

Guide 1: Getting Ready To Drive

While Approaching Car

1. Have Keys In Hand

Have your key in your hand, with the tip of the key extending out between your index and your middle fingers. Avoid spending unnecessary time digging a key out of your pocketbook or pocket.

2. Look Under The Car

It is easy to see -under your car and detect a problem when you are a distance away from it.

3. Look At And Around The Car

Be able to see all around your car so that you know what your tires are ready to travel over. You may detect a child or some object, which you would not see from inside the car.



Have key between your fingers and thumb ready to use alarm button.

Before Opening The Door

1. Look Inside The Car

Looking into the car before opening the door allows you to detect any problems.

2. Control The Door Swing

Controlling the door swing will help avoid hitting the car parked next to you.

After Entering The Car

1. Lock The Doors - Key In Ignition

Locking the doors gives you security from carjackers. While you are locking the door with your left hand, put the key in the ignition with your right hand.

2. Head Restraint Up To Ears

The head restraint should be capable of catching your head during a rear impact.



3. Adjust Seat – Butt In Seating

Adjust the seat to give a slight bend in the knees and elbows. Sit as high as possible for best viewing ability.

Lean slightly forward. Get your buttock pushed all the way into the seat, then sit up straight. You will gain a firm support to relieve lower back stress.

4. Check and Adjust All Mirrors

The inside mirror should be adjusted in a level position to show the maximum view. The outside mirrors should show a slight amount of the side of the car.

5. Safety Belts On All

Before starting the car make sure you and all passengers put the safety belts on.

Guide 2 Preparation: Orientation to Controls

Best hand position when traveling straight

is to hold the steering wheel with two hands in a balanced position. Acceptable balanced hand positions can be, if you look at the steering wheel as the face of a clock, a 9-3 position or an 8-4 position.



To make tight right turns use a hand-over-hand technique

Such a technique begins with both hands on the steering wheel. Making a right turn begins with the right hand at the 3 position and the left hand at the 9 position, both hands staying on the wheel until the right hand travels to the 5 position. Then the left hand continues to move the wheel until it reaches the 2 position, during which time the right hand crosses over the left hand, grips the wheel at the 12 position, and continues turning until it reaches the 5 position. The left hand moves to the 12 position and continues the turning.



When holding the steering wheel, keep your thumbs on the outside

If the thumbs are hooked over the steering wheel they may be broken during a crash!

Backing With A Trailer

When backing with a trailer, begin with the left hand at the bottom of the wheel, in the 6 position. Move the hand up in the direction you want the trailer to go.

Hand-to-hand technique is another steering method.

This method can give you good steering control when entering curves. It begins with your hands in the 8-4 position. While entering a left curve or making a left turn, grip with the right hand at the 4 position and push up. The left hand slides up without gripping to the 12 position. The right hand stops pushing at the 1 position and the left hand grips at the 12 position and pulls down. Continue to push and pull as more steering is needed.

Evasive Steering

If an evasive steering action needs to be taken, keep both hands on the steering wheel at the 9-3 position. Keeping both hands on the wheel while steering will help prevent a dangerous over-steer condition.

When Backing Straight

Having the left hand at the 12 position allows you to turn the steering wheel from the top down in the direction you want the back of the vehicle to go. Then use the right hand to continue turning if more is needed.

Guide 2: Starting Engine, Orientation to Controls

Starting The Engine

1. Parking Brake On

It is a good habit to put the parking brake on before the car is vacated. Therefore, it should already be on when you enter the car. Release the parking brake and reapply it a few times to become familiar with its use. Keep it on during this exercise.

2. Insert Key - Foot On Brake

Learn the positions of the switch. Place your right foot on the brake pedal. Keep it there until you're ready to move the car.

3. Shift Should Be In "Park"

The engine of the car will only start when the shift is in the P (park) position or in the N (neutral) position.

4. Twist Key and Release

A common error a novice driver is likely to make is that of holding the key in the engaged position after the engine has started, resulting in a grinding of the starter. To avoid this, listen for the engine sounds and immediately release your grip on the key.

5. Turn Headlights On

Get in the habit of driving during the day with your headlights on to help other drivers see your car.

6. Parking Lights On and Off

Know how the parking lights are to be turned on. The parking lights should never be used when the car is in motion.

7. Headlights Low/High Beam

Turn the high beam and low beam off and on to identify where the control is located and how to use it correctly.

8. Adjust Sun Visor

Move the visor for front and side shading of the sun. **Make certain that the edge of the visor is not directed towards the driver's head.** This could cause injuries during a crash. Always adjust the visor pointing away from the driver.



9. Blow The Horn

Locate and use the horn. Two quick taps of the horn sounds friendlier and is more effective than a long sustained blast.

10. Use Of Gas Pedal

With the shift in park, be able to press the gas pedal with gradual amounts of pressure to develop a smooth acceleration movement when the car is put into motion.

11. Use Of Brake Pedal

Have heel of foot on floor with ball of foot contacting the brake pedal.

12. Use Of Shift - Open Palm Method

Be able to shift from "D" to "N" without looking at the shift indicator. Learn the Open Palm method. For automatic shifters on the steering column, place the palm of the hand, without closing it, on top of the shift knob. Push with a downward pressure on the knob and move it away from the driver's body.

Orientation To Controls

1. Place Hands On Wheel

Place your hands in a balanced 9-3 position. It is important to have a balanced hand position in the event that an evasive action is needed.

2. Use Directional Signal

With your fingers extended, keep your palm in contact with the wheel.

3. Wipers On and Off

Locate and operate the wipers and the windshield washing controls.

4. Turn Hazards Lights On / Off

Locate and operate the hazard warning lights.

5. Adjust Climate Control

Turn on the defroster, heater, air conditioner, adjust the fan setting from low to high, and change temperature settings. Set the controls for a comfortable temperature.

Guide 3 Preparation: Moving and Stopping Smoothly



Brake...Brake...Brake

One of the first skills that a driver needs to acquire is proper use of the brake. We want to focus very clearly upon good behavioral patterns that can be practiced precisely into risk-prevention habits.

1. Using Brakes

Use the right foot on the brake. Keep the ball of the foot on the brake pedal and the heel of the foot on the floorboard. **Keep your left foot firmly planted on the left side of the floorboard to keep your body balanced during a braking application. Some vehicles have a designated location for placing the left foot, referred to as a "dead pedal".** Apply the brake as early as possible. It is always better to apply the brake too early than too late. As you step on the brake pedal and apply pressure, the vehicle's speed is decreasing and the front of the vehicle is pulled in a downward pitch by the braking force.

2. Making Smooth Stops

A smooth braking action requires a gradual release of braking pressure before the vehicle comes to a complete stop. When the vehicle comes to a complete rest, the downward pitch of the front bounces up to its normal, non-braking position, giving a jerky sensation to occupants. To get a smooth braking result, try curling your toes back to release some of the braking pressure so that the vehicle will be level at the moment of total stop.

3. Smooth Braking Habits

A smooth braking action should be the goal of any driver. In addition to giving comfort to passengers, a smooth style of braking can give the driver a highly refined feedback system for determining when a reduction in space management occurs. If routine braking consistently results in jerky braking actions, the driver becomes accustomed to that type of feeling. It feels normal. Then, when a surprise traffic situation requires the driver to make a harsh, unplanned, jerky braking response, it doesn't seem extraordinary, so there is no feedback to the driver that something went wrong with the space management!

A Panic Stop Should Never Be Needed, But!

With reduced-risk driving habits, surprise situations are minimized. But, if you get behind the eight ball and must take a critical braking action, the brakes are applied as hard as possible without causing the wheels to lock up. This is referred to as threshold braking. A constant "squeezing" action on the brake pedal should be used. **Do not pump the brakes.** If your vehicle is equipped with ABS (antilock braking system) your wheels will be prevented from locking up by the ABS sensors. When you don't have an ABS equipped vehicle, you have to be your own computer. You can apply the brakes hard, and then as soon as you feel or hear the wheels sliding, slightly release pressure.

Guide 3: Moving and Stopping Smoothly

Placing The Car In Motion

1. Right Foot On Brake

It is a better habit to use the right foot on the brake than the left foot because it will work for both automatic and standard shift vehicles. It will help to prevent the error of applying both the brake and accelerator when confronted with an emergency situation. Have the ball of the foot on the brake pedal, and heel of the foot on the floorboard.

2. Shift To Drive

Shift to drive by using the open palm method. In order to shift from "P" to "D" the palm of the hand should face up and the motion is to pull the shift downward towards the body.

3. Release Parking Brake

Have foot on brake before releasing the parking brake. Locate the parking brake release lever without looking at it.

4. Check Your Driving Path

Before taking your foot off the brake, check the path of travel you want the car to occupy.

Inching The Car Exercise

The purpose of this inching exercise is to develop the ability to control the movement of the car inch by inch. Such skills are needed when moving the vehicle in close quarters, such as parking in a tight space.

1. Keep Foot On Brake

For most occasions when inching takes place the speed of the car is controlled by use of the brake pedal. The foot will need to stay on the brake pedal.

2. Release Partial Brake

The idle speed of the car will allow adequate movement on a level surface with a partial release of the brake.

3. Move Inch-by-Inch

It takes considerable control of the brake pedal to make the car move one inch at a time.

4. Keep Smooth Movement

The objective is to keep the car moving, inch-by-inch, without varying the speed even when the gradation of the parking lot changes.

Acceleration Control

1. Idle Speed Movement

When ready to move, take your foot off the brake and allow the car to move by its idle speed before pressing the accelerator pedal.

2. Press Gas Smoothly

Allow the idle speed to begin the movement of the car to give a smooth movement when acceleration takes place.

3. Keep Steady Speed

Be able to demonstrate the ability to keep a steady speed within 3 mph. And, when asked, be able to increase speed to a specific limit.

4. Increase Speed Smoothly

Be able to increase speed in a smooth manner when asked to do so.

5. Decelerate Gradually

Practice releasing partial pressure from the accelerator.

Braking Control

1. Feel Braking Point

The braking point is where the braking action is felt upon the vehicle.

2. Constant Pressure

Use a constant "squeezing" pressure on the brake pedal without causing wheel lock-up.

3. Normal Smooth Stop

To make a "smooth" stop, release some braking pressure 1-2 seconds before the car stops.

4. Hard Smooth Stop

For hard stops, apply maximum braking pressure, without locking the wheels, at the start of braking, and hold.

5. ABS Braking

For hard ABS braking, stomp and hold the pedal fully down without fear of wheel lock-up. When the ABS system activates you may feel a pulsating movement of the brake pedal — which is normal. Do not release your foot pressure.

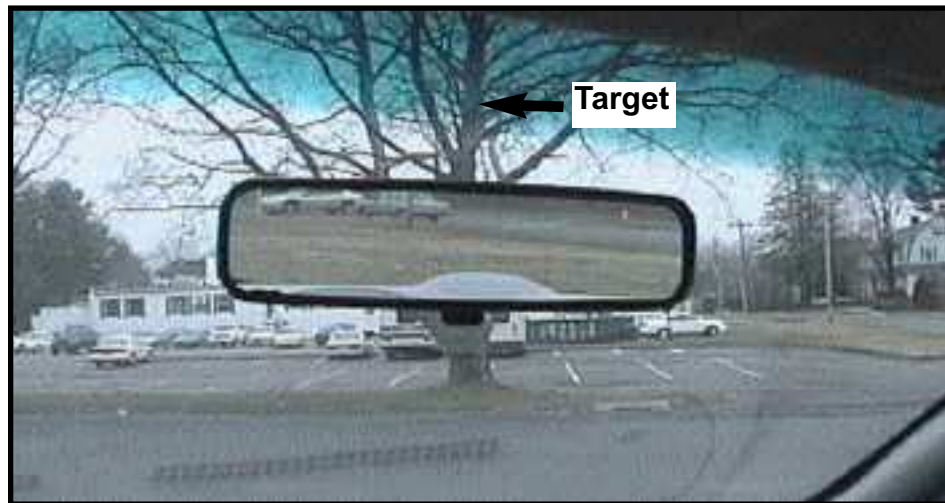
Guide 4 Preparation: On-Target, Off-Target

What Is A Target? A target is a fixed object that appears in the center of the path you intend to drive. To select a target, first decide where you want the vehicle to travel, then aim for an object in the center of that path. The photos below illustrate practicing the use of targets in a parking lot.



The vehicle is on target. The target appears in the center of the steering wheel. We see the target to the roadway with our central vision. We see the target to the steering

wheel with the lower part of our fringe vision. When the tree we are using for our target remains in the center of our steering wheel, the car will track perfectly straight towards the tree.



Transition Peg for Making a Right Turn

The photo above shows the center of the inside rearview mirror aligned with the target. For making a right turn, this is the moment to begin the recovery of the steering wheel to the straight position. Frequent use of the targeting behavior can result in a habit of having an awareness and sensitivity that will allow early detection of a skid situation.

Targets Help Skid Recovery Knowing which way to point the front of the car during a skid will help develop an eye-hand coordination for a spontaneous and correct steering response.

Guide 4: On-Target, Off-Target

1. Selection of Target

The target should be a stationary object in the center of your intended driving path.

2. Use of Central Vision

Central vision is a narrow 3-5 degree cone of clear visibility which allows us to make identifications. See the target to the environment with your central vision.

3. Use of Fringe Vision

Fringe vision surrounds the central vision. While looking straight ahead we are able to see with our upper, lower and side fringe vision. However, we cannot make identifications of details with the fringe vision. What we can do is keep track of an object with our fringe vision, after we identify it with the central vision. See the target to the steering wheel with your fringe vision.

4. Aiming for Targets

Aiming for targets will help keep the car straight in its travel path, will help to make accurate turns, and will help to get the eyes ahead of the vehicle. The use of targets is an important skill necessary to avoid and recover from a skid situation.

5. Looking Into Turns

Develop the habit of turning your head in the direction of intended movement before turning the steering wheel.

6. Use of Steering Wheel

Use the steering technique that was discussed and practiced during your classroom session.

7. Recovery Of Steering Wheel

Use a transition peg for recovery of the steering wheel. While making a right turn, begin straightening the tires when the rearview mirror appears aligned with the target. When making a left turn, begin recovery as the driver's side windshield post becomes aligned with the target. See the mirror and the windshield post with fringe vision while looking at the target with central vision.

