- Sight Distance

The following charts indicate the minimum stopping sight distance for various design speeds and grades based on a total perception and brake reaction time of 2.5 seconds and a coefficient of friction of 0.16* to account for the poor wet weather braking characteristics of many bicycles. For two-way shared use paths, the sight distance in the descending direction, that is, where "G" is negative, will control the design.

Sight Distance Descending Grade (ft.)

	0%	-1%	-2%	-3%	-4%	-5%
12 mph	74	76	78	80	84	87
14 mph	92	95	98	102	106	111
16 mph	112	116	120	124	130	136
18 mph	133	138	143	149	156	164
20 mph	157	162	169	176	185	195
25 mph	212	231	241	252	265	281
30 mph	298	310	324	341	360	383

TABLE A-5-8 MINIMUM STOPPING SIGHT DISTANCE (FT.) DESCENDING GRADE

Sight Distance Ascending Grade (ft.)

	0%	1%	2%	3%	4%	5%
12 mph	74	72	70	69	68	67
14 mph	92	90	88	86	84	82
16 mph	121	109	106	104	101	99
18 mph	133	130	126	123	120	117
20 mph	157	152	147	144	140	137
25 mph	212	214	207	201	196	191
30 mph	298	287	277	268	260	253

TABLE A-5-9 MINIMUM STOPPING SIGHT DISTANCE (FT.) ASCENDING GRADE

$$S = \frac{V^2}{30\,(f \pm G)} + 3.67\,V$$

Where: S = stopping sight distance (feet)
V = velocity (mph)
F = coefficient of friction (use 0.16)
G = grade (ft/ft) (rise/run)

Source: AASHTO – *Guide for the Development of Bicycle Facilities*.

* Rev. 1/13