



# Electrical Transmission & Distribution Partnership

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## Continuing Education Training

### Motor Vehicle Safety

*Intersections and Following Distance*

Presenter Guide

4<sup>th</sup> Quarter 2023

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## Introduction

This Refresher course is a presenter lead (supervisor, safety professional) process. The presenter may choose to augment the material with videos, handouts, or other media to enhance the learning experience. The presenter may want to incorporate visual aids to enhance the presentation.

Using this material in combination with practical experience, good presentation skills and knowledge of adult learning techniques, the presenter has a greater opportunity to deliver the information.

Edgar Dale stated that 2 weeks after a learning event, adult learners remember:

- ✓ 10% of what they read
- ✓ 20% of what they hear
- ✓ 30% of what they see
- ✓ 50% of what they see and hear
- ✓ 70% of what they say
- ✓ 90% of what they say while performing a task

Microsoft® PowerPoint® combined with good instructional skills and instructor/student dialogue work strongly in the fifty to seventy percent range. PowerPoint® presents the information to the attendee and the instructor summarizes the content of the slides. It is critical to engage and involve the attendee in the process. Ask open-ended questions that will elicit conversation and discussion but be cautious to maintain control of the discussion.

Conversation and scenarios are good but can cause the discussion to run long. If it seems like the group is losing focus during the course, the presenter can direct the group back on track by using comments like “Good discussion, but let’s get back to the subject at hand”.

Another tool is the “Parking Lot” which is simply a newsprint chart or dry erase board or note pad where the presenter records questions/discussion points not answered or addressed during the meeting and that may require more research. It is vital to capture any ongoing discussions or questions on the “Parking Lot” and follow up when the information is known.

Deliver this refresher during the fourth quarter of 2023. Delivery time is approximately 45 minutes to 1 hour, in one setting or divided-up into three, 15-to-twenty-minute settings. The presenter may deliver the topic in a formalized meeting room setting using the PowerPoint slide deck or by using the three, key point sheets (located at the end of each session) as in a tailgate safety talk. It is critical that the facilitator makes him or herself familiar with the material prior to delivery.


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Motor vehicle crashes are a leading cause of death and injury for all ages.

- Every 12 minutes someone dies in a motor vehicle crash.
- Every 10 seconds an injury occurs and
- Every 5 seconds a crash occurs.

Many of these incidents occur during the workday or during the commute to and from work.



**Objectives**

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Upon completion of this continuing education module, you should be able to:

- Define following distance
- Practice calculating safe following distance
- Describe how to avoid following too closely and other at-risk behaviors
- Describe how to safely approach, enter, and pass through an intersection

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Explain that this is the Q4 topic. Explain the objectives of this course and the duration.



## Are You a Good Driver?

- Do you always drive the posted speed limit regardless of what the traffic is doing and how fast it is going?
- Do you plan ahead for weather conditions and construction hazards when planning your daily routes?
- Do you alert other drivers to your actions using your turn signals?
- Do you always wear a safety belt and require all your passengers to do the same?
- Do you text when driving?
- Do you ride too closely behind cars in front of you?

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**Say:** Think about this morning's commute or last weekend. Did someone cut you off? Did you cut someone off? How many times did you hastily hit your breaks while traffic was moving?

**Ask:** Let's test your driving behaviors. Go over each question and allow for responses from the participants. Add discussion which will allow you to gauge the temperature of the audience.

**Seat Belt:**

Seat belts are the single most effective means of reducing deaths and serious injuries in traffic crashes. As the most effective safety device in vehicles, they save nearly 12,000 lives and prevent 325,000 serious injuries in America each year. During a crash, anyone not wearing a seat belt will slam into the steering wheel, windshield, or other parts of the interior, or be ejected from the vehicle.

The last question, "Do you ride too closely behind cars in front of you"? - is a lead into the next set of slides.

