

## Make Up Assignment Day 12

Objective: Students will apply risk reducing strategies while driving in more complex environments with higher speeds and more roadway users.

As a beginner driver, in the early months of your permit and driver license, you will most likely drive in your local community, limit the geographic distance you travel, and mostly drive in low risk environments with slower speeds and less traffic. This might include your daily drive to and from school, to and from friends and family or to and from work. All of these destinations are often close to home and do not require you to leave a low risk driving environment. You have already begun to learn and practice the important SIPDE system to apply visual strategies as you drive.

As you become a more experienced driver, you will need to apply the same skills to interacting with other roadway users in a more complex environment. These environments will include roadways with more traffic, more lanes, higher speeds, and more risk.



As speed increases, your use of critical thinking and risk reduction decision making becomes even more important. Your decisions will have to come more quickly and you will have to allow yourself time to plan ahead as many factors change with increased speed and the increased number of users on the same road as you are.

### **Moderate Risk Driving Environments**

The next more complex driving environment will be what we call a moderate risk driving environment. Roadways in the moderate category will have speeds less than 60 miles an hour and often have controlled intersections. Moderate driving environments can be found in urban, suburban, and rural areas. These often include multi-lane roads in and around neighborhoods but do not include highways or expressways. As you become more experienced and have had more time behind the wheel, your driving environment will expand to include this type of roadway. The traffic flow is usually moderate, and the environment still allows the beginning driver to adapt successfully. These environments can often change without much warning and will require you to make quicker and more frequent decisions on how to execute a maneuver. These environments may be moderate risk most of the time but high risk at other times, especially in

the mornings or afternoons when more people are on the roadway traveling to work and school or back home again in the evenings.

QUESTION: Can you think of a road you have been on that would fall into the moderate risk category?

Can you think of a road that is less traveled during midday but is has heavy traffic in the mornings and evenings when people are going and coming from work or school? Maybe a road around your home or school where there are a lot of parents driving their kids to school?

### ***Things to Look For***

Moderate risk environments present their own unique characteristics and challenges. Here are a few things to keep in mind when traveling in moderate risk environments.

- Plan ahead*
- Select the lane that allows you to travel with the least amount of conflict*
- Identify markings on the roadway*
- Anticipate lane blockages and a change in traffic flow*
- Identify different lane positions especially at intersections*
- Identify the purpose of each lane – going straight, turning left, or turning right*
- Be especially aware at intersections and avoid blocking intersections*
- Control your speed – manage lane changes and gaps appropriate to the amount and flow of traffic*
- You should be searching and scanning the roadway 20 to 30 seconds ahead*
- Be especially aware of how to use shared left turn lanes*

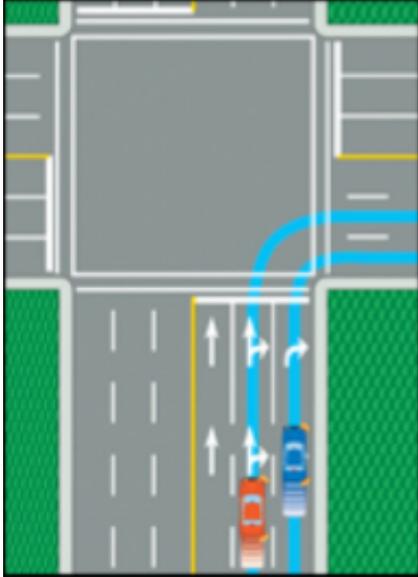
### **Intersections**

Intersections are one of the most dangerous traffic situations you will encounter. There are many things to attend to when approaching and entering an intersection. You must be aware of all traffic coming from all directions. You must be aware of the speed of other vehicles and attend to what their intentions are at all times. You must be aware of signs and signals as well as pavement markings indicating lane position and turning opportunities. Traffic signs and signals will help you know what to do and when to do it but you must always expect the unexpected from other roadway users. In addition to other vehicles, you must also attend to bicycles and pedestrians who also use and enter intersections. Intersections in moderate risk environments require special attention and careful consideration.

### **Intersections---Turning Right**

When making a right turn from a roadway with multiple lanes, it is important to think ahead about where you are going.

Ask yourself: Am I in the correct lane to make a right turn?



There will often be markings on the roadway to guide you into the correct lane position. Be sure to use your signal to let other drivers know what you plan to do well in advance. Avoid lane hopping, by staying in your lane as you turn. Be mindful that there may be traffic coming from the left and it is important that you do not swing wide into a different lane. In the picture here, it is important that the blue car stay in his lane and not swing wide as he will go into the red car's lane and possibly hit the red car. Both drivers must also be aware of oncoming traffic from the right that might be going straight through the intersection. Notice both the blue car and red car have their right turn signal activated well before the turn.

Also remember the rules for making a right turn on red. When a right turn is allowed at a red traffic signal, you are required by law to first come to a complete stop. Then, after making sure it is clear and safe to do so, you may make your right turn at the red light. If there are signs posted that do not allow a right turn on red, be aware and follow the posted signs as doing so may result in a traffic citation.

### Intersections-----Turning left

When making a left turn from the roadway with multiple lanes, again check for lane markings that help you know the correct lane position for a left turn. Be sure you signal clearly and early to let other drivers know what you plan to do. In many intersections, left turns will be allowed from multiple lanes. It is especially important that you remain in the lane you started from as you make your left turn and enter the corresponding roadway. Check your mirrors and look over your shoulder *over and over again* as you make your left turn as changes in the space around your vehicle will happen frequently. Unfortunately, many drivers will lane hop during a left-hand turn. This behavior increases the risk dramatically. Make sure you stay in the lane you started in when making your left turn.





In the picture here, the cars are turning from one multi-lane road to another. There are two lanes marked as left turn lanes meaning you may turn left from either lane. The blue car may turn into either the middle lane or the far outside lane. The red car must stay in the far inside lane and must not swing wide into the middle lane as he may cut off the blue car making his turn into the middle lane. Both vehicles have activated their left turn signals well in advance notifying other roadway users of their intention to turn left. If another vehicle like the red one begins to enter your outside lane, you should slow down and yield to them. Remember it is important to avoid a collision no matter what. It more important to be safe than right!

	<p><b>Solid Green Arrow</b></p> <p>A steady green arrow indicates that drivers making a left turn have the right-of-way.</p> <p>Oncoming traffic has a red light.</p>		<p><b>Flashing Yellow Arrow</b></p> <p>A flashing yellow arrow indicates that drivers may proceed to turn left after yielding to oncoming traffic and pedestrians.</p> <p>Oncoming traffic has a green light, so drivers must wait for a safe gap in traffic before turning left.</p>
	<p><b>Solid Yellow Arrow</b></p> <p>A solid yellow arrow indicates that the left-turn signal is about to turn red. Drivers should prepare to stop or complete the left turn if they are within the intersection and there is no conflicting traffic. Drivers should treat the solid yellow arrow just like a standard yellow ball indication.</p>		<p><b>Solid Red Arrow</b></p> <p>A solid red arrow indicates that drivers must stop and may not enter the intersection.</p>

In many intersections, you will be given the opportunity to make a left turn even though you do not have a protected green arrow. Pay special attention to the traffic lights to know if it is legal for you to make your left turn. If the intersection allows a left turn on a green, yellow arrow, or yellow light then you may make a turn when it is safe to do so. It is your responsibility to yield to all oncoming traffic. Read over each type of light signal in the chart above.

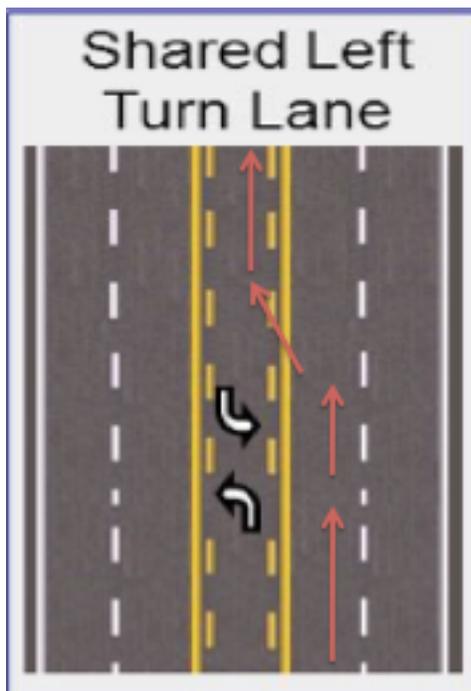
### ***Is it legal to move into the intersection before you are able to actually turn?***

You will see this happen often and the answer is yes. However, doing so does increase risk. It is important that you keep your wheels straight, in the event that you should be hit from behind. If your wheels are straight and you are struck from behind then your car will push forward straight ahead rather than into oncoming traffic. If your wheels were turned already to the left, impact to the rear of your vehicle would push you into the lanes of oncoming traffic. It is also important for you to make sure that you are able to clear the intersection should your light turn to red. Do not block the intersection when moving forward to anticipate a left turn.

## **VIDEO: Turns (Click the title to view video)**

### **Shared Left Turn Lanes**

Shared left turn lanes are a popular feature of moderate risk driving environments. They offer benefits to traffic traveling in both directions of a multilane roadway. Unfortunately, they are often misused and can increase your risk when not used correctly. When moving into a shared left turn lane you need to be sure to use the OSMOG strategy we have already talked about.

