SECTION 200
GEOMETRIC DESIGN STANDARDS

201 SIGHT DISTANCE

201.01 GENERAL

Sight distance is the continuous length of roadway ahead visible to the driver. There are three distinct types - passing, stopping, and decision. Passing sight distance is the minimum sight distance required by a driver to safely pass another vehicle. Stopping sight distance is the distance required by a driver, traveling at a given speed, to stop after seeing an object on the road. At certain locations decision sight distance is required to allow drivers extra time for making decisions.

201.02 PASSING SIGHT DISTANCE

Passing sight distance is the minimum sight distance required by a driver to safely pass another vehicle. The sight distance available for passing is the longest distance at which a driver whose eyes are 1070 mm above the pavement can see the top of a 1300 mm high object on the road. Passing must be accomplished without reducing the speed of an oncoming vehicle traveling at the design speed. Table 200.01 lists sight distance standards.

Passing sight distance is only considered on 2-lane roads and should be provided at frequent intervals. In general, minimum passing sight distance should be provided for 60% of the route length in level terrain, 40-60% in rolling terrain and 20-60% in mountainous terrain. Economics should be weighed against providing passing sight distance or auxiliary passing lanes.

201.03 STOPPING SIGHT DISTANCE

Stopping sight distance is the distance required by a driver, traveling at a given speed, to stop after sighting an object on the road. Stopping sight distance is measured from the driver's eyes, 1070 mm above the road, to an object 150 mm high on the road.

If providing passing sight distance is not economically feasible, stopping sight distance is the minimum sight distance provided on multilane and 2-lane roads. Stopping sight distance is the minimum provided for interchanges, at-grade intersections and private road connections.

Table 200.01 shows the standards for sight distance related to design speed.

Table 200.01
Sight Distance Standards

Design Speed (kph)	*Minimum Stopping Sight (1) Distance (m)*	*Desired Stopping Sight (1) Distance (m)*	*Minimum Passing Sight Distance (m)*
30	30	30	220
40	45	45	285
50	60	65	345
60	75	85	410
70	95	115	485
80	115	140	545
90	135	170	605
100	160	205	670
110	180	250	730
120	205	290	795
130	235	330	855

Minimum values shall be avoided in design, higher values are desirable.
(1) Increase by 20% on downgrades >3% & >2 km. Values shown are for wet pavements.

Chapter III of "A Policy on Geometric Design of Highways and Streets," AASHTO, 1994, contains a thorough discussion of the derivation of stopping sight distance.

201.04 STOPPING SIGHT DISTANCE AT GRADE CRESTS

Figure 200.02 shows the relationship between vertical curve length, design speed, and algebraic difference in grades. Any one factor can be determined when the other two are known.