**Say after the responses:** Let's get into understanding what Tailgating is, why we do it, and what can we do to stop.

## Following Too Close “Tailgating”



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As traffic congestion continues to grow, motorists commuting to and from work and traveling for work purposes often find themselves caught up in bottlenecks and significant delays, wasting time and reducing their productivity. This situation creates a high level of frustration and can spark aggressive driving among these overwhelmed drivers. To protect against aggressive driving, remember that your primary responsibility is to drive focused, stay safe and DO NOT TAILGATE.

### What Is Tailgating?



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**Ask:** What Is Tailgating? Wait for responses. See how close they are to the explanation below.

**Say:** Tailgating is when a driver drives behind another vehicle without leaving a safe distance in between. Drivers must leave a sufficient distance between their car and the car in front. If there is too short a distance between the cars, they could cause a collision if the vehicle in front stops suddenly. When you suddenly slam on the brakes, it can take much longer for your car to stop than you'd think.

**Ask:** What do you think a safe distance is? There will most likely be a lot of different responses. 2 seconds, 3 seconds, 4 seconds.


Here you can do one of many things.

- Take the opportunity to go over what your respected companies safe following distance rule is.
- Take the opportunity to go over what the safe following distance is per the state you are performing work in. *(The 2-second rule is a technique used to estimate a safe following distance between your vehicle and the traffic ahead. It is a general rule of thumb taught in very*

driving school across the United States. The premise is that by following behind traffic by two seconds, you will have the time and space to brake safely)

- The National Safety Council goes by the 3 sec rule.
- Smith Driving goes by the 4 sec rule.

\*A safe distance depends on vehicle speed, weather, visibility, road hazards, and other factors.



## Safe Following Distance

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### Passenger Vehicles – Bucket / Digger Trucks

| Vehicle Type        | Vehicle Length | Seconds Behind |
|---------------------|----------------|----------------|
| Passenger Vehicles: | 20 Feet        | 2              |
| Bucket / Digger     | Up to 30 Feet  | 3              |
| Trucks:             | 31 to 40 Feet  | 4              |
|                     | 41 to 50 Feet  | 5              |
|                     | 51 to 60 Feet  | 6              |

**NOTE: Leave additional space for larger vehicles and inclement weather!**

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## Why 2 Seconds or More?

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1. Vehicles are hard to stop.  
(Traction and Brake Limitations)
2. Humans are very slow to react  
(Human Limitations)
  - ✓ Mental Response Time
  - ✓ Movement Time
  - ✓ Device Response Time

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Each item will be covered in future slides.



## Our Limitations

Perception Time .75 seconds  
+  
Reaction Time .75 seconds  
+  
Braking Distance 2+ seconds  
=  
**STOPPING DISTANCE**

**WOW! ----->**

Stopping Distance in Feet

| MPH | Automobile | Truck |
|-----|------------|-------|
| 35  | 135        | 155   |
| 40  | 164        | 190   |
| 45  | 195        | 228   |
| 50  | 229        | 269   |
| 55  | 265        | 313   |

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**Say:** Ever heard the expression “Keep a stranger at arm’s length”?

The reason is so they can’t hit you.

If they are close enough to hit, they can hit you and you can’t react when it is UNEXPECTED just like road conditions.

Most crashes are unexpected.

- Perception Time – Is light coming in your eye, through your eye, into the nerve and into the brain = .75 seconds.
- Reaction Time – Is the time your brain takes to decide to take action = .75 seconds NOTE: Longer as you get older.
- Braking Distance - See the chart.

NOTE: Not much difference between a car and truck (referring to an F-150 type).

## How Far Do You Travel In Two Seconds?

|     |             | Following Distance |
|-----|-------------|--------------------|
|     |             | 2 Seconds          |
| MPH | Feet/second | Feet               |
| 25  | 37          | 73                 |
| 35  | 51          | 103                |
| 55  | 81          | 161                |
| 70  | 103         | 205                |

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Use to let people know how far they travel. These numbers focus on a standard passenger car.