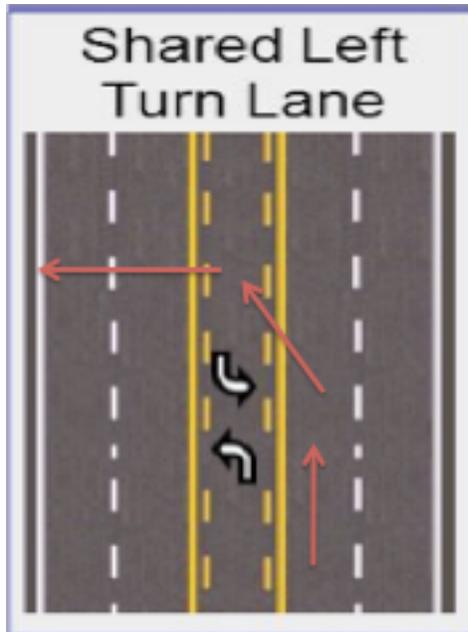


Remember the steps? **OSMOG** look Over your shoulder, Signal your intention, check your Mirrors, look Over your shoulder again, and then proceed or Go, into your maneuver.

When entering the left turn lane, you should signal at least 100 feet before you move into the shared lane. Do not break until you get completely into the turn lane so you do not impede traffic flow behind you. The meaning of a shared lane implies that there may be traffic coming at you from the other direction that has already entered the shared lane. Follow the red arrows above. Make sure you maneuver your car all the way into the shared lane so that the rear of your vehicle does not impede traffic flow.

Make sure you attend and look for oncoming cars already in the lane ahead of you. Once you are in the left turn lane you must be aware of and yield to all traffic coming at you from the opposite direction. Notice the red arrows showing you the line of travel all the way across the oncoming lanes of traffic. If it is clear and safe to do so you may continue straight across without stopping in the shared left turn lane.

However, this is often not the case and it is okay for you to stop your car in the left turn lane while you wait for traffic to give a safe gap to turn.

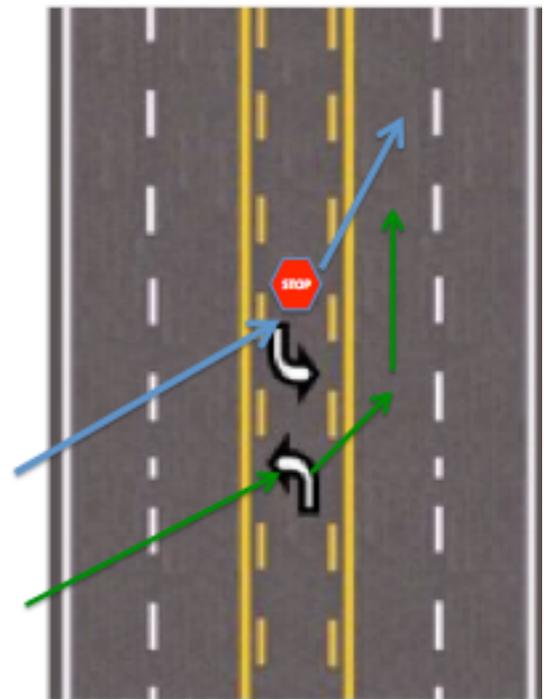


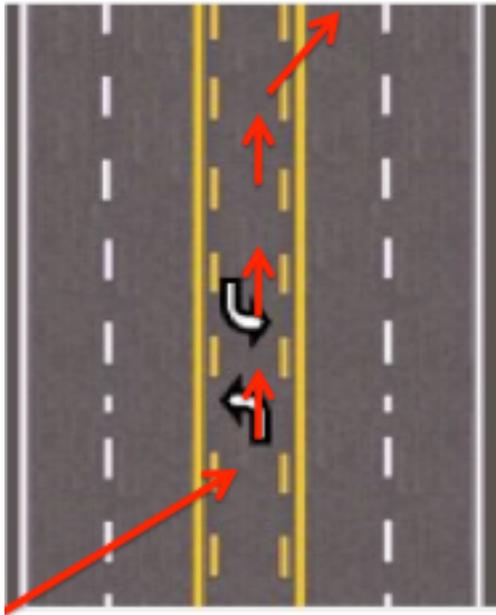
Remember you are trying to cross over several lanes of traffic and you must find a gap large enough for you to get across all lanes safely. Be sure you are aware of the speed of the vehicles traveling toward you. The faster they are going, the larger gap you must give yourself to cross over safely. If you are entering another roadway or especially a driveway, be aware of a dip in the roadway that may force you to slow your vehicle as you complete your left turn across traffic. If there is a dip, make sure you allow a larger gap so that you can slow your vehicle and make your turn safely.

The shared left turn lane can also be used when you are trying to pull out of a driveway or a side road into traffic. This also requires you to crossover oncoming traffic and then, when safe a clear to do so, enter traffic in the direction you want to proceed. In this scenario you have two options.

**Option one:** Crossover oncoming traffic when it is safe to do so and simply cross over the shared left turn lane and continue traveling in the direction you wish to go by joining the flow of traffic. In this scenario there is no need to stop in the shared left lane. notice the green arrows in the picture. These show a vehicle crossing over the shared left turn lane and entering traffic without any delay or stopping. This works well if there is already a gap in traffic and you can enter the flow of traffic without any necessary stopping or waiting.

**Option two:** When traffic is especially heavy in the direction you wish to travel, you can use the shared left turn lane differently. In this scenario, when it is safe to do so, you may cross over oncoming traffic and enter the shared left turn lane and come to a complete stop. Here you can wait, observe traffic flow, and when it is clear and safe to do so you can move into the lane closest to you joining traffic flow in the direction you wish to travel. Notice the blue arrows showing a vehicle crossing over traffic, entering the shared left turn lane, and coming to a complete stop in the turn lane while it waits for a gap in traffic flow.





Unfortunately, just like lane hopping when making a left turn at an intersection, many people do not use the shared left turn lane correctly. Many drivers will pull into the shared left turn lane, and use it as an acceleration lane to be able to join traffic flow more easily.

This is *illegal* and you may receive a citation for making a right-hand maneuver from a left turn lane. If you are going to use the shared left turn lane to help you merge into traffic, you may turn into the shared lane but you must come to a complete stop if it is necessary for you to wait for a gap in traffic. Do not travel down the lane while you wait for a gap. Some drivers think it is okay to gain speed to help them merge with traffic easier. This is NOT allowed. If the gap is not large enough for you to enter traffic, you must wait longer for another gap that does give you enough room and time to enter traffic flow.

## Other Roadway Users

Just like low-risk environments, moderate risk environments will often be shared with other roadway users such as pedestrians, bicyclists, and other non-motorized users. Remember that pedestrians always have the right of way. Be sure you look for them in and around crosswalks. Some roadways will have dedicated bike lanes and you must be aware and look for cyclists in these areas. Look and look again as they are often hard to see. Be especially careful when making a right turn at an intersection with a bike lane, as the cyclist may be going straight and you must wait for them to continue down the roadway before making a right-hand turn. Remember cyclists adhere to the same rules of the road as motorized vehicles.

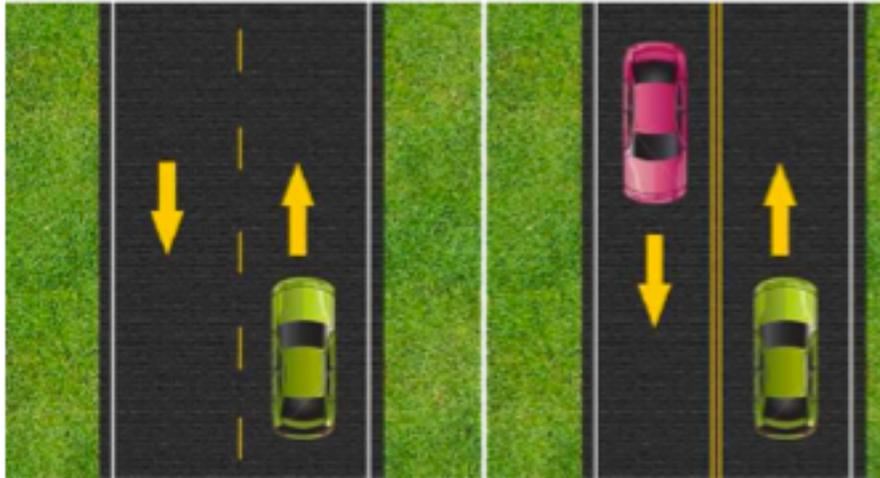


## Passing

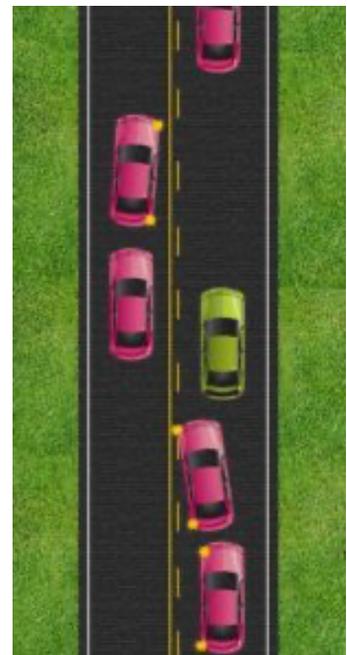
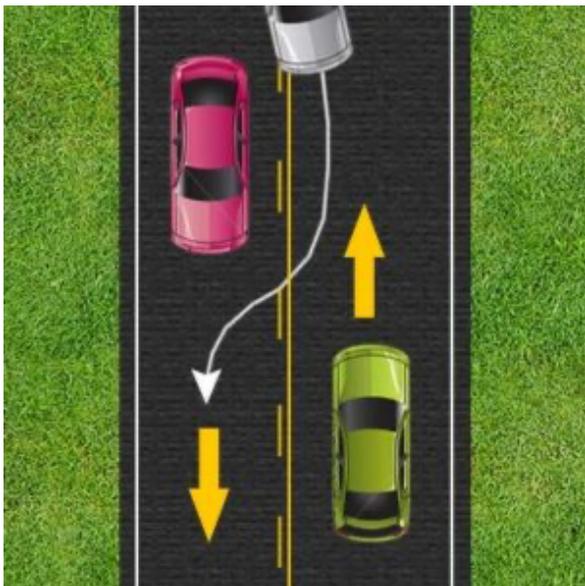
Passing, in any driving environment, but especially in moderate and high-risk environments is the most dangerous maneuver you will make as a driver. When deciding to pass another vehicle, you must take into consideration the inherent risk, whether it is advisable to make a passing maneuver on this particular roadway with the current traffic and weather conditions. Other major factors include your speed, the speed of the vehicle you wish to pass, and the posted speed limit on the roadway.

