold braking allows you the maximum stopping power without the wheels locking up (rolling traction) which allows you to steer the vehicle away from a collision.

So, you have a conventional brake system, “Don’t Ride the Slide.” Find threshold and steer away from the collision.

The other type of brake system is called ABS or Anti-lock Braking System. Most cars today have ABS brakes but it is still an option with some vehicles. ABS does the same thing that a driver would do if they were threshold braking. The great thing is, ABS does all the work for you. The Anti-lock braking system is computer controlled using wheel sensors that do not allow the wheels to lock up during heavy braking. As we discussed earlier, when the wheels are rolling, you have rolling traction and can control the vehicle by steering away from a possible collision. What do you, as the driver, hear and feel during an emergency ABS stop?



_____

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Unfortunately, the first time some people experience an ABS stop is in an actual emergency. When they feel the brake pedal vibrating and hear the grinding noise, they panic and take their foot off the brake pedal. That is about as effective as having no brakes at all. Remember the three S’s. STOMP on the brake, STAY on the brake and don’t let up, and STEER into a clear path of travel when making an emergency ABS stop.

You need to know that something strange has been happening since more vehicles are equipped with ABS brakes: There has been an increase in head-on collisions. Write down the reason you think this is happening.

_____

_____

Remember, ABS brakes can be a great asset for vehicle control during emergency stops, but the pathway you choose to avoid a collision must be a clear one. Creating a head-on collision to avoid another collision can be deadly!

Heel Indexing

Now that we understand what type of brake system we have it is important to learn a new braking technique. This technique is called heel indexing. Professional drivers use heel indexing as it helps to reduce your reaction time and allows for smooth, controlled stops. Have you ever been a passenger with a driver that every time they stop their car you are thrown forward in your seat? Most likely that driver is picking their foot off the accelerator and putting their foot on the brake by lifting their foot up and down. With heel indexing your right foot never leaves the floorboard. When your foot is on the accelerator and you are ready to brake, keep your right heel on the floorboard and rotate or heel index over to the brake. Notice what part of your foot is on the brake pedal when you heel index.

Why do you think having the ball and toes of our foot on the brake pedal is a good idea?

_____

_____

So far we have learned how to steer, what type of braking system we have and how to use it, and how to control our brake pedal for smooth controlled stops. Begin using these driving techniques today and use them everyday until it becomes second nature and you use these techniques without thinking about them. By mastering these driving techniques you will be one step closer to meeting the teen driver challenge – becoming an excellent driver and reducing teen car crash injuries.

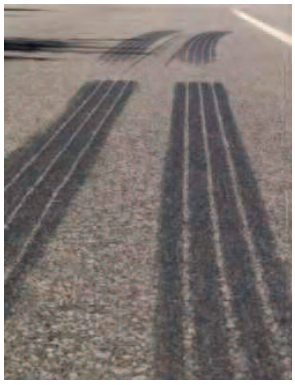
STOPPING DISTANCE

The first factor that must be considered when talking about speed and braking distance is **reaction time**. Reaction time is the amount of time that it takes to:

- Recognize a need to react
- Formulate a plan of action
- Apply that plan of action

The average reaction time for an individual is about 1-1/2 seconds. This means that on average it will take a person 1-1/2 seconds before brakes are applied in any given situation.

With that fact in mind, let's discuss the actual distances that it takes for a vehicle to come to a complete stop.



Stopping distance is the distance it takes for the vehicle to come to a controlled stop after the brakes have been applied.
Stopping distance is affected by 3 different factors:

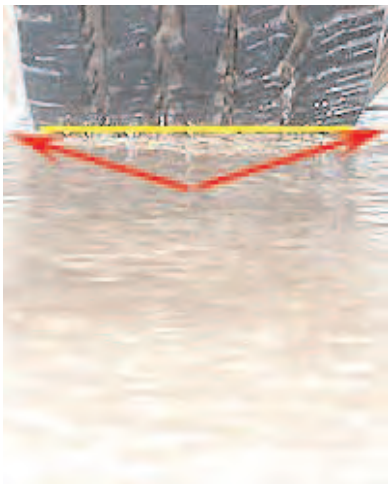
1. Drag
2. Friction
3. Traction

These factors may vary based on environmental conditions such as weather, road surface, visibility, etc. These are examples of stopping distances based on normal conditions:

