

GARDCO CROSSWALK SYSTEM

FLUSH-MOUNT IN-ROADWAY
WARNING LIGHT SYSTEM



GARDCO
LIGHTING



SAVING LIVES BY ALERTING DRIVERS

In the United States, approximately 5,000 pedestrians are killed in traffic collisions each year – that's one death every 110 minutes. And every year, vehicles injure more than 61,000 walkers and runners, including 16,000 children age 15 and younger. While these accidents occur in virtually all locations and conditions, most happen in urban areas, at non-intersection locations and at night, indicating the great need for more abundant and more advanced traffic warning systems designed to alert drivers and protect pedestrians.

Fortunately, the Gardco Crosswalk System is a welcome addition to any community's traffic safety system. Featuring in-road lights with super-bright LEDs, truly flush design and a variety of configuration and power options, the Gardco Crosswalk System saves lives by alerting drivers to crossing pedestrians during every hour of the day and night.

The Gardco Crosswalk System is made available through an exclusive marketing partnership with Spot Devices, Inc. Spot Devices is a premiere manufacturer of in-road warning systems and is a recognized leader in the safety industry. Combining the engineering strength of Gardco Lighting and Spot Devices results in maximum benefits for customers.

The Gardco Crosswalk System is ideal for mid-block crossways, uncontrolled intersections and heavily trafficked pedestrian areas such as schools, military bases, corporate campuses and commercial areas. When activated – either by a pushbutton controller or an automatic bollard – the system triggers two distinct components that alert drivers to the presence of pedestrians. The first is a series of in-roadway warning lights (IRWLs) positioned in the drivers' line of site directly in front of the crosswalk. The second is a traditional lighted road sign that adds another level of awareness. Both components in the Gardco Crosswalk System feature the brightest LEDs of any IRWL, visible at more than 500 feet in direct sunlight and more than 1 mile at night. The result is safer pedestrians, safer drivers and all-around safer roads.

¹ *Statistics from National Highway Traffic Safety Administration's National Center for Statistics and Analysis "Traffic Safety Facts 2006 Data," updated March 2008.*

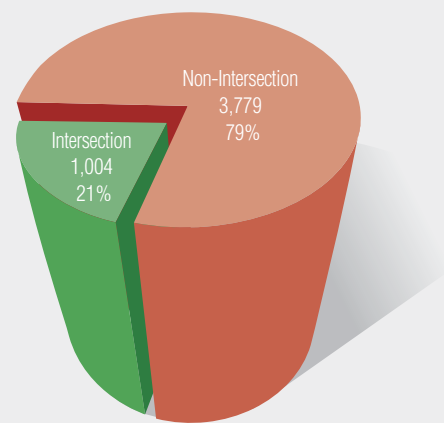
Designed to Save Lives

More than a decade of testing conducted by numerous traffic and safety institutions has demonstrated that in-roadway warning light (IRWL) systems like the Gardco Crosswalk System significantly raises driver awareness of crosswalks and pedestrians. The statistics are illuminating, especially as one considers that the Gardco Crosswalk System demonstrates improved yielding to pedestrians by both day and night.

Designed to Save Money

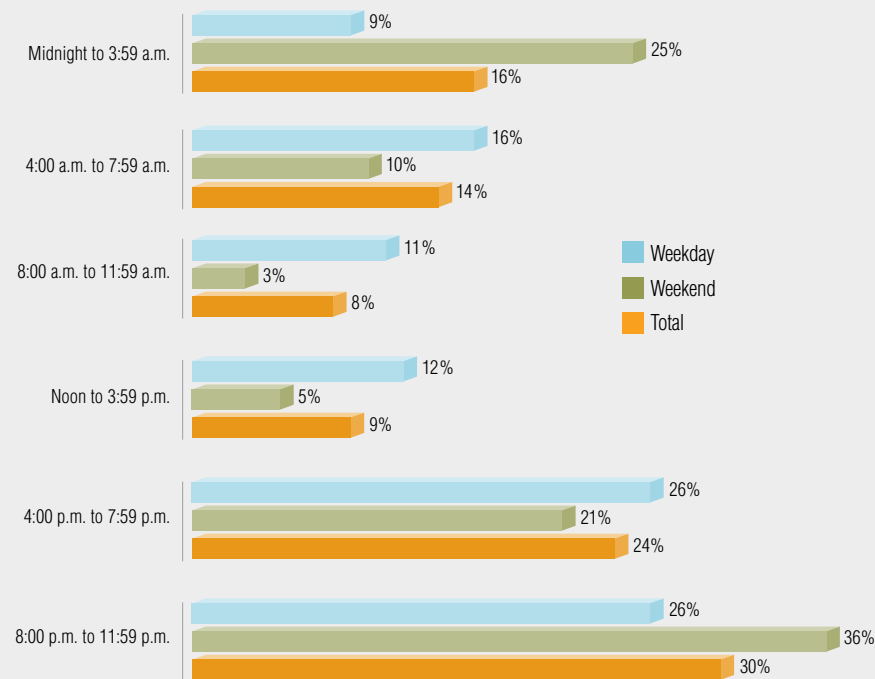
Every community has places where there are busy pedestrian crosswalks – near schools, malls, business parks, hospitals, military bases, recreation areas and retirement homes. Many of these are places where full traffic signal systems are impractical or unaffordable. Because it can be installed independent of a complete traffic light system, the Gardco Crosswalk System is an extremely cost-effective solution to ensure pedestrian safety. Additionally, the system features bright and efficient LEDs and the option to be powered by solar panels, reducing power consumption and associated ongoing costs.