## Tailgating Exercise



- Time to calibrate everyone to 2 seconds
- Use the stopwatch on your phone
- Count  
One Mississippi, Two Mississippi  
Keep practicing until calibrated!



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### Say:

Time to calibrate everyone: Everyone must be calibrated before we move on. Meaning – not everyone counts seconds the same way. So, following 2 seconds behind a vehicle is going to look different to each one of you. Let's count using our stopwatch to see how close we each can get and continue until we get it right.

Count: Use the rule that applies to your organization and/or area. Example: 3 Second Rule (National Safety Council)

Say: you can use any method you wish that you have learned to count seconds.

Try: One Mississippi, Two Mississippi – Keep practicing until YOUR TWO SECONDS matches two seconds on the stopwatch.

- Hit start on the stopwatch.
- Keep finger on start/stop button.
- Start counting.
- When you get to the end of your 2 Mississippi, hit stop.
- See where you landed.

### 3 Steps to Maintain Safe Following Distance



- Step 1 – Know the seconds (2, 3, 4 etc.) you need to be behind the vehicle
- Step 2 – Start counting or time, when the vehicle in front passes a fixed object,
- Step 3 – Stop counting or time when you reach the same fixed object and adjust speed to manage this space.

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**Say:** This is a visual tool to depicting 2 seconds on the roadway.  
**Read slide.**

### Safe Following Distance 2 Seconds



*2 Seconds @ 35 mph = 103 feet or 7 average car lengths*



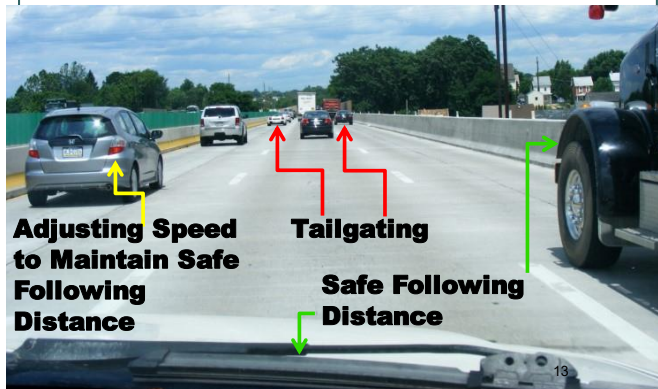
*2 Seconds @ 55 mph = 161 feet or 11 average car lengths*

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Visual way to understand 2 seconds as it relates to mph. This relates back to slide 9.

**What do you see?  
Traffic is flowing at 45 mph.**



Talk about each item:

- Point out AT RISK behaviors.
- Show the 10 – 11 car length.
- **RULE OF THUMB**
  - Dashes are 10 feet.
  - Space between Dashes = 20 feet

**What do you see?  
Traffic is flowing at 30 mph.**



Talk about each item:

- Point out AT RISK behaviors.
- **STAB BRAKING** – Which is used in emergency situations and not in everyday driving. Doing this means you are most likely tailgating. What is it? Involves fully applying the brakes until they lock up. The brakes are then released until the wheels start rolling, and then the process is repeated.

## Tailgating By The Numbers



- 23% of all motor vehicle crashes per year are rear-end collisions
- 2,000 deaths caused by rear end collisions every year
- 950,000 injuries caused by rear end collisions every year

Source: National Highway Transportation Safety Administration

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Let's look at some numbers.

## Why Do Drivers Tailgate?



- Heavy traffic and stop and go driving
- Inconsistent traffic flows, speeding up and slowing down
- To get the driver in front of them to drive faster
- Frustration – driver might tailgate to overtake a lane
- Ego –It's my space, not yours
- Thinking I will lose time if I let them in
- I am a trained driver. I know what to do. I Got This!

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**What Is Tailgating?** Tailgating is when a driver drives behind another vehicle without leaving a safe distance in between. Drivers must leave a sufficient distance between their car and the car in front. If there is too short a distance between the cars, they could cause a collision if the vehicle in front stops suddenly. When you suddenly slam on the brakes, it can take much longer for your car to stop than you'd think.