8. Gas and Brake Pedals

Apply varying amounts of pressure on the gas and brake pedals for smooth application. Be able to demonstrate how to smoothly put the car in motion and how to stop it without a rocking, pitching movement.

9. Centers Steering Wheel in Travel Lane

The first use of a reference to tell where the car is positioned in the travel lane is to see the steering centered in the lane. If the steering wheel appears, by using fringe vision, to be centered in the lane the car will be within a few inches of being centered. (Read page 16 *Monster book*)

Target
A

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This driver is on target.



This driver is off target.

Target
B

Guide 5 Preparation: Reference Point Discoveries

The photo to the right shows an outside view of a car parked 6 inches away from a curb. When the hood of a car slopes out of the driver's view a point on the windshield can be used, as the photo below illustrates, as a reference point. When the hood is visible, the curb would appear to be in the center of the hood.



In the photo below, the curb appears near the middle of the windshield

(arrow), at the driver's side wiper blade.



A piece of wood is used to represent a curb line of a street. The photo below shows the view that the driver would see.



When the front of the car is even with a line, the driver will see that line appear near the passenger's side mirror, as illustrated by the arrows.



Standard Reference Points

Standard reference points are the way most drivers will see the relationship of the vehicle to the road. When attempting to discover a reference point, first use the "standard" reference point. If the "standard" reference point is accurate for you continue to use it. If not, take note of how you see it and make that personal change.

Guide 5 Preparation: Reference Point Discoveries

Standard Side Position Reference Points



Fig. 1

Fig. 2

Fig. 3

Fig. 4

Figure 1

Where the car is:

The car is 3-6 inches away from a line to the left.

How the driver sees it:

The line appears to run into a point on the hood that is about one foot from the left edge of the car.

Common applications:

- Shows where left tires are *traveling*.
- Shows *lane position two*.
- It's the *side position* for left turns.

Figure 2

Where the car is:

The car is 3-6 inches away from a line to the right.

How the driver sees it:

The line appears to run into a point near the center of the hood.

Common applications:

- Shows where right tires are *traveling*.
- Shows *lane position three*.
- To *park* 3-6 inches away from a curb.

Figure 3

Where the car is:

The car is 3 feet away from a line to the right.

How the driver sees it:

The line appears to run through the middle of the right half of the hood.

Common applications:

- It's the *side position* for right turns.
- It's the *side position* for backing into a perpendicular or parallel parking space.
- It's *lane position three* when there is no lane line to the right edge of the road.

Figure 4

Where the car is:

The car is 6 feet away from a line to the right.

How the driver sees it:

The line appears to run through the right headlight.

Common applications:

- It's the *side position* for turning right into a driveway or narrow alley.
- It's the minimum *side position* for pulling forward into an angled or perpendicular parking space.

Standard Forward Position Reference Points



Figure 5
Where the car is:
 The car is a few feet beyond the curb line.
How the driver sees it:
 The driver can see the target area without his vision cutting across the curb line.
Common applications:

- It's the *forward position*, for making a left turn, at which the steering wheel should begin to be turned.

Figure 6
Where the car is:
 The front bumper is even with the curb line.
How the driver sees it:
 The curb line appears near the passenger's side mirror — even with the dashboard.
Common applications:

- To tell where the front bumper of the car is positioned relative to the environment.
- It's the *forward position*, for making a right turn; the point at which turning should begin.
- It's the *safety stop* position, if necessary, to get a clear view before entering the intersection.

Standard Rear Position Reference Points

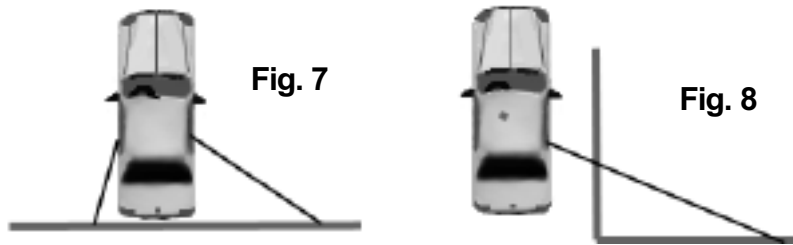


Figure 7
Where the car is:
 Rear bumper is 3-6 inches away from a line.
How the driver sees it:
 When the driver turns her head over her left shoulder, she will see the line appear near the middle of the rear left-side window.
Common applications:

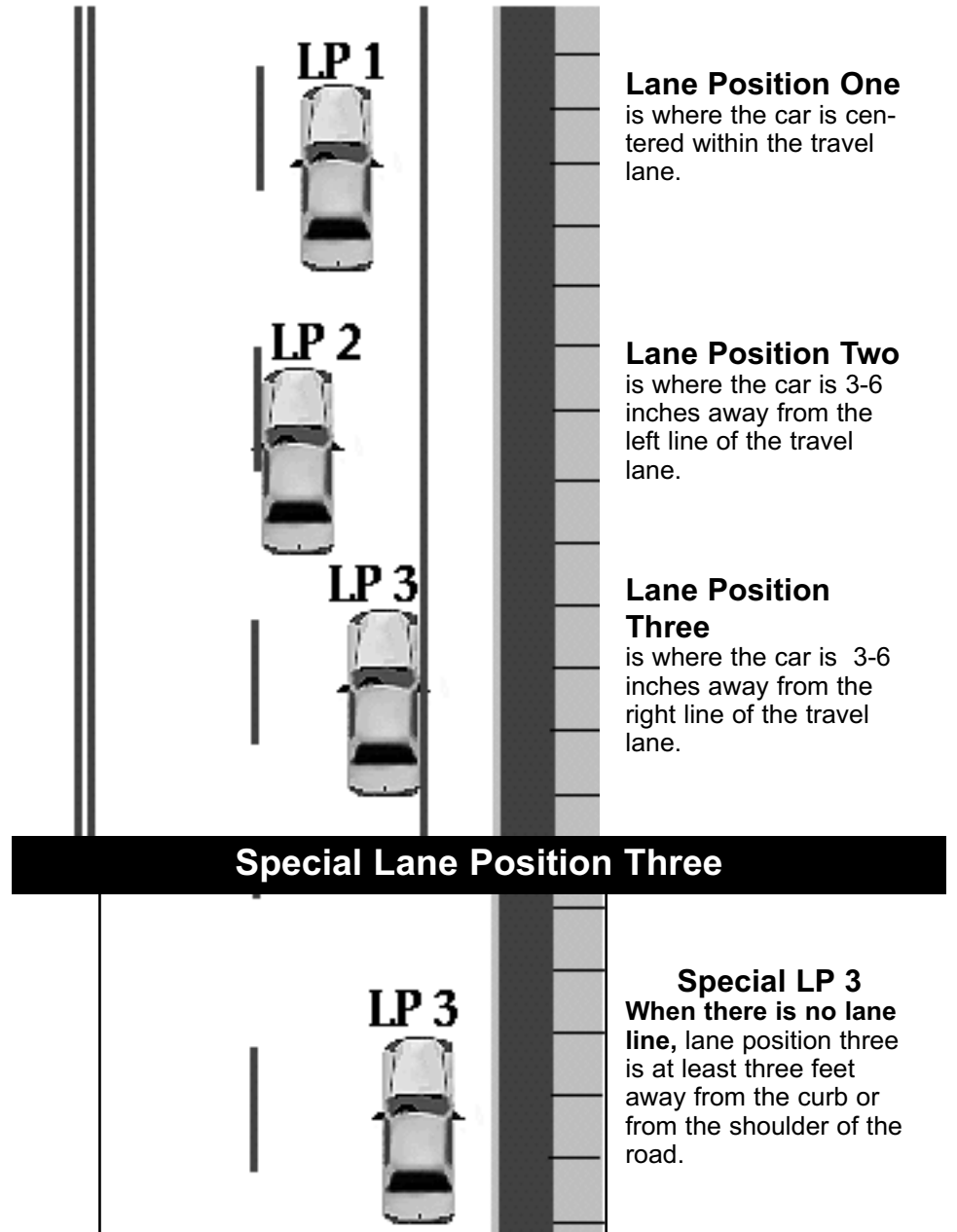
- To see the rear bumper's position.
- When backing into a perpendicular parking space, the driver can accurately judge where the bumper is to the rear line.

Figure 8
Where the car is:
 The rear bumper is 3 feet away from a line.
How the driver sees it:
 When the driver turns his head over his right shoulder, he will see the line disappear in the rear window corner post.
Common applications:

- This is the *pivot point*; the precise point at which to begin turning the steering wheel when backing around a corner.

Lane Position Options

There are five choices for lane position without making a lane change. The diagram shows the three most frequently used lane positions. Most cars are less than six feet wide; the highway lanes are commonly 12 feet wide; that gives you six feet of empty space to the side without leaving the lane. There is enough room in most lanes to fit two cars.



Lane Position One
 is where the car is centered within the travel lane.

Lane Position Two
 is where the car is 3-6 inches away from the left line of the travel lane.

Lane Position Three
 is where the car is 3-6 inches away from the right line of the travel lane.

Special Lane Position Three

Special LP 3
When there is no lane line, lane position three is at least three feet away from the curb or from the shoulder of the road.

Guide 5: Reference Point Discoveries

Line-Of-Vision Blind Area

With the vehicle stopped and secured, place an object on the ground approximately 12-15 feet in front of the front bumper. Get into the driver's seat and notice if you can see the object at ground level. If not, reposition it to where the part touching the ground is visible to you from the driver's seat. All the space from the front bumper of the car to the box is your line-of-vision blind area.

Right Side Limitation

Park 3-6 inches away from a curb, or a line, that is located to the right of the vehicle. Use the hood ornament, or the center of the hood, or some part on the windshield, as a reference. See the outside and inside views.

Left Side Limitation

Park 3-6 inches away from a line that is located to the left of the vehicle. The line should appear approximately one foot in from the edge of the left fender. See the outside and inside views.

Front Even With Curb line

Stop the front bumper of the vehicle 3-6 inches away from a curb line. The curb line will appear to run under the outside mirror on the passenger's side and even with the dashboard. See the outside and inside views.

Rear Even With Line

Have the back of the vehicle 3-6 inches away from a line. For cars, look over your left shoulder to see the line in the middle of the left rear window. For truck types, use convex mirrors and notice how the line is seen to the rear of the tire, usually about halfway up.

Lane Position #2, 3, 1

Lane Position 2 (LP2): The car is 3-6 inches away from the left lane line — same view as *left side limitation*.

Lane Position 3 (LP3): The car is 3-6 inches away from the right lane line — same view as *right side limitation*.

Lane Position 1 (LP1): Once LP2 and LP3 are seen, and learned, it becomes easier to accurately judge LP1. The left and the right side reference points will be equally away from their lines.

Right Turn References

Reference points give you a predetermined starting point for making precision turns.

• Side Position

The side position should be 3 feet away. The curb will appear in the middle of the right half of the vehicle.

• Forward Position

The forward position will be when the front bumper is even with the curb line. Steering should begin at the forward reference.

Left Turn References

• Side Position

The side position for a left turn is the same as #3 above --- the left side limitation.

• Forward Position

The forward position, where steering should begin, is when you are able to see to your target without your line-of-vision cutting across the curb line.

Guide 6A: Entering & Crossing Traffic

Select Gap From Curbside

1. Evaluate Path to Enter

Search to the target area to see if the path you intend to enter will be open. Know if your path of travel is available but also to determine how much acceleration should take place.

2. Mirrors - Blind Spot Check

Search the inside mirror and the outside mirror on the side that you will be entering; then make a head movement check (*more info on page 54*), or use a convex mirror before moving.

3. Locate Gap or Hole to Enter

When you do see cars that are preventing you from entering the traffic flow, look beyond the vehicles you are waiting for to locate a suitable gap. A gap is the space between vehicles within a traffic cluster. The hole is the space between traffic clusters. The hole in traffic is much larger than a gap, and contains less risk.

4. Use Of Signals

Signal at least 5 seconds before entering. Be aware of situations when you should wait before putting your signal light on.

While Entering Traffic Flow

1. Avoid Hesitation

Once you're certain of a safe gap or hole, go for it.

2. Look to Target Area

Look to your target area to focus concentration on the path you will enter.

3. Side Position Reference Point

Select the proper and legal lane to enter; Then, enter into lane position two if entering from the right side to left. This will leave an escape path for other traffic.

4. Steering Technique

Use Hand-to-hand steering. Move the steering wheel as little as possible.

5. Speed Control

Accelerate smoothly with a steady increase in pedal pressure until operating at proper speed.

After Entering

1. Cancel Signal

You may not have turned the wheel enough to allow the signal to cancel automatically. If so, turn it off manually.

2 Accurate Tracking Path

Make the car go where you want it to go.

3. Re-evaluate Rear Zone

Get a rear zone update for the new traffic flow you just entered.

4. Look For New LOS-POTs

Evaluate your new target area and the targeting path you will occupy.

Crossing Traffic Flow

Use these behaviors when you need to cross a traffic flow at intersections.

1. Search Intersection Left, Front, Right

When you are stopped before entering an intersection, such as when you have a stop sign, search at a 90 degree angle to the left and right as well as checking the front zone. See deep into the intersection for approaching traffic. Seeing deep into the intersection is to look as far down the road to the left and right to where your target area would be if you were to make a left or right turn.

2. Front Bumper Even With Curb

To effectively search at a 90 degree angle, your vehicle should be stopped with the front bumper even with the curb line. From this position you are able to best see deep into the intersection.

3. Locate Gap or Hole to Enter

When you do see cars that are preventing you from entering the traffic flow, look beyond the vehicles you are waiting for to locate a suitable gap or hole to enter. This will put you in a ready position to take the best advantage of the opening.

4. Entering the Gap or Hole

When you have an open front, left and right zone accelerate smoothly without hesitation.

Guide 6B: Precision Turns

Before Turning

1. Use Of Signals

Signal at least 5 seconds before making the turn. Be aware of situations when others may enter your path before you turn.

2. Mirrors - Blind Spot Check

Search the inside mirror before making a braking action. Make an over-the-shoulder check, or use a convex mirror mounted on the outside mirror, before turning or before moving to a new side position.