Pedestrian Fatalities by Location



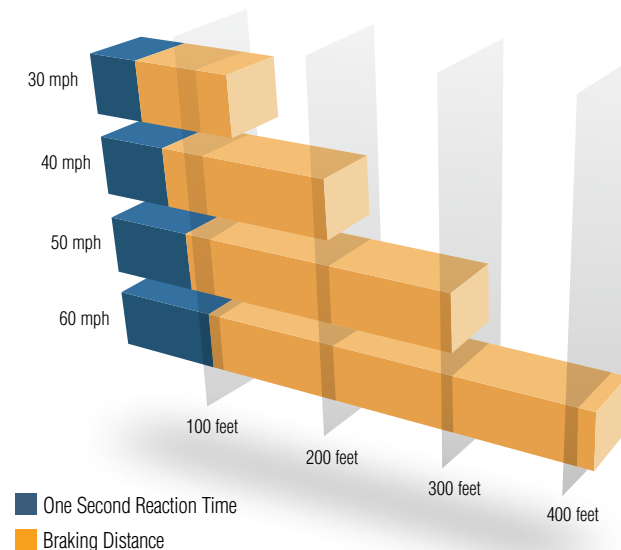
Statistics from 2006 indicate that pedestrians are at the greatest risk in exactly the places where Gardco Crosswalk System is best suited.

Pedestrian Fatalities by Time of Day and Day of Week



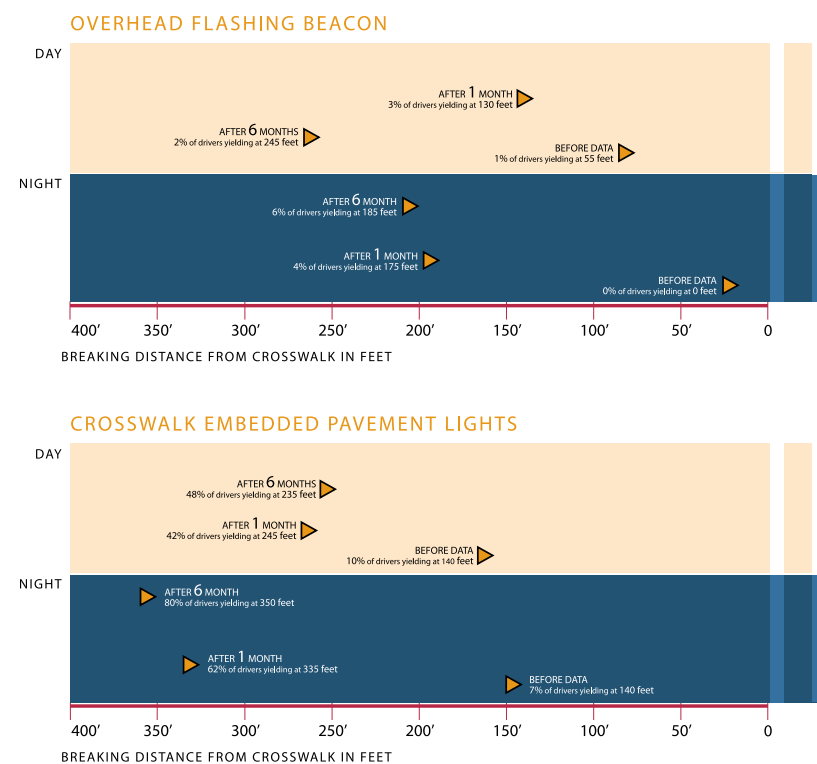
A study from the National Highway Traffic Safety Administration indicates that more than 50% of all pedestrian fatalities occur between 4 p.m. and midnight. Effective safety measures are clearly needed for both day and night applications.