SPEED	REACTION DISTANCE	STOPPING DISTANCE		OVERALL	
		DRY	WET	DRY	WET
20 MPH	20 feet	20 FT	40 FT	40 FT	60 FT
30 MPH	30 feet	45 FT	90 FT	75 FT	120 FT
40 MPH	40 feet	80 FT	160 FT	120 FT	200 FT
50 MPH	50 feet	125 FT	250 FT	175 FT	300 FT
60 MPH	60 feet	180 FT	360 FT	240 FT	420 FT
70 MPH	70 feet	245 FT	490 FT	315 FT	560 FT
80 MPH	80 feet	320 FT	640 FT	400 FT	720 FT

Now you can see that the distance it takes to completely stop a vehicle is not only greatly increased by speed, but it is even more dramatic when adverse conditions such as wet pavement are present.

Hydroplaning . . . What is it?



When water gets between your tire and the road surface you are riding on top of the water.

How does it affect your vehicle?

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Over-inflation

Excessive speed on wet roads is the main cause for hydroplaning. The condition of your tires plays a big part in reducing hydroplaning. The reason tire manufacturers put tread on tires is to channel water off your tire to reduce hydroplaning. That is why it is important to change your tires when tread wear is evident.

Let's say you are driving in a heavy rainstorm on a very wet roadway. You suddenly feel loose steering but you are still traveling in a straight line, what should you do?

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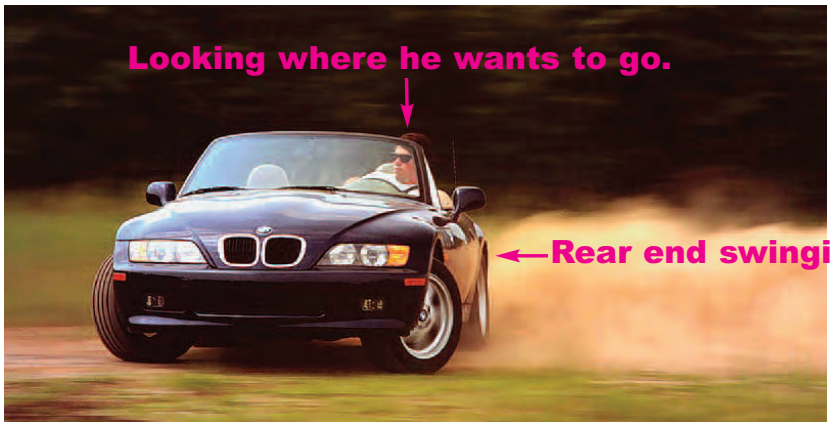
Sometimes when you hydroplane the rear of your vehicle will begin to slide around in a circle. This is caused by vehicle oversteer. Often, inexperienced drivers will panic and stomp on the brake when this occurs, which is the wrong reaction. What you really need is CPR.

CPR in vehicle control means Control, Pause, Recovery. In this photo the driver is experiencing the rear of his vehicle sliding around. What do you see that the driver is doing to correct this problem?



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It is very important if you are about to be involved in a collision that you look where you want to steer your vehicle to avoid the collision… not at what you are about to collide with.

If you are hydroplaning and the rear of your vehicle begins to slide around, you need to get CONTROL by releasing the accelerator, avoid braking and quickly turn the steering wheel in the direction you want the front of the vehicle to go. As you slide, you will feel a slight PAUSE in the sideway movement.

Hydroplaning . . . continued

When you feel this pause you should RECOVER your steering by turning the steering wheel straight.

CPR:
CONTROL by releasing the accelerator, avoid braking, and quickly turn the steering wheel in the direction you want the front of the vehicle to go.

Feel for the PAUSE in the sideway movement.

And RECOVER your steering by turning the steering wheel straight.

Do you think this technique works all the time? The answer is "no," as some drivers are traveling at such a high rate of speed when they begin to hydroplane, that the vehicle will turn several 360 degree circles before it slows down enough to use the CPR technique. Unfortunately, most of the time these drivers collide into other vehicle or fixed objects such as trees, buildings or parked vehicles. Remember, when the roads are wet….slow down and you may never need CPR.

