

Travel Time

Speed Limit: 50 mph

Travel time through Town of Blue River: **4 min. 12 secs.**

Speed Limit: 45 mph

Travel time through Town of Blue River: **4 min. 40 secs.** (additional 28 seconds)

Stopping Distance

The affect perception-reaction time and speed have on a driver's capability can be illustrated by braking. The average driver requires approximately 1.5 seconds to perceive, react, and apply the brakes. The brakes are not being applied and the vehicle continues to move at the same speed and on the same path toward the hazard during this 1.5 seconds. The distance the vehicle travels during the 1.5 seconds depends upon the speed.

50 mph = 51 feet

45 mph = 45 feet

Perception-reaction time is only the beginning of the problem. Once the brakes are applied, time elapses before the vehicle comes to a complete stop. The faster the vehicle is moving, the longer it will take to stop. Vehicles moving at higher speeds have more momentum than vehicles at lower speeds. More braking force must be applied to vehicles traveling at high speeds:

- **At 20 mph:** the average vehicle will travel an additional 18 feet after the brakes are applied for a total **stopping distance of 62 feet**
- **At 50 mph:** the vehicle will travel an additional 111 feet for a **total stopping distance of 221 feet**
- **At 80 mph:** the vehicle will travel an additional 284 feet for a **total stopping distance of 460 feet**

The difference in stopping distance between 50 mph and 45 mph gives the driver almost another 1 second to make a safer decision.

The total stopping distance increases greatly with just a slight increase in speed. The stopping distance at 60 mph (292 feet) is more than 44 percent longer than the stopping distance at 50 mph (221 feet) even though 60 mph is only 20 percent faster than 50 mph. Hazards that can be avoided at low speeds may be unavoidable at higher speeds.

As the amount of energy increases, the chances of a fatality increase. A collision at 60 mph is 50 percent more likely to result in a fatality than one at 45 mph. A collision at 70 mph is four times more likely to result in a fatality than a crash at 45 mph.

*****Calculations and measurements are borrowed from National Highway Traffic Safety Administration (NHTSA)***