



LIGHTGUARD
S Y S T E M S®

SELECTION GUIDE

An introduction to Smart Crosswalk™
Warning Light Systems



Introduction

Congratulations on taking the first step towards significantly reducing pedestrian accidents and injuries with a LightGuard Systems Smart Crosswalk™. An investment in a Smart Crosswalk™ heralds a safer environment for pedestrians and motorists, and also brings increased visibility of pedestrians during high traffic, nighttime, and in sub-optimal, or obscured visibility conditions.

Smart Crosswalk is an ideal pedestrian enhancement for applications such as:

- Public crosswalks
- Airports
- Trail crossings
- Hotels and casinos
- School zones
- Corporate campuses
- College campuses
- Shopping malls
- Parking facilities
- Hospitals

Smart Crosswalk™ In-Roadway Warning Lights (IRWL)

The LightGuard Systems IRWL is MUTCD compliant and a proven method of increasing driver awareness up to 95%.

A typical in-roadway warning light system is comprised of:

- IRWL light fixtures
- Base plates, 10" composite or 14" steel
- Passive pedestrian (bollards) and/or manual push button activation
- Flashing LED warning signs or RRFBs
- Controller, battery back-up and lockable weatherproof cabinet
- Solar and/or A/C power sources (wireless option available)

(See Figure 1.)

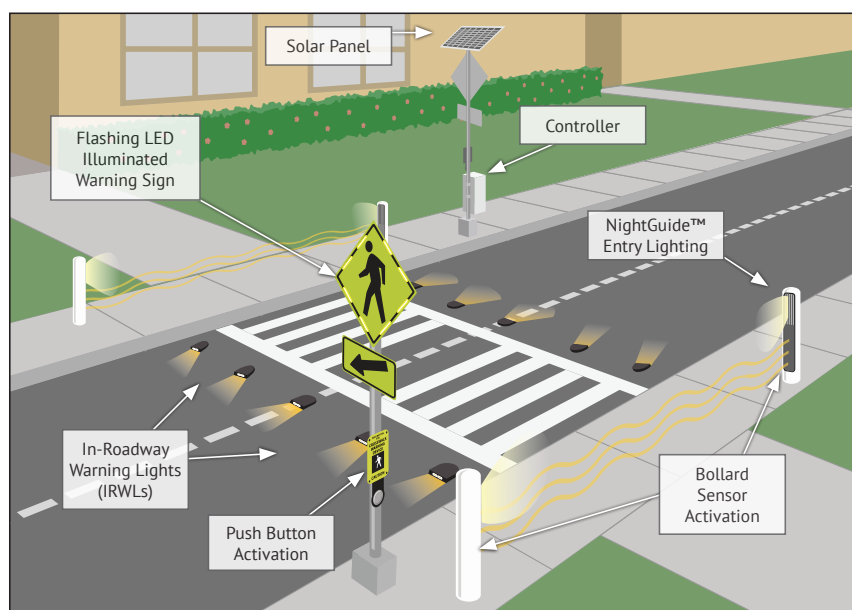


FIGURE 1

Selecting the Right Components for Your Project:

1. How Many In-Roadway Warning Lights?

The number of lanes in the roadway determine the number IRWL needed. A typical two-lane roadway requires five (5) IRWL installed on each side of the crosswalk—for a total of ten (10) IRWL, plus ten (10) base plates. (See Figure 2.)

The direction, or placement, of the IRWL faces away—outward from the crosswalk's center—to alert oncoming motorists in either direction, and to avoid distracting pedestrians as they are crossing the roadway.

Similarly, a typical four-lane roadway requires seven (7) lights facing outward in each direction for a total of fourteen (14) lights plus fourteen (14) base plates.



IRWL fixture with 10" composite base plate



FIGURE 2

TIP: IRWL fixtures are embedded into the roadway in the center of lanes, at roadway edges, and on lane lines – allowing vehicle tires to straddle the light fixtures.

2. Base Plate Options

Base Plates protect and house IRWL—and are purposefully designed for their durability and resistance. Our proprietary Debris-Free Self Clearing™ feature is built into the base plate. This design compresses air and “jets-out” the accumulated rubble through the fluted air channels. (See Figures 3 and 4.)

Standard 10" Base Plate

The 10" x 1.5" standard base plate is made of ultra-high strength composite material and is designed to be permanently embedded into the roadway.

Steel Snow Plow 14" Base Plate

For snowy regions we recommend our durable 30 lbs., 14" x 1 1/2" steel case-hardened base plate which is designed to protect against a snowplow blade.