6 Chapter Six

Safe Driving can be habit forming

What is a "habit"?

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Habits can be either good or bad. What are some good habits that you may have? What are some bad habits that you may have?

How you are taught something will determine what type of habit you will develop. If you are taught something the proper way, and continue to make a conscious effort to do it properly, you will develop good habits. This also applies to driving. If you take the techniques that you learn in this program, and make a conscious effort to do them properly, you will become a better driver.

What is Defensive Driving?

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Stop an accident before it happens by following the **Two Second Plus** rule. The two second plus rule means that you **maintain a distance of at least two seconds from the vehicle in front of you.** The two second plus rule allows you a safe following distance from the vehicle in front of you. By keeping a two second distance, you will use you brakes less, allowing them to last longer and use less gas. Remember, the two second plus rule is under ideal conditions. You must increase distance according to road conditions and the faster you travel. Remember, the more space you create, the more time you have to react.

Good Info: Remember, at 45 MPH, your vehicle is traveling at 66 feet per second. By following the two second plus rule, you should be at least 132 feet behind the vehicle you are following!

Left – Right – Left rule

FACT: At 35 mph, a two second lapse in attention means that you've traveled over 80 feet without looking. Remember, teens are more likely to be distracted when other teens are in the car with them.

Another good habit is the **Left – Right – Left rule**. The Left – Right – Left rule says that when you are driving through an intersection look to the left, then to the right and glance back to the left once again to make sure that the roadway is clear.

Good Habits can save your life

Being a defensive driver is not only a good habit, but can prevent you from becoming involved in a traffic crash. Remember, there are no accidents – only crashes. Accidents are unintentional, crashes are preventable. A crash occurs because someone did or did not do something that they should have done.

Types of Traffic Crashes

There are several different types of Traffic Crashes. Identify how each crash might occur.

- Right Angle at Intersection
- Side Swipe
- Improper Change of Lanes
- Improper Backing
- Failing to See Objects
- Hitting Fixed Objects
- Rear End Collision
- Taking a Corner Too Fast
- Out-driving Your Headlights
- Head On Collision (the most damaging)

Crash Prevention: Start Planning Now

Now that we identified the different types of accidents, how can we avoid them? If you are driving and find yourself faced with an oncoming driver in your traffic lane what can you do to protect yourself?

- First, read the road. What options will the road allow you? Locate any potential hazards that will affect your decisions.

- Second, reduce speed. Take your foot off the gas pedal. By reducing your speed, you will also reduce the impact of a head on collision.
- Third, move to the right. By moving to the right, you are moving out of the path of the oncoming vehicle.
- Finally, ride off the road. Select your target if you are forced to hit something. This can reduce your chance of injury.

Look for soft targets such as small trees, bushes or fences. If you are unable to move off the roadway, try for something moving in the same direction, even if it means hitting another vehicle. Crashes involving vehicles moving in the same direction are not as damaging as those moving in opposite directions. If you cannot locate an object moving in the same direction, look for a fixed object like a tree, sign or parked car. Remember, this is still safer than becoming involved in a head on collision but also as a last resort.

Small Target

If a soft target cannot be found, and you must hit the on-coming vehicle, remember that it is best to plan the crash. Try not to hit the vehicle "head-on" but rather try to position your vehicle so you will minimize the impact. Remember, anything is safer than hitting the approaching car "head-on."

The easiest way to stay out of a traffic crash is to pay attention. When you are driving a car remember that you are responsible for over 2,000 pounds of metal that is traveling down the road at approximately 66 to 81 feet per second. Remember to look not just straight ahead, but also to the sides and rear of the vehicle. Avoid distractions, such as friends, cell phones and loud radios. A new driver needs to develop proper habits. When you first start to drive, do not take on passengers. This will make it easier for you to develop the proper driving habits, and not have to worry about trying to impress your friends.

Avoid distractions

7 Chapter Seven

Alcohol, the $8,000 Drink

We've heard a lot about the danger of drinking and driving over the years, but let's talk about what drinking and driving will really cost you. One driving under the Influence, or D.U.I., arrest will cost at least $8,000. Here is a breakdown of the associated costs:

Towing Charges	$150
Lawyer	$3,500
Fine	$400
Alcohol Education Course	$150
3 Year Insurance Surcharge	$1,500
License Reinstatement	$1,000
Court Fees	$450
Drug and Alcohol Evaluation	$75
Alcohol Treatment	$400
Loss of Work Time	$50
Cost Recovery	$350
Total	**$8,025**

Now, let's discuss the law about D.U.I.