3. Side Position - Reference Pt.

Select the proper and legal lane to begin your turn. Then, use the reference point to get 3-6 inches from center of the road for left turns, and 3 feet from the curb for right turns.

4. Speed Control - Apply Brake

For turns from a stopped position, begin to take a braking action that is going to result in a complete and smooth stop. For moving turns, the brake is applied to reduce speed, and the foot will remain on the brake pedal until at the transition peg, or half way into the turn.

5. Smooth Legal Stop

The legal stop, in obedience to a stop sign, is to come to a complete stop before going past the stop line. To make a smooth stop, release a slight amount of braking pressure during the last two seconds before stopping.

6. Forward Position-Ref. Point

•The forward position for a left turn is where the driver is able to see to the target area without his vision cutting across the curb line.

•For a right turn, the forward position is where the front of the car is even with the curb line of the street to be entered. Be able to explain the reference points.

7. Select Target

Before turning, pick a target that will be in the center of your travel path.

8. Search Intersection L-F-R

Search the left, the front and the right zones to see if each will be open, before entering the intersection. When it is not immediately open, identify when there will be a safe gap or hole to enter.

9. Select Gap/ Get Commitment

Be certain how you are reading others' actions.

During Turn

1. Avoid Hesitation

Once you're certain of a safe gap or hole, go for it.

2. Look Into Turns, Targeting

Turn your head to see your target before you turn the steering wheel.

3. Speed Control (Brake or Gas)

When turning from a stopped position, begin to accelerate at the same moment when steering begins. For moving turns — when leaving traffic flows — control speed by keeping the foot on the brake to maintain the pitch force on the front tires until at the transition peg; then acceleration takes place.

4. Steering Technique/Recovery

Demonstrate hand-over-hand turning for both the turn and the recovery of the steering wheel to the straight position.

5. Accurate Tracking Path

Make the car go where you want it to go.

After Turn

1. Precision Turn Results

Did the turn end up where you planned?

2. Re-evaluate Rear Zone

Get a rear zone update for the new traffic flow you just entered.

3. Look For New LOS-POTs

Evaluate your new target area and the targeting path you will occupy.

Guide 7: Reading Instruments and Gauges

1. Fuel Gauge

Get into the habit of checking the fuel gauge after starting the engine and before moving the car. This will serve as a reminder to refuel if you do not have more than a quarter of a tank, or enough fuel to reach your destination.

2. Alternator Gauge or Light

If the light comes on, or if the gauge shows a discharge, it doesn't indicate an immediate emergency. You will be able to drive for several miles. It means the battery is being drained, and eventually the car will stop running. Turn off all electrical devices not needed, such as the air conditioner or the heater blower, and have a mechanic check it as soon as possible.

3. Temperature Gauge or Light

Know what the normal gauge reading is when the car is warmed up. There should be no movement of the gauge once it reaches its normal reading. If your car has a light rather than a gauge, when it comes on it indicates that the coolant in the engine is getting hotter than its normal reading. When stopped in traffic, shifting the gear selector into "N" and racing the engine slightly can help to ward off the overheating. Get the problem checked. Do not open the radiator cap. Check your car's owner's book for proper procedure.

4. Oil-Pressure Gauge or Light

This light or gauge warns you when the oil in the engine is not circulating properly. Do not ignore this warning. To do so can result in a damaged engine, costing you thousands of dollars. If the oil-pressure light comes on and the temperature gauge rises, you should find a safe place to stop, as it may indicate that the low oil circulation is heating up the engine.

5. Safety-Belt Light

This light will remind all occupants to put the safety belt on.

6. Brake-System Warning

Most of the time when this light is on it is to tell you to release the parking brake. When the parking brake is totally released and the light stays on, or the light comes on while you are driving, it means there is a malfunction in your braking system. It could be a partial or total failure, and it could be very dangerous. Test the brakes by stopping in a safe location.

7. High-Beam Indicator

Usually a small blue light illuminates, when the headlights are on, to indicate that the high beams are in use.

8. Turn-Signal Indicator

Usually one of two green lights will flash in a set cadence to indicate when a directional signal is on. If the indicator light doesn't flash, or it flashes more rapidly than normal when the directional signal is used, it indicates you have a burned-out bulb that needs replacing.

9. Speedometer

Indicates the speed your car is traveling. Check it when you see a speed limit sign, and scan all the other gauges for any abnormal conditions.

10. Tachometer

Not all cars have a tachometer. A tachometer shows the revolutions the engine is operating at.

11. Odometer

This shows the total miles the car has been driven since it was new.

12. Tripometer

This is like the odometer except it can be set to a zero reading, usually by pushing in a button or lever. It is helpful in recording the miles of a trip, or the number of miles you are traveling on each tankful of fuel.

Guide 8: Before Exiting The Car

1. How Is The Location?

Is the car parked in the best choice available to you?

2. Is It Parked Accurately?

Is the car parked with precision?

3. Tires Normally Straight

If the car is parked on a hill then the tires should be turned.



Down-Hill,
with curb.



Up-Hill,
with curb.

4. Keep Foot On Brake

Keep your foot on the brake until the car is in park and the parking brake is applied.

5. Set The Parking Brake

The parking brake is the primary control for securing the car.

6. Shift To Park "P"

The park position of the transmission should be a back-up system to hold the car if the parking brake fails.

7. Foot Off Brake

The parking brake should be applied and the shift put into "P" before the foot is taken off the brake.

8. Accessories Off

To prevent unnecessary drain on the battery, turn off all accessories before turning off the engine.

9. Safety Belts Off

It should take no more than two seconds to remove the belt.

10. Windows Closed

If you have power windows, you want to close them before turning off your ignition key.



Up or Down
Hill, no curb.

The tires are a third way to help keep the car from moving after you have exited it. With no curb to catch the tires, turning the tires away from the street will help prevent the car from rolling into traffic.

11. Ignition Off - Key Removed

Turn off the ignition and remove the key. Keep the key in your hand until after you exit the car.

12. Left-Rear Zone Check

Make an over-the-shoulder check, (or if you have a convex mirror, check it) to determine if or when the door can be safely opened.

13. Open Door

Open the door as little as necessary and close it as soon as possible. This will prevent you from dinging your car or the one parked next to you when you find yourself in a tight parking space.

14. Doors Locked

Make certain you have your keys. Lock the door. Walk to the rear of the car, so that you can face traffic to detect any problems.

Guide 9: Control of Tracking and Targeting Path

1. Selection Of Target

A target is a stationary object that appears in the center of where you want to drive.

2. Aiming For Targets

When the car is "on target", the target will appear in the center of the steering wheel.

3. Accuracy Of Tracking

Tracking is the path the vehicle actually travels. Accuracy of tracking means placing the vehicle where you want it to go. You should be able to place the car into lane positions 1, 2 or 3 with consistent accuracy.

4. Tracking Into Curves

Tracking is the actual path the vehicle takes as it travels through the curve.

• Target on Approach to Curve

A target is seen straight ahead in the center of the path you intend the car to take.

• No Target Into Apex of Curve

You do not want to use targets as you are traveling towards the apex of the curve.

• Use Central Vision into Curve

As the car gets closer to the curve, and it is time to select a new target, look through the curve with central vision until you see another straight-away for a new target.

• Use Fringe Vision To See Reference Points

Your fringe vision enables you to see reference points to determine position of the vehicle into the curve.

• Select Target After Curve

Your central vision enables you to look through the curve for problems and a new targeting path.



You are approaching a right curve.

When you get closer to the curve, turn your head to the right to look for an LOS-POT blockage affecting your travel path into the curve.

5. Tracking Into Turns

• Select Target Before Turn

Before making a turn, look into the turn to select the target for your new targeting path.

• Aim Car On Target

Aiming the car for the target will help to keep effective tracking control.

• See Target Location

The use of a target, for searching applications, helps to get your eyes effectively ahead of the vehicle.

6. Searching To Target Areas

• Evaluate Target Area

See if your target area is open or closed.

• Evaluate Targeting Path

The "targeting path" is the space you expect the vehicle will travel to arrive into the target area.

• See Zone Changes

Evaluate your LOS-POT (line-of-sight, path-of-travel) to detect any zone changes that can take away the targeting path you intend to use. (See Guide 10 for LOS-POT examples.)

Guide 10: Introduction To LOS-POTs

1. Identify LOS Caused By Environment

1. Curves, Hillcrests, Intersections

2. Buildings, Bridges, Fences

3. Trees, Bushes, Signs, Billboards

4. Weather Conditions, Snow Banks

2. Identify LOS Caused By Other Vehicles

1. Parked Vehicles, Trucks, Buses

2. Vehicles Stopped, Slow Moving

3. Vehicles Entering Road

3. Identify POT Caused By Environment

1. Red Lights, Stop Signs, Yield Signs

2. Intersections, Narrowing Lanes

3. Surface Condition: Rough, Bumpy

4. Loose Gravel, Sand, Leaves

5. Rain, Water, Ice, Snow

4. Identify POT Caused By Other Traffic

1. Slow Moving, Turning, Stopped, Parked

2. Following Less Than Four Seconds

3. Pedestrians, Animals, Vehicles



The photo shows a backhoe creating an LOS blockage to our left-front zone.

A truck in our right-front zone creates an LOS-POT blockage and is backing into our travel path .

In our target area a parked truck is an LOS blockage to our left-front zone. And, a right curve creates an LOS-POT blockage to our front zone.

BACKING INTRODUCTION

1. Foot On Brake, Shift Into Reverse

Place your foot firmly on the brake before shifting into reverse.

2. Target Usage

Use a target while backing in the same manner as you do when going forward.

3. Look Over Right Shoulder and Use Mirrors

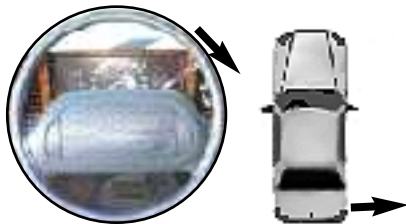
Look over your right shoulder to see your targeting path. And, when backing a high profile vehicle, like an SUV, you need to check both outside mirrors continually as well as looking over your right shoulder because the mirrors will detect items that you may not be able to see while merely looking over your shoulder. If your vehicle has SmartView Mirrors, or other convex type mirrors, you can get a view to the ground to detect objects that may be in the path of your rear tires.

4. Creep At A Walking Pace

Never go faster than a walking pace while backing. When close to objects, use an inch-by-inch speed.

5. Direction of Steering

When backing, turn the steering



wheel from the top down in the direction you want the back of the car to go. When backing and turning, use two hands on the steering wheel. When backing straight, hold the steering wheel with the left hand at the 12 position.

6. Check Front Swing

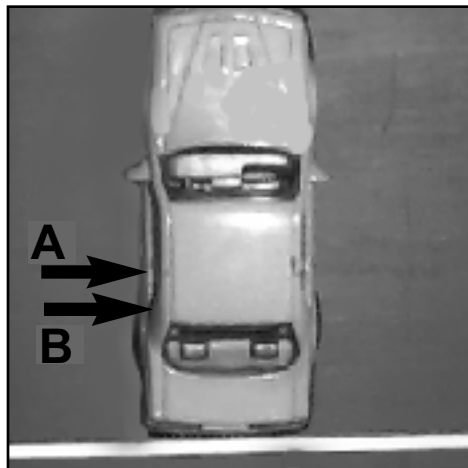
Check to the front of the car, in the opposite direction to which you are turning, to be certain that the front swing doesn't strike any object.

7. Reference Point Usage

Discover the rear reference points.

A . Back To A Line

Back to a rear line and look over your left shoulder to see where the line is in reference to your car. You should see the line on the driver's side near the middle of the rear side window as shown by arrow "A" below.



B. Discover Pivot Point

To clear an object while backing and turning, use the corner post of the rear window as the pivot point (see arrow "B" above). The "pivot point" on any vehicle — car, van or truck — is the point of the vehicle that is centered with the rear tires. When the object is at the "pivot point" you can begin to turn and clear the object. See page 33 for additional illustrations.

Practice backing to a target

Look over your right shoulder to see the target through the rear window.



Backing from one target to another

gives you an opportunity to practice correct seeing habits, steering wheel usage, and speed control.



Target



Back The Car To A Line. This photo shows the driver's view looking over his left shoulder. The car was backed to position the rear bumper even with a parking lot curb line. The driver, when looking over his left shoulder, will see the line appear in the middle of the rear side window (see the arrow).

The "pivot point" is when the curb line is just forward of the blind area over the rear passenger-side tire, as the arrow in the photo shows.



Using The Pivot Point For An Intersection Turnabout.



This view from inside the car shows the curb line (as identified by the arrow) of the street to be backed into is located to the rear of the "pivot point". The car needs to be backed straight before turning begins.



After backing the car, the "pivot point" is aligned with the curb of the street to be backed into. This is the position to begin turning the steering wheel. Check for traffic to the rear and into the street you intend to back into before continuing.



Guide 11: Driveway/Intersection Turnabouts

1. Consider Your Choices

There may be other choices for turning around than to use the Driveway/Intersection Turnabout. For example, you may be able to drive into and out of a public parking lot. Or, you may be able to drive around the block. See what options you have available. The Driveway/Intersection Turnabout is required as the proper procedure in some states and prohibited in others. Some states require a 3-point turn. Check your State's Driving Book. *Do not drive into a side street or driveway and back out into a street or highway.* Your risk is reduced when you back into the driveway and pull out forward.

2. Evaluate The Risk, See LOS-POTs

Evaluate the line-of-sight you will have for stopping, backing into the side street, and for re-entering the road.

3. Select A Location

Only perform the Intersection Turnabout at locations where you have a good line-of-sight and a path-of-travel to back into the street completely and to pull out with a clear view.

4. Check Rear Zone, Tap Brake Lights

Check the rear zone before stopping. When there is a car to your rear, be certain to tap your brake lights to communicate that you will be slowing and stopping.

5. At Intersection, Right Signal Light

If there is traffic in the intersection, to avoid false communication, put your right signal light on after you enter the intersection.

6. Clear Intersection

Have the back of your car clear the intersection.

