



Cross SafeTM
System

The Problem

- In 2009, there were 59,000 REPORTED pedestrian injuries, nearly one every 9 minutes.
- 72% of pedestrian fatalities occurred in an urban environment
- 76% occurred in Non-intersection locations
- 70% of pedestrian fatalities occurred at nighttime
- 89% occurred in normal weather.
- \$5.2 billion per year spent on pedestrian death and injury among children ages 14 and younger (Safe Kids Worldwide).

Source: US DOT Traffic Safety facts

Contributing Factors

Visibility

- Drivers don't see pedestrians because of:
 - Traffic (moving or stopped vehicles can hide pedestrians)
 - Cell phones
 - Parked cars
 - Weather conditions
 - Other visual obstructions (foliage, curves in the road, etc.)

Vehicle Speed

- Roads designed to maximize traffic flow
- Higher speed increase fatality rates:
 - When hit by a car traveling 40 mph, a pedestrian has only a 15% chance of survival
 - At 20 mph, this survival rate increases to 85%

Source: UK Dept. of Transportation "Killing Speed and Saving Lives."

Possible Solutions

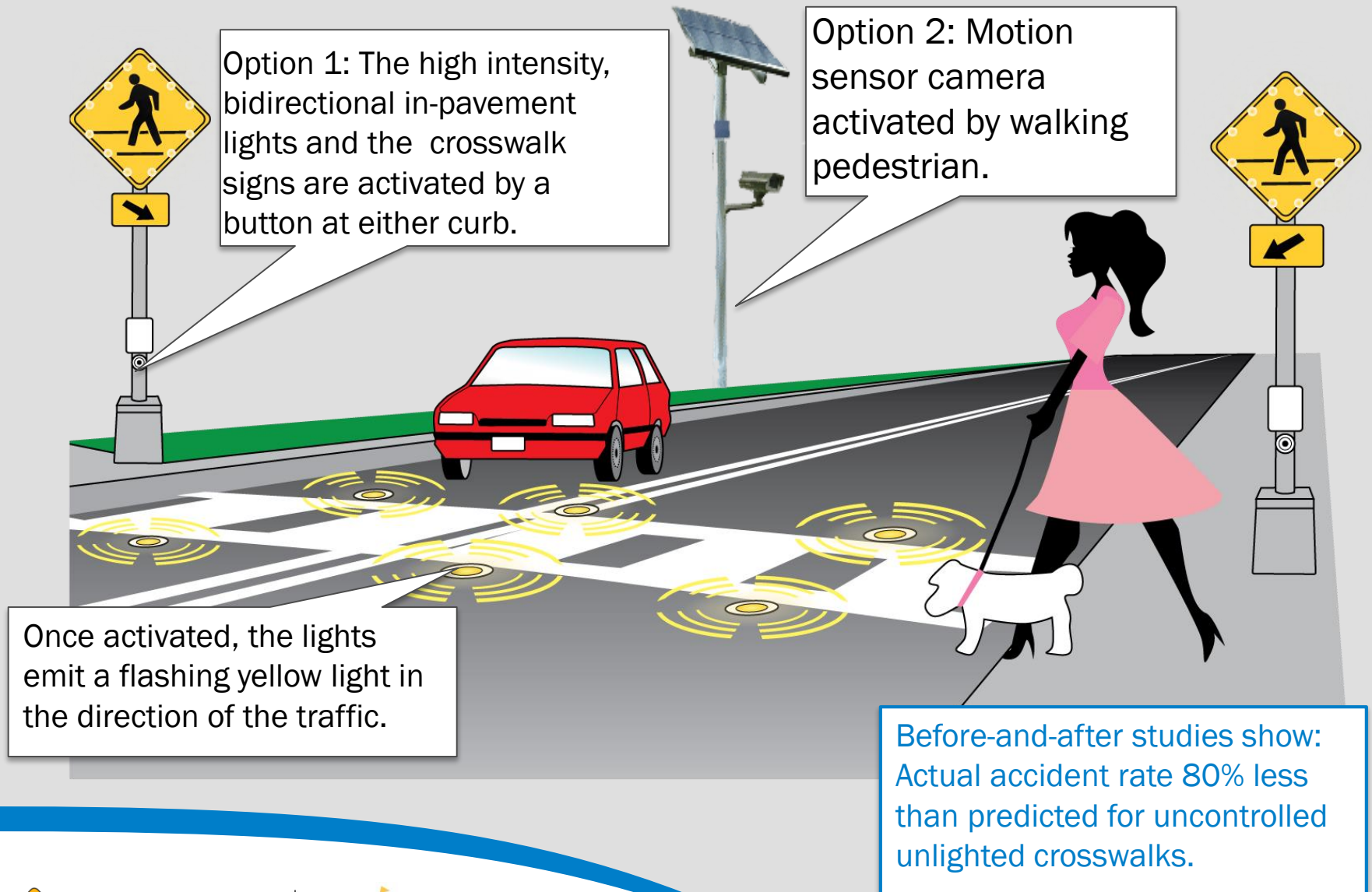
- Enhanced law enforcement
- Speed bumps
- Narrow traffic lanes
- Traffic education programs