- The legal drinking age is 21 years old
- D.U.I. means driving with a Blood Alcohol Content B.A.C. of .08
- There are increased penalties for a D.U.I. when the B.A.C. is .20 or higher

Drivers License Penalties for D.U.I. for people 21 years old or older:

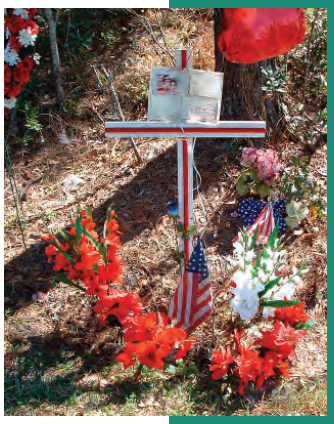
- If you have a B.A.C. of .08 or more, your license will automatically be suspended for a period of six months.
- If you refuse to submit to any chemical testing to include breath, blood, and/or urine testing, your license will automatically be suspended for one year for the first offense or 18 months for the second (or more) offense.

For Persons under the Age of 21:

- Possession of an alcoholic beverage by a person under 21 years is an arrestable offense (2nd degree misdemeanor) with a fine up to $500 and imprisonment up to 60 days in jail.
- Operating or in physical control of a motor vehicle with a B.A.C. of .02 or greater results in an automatic six month suspension of your driver's license.
- If you refuse to submit to a breath test when requested by a law enforcement officer, your license will automatically be suspended for one year.

Alcohol and you

Teens that drink alcohol are more likely to: be victims of violent crime, be involved in alcohol related traffic crashes, and have serious school problems. Remember, drunk driving is a contributing factor to the teen fatality rate. Not all who have either died or been injured in an alcohol related accident have been drinking. Rather, they were passengers or bystanders of those who drink and drive.



Is drinking and driving worth the risk? Could you live with the fact that you caused a crash, injured someone else, or even taken someone else's life? If you choose to drink and drive, then you are taking that chance!

How does alcohol enter a person's body?

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After alcohol is consumed it can be found in all tissues, organs and secretions of the body. Most importantly, alcohol affects the parts of the brain that controls learned behavior. Remember, driving is a learned behavior. So alcohol will affect your driving. Alcohol will also reduce reaction time, affect coordination, memory and judgment. Again, these are all skills that are needed when driving.

Now we know how alcohol enters the body and the effects that it will have on the body. But how does alcohol exit the body? Only time can cause alcohol to exit your body. It will take about one-and-one half-hours for your liver to burn up the alcohol in one drink. Remember, the more alcohol that your body takes in, the longer it takes to burn up. Time is the only thing that will remove the alcohol from the body. You may have heard of "wives tales" that tell about ways to keep

from becoming drunk or removing the alcohol from your body quickly.

What "advice" have you heard that a person can do to keep from getting intoxicated or how to "sober up" once drunk?

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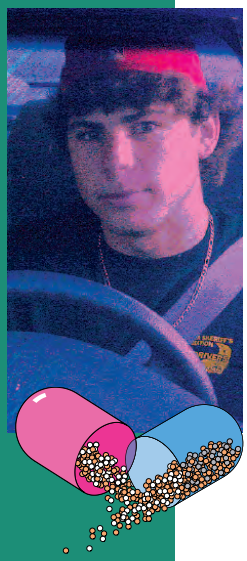
These are not true. Again, the only way to get alcohol out of your system is to wait for your liver to burn it up.



Other driving hazards

Drugs and Medications

Drugs and medications are substances that change the way your body normally works. Some drugs or medications will make your body work faster, some will make your body work slower. Some medications might not appear to have any effect on you physically – but they do. Have you ever seen the labels on medication that state "Do Not Operate Heavy Machinery While Taking This Medication" and thought that was funny? What do you think your vehicle is? Your vehicle is also considered "Heavy Machinery." Think about it – you are driving at least 2,000 pounds of machinery down the road, that's Heavy Machinery! When you are taking medication, see how that medication will affect your body before you operate your vehicle. Even though the medicine label might say "non drowsy," it could make you drowsy. Always remember that drugs and medication affect the way your brain works, and we need to have a clear head when driving.

