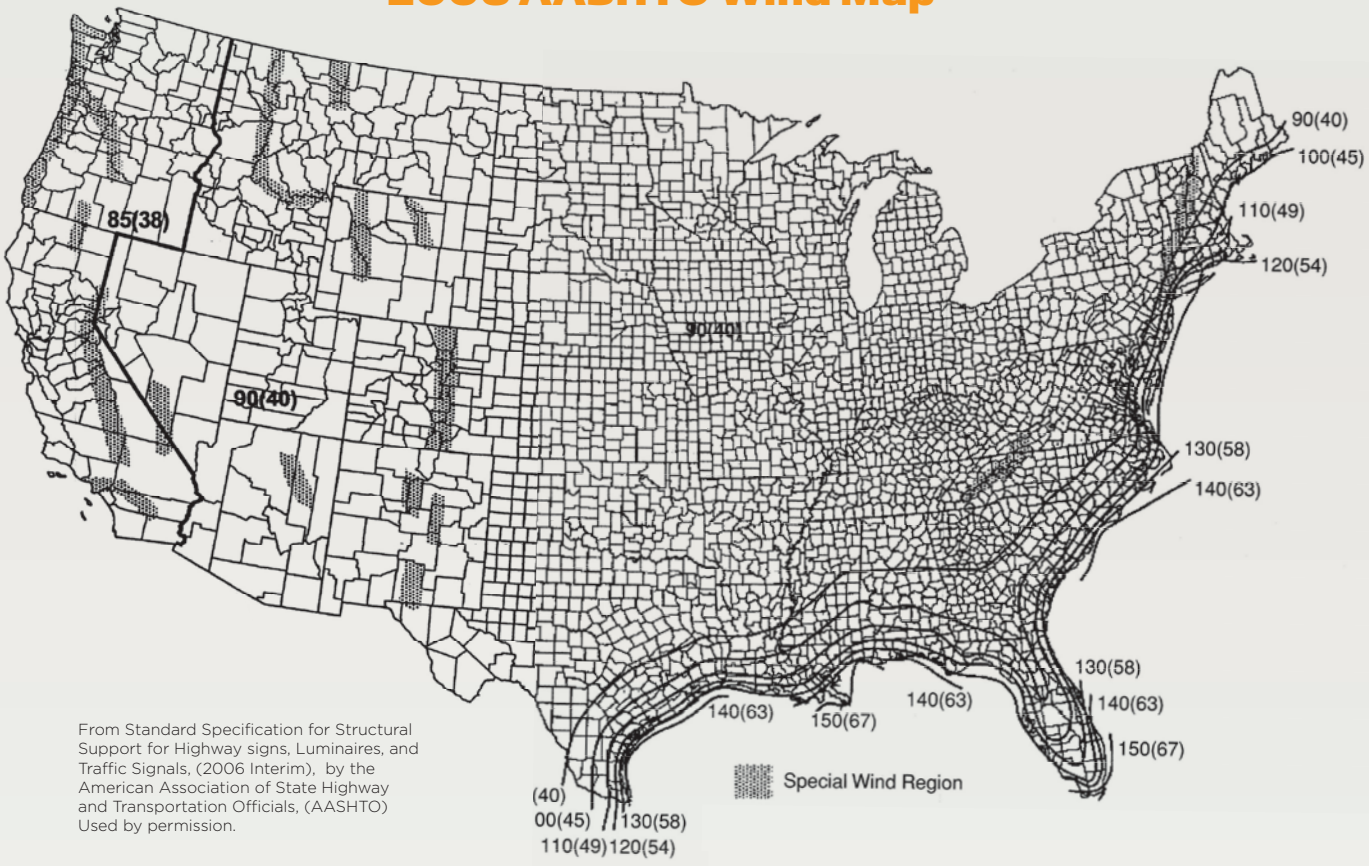
wind map

2006 AASHTO Wind Map



From Standard Specification for Structural Support for Highway signs, Luminaires, and Traffic Signals, (2006 Interim), by the American Association of State Highway and Transportation Officials, (AASHTO) Used by permission.

Notes

- Values are 3-second gust speeds in m/s (mph) at 10 m (32.8 ft) above ground for Exposure C category and are associated with an annual probability of 0.02 (50-year mean recurrence interval)
- The wind map is intended as a general guide. Always consult local authorities to determine maximum wind velocities, gusts, and special conditions for your installation.
- Hawaii has a 105 mph wind velocity.
- Puerto Rico has a 125 mph wind velocity.
- Caution must be taken when selecting wind velocity in special wind regions as indicated in the map above. These areas include:
  - Open land, oceans, or large bodies of water
  - Mountainous regions and gorges
  - Areas where extreme wind conditions such as hurricanes and tornadoes are common.
- The effective projected area (EPA) of the sum of all fixtures and arms must not exceed the maximum allowable pole EPA for the selected design wind speed.
- It is the responsibility of the specifier to correctly select a pole for a given wind load per the
- AASHTO standards.
- Pole foundations should be designed per the soil conditions and local codes. Structura does not offer foundation design recommendations.
- Consult the factory for luminaire arms greater than 24” in length and luminaires greater than 50 lbs.

