
**Figure 5.14** Safe stopping distance detail.

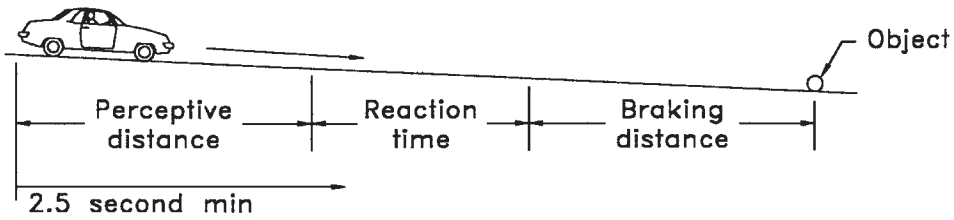


**Figure 5.15** Safe sight distance design parameters.

**TABLE 5.9 Coefficient of Friction *F* between Tire and Road**

| Design speed, mi/h | *F** |
|---|---|
| 30 | 0.36 |
| 40 | 0.33 |
| 50 | 0.31 |
| 60 | 0.30 |
| 70 | 0.29 |

*Pavement assumed to be under wet conditions.
Adapted from American Association of State Highway and Transportation Officials (AASHTO), 1990.

It is an accepted practice to assume for design purposes that the driver's eye height is 3 ft, 9 in above a road surface. In general, an object 6 in high is assumed to be adequate for measuring sight and stopping distance on vertical curves (see also Table 5.10).

The weight of a specific vehicle and the grade of the road will affect stopping distance (see Table 5.11). The weight of larger vehicles is difficult to account for in a design concept; however, it is generally accepted that the greater weight of a vehicle is often offset by its increased height that allows the operator greater sight distance. Grades can be accounted for in the design. Stopping distance tends to decrease on uphill grades and increase on downhill grades. These differences are accounted for by applying the percent of grade to the coefficient of friction expressed as a decimal. Uphill grades are added (increasing the coefficient of friction), and downhill grades are subtracted (decreasing the coefficient of friction).

Sight distance on horizontal curves must also be considered. Locating visual obstructions out of the line of sight is necessary to provide safe sight distance