7. Stop within 18" of Curb

Discover a reference point to stop within 18 inches of the curb. The reference point for 18 inches from the curb is one between the 3 inch and 3 feet reference points. It is better to be closer rather than farther from the curb to give passing traffic better clearance.

8. Shift To Reverse, Check Intersection

Shift to reverse, look over your right shoulder to detect any rear approaching traffic and check the intersection.

9. Back to Pivot Point

When the corner support post for the rear window of your car appears to conceal the curb line of the street you are going to back into, begin to turn the steering wheel.

10. Turn Wheel From Top Down

With your left hand at the top of the steering wheel, turn the wheel down on the right side to make the back of the car go to the right.

11. Check Front Swing Of Car

As the back of the car goes to the right, the front will swing to the left. Check to be sure space to the left is clear.

12. Back To Safety Stop

To decrease risk, it is best to back the shortest distance. Back only far enough to get the front of the car even with the curb line, which is our forward safety stop position.

13. Foot On Brake, Shift To Drive, Put Left Signal On

At this stage of the "turnabout" the maneuver becomes one of making a left turn.

14. When Able, Make A Precision Left Turn

Use Guide 6, if needed.

Guide 11D: Three-Point Turnabouts and U-Turns

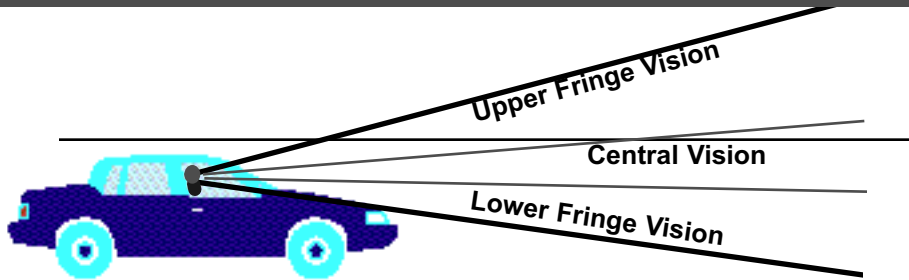
11C. THREE-POINT TURNABOUT

1. **Evaluate The Risk** • evaluate the traffic flow and LOS-POT blockages
2. **Select Location, Signal right** • pick a location with legal sight line
3. **Stop 3-6" From Curb** • use reference points
4. **Check LOS-POTs** • see others and be seen
5. **Left Signal On** • the car is parked at right curb
6. **Blind Spot Check** • over the left shoulder
7. **If Clear, Creep & Turn Wheel Fast**
8. **Smooth Speed Control** • see Coach Tip
9. **Stop Before Curb** • use forward reference pt.
10. **Foot On Brake, Shift To Reverse**
11. **Check Traffic Left, Right, Rear**
12. **Look Over Right Shoulder**
13. **Creep & Turn Wheel Fast**
14. **Stop Before Curb** • use rear reference point
15. **Foot On Brake, Shift To Drive**
16. **Check Intended Targeting Path**
17. **Check Left, Front, Right** • for open zones
18. **When Clear, Move Car On Target**

11D. MIDBLOCK U-TURNS (only to be performed for practice in a parking lot until behaviors from lessons four, five, and six have been accomplished.)

1. **Evaluate The Risk** • consider the traffic flow and other turnabout options
2. **Select Location, Signal right** • pick best choice
3. **Stop 3-6" From Curb** • use reference points
4. **Check LOS-POTs** • see others and be seen
5. **Left Signal On** • the car is parked at right curb
6. **Check Front and Left-Rear Zones** • over left shoulder and/or mirrors
7. **If Clear, Light Acceleration & Turn Wheel Fast** • use the least space
8. **Acceleration and Straighten Wheel When at Transition Peg**
9. **Check rear view mirror** • for fast approaching vehicles
10. **Evaluate the Left, Front and Right Zones for LOS-POT's**
11. **Obtain travel speed** • accelerate to travel speed without delay

Guide 12 Preparation: Searching Target Area to Target Area



Central Vision

Driving involves information-processing, problem-solving, decision-making skills. Over 90 percent of the information a driver processes is visual. To make an identification of an object, you must see it with your central vision. The Central vision is a narrow 5-degree cone of clear, focused visibility. When you hold this book twelve inches away from your eyes, the field of your central vision is one inch wide. While this is a very small area, as you look farther ahead, the field increases. Your central vision is like the beam of a flashlight in a dark room. Where you direct the flashlight will be most clearly illuminated. And, the farther away you direct the beam, the larger the illuminated area becomes.

Fringe Vision

Surrounding the central vision is fringe vision. The fringe vision closest to the central vision will give us the most clarity for object recognition. However, we cannot identify details with fringe vision. Because there is so much demand placed upon gathering visual information, it is important to increase the effective use of both central and fringe vision.

Using Central Vision

- The farther ahead of your travel path you direct your searching, the greater the width of information you will be able to evaluate. When you look to your target area you are able to see your targeting path with your central vision. This will allow you to gain more important details in a timely manner, than if you looked a shorter distance.

- Because one sees with the mind, and not with the eyes, it is important that we tell the eyes what to look for. By using the Zone Control System, we are telling the eyes to look for an LOS-POT change in any of our zones. We can then see a potential problem early enough to defuse it.

Using Lower Fringe Vision

- Once a target is identified by your central vision, you can align the car to it by using your lower fringe vision to see the target in the center of the steering wheel.
- After you have identified a reference point with your central vision, you can use your lower fringe vision to see the reference point in relation to the roadway.

Using Upper Fringe Vision

- After you have identified a vehicle in your rearview mirror, you can keep aware of it by using your upper fringe vision. When your upper fringe vision detects a change in the mirror, it will cue you to direct your central vision there for an accurate evaluation.

Using Side Fringe Vision

- We also have fringe vision to the left and right of our central vision. After we identify a zone change to the left or right of our travel path — with our central vision — we can keep account of it with our side fringe vision to free our central vision to make other zone checks.

It is important to increase the effective use of both central and fringe vision.

Guide 12 Preparation: Searching Target Area to Target Area



1. Searching to the Target Area

We are travelling at 45 mph. In our target area (circled) we see stopped traffic and a traffic light. Evaluating our targeting path, we can see parked cars in the right-front zone at the 15 second range. Our immediate 4 second Danger Zone is okay.

2. Searching the 15 Second Range

Continuing towards our target area, we cleared the parked vehicles that were in our right-front zone. We see the traffic light in our 15 second range is green. However, there are stopped vehicles before the intersection attempting to make left turns. We check our rear, right-rear, and right-front zones.



3. Control the 4 Second Danger Zone

When we are within the 4 second Danger Zone, it demands our full awareness to be certain everything remains stable. We re-evaluate the car turning left to be certain it turns. We re-evaluate our rear, right-rear, and right-front zones to control our path of travel around the car, as the vehicle in front of it has stopped.

The intersection is now within our 4 second danger zone. We take lane position 3 to have better control if the white car that's in back of the turning truck swerves into our lane. We re-evaluate our rear zone to be prepared if the light changes to red and a stop is needed.



Guide 12: Searching Target Area To Target Area

The major skill a driver needs is ability to control the next four seconds of space the vehicle will be entering. In order to control this four seconds of space the driver must use these three searching ranges:

Three Searching Ranges

- **FIND:** The first searching range is to the target area to get an overall view of the condition of your "destination" — the target area.
- **SOLVE:** The second range is 15 seconds ahead of your car to give you an opportunity to make the best space management decisions.
- **CONTROL:** The third range is the 4 second immediate path the car is ready to occupy. This is the 4-second Danger Zone.

Central and Fringe Vision

1. Central Vision to Detect LOS-POT

We search with our central vision. The central vision is a narrow 5 degree cone of clear visibility. In order to identify something, we must see it with central vision. You are using *central vision* to read this statement. Searching to the left, front, and right of the car's travel path will increase the effective use of your central vision.

2. Use Of Fringe Vision

Once something is identified by the central vision, you are then able to keep aware of it with your fringe vision. You should also use fringe vision to monitor your reference points.

Judge Distance In Seconds

1. Take A Guess For 15 Sec. Ahead

Take a guess where you think 15 seconds ahead is.

2. Count Off By Seconds

Pick out a marker (a road sign, a mailbox, a telephone pole) and then start counting 1001, 1002, 1003, etc., until you reach that marker.

3. See How Accurate Your Guess Was

By taking a guess, before counting, you can best develop the ability to make accurate assessments of where 15 seconds of searching range is.

4. Redo At Different Speeds

After 15-20 trials of taking guesses, your accuracy will be more consistent.



Guide 13: Recognition of LOS-POT Zone Changes

1. FIND LOS-POT

Front Zone Change

Look for LOS-POT changes that are in your front zone. For example: Seeing a curve ahead means a change to your POT, and when there are blockages (such as trees) that prevent you from seeing around the curve, it is also an LOS zone change.

• FIND: See to Target Area

A major emphasis during practice of this guide is to learn how to search three ranges. First look ahead to the target area to FIND any LOS-POT zone change that can affect your travel path. By looking to the target area first, you are able to get the overall view of where you will be traveling.

• SOLVE: 15 Second Range

When your target area is more than 15 seconds ahead, you may not be able to see or control all LOS-POT zone changes that are en route to your target area. Therefore, you may need to evaluate your 15 second range to FIND and SOLVE a zone change that can affect your targeting path.

• CONTROL: 4 Second Danger Zone

The 4 second Danger Zone is the space within 4 seconds of travel time. It is very important that you acquire the skills to search all three ranges: the target area, the 15 second range, and the 4 second Danger Zone. To CONTROL the 4 second Danger Zone should only require an update of the conditions you originally detected when you were evaluating your travel path. If you were to look only at your 4 second Danger Zone before searching to your target area, you would consume three or four seconds and not have time to find, solve, and control the LOS-POT blockage.

2. FIND LOS-POT

Left or Right-Front Change

• FIND in Target Area

Checking your left-front, or right-front zone up to your target area will give you a reading of what your options are and enable you to see if there are any zone conditions that will affect your path of travel while en route to your target area.

• SOLVE 15 Second Range

Evaluate your left-front or right-front zone within the 15 second range to detect and solve an LOS-POT zone change that can affect your targeting path.

• CONTROL Within Danger Zone

Re-check the left-front or right-front zone of the space your vehicle will occupy within the next four seconds.

3. FIND Closed Front Zone LOS-POTs

A closed front zone exists when any of the following three conditions are present:

- You cannot see at least 15 seconds ahead (Closed LOS).
- You do not have at least 15 seconds of an available path-of-travel (Closed POT).
- You do not have at least 4 seconds of following time when traveling in back of another vehicle (Closed LOS-POT).

4. FIND Closed Side Zone LOS-POT

A closed side zone exists when either of the following two conditions are present:

- You cannot see at least 8 seconds of empty space to the side of your vehicle (Closed LOS).
- You do not have an available path-of-travel to the side (Closed POT).

• A red traffic light is a closed POT front zone.

• A hill crest is a closed LOS front zone.

• Following a car closer than 4 seconds is a closed LOS-POT.

Guide 14: Zone Control System Introduction

1. FIND an LOS-POT Change

(Zone Control's "A" step)

The first step of the Zone Control System is to FIND one LOS-POT blockage. That identification should turn your alert switch on. Then, consciously use the other steps of the system until the total process takes place by habit.

2. Respond To Front Zone LOS-POT

(Zone Control's "B" step)

The second step of the Zone Control System is to Check Other Zones to acquire all the necessary information before exercising a decision.

• Check Rear Zone

The most frequent Other Zone to check in response to seeing a closed Front Zone is the Rear Zone. You want to know what conditions are present to your rear as early as possible when a braking action is taking place, or may take place.

• Get Best Speed Control Option

(Zone Control's "C" step)

The third step of the System, after seeing a Front Zone Change, is to apply the best Speed Control option. You have five choices to select from; one choice – given all the information – is the best to make.

• Keep Same Speed

You make the decision to continue to travel at the speed you attained when the zone change was detected.

• Decelerate

Decelerate means to ease your foot pressure off the gas pedal, therefore reducing the amount of acceleration.

• Off-Gas, Cover Brake

Off the gas pedal means to completely remove acceleration pressure. Covering the brake means having your right foot over the brake pedal, without applying pressure, in a ready position.

• Off-Gas, Apply Brake

Off-gas, apply brake means to remove your foot completely from the gas pedal and apply pressure to the brake pedal to initiate a braking force upon the vehicle.

• Increase Speed (Never into a closed zone)

One of the five available options for speed selection is to increase speed. A principle of Zone Control is to never increase speed into a closed zone condition. There are always exceptions to rules, but to increase speed into a situation that does or may require a stop is not desirable.

3. Respond To Left-Front or Right-Front Changes

• Check Opposite Zones

An important zone to check after seeing a side zone change is to check the zone in the opposite direction. For example: When traveling on a two lane roadway, if you see a right-front zone change you should check the left-front zone to see if it will be open. In Guide 21, you will have more opportunities to learn about additional zones that should be checked after seeing a zone change.

• Apply Best Speed Control Option (Zone Control's "C" step)

Consciously determine which of the five speed choices is best. Then apply the choice in a timely manner.

• Apply Best Lane Position for Separation (Zone Control's "C" step)

One good habit to develop is attempting to keep empty space to the side. When you see a side Zone Change, try to get into a lane position that will give you the best separation from the zone change.

4. Improve Position From Zone Change

(Zone Control's "C" step)

The bottom line for using the Zone Control System is to acquire the best space management available to you. Therefore, after seeing a zone condition and getting all information, select the best speed choice, lane position, and communication.

5. Attempt To Keep Zones Open

(Zone Control's "C" step)

Set your standard to create empty zones surrounding your car as often as possible.

Guide 15: Forward and Angle Parking

1. Before Parking

Search for cars and pedestrians that may be in your intended path of travel.

• Check Rear Zone

Communicate to the traffic in back that you will be parking.

• Check Parking Space

2. Side Position

Get at least 6-8 feet of side space away from the parking space.

3. Forward Pos. Before Turn

See the center of the space without your vision (line-of-sight) cutting across the parking line.

4. Creep - Turn Wheel Fast

It is best to have the tires rolling when a steering action is being made. Develop a consistent speed and rate of steering.

5. Line Up With Target

If the target is at curbside, such as a parking meter, and if it is in the center of the space, then, as the car gets closer to the target, the target will appear to shift towards the center of the car.