Fatigue

Drugs and medication are not the only things that can affect our head when driving. Lack of sleep can also affect our minds. Driving is one of the most complex tasks that we can do – we are getting lots of information from our sight, hearing, smell and touch. Even if you are tired, your brain is still processing all the information that it is taking in. When we are not processing the information correctly, that could lead to a traffic crash.

Another sleep related issue is Highway Hypnosis. That's when you are driving down the road, and keep seeing the same things over and over, like the lines on the highway. When driving, make sure to stop every so often, to get out of the vehicle and stretch. This way you can stay focused on driving. If you feel yourself starting to get tired, stop and take a short break from driving. Taking a couple of minutes to move around may save your life.

8 Chapter Eight

Aggressive Driving

Aggressive Driving is when someone is driving with emotion. Some examples of Aggressive Driving are when you're running late, tailgating, zig-zagging in and out of the traffic lanes and so forth. An aggressive driver is someone who forgot that driving is a privilege, and is no longer courteous on the roadway. If you find yourself in the path of an aggressive driver, let them get around you as soon and safely as possible. Don't return any comments or other hand signals–just let them get away from you. The sooner you can separate yourself from an aggressive driver, the safer you will be.

What is Aggressive Driving?

Florida Statue Defines Aggressive Driving in **Chapter 316.1923, which is titled "Aggressive careless driving."** — "Aggressive careless driving" means committing two or more of the following acts simultaneously or in succession:

- Exceeding the posted speed
- Unsafely or improperly changing lanes
- Following another vehicle too closely
- Failing to yield the right-of-way
- Improperly passing
- Violating traffic control and signal devices

According to the National Highway Traffic Safety Agency (NHTSA), aggressive drivers are those who operate a motor vehicle in a manner that endangers, or is likely to endanger, persons or property.

According to a NHTSA survey, more than 60 percent of drivers see unsafe driving by others, including speeding, as a major personal threat to themselves and their families. In fact, 1997 statistics compiled by NHTSA and the American Automobile Association show that almost 13,000 people have been injured or killed since 1990 in crashes caused by aggressive driving.

Are you an aggressive driver?
According to the AAA Traffic Safety Foundation, you may be an aggressive driver if you exhibit any of the following emotions or characteristics. Look over the list below and place a check mark by any of these characteristics you may have exhibited or have seen exhibited.

_Get angry at other drivers
_Impatient when car ahead slows down
_Impatient if behind schedule on a trip
_Impatient driving in far right, slow lane
_Impatient with pedestrians crossing street
_Compete with other drivers
_Challenge other drivers
_Race other drivers
_Compete with cars in tollbooth lines
_Compete with other cars in traffic jams
_Compete with drivers who challenge you
_Compete to amuse self when bored
_Drag race adjacent car at stop lights
_Try to "punish" bad drivers
_Complain to passengers about other drivers
_Curse at other drivers
_Make obscene gestures
_Block cars trying to pass
_Block cars trying to change lanes
_Ride another car's tail
_Brake suddenly to punish tailgater
_Use high beams to punish bad driver
_Seek personal encounter with bad driver

Get angry at other drivers

The most obvious form of aggressive driving is excessive speeding, particularly on congested highways or in bad weather. Speed causes nearly one-third of all fatal motor vehicle crashes. Speeding reduces the time drivers have to avoid a crash or a dangerous situation and greatly increases the likelihood the crash will be severe. The energy released in a collision at 60 mph is 200 percent greater than at 40 mph, even though the speed has increased by only 50 percent.
Source: Federal Motor Carrier Safety Administration (FMCSA)

How can you avoid being the victim of an aggressive driver? While there are no sure techniques, three basic guiding principles can help:

Cutting off. When you merge, make sure you have plenty of room. Use your turn signal to show your intentions before making a move. If you make a mistake and accidentally cut someone off, try to apologize to the other driver with an appropriate gesture. If someone cuts you off, slow down and allow that driver room to merge into your lane.

