## Sight Distance

Standard

Two types of sight distance exist for the design of roads:

- Stopping Sight Distance
- Intersection Sight Distance

### Stopping Sight Distance

Stopping sight distance is the sum of two distances: the brake reaction distance and the braking distance. The brake reaction distance is the distance a vehicle travels from the time a driver sees an object requiring a stop to the moment the brakes are applied. The braking distance is the distance a vehicle travels from the moment the brakes are applied, until it comes to a stop condition. In computing and measuring the stopping sight distance, the 3.5-foot eye height and 2.0 foot object height criteria are used. The following table shows the stopping sight distance for various design speed.

Stopping Sight Distance

| | DESIGN SPEED | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 20 mph | 25 mph | 30 mph | 35 mph | 40 mph | 45 mph | 50 mph | 55 mph |
| Stopping Sight Distance | 115’ | 155' | 200' | 250’ | 305’ | 360’ | 425’ | 495’ |

From – *A Policy On Geometric Design Of Highways And Streets*, 2011, Table 3-1, page 3-4, Stopping Sight Distance on Level Roadways

Note: Assumes wet pavement and level roadway

Applicability of the Standard

This standard applies to all types of development, including residential subdivisions, PODs, and CIPs.

Design Requirements

- Needs to be measured from a height of 3.5' to an object at 2.0'
- Needed at all vertical and horizontal curves on public roads

**Intersection Sight Distance**

Intersection sight distance allows for the safe maneuver of a vehicle from the stopped position at an intersection even though an approaching vehicle comes into view on the intersecting road as the stopped vehicle begins its entrance into the cross street. In computing and measuring the intersection sight distance, the 3.5 foot eye height and 3.5 foot object height criteria are used. The following table shows the minimum intersection sight distance for various speed limits and road widths. No obstructions within this sight distance line shall be between a height of 30 inches and six feet above the ground level where the sight distance originates. This line shall remain free of all structures, trees, and light poles. If a Sight distance line is determined to be outside the county right-of-way, a Sight Distance Easement must be provided. The sight distance numbers in the following table shall be used when looking left and right for a vehicle that is turning left from the minor street.

## Intersection Sight Distance

| ROAD WIDTH (FEET) | SPEED LIMIT (mph) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| 24 | 220' | 275' | 330' | 385' | 440' | 495' | 550' | 605' |
| 30 | 225' | 280' | 335' | 390' | 450' | 505' | 560' | 615' |
| 36 | 230' | 285' | 340' | 400' | 455' | 515' | 570' | 625' |
| 40 | 230' | 290' | 345' | 405' | 460' | 520' | 575' | 635' |
| 52 | 235' | 295' | 355’ | 410' | 470' | 530' | 590' | 645' |
| 67 | 250' | 315' | 380' | 440' | 505' | 570' | 630' | 695' |
| From - *A Policy on Geometric Design of Highways and Streets*, 2011, Table 9-6, page 9-38, Design Intersection Sight Distance, **Case B1, Left Turn From Stop** | | | | | | | | |

Values are rounded. For all road widths greater than 24 feet, the formula from Table 9-5, Page 9-37 of A Policy on Geometric Design of Highways and Streets, 2011 was used.

If an intersection is configured for only a right turn in and right turn out of a minor street, the sight distances in the following table may be used for looking left only from the stopped vehicle. In computing and measuring the intersection sight distance, the 3.5 foot eye height and 3.5 foot object height criteria are used. No obstructions within this sight distance line shall be between a height of 30 inches and six feet above the ground level where the sight distance originates. This line shall remain free of all structures, trees, and light poles. If a Sight distance line is determined to be outside the county right-of-way, a Sight Distance Easement must be provided.

## Intersection Sight Distance
## (use for right in/right out locations only)

| NUMBER OF LANES FROM LEFT | SPEED LIMIT (mph) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| 1 | 200' | 240' | 290' | 340' | 390' | 430' | 480' | 530' |
| 2 | 210' | 260' | 310' | 370' | 420' | 470' | 520' | 570' |
| 3 | 230' | 280' | 340' | 390' | 450' | 500' | 560' | 610' |
| From - *A Policy on Geometric Design of Highways and Streets*, 2011, Table 9-8, page 9-41, Design Intersection Sight Distance, **Case B2, Right Turn From Stop** | | | | | | | | |

Values are rounded up. For road widths greater than one lane, the formula from Table 9-7, Page 9-40 of A Policy on Geometric Design of Highways and Streets, 2011 was used.

Applicability of the Standard

This standard applies to all types of development, including residential subdivisions, PODs, and CIPs.

Design Requirements

- Shall be measured at 12.0 feet from edge of the major roadway edge of pavement
- Needs to be measured from a height of 3.5 feet to an object height of 3.5 feet
- Needs to be measured looking left and right
- Needed at all public roads, private roads, and access points that intersect a public road
- Sight Distance Easements will be required when the line of sight is determined to be outside the county right-of-way.
- Any obstructions located within a Sight Distance Easement must not be within an area between 30 inches and six feet above the ground where the sight distance originates.