



Kansas LTAP Fact Sheet

A Service of The University of Kansas Transportation Center for Road & Bridge Agencies

How to Provide Proper Sight Distance at Curves

On horizontal curves, vegetation on the inside of the curve may restrict the driver's line of sight ahead. However, drivers need to be able to see ahead around the curve for the same stopping sight distance as they do at intersections. Weeds, brush or trees growing on the roadside on the inside of curves need to be cut so that drivers have adequate stopping sight distance.

Roads are safer when drivers can see as far ahead as it takes to stop their vehicles. The distance it takes to notice a problem, realize a stop is necessary and come to a complete stop is called **stopping sight distance**. Required stopping sight distances for different speeds are shown in the table below.

Stopping sight distance is important along all roadways. Where vegetation is close to the road, special attention needs to be given to stopping sight distance on the inside of curves. These areas should be checked when vegetation growth is at its peak to make sure stopping sight distances are adequate.

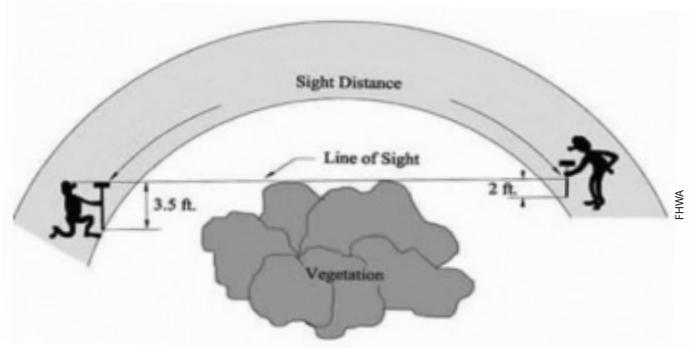
Cut vegetation accordingly to improve safety at the curve.

The conventional procedure used in measuring stopping sight distance assumes that a driver's eye is 42 inches above the road surface. The procedure also assumes that a driver must be able to detect an object that reaches 24 inches above the road surface on the road ahead.

Sight distance is measured along the travel path of vehicles. Therefore, measuring for stopping sight distance will require you to be in the travel lane with your back to traffic. Since you and an assistant will stand in the travel lane, extra people will be needed to watch for traffic. Establishing a short-term work zone with flaggers will be safer. Remember, you will be measuring a section of road that you suspect may not offer drivers adequate sight distance.

Be sure to wear a hard hat and safety apparel meeting the requirements of ANSI 107 for Class 2 risk exposure. You and your assistant will also need:

- Sight distance measuring sticks (described below).
- Measuring wheel and long steel tape.



Measuring for stopping sight distance.



To measure sight distance, kneel in the travel lane and use a 42-inch sighting stick to get your eyes at the proper height. Have your assistant move the target stick (a 42-inch long stick with the lower 24 inches painted a bright color to make it easier to see) in the travel lane until you cannot see the brightly painted section of the target stick or until the assistant reaches the distance shown in the table below.

Remember, on curves, stopping sight distance should be measured along the travel path of the vehicle. As shown in the illustration above, the line of sight is shorter than the sight distance. You should sight along a straight line between the two sticks but measure the distance between the two sticks in the curving travel lane.

If you can still see the bright point on the target stick when your assistant reaches the stopping sight distance needed, there is adequate stopping sight distance. If you lose sight of the brightly painted section of the target stick before your assistant reaches the stopping sight distance listed in the table, then at least some trimming and brush cutting is called for.

A. Reprinted from the Spring 2010 issue of the *Kansas LTAP Newsletter*, a publication of the Kansas Local Technical Assistance Program (LTAP) at the Kansas University Transportation Center.



B. Reprinted from FHWA's guide, *Vegetation Control for Safety*. The guide can be found at the FHWA's Safety Programs Web site (<http://safety.fhwa.dot.gov>) under the Local and Rural Roads Program. Click on Training, Tools, Guidance and Countermeasures for Locals. A PDF version is available.

Required Stopping Sight Distances

Speed Limit (mph) or Design Speed	Stopping Sight Distance (ft) 0% Grade	Stopping Sight Distance (ft) 3% Downgrade	Stopping Sight Distance (ft) 6% Downgrade	Stopping Sight Distance (ft) 9% Downgrade	Stopping Sight Distance (ft) 3% Upgrade	Stopping Sight Distance (ft) 6% Upgrade	Stopping Sight Distance (ft) 9% Upgrade
15	80	80	82	85	75	74	73
20	115	116	120	126	109	107	104
25	155	158	165	173	147	143	140
30	200	205	215	227	200	184	179
35	250	257	271	287	237	229	222
40	305	315	333	354	289	278	269
45	360	378	400	427	344	331	320
50	425	448	474	507	405	388	375
55	495	520	553	593	469	450	433
60	570	598	638	686	538	515	495
65	645	692	728	785	612	584	581
70	730	771	825	891	690	658	631

Source: American Association of State Highway and Transportation Officials. A Policy on Geometric Design of Highways and Streets, 2004.