Driving slowly in the left lane. If you are in the left lane and people want to pass, move over and let them by. You may be legally right because you are traveling at the speed limit – but if you are traveling at a speed below the flow of traffic, you may be putting yourself in danger by making drivers behind you angry. Besides, it's simple courtesy to move over and let other drivers by. Select the proper lane, based on your speed and the flow of traffic.

Tailgating

Tailgating. Some drivers get angry when they are followed too closely. Don't tailgate. If you think another car is driving too slowly, and you are unable to pass, pull back and allow more space, not less. That way, if the car does something unexpected, you will give yourself – and more importantly drivers behind you – more time and space to react. You should be able to see the headlights of the car behind you in your rear-view mirror. If you feel you are being followed too closely, it may be safest to allow the other driver to go by.

Gestures. Almost nothing makes another driver angrier than an obscene gesture. Keep your hands on the wheel. Avoid making any gestures that might anger another driver, even "harmless" expressions of irritation, like shaking your head. If another driver makes an obscene gesture toward you, it is best to ignore it.

Don't engage in a confrontation. One angry driver can't start a fight unless another driver is willing to join in. You can protect yourself against aggressive drivers by refusing to display anger toward them.

Steer clear. Give angry drivers lots of space. A driver you may have offended can snap and become truly dangerous. If the other driver tries to pick a fight, put as much distance as possible between your vehicle and the other car. Then get away as quickly and safely as possible. Do not, under any circumstances, pull off to the side of the road and try to settle things "man to man."

Personal encounter

Avoid aggressive eye contact. Staring at an aggressive driver can turn an impersonal encounter between two vehicles into a personal duel. And once things get personal, the situation can get out of hand fast.

Get help. If you believe the other driver is following you or is trying to start a fight, get help. If you have a cellular phone, use it to call the police. If you don't have a phone, drive to a place where there are people around, such as a police station, gas station, convenience store, shopping center or even a hospital.

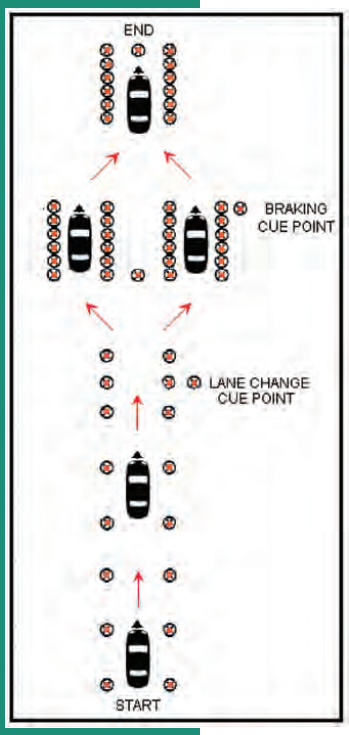
Adjust your attitude. The most important actions you can take to avoid aggressive driving takes place inside your head. By changing your approach to driving, you can make every trip safer.

Violent, aggressive driving is clearly on the rise. But you can avoid becoming a victim by using the tips in this class. We encourage you to take the Teen Driver Challenge and make courteous and safe driving behaviors a way of life.

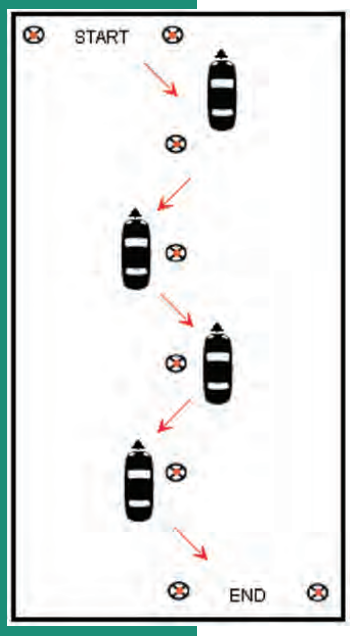
Source: AAA Foundation for Traffic Safety and the Naval Safety Center.

