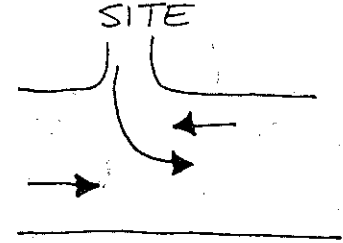


# 2230 Spencerville Road - New Entrance Located on MD-198

## INTERSECTION SIGHT DISTANCE REQUIRED AASHTO, 2001

### Left Turns from Site Access onto State Highway:

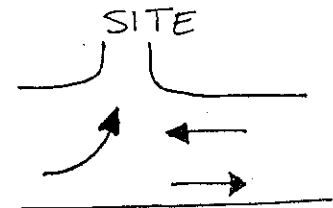
- For approach grades on the site access road of 3% or less
- For passenger cars



Left Turn from the Minor Road [AASHTO Case B1, p. 660]			
Design Speed (mph)	Number of Opposing Lanes Crossed		
	One	Two	Three
25	280'	299'	317'
30	335'	357'	380'
35	390'	416'	442'
40	445'	475'	504'
45	500'	534'	591'
50	555'	592'	656'
55	610'	651'	721'
60	665'	710'	786'
65	720'	768'	851'
70	775'	827'	916'

### Left Turns from State Highway to Site Access:

- For approach grades on the site access road of 3% or less
- For passenger cars



Left Turn from the Major Road [AASHTO Case F, p. 678]			
Design Speed (mph)	Number of Opposing Lanes Crossed		
	One	Two	Three
25	205'	224'	242'
30	245'	267'	290'
35	285'	311'	337'
40	325'	355'	384'
45	365'	398'	431'
50	405'	442'	478'
55	445'	485'	526'
60	490'	535'	579'
65	530'	578'	626'
70	570'	622'	674'

Source for Base Values: "A Policy on Geometric Design of Highways and Streets",  
AASHTO, 2001

Other Values Calculated By: BWB

Exhibit 17

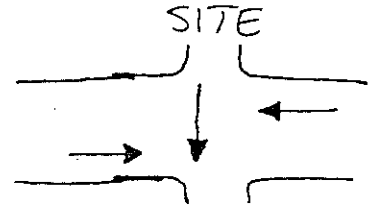
OZAH Case No: CU 24-09

**INTERSECTION SIGHT DISTANCE REQUIRED  
AASHTO, 2001**

**Crossing State Highway from Site Access:**

(Applies to Undivided Highways or Divided Highways with No Median Refuge)

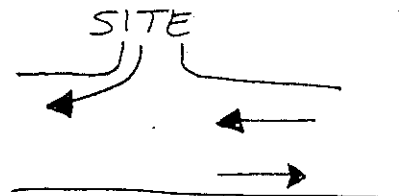
- For approach grades on the site access road of 3% or less
- For passenger cars



Crossing Maneuver from the Minor Road [AASHTO Case B3, p. 667]				
Design Speed (mph)	Total Number of Lanes Crossed			
	Two	Three	Four	Five
25	240'	259'	277'	295'
30	290'	312'	334'	357'
35	335'	361'	386'	412'
40	385'	415'	444'	474'
45	430'	463'	496'	529'
50	480'	517'	553'	591'
55	530'	571'	611'	652'
60	575'	619'	663'	708'
65	625'	673'	721'	769'
70	670'	722'	773'	825'

**Right Turn from Site Access to State Highway:**

- For approach grades on the site access road of 3% or less
- For passenger cars



Right Turn from the Minor Road [AASHTO Case B2, p. 667]	
Design Speed (mph)	
25	240'
30	290'
35	335'
40	385'
45	430'
50	480'
55	530'
60	575'
65	625'
70	670'

Metric				US Customary			
Design speed (km/h)	Stopping sight distance (m)	Intersection sight distance for passenger cars		Design speed (mph)	Stopping sight distance (ft)	Intersection sight distance for passenger cars	
		Calculated (m)	Design (m)			Calculated (ft)	Design (ft)
20	20	41.7	45	15	80	165.4	170
30	35	62.6	65	20	115	220.5	225
40	50	83.4	85	25	155	275.6	280
50	65	104.3	105	30	200	330.8	335
60	85	125.1	130	35	250	385.9	390
70	105	146.0	150	40	305	441.0	445
80	130	166.8	170	45	360	496.1	500
90	160	187.7	190	50	425	551.3	555
100	185	208.5	210	55	495	606.4	610
110	220	229.4	230	60	570	661.5	665
120	250	250.2	255	65	645	716.6	720
130	285	271.1	275	70	730	771.8	775
				75	820	826.9	830
				80	910	882.0	885

Note: Intersection sight distance shown is for a stopped passenger car to turn left onto a two-lane highway with no median and grades 3 percent or less. For other conditions, the time gap must be adjusted and required sight distance recalculated.