6. Straighten Car and Tires

Get the car straight between the lines.

7. Stop At Forward Reference

Discover your forward reference point to place the tip of the bumper even with the curb. Use the windshield corner post on the driver's side as a reference. When the car is parked to the left, as "A" in diagram two, the curb will appear rearward of the corner post. When parked to the right, the curb will appear forward of the corner post.

8. To "Unpark"

- Back Slowly
- Check Traffic
- Check All Corners
- Clear Fender - Turn
- Straighten Car
- Tires Straight
- Shift To Drive

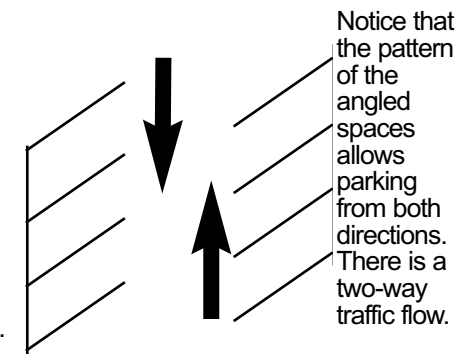
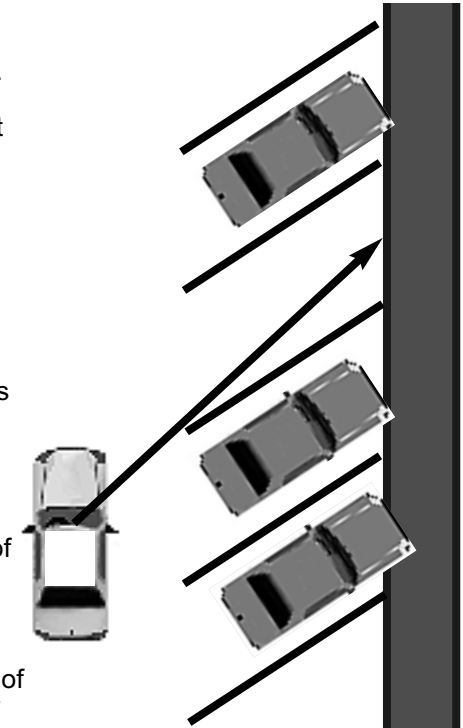


Diagram One

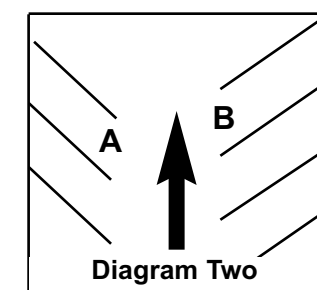


Diagram Two

Notice that the pattern of the angled spaces allows parking from both directions. There is a two-way traffic flow.

The design of these spaces — even if there are no arrows painted in the lot — requires a one-way traffic flow.

Guide 16: Communication Options

Demonstrate Effective Use of:

• Signal Lights

Signal lights should be used 5 seconds before making any change in speed or direction to give others enough time to see it and respond.

• Headlights

During daytime, it's a good practice to drive with your headlights on. Turn on your headlights when you use the windshield wipers. Flashing headlights can warn oncoming vehicles of some danger they are driving into.

• Brake Lights

A tapping of the brake pedal flashes the brake lights to warn traffic to the rear of a slow-down or stop. When stopped, if you see a car approaching from the rear at a fast rate, tap the brake pedal to alert the driver to respond to the situation.

• Horn

Use the horn in a short tapping manner rather than a long sustained blast. To use the horn effectively you must see the situation early enough to get a response.

• Lane Position of Other Cars

By reading the position of other vehicles you can be tipped off to what is likely to happen. For example: You see a car change from the right lane to the left lane and begin to slow down; you can expect that a left turn will eventually be made.

• Speed Control of Other Cars

A driver's speed can communicate to you what will be taking place. For example, if a car pulls out of a side road and doesn't accelerate in a normal brisk manner, you can expect that driver to soon make a turn.

• Hand Signals

Hand signals are necessary if the signal lights are not functioning. There are also times when a hand signal communicates more effectively than the signal lights, such as if you're attempting to enter a long line of slow moving bumper-to-bumper traffic.

Timely Communications

• Send Messages , timely

Communication must take place early enough for others to receive and act upon the signals that you send.

• Receive Messages , timely

You must read others' communications in a timely manner to gain control of the situation and not be forced into making a high-risk, surprised response.

Respond To Communications

When you effectively receive communications from others in the traffic environment, your actions should demonstrate the principles of Zone Control.

Get Commitment

Anytime you are attempting to communicate with others you must not assume that your intentions are known until you get a commitment. To get a commitment is to receive a message from others that they acknowledge you.

Be Effectively Courteous To Others

There is so much stress that creeps into our lives unnecessarily. One way to minimize stress is to eliminate some of the competitive situations that occur while driving. If you set your goal to strive for one or two situations each day when you can be courteous to others, it can put you into a win-win situation. You help someone, which in turn gives you a good feeling, as compared to trying to compete with someone and losing. Spread some goodwill; be courteous!

Guide 17: Approaching Intersections

1. See Intersection In Target Area

Awareness of an approach to an intersection should begin while looking to the target area and evaluating the targeting path.

2. Check The Rear Zone

Any time there is the possibility of a stop in traffic, check the rear zone's status.

3. Select Best Lane and Position

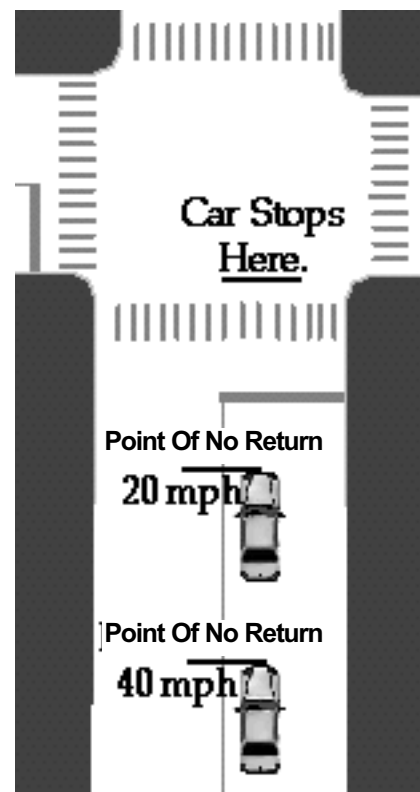
Based upon the conditions, and your destination, select the best lane and lane position.

4. Search Left, Front, Right Zones

While moving, checks of the left and right zones are made at a 45-degree angle. Checks at a 90-degree angle are made while stopped. And, it is very important to check the front zone for open space before or while moving.

5. Speed Control For LOS-POTs

Cover the brake, or apply the brake, when a reduction of control in any zone is detected.



6. Locate Point-Of-No-Return

The Point-Of-No-Return is that point at which you can no longer stop without entering the intersection, which occurs when the car is 2 seconds away from the intersection. Speed will affect the length of space consumed per second. The faster you are traveling, the more space you will occupy per second. At 20 mph the car travels almost 30 feet per second. At 40 mph it travels almost 60 feet per second. The slower you approach an intersection the more time you will have before making a commitment to enter the intersection. When there are LOS-POT blockages in an intersection, reduce speed.

7. Stopping: No Car In Front

When you are the first car approaching an intersection, there are three possible stop positions.

- **Staggered Stop** refers to stopping or preparing to stop, at a point where you can see the stop line to the front of your car. This will place your car approximately 15 feet before the line.

- **Legal Stop** is at the stop line.

- **Safety Stop** is at the curb line to best see traffic.

8. Stopping: With Car In Front

- **See Rear Tires At Ground**
When stopping to the rear of another vehicle, stop where you can see its rear tires touching the pavement. This will place your vehicle 12-15 feet away.

- **Delay Moving 2 Seconds**

After the vehicle in front begins to move, wait a two-second count before putting your vehicle in motion.

9. Stopped In Traffic

Being stopped in traffic is a high-risk situation that can be neutralized by awareness of the rear zone's status. Unstable Rear Zone is present when there are no vehicles stopped in back and there is the possibility of approaching traffic. The "Sand Barrels" are cars stopped to our rear that would absorb some of the impact of a rear crash.

Guide 18: Rear Zone Control

1. Use Of Mirrors

• After Seeing A Zone Change

After you see a Zone Change — especially to the front — check the rear view mirror to know how to best control the rear zone if a slow-down or stop is to take place.

• Before and After Braking

When your foot brakes, your eyes should go to the rear view mirror by habit.

• While Stopped, Sand Barrels

As more cars stop in back, the risk of injury from a rear impact decreases. The stopped vehicles in back act as sand barrels (like the yellow ones seen at some highway exits) to absorb the force of impact. Continue to check the rear until at least two vehicles are stopped to your rear.

• Before & After Making Turns

This helps to give an update of rear zone conditions immediately before and after entering a new traffic pattern.

• Before & After Lane Change

Look for fast approaching traffic.

• Use All Mirrors Effectively

This includes the inside rear view mirror, the two outside side view mirrors, and convex mirrors when available.

2. Check Blind Areas

Even with side view mirrors there is a blind area where another vehicle alongside you may not be detected. There are three ways to compensate for the mirror's blind areas before moving the vehicle into a new side position.

• Convex-Mirror Check

A convex mirror is curved to give a wider view than existing mirrors. When added to the vehicle outside mirror it will eliminate the blind areas not seen in the flat mirror.

• Over-The-Shoulder Check

Requires a brief head movement and a rolling of the eyeballs in the direction you intend to move. This increases the range of your fringe vision to detect vehicles.

• Move Your Head Forward

A head movement of 8-10 inches forward and slightly away from the mirror, while checking the mirror, will increase the angle of your view to detect vehicles.

3. See Rear Zone Changes

• Fast Closing Vehicles

When you see a fast closing vehicle behind you, tap the brakes to get the driver's attention.

• LOS Blockages

A large vehicle following closely to your rear will prevent you from detecting vehicles that will be pulling alongside you. When you are stopped around a curve, you may not have a good sight distance to your rear; which may also prevent rear approaching traffic from seeing you.

• Tailgater Types

Listed below are the three types and characteristics of tailgaters.

- **Charger** Excessive speed on approach; Competitive; Wants to pass you; May force an opportunity to pass.

- **One Pacer** Travels at one pace (below, at, or above speed limit); Gradual approach to your vehicle; Will close gap as you slow; Will stay back as you increase speed; Doesn't pass at first opportunity.

- **Habitual** Consistently tailgates; Will stay with you on speed increase; Highly distracted (talking to passenger, etc.); Most dangerous of all tailgaters.

4. Aware Of Rear Condition

• Open Rear Zone

No one closer than two seconds, and at least 12 seconds visual sight line.

• Closed Rear Zone

You do not have an open zone.

• Unstable Rear Zone

An open or closed zone that has the potential to become worse.

5. Take Action For Control

Taking an effective action in speed adjustment, lane positioning or communication can increase the control of the rear situation.

6. Effective Speed Control

Effective speed control means taking the best option available, i.e. the worse the rear zone, the slower the speed.

Guide 19: Stopping In Traffic

1. See Closed POT- at least 12 seconds ahead

See the condition of your target area. Ask yourself, "Is it open or closed?" If your target area is open, continue to search for the condition of your travel path. When you see a closed POT in your front zone, it should activate your Alert Switch telling you to check your other zones.

2. Check Rear Zone

When the front zone is closed, you want to immediately check the rear zone to determine what your options are.

3. Try To Time Arrival Into Open Zone

As you look to your target area (at least 12 seconds ahead) and see that the front zone is closed, you are in an excellent strategic position to make slight adjustments in your speed that will give the closed zone time to open for your vehicle. If you make an attempt to enter an open zone, you will gain independence from what other traffic is doing. Very often, one driver after another plays follow-the-leader, and they drive at the same speed into a closed zone because the mind was never engaged, and a bad rather than good habit made the driver feel okay about his performance.

4. Communicate to Rear — Tap Brake Lights

When the front zone is closed, and you see a car to your rear, you have an opportunity to detect whether the driver is a tailgater, and which type of tailgater. You have a wonderful opportunity to test the effectiveness of tapping the brake pedal as a communication that you will be slowing or stopping. Observe how the driver responds to your communication.

5. Begin Braking Without Delay

The sooner you begin the braking process the more time you have to control the situation.

6. Control the Rear Zone

When you recognize which type of situation you have to the rear — open, closed or unstable — and you detect the condition at least 12 seconds before you need to stop, you will have many options to control the rear zone. If you look into your rear view mirror only as you slam your brakes on, you will have no options for controlling the rear zone.

7. Gradual Approach to Stop Location

A gradual approach into a stop situation puts you in a win-win situation. You will use the least amount of fuel, you will put the least amount of wear on your tires and braking system, and you have the best opportunity to control the traffic to your rear. Most of all, you will be developing a good habit that will eventually occur even when you don't think about it.

8. Make Smooth Stop

Making a smooth stop is a good habit to acquire. When jerky braking does occur, it will be felt as undesirable.

9. Monitor Rear Until Two Cars Are Stopped In Back

When you are stopped in traffic, an approaching driver may not perceive your car as stopped. Be aware of the danger until you have at least two cars stopped in back.

10. With A Car In Front

• Stop To See Tires

When you are able to see the rear tires of the car in front, you are approximately 12-15 feet to its rear. This gives you independence to get around a stalled car, or be pushed into empty space if rear-ended.

• Use 2-Second Delay With Start-Up

When the car in front of you moves, wait 2 seconds before putting your car into motion.

Guide 20: Traffic Lights: Timing and/or Turning Left

Approaching Traffic Light Controlled Intersections

1. See Light In Target Area

When checking the condition of the target area, look for status of the traffic light. What color and for how long?

2. See Red Light As Closed Zone

As soon as the red light is detected, make an attempt to arrive into a green traffic light with no stopped traffic.

3. Check Rear Zone

Evaluate the rear zone condition.

4. Alert Rear –Tap Brake Lights

With a vehicle close to your rear, a tap on the brake can dynamically communicate that you're making a speed reduction.

5. Begin Constant Braking

Constant braking is a steady light pressure on the brake pedal from the beginning of the braking process until the complete stop is made.