9 Chapter Nine

Driving Exercises



Evasive maneuver



Reverse serpentine

Range Rules

1. Ensure that the passenger seat is clear of all lose material or personal items.
2. Only closed toe shoes will be permitted. No sandals or flip flops.
3. Ensure that all vehicle fluids are at prescribed levels, including fuel.
4. Maximum speed will be no more than 35 MPH.
5. Seatbelts will be worn at all times.
6. No cell phone use permitted in the vehicle during exercises.
7. No driving on the range unless directed by an instructor.
8. No radios. Air conditioning off and windows down during exercises.
9. ABSOLUTELY NO horseplay will be tolerated.
10. Always listen to and obey the instructors.

Violation of any of these rules will result in immediate dismissal from the program.

The driving course will consist of a variety of exercises to help develop your driving skills. Exercises may include the following:

1. Figure “8”
2. Threshold Braking
3. Forward Serpentine
4. Reverse Serpentine
5. Cornering
6. Backing
7. Evasive
8. Off Road Recovery
9. Skid Pad

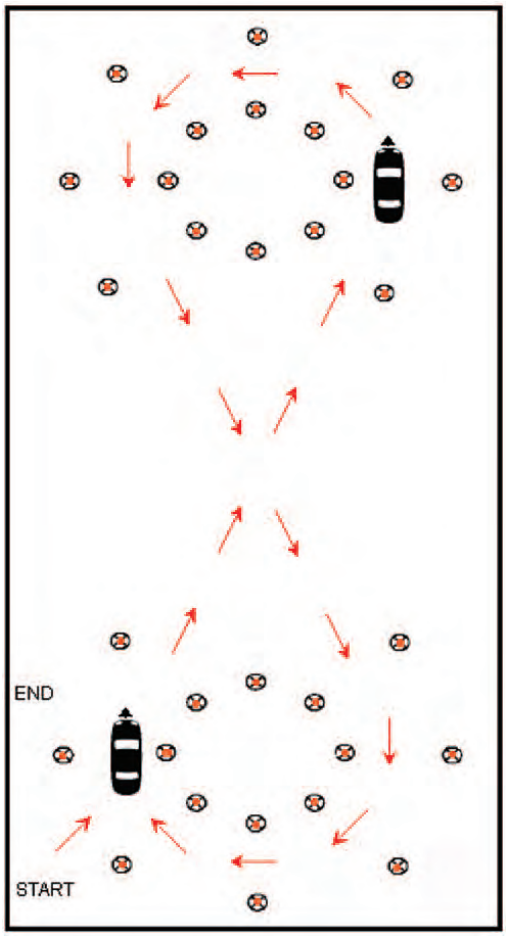


Figure 8

Thanks to Our Sponsors and Supporters

The information contained in the FSA Teen Driver Challenge workbook was compiled from numerous resources and consists of approved and accepted driving exercises and techniques. We'd like to thank all organizations that have contributed, including those that offered resources via websites.

Among them:

Insurance Institute for Highway Safety (www.IIHS.org)

National Safety Council (www.NSC.org)

AAA Foundation for Traffic Safety (www.AAAfoundation.org)

U.S. Department of Transportation National Highway Traffic Safety Administration (www.nhtsa.dot.gov)

PDE Publications (www.drivers.com)

Ryan and Eileen Buckholtz (www.teendriving.com)

DriveHomeSafe.com
StudentDriverEd.com

For more information, contact:
Florida Sheriffs Association
P.O. Box 12519
Tallahassee, FL 32308
Phone: 850-877-2165
E-mail: info@flsheriffs.org

Band Diamond Rio's song, "God Only Cries," was chosen as a backdrop for the Teen Driver Challenge training video. Written by Tim Johnson, the music and lyrics were inspired by a friend who lost his son in a traffic crash.

The Florida Sheriffs Association and Teen Driver Challenge committee would like to thank Diamond Rio band for their support of the program and helping to spotlight the need to reduce teen driving fatalities. The group gathered to receive a special award, presented by Osceola County Sheriff Bob Hansell, in October 2006. Pictured above, from left to right are: Gene Johnson (Mandolin), Jimmy Olander (Guitarist), Dana Williams (Bass Guitarist), Osceola Sheriff's Office Deputy Ron Kelley, Sheriff Hansell, Marty Roe (Lead Singer), Dan Truman (Keyboards), Brian Prout (Drummer).

By completeing the Florida Sheriffs Association's Teen Driver course, these young drivers are better equipped to handle driving on Florida's roads.

THEY TOOK THE CHALLENGE