Minimum Vehicle Stopping Distance (Dry Pavement)



The Gardco Crosswalk System is clearly visible in bright daylight at more than 500 feet, and at more than 1 mile in nighttime conditions, ensuring that drivers will have plenty of time to react.

Drivers Yielding to Pedestrians (Overhead Flashing Beacon versus Crosswalk Embedded Lights)



When compared to a typical overhead flashing beacon, the embedded in-roadway lights of the Gardco Crosswalk System result in an unprecedented increase in drivers yielding and braking distance from the crosswalk, ensuring pedestrian safety.

- The Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) 2000 Millennium Edition listed IRWL systems as an acceptable standard for pedestrian safety at crosswalks.
- The California Traffic Control Devices Committee recommended the use of IRWL flash patterns and system configurations as tested throughout the State of California.
- "In-roadway warning lights have increased driver yielding to the 50 to 90 percent range. Additionally... in-roadway warning lights typically increase the distance that motorists first brake for a pedestrian crossing, indicating that motorists recognize the pedestrian crossing and the need to yield sooner. These results have been even more dramatic at night when the in-roadway warning lights are highly visible."²
- According to several recent studies – including those sponsored or conducted by the Federal Highway Administration and several states' Departments of Transportation – the use of IRWL systems increases vehicular yielding to pedestrians and decreases crosswalk approach speeds.^{3,4}
- "An evaluation of an in-pavement lighting system... indicates a reduction in approach speeds of vehicles, an increase in the percentage of motorists who yield to pedestrians in the crosswalk, and improved motorists' yielding behavior."⁵
- "In-roadway warning lights have increased the frequency that drivers yield to pedestrians into the 50 to 98 percent range."⁶
- "Flashing amber lights embedded in the pavement at uncontrolled crosswalks clearly have a positive effect in enhancing a driver's awareness of crosswalks and modifying driving habits to be more favorable for pedestrians."⁷

² Fitzpatrick, Kay, et al. "Improving Pedestrian Safety at Unsignalized Crossings." Prepared for Transportation Research Board of the National Academies, TCRP Report 112, NCHP Report 562, 2006.

³ The Effects on Safety of In-Roadway Warning Lights at Crosswalks: Novelty or Longevity?

⁴ Pedestrian Crosswalk Safety: Evaluating In-Pavement, Flashing Warning Lights by the Lighting Research Center at the Rensselaer Polytechnic Institute.

⁵ Karkee, Ganesh Ph.D., P.E., et al. "An Evaluation of the Effectiveness of an In-Pavement Flashing System." Western ITE, July-August 2006, Vol. 60 No. 4, pgs. 1-3.

⁶ Finley, Melissa D., et al. "An Assessment of Various Pavement Marking Applications and Rumble Strip Designs." Texas Transportation Institute, December 2005.

⁷ Godfrey, David, P.E., et al. "Success in Redesigning Main Streets for Pedestrians." Prepared for: TRB's 6th National Conference on Transportation Planning for Small and Medium-Sized Communities, September, 1998; Spokane, WA.

CONSTRUCTION

Created with a truly flush design that has been engineered to withstand roadway abuse, the Gardco Crosswalk System is the brightest, strongest, most reliable in-roadway warning light (IRWL) system available. Its modular design makes installation and maintenance quick and easy, while its advanced LED technology offers distinct advantages in every application. Truly, there is no better IRWL than the Gardco Crosswalk System.

Super-Bright LEDs

The Gardco Crosswalk System contains the brightest LEDs of any IRWL system. Each in-road component contains three (3) or six (6) LEDs that emit more than 2.5 million cd/m² each. The LEDs use less energy and last longer than other light sources.

Highly Visible Amber Lamps

Amber, the most visible light in all conditions, is inherently associated with caution. The Gardco Crosswalk System uses amber lamps that are visible from more than 500 feet in direct sunlight and 1 mile in nighttime environments. The system has an auto-dimming function for control as needed, and can be customized with other lamp colors upon request.

Reduced Debris, Increased Visibility

The system's flush design ensures that there is no place for debris to collect. This debris-free, self-cleaning design enables light to stay bright and visible at all times without dimming from dirt or dust build-up.

Easy Installation

The Gardco Crosswalk System's small size and clever design allow for a quick and easy installation that requires just a small trench for the connector cables and rectangular cutouts for every in-road component. The system is shipped ready to install.

Truly Flush Design

The Gardco Crosswalk System was designed for the most demanding applications, including snowy environments where regular plowing has limited the ability to install other IRWL systems. By installing truly flush, the Gardco Crosswalk System eliminates snowplow concerns and ensures that the road – rather than the light – absorbs the impact of vehicles.