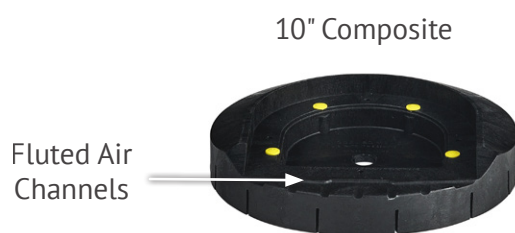


FIGURE 3

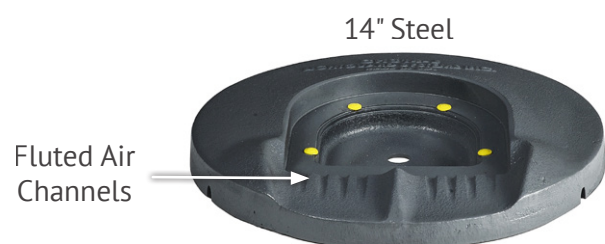


FIGURE 4

3. Activation Methods

Smart Crosswalk™ passive pedestrian activation methods include: bi-directional infrared bollard sensors, radar and motion detection devices—all of which automatically trigger the systems flashing LED lights as pedestrians enter the crosswalk (See Figure 6); or manually via push button device. (See Figure 5.)

Each activation method has its benefits. However, the combination of both push button and bollard sensor is recommended to ensure optimal safety—as some pedestrians are more familiar and compliant with pushing a button, while others are not.

If only one activation method is selected, we recommend passive detection bollards which contain infrared light beam sensors. In addition to providing optimal pedestrian safety, bollard sensors also create a lighted visual entry point—inviting the pedestrian to cross at the safest place.



FIGURE 5



Studies show that pedestrians use a push button activation method at crosswalks only about 60% of the time—leaving 40% of pedestrians potentially “exposed” to vehicles traveling through the crosswalk.

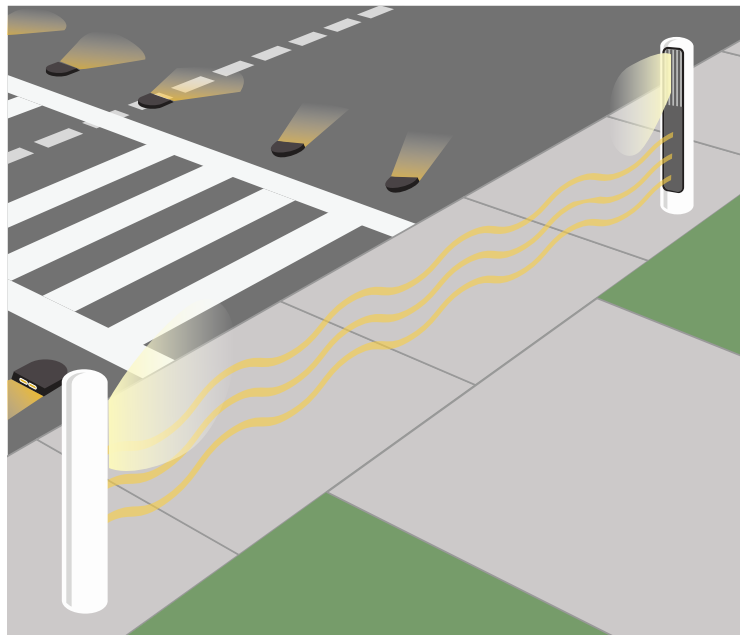


FIGURE 6

4. Type of Power – A/C and Solar

Your project's power source, location, budget and sun exposure will determine how your Smart Crosswalk™ will be configured: either to work with an existing A/C power source, or solar power—or both. If wiring a standard power supply to the Power Control Unit (PCU) isn't feasible, solar power is the ideal option.



5. System Controllers

The Power Control Unit (PCU) functions as the “brain” of your lighted crosswalk system. Users are able to set-up and adjust the activation timing of the flashing LED lights, monitor the system, and capture data. A fail safe feature automatically warns users of any system malfunction.

Advanced Controller

Advanced Controllers can monitor and store data, such as time, date, and movement in each crosswalk direction. They can be programmed to turn on automatically at a specific time, and then revert to standby mode for normal operation. They also have instantaneous battery back-up power in the event of a power failure.

The Advanced Controller can also be enhanced to accommodate additional pedestrian safety measures such as: flashing LED warning signs; flashing beacons; RRFBs; simultaneous yet independently activated crosswalks; remote communication; and other custom-based applications. (See Figure 8.)

Basic Controller

The Basic controller provides all of the requisite functions to operate your Smart Crosswalk™ successfully, such as setting the crossing rate time of the flashing LED lights. The Basic Controller does not include a backup battery, or the ability to store data. (See Figure 9.)

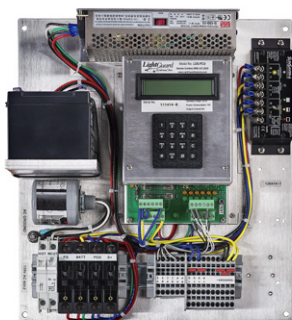


FIGURE 8



FIGURE 9

6. Flashing LED Illuminated Warning Signs

Our flashing LED warning signs are a highly visible warning solution that increase motorist yielding. FHWA and MUTCD compliant (W11-2, S1-1, W11-15), they are an ideal, budget-friendly pedestrian safety solution.