- ACTIVE SOLUTION



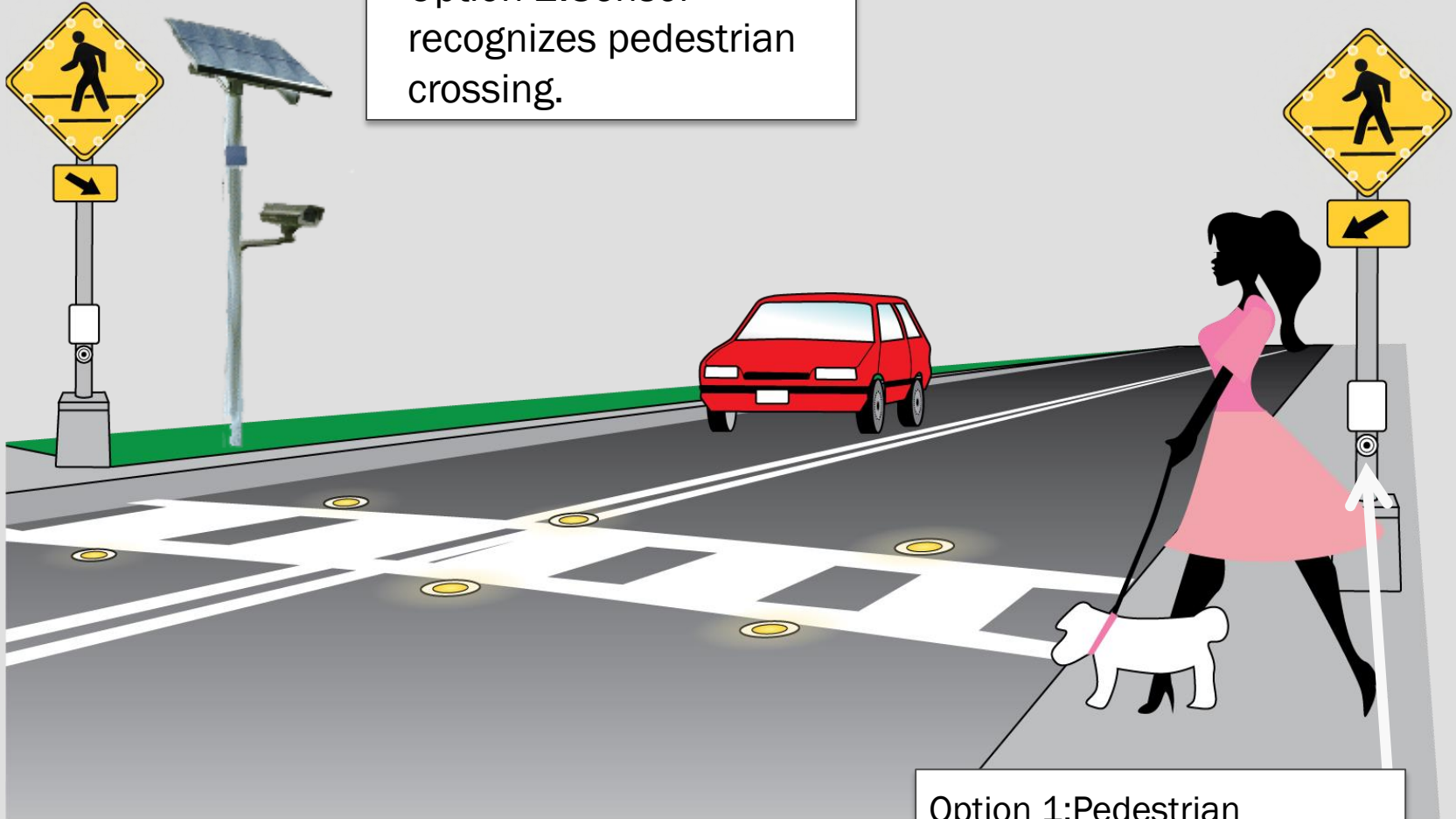
Cross SafeTM
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Cross Safe™ System: How it works...