Unrivaled Water Protection

Because the Gardco Crosswalk System's optical system is factory sealed and connected to the power source through a series of hermetically sealed plugs, water will never disrupt the system's performance, even in the wettest environments.

Protector Plate

A black stainless steel protector plate adds additional strength to the system and helps it blend inconspicuously into the roadway.

Strength for Any Application

The anchor, body and window of the Gardco Crosswalk System are made from abrasion-resistant polycarbonate that is designed to resist cracking and chipping. The window protects the LEDs, ensuring long-lasting functionality.

Vandal-Resistant Security Screws

Torx security screws seal the protector plate, optical system and anchor, providing excellent vandal resistance while allowing for easy maintenance access as needed.

Modular Optical System Component

The lamps and main body of the Gardco Crosswalk System are a single factory-sealed component that utilizes a hermetically sealed plug to connect to the anchor embedded in the roadway. This allows for incredibly easy maintenance and replacement of the one-piece optical system, even in rain or standing water.

Unidirectional or Bidirectional Light

The Gardco Crosswalk System can be configured for both unidirectional and bidirectional light. The frequency and duration of the flash pattern can be configured remotely from the system's cell modem controller.

Quality Tested for Plug and Play Installation

Every Gardco Crosswalk System undergoes a complete quality assurance test before shipment. All components are connected, plugged in to a power source and turned on before leaving our ISO 9001 facility.

Hermetically Sealed Plugs

Gardco Crosswalk System components are connected via hermetically sealed plugs that eliminate in-the-field wire terminations.

Connector Cables

Each in-road warning light includes two 7' or 14' custom cables to quickly and effortlessly connect all system components and eliminate any weaknesses in the line of lights.

SYSTEM CONTROL AND ACTIVATION



The Gardco Crosswalk System is equipped with a small controller in a stainless steel cabinet that either rests within a bollard or is mounted on a roadside pole. Powered by AC or solar power, the controller drives the in-road warning lights, flashing beacons, LED signs and any audible announcements. An advanced Internet-accessible cell modem is used to configure all system components.



The cell modem configuration is linked to a secure network Internet connection that allows several special features. The system connects to the Internet automatically to report usage data and diagnostic information. It can be used to activate, monitor or reconfigure the system from anywhere. The system even sends automatic outage alerts via email. This is the ideal way to stay connected to the Gardco Crosswalk System at all times.



Solar Panel



Manual Activation System

The second activation system for the Gardco Crosswalk System is a manual system that uses a modified pedestrian-operated pushbutton assembly. Pedestrians simply press the large button to activate the in-road warning lights, which flash at an adjustable timed interval while the pedestrian crosses the street.

The manual activation system can be powered in one of two ways. The first is a small pole-mounted AC controller that can light up to 24 uni- or bidirectional lights. Alternatively, it can be powered by an energy-saving solar controller that lights up to 18 bidirectional and 24 unidirectional in-roadway warning lights. An environmentally sensitive choice ideal for sunny climates, this setup stores energy and reliably powers the system day or night while offering considerable savings on ongoing costs.

Automatic Activation System

The sleek and unobtrusive Automatic Activation System uses an integral motion sensor to activate. This AC powered bollard eliminates the need to attach the control box to a pole.



LED Signs and Beacons

In addition to the in-roadway warning lights, the Gardco Crosswalk System can be enhanced with additional devices to alert drivers that pedestrians are present. Customized LED signs and beacons can be positioned in advance of the in-roadway components to call extra attention to the upcoming crossway and encourage drivers to be prepared to yield.



APPLICATIONS



The Gardco Crosswalk System is the universal solution for the many applications where the time and expense of a traffic light system are impractical or unwarranted. The system is fast and easy to install, and its LEDs and optional solar power ensure a cost-effective, energy-efficient lifespan. But most importantly, the Gardco Crosswalk System improves driver awareness of pedestrians, saving lives and preventing injuries.



- Gardco Crosswalk System in typical configuration.
- Automatic activation through motion sensor in decorative bollard.
- System controller housed inside decorative bollard for best aesthetics.
- Lighted crosswalk sign used at each side of crosswalk.

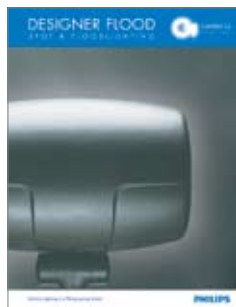
Form Ten Round



Gardco Scence



Floodlight



Step and Aisle Lights



Gardco Lighting is a Philips group brand

1611 Clovis Barker Road
San Marcos, TX 78666
512/753-1000
800/227-0758
Fax: 512/753-7855
www.sitelighting.com

© 2008 Philips Group.
All Rights Reserved.
International Copyright Secured.

