

## Stopping Distance

(extracted from an article on Edmunds.com)

Nothing is more important than your car's ability to stop itself. Knowing something about braking distances (how much ground a vehicle covers before it can fully stop) can make for safer and more enjoyable driving.

An average passenger car traveling at 60 mph covers 88 feet per second. But stopping that vehicle takes over 4.5 seconds and covers a distance of 271 feet on dry, flat pavement. Why? Because there's more involved in braking than the actual time your brakes are applied to the wheels (called "effective braking"). In particular, "perception time," "reaction time" and tire and road conditions can add considerable distance to stopping your car.



Perception time is the three-quarters of a second it takes for you to realize that you need to brake. Reaction time is the three-quarters of a second it takes to move your foot to the brake pedal. When you combine perception and reaction time, a full 132 feet will pass before your car even begins to slow down from 60 mph. So from the time you perceive a braking situation until the time your car comes to a complete stop, a total of 4.6 seconds elapses. During that time your car can travel – it bears repeating – a total of 270 feet. That's almost the length of a football field.

Of course, the faster you go, the more time and distance it takes to stop. That's same average passenger car takes about 350 feet to stop from 70 mph and more than 450 feet on wet pavement. Heavier vehicles like trucks and SUV's can take even longer.

When weather is bad, your braking distance grows exponentially. On wet pavement, total braking time increases from 4.6 seconds to 6.1 seconds, and total braking distance shoots up from 271 feet to 333 feet. And it gets worse. In snowy conditions, even with snow tires, total stopping time jumps to 10.6 seconds and 533 feet. As a basis of comparison, this is roughly the same distance – actually, a little further – as the same vehicle coming to a complete stop from 90 mph on dry pavement, an effective doubling of the braking distance. Let us repeat that: a 100-percent increase.

So what do we do with all these numbers? There's nothing we can do about the weather or about road surfaces, but we can do something about the way we drive. Arming ourselves with knowledge can prevent the loss of property and human life.

First, if you drive a truck or SUV, be especially cognizant of your speed in bad weather. Sitting higher off the road than everyone else only means you'll have a better view of the passing countryside as you slam sideways into a snowbank.



Second, remember this law: That which makes you go won't make you stop. If you drive a four-wheel drive vehicle, you're not immune to the laws of physics; in fact you're a bit more susceptible (if for no other reason than your overconfidence). Whether you drive an Escort or an Excursion, it doesn't matter. In fact, the heavier weight of a truck or SUV means it will take much longer to come to a stop, given its greater momentum. Repeat: four-wheel drive does not help you stop.

Third, remember to keep a "space cushion" around your vehicle at all times – ahead, to the sides and behind your car. This can be difficult to accomplish, especially in heavy traffic where everyone is darting in and out. How close is too close when it comes to following the car ahead of you? There's a handy "3-second rule." When the vehicle ahead of you passes a certain point, such as a sign, count "one-thousand-one, one-thousand-two, one-thousand-three." This takes about 3 seconds. If you pass that certain point before you finish counting, you are following too closely. We suggest a 4-second (or more) cushion in inclement weather.

Fourth, the tires you choose and their condition are another important, yet often overlooked, factor. Seek professional advice on selection and buy the best tires you can.