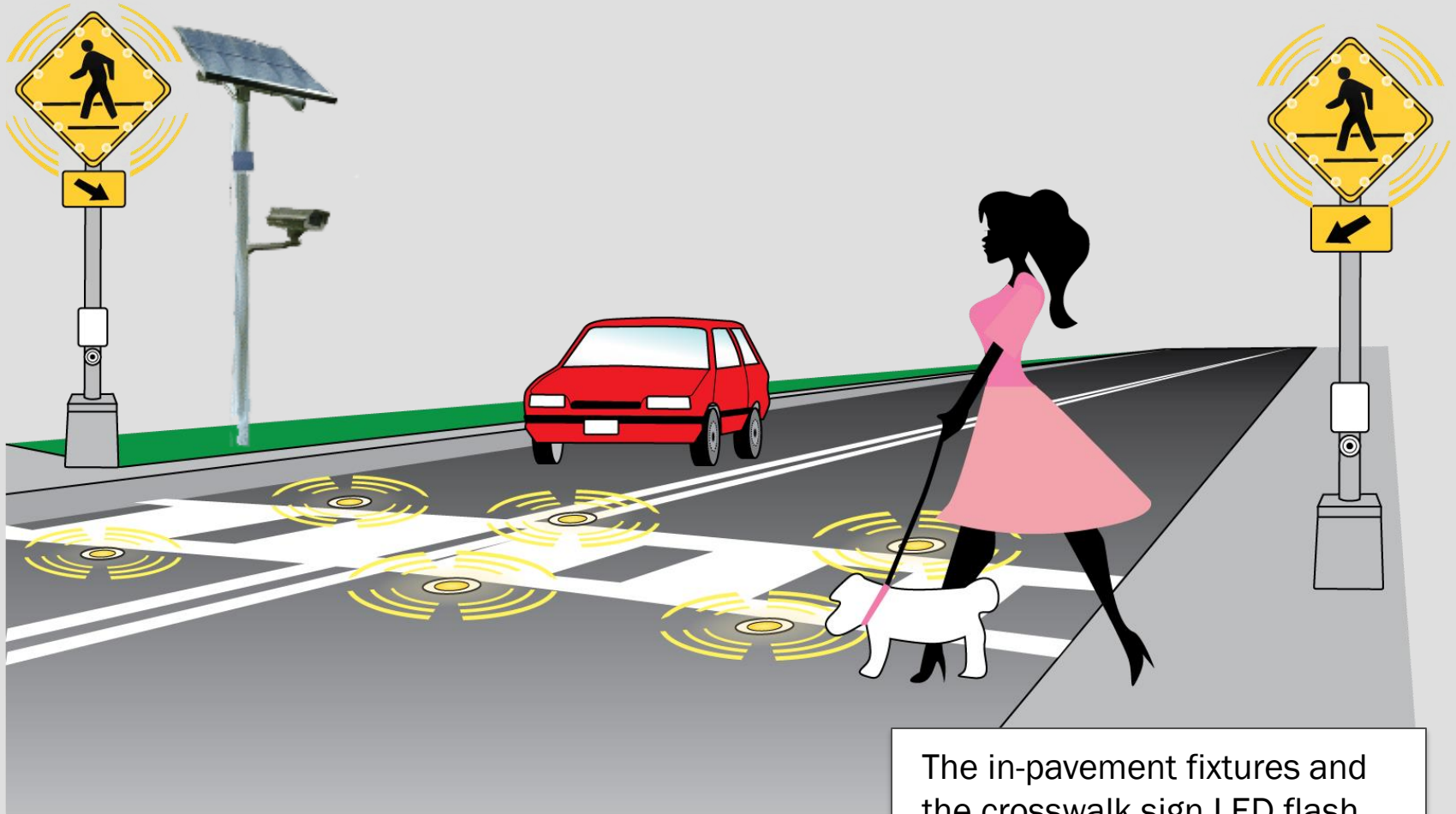
Cross Safe™ System Operation: Step 1

Option 2: Sensor recognizes pedestrian crossing.



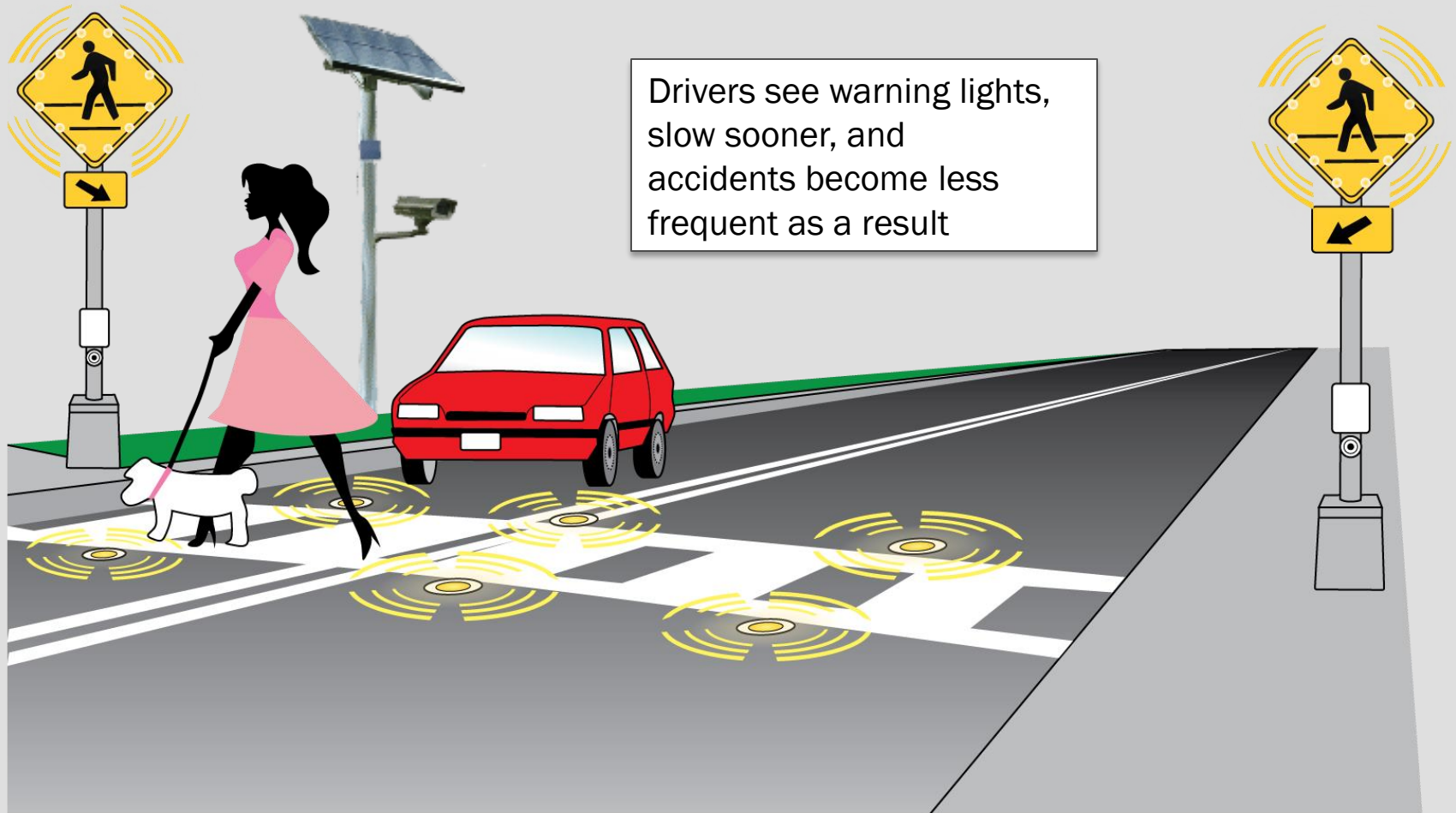
Option 1: Pedestrian activates system using either push button or radar control.