6. Time Arrival Into Open Zone

Each car stopped at the red light will add one second to the time it takes for the last car to move.

7. At 10 mph, Go or Stop

With constant braking, when your speed is reduced to approximately 10 mph, you should know if you will have an open or closed front zone.

8. Green Light, Search Intersection

If you have an open zone as you arrive, it is important to check the left, right and front zones to detect any traffic running the light.

9. Red Light, Make Smooth Stop

If the light is red, continue the braking to make a smooth stop.

Left Turn At Green Light

1. Waiting For Opening

Waiting to make a left turn at a green traffic light, with oncoming traffic, is a high risk rear zone exposure.

2. Get 1/4 Into Intersection (unless your state law prohibits waiting in the intersection).

You must never enter the intersection unless you are certain that you will be able to make the turn. The only opening to make a left turn, without a turn arrow, may occur when the green light changes to yellow. If you make the commitment to enter the intersection, you must continually search these four areas for the exact opportunity to make the turn and clear the intersection.

Four Areas To Search While Waiting To Make Left Turn In Traffic

1. Check REAR For Unstable Zone

Check the rear zone for fast closing traffic and continue the monitoring until there are at least two vehicles stopped in back.

2. Look For A GAP To Enter

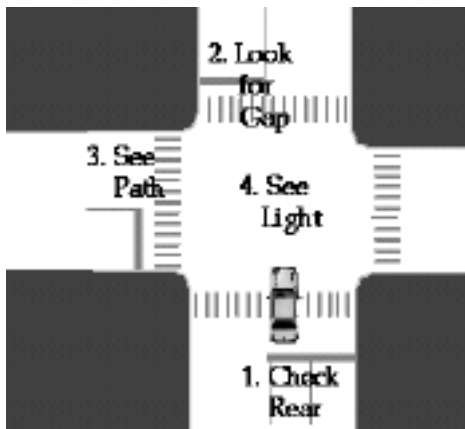
Look for a gap in the traffic flow.

3. See An Open Turning PATH

Check the path you want to enter.

4. See The LIGHT Change

When you see the green light changing to yellow, look to see if oncoming traffic is stopping. If able, complete your turn without delay.



Guide 21: Using The ABCs of Zone Control

A Alert switch on: See One LOS-POT blockage

Look for conditions when your LOS (line-of-sight) and/or your POT (path-of-travel) has blockages which prevent you from seeing someone or something that may occupy the space where you intend to put your vehicle. Or, you see someone or something that prevents you from maintaining the speed or lane position you expect to occupy en route to your target area.

Examples of LOS-POT Zone Changes:

- A red traffic light is a closed front zone POT.
- A hill crest is a closed front zone LOS.
- A parked car to your right is a closed right zone LOS-POT.
- A bicyclist to your right is a closed right zone POT.
- Oncoming traffic is a closed left zone POT.
- A truck following closely is a closed rear zone LOS-POT.

B Before Acting: Check The Other Zones

• **Check Rear Zone.** See what actions are needed to control the rear zone in preparation for a speed reduction.

• **Check Opposite the zone change.** See if the zone is open, and look for related information.

• **Check for an Alternate Path,** and look for related information. If the space you intended to occupy is no longer available, it is good to know where you can safely put the car as an alternative path of travel. You obtain related information when you see one element which should serve as a springboard for other events to occur.

For example: You are following a city bus; ahead you see people stopped at a bus stop; you can expect the bus will pull over to stop.

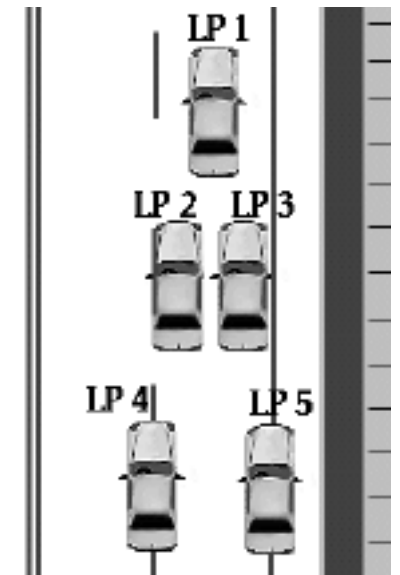
C Create time/space management:

Speed Control Options

After making an evaluation of the zone conditions, you have five options for speed control. One of these five choices is the best option.

1. Same Speed
2. Decelerate
3. Off Gas - Cover Brake
4. Off Gas - Apply Brake
5. Increase Speed

Lane Position Options



Communication Options

Effective use of the communication process can eliminate surprises.

- Signal Lights
- Headlights
- Brake Lights
- Lane Positioning
- Horn Usage
- Speed of Other Car

Guide 22: Precision Lane Changes, Entering Traffic

1. Why Change Lanes, What's Gained?

Consider the reason for making a lane change. Avoid unnecessary lane changes.

2. Check Other Lane's LOS-POT

Evaluate the condition of the zone you will be entering and the zone that will be alongside your new lane position.

3. Mirror Checks

Look for where the opening will occur. See if there will be other vehicles attempting to change lanes at the same time.

4. Signal For Communication

Hold signal lever in the on position for a minimum of 5 seconds.

5. Move To LP 2 or LP 3

When changing from left to right, move into lane position 3 first. When going from right to left, move into lane position 2 first.

6. Check Blind Spot

A head movement check, or a check of a convex mirror, is needed to detect traffic that is not seen by the car's regular outside mirrors.

7. Time Arrival For Open Zones

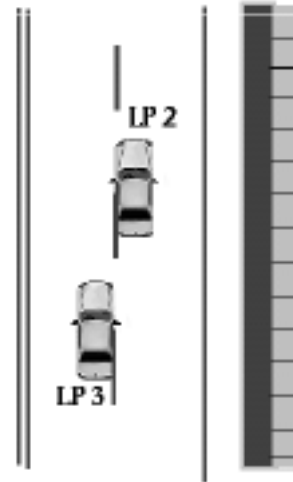
Get the best opening of the lane to be entered and the zone alongside it.

8. Increase Speed, If Needed

Normally it is best to slightly increase speed to prevent a rapid closure of rear traffic.

9. Enter LP 2 or LP 3

Use the least amount of space. When entering from the right, enter LP3. When entering from the left, enter LP2.



Make a lane change to the right lane from LP3 to LP2.

10. Release Signal Light Lever

Take your finger off the signal lever to release it.

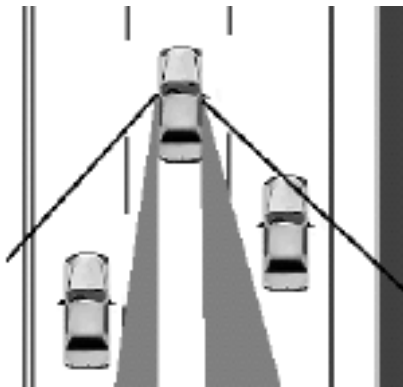
11. Check Rear Zone

Get an update of the rear zone status.

12. Decide On Best Lane Position

Get into the best lane position of the new lane.

The behavioral patterns for entering traffic flows from curbside are the same as those for making precision lane changes.



In the diagram above, the shaded area shows the range of the side view mirrors. The dark lines, from the car's sides, show the range of a convex mirror.

Guide 23: Perpendicular Parking, Backing Into Space

1. Side Position, Signal

Get 2-3 feet from the parked cars. Look for cars that may back into your vehicle. Use signal. Check rear.

2. Forward Position

This is where your body, as the driver of the car, appears to be aligned in the center of the space.

3. Select 45-Degree Target

Use the outside edge of the driver's side mirror to align your vision to a stationary object.

4. Creep and Turn Wheel Fast

Check for traffic. Aim for the target.

5. Use The Least Forward Movement

Try to move the car as little as possible to get on target. This will prevent cars from driving to the rear of your car while you are attempting to back up.

6. Line Up Car With Space

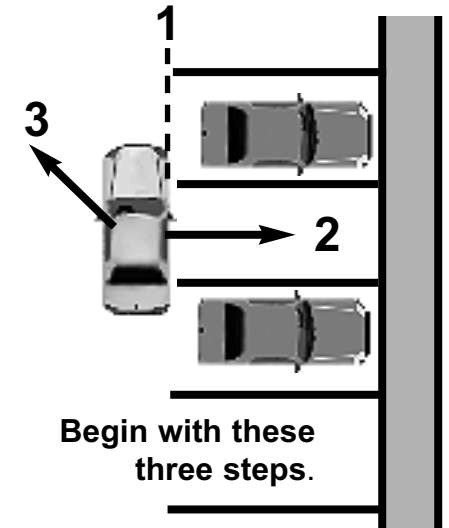
Before straightening the tires, look over your right shoulder, or check the SmartView Mirrors, for alignment to the space.

7. Shift To Reverse

Shift to reverse after the back of the vehicle is aligned to the space and the tires are straight.

8. Back To Rear Pivot Point

This is when the corner of the parked car is in the rear window's blind spot.



9. Inch and Turn Wheel Fast

Once the car is at the pivot point, move the car inch-by-inch and quickly turn the steering wheel fully to the right.

10. Get Car Straight In Space

Observe when the car is straight in the space.

11. Inch and Straighten Tires

Inch the car slowly back while you quickly straighten the tires.

12. Back To Rear Reference

Use your rear reference point by seeing over your left shoulder, or by using convex mirrors.

Advantages Gained By Backing Into The Space:

1. Can get into and out of tight spaces.
2. Takes less time to park and "unpark."
3. Better view while leaving space.
4. Avoids backing out into traffic.
5. Others let you cut into traffic flow.
6. Gives you best control and less stress.
7. Less risk of hitting something or of being hit.

Guide 24: Laws, Signs, Signals & Markings

1. Respond To Stop Signs and Yield Signs

Two dimensions of a stop sign are to come to a complete stop and to effectively search to be certain the intersection will be clear before entering. The legal stop position is where the front of the car is even with the stop line. If there is a marked crosswalk and no stop line, stop before entering the crosswalk. If there is no stop line, and no crosswalk, then some states require you to stop at the stop sign, while others will allow you to stop at the curb line. Wherever you stop, it must be a complete stop. The real purpose of a stop sign is to be certain that the intersection is clear before moving into it. Therefore, your search of the intersection must effectively check the left, front and right zones.

2. Respond To Traffic Signal Lights

• Point-Of-No-Return

While approaching a green light, be prepared for the light to change to yellow. The point of no return is that point at which you are not able to stop without entering the intersection.

• Red Light and Right Turn On Red

When you see a red light, reduce speed to time your arrival into an open zone with a green light. When making a right turn with a red light, make a complete stop and check the intersection for open zones before entering.

• Yellow Changing Lights

The purpose of a yellow light is to clear the intersection. By knowing where your point of no return is, you'll see the light changing and be able to make your best decision.

• Green Lt, Search Intersection

Do not expect that a green light will prevent other drivers from coming into your path. Always search the left, front and right zones before entering an intersection.

3. Signal Arrows: Gr., Yellow, Red

- **Green arrow to right**, you are allowed to turn right at a red light. Yield to pedestrians and traffic.
- **Green arrow to left**, oncoming traffic should give you right-of-way.
- **Green arrow pointing up**, you are allowed to drive straight.
- **Green arrow pointing down**, you are allowed to drive in that lane.
- **Yellow arrow** means a change is to take place.
- **Red arrow** means you are not able to go in that direction.

4. Flashing Signal Lights

Flashing red light is the same as a stop sign. Flashing yellow indicates to be aware of potential problems.

5. Respond to Traffic Signs

You should be able to demonstrate your knowledge of the meaning and application of traffic signs. See Appendix C for more information.

• See Sign As Traffic Cue

- Check Rear Zone
- Check LOS-POT
- Check Escape Path

6. Respond To Pavement Markings

Yellow lines separate opposite traffic flows. **White lines** separate traffic moving in the same direction.

Solid lines generally mean you should not cross. **Broken lines** mean it is permissible to cross.

7. Right-of-Way Laws

- Must yield to pedestrians at all times, especially when a pedestrian is in crosswalk with no traffic light.
- When you are turning left, you must yield to oncoming traffic.
- Drivers on a minor road must yield to any vehicle on a main road.
- On two equal roads, drivers coming from the left must yield to vehicles coming at the same time from the right.
- At at 4-way stop sign, the driver reaching the intersection first gets to go first. When arrival is equal, the driver on the left yields to car on right.

Guide 25: Approaching Curves and Hillcrests

1. See Curve In Target Area

The initial detection of an approaching curve is seen in your target area.

2. Check Rear Zone

An immediate check of the mirrors gives you time to control the rear zone.

3. Test Tire-Road Grip

When roads are wet, from rain, dew, snow, ice, before entering the curve apply the brakes to test the tire-road grip. If the tires slide, reduce speed before entering the curve.

4. See A Left or Right Curve

Determine if it is a left or right curve and prepare for an effective drive line into the curve.

5. See Radius Of Curve

The size of the curve's radius will help to determine an effective speed selection.

6. For Speed Control-See 4 Seconds

Keep 4 seconds of road visible. When you have less than 4 seconds of road visible, brake before going into the curve to see more road. When braking, hold partial brake pressure until you're at the transition peg.

7. Look For Oncoming Traffic Get Best Lane Position

If there are no oncoming vehicles, the **approach into a right curve** could be in lane position two. If there is oncoming traffic, take lane position one. **For a left curve**, the approach begins in lane position three if the right-front zone is open. If closed, take lane position one.

8. See LOS-POT at Apex

Evaluate the condition of the apex. For a right curve, check the right-front zone to see if it is open, thus allowing you to go into lane position three. If closed, take lane position one. For a left curve, check the left-front zone for oncoming traffic which could be at the apex as you arrive. Take lane position one.

9. Look Into Curve

Look into the curve, much as you look into a turn, by turning your head before you turn the steering wheel. Attempt to see if your exiting path is open. For right or left curves, exit in lane position one.

10. Evaluate New Target Area

Evaluate your new target area to see what your front zone condition is.

11. Evaluate Targeting Path

Evaluate your targeting path for any LOS-POT zone changes.

12. Hill Approach LP 1

When approaching a hill, take lane position one.

