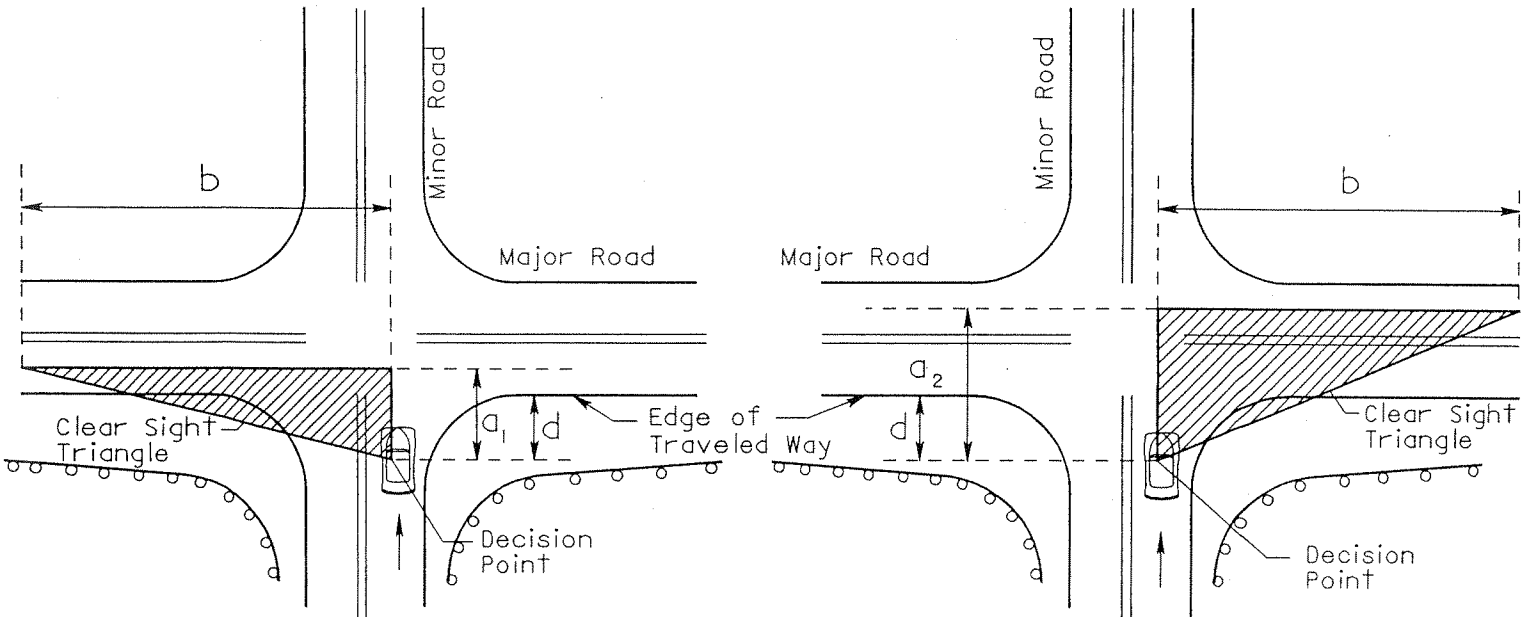


INTERSECTION SIGHT TRIANGLES

201-4 E

REFERENCE SECTION
201.3.1 & 201.3.3



Sight Triangle for Viewing Traffic Approaching from the Left

Sight Triangle for Viewing Traffic Approaching from the Right

DIAGRAM A - SIGHT TRIANGLES

- a_1 = The distance, along the minor road, from the decision point to 1/2 the lane width of the approaching vehicle on the major road.
- a_2 = The distance, along the minor road, from the decision point to 1 1/2 the lane width of the approaching vehicle on the major road.
- b = Intersection Sight Distance
- d = The distance from the edge of the traveled way of the major road to the decision point. The distance should be a minimum of 14.4' and 17.8' preferred.

