

Sight Distance

Adapted from the Iowa Department of Transportation's policy

Guidelines for adequate sight distance are one of the most important and basic approaches a community can take in managing access to its roadways. Sight distance guidelines can help communities ensure that its arterials are safe for motorists and pedestrians. Sight distance guidelines can also help communities promote adequate spacing of residential and commercial driveways.

What is sight distance?

Sight distance is the length of the highway visible to a driver. A safe sight distance is the distance needed by a driver on an arterial, or a driver exiting a driveway or street, to verify that the road is clear and avoid conflicts with other vehicles. Sight lines must be kept free of objects which might interfere with the ability of drivers to see other vehicles (see figure 1). Features such as hills, curves in the road, vegetation, other landscaping, signs, and buildings can reduce sight distance.

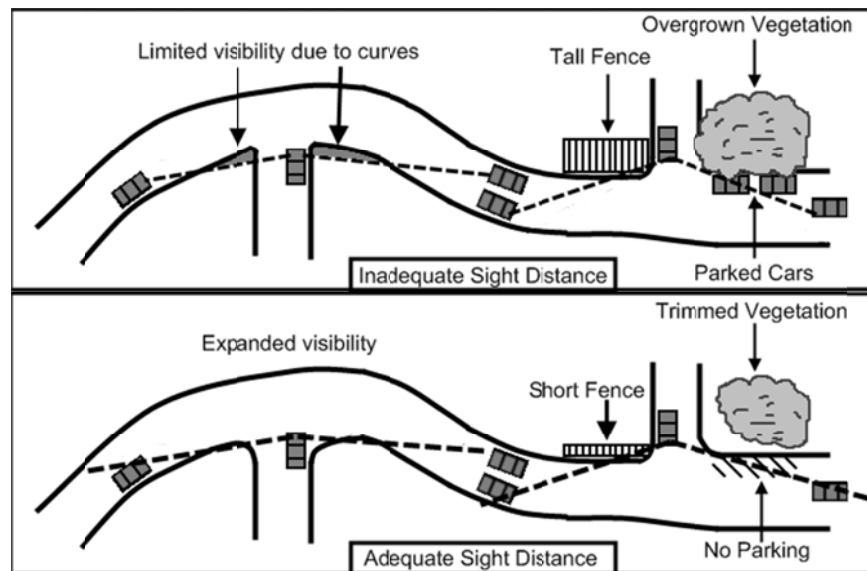


Figure 1

Why is sight distance important?

Sight distance is critical to motorists in making decisions such as to stop, slow down, turn, enter a traffic stream from a driveway or public road, or merge into traffic. Adequate sight distance allows motorists the time they need to avoid crashes and conflicts, and it will help keep roadways operating safely and smoothly.

What is a reasonable sight distance?

The safe sight distance for low and medium volume driveways should be large enough to allow vehicles on the arterial to slow down to a reasonable speed, but not stop, to avoid a collision with vehicles exiting a driveway. The safe sight distance for high volume driveways should be higher to allow a greater margin of safety.

The San Mateo County Department of Public Works sight distance policy is based upon the American Association of State Highway and Transportation Officials (AASHTO) stopping distance criteria and posted daytime speed limits for passenger cars. The following table shows desirable sight distances published in the California Department of Transportation (Caltrans) Highway Design Manual.

Design Speed (mph)	Stopping (ft)
20	125
25	150
30	200
35	250
40	300
45	360
50	430

The numbers given are guidelines and will vary depending on several factors, including road curve and grade. On tighter curves and higher grades, sight distances increase greatly. Consult a detailed manual for specific numbers. The following table shows desirable sight distances for varying grades as published in the *Geometric Design of Highways and Streets, 2004*, by the AASHTO.

Design Speed (mph)	Stopping Sight Distance(ft)					
	Downgrades			Upgrades		
	3%	6%	9%	3%	6%	9%
25	158	165	173	147	143	140
30	205	215	227	200	184	179
35	257	271	287	237	229	222
40	315	333	354	289	278	269
45	378	400	427	344	331	320
50	446	474	507	405	388	375