Cross Safe™ System Operation: Step 2



The in-pavement fixtures and the crosswalk sign LED flash in sequence, warning drivers of vulnerable pedestrians.

Cross Safe™ System Operation: Step 3



Why Install a Cross Safe™ System?

They Work – Up to Four Out of Five Accidents Avoided

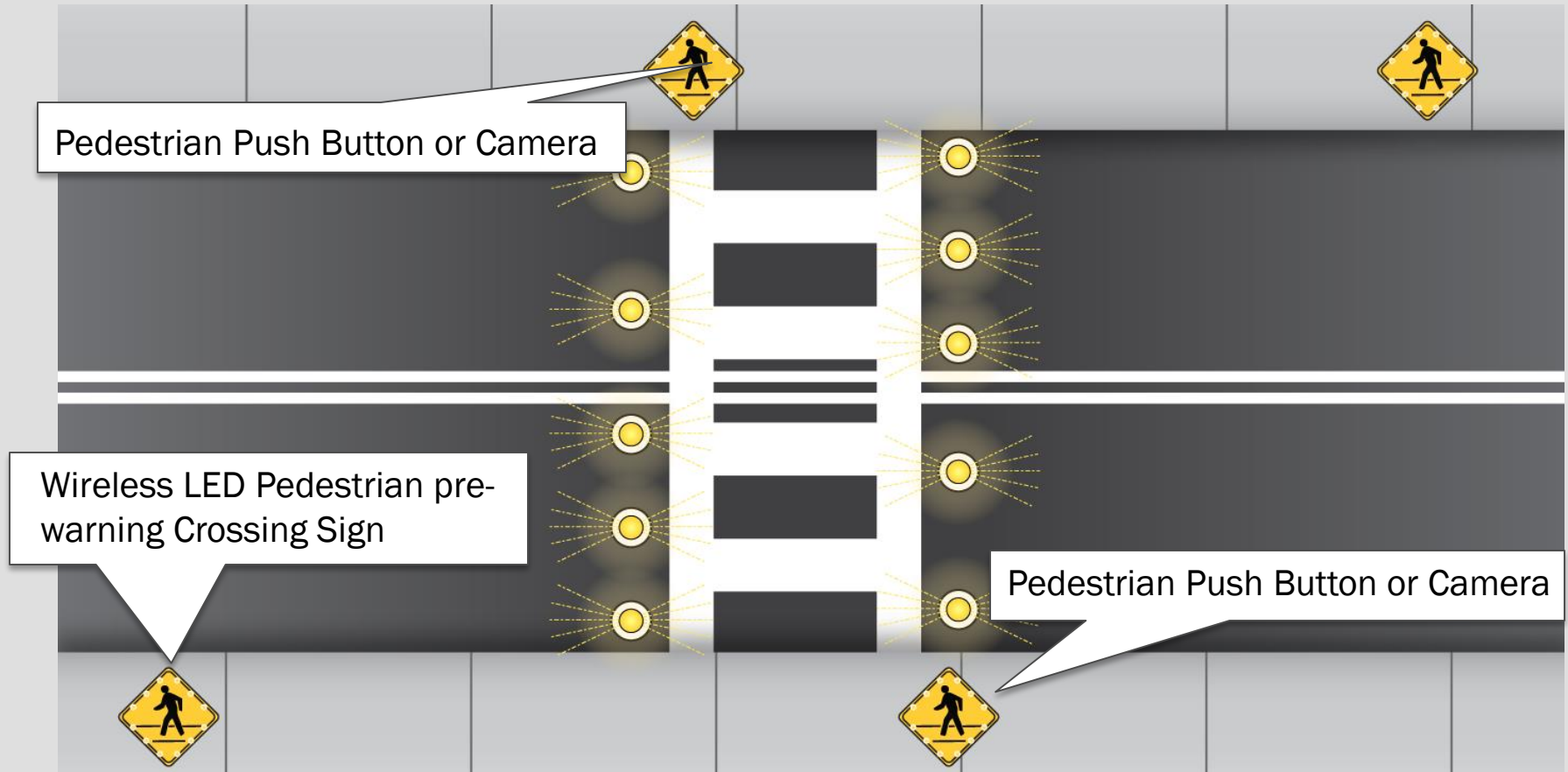
- Field Study: 100 lighted crosswalks with 427 million vehicle crossings showed the following:
 - Decrease in driver approach speeds
 - Increase in yielding to pedestrians
 - Actual accident rate 80% less than predicted for uncontrolled, unlit crosswalks

Source: Miller, Rock “In-Pavement Flashing Crosswalks: State of the Art.”