#### Exhibit 9-55. Design Intersection Sight Distance—Case B1—Left Turn From Stop

Sight distance design for left turns at divided-highway intersections should consider multiple design vehicles and median width. If the design vehicle used to determine sight distance for a divided-highway intersection is larger than a passenger car, then sight distance for left turns will need to be checked for that selected design vehicle and for smaller design vehicles as well. If the divided-highway median is wide enough to store the design vehicle with a clearance to the through lanes of approximately 1 m [3 ft] at both ends of the vehicle, no separate analysis for the departure sight triangle for left turns is needed on the minor-road approach for the near roadway to the left. In most cases, the departure sight triangle for right turns (Case B2) will provide sufficient sight distance for a passenger car to cross the near roadway to reach the median. Possible exceptions are addressed in the discussion of Case B3.

If the design vehicle can be stored in the median with adequate clearance to the through lanes, a departure sight triangle to the right for left turns should be provided for that design vehicle turning left from the median roadway. Where the median is not wide enough to store the design vehicle, a departure sight triangle should be provided for that design vehicle to turn left from the minor-road approach.

The median width should be considered in determining the number of lanes to be crossed. The median width should be converted to equivalent lanes. For example, a 7.2-m [24-ft] median should be considered as two additional lanes to be crossed in applying the multilane highway adjustment for time gaps in Exhibit 9-54. Furthermore, a departure sight triangle for left turns from the median roadway should be provided for the largest design vehicle that can be stored on

## Sight Distance Measurement and Evaluation Worksheet

EAST  
LEFT (~~North~~)

WEST  
RIGHT (~~South~~)

MD-198 Spencerville Road



INTERSECTION SIGHT DISTANCE	MEASUREMENT (ft)	
<ul style="list-style-type: none"> <li>• 3.5' object placed at proposed access</li> <li>• 3.5' driver's eye height on approaching lane</li> </ul>	LEFT <span style="color: red;">&lt;600 ft</span>	RIGHT <span style="color: red;">&lt;600 ft</span>
STOPPING SIGHT DISTANCE	MEASUREMENT (ft)	
<ul style="list-style-type: none"> <li>• 2.0' object placed at proposed access</li> <li>• 3.5' driver's eye height on approaching lane</li> </ul>	LEFT <span style="color: red;">&lt;600 ft</span>	RIGHT <span style="color: red;">&lt;600 ft</span>

### Evaluation

Posted Speed = 40 mph

Design Speed = Posted Speed + 10 mph = 50 mph (EAPD Policy)

#### Intersection Sight Distance (ISD):

Turning Movement	State Standard ISD Requirement Based on Design Speed	Reduced ISD Requirement Based on Posted Speed *
Left Turn from Site Access	555'	N/A
Left Turn into Site Access	405'	N/A
Right Turn from Site Access	480'	N/A

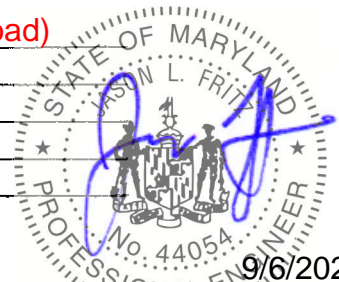
\*Substandard condition meeting this requirement may be acceptable upon consideration of site specific traffic and safety conditions, feasibility constraints, etc. Mitigation may be required for any substandard condition.

#### Stopping Sight Distance (SSD):

SSD Required for the Design Speed: 425 ft (MUST be met)

### Results

The location of the proposed entrance to/from MD-198 (Spencerville Road)  
and the conditions present in the field exceed the requirements of both  
intersection sight and stopping distance set forth in this worksheet.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 44054, Expiration Date: 06/09/2025.