The Science of Following Distance

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Solid Waste Management Program
Space and Time (The Visual Representation)
Perception the Reaction and Distance 😛?
Total Stopping Time

How much time does it take to stop? That depends on how fast you are going. The faster you drive, the longer it takes to stop.

Perception – Time it takes for your brain to recognize a hazard and begin to move your foot off the throttle to hit the brakes. Usually 1.2 second.

Reaction – Time it takes to move your foot from the throttle to the brake, and push down on the pedal. Also 1.2 second.

Braking – Time it takes to come to a stop in ideal conditions. If the road is slippery, you are traveling downhill, or you have a heavy load, then it will take longer.

<table>
<thead>
<tr>
<th>Speed (MPH)</th>
<th>Perception</th>
<th>Reaction</th>
<th>Braking</th>
</tr>
</thead>
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</table>

If you are driving 50 MPH, how much following time will you need? How about 60 MPH?

What will happen if it takes more time to stop than you have distance?
Effects of Speed

**Figure 2.11**

The Effect of Speed on Stopping Distance.

The faster you drive, the greater the impact or striking power of your vehicle. When you double your speed from 20 to 40 mph the impact is 4 times greater. The braking distance is also 4 times longer. Triple the speed from 20 to 60 mph and the impact and braking distance is 9 times greater. At 60 mph, your stopping distance is greater than the length of a football field. Increase the speed to 80 mph and the impact and braking distance are 16 times greater than at 20 mph. High speeds greatly increase the severity of crashes and stopping distances. By slowing down, you can reduce braking distance.
Following too Close?
Triple LLLC
Following distance is defined as the distance between YOU and THE VEHICLE IN FRONT OF YOU.
you must always be prepared for
the car in front of you
to stop, slow down,
or react to
It could be that the vehicle in front of you is slowing for stopped traffic in front of them.
In the past

car lengths
car lengths

For example

10 miles per hour of speed
so if you are traveling at
50 mph, you should be
5 car lengths behind the car in front.
3-SECOND RULE

DIFFICULT
3 Second Rule
Keep in mind that the recommended **3-second** following distance only applies to optimal conditions.

then increase your following distance because it will take you longer to react and to slow down and stop if the car ahead of you suddenly brakes.
3-SECOND RULE

car in front

following distance

YOU

time to stop
DPWES SWMP Recommends: The 4 Second Rule Why? Here is a good reason.
Following Distance 5 seconds or more. CDL rule states 1 second per 10ft needed. Additional seconds for adverse conditions.
1 click = .25 seconds
What? Back it on up? What could happen?
This Can Happen!!! Even behind or in front of you!!! (Bad language!!!!)
Distracted Driving can affect Perception and Reaction time
Questions?

OBJECTS IN MIRROR ARE CLOSER THAN THEY APPEAR