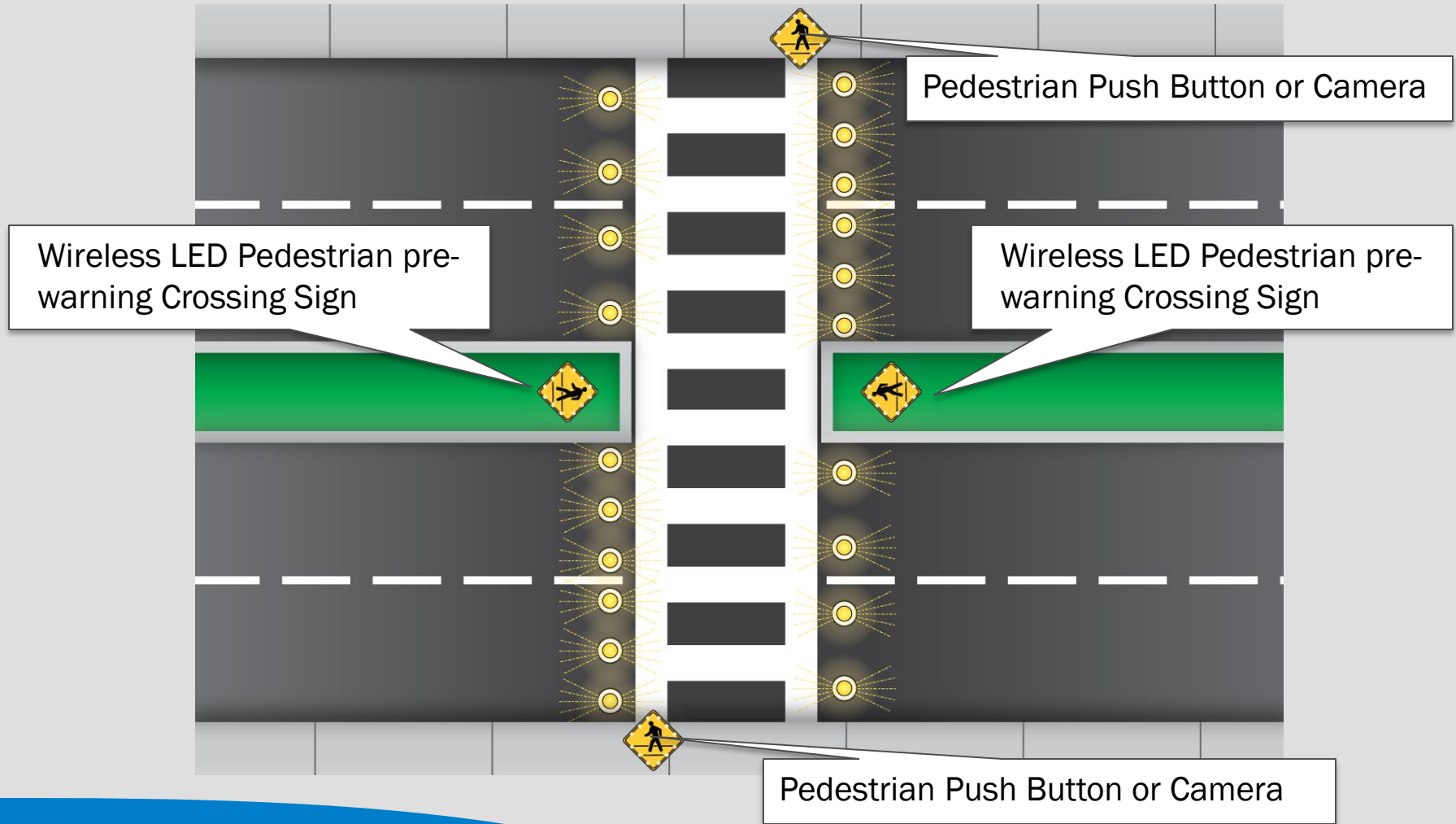
Additional Benefits of The Cross Safe™ System

- ▶ Easy to Use
 - Push button or motion activated
- ▶ Easy to Understand
 - Standard FHWA signal flash rate or sequenced
- ▶ Easy to Install and Maintain
 - Can be installed by city personnel
 - Low maintenance and long LED life
- ▶ Low Cost
 - 1/10 the cost of a traditional traffic light
- ▶ Energy Efficient
 - LED technology & solar PV option
- ▶ Solar Power Option
 - No electrical required

