INTERSECTOR Planning Worksheet

Intersection: ______ Traffic Direction: NB SB EB WB

SELECT MOUNTING LOCATION

Mounting Height: Sensor should be mounted high enough to reduce occlusions from large vehicles and meet area minimum mounting height requirements, but low enough to get proper stop bar coverage with minimizing tilt angle for shorter stop bar distances. Table 1 provides theoretical values of starting tilt angle (relative to road slope / grade) values based on Mounting Height and Stop Bar Distance¹.

Mast Arm Mounting: If a mast arm is available, the sensor can mount on the mast arm up to 10-feet from the support pole, or until the 1st signal light; whichever is shorter. See Figure 1.

Tilt Ang		Stop Bar Distance (ft)						
(Deg.)		60	70	80	90	100	110	120
ounting Height (ft)	14	-8	-6	-3	-2	-1	0	0
	15	-9	-7	-4	-3	-1	0	0
	16		-8	-5	-3	-2	-1	0
	17		-9	-6	-4	-3	-1	0
	18			-7	-5	-4	-2	-1
	19			-8	-6	-5	-3	-2
Mc	20			-8	-7	-6	-3	-3

Table 1: Tilt Angle Starting Matrix



¹ Tilt angles provided in Table 1 are recommended starting values. Actual results will depend on the environment of the installation site, and may need to be adjusted during setup to optimize performance.

SENSOR ALIGNMENT

#1 Azimuth / Offset Angle: Visualize the stop bar zones. If unknown, assume they will be from the stop bar through approximately 3 to 4 car-lengths back. Using the gun site on the front of the sensor, aim the unit left/right until the center of the desired stop bar detections zones line up in the gun-sites². See Figure 2.



Figure 2: Offset Angle Pictorial

#2 Tilt Angle: After setting the Offset / Azimuth Angle, set the tilt angle of the unit using an angle-meter to the value determined in Table 1 + natural road slope / grade. Note: If bicycle detection is necessary, increase the tilt angle by -2° to -3° .





² This alignment of offset / azimuth angle is a recommended starting position. Actual results will depend on the environment of the installation site, and may need to be adjusted during setup to optimize performance.