# PASSING

## When is it LEGAL?



Markings on the roadway will let you know whether the current stretch of road where you are traveling allows for passing or not. Anytime the line is solid, whether it is white or yellow, passing is not allowed. Passing is only allowed when the line dividing the lanes is broken. Study the pictures above and decide which picture shows legal passing and which one shows a no passing zone. If you picked the one on the left as a legal passing zone then you are correct! The broken yellow line indicated that passing allowed for either direction as long as it is safe and clear to do so. The picture on the left has a solid yellow line in both directions and indicates a no passing zone.



Take a look at each of these two pictures. In the picture to the right, notice the broken yellow line is on the side with the pink car meaning the grey car is allowed to pass if it clear and safe to do so. The green car however has a solid yellow line which indicates a no passing zone and he is not allowed to pass in this area. Highways will often alternate passing zones for each direction every few miles to give drivers in both directions opportunities to pass other slow-moving vehicles. In the picture to the left, the broken yellow line is on the side with the green car. This indicates the pink car may pass when it is safe and clear to do so.

Just because passing is allowed does not mean it is safe to do so. You must think about your line of sight, and whether or not the vehicle you wish to pass is really going that much slower than you should be going. If the vehicle in front of you is traveling more than 10 mph under the speed limit and passing can be performed safely and legally, then and only then should you determine if passing is the right thing to do. Passing requires patience and careful consideration. You need to evaluate and use good judgment when deciding to pass.

When passing you must not only consider the vehicle you wish to pass, but also oncoming traffic in the lane you have to use in order to pass. Anytime two vehicles are coming toward each other at high rates of speed, the closing gap will become very small, very quickly. Anytime you decide to pass you must consider the worst-case scenario and have in mind a predetermined way out.

***Evaluate: Search/Scan & Identify*** – look for lane markings indicating passing is allowed. Also look for signs that may indicate you were in a no passing zone. Also evaluate the roadway and if it is safe and smart to make a passing maneuver. On hills, curves, at intersections and other places it is not wise to try to pass another vehicle. You should you check your space areas around your vehicle to determine if other vehicles are around you. Check your mirrors and your blind spots especially to the rear to be on the lookout for vehicles already attempting a passing maneuver.

***Predict/Decide*** – Once you have evaluated and decided it is safe to pass, you are ready to do so. Activate your left turn signal and make sure the driver you wish to pass knows your intention to do so. In some cases, it might be smart to flash your high beams or tap your horn to make sure the other driver is aware. Get ready to accelerate and recheck your space areas, mirrors, and blind spots. Re-check the situation in the oncoming lane for any vehicles that may have entered the roadway.

***Execute*** – change lanes to the left and check the space area ahead and behind you once again. Maneuver your vehicle into the passing lane, maintain your speed and lane position while moving past the vehicle you are passing. Remember it is illegal to exceed the posted speed limit when you are passing. Continually check for oncoming traffic that would force you to abort the passing maneuver. Check your rear-view mirror and determine that you have completely passed the other vehicle by making sure you can see both front tires of the vehicle you have just passed. Activate your right turn signal look over your right shoulder to check the blind spot and steer your vehicle back into the proper lane. Make sure you turn off your signal and try to create a safe space area between your vehicle and the one you just passed.



There are certain times when passing is not allowed or advisable.

*Do not pass when you are within 100 feet of the following:*



### **Bridges**

Bridges are often narrower than the regular roadway and may cause problems when trying to pass another vehicle. Wait to pass until you are past the bridge.



**Railroad crossings** Railroad crossings are extremely dangerous intersections. Trying to pass while crossing one may require to go around a crossing gate or may cause you to block the view of other vehicles already crossing the railroad. Wait until you are clear of the railroad intersection before attempting to pass another vehicle.

### **Intersections**

Intersections, as stated numerous times throughout this course, are extremely dangerous and complex with many things that driver must attend to. Passing is not a good idea while traveling through an intersection. There are too many vehicles coming from too many different directions to make this a safe idea. Wait until you have passed through the intersection to pass a slow-moving vehicle.





## Curves

Curves limit your line-of-sight area and are never a good area to attempt a passing maneuver. Most roadways will never allow passing for either direction on a curved roadway. You simply cannot see far enough ahead of you to make this a safe idea. Wait until you have exited the curve to pass a slow-moving vehicle.

In heavy traffic, you may be tempted to pass more than one vehicle at a time. This is never a good idea. If you cannot pass one vehicle at a time then do not attempt a passing maneuver. You must have space between each vehicle to move back into your lane.

There may be times when you are the one being passed. If you notice a car is approaching you quickly from the rear, consider that he/she will most likely want to pass you. You can facilitate their maneuver by slightly reducing your own speed and move your vehicle slightly to the right side of your lane. Be prepared and give yourself a way out if their passing maneuver becomes unsafe. Be prepared, adjust your speed, and be considerate of their wish to pass. If for some reason they suddenly decide not to pass you, speed up a bit to help them return to the lane behind you safely. If the passing maneuver suddenly becomes unsafe for them but they continue passing, slow down and help them return to the lane ahead of you safely. If absolutely necessary, move to the shoulder to help them avoid hitting an oncoming car. Do so not because you have to but because it is the right thing to do and your safety is also at risk. Try not to get angry or frustrated with the other driver.

Remember:

- be courteous---do not increase your speed
- check for an out to the right
- be ready to adjust your speed if necessary
- Cooperate! Your safety is at risk so do the right thing if trouble arises

## Passing on the right

On multi lane roadways where traffic travels in one direction separated either by physical barrier or a solid yellow line, passing is permitted on either side. On a two-lane road where lanes are separated by a broken white line, drivers may pass other vehicles in the right lane. However, you must use caution as other drivers usually do not expect vehicles to pass on the right. It is possible

that the vehicle you are passing may move into your lane abruptly and without notice because he/she did not check their blind spot properly. Another time when passing on the right is legal, is when you are passing another vehicle who is waiting to make a left turn at an intersection or cross street. It is legal to go around his vehicle on the right-hand side if it is completely safe to do so without leaving the pavement part of the roadway. One thing to remember however is that you may not cross over the solid white line which marks the edge of the roadway and divides the roadway and the shoulder. Even if the shoulder is paved it is illegal to drive on this part of the roadway.

## VIDEO: Passing

## VIDEO: More on Passing

### **High/Complex Risk Environments**

During your everyday driving, especially as a novice driver, you will mostly remain in low to moderate driving environments with the characteristics discussed earlier. However, as your geographic boundaries increase and your need to travel farther from home increases, you will be exposed to more complex expressway environments with increased risk.

In the expressway environment, you will encounter a variety of other roadway users which will require you to adapt your own driving techniques. Expressways involve much higher speeds, a variety of entrance and exit ramps and an ever-changing driving environment. You must be able to use the SIPDE system effectively by applying critical thinking and problem-solving skills to help you make good, risk reducing decisions in a much more complicated driving environment.

High risk driving environments are typically characterized by speeds higher than 60 mph with fewer intersections and controlled or limited access. Intersections are usually found alongside expressways, and are accessed through interchanges. Traffic flow is often unpredictable and can be heavy at certain times of the day or in more heavily traveled and populated areas. With the large number of vehicles and the high speed of those vehicles, you, as a beginner driver, do not have a lot of time to analyze and identify changes in the roadway environments. Your line of sight or path of travel can quickly change and you must be able to adapt to manage your time, space, and ability to maneuver out of a hazardous situation. On expressways, following too closely is the leading cause of collision involving multiple vehicles as drivers do not leave themselves enough time and space to avoid an accident.