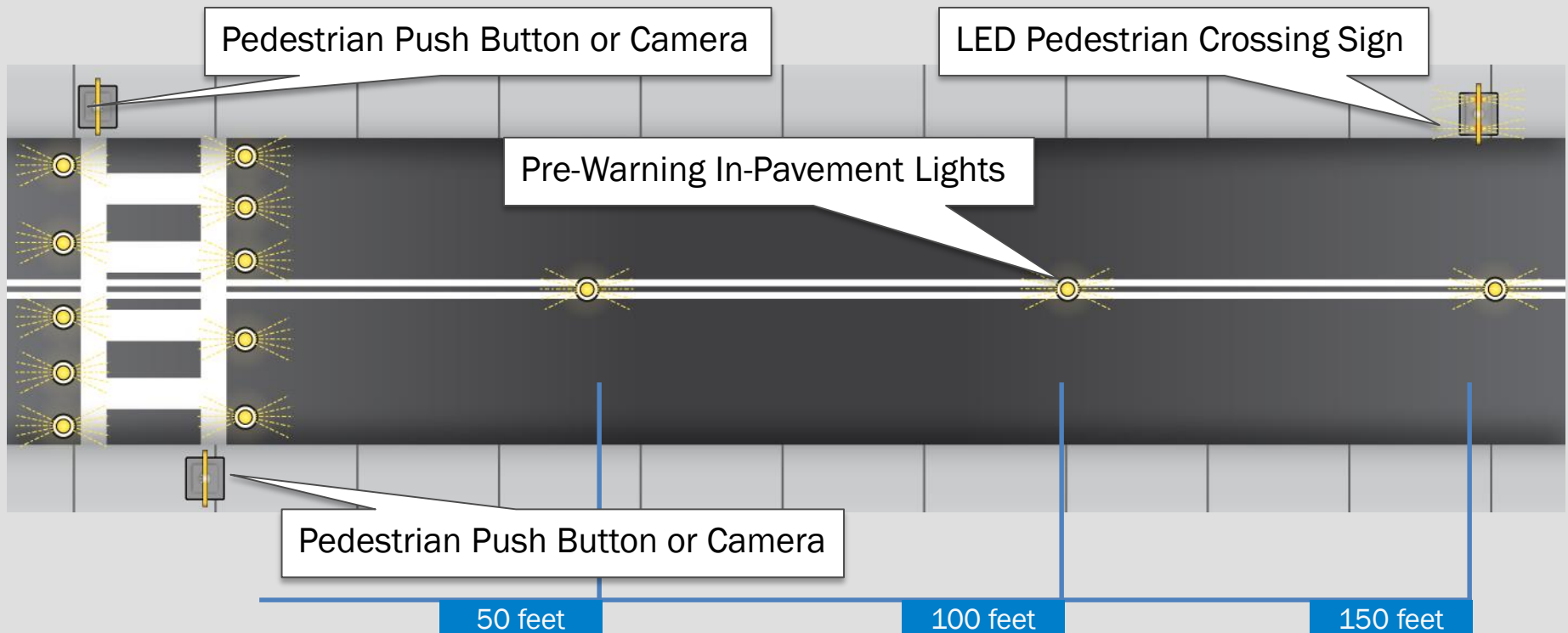
Application: Two Lane Crosswalk



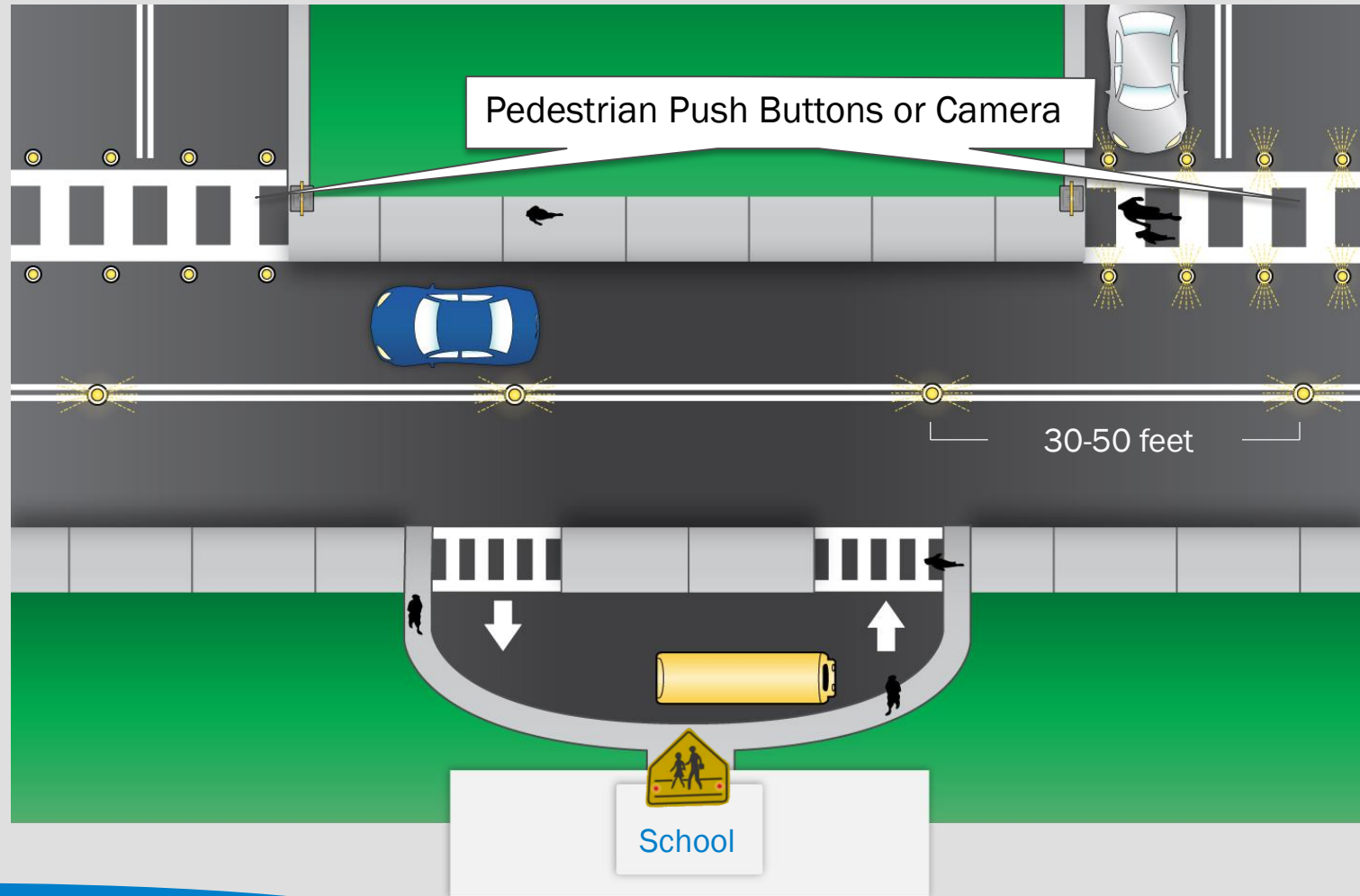