maximum wind loading

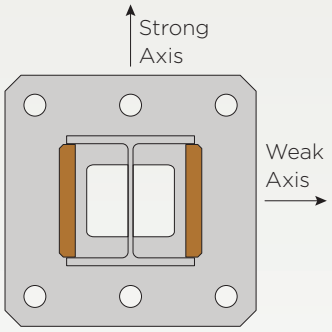
Beam

			Allowable Pole EPA						
Overall Pole Height (ft)	Pole Size	Anchor Bolt Qty.	90mph	100mph	110mph	120mph	130mph	140mph	150mph
12′	6″	4	25.8	20.6	16.7	13.8	11.6	9.7	8.3
12′	8″	4	68.5	55.0	44.9	37.3	31.4	26.7	22.9
12′	8″	6	102.8	82.5	67.47	56.0	47.1	40.0	34.4
14′	6″	4	18.1	14.4	11.5	9.4	7.8	6.4	5.4
14′	8″	4	57.9	46.3	37.7	31.1	26.1	22.0	18.8
14′	8″	6	71.6	57.3	46.6	38.5	32.2	27.2	23.2
16′	6″	4	13.1	10.2	8.1	6.5	5.2	4.2	3.4
16′	8″	4	47.7	38.2	31.1	25.7	21.5	18.1	15.4
16′	8″	6	71.6	57.3	46.6	38.5	32.2	27.2	23.2
18′	6″	4	9.6	7.3	5.7	4.4	3.4	2.6	2.0
18′	8″	4	36.7	29.2	22.2	19.3	16.0	13.4	11.3
18′	8″	6	43.2	34.0	27.2	22.1	18.1	14.9	12.3
20′	6″	4	7.0	5.2	3.8	2.8	2.0	1.4	-
20′	8″	4	28.2	22.7	18.1	14.7	12.0	9.9	8.2
20′	8″	6	43.2	34.0	27.2	22.1	18.1	14.9	12.3
22′	6″	4	5.0	3.6	2.4	1.6	1.0	-	-
22′	8″	4	22.8	17.8	14.0	11.2	9.0	7.2	5.8
22′	8″	6	34.2	26.7	21.1	16.8	13.5	10.9	8.8
24′	6″	4	2.5	2.2	1.3	-	-	-	-
24′	8″	4	18.2	14.0	10.8	8.5	6.6	5.1	3.9
24′	8″	6	27.3	21.0	16.3	12.7	9.9	7.7	5.9
26′	8″	4	14.5	10.9	8.3	6.2	4.7	3.4	2.4
26′	8″	6	21.8	16.4	12.4	9.4	7.0	5.2	3.6
28′	8″	4	11.59	8.5	6.21	4.4	3.1	2.0	1.1
28′	8″	6	17.3	12.7	9.3	6.7	4.6	3.0	1.7
30′	8″	4	9.1	6.4	4.4	2.9	1.7	-	-
30′	8″	6	13.6	9.6	6.6	4.4	2.6	1.2	-

wind map

Beam

				Allowable Horizontal Force (kips)						
Overall Pole Height (ft)	Pole Size	Anchor Bolt Qty.	Axis	90mph	100mph	110mph	120mph	130mph	140mph	150mph
12′	8″	6	Strong	6.4	6.4	6.4	6.3	6.3	6.2	6.2
12′	8″	6	Weak	3.2	3.2	3.1	3.1	3.1	3.0	3.0
14′	8″	6	Strong	5.2	5.2	5.2	5.1	5.1	5.0	5.0
14′	8″	6	Weak	2.7	2.7	2.6	2.6	2.5	2.5	2.4
16′	8″	6	Strong	4.3	4.3	4.3	4.2	4.2	4.1	4.0
16′	8″	6	Weak	2.2	2.2	2.2	.21	2.1	2.1	2.0
18′	8″	6	Strong	3.6	3.6	3.5	3.5	3.4	3.4	3.3
18′	8″	6	Weak	1.7	1.7	1.6	1.6	1.6	1.5	1.5
20′	8″	6	Strong	3.1	3.0	3.0	2.9	2.8	2.8	2.7
20′	8″	6	Weak	1.3	1.3	1.3	1.2	1.2	1.1	1.1
22′	8″	6	Strong	2.6	2.5	2.5	2.4	2.4	2.3	2.3
22′	8″	6	Weak	1.1	1.0	1.0	0.9	0.9	0.8	0.8
24′	8″	6	Strong	2.2	2.2	2.1	2.0	1.9	1.9	1.8
24′	8″	6	Weak	0.9	0.8	0.8	0.7	0.6	0.6	0.6
26′	8″	6	Strong	1.9	1.8	1.7	1.7	1.6	1.5	1.4
26′	8″	6	Weak	0.7	0.6	0.6	0.5	0.5	-	-
28′	8″	6	Strong	1.6	1.5	1.4	1.3	1.2	1.1	1.0
28′	8″	6	Weak	0.5	0.5	-	-	-	-	-
30′	8″	6	Strong	1.3	1.2	1.1	1.0	0.9	0.8	0.7
30′	8″	6	Weak	-	-	-	-	2.6	-	-



Notes

- Horizontal forces based off of loading perpendicular to the pole face. Consult factor for catenary layouts that are angled from the surface.
- Allowable force based off of 6″ maximum deflection on a 30′ pole.