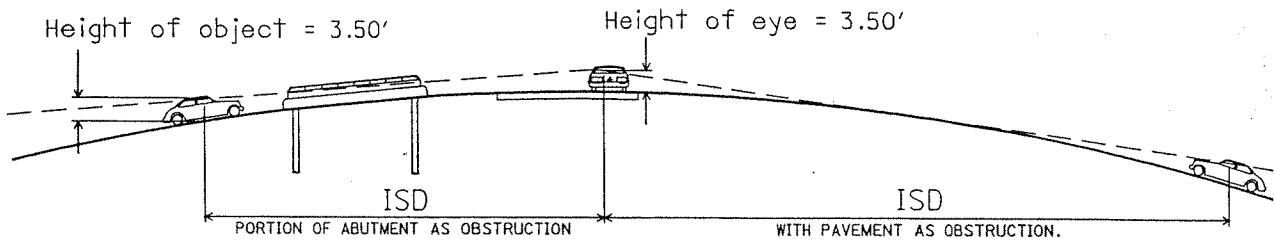


DIAGRAM B - VERTICAL COMPONENTS (Sec. 201.3.3)

INTERSECTION SIGHT DISTANCE

201-5 E

REFERENCE SECTION
201.3, 201.3.1,
201.3.2 & 201.3.3

(See Following Page for Additional Figures & Notes)

HEIGHT OF EYE 3.50'

HEIGHT OF OBJECT 3.50'

DESIGN SPEED (mph)	Passenger Cars Completing a Left Turn from a Stop (assuming a t_g of 7.5 sec.)		Passenger Cars Completing a Right Turn from a Stop or Crossing Maneuver (assuming a t_g of 6.5 sec.)	
	ISD (ft.)	K-CREST VERT. CURVE	ISD (ft.)	K-CREST VERT. CURVE
15	170	10	145	8
20	225	18	195	14
25	280	28	240	21
30	335	40	290	30
35	390	54	335	40
40	445	71	385	53
45	500	89	430	66
50	555	110	480	82
55	610	133	530	100
60	665	158	575	118
65	720	185	625	140
70	775	214	670	160

If ISD cannot be provided due to environmental or R/W constraints, then as a minimum, the SSD for vehicles on the major road should be provided.

$$ISD = 1.47 \times V_{\text{major}} \times t_g$$

ISD = intersection sight distance (ft.)

V_{major} = design speed of major road (mph)

t_g = time gap for minor road vehicle to enter the major road (sec.)

Using: S = Intersection Sight Distance

L = Length of Crest Vertical Curve

A = Algebraic Difference in Grades (%), Absolute Value

K = Rate of Vertical Curvature

- For a given design speed and an "A" value, the calculated length "L" = $K \times A$

- To determine "S" with a given "L" and "A", use the following:

For $S < L$: $S = 52.92\sqrt{K}$, where $K = L/A$

For $S > L$: $S = 1400/A + L/2$

Note: For design criteria pertaining to Collectors and Local Roads with ADT less than 400, please refer to the AASHTO Publication, Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT \leq 400).

INTERSECTION SIGHT DISTANCE	201-5 E
	REFERENCE SECTION 201.3, 201.3.1, 201.3.2 & 201.3.3

(Continued Figures & Notes)

Time Gaps		
	Design Vehicle	Time gap(s) at design speed of major road (t_g)
(A)	Left Turn from a Stop	Passenger car
		Single-unit truck
		Combination truck
(B)	Right Turn from a Stop or Crossing Manuever	Passenger car
		Single-unit truck
		Combination truck

A. Note: The ISD & time gaps shown in the above tables are for a stopped vehicle to turn left onto a two-lane highway with no median and grades of 3 % or less. For other conditions, the time gap must be adjusted as follows:

For multilane highways:

For left turns onto two-way highways with more than two lanes, add 0.5 seconds for passenger cars or 0.7 seconds for trucks for each additional lane, from the left, in excess of one, to be crossed by the turning vehicle.

For minor road approach grades:

If the approach grade is an upgrade that exceeds 3 %, add 0.2 seconds for each % grade for left turns.

B. Note: The ISD & time gaps shown in the above tables are for a stopped vehicle to turn right onto a two-lane highway with no median and grades of 3 % or less. For other conditions, the time gap must be adjusted as follows:

For multilane highways:

For crossing a major road with more than two lanes, add 0.5 seconds for passenger cars or 0.7 seconds for trucks for each additional lane to be crossed and for narrow medians that cannot store the design vehicle.

For minor road approach grades:

If the approach grade is an upgrade that exceeds 3 %, add 0.1 seconds for each % grade.