Application: Four Lane Crosswalk



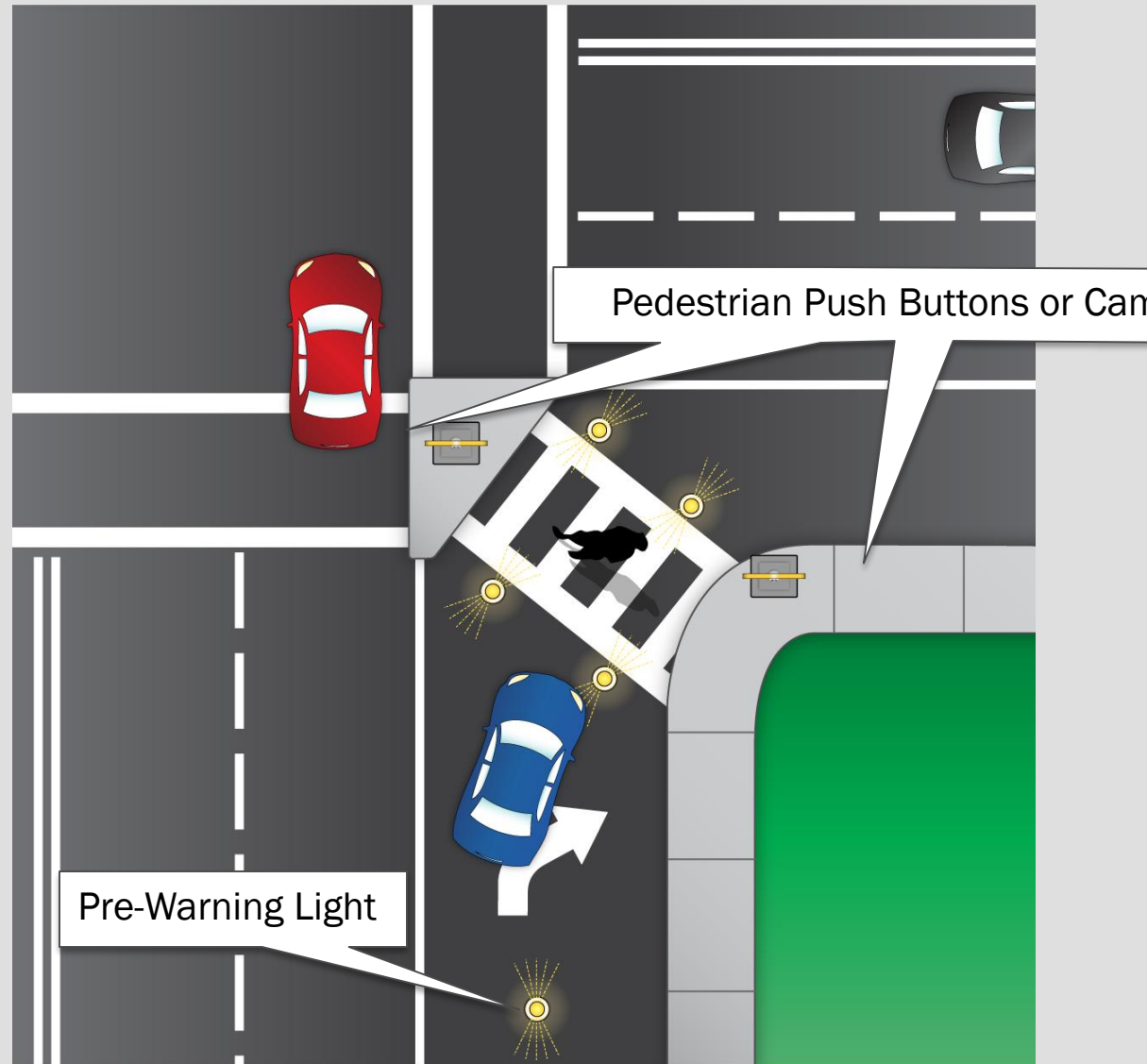
Application: Two Lane with Pre-Warning Lights