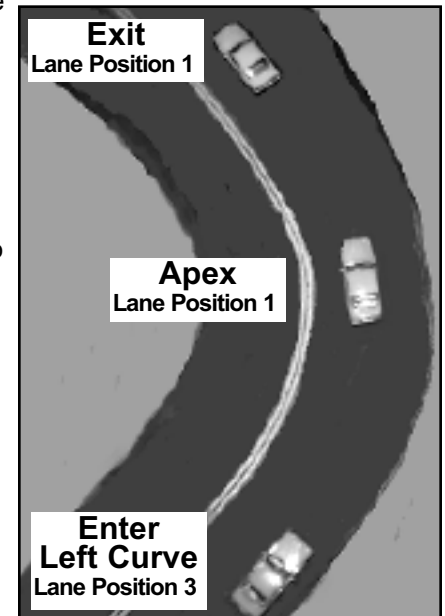
13. At Hillcrest, Evaluate POT

Search over the hillcrest to see if you have an open POT.

14. Hillcrest LP 1 (LP3 For Escape)

Look for the option of moving into lane position three if there is a problem caused by oncoming traffic in the left-front zone.

All hillcrests, due to the LOS blockage, restrict you from seeing 4-seconds of road. Therefore, speed should be reduced in an effort to gain more time to see.



Guide 26: Following Other Vehicles

1. Adjust Front Closure Rate

Whenever you use up the space between you and the car in front, there is a closure of space. Closure rate is how fast you gain on the car in front. It is best to acquire a habit that will make you sensitive to any closure of space. When you find yourself gaining on the car in front, it should serve as a cue to decrease your rate of closure and evaluate why the closure is occurring.

2. Become Alerted to Slower Vehicles

The slower the front car is going in relation to your speed, the greater your rate of closure is going to be. Let your closure rate tell you that a situation may be developing with the car in front. Many times the reason the car is going abnormally slow — which results in your fast closure rate — is the fact that the driver may be looking for an address or a street. The driver is very likely to slam on the brakes and make a quick turn without adequate use of signal lights. If you are perceptive you can make an adjustment in following time to be certain that you will have at least 4 seconds of space at the moment when it is most needed.

3. Keep 4 Seconds Of Time

When traveling behind another vehicle, try to keep at least four seconds of following time/space. The best way to learn how to measure the space you are keeping is to first guess how many seconds you think you are keeping behind the vehicle in front. Then select a stationary marker. When the front vehicle passes the marker, begin to count by 1001, 1002, 1003, 1004 until the front of your car reaches that marker.

4. Try To Improve LOS

The larger the front vehicle, the more your Line-Of-sight will be restricted. Try to gain the best view of situations ahead.

5. Read Traffic at least 12 Seconds Ahead

One important advantage of keeping four seconds of time from the vehicle you are following is that you will be able to see beyond that vehicle and gain the advantage of doing your own planning, independent of what the front vehicle is doing. You should be able to see at least 12 seconds ahead to assess your targeting path.

6. Control The Rear Zone

In order to control the rear zone you need to control the front zone. The more knowledge you have of the rear zone condition — type of tailgater for example — the better your decisions will be. If you have a Charger in back, and there is an opportunity for him to pass, you will best eliminate problems from him by having at least four seconds, which will give him adequate room to cut in front of you with the least interruption.

7. Respond To Communications

If you see the driver in front reducing speed, receive that as a communication that your following time may be affected. Become conscious of your surroundings.

8. When Front Car Slows — Adjust Space

When the driver in front reduces speed, adjust your following space.

9. Benefits Gained By 4-Seconds

- Removes the control the front vehicle has over your actions.
- Gives you more time to become aware of moments when you're closing in on the vehicle ahead.
- Your eyes can search beyond the vehicles in front.
- It will eliminate, or minimize, surprises from the actions of other drivers.
- You become aware of the disadvantages of a lesser amount of space.

Guide 27: Practice Commentary

1. Start With An Okay: Speed and Lane Position for the Conditions

The practice commentary is a conscious effort to use the ABC steps of Zone Control to solve one problem at a time. To begin, drive at the best speed and select the best lane position for the conditions.

2. Look For One LOS-POT Zone Change

Do not attempt to see and verbalize everything in the traffic scene. Look for only one Zone Change and begin the process of using the ABCs.

3. Use The ABCs For One Situation

A. See an LOS-POT Zone Change

Once you detect a Zone Change you are ready to use the B step.

B. Check The Other Zones

Check the Other Zones to get the following information:

- Check the rear zone to prepare for a braking action.
- Check opposite the Zone Change for related information.
- Check for an alternate path-of-travel for your vehicle.

C. Get The Best: Speed Control Lane Position Communication

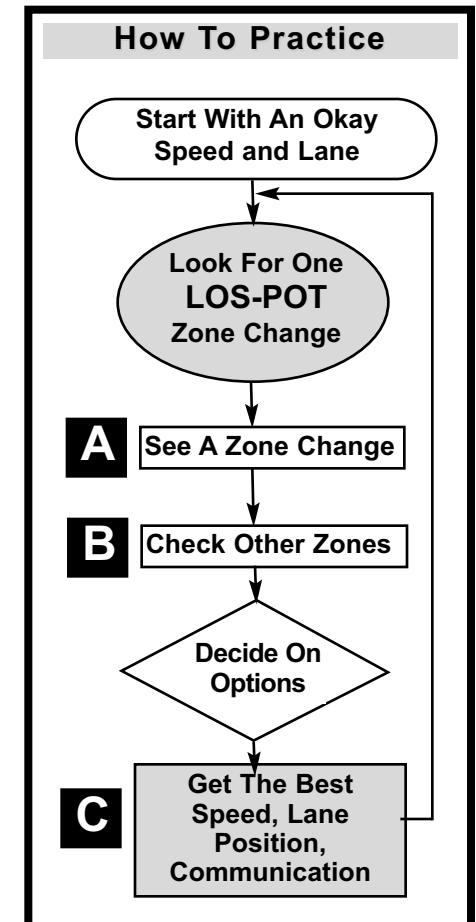
After you get all the information from the "B" step, then take the actions to achieve the best speed control, lane position, and communication if needed.

4. Repeat The ABCs For Another Situation

Begin the ABC process again by looking for one more Zone Change.

Practice For 10-20 Minutes At A Time

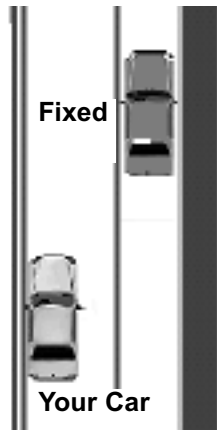
When the practice is being conducted, it should take place on a very conscious level. Such practice will be demanding. It is best to practice it for 10 to 20 minutes continually, then take a break from it by working on other Guides. Then come back to it and practice another 10 to 20 minutes. When practicing, it is helpful to verbalize the A and B steps and then take actions for the C step without a need to verbalize it. Verbalization of the A and B steps will help to increase the effectiveness of your practice.



Guide 28: Timing Side Zones

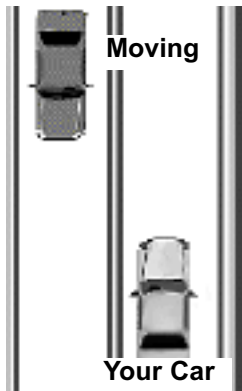
1. Identify Fixed Side Zone Changes

A fixed zone change is one that is not moving, and is not likely to move before you reach its location. A parked car is an example of a fixed side zone change.



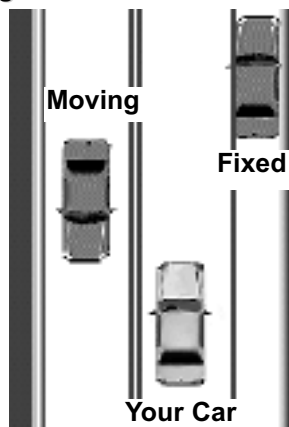
2. Identify Moving Side Zone Changes

An example of a moving side zone change is an oncoming vehicle. By changing your speed, you can alter the location where you pass each other.



3. Time Left Zone With Fixed Right Zone

To time the left zone — which is the moving zone change — you will pass the moving car and the fixed parked car separately.



4. Time Right Zone With Fixed Left Zone

To time the right zone — which would be a moving right-front zone — you would need to change your speed to arrive alongside each zone change, the fixed and the moving, at separate times.

5. Improve Lane Position Away From Zone Change

Take a lane position that will give you the best separation from the zone change.

6. With Closed Left and Right, Reduce Speed

With a closed left and a closed right front zone you have no option to move away from the zone change. Your only option is to take a braking action. The habit of reducing speed when a closed left and right zone is present will give you more time to evaluate the situation and increase your control.

7. Making Lane Change, Time Open Side Zone

When making a lane change, avoid moving into a closed zone.

8. While Passing, Time Open Side Zone

While passing, try to avoid passing the vehicle at a time when it is passing a fixed or moving zone change.

9. Communicate For Best Control

When a fixed or moving side zone is not stable — you're not sure what is going to happen — use an effective communication technique in a timely manner to stabilize the situation.

10. Get Best Speed Control

Evaluate an effective speed. One of the five choices is better than the others.

Guide 29: Hill Stops and Starts

1. Leaving Traffic Flow & Pulling To Side To Stop

• Find Location To Stop At

One learning opportunity for this exercise is to find a safe location to the side of the road, out of the traffic flow.

• Check Rear Zone - Signal

Before leaving a traffic flow, check the rear zone and use your signal.

• Move To Side Of Road - Stop

Demonstrate precision curbside parking — three-six inches from the curb.

• Keep Foot On Brake Pedal

Keep a firm pressure on the brake.

• Apply Parking Brake

Apply full pressure to brake.

• Shift To Neutral

Use open palm shifting techniques without looking at the shift indicator. The reason for shifting into neutral is to test the holding power of the parking brake and to meet driver licensing requirements. This step is neither necessary, nor desirable, for stopping and starting on a hill.

• Release Foot From Brake

Once your foot is taken off the brake, the car is being held only by the parking brake.

• Be Certain Parking Brake Holds

Be prepared for the car to roll backwards. If so, immediately apply the foot brake. Recheck the force applied to the parking brake. If full force was applied, and the parking brake doesn't hold the car, you will need to have the brakes adjusted.

2. Starting The Car In Motion

• Put Right Foot On Brake

Put a firm pressure on the brake pedal.

• Shift To Drive

You should be able to shift into "D" by using the open palm method, without looking at the selector.

• Check Mirrors

Before pulling away from a curb, you want to check your inside and outside mirrors to see if you will have an opportunity to enter the traffic flow.

• Put Left Signal Light On

When you find an entry gap, put your signal light on.

• Move Right Foot To Gas Pedal

When you move your right foot to the gas pedal, be certain that the parking brake is holding the car.

• Press Gas Pedal Slightly To Feel Pitch

With a slight pressure on the gas pedal, the front of the car should have a small pitch up and there should be no forward movement of the car.

• Check Over Left Shoulder For Gap

Your final evaluation of the left-rear zone should be made by an over the shoulder check, or by using a convex mirror.

• Check Your Forward Path

As always, check your POT before moving the vehicle into it.

• Release Parking Brake

Keep your head up and your eyes ahead as you release the parking brake without looking at your hand.

• Increase Acceleration As Needed

As the parking brake is released you want to apply a steady increase in acceleration.

• There Should Be No Roll Back

If there was a roll back you would need to apply slightly more pressure, next time, before you release the parking brake.

• Cancel Signal

Remember to turn your signal lever in the off position. You will not have turned the steering wheel enough to allow the signal to cancel automatically.

Guide 30: Parallel Parking

1. Rear Zone Control, Signal

Check for cars to the rear. Tap brake lights and put right signal on to warn rear traffic of slow-down.

2. Speed Control

Avoid making fast stops.

3. Locate Parking Space

Search for an available and acceptable parking space.

4. Side Position - 2 or 3 Feet

Use reference point to ground level.

5. Stop Even With Space

While stopped even with the space, let traffic to the rear know that you are planning to park. Evaluate the parking space for adequate size and see that there are no objects that you might drive over, or back into, while parking.

6. Go Forward

Pull forward to have the rear bumper forward of that of the parked vehicle.

7. Back To Rear Pivot Point

When the rear pivot point conceals the left-rear corner of the parked vehicle, your rear bumpers will be evenly aligned. This is the point at which you begin to turn the wheel.

8. Check Left-Front Corner Swing

Check the left-rear zone to be certain that the swing of the car will not move into the path of any passing cars.

9. Creep And Turn Wheel Fully

Turn the wheel fully towards the curb.

10. Move Car To 45° Angle

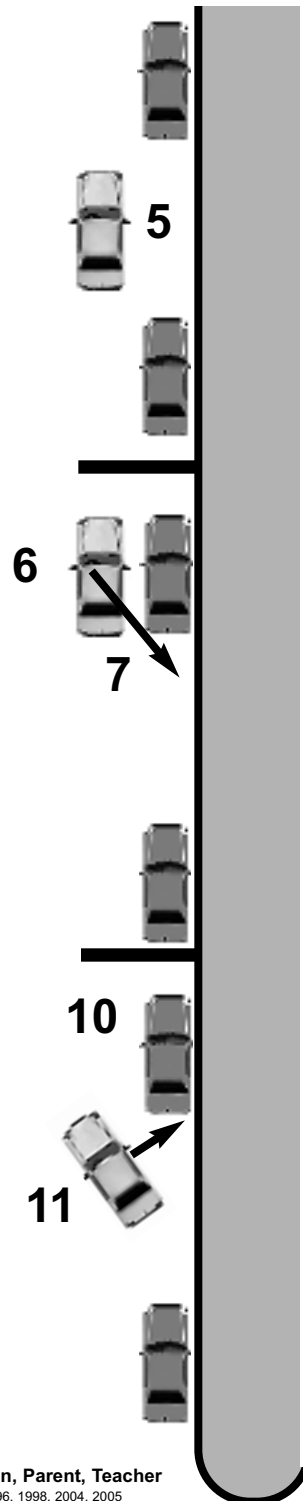
When the car is at a 45 degree angle, the curb-side rear corner of the parked car should appear aligned with your body.