Having said that, engineers and traffic safety experts have designed expressways with many positive advantages. Highways are often separated by guard rails, cement barriers, or grassy medians with two, three, or four lanes of traffic moving in the same direction. This allows for an uninterrupted flow of traffic even in high-volume travel times. Here are a few other advantages of driving on expressways or limited access roadways:

- Roadways are designed to be flat with minimal, gently banked curves or graded hills.
- Roadways are kept in good condition without potholes.
- A lower frequency of collisions (however when they do happen, they are much more severe because of the high rate of speed).
- Pedestrians bicyclists and other slow-moving vehicles are not allowed to travel on expressways.
- Lanes are usually a bit wider and clearly marked with high visibility.
- Most have clear shoulders for drivers to use in case of emergencies
- Signs along expressways are usually designed to be breakaway in case they are struck by a vehicle.
- Median barriers and crash attenuators help decrease the impact in case of a collision.
- Cross traffic does not impede traffic flow because of the use of interchanges to allow traffic to exit the expressway.
- **Interchanges**
- Texas has an elaborate system of roads and expressways to help its population travel from one large metropolitan area to another. This system also facilitates movement within an urban area by allowing travelers to reach their destination with fewer stops and disruptions. To keep traffic moving, normal intersection with stop signs or traffic signals have been eliminated and in order to access them, drivers must exit the expressway when desired. Special entry and exit ramps provide access to the highway. Intersections with cross traffic we typically pass under or over the highway. These entry and exit ramps are designed to help traffic merge or exit the highway with little or no disruption in speed or movement of vehicles on the expressway. While these are still considered intersections, they are typically referred to as interchanges when located alongside expressways. Engineers have developed several different types of interchanges and you will most likely encounter all of them at one time or another during your driving experiences.
- Let's explore each of the different interchanges and learn about the advantages and characteristics of each.

### *Clover Leaf Interchange*

This type of interchange is usually found at the intersection of two expressways and allow for a minimal disruption in speed or movement of the vehicles that are traveling in either direction or on either expressway. These interchanges are known for their sharp curves which allowed vehicles to change the highway we are traveling on without completely exiting the highway. The disadvantage with this type of interchange is that vehicles entering and vehicles exiting must share the same lane, called a weave lane. Another problem involves braking and steering problems when drivers must adjust from traveling at a high rate of speed on the street portion to a slow speed on the curve. Keep in mind these curves are very sharp and usually have a suggested speed of 25 mph which if not heeded make cause drivers to lose traction.



### ***Diamond Interchange***

This type of inner change is usually found when an expressway intersects with a secondary multi-lane roadway. These interchanges may have intersections with traffic control devices on the inferior secondary roadway which require a left or right hand turn to enter the flow of traffic on the secondary roadway.



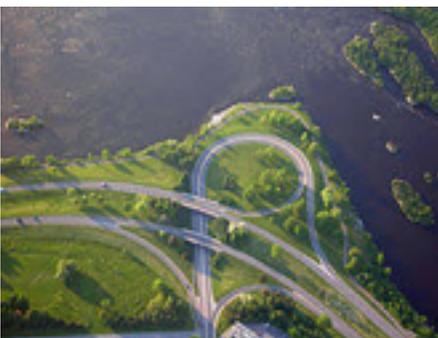
This type of interchange will usually have controlled intersections at the point where the exit ramp intersects with the secondary roadway. The signals will allow left turns from the secondary roadway onto the entrance ramps for the multiple lane expressway.

### ***Frontage Road Interchange***

This type of interchange allows heavy city traffic to mix with higher speed traffic on a multi-lane expressway. Drivers may choose the frontage road which runs parallel to the multi lane highway or they may enter the multi-lane highway when an entrance ramp is available. These in the changes often have frontage road turn around which allowed drivers to change direction efficiently without requiring a left turn at a signal-controlled intersection. Frontage roads maybe two way or one way so be sure to pay attention to the roadway markings to determine the direction of the frontage road.



### ***Trumpet Interchange***



This type of interchange is usually found when a secondary roadway in at the point of an interstate roadway, loop, or expressway. This allows for traffic to join the higher speeds of an expressway without using a T intersection. It is an intersection of a smaller secondary roadway with a larger multi-lane highway.

## Expressway Signs & Signals



Expressways, highways, and interstates are littered with traffic control signs and help you find your way. They are usually located at either side of the roadway or hanging overhead usually in line with the lane that it is giving information about.

If you remember from earlier in the course:

**Guide signs** are rectangular in shape and maybe green with white lettering, blue with white lettering, or brown with white lettering depending on where they are guiding the driver.



**Warning signs** and construction zones are usually yellow with black lettering or orange with black lettering depending on the area of warning. These signs are usually posted at the sides of the roadway.



**Regulatory signs** are rectangular in shape and maybe black, red or white. These are all supposed to go on the expressway. Examples of these are speed limit signs, yield signs, wrong way signs, etc.



**Traffic signals** on expressways are very rare. The whole idea of an expressway is to allow traffic to flow freely without stopping. At times there may be overhead signals such as a green arrow to demonstrate an open lane of travel or a yellow or red X indicating a problem in the lane ahead. This would indicate that you may want to move or change lanes to avoid a problem in your path of travel.

**Lane markings** are usually the same as found on other roadways. Broken white lines separate lanes of traffic moving in the same or one-way direction. A solid yellow line is usually found to the drivers left indicating the edge of the roadway and a solid white line is found to the right indicating the right side of the road way or entrance and exit lanes. In some large cities HOV lanes are marked with the white diamond painted on the roadway and have passenger or time of day restrictions when traveling in this lane. You never want to travel in this type of lane unless you have the correct number of passenger limits. Traveling in these types of lanes illegally may result in large fines.



**Speed limits** on expressway vary but usually do not exceed 75 mph. In urban or congested areas, a speed limit of 55 miles per hour is usually posted and recommended. These limits are based on the kind of driving conditions that exist, and it is recommended that you slow down any time driving conditions are less than ideal. Just driving too fast is dangerous, driving too slowly on expressways can be just as dangerous. Most expressways have minimum speed limits and it is against the law to operate your vehicle at such a speed that impedes the normal flow of traffic. If you are not comfortable or wish to go less than the minimum speed limit, it is best that you exit the freeway and drive on a more moderate roadway with slower speed limits. A good way to judge a safe speed is to look around and examine the speed of the traffic around you. We call this “driving at a common speed”. This is the best way to create and keep safe space around your vehicle, and simply means that you are going the same speed as the vehicles around you. However, you must avoid exceeding the posted speed limit even if this means you are going more slowly than the vehicles around.



### Entering the expressway

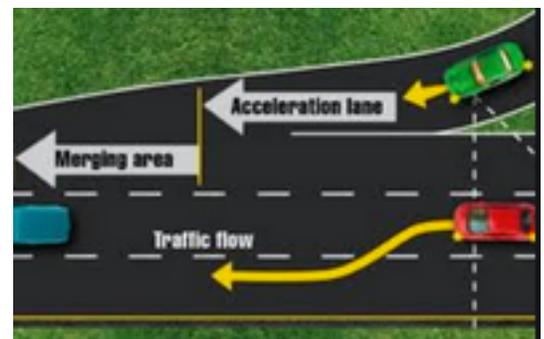


The primary objective of a highway system is to facilitate the movement of traffic at higher speeds. With this in mind it makes sense that the use of intersections with stop signs and traffic lights should be eliminated in these environments.

Access to the highway must also be controlled and made as safe as possible for those drivers wishing to enter the highway as well as for those already traveling on the expressway. Access to expressways are provided by

special entrances called on ramps which are made up of three areas: the entrance ramp, the acceleration lane, and the merge area. The entrance ramp gives drivers time to check over their shoulder, evaluate the speed and flow of traffic, and look for gaps that they might enter into as they proceed onto the expressway.

It is especially important to evaluate the speed at which traffic is flowing and the amount of space you will require before entering the flow of traffic. The entrance ramp allows drivers time to search and decide the best course of action. Once you have determined there is a gap available for you, you can use the acceleration lane to adjust your speed to the flow of traffic already on the expressway. You must continue to search ahead, behind and for the appropriate gap that you might be able to enter.



Finally, the merge area allows you to move onto the expressway into the gap you have chosen at the appropriate rate of speed that matches the flow of traffic already on the expressway.

Unfortunately, many collisions occur during this high-risk maneuver. Driver errors and inexperience often result in conflicts and result in drivers making poor decisions. Entering an expressway takes practice and it will take time for you to apply the proper procedures while entering this high speed, high-risk environment. It takes cooperation, patience, and respect for your fellow roadway users.

Merging your vehicle into the flow of traffic with many other vehicles already traveling at a high rate of speed, presents a very hazardous situation. We recommend that you take the following steps, learn them with a professional instructor, and then continue to practice them each time you drive so that you can develop skill and comfort level with this dangerous maneuver.

### ***Evaluate the situation***

- Check the entrance ramp for signs that give you information as to driving conditions, such as speed limit signs, do not enter signs, etc.
- Check traffic already on the expressway.
- Check the flow of traffic ahead of you on the expressway and behind you as you approach the acceleration lane.

