

WHAT IS A SAFE SPEED?

Safe Speed is the adjustment of a vehicle's speed to be suitable for:

- Road characteristics (curves, gradients, intersections, tunnels, residential areas),
- Weather and visibility conditions (rain, fog, night),
- Traffic density and type (pedestrians, cyclists, heavy vehicles),
- Vehicle load and technical condition,
- The driver's attention, fatigue, and experience level.

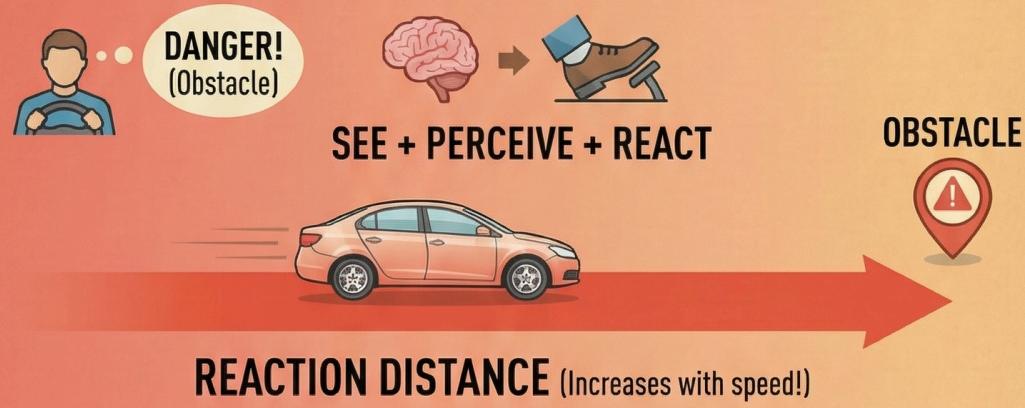
Organizations like the WHO and the World Bank, which adopt the **"Safe System Approach,"** emphasize that speed limits should be determined based on the road's function and the protection level of road users; for example, 30 km/h on pedestrian-heavy urban roads and 100–120 km/h on divided highways.

The Golden Rule: Even if the legal limit is 90 km/h, the safe speed may drop to 50 km/h or even lower in heavy fog or torrential rain.



DRIVING MATHEMATICS

1. REACTION (PERCEPTION) STAGE



REACTION TIME

The time elapsed from the moment a danger is seen until the brake is pressed is called **"Reaction Time."**

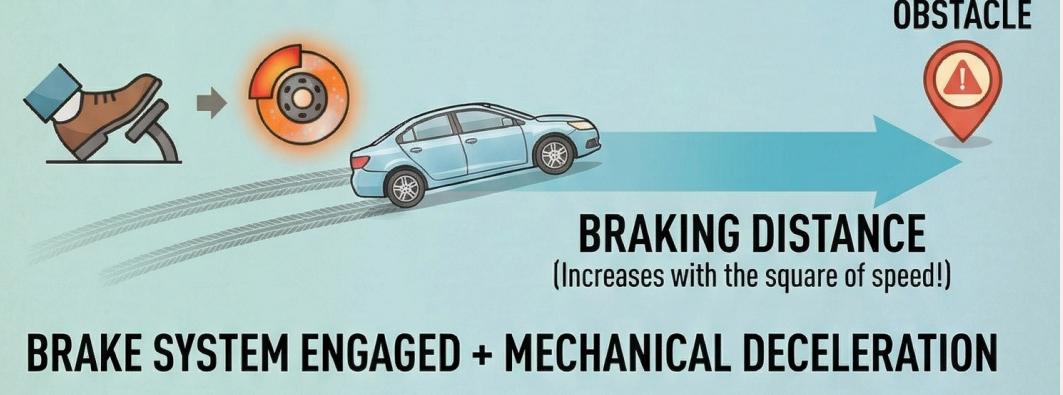
- The driver sees the danger → decides → presses the brake.
- The average driver reaction time is considered to be 1–1.5 seconds.

BRAKING TIME

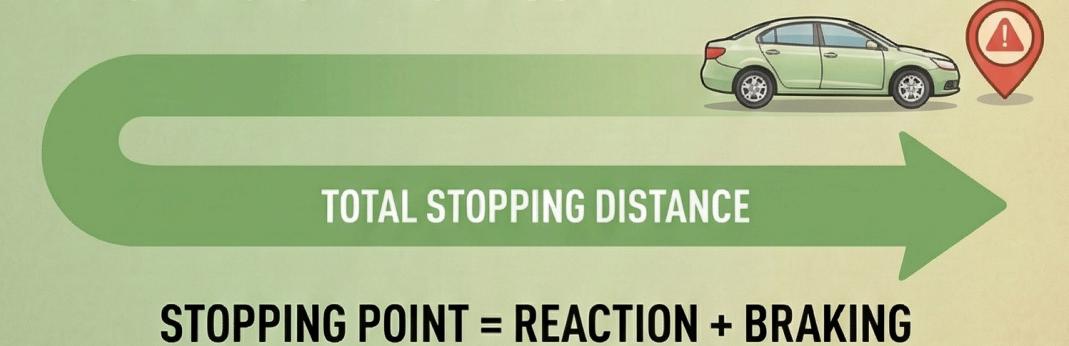
It is the time elapsed between the moment the driver steps on the brake and the moment the vehicle's wheels come to a complete stop.

What It Covers: It covers only the engagement of the braking system and the vehicle physically slowing down and coming to a halt.

2. BRAKING STAGE



3. TOTAL STOPPING RESULT



STOPPING TIME

It is the total time elapsed between the moment the driver visually spots the danger and the moment the vehicle comes to a complete stop.

What It Covers: It includes the time the driver perceives the danger, lifts their foot off the gas, and moves it to the brake (**Reaction Time**) + the time the brakes engage and stop the vehicle (**Braking Time**).