11. Creep And Time Turning To Clear Front Car

Turn the wheel in direction away from curb. The closer you get to the front car, the tighter the space you will be able to park in.

12. Straighten Tires, Center Car

Straighten tires to center car. When parked on an upgrade or downgrade, turn tires accordingly.



Guide 31: Night Driving Conditions

1. Visibility Limitations

• Vehicle Readiness

- Check and clean headlight lens if grimy. Clean windows and mirrors inside and outside to minimize glare from others' headlights.
- From inside a stopped car, acquire the habit of checking your car's lights each time before you begin to drive at night. Apply the brakes, and look in your rearview mirror to see if there is an equal reflection on either side. Put the signal lights on; see if there are reflections to the front and rear. Put headlights on; see if both lights operate. Check the reflection of the tail lights. Shift car into reverse to check back-up lights. If your car doesn't have back-up lights, apply the brakes to gain rear illumination from the brake lights.
- Keep dash lights low to prevent bright interior lights from affecting your ability to see in a darkened area.

• Driver Readiness

- To see effectively at night, avoid exposure to the sun's rays and wear sun glasses during the day.
- Avoid looking at glaring headlights and other bright lights in order to minimize the recovery time it takes your eyes to readapt to the darkness.
- Depth perception is altered at night. Test your ability to judge distance by taking a guess at what is 15 seconds away. See how accurate your estimates are, compared to those you make during the day.
- At night, you are more likely to be fatigued, which could cause eye fixations. When you feel your eyes getting sluggish, move them more by checking your rearview mirror, then looking out to the target area. When you find yourself not wanting to move your eyes, it is time to find a safe location to pull over and take a break.
- After coping with the day's problems your emotional balloon could be full; be aware, do not explode!

• Environmental Problems

- See how illumination is reduced when there is a new moon as compared to a full moon.
- Change in temperature and early morning dew can result in "black ice" on the freezing road surface.
- Rural roadways may offer no street lighting, making you more dependent upon your headlights.
- Urban areas often have many distracting neon signs that could prevent you from seeing traffic lights and lights from other vehicles.

2. Searching At Night

- Look Beyond Range Of Headlights to see at least 15 seconds ahead.
- Look To Target Area For Clues that will tell you if it is open or closed. Evaluate your targeting path.
- Use High Beam: With No Cars passing you; no cars that you are following; no oncoming cars; and not on an urban (city) roadway.
- Glance To Right When Oncoming Car's lights create a glare problem.
- Look For Cars Without Headlights entering from gas stations and other illuminated parking areas.
- See Curves and Intersections Early (in your target area), to know what decisions you will need to make.

3. Interacting With Others

- Look for Pedestrian Locations. Use association skills to anticipate where pedestrians may enter your path.
- Dim High Beams: when 15 seconds away from oncoming cars; with a car in front; and when being passed.
- Communicate With One Flash of your lights: when 15 seconds away from an oncoming car with high beams on; and to alert a car that you are going to pass. **Do Not Flash Before Passing Trucks.** With their mirrors it becomes blinding and distracting to them.
- Use Other Cars' Headlights to tip you off to curves, intersections and other problems you will approach.

Guide 32: Being Passed and Passing

1. Being Passed

1. Identify Type Of Tailgater

You can best know what to expect from a tailgater ready to pass you if you know which classification of tailgater it is. The "charger" will pass you very quickly at the first opportunity. The "one pacer" will take more time to decide to pass and to execute the pass. The "habitual" tailgater may not attempt to pass you.

2. Plan Ahead For Passing Location

Look ahead to your target area to see what opportunities there will be for someone to pass you.

3. Select The Passing Location

You can select the best opportunity for one to pass you.

4. Adjust Lane Position

When you want to be passed, moving into lane position three will communicate that message to the car in back and give her additional space to separate from the side of your car.

5. Communicate If Needed

The use of the right signal light in conjunction with moving into lane position three will be an effective communication to the car in back.

6. Adjust Speed

The quicker the car in back passes you, the less risk you are exposed to. As you reduce your speed, you make the car passing you complete the pass in a shorter time.

7. Adjust Following Time/Space

As the car completes its pass, there most likely will be less than four seconds of following time from your car to hers. The few moments that it will take for the passing car to accelerate away from your car are very risky moments. The driver that passed may suddenly make a speed reduction, because of a number of circumstances, forcing you to brake to avoid rear ending her. The best habit is to reduce your speed, as needed, for you to control your following time.

2. Passing

1. Why Pass? -

Evaluate Risk vs. Gain

Before deciding to pass, evaluate whether there is anything to gain. Often there is nothing to gain. If you pass one car, only to get to the rear of ten other cars, there is nothing gained by passing.

2. Keep At Least 3 secs Following Time

When you are certain you will be passing, and there will be opportunities available, keep at least 3 seconds of following space. This will give you room to move into the passing lane and have space to return if you detect a problem that was not seen initially.

3. Select Best Passing Location

By keeping at least 3 seconds of following space, you will best be able to search for a low-risk passing location.

4. Mirrors - Head Movement Checks - Signal

Check the outside mirror on the side you will be entering; make an over-the-shoulder or convex mirror check; and put on the signal before moving into the passing lane.

5. Check Front and Side Zones

See at least 20 seconds beyond the vehicle to be passed to see how your front and side zones will be.

6. Avoid Hesitation

7. Accelerate Smoothly

By going 10 mph faster than the passed car, it will take about 10 seconds to complete the pass.

8. Keep Searching Zones

9. See Headlight In Rear View Mirror

Seeing one headlight on the passed car, rather than two, will allow you to get out of the dangerous passing lane sooner and in a safe manner.

10. Return In Lane - Cancel Signal

Avoid a slowdown while reentering the travel lane in front of the passed car, to prevent it from gaining on you.

Guide 33: Responding To Problems

1. Coping With Vehicle Problems

Brake Failure

• Pump Brakes

Pumping the brake pedal may restore brake function by replacing lost hydraulic fluid with air.

• Downshift

Downshifting can allow engine compression to help reduce the car's speed. To downshift, use the open palm method.

• Hold Parking Brake Release Lever

When the parking brake is a foot actuated pedal, the release lever should be held in the released position to allow the pedal to respond to your foot movement.

• Stab Parking Brake

With the release lever held, you can apply a hard braking action to the parking brake. If it is too great and the tires begin to squeal, a spontaneous release of foot pressure will stop the tire squeal and eliminate a potential skidding action. Reapply the brake and release as needed.

• Take Escape Path

Look for a safe path to leave the traffic flow. Then decide on the next course of action — getting the car fixed.

Engine Stalls

• Steer Firmly

When the engine stalls, and you have power steering, you will lose the power assist. You can still steer the car, but it will take two hands and considerable pulling power.

• Open Palm - Neutral

Slap the shift selector into neutral.

• Restart Engine

After shifting into neutral, quickly turn the key to restart the engine without a need to come to a stop.

• Shift To Drive

Drop the shifter into "Drive" and continue on your way.

• Take Escape Path

If the car doesn't start immediately, find an escape while you are able.

2. Coping with Roadway & Driver Problems

• Locate and Park Near (house number is given)

The purpose of this activity is to simulate a problem that will divide your attention between monitoring the traffic scene and looking for an unfamiliar location. You need to first evaluate your targeting path to be certain that you have total control for the two seconds it will take you to search for the house number. Then re-evaluate your targeting path before making another search for a house number.

• Locate and Stop at a Public Telephone, or Mail Box

This is another simulated problem to see how well you are able to divide your searching focus. Remember, never take your glance away from your targeting path for more than two seconds. Always evaluate your targeting path before and after glancing away from it.

• Your Tire Just Blew Out; Where To Pull Over?

During the blowout, hold onto the steering wheel firmly and avoid hard braking action. A dangerous phase of getting a blowout, or flat tire, is selecting a safe location to stop at. You do not need to stop immediately! You can drive slowly, with hazard lights on, for a few miles.

• Emergency Vehicle

Approaching From Rear

You should pull to the nearest side of the road and stop. Check for additional emergency vehicles.

• It's Beginning To Rain, Put Wipers/Headlights On

You should be able to put the wipers and headlights on without looking.

• You Missed Your Turn; Turn Around

Consider your choices for being able to turn around. One such choice, besides making the Intersection Turnabout, is to make a left turn into a public parking lot, allowing for a low-risk right turn coming out of the parking lot.

Guide 33: Responding To Problems

Skid Detection and Correction

The best opportunity to detect and correct a skid caused by loss of traction to the rear wheels is by seeing the front of the vehicle moving off target without delay. The sooner the movement off target is detected, the more time there will be to make a correction. And, the correction will require only a small degree of steering. This exercise will give you practice in detecting a simulated skid and help you train your vision to determine the amount, direction, and speed for a corrective steering action.

If the stop sign is the target then the vehicle is slightly off target to the right. A small steering correction to the left must be made without hesitation to prevent the skid from developing into a larger off-target angle.



If the vehicle gets this far off target, a greater amount of steering is necessary. The faster the vehicle moves off target, the faster and greater the amount of steering must be. To accomplish a large steering input within a short period of time, you will need to use the hand-over-hand steering technique.



Skid Detection, Correction: Coaching Tips

This activity must take place in a vacant parking lot. Tell the teen, "I am going to move the car off target by pulling or pushing the steering wheel from your hands. You are to loosen your grip on the wheel to allow me to move the steering wheel. Keep your head and eyes directed towards the target area. As soon as I move the car off target you must make a corrective action to get it back on target." Make certain there is adequate space in the parking lot. Have the teen begin at 10 mph and only make slight movements off target at first. As success occurs increase speed to 15 mph and move the car more off target up to the transition pegs. When you pull the steering wheel off target, say "your tire just blew out" or "you just hit a patch of black ice" to relate the activity to a situation that may cause this skidding condition.

Skid Correction Actions

- Detect Off-Target, no delay
- Keep Head/Eyes on Target
- Steer back to Target Area
- Stay off gas/brake pedals until car is on target

Guide 34: Limited Access Highways: Getting On/Off

Getting On The Highway

On Ramp Behavior

1. Check The Rear Zone

When planning to get onto a limited access highway, be aware of the status of the rear zone. When there is a closed rear zone, go slower to avoid abrupt stops.

2. Keep 4 Seconds of Space

If there is a vehicle in front, keep 4 or more seconds of space for independent action.

3. Slow On Ramp Speed

Avoid going fast on the ramp to prevent a slowdown or stop while in the acceleration lane.

On Acceleration Lane

4. Search For Gap To Enter

With a slower speed on the ramp, you have more time to find a suitable gap to enter.

5. Blind Spot Checks

If your vehicle has a convex mirror attached to the outside, it will show vehicles not seen in existing outside mirrors. Without a suitable convex mirror, an over-the-shoulder check is needed.

6. Signal Light On

Put your left signal light on, much like making a left lane change

7. Accelerate Briskly

Once a gap is found, accelerate rapidly to enter the traffic flow at highway speed.

Highway Entry

8. Precision Lane Entry

Use precision lane positioning to occupy the least amount of lane space while entering.

9. Mirror Checks

Immediately after entering, check the mirrors to update the rear zone status.

Getting Off The Highway

1. Plan 12 Seconds For Exit

Plan for your exit as early as possible. You should have all the problems associated with exiting solved at least 12 seconds before the exit.

2. Get Rear Zone Status

Once your exit is located, evaluate the condition of your rear zone.

3. Communicate

Use of signal lights and/or a tap on the brake pedal can alert rear traffic that you're exiting.

4. Change Lanes, If Needed

Use correct precision lane changing techniques if lane changing is necessary.

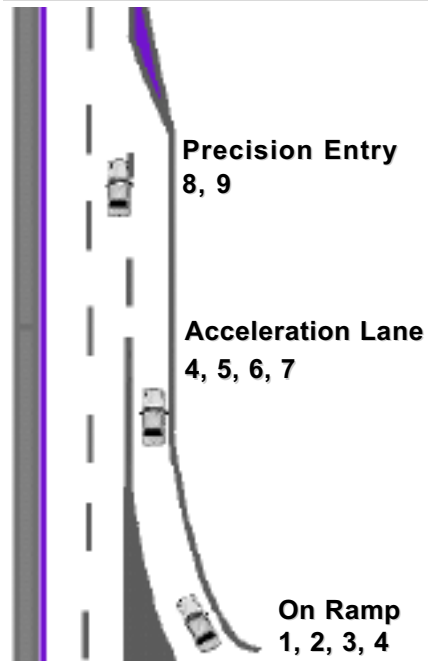
5. Test Brakes Before Exit

While in the deceleration lane, before you are committed to the exit ramp, apply the brake to feel its effect. If there is a problem, you can stay on the highway.

6. Controlled Braking

Use constant pressure for controlled braking.

Getting On The Highway



Guide 35A: Behaviors Performance Inventory

Rating Scale: √ = Okay, X = Not Okay

Basic Skill Techniques (Guide 3)

___ Acceleration ___ Braking ___ Steering ___ Shifting

Reference Point Usage (Guide 5)

___ Targets ___ Target Area ___ Targeting Path (G 9)

___ Target Area to Target Area Searching (Guide 12)

___ LOS-POT detection (12 seconds, or more, ahead) (Guide 14)

___ Identifying open/closed zones (Guide 14)

___ Searching Intersections (left, front, right zones) (G 17)

___ Searching into Curves and Over Hills (Guide 25)

Using The ABC's Of Zone Control (Guide 21)

A ___ See a LOS-POT Zone Change

B ___ Check Other Zones (for options & escape path)

C ___ Get The Best Control

___ Speed Selection ___ Lane Position

___ Communication

___ Lane Position Usage (Guide 21)

___ Straight -- with left /right zone changes

___ Curves -- approach, apex, exit positions

___ Rear Zone Control unstable, closed, open (Guide 18)

___ Inside mirror (moving, stops, turns)

___ Outside mirrors

___ Convex mirrors (danger zone ok/not ok)

___ Over-shoulder checks

___ Type Tailgater: ___ Pacer ___ Charger ___ Habitual

___ Following Time/Space (Guide 26)

___ Closure Rate on approach

___ Moving at same speed -- 4 seconds

___ When stopped -- see the tires

___ Before moving -- delay start 2 seconds

___ Communication and Courtesy (Guide 16)