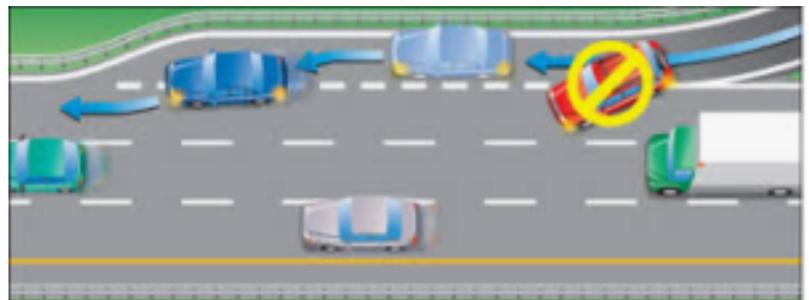
### ***Can you enter safely??***

### ***Prepare***

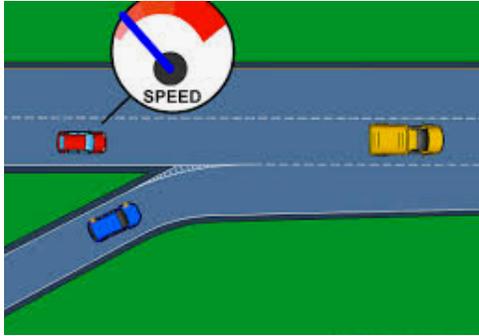
- Assess the speed of the traffic already on the expressway. Adjust your speed to match the flow of traffic, including the suggested speed and the speed of the vehicles ahead of you and behind you.
- Check for a gap in between vehicles that you might be able to enter.
- Turn on your left turn signal alerting vehicles already on the expressway that you intend to move over and enter the flow of traffic.

### ***Execute***

- Accelerate to match the speed of traffic on the expressway.
- Check your mirrors and over your left shoulder to make sure there is no vehicle in your blind spot.
- Match your vehicle with the gap in traffic that you have selected and make sure the gap is still available and that no other vehicle has entered the gap.
- Look ahead into the merge area and then steer smoothly into the right hand lane of the expressway. This lane usually has slower traffic which will facilitate your merge. Avoid doing what the red car does here. Wait your turn, enter the merge area behind vehicles in front of you and do not move over until you have safely entered traffic.
- Center to your vehicle in the right lane and continue in this lane until you are at pace with the vehicles around you. Cancel your left turn signal and create safe space areas around your vehicle.



### ***Common mistakes***



Merging onto an expressway requires you to juggle many tasks all at once: increasing your speed, checking traffic, signaling, rechecking traffic, and finally merging. It is no wonder many drivers are uncomfortable with expressway driving. It is not easy to merge with fast-moving vehicles in a very short amount of space and time. It requires you to multitask by controlling your steering, your acceleration, your search of the driving space, and you must do so with good timing and precision. Study the picture to the right. You must pay attention to the speed

of the red car, the speed of the yellow car and position your blue car so that you can be at the correct speed at the correct time in order to enter the gap between the red and yellow car. This will not happen overnight. It will take time and many hours of practice to become confident and comfortable entering the expressway.

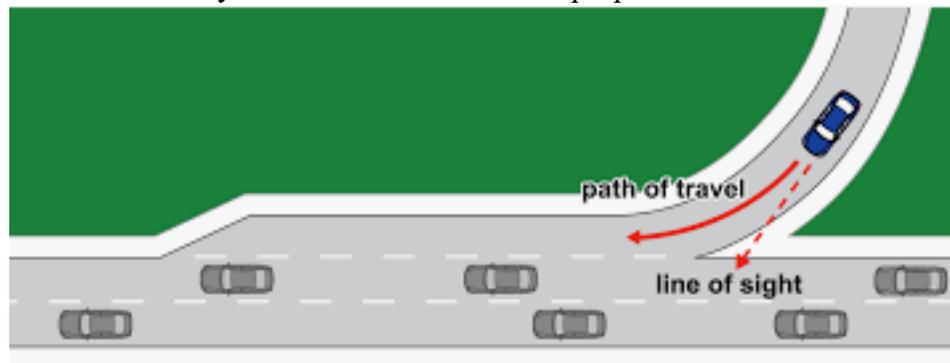
### ***Reducing risk when entering an expressway***

The most common error made when entering in expressway is to slow down or even stop when trying to enter the flow of traffic. This usually happens when you miss judged the flow of traffic or do not decide on a gap early enough. Collisions often occur when the driver behind checks the traffic on the expressway in his or her mirror and blind spot causing him or her not to see that the vehicle ahead of them has stopped.

Another common error when merging, is to merge at a speed well below the speed of the traffic already on the highway. When you enter the freeway too slowly, you cause a disruption in the traffic flow and the vehicles already on the freeway may not be able to stop in time and may hit you from behind. These vehicles may also swerve into another lane to avoid hitting you and may wind up causing collisions with other vehicles in different lanes. Do your very best to not reduce your speed or stop when attempting to merge into freeway traffic.

### ***Reducing risk on the entrance ramp***

In the picture here, you are the blue car attempting to merge onto the highway. Search and make sure you are aware of where the proper entrance is.



Begin early, and search ahead behind and on the expressway.  
Always keep your eyes down the road and adjust your speed.

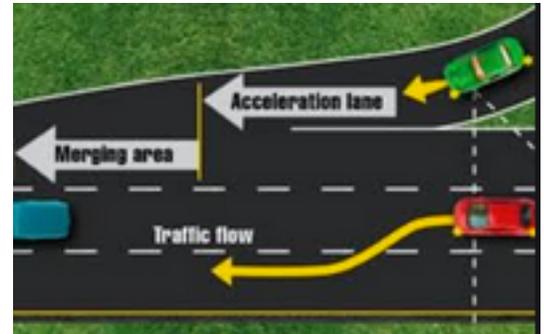
Be aware of what other vehicles are doing in front of you.  
Avoid stopping or backing up on an entrance ramp.

### ***Reducing risk in the acceleration lane***

In this picture you are the green car getting ready to enter the acceleration lane and adjust your speed to that of the flow of traffic already on the highway. Notice the red car? He may or may not move over to let you into traffic. Search early and frequently for a gap in traffic. Note that the gap you choose may close and not be available to you. Try to choose an alternate gap.

Prepare to adjust your speed.

If necessary pull a head and use the shoulder if you are unable to merge into the gap you had planned. This is always better than stopping completely.

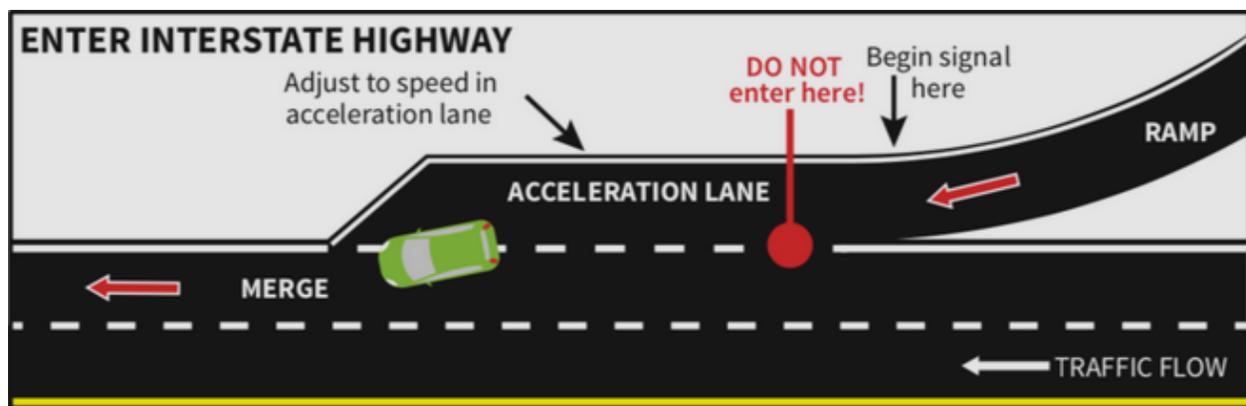


### ***Reducing risk in the merging area***

Search ahead for vehicles already in the merging lane and to your left to check the space area behind you.

Adjust your speed and blend into the flow of traffic. Try to use the entire acceleration lane and avoid jumping into traffic too quickly. This will facilitate other drivers to adjust to you entering the flow of traffic.

Always be on the lookout for other vehicles changing lanes at or near the merge area.



Entering an expressway is dangerous, takes confidence and practice, and is not something you will master right away. Apply the concepts and techniques covered and you will be able to reduce the risk to yourself and others. Search, identify, predict, decide, and execute (SIPDE) in this complex driving environment and you will successfully reduce your risk of a collision.

## Driving on the expressway



Even though it has its dangers, driving on the expressway can be called a controlled environment. Expressways are made up of multiple lanes traveling in one direction often divided by some type of barrier. They are designed to promote traffic flow with minimal or no stopping under normal traffic conditions. People use expressways when they are traveling greater distances. The speed limit on expressways is usually higher than on other types of

roadways. When accidents do occur, they usually involve multiple vehicles. When you decide to travel on a highway, you must be aware of and adapt to a driving environment involving higher speeds. You will need to manage your time, space and line of sight to reduce your risk of being involved in a collision. The SIPDE system should be used in this complex driving environment just as you would use it on any other roadway with less risk. There are things you can do as a driver to help minimize risk.

Before you even enter the freeway, it is important to plan your trip in advance. Once you are on the freeway you should not be trying to figure out where you need to go. Even with today's modern technology and mapping applications, you should still have a general idea of where you are going and how you plan to get there. Know ahead of time where you're going to enter the freeway and where you're going to exit. You should make yourself aware of the highway numbers you will need to use as you make your way to your destination. Whether you are driving for just a short trip or traveling for an extended distance, plan ahead to reduce the stress related to driving on the freeway.



