

ZONING

350 Attachment 5

Township of Upper Burrell

Appendix E

Sight Distance Specifications

Excerpted from PennDOT regulations Chapter 441, § 441.8(h)

Sight Distance. Conditions for sight distance shall be as follows:

1. Access driveways shall be located at a point within the property frontage limits which provides at least the minimum sight distance listed in the appropriate following table:

Table 1 – Safe Sight Distance for passenger cars and single-unit trucks exiting from driveways onto two-lane roads.

Posted Speed (mph)	Safe Sight Distance – Left¹ (feet)	Safe Sight Distance – Right¹ (feet)
25	250	195
35	440	350
45	635	570
55	845	875

¹ Measured from a vehicle 10 feet back of the pavement edge.

Table 2 – Safe Sight Distance for buses and combinations exiting from driveways onto two-lane roads.

Posted Speed (mph)	Safe Sight Distance – Left¹ (feet)	Safe Sight Distance – Right¹ (feet)
25	400	300
35	675	625
45	1,225	1,225
55	2,050	2,050

¹ Measured from a vehicle 10 feet back of the pavement edge.

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Table 3 – Safe Sight Distance for passenger cars and single-unit trucks exiting from driveways onto four- and six-lane roads.

Posted Speed (mph)	Safe Sight Distance – Left¹ (feet)	Safe Sight Distance – Right² (feet)
25	175	195
35	300	350
45	500	570
55	785	875

¹ Measured from a vehicle 10 feet back of the pavement edge to a vehicle approaching in the outside lane.

² Measured from a vehicle 10 feet back of the pavement edge to a vehicle approaching in the median lane.

Table 4 – Safe Sight Distance for buses and combinations exiting from driveways onto four- and six-lane roads.

Posted Speed (mph)	Safe Sight Distance – Left¹ (feet)	Safe Sight Distance – Right² (feet)
25	300	300
35	625	625
45	1,225	1,225
55	2,050	2,050

¹ Measured from a vehicle 10 feet back of the pavement edge to a vehicle approaching in the outside lane.

² Measured from a vehicle 10 feet back of the pavement edge to a vehicle approaching in the median lane.

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Table 5 – Safe Sight Distance for passenger cars and single-unit trucks entering driveways by left turns.

Posted Speed (mph)	Safe Sight Distance in Feet ¹		
	2-Lane	4-Lane	6-Lane
25	190	205	220
35	300	320	345
45	445	470	500
55	610	645	680

¹ Measured from the point where a left-turning vehicle stops to a vehicle in the outside lane.

Table 6 – Safe Sight Distance for buses and combinations entering driveways by left turns.

Posted Speed (mph)	Safe Sight Distance in Feet ¹		
	2-Lane	4-Lane	6-Lane
25	330	360	390
35	485	530	575
45	690	750	810
55	905	990	1,075

¹ Measured from the point where a left-turning vehicle stops for a vehicle in the outside lane.

2. In using Tables 1 through 6, the following additional requirements shall apply:
 - a. Tables 2, 4 and 6 shall be used in lieu of Tables 1, 3 and 5 only when combination traffic exceeds 5.0% of the total traffic using the proposed driveway.
 - b. Posted speeds shall be used unless operating speeds vary from the posted speed by more than 10 miles per hour, in which case the Department may require that operating speeds be used.
 - c. The sight distance in Tables 1 through 4 applies only when highway grades are zero to 3.0%, either up or down.
 - (1) When the highway grade in the section to be used for acceleration, after leaving the driveway, ascends at 3.0% – 5.0%, the sight distance in the direction of approaching ascending traffic may be increased by a factor of 1.4.

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- (2) When the highway grade ascends at greater than 5.0%, sight distance may be increased by a factor of 1.7
 - (3) When the highway grade in the section to be used for acceleration after leaving the driveway descends at 3.0% – 5.0%, sight distance in the direction of approaching descending highway traffic may be reduced by a factor of 0.6.
 - (4) When the road descends at greater than 5.0%, sight distance may be reduced by a factor of 0.5.
- d. The sight distance values in Tables 1 through 6 are desirable for safe operation of the driveway. Sight distance values less than desirable will be accepted only if it is impossible to achieve the desirable value by locating the driveway at any point within the property frontage boundaries. The minimum acceptable sight distance values shall be computed from the following formula:

$$SSSD = \frac{1.47 Vt + V^2}{30 (f+g)}$$

SSSD = Minimum safe stopping sight distance (feet).

V = Velocity of vehicle (miles per hour).

t = Perception time of motorist (average = 2.5 seconds).

f = Wet friction of pavement (average = 0.30).

g = Percent grade of roadway divided by 100.

3. If sight distance requirements as specified in this chapter cannot be met, the Department may:
 - a. Prohibit left turns by existing vehicles;
 - b. Restrict turning movements to right turns in and out of a driveway;
 - c. Require installation of a right-turn acceleration lane or deceleration lane;
 - d. Require installation of a separate left-turn standby lane;
 - e. Alter the horizontal or vertical geometry of the roadway; or
 - f. Deny access to the highway.