A safe distance depends on vehicle speed, weather, visibility, road hazards, and other factors.

**Ask/Discussion:** Have you ever been in such a rush to get somewhere that you drove a little too close to the car in front of you? Or maybe someone flashed their brights at you, eager to get home, and you see that their car is right behind yours.

## So What Can We Do?



|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Don't let other drivers control <u>your</u> behavior</li> <li>• Use Safe Following Distance</li> <li>• Maintain a safe speed at all times</li> <li>• Leave a buffer between you and the car in front of you if you are being tailgated</li> <li>• If you are being tailgated, find a safe way for the car behind you to pass</li> </ul> | <ul style="list-style-type: none"> <li>• Do not antagonize a tailgating driver</li> <li>• Stay Calm</li> <li>• Stay to the right</li> <li>• Avoid temptation to pursue a tailgater</li> </ul> |
|--|---|

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- **Following Distances:** Use what your company or state requires. Start counting when the rear bumper of the car in front of you passes an object, like a street sign. Your bumper should not pass that same object until you've reached at least??? Seconds. If driving conditions are particularly bad, like wet or icy roads, use an even longer following distance.
- Always maintain a safe speed. Avoid the temptation to speed up when you have someone tailgating you. Maintaining a safe and consistent speed allows faster drivers to pass you.
- Use extra caution when approaching intersections, stop lights, and changing lanes.
- Leave a greater buffer between you and the car in front of you if you are being tailgated. If the car in front is bigger like a truck, leave an even greater buffer.
- If you are being tailgated, find a safe way to allow the car behind you to pass. If you can, pull over by the side of the road or change lanes.
- Do not antagonize a tailgating driver by braking or driving more slowly.
- Stay calm. Some tailgating drivers can be aggressive and scary. Try to remain calm when dealing with this type of driver so that you can make safe and informed decisions.
- Stay to the right. Slower traffic keeps to the right. If you drive in the right lane, then you can avoid most tailgaters.
- Avoid the temptation to pursue the car in front of you. If you are feeling impatient, safely change lanes when you get a chance.

# Intersections



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## Intersection Facts

- Approximately 2.5 million intersection accidents occur each year
- 40% of all crashes involve intersections
- 165,000 accidents occur annually in intersections caused by red light runners
- 700-800 fatalities per year occur due to red light runners

Source: National Highway Transportation Safety Administration

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## 5 Safety Tips Driving Through Intersections



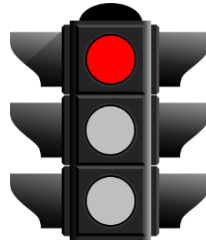
- Pay attention to your surroundings
- Be prepared to stop
- Maintain extra space between your vehicle and the vehicle in front of you
- Carefully enter an intersection after you have stopped
- Use your turn signals

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**Notice your surroundings.** The most important part of driving anywhere you are, is noticing your surroundings. Staying vigilant from crashes requires watching all the drivers around you. There are intersections where every direction isn't visible because of buildings, trees, and other cars. This is especially dangerous for pedestrians crossing because stopped vehicles can block a moving lane's view of them. This is why about 44.1% of intersection crashes are caused by inadequate surveillance of surroundings.

## Be Prepared To Stop



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No matter how hard you might try to anticipate another driver's moves, there will always be surprises. Approximately 8.4% of intersection crashes are from making a false assumption about another driver's actions. If you are going fast, you will have less time to make an adjustment to another driver making an unexpected turn, lane switch, or **stop**. If the light has turned yellow, don't speed up to get through before the light changes red. Instead of racing through an intersection, slow down a little or come to a stop if the light is turning red.



**Hover the Brake**  
(Intersection Safety)




**Hover the Brake**  
Hold foot over brake in anticipation of needing to use it.

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The hover the braking technique involves taking your right foot off the accelerator and holding it over the brake pedal. If you must stop quickly, your foot is already above the brake pedal and is in the perfect position to press the brake. This method will improve your reaction time. So, whenever you identify a hazard, cover the brake to prepare for sudden stops or slowing. When covering the brake, be careful not to rest your foot on the brake pedal (also known as riding the brake). Riding the brake is not recommended; it will only confuse other drivers and add unnecessary wear to the brakes.