On longer trips make sure you plan and make time to rest. You should have an idea of how far you want to travel and make arrangements to stop overnight if needed. Driving can be a tiring act. The high speed, the volume of traffic, and the need to always stay alert and focused can cause a driver to become fatigued. The chart above details ways to prevent drowsy driving:

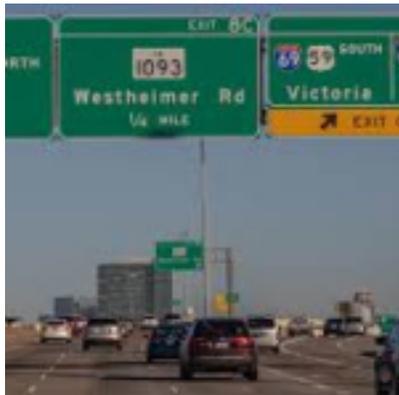
1. Get adequate sleep.
2. Avoid alcohol and medications that can cause drowsiness.

3. Arrange to have someone go with you.
4. Schedule proper breaks: every 100 miles or two hours

### *Unexpected delays*

Even with careful planning, you may still encounter situations that require you to change your route. Accidents, construction zones, or heavy traffic may change your plan. In some cases, you may be able to turn on the radio and hear a traffic report for the area you are traveling in. This will help you should you need to choose an alternate route.

You can also decrease stress and frustration while driving by planning your trip carefully. There are certain times of the day when even expressways will have congested traffic situations such as during rush hour. When traveling, you should be able to predict the time when you will arrive in a larger more populated city. It is in these easy areas where you will hit rush-hour traffic unless you plan your trip to avoid those times of day. When making your plan, you can decide to rest or do some sightseeing so that you enter the high traffic area before or after peak traffic times.



Whenever you are traveling in an unfamiliar area, be sure that you are aware of and take note of guide signs along the freeway to help you reach your destination. Highway signage is designed to give you plenty of notice and information about each exit along the expressway. Signs and lane markings can help you determine which lane you should be in when it is time for you to exit the expressway. Plan ahead and enter the appropriate lane as early as possible even if it means you must reduce your speed.

Now that you have planned your route in advance, it is time to start your trip. Once you have reached and entered the expressway, you must adjust your speed to the traffic already traveling on the freeway. You must note the speed limit, in addition to road and weather conditions. Your visual search should be at least 20 seconds down the road ahead of you and you should be able to see the full width of all the lanes on the roadway. You must constantly identify potential hazards, keep safe space around your vehicle, and constantly adjust your speed to keep at least three- or four-seconds following distance between you and any vehicles ahead of you. Whenever possible, avoid driving in a pack. A pack occurs when many vehicles, all traveling at the same speed clump together which limits the open space areas around your vehicle. It is better to slow down, change lanes, do whatever you need to remove yourself from a group of vehicles traveling in a manner such as this. Similarly, do not drive close to and around large vehicles and trucks. These will block your visibility and keep you from seeing potential hazards. Here are some other potential dangers you may face when traveling on an expressway:

- \*\*With higher rates of speed, or breaking distance will increase.
- \*\*With higher rates of speed, your field of vision may be reduced.
- \*\*Driving on the expressway for long periods of time can produce highway hypnosis.
- \*\*Driving on the expressway for long periods of time can produce the velocitation affect.
- \*\*Slower moving vehicles can be potential hazards.
- \*\*Entrance and exit ramps are always an area of concern and danger.
- \*\*Be mindful of vehicles who have stopped on the shoulder and are now attempting to re-enter the freeway.

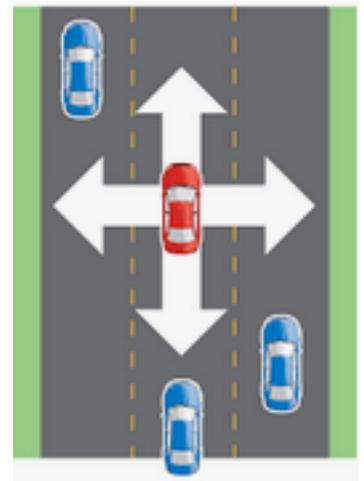
Highway hypnosis: Also known as white line fever, is an altered mental state in which a person can drive a car, truck, or other automobile great distances, responding to external events in the expected, safe, and correct manner with no recollection of having consciously done so.

Velocitation: a phenomenon caused by driving for long periods at high speeds. A driver may experience **velocitation** when coming off of the highway; the change in speed makes him or her think that the car is going much slower than it actually is.

### *Choosing a Lane*

Most expressways are made up of two, three, or more lanes. You should always choose to drive in the right lane on a two lane expressway or the middle lane on a 3 lane expressway. The left lane should only be occupied when passing. You must always be aware of the speed limit. Remember, the posted speed limit is recommended when road conditions and weather conditions are good. Anytime driving conditions deteriorate, you will need to adjust your speed. You should never exceed the speed limit, and you should adjust your speed to the common speed of vehicles around you. This will help you create and maintain safe space areas around your vehicle.

As you may recall from earlier lessons, there are seven areas or zones around your vehicle including the space your car takes up.



**There are seven basic areas of operating space for a vehicle. Six of the space areas (zones) are around your vehicle, and the seventh, or central space, is the space your vehicle occupies.**



As the number of lanes on the roadway increase so do the number of space areas around you. You must always be aware of changing space areas as other drivers move around you on the highway. The expressway environment is fluid and always changing with space areas changing from open to closed almost constantly especially in heavier traffic.

Changing from one lane to another is required frequently when driving on the freeway. It increases in risk drastically when there are more than two lanes traveling in the same direction. When attempting a lane change, you must be sure to check your blind spots and be aware of

other vehicles attempting to change into the same lane you are. Be on the lookout for turn signals, drivers checking their blind spots and their mirrors. All of these are signs and signals that they plan to change lanes. This will help you to avoid changing into a lane at the same time as another vehicle. Always change only one lane at a time, repeating the visual search steps before each lane change.

### *Passing*



As a driver, passing other vehicles will be the most dangerous driving maneuver you make. It is especially dangerous on the expressway because passing is allowed on the left or on the right. Passing on an expressway is similar to making a lane change because there is no oncoming traffic that must be dealt with. However, because of the higher speeds of the vehicles traveling on the expressway and the high volume of vehicles, you must take extreme care and caution when deciding to pass. Lanes on the expressway are designed for vehicles traveling at different rates of speed. The right lane is usually used by vehicles traveling at lower speeds than the posted speed limit. The middle and left lanes are often reserved for vehicles traveling at a faster speed. When making a lane change to the left to allow you to pass another vehicle, you must be very careful to judge the speed of any vehicles approaching from the rear. It is easy to misjudge this speed and they may be approaching faster than you realize. Allow extra time and space and always double check to evaluate the speed of a vehicle approaching you from the rear. Remember, it is illegal to exceed the speed limit even when you are passing. We cannot stress enough the importance of using the SIPDE system to help you get a complete picture of the traffic around you. Your goal should always be to minimize passing and lane changes whenever possible.

There will be times when you are the one being passed. Be aware that you may be traveling more slowly than the vehicles around you. When you realize someone is attempting to pass you, do not increase your speed and keep an eye on the position of the passing vehicle. If necessary slow down and let the vehicle pass safely. Once you have been passed, adjust your speed to regain correct following distances.

While we recommend you use the right-hand lane on the expressway whenever possible, this lane does require you to be aware whenever there is an entrance ramp allowing vehicles to enter the expressway. As you approach an entrance ramp, you must cooperate with vehicles trying to enter the expressway. You can do so by changing lanes to the left if the traffic around you will allow it. If you cannot change lanes safely, be ready to slow down to allow the other driver to merge into the flow of traffic safely. Sometimes it is best to avoid entrance ramps altogether by changing lanes to the left prior to reaching the entrance ramp. By doing so you get out of the way of vehicles attempting to enter the expressway onto the entrance ramp. This decision will help you reduce risk and stay out of trouble.

### ***Risks associated with expressway driving***

- \*\*Highway Hypnosis – the drowsy feeling that occurs when driving at a constant rate of speed for long periods of time.
- \*\*High volume of traffic and many different types of vehicles present on the expressway increases the chance of collisions.
- \*\*Higher speeds require longer stopping distances.
- \*\*Higher speeds decrease or narrow your field of vision.
- \*\*Velocitation -an inaccurate sense of speed that occurs when driving for extended time at high rates of speed.
- \*\*Entrances onto and exits off of the expressway create potential hazards.
- \*\*Adverse conditions such as wind, rain, ice, or snow can change the way your vehicle performs.
- \*\*Two vehicles changing lanes simultaneously into the same space.
- \*\*Passing on the left or on the right at higher rates of speed.
- \*\*Slow moving vehicles or broken down vehicles on the shoulder.
- \*\*Vehicles traveling in groups all clumped together.

### ***Reducing these risks***

As in any and all driving environments, communicating with your fellow drivers is a major part of reducing your risk of being involved in a collision. Just like in other environments, when driving in the expressway environment be sure to use your turn signals, brake lights, hazard lights, and any other tools to warn other road users of any maneuver you intend to make. It is important to let others know what you intend to do, they cannot read your mind. Here are some reminders of how you can reduce your risk when driving in a complex environment such as an expressway.



- \*\*Extend and expand your visual search farther down the road to identify risks earlier.
- \*\*Keep your eyes moving more quickly than you would in a lower risk environment to make up for your limited field of vision.
- \*\*Increase your following distance to allow bigger gaps especially when following large trucks buses motorcycles and other vehicles that present a special type of risk. Be sure to increase this following interval even more when the weather is bad or when pulling a trailer.
- \*\*You must make allowances for other roadway users of all kinds. You can do so by adjusting your speed or changing your lane to easily facilitate the entry of other users or their desire to make a lane change or pass.