LED signs activate wirelessly via pedestrian push button or passive detection bollard sensors. Available as stand-alone warning systems, LED signs are commonly used in conjunction with in-roadway warning lights, and less commonly in combination with RRFBs.

Available in 30", 36" and 48" sizes, our LED signs are robust, maintenance-free and powerfully built. Each sign contains 96 high-intensity LED lights and flash at the Enlighten1™ rate.

Our Flashing LED Warning Signs:

- Contain 96 high-intensity LEDs
- Visible from up to 1 mile
- Flash at a photosensitive epilepsy safe rate
- Elegantly reinforce existing warning measures
- Are available in solar wireless
- Offered in solar and A/C power



Solar wireless flashing LED school crossing sign with push button

7. Rectangular Rapid Flashing Beacons (RRFB)

The RRFB is an economical, easy-to-install safety measure that increases motorist yielding. The LightGuard Systems RRFB system uses high-intensity LEDs to alert drivers of pedestrians in a crosswalk in real-time. It flashes at a highly visible MUTCD approved on/off rate that demands motorists' attention. It activates via ADA compliant push button or passive pedestrian detection bollard sensors. Offered in wireless solar and A/C hard wired; sold in pairs.

The Solar Wireless RRFB System Includes:

- 2 Enclosures
- 2 Wireless transceivers
- 2 Solar panels w/pole mounts
- 2 Batteries
- 2 Push button stations
- 2-30" Diamond FYG Pedestrian static signs (W11-2)
- 2-12" x 24" Down arrow signs (W16-7p)



Solar wireless RRFB pedestrian sign system with push button

Trust LightGuard Systems® as Your Partner

When you choose LightGuard Systems as your pedestrian safety partner, you are joining forces with an industry leader with a proven track record of more than twenty-five years.

- **Global** – LightGuard Systems has a global presence with thousands of systems installed in the USA and all over the world.
- **Innovative** – We have deep application knowledge and exceptional technical competence. We helped craft and set the IRWL standards that are in use today by the United States Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD).
- **Design** – Our design team creates elegant, robust, and highly-effective safety solutions for a wide range of applications.
- **Pursuit of Safety** – We are dedicated and committed to the pursuit of safety through technology and continually strive to improve pedestrian safety awareness in the communities we serve.



LightGuard Systems® Inc.

1-707-542-4547

FAX: 707-525-6333

office@lightguardsystems.com

www.lightguardsystems.com

**Australian
Distributors**



Ikon Engineered Solutions

(07) 5431 8353

admin@ikones.com.au

www.ikonengineeredolutions.com.au





Customer and Project Information Form For a Smart Crosswalk™ System

CUSTOMER INFORMATION

Company Name: _____

Mailing Address: _____

City: _____ State: _____ ZIP: _____

Contact Name: _____ Title: _____

Email: _____ Phone: _____ Ext.: _____

Fax: _____

Physical Installation Address (if different than above):

Street Address: _____

City: _____ State: _____ ZIP: _____

My installation site is on (check one):

☐ Public Property (school, city street, etc.) ☐ Private Property (business, parking garage, etc.)

How did you hear about LightGuard Systems®?

Name(s) of the person(s) who referred you to LightGuard Systems® for this project:

CONTRACTOR INFORMATION

(If applicable, where another organization or contractor is
spearheading the project with you and/or your team.)

Company Name: _____

Mailing Address: _____

City: _____ State: _____ ZIP: _____

Contact Name: _____ Title: _____

Email: _____ Phone: _____ Ext.: _____

Fax: _____

SITE/PROJECT DESCRIPTION

Please describe the site location and any relevant project details below:

Target installation date: _____

My project site is a (select one):

☐ 2-lane roadway ☐ 4-lane roadway ☐ Other _____

My project is located in a (select one):

☐ Non-snowy region ☐ Snowy region

For my project, I need the following activation method(s):

☐ Bollards ☐ Push Buttons ☐ Bollards and Push Buttons ☐ Radar ☐ Motion Detection

For my project, the power source will likely be:

☐ AC power ☐ Solar power ☐ Both AC and solar power ☐ Solar/Wireless

For my project, we will likely use the below System Controller (select all that apply):

☐ Basic Controller ☐ Advanced Controllerr ☐ Wireless PLC

For my project, we also want to install:

☐ AC powered LED Signs ☐ Solar powered LED Signs

Please send this completed form to us at office@lightguardsystems.com, or fax it to 707-525-6333, and one of our product specialists will follow up with you to assist you in selecting the best pedestrian safety solution for your project.



LightGuard Systems® Inc.
2292 Airport Boulevard
Santa Rosa, CA 95403 U.S.A.
(707) 542-4547
FAX: (707) 525-6333
office@lightguardsystems.com
www.lightguardsystems.com

**Australian
Distributors**



Ikon Engineered Solutions
(07) 5431-8353
admin@ikones.com.au
www.ikonengineeredolutions.com.au