Application: School Zone



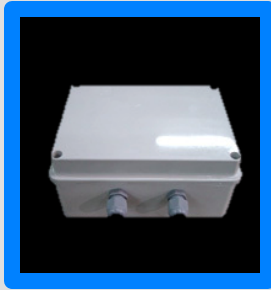
Application: Turn Lane Warning Lights



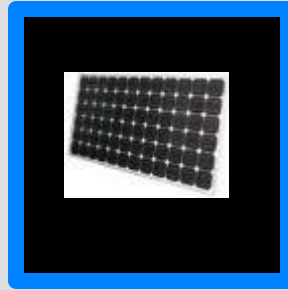
Cross Safe™ System Components



In-pavement
Fixtures



Crosswalk
Control
System



Solar
Power
option



Pedestrian
Activation
Devices



Flashing LED
Signs



Motion
Detecting
Camera

In-Road Warning Lights: R1/R2

► Durable and long-lasting:

- Military-grade design: resistant to tanks, snow plows and other heavy machinery.
- High compression strength (1000kg / cm).
- Absolute water resistance (IP68).



► Flexible and Customizable:

- Adjustable luminance levels.
- Programmable Flashing, sequential flashing or steady lighting .
- Optional PC, RF and GSM Remote control.



► Easy maintenance:

- A fixed base and a removable top.

Crosswalk Control System

- This intelligent controller offers the best characteristics of both inputs and outputs, while consuming the least amount of energy possible.
- The controller can perform in either a flash pattern, sequential or multi-sequential pattern, with possibility of CAB (automatic brightness control, DC [dark detection] and SR clock synchronism).



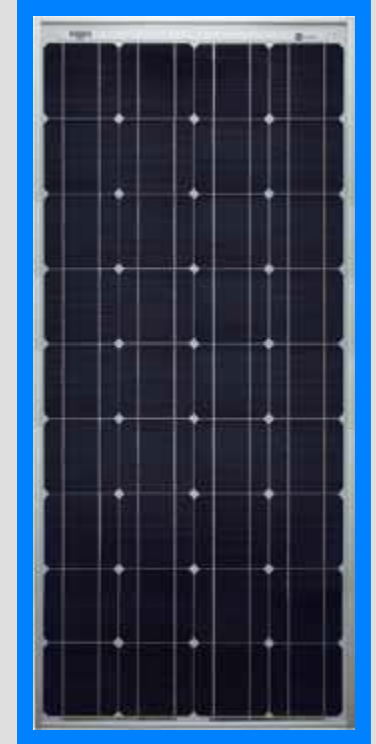
Solar Power Option: BP Solar Panel

► Mechanical characteristics

- Solar cells 36 monocrystalline cells (125mm x 125mm) connected in series.
- Front Cover High transmission 3.2mm tempered glass.
- Frame Silver anodized aluminum.
- Junction Box BP J-type junction box: IP 65 junction box with 4 terminal.
- Certified to meet UL1703 flammability test.
- Dimensions 1209 x 537 x 50mm / 47.6 x 21.1 x 2.0in
- Weight 7.7kg / 17.0lbs

► Quality and safety

- Certified according to the IEC 61215 (Crystalline silicon terrestrial photovoltaic modules).
- Listed to UL 1703 Standard for Safety by Intertek ETL (Class C fire rating).
- Approved by Intertek ETL for use in Class 1, Division 2, Groups A to D hazardous locations.
- Manufactured in ISO 9001 and ISO 14001 certified factories.



Pedestrian Control Devices: Push Button

► Two-wire Advantage

- Uses existing pushbutton wiring. Requires only two wires for very easy to hook up.
- Significantly reduced installation cost due to no additional wires required.
- Synchronizes all sounds on an intersection.

► System Uniqueness

- Independent minimum & maximum volume settings for Locate Sounds, Clearance & Walk Sounds.
- Extended button push and volume overrides.
- Global configuration changes (setup one unit and save changes to all vs. setup per individual push button station).
- Optional clearance sounds or audible countdown of remaining seconds during clearance available; complements or replaces visible countdown displays.



Flashing SolaSign: Crosswalk

Solar panel type	10.5V 220mA mono-crystalline solar panel
Illumination technology	Ultra-bright LED
Energy storage	7.2V 2500mA Li-on battery
Charging time	4 Hours (sunny) to 8 hours (cloudy or rainy)
Temperature range	-40F to +176F / -40C to +80C
On/Off level	24 hours operation
Operation modes	Switchable - On / Off / Auto
Warranty	2 year



Motion Detector: Camera

Hardware	Aluminum, with integrated rain/sun shield.
Power Supply	Input Power 12-48VAC/DC Direct Current Consumption < 125mA @ 24VDC
Camera Type	Color CMOS Sensor Size 1/4 " Resolution 640 x 480 Pixels(VGA)
Lens Type	Wide Angle- Focal Distance 2.1 mm Narrow Angle: Focal Distance 6.0mm
Field of View	Wide angle - Horizontal 96 degrees , Vertical 70 degrees Narrow Angle- Horizontal 29 degrees, Vertical 22 degrees
Effective Distance	Wide Angle- Horizontal 0-10 meters, Vertical 2-12 meters Narrow Angle- Horizontal 10-20 meters, Vertical 15-25 meters
Temperature Range	-31F-185F/ -35C- 85C
Video Compression	MPEG-4



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