# "Wireless" Traffic Control Solutions

## APPLICATION:Sensor-Activated Crosswalk Flasher
## LOCATION: County of Arlington, VA U.S.A.

***Description***

The system is composed of three solar-powered points, two being sensor stations and the third a dual 12-inch, flashing beacon system. The sensor stations are located on either side of the crosswalk on the curbs. The flashers have been placed upstream from the crosswalk.

*Sensor station for sensor-activated crosswalk flasher. Photo courtesy of Randy Dominick, Traffic Systems & Technology.*

When the site was surveyed, it was noted power was available within 50 feet of the street lights. It appeared that the site could easily be connected to AC. However, county personnel indicated this was impossible as the electric utility owned the lighting system and would not share the power. Nor could we tap into a feed from a nearby building due to the extensive site remediation work required.

Each sensor station is equipped with a Smartwalk® 1400 microwave pedestrian sensor. Since power was an issue, each sensor required a separate solar power system for operation. Ultimately, the sensors were capable of running from either an AC or 12VDC source and pulled approximately 0.2A in standby. The dry contact output of the sensor was connected to the input of a radio transmitter unit with a digitally-coded signal. The radio transmitter also had a low standby draw and was 12VDC-compatible, making all the necessary hardware solar friendly.

Due to various site conditions, including shading by a large building, a 110W solar array was used to power each station, and an oversized battery included for extended back-up. All the hardware was installed on a 4.5-inch O.D. pole with a breakaway base. The sensor was installed at a height of 12 feet above the pavement as recommended by the manufacturer.

The flasher system was linked to both sensor stations using a digitally-coded receiver. Once the signal was received, the flasher began operation for the programmed run-time with a set of toggle switches in the system's enclosure. The unit uses two 12-inch, amber DC LED lamps from Precision Solar Controls which are configured for wig-wag operation.

Arlington County needed the system to enhance safety at this particular mid-block crossing as static signs had proven ineffective. The county is currently considering installing these systems in other locations within its jurisdiction. Proximity of the different sites will not be an issue since the digital coding of the radios allows multiple transmitter/receivers to operate without interfering with each other.

This is a handicap-friendly system because there's no contact needed for activation. Additional options are available for the system such as a "tattletale" light to make

continued on next page

the unit more user friendly. The system sensors operate on a 24-hour basis. The flashing beacons only activate when alerted by the sensors. The total run-time is one hour of flashing per day.

The Arlington County solar-powered crosswalk flasher illustrates many of the benefits of solar technology: no trenching, no boring and reduced costs. Solar-powered traffic controls are the answer when power is too difficult to obtain; when it takes too long to run it to a site or where there's too many obstacles in the ground. If you can't bore under the road or across the road or dig up paving stones – solar is a viable solution.

When a traffic control project is defined correctly, i.e., all the equipment in the load and each component's duty cycle identified, solar clearly offers a cost-effective and feasible alternative – almost a set-it-and-forget-it type of product.

*Dual 12-inch, flashing beacon system upstream from the crosswalk. Photo courtesy of Randy Dominick, Traffic Systems & Technology.*

**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 number of hours per day and 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.

**STC Systems are Cost Effective**

Our solar flasher systems allow you to stretch your budget to obtain the traffic safety devices you need at affordable prices. Most systems are equivalent to the cost of obtaining an AC power drop. Battery life is typically three to six years; less expensive than grid electricity for the same period of time.

Solar Traffic Controls (STC) provides solar-powered traffic control systems for city, state and federal DOTs; police, firefighting and public works departments; facility maintenance and plant safety industries. Our primary products are solar-powered flashing beacon systems used for school zones and 24-hour applications. We also supply specialized flasher systems using environmental sensors and custom communications packages to control the flashing beacon systems. Our product spectrum also includes wireless power systems for ITS, EMS and HAR. STC's products and services are sold through a network of regional distributors who offer technical support for your project.

**For more information:** Solar Traffic Controls, LLC • 1930 East Third Street, Suite 21 • Tempe, AZ 85281-2929 USA
Tel: 480.449.0222 • Fax: 480.449.9367 • info@solar-traffic-controls.com • www.solar-traffic-controls.com