**Hover the Brake**  
(Why and When?)



**WHY**

- This practice reduces "reaction time" to enable faster stopping as well as saves on gas, tires and brakes.

**WHEN**

- Stale Green/Red Lights (intersections)
- Blind Hills and Curves
- When cut off
- Need to reduce speed w/o braking
- Traffic Slowing or Turning

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**Stale Green Light** : A term referring to intersection safety.

A stale green light is a traffic light that is green when you first see it, thus you do not know how long it has been green - so we have to assume it will change at any moment .

When you encounter a stale green light be prepared to stop, the light may change and you will need to stop in a safe, controlled manner. Running a red light is an extremely dangerous decision.

Safe, professional, drivers are always on the lookout of stale green lights and make the necessary adjustment to stop safely.



## Approaching An Intersection

When coming to a stop, keep at least a car length between you and the person in front of you.



**One Car Length Back**

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When coming to a stop, keep at least a car length between you and the person in front of you. You will have an escape plan if needed and you'll be insulated from the car in front of you if you get rear ended.



## Sitting At An Intersection

### Tailgating



**What can be the result?**

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Point out how everyone is close.

**Say:** What can be the result of tailgating in this situation?

**Answer:** If someone behind those vehicles do not stop in time and rear-ends them, they hit the car in front of them and then could potentially push them into a busy intersection.

## The light turns green. What do you do?



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**Ask:** The light turns green. What do you do?

## Proceeding Through The Intersection



- Pause 2 or 3 seconds and look both ways before going through the intersection.
- If traffic is stacking up in the middle of the intersection, don't enter until you know you can get all the way through and as long as the light is still green.
- Don't forget, changing lanes at an intersection is both illegal and dangerous.
- Follow the pace of traffic so your actions are predictable to others.

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Pause 2 to 3 seconds before entering.

- Look left-right-left.
- Then proceed.

If you are making a left-hand turn

- Stay back at the crosswalk lines.
- Do not enter the intersection until traffic is clear for you to make the safe turn.
- If you have to enter the intersection, be sure to keep your tires straight and not turned to the left.
  - Reason: if you are in the intersection waiting with your tires turned to the left and someone rear-ends you, your vehicle will then steer into the oncoming traffic.

A stop sign or red light aren't going to prevent someone from coming through anyway.



## Approach Strategy

- Plan ahead to get in the correct lane before arriving at the intersection
- Don't change lanes at an intersection. If you find yourself in the wrong lane, proceed normally and make the correction when you have more time.
- Use your turn signal deliberately, other drivers may make decisions based on what your signal is telling them.
- Keep your hands on the wheel and be prepared to brake by moving your foot to the brake pedal to prepare braking (i.e. Hover the Brake)

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## Key Points

1. Two seconds is considered a safe following distance for a F-150 pick-up?
  - a. True
  - b. False
2. To help with faster reaction time use the "Hover the Brake" technique.
  - a. True
  - b. False
3. You should stay at least two car lengths back from the car in front of you when at a stop sign or red light.
  - a. True
  - b. False
4. How long should you pause before going through an intersection?
  - a. 1 to 2
  - b. 2 to 3
  - c. 3 to 4
  - d. 4 to 5

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1. Two seconds is considered a safe following distance for a F-150 pickup?
  - A. **True**
  - B. False
2. To help with faster reaction time use the "Hover the Brake" technique.
  - A. **True**
  - B. False
3. You should stay at least two car lengths back from the car in front of you when at a stop sign or red light.
  - A. True
  - B. **False. It is at least one car length.**
4. How long should you pause before going through an intersection?
  - A. 1 to 2
  - B. **2 to 3**
  - C. 3 to 4
  - D. 4 to 5