



“Wireless” Traffic Control Solutions

APPLICATION: *Upgrades to Crosswalk System for RRFB Test*

LOCATION: Flagstaff, Arizona, U.S.A.

Description

The City of Flagstaff, AZ, a longtime user of STC equipment, upgraded a Solar Ped-X wireless crosswalk to an RRFB configuration. The upgrade is due in part to the city's efforts to standardize its crosswalk locations to RRFB indication.

Flagstaff is participating in RRFB studies being conducted by the Federal Highway Administration through Texas Transportation Institute (TTI) to ascertain what makes the RRFB purportedly a more effective crosswalk treatment than existing round beacons. Is it the pulse rate, lamp size, lamp shape, lamp placement, or lamp intensity?

Test round 1

The engineering company doing the studies went to Flagstaff earlier this summer to monitor motorist's response at the crosswalk using a single 12-inch amber beacon facing traffic, flashing at the standard 50-60 FPM with a 50 per cent duty cycle. It should be noted that the original test conditions included a 30-inch x 30-inch, W11-2 sign on what appeared to be high intensity or diamond grade sheeting in a standard yellow color. The original crosswalk signage did not include the W167P arrow sign pointing to the crosswalk.

Test round 2

To prepare for the next round of testing, the city contacted STC to find out if the Solar Ped-X crosswalks could be upgraded to RRFBs utilizing most of the existing equipment. STC engineering came up with a conversion kit to facilitate this change.

The conversion work for the controls was done in Flagstaff's traffic sign shop by Joe Wise. The field changes were implemented by Steven Hill and members of his sign crew at the crosswalk site.

The crosswalk features a protected pedestrian island in the middle of the four lane road and had to be converted in sections. Unfortunately, only one leg was completed the first day due to weather issues.

Upon completion, the WB leg of the crosswalk was outfitted with STC Type 2 RRFB indications which feature dual 3-inch x 7-inch lamps on the leading edge and a high intensity confirmation lamp on the end cap.



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The W11-2 sign was upgraded to a 36-inch x 36-inch FYG diamond grade sign; a W167P arrow sign was installed as well. STC noted that this adds another variable to the prior studies done by the TTI study team and should be noted in final analysis for the study since better signage can impact the results. When asked about test criteria for placement of the RRFB assembly, city personnel indicated they did not have any specific direction for the test. Subsequently, STC and the city agreed to install the RRFB between the W11-2 and the W167P sign.

System run duration

The system will run approximately five weeks prior to additional data being taken at the location. Then the city will change the indications to 12-inch amber LEDs again to test them as a Circular Rapid Flash Beacon (CRFB). The 12-inch DC amber beacons will operate with the RRFB flash pattern as part of the test. The system will be configured this way for another five weeks for the next phase of the test to allow motorists time to adapt to the change.



The city plans to revert back to the RRFB signals pending final study results. STC DC LED lamps will work with the RRFB flash pattern and were shown earlier this year at the Western Section ITE show and the IMSA International Conference in Phoenix with and without rectangular masks.

Take these steps to insure the success of your solar-powered project:

1. Location - identify the site of the application; for example, the nearest town, village or city and state.
2. Load - specify the number and size of lamps, timers or other controls (anything which draws power).
3. Duty Cycle - determine how many hours per day and which days per week the load will be drawing power.

Go to "Send us your requirements" at www.SolarTrafficControls.com/support/requirements.php for more details.

Solar Power: a free source of energy

STC's solar-powered systems are designed for quick and easy installation in the field. Our careful front-end engineering minimizes your installation costs and provides years of trouble-free operation. The standard solar power system includes the solar array, system enclosure with all the necessary electronics, color-coded wiring harnesses, sealed batteries and full documentation. DC LED lamp kits can also be purchased. These include the LED beacon, lamp housing and mounting hardware.

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