**\*\*Be aware that any time a vehicle may be parked on the shoulder or side of the road with mechanical difficulty. Be sure to leave extra space by changing lanes to avoid the area.**

**\*\*Wind is a particularly difficult element to deal with as it can create unexpected changes in the way your vehicle handles or performs. When there is heavy wind, keep a firm grip on your steering wheel and reduce your speed if necessary.**

**\*\*Avoid driving in packs or groups of cars all traveling at the same rate of speed.**

**\*\*Slow down and remove yourself from the situation and create extra space around your vehicle.**



**\*\*Be especially vigilant when traveling around large vehicles, motor homes, 18 wheelers, etc. Smaller cars can be hidden and may be blocked from your view by these large vehicles. Expect another car and be aware that they may be passing on the opposite side of the large vehicle and may wish to move into the same lane you are entering.**

**\*\*Always reduce your speed when the conditions demand it. Rain, snow, ice, fog, and any other weather conditions can increase your risk of a collision if you do not react appropriately.**

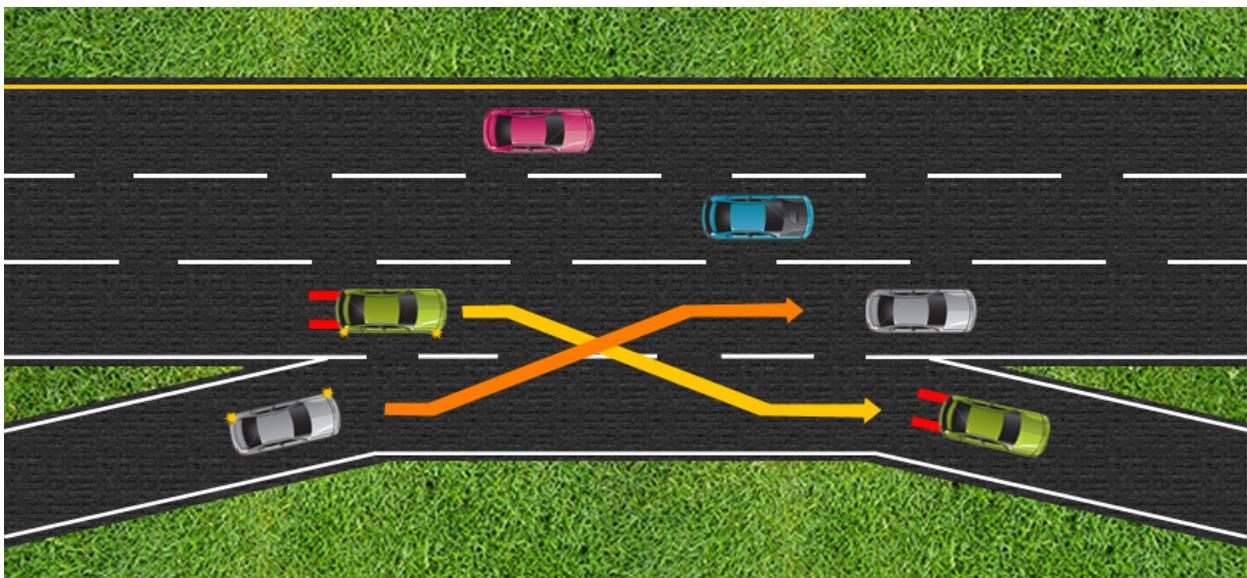


## Exiting the expressway

Eventually you will arrive at your destination and will need to get off the highway in order to continue your trip. It is important to plan ahead so that you know which exit you are needing to take and how far down the road you must travel in order to reach it. Expressways are designed to help you know well in advance when you are approaching an exit. Usually at least three signs will be posted well in advance to advise you of each exit. As soon as you reach the first sign, you should begin your preparation for your exit. For an exit to the right, change into the right lane at least 1/2 mile before the exit. This will give you enough time to adjust your speed and prepare to join the traffic that is exiting the highway along with you.

Exit ramps vary in style and configuration depending on the land and space available around the expressway. As soon as you enter the exit ramp, look for signs that detail the type of exit you will need to be prepared for. For example, it might be what we call a weave lane where an entrance ramp and an exit ramp are combined and traffic must crisscross each other.

An exit may also involve a sharp curve and an elevated ramp each of which requires careful maneuvering and a decrease in speed. Continue to check your blind spots and mirrors throughout the exiting process keeping an eye on other vehicles traveling near you. In the picture below, the green car exiting the freeway should yield to the grey car getting on the freeway since the green car is already slowing to exit and the grey car needs to gain speed to get on the freeway. This is not set in stone and each situation is different, however, courtesy is very important in these situations.



Once you have arrived at your exit, activate your turn signal to alert other drivers that you are exiting the freeway. Maintain or slow your speed to adjust to other traffic on the exit ramp. Continually check your blind spot and mirrors as you enter the deceleration lane.

Finally, steer your vehicle smoothly into the deceleration lane and apply your brakes firmly to adjust to the recommended speed of your exit. Be sure to keep an eye on your speedometer as it is frequent to experience velocitation after exiting the expressway where you have been traveling at a high rate of speed for a long period of time. Velocitation creates a false sense of speed and you will feel like you are going slower than you actually are. Keep an eye on your speedometer and check it frequently until you adjust to the slower speed you are now traveling at. Once you have completed your exit, turn off your turn signal and begin to check traffic ahead of you. If for some reason you miss your exit, do not try to make a hazardous maneuver at the last minute to exit the freeway. Instead, continue straight on the expressway and proceed to the next exit where you can then take the turnaround or make a left turn to go back to the roadway you were exiting for. Never back up on an entrance ramp, exit ramp or on the shoulder. This is not only highly dangerous but it is also illegal to do so.

### ***Reducing risk when exiting the expressway***

\*\* Look for posted signs that will alert you to how far it is before you reach your exit. Continually search ahead and determine if there will be a weave lane where vehicles entering the expressway may create conflicts.

\*\* As you enter the deceleration lane search traffic on the exit ramp for a gap and look for a suggested speed limit sign that should be used on the exit you are taking. Different types of exit ramps will require different rates of speed. Slow your vehicle to the appropriate or recommended speed limit.

\*\* Check your speedometer frequently to avoid the false sense of speed that may be affecting you after traveling on an expressway at higher rates of speed for a long period of time.



## **VIDEO: Highways**

### **Special situations in the expressway environment**

Expressways are designed by traffic safety specialists and engineers to promote safe travel with the intention of reducing the risk of a collision. However even the best intentions sometimes result in high-risk when drivers do not respect this complex, high speed driving environment.

When traveling on an expressway, there will be times when much of the roadway is in a rural area and traffic will be light, there will be a few vehicles on the road way around you, and the space around your vehicle will be abundant. However eventually at some point in your travels you will reach more highly populated urban environments with many more vehicles on the expressway. Speeds in these environments can change at any moment and at times such as rush our may even come to a complete standstill. When you are faced with this driving environment,

choose the left or the center lane to stay out of the way of vehicles attempting to merge into heavy traffic. If you know you are traveling through and not needing to exit anytime soon, the far-left lane is your best choice. However, as your exit comes closer and you are needing to get off the freeway, search for your exit early and change lanes well in advance.

In addition to heavy traffic, you may encounter other special situations that must be dealt with carefully.

### ***Disabled vehicles***

Vehicles with mechanical trouble, vehicles involved in a traffic accident, or vehicles that are being issued a citation may be located to the side of the road or on the shoulder. Be alert when you encounter these vehicles and reduce your speed and increase the space between your vehicle and theirs by making a lane change if at all possible. Be on the lookout for tow trucks, people in and around the disabled vehicle, or police and other emergency vehicles. Remember, the Move Over law requires you to slow down to 20 miles per hour below the speed limit and/or change lanes when approaching and passing an emergency vehicle now including tow trucks.



Here are some tips if you are the one with a vehicle that has become disabled.

- \*\* Pull off onto the shoulder or median as far as possible to reduce the risk of interfering with the flow of traffic.
- \*\* Turn on your emergency or hazard flashers to alert other drivers that you have pulled off the roadway.
- \*\* If you have a cell phone, use it to call for help. It is best to stay in your vehicle, with the doors locked and your hood raised. If someone stops to ask you if you need help ask them to use their cell phone or ask them to go to a phone and have them send assistance to you.
- \*\*Never get into a stranger's vehicle.

### ***Construction areas***



It seems at times that road construction is never ending. Unfortunately, it is a necessary part of keeping our roadways up-to-date and appropriate for the increased demand of motor vehicles on the roadway. When you encounter an area that is under construction, be on the lookout for warning signs and signals and be prepared to reduce your speed and or lane position. Never ignore warning signs in an area where construction sites are present. Be prepared to stop and adapt to an ever-changing roadway environment. Be especially aware that in Texas, when construction workers are present and working in a construction zone, fines for traffic violations may be double the amount that they would normally be. This is to try and help keep the workers and other drivers safer in the unpredictable construction environment.

### ***Toll booths***



Some expressways have been designed and developed as toll roads. These types of roads require users to pay a fee in order to travel on them. Toll roads collect those fees in different ways. Some may have toll areas every few miles that charge users a set fee. Others may issue you a ticket when you enter and then charge you the fee when you present your ticket when you arrive at your exit. Be aware that tolling booths at exits may cause traffic to back up as people are waiting to pay their fee. Be on the lookout for signs and signals that alert you to a slower speed, open lanes, automated booths and booths made available for people with exact change. Be alert and look for the

appropriate lane. Some lanes may be designated for larger vehicles such as 18 wheelers. In some cities, like Houston for example, drivers who travel on toll roads regularly may have a prepaid pass that allows them to simply travel through a lane without stopping to pay a fee. Always be courteous in and around toll booths and allow other drivers who make a mistake and realize they're in the wrong lane to enter your lane if necessary.

