# "Wireless" Traffic Control Solutions

**APPLICATION: *Solar-powered Trail Lighting System***
**LOCATION: Chandler, Arizona, U.S.A.**

***Description***

The City of Chandler, a rapidly growing community southeast of Phoenix, has improved public safety by installing lighting along a canal used by bikers and joggers. Bordering the towns of Mesa and Chandler, the three-mile-long Western Canal has 208 solar-powered lighting systems along its banks. The city obtained a stimulus grant from Arizona Department of Transportation enabling this project.

Each system consists of a 170W solar array with three sealed batteries. STC was able to redesign one of its standard system enclosures to accommodate a third battery thus drastically reducing overall project costs. The controls provide dusk-to-dawn operation of the DC LED lamp fixture. The lamp for the project is a modified Warp 9 from Kim Lighting. All the equipment has been installed on a 5-inch x 5-inch square steel pole. All parts are finished in glossy black. Cem-Tec, a local pole manufacturer worked with STC to provide pre-drilled poles to make installation of the systems move faster for the prime contractor's personnel.

Due to the large number of systems fielded, STC designed field test equipment to minimize hookup errors. A handheld test module which plugs into the system wiring harness has been provided to field technicians. The test unit provides visual feedback on the polarity of the battery and solar array connections.

One of the collaborators of this system, Kim Lighting, won a Platinum Product Innovation Award in 2011, for the most energy efficient use of solid-state lighting. The challenge was to specify a renewable energy system and cutting-edge, energy efficient luminaire which meets the required light levels to illuminate the community pathway. The Kim Lighting solution: WARP9 LED luminaire with solar system.

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The project was originally specified by ADOT to employ HID sources. However, the specifications were switched once ADOT learned of both solar and LED performance advancements and rewrote the specifications to bridge the two cutting-edge technologies. Installation was completed by Royal Southwest.

Kim Lighting, City of Industry, CA - www.kimlighting.com

**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.

**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.

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