It is important to cooperate and yield and facilitate the smooth entry and exit of all vehicles at these toll centers.



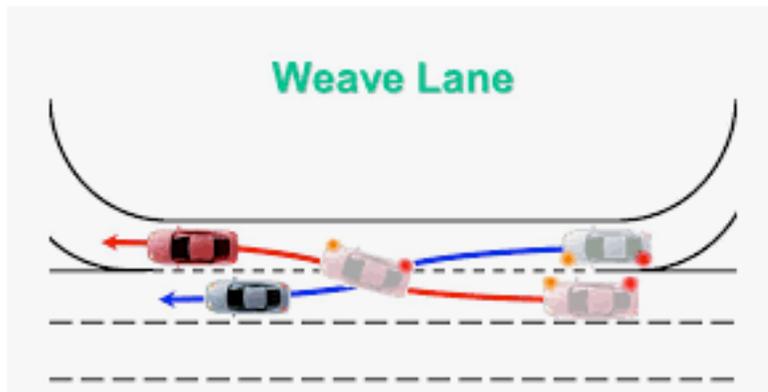
### ***Entrance ramps on the left side of the expressway***

Though not common, there are times when an entrance ramp will be located on the left side of the expressway. In most cases drivers will be alerted and well in advance of this situation

because the potential for conflict is much greater. If you are a vehicle entering the flow of traffic from the left you must check traffic on your right and to the rear and then merge into one lane with the highest speed traffic. Once you are on the expressway, you will want to change lanes to the right and adjust your speed especially if you plan to travel slower than others traveling on the expressway. If you plan to travel more slowly than the flow of traffic or the posted speed limit, it is important that you exit the left lane as quickly as possible so as not to interrupt the flow of traffic.

### ***Weave lanes***

These lanes occur when an entrance ramp and an exit ramp share a common acceleration or deceleration lane. These areas can create conflicts for vehicles attempting to enter and exit the freeway. Plan ahead and avoid problems by adjusting your speed so that you time your arrival into the weave lane when there are no other vehicles approaching. At a weave lane, vehicles entering from the entrance ramp should yield the right of way to the drivers leaving the expressway on the exit ramp. This is a time for increased cooperation and courtesy as drivers maneuver through this high-risk situation. In the picture below, the grey car is entering the highway and the red car is exiting. The grey car should yield to the red car and let him go first toward his exit before entering the highway behind him.



### ***Short/sharp entrance or exit ramps***

Some expressway entrances, especially those built a long time ago, may have an acceleration lane or deceleration lane that is shorter than usual. These lanes may also be sharply curved which present additional challenges. When faced with this type of ramp, you must adapt your speed appropriately. When entering the expressway on this type of shorter ramp, you must check for traffic and adjust your speed virtually at the same time. You may also need to accelerate much more quickly in order to blend into existing traffic. You should know if your vehicle is capable of doing this. Likewise, exit ramps can also be sharply curved requiring you to slow down much more quickly and pressing the break much more firmly than you would on a longer gradual exit ramp.

### ***High occupancy lanes (HOV)***



Lanes marked with a white diamond indicate a reserved lane for vehicles traveling with multiple passengers, also called high occupancy vehicles or HOV. Roadways will usually be marked with signs to supplement the roadway symbols and will indicate which lanes are to be used for vehicles with higher occupancy. These lanes may also be marked with a double yellow line indicating that vehicle should not

cross into these lanes. It is illegal and you may be fined if you travel in these lanes and your vehicle does not qualify.

### ***Ramp metering***

Though not seen very often, you may encounter an entrance ramp to an expressway that is timed by signal lights. At the beginning of the acceleration lane, you will encounter a traffic signal, with a green light and a red light. These lights are

posted to control access and facilitate space between vehicles entering the expressway. Usually only one vehicle may enter the expressway on a green light. On a red light, vehicles must stop and wait until the light turns green and then you must accelerate quickly to blend with the flow of traffic already on the freeway.



### **Things to consider in the expressway driving environment**

In this section, you have learned that expressways are complex driving environments that require you to attend to high speeds and multiple lanes. In these driving environments problems can occur quickly and unexpectedly which increases your risk of a collision. As a responsible driver you must apply the SIPDE--Search, Identify, Predict, Decide, & Execute system to reduce this risk to yourself and other roadway users.

This section has discussed many potential problems associated with driving on the expressway environment. Each of these potential problem areas can increase your risk of a collision unless they are handled with decision and care. There are certain maneuvers that should never be made when driving on an expressway.

\*\* Never cross a median, a solid yellow or white line, or a raised median or barrier when driving in a high-speed environment.

\*\* Never make a left turn or a U-turn. Many expressways will have breaks in the median divider

to allow emergency vehicles to cross over into traffic traveling in the opposite direction. These are only meant for emergency vehicles and not for regular users of the expressway.

\*\* The leftmost lane of an expressway should only be used for passing.

\*\* Changing lanes should never be done without signaling, checking your mirrors and blind spots or without a full view of the roadway.

\*\* You should never park on an expressway unless you are in a designated area. The shoulder should never be used except in case of an emergency.

\*\* Never back up on the expressway.



### **Important reminders**

\*\* Anytime you are driving, your breaking distance will be affected by a number of situations. The faster you are going, the longer it will take you to stop. You must increase your following distance when traveling at a high rate of speed. It is recommended that beginner drivers leave at least four seconds between their vehicle and any vehicles traveling in front of them.

\*\* Vision is also affected when traveling at high rates of speed. The faster you travel the more likely tunnel vision is to occur. For this reason, you must search quickly and continuously as the driving environment can change quickly and unexpectedly.

\*\* When traveling at a high rate of speed for long periods of time, your sense of speed will be incorrect. Professionals in the driving industry have coined the term “velocitation” to describe this phenomenon. When exiting the expressway after traveling at high rates of speed for a long period of time, you will be fooled into thinking that your vehicle is not traveling as fast as it is. You must check your speedometer often and be conscience of your speed. It will feel like you are traveling extremely slowly when in fact you are still traveling quite fast. This phenomenon can also occur while traveling on the expressway. The tendency is to inadvertently increase your speed because it seems like you are going more slowly than you actually are. Check your speedometer often to prevent yourself from pressing on the accelerator.

### ***Highway hypnosis***

This is a particularly dangerous state for drivers to fall into when traveling long-distances. The sound of the roadway, the sound of the tires on the pavement, steady rates of speed, and a more inattentive state of mind all contribute to the drowsy, trance-like characteristic of highway hypnosis. Some drivers have even attributed this to falling asleep or to micro sleeps where your eyes are open but you are actually asleep. Driving at night increases the chance of being hypnotized by the roadway because of even less traffic, less risk to attend to, and the constant on coming clear headlights. There are techniques you can use to avoid this drowsy state.



- \*\* Turn on your air conditioner, roll down the windows, and get some fresh air into your vehicle.
- \*\* Be sure you get enough sleep before starting your trip and stop and rest at regular intervals.
- \*\* Avoid eating heavy meals before traveling.
- \*\* Change the position of your seat, sit up straighter, chew gum, or talk with other people in your vehicle.
- \*\* Force yourself to scan the roadway more often and focus your eyes on things outside your vehicle. Make an effort to move your head more deliberately and take note of objects and signs along the roadway.

The only real solution to drowsiness is to stop and rest. Do not push yourself to the point where you are at risk for falling asleep behind the wheel. Getting to your destination quickly is not as important as getting to your destinations safely. Stop, get out, rest, sleep. If at all possible, pull over and allow someone else in your vehicle to drive for a while. This will give you the opportunity to sleep and rest your brain so that when you return to driving you will once again be alert and ready.

### ***Use of the shoulder on the expressway***

If for some reason an emergency situation arises and you are forced to pull over onto the shoulder, be very careful when you are ready and able to re-enter the flow of traffic on the expressway. This is a very different situation than when you are entering the freeway on an entrance ramp because from the shoulder you are entering the flow of traffic from a complete stop. The traffic already on the expressway is traveling at a high rate of speed and you will not be able to accelerate fast enough to blend into traffic without a sufficient amount of time. Check over your shoulder and use your mirror to determine when there is a safe gap in traffic that would allow you to re-enter the expressway. Turn on your turn signal and deactivate your hazard signals to communicate with other drivers that you are ready to re-enter the highway. Be aware that shoulders are often littered with debris from other vehicle emergencies. If possible, begin your acceleration on the shoulder while at the same time checking your mirrors for a safe gap in traffic. If at all possible, stay on the shoulder until your speed matches the speed of the traffic already on the expressway. This will facilitate your change in lanes from the shoulder to the right lane of the highway and you will be able to more easily blend into the flow of traffic. Similarly, if you encounter another vehicle on the shoulder, look for signals that they are attempting to re-enter traffic. Try to change lanes to the left if at all possible. If you cannot change lanes, try to help create a gap that will allow him or her to enter the flow of traffic safely.

## Day 12 Make Up Quiz

Be sure to submit the quiz for credit.  
You must score a 70% or better on the quiz.