

# PEDESTRIAN CROSSWALK SOLUTIONS

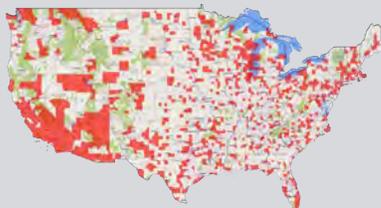




As an industry-leading innovator, TAPCO manufactures, services and distributes a wide portfolio of traffic and parking safety solutions designed to increase safe travels for all. Since 1956, we have set the standard for delivering reliable, cutting-edge traffic safety enhancements. From our world-renowned line of LED-enhanced BlinkerSign® solutions to our pedestrian crossing products and early detection warning systems, safety is at the heart of all TAPCO innovations.

### Generations of Expertise

Working alongside traffic professionals for more than 60 years gives our team an exclusive perspective on the past, present and future needs of the traffic and parking safety industry.



### A Nationwide Reach

With successful solution installations throughout all 50 states, we understand the safety concerns communities face across the nation.

### Innovative, Smart City Technology

Our mission is to continue to lead the industry with an innovative, customer-focused approach that evolves with the technological demands of our customers.



### Award-Winning Mindset

As a family-owned company, we take pride in establishing and maintaining our innovative culture.



# Pedestrian Safety: A Troubling Trend

Nearly 70,000 pedestrians were injured and 6,000 killed on U.S. streets in 2017, according to the Governors Highway Safety Association (GHSA) — the highest number of fatalities in the past 25 years. As these tragic incidents continue to plague our roadways, traffic professionals are challenged to alleviate these common pedestrian-vehicle crash factors.

## Common Pedestrian-Vehicle Crash Factors



### Impaired Driving

As the leading cause of death on U.S. roadways, drunk driving claims an average of 29 lives per day. Alcohol-impaired drivers and pedestrians accounted for about half of the fatal pedestrian-vehicle collisions in 2017.



### Nighttime Crossings

Over the past ten years, nighttime crashes accounted for more than 90 percent of the total increase in pedestrian deaths, with most taking place on local roads away from intersections.



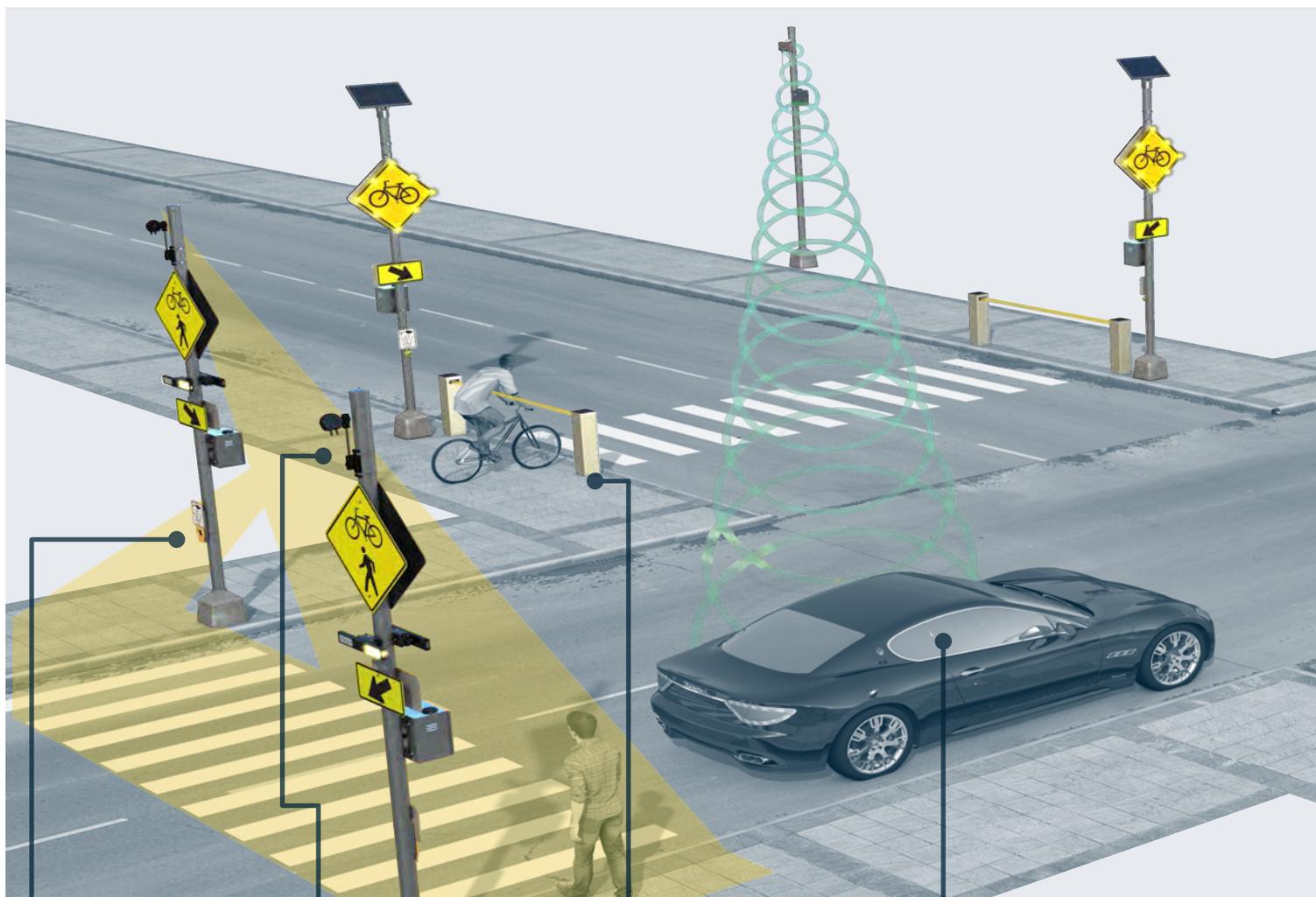
### Distracted Road Users

Responsible for 3,166 traffic fatalities on U.S. roadways in 2017, distracted driving creates enormous potential for pedestrian-vehicle collisions — especially with teenage drivers.

# SYSTEM OVERVIEW

## PEDESTRIAN CROSSWALK SOLUTION

TAPCO Pedestrian Crosswalk Systems are built to MUTCD standards and customized to customer needs. With the help of TAPCO's team of in-house engineers, these innovative pedestrian systems have the flexibility to adapt to any road configuration and are proven to heighten driver awareness.



### **PUSH BUTTONS**

Pedestrians manually activate the crosswalk system with XAV2-LED and Bulldog push buttons.

### **THERMAL SENSORS**

Thermal sensors identify vulnerable road users with infrared heat profiles to activate the system.

### **INFRARED BOLLARDS**

Pedestrians passively trigger alerts by passing through infrared bollards.

### **CONNECTED VEHICLE INTERFACE**

TAPCO's Connected Vehicle Interface sends connected motorists in-vehicle alerts, informing them of pedestrians ahead.

# SYSTEM OVERVIEW

## PEDESTRIAN CROSSWALK SOLUTION

### POWER OPTIONS

Utilizing a variety of solar or AC power options, systems can be designed to fit your power or environmental needs.

### WARNING ALERTS

BlinkerSign®, RRFB-XL2™ and BlinkerBeacon™ warning alerts catch the driver's attention, notifying them of a pedestrian ahead.

### SAFEGWALK™ CROSSWALK ILLUMINATOR

Activated with alerts, the SafeWalk™ Crosswalk Illuminator enhances safety by increasing pedestrian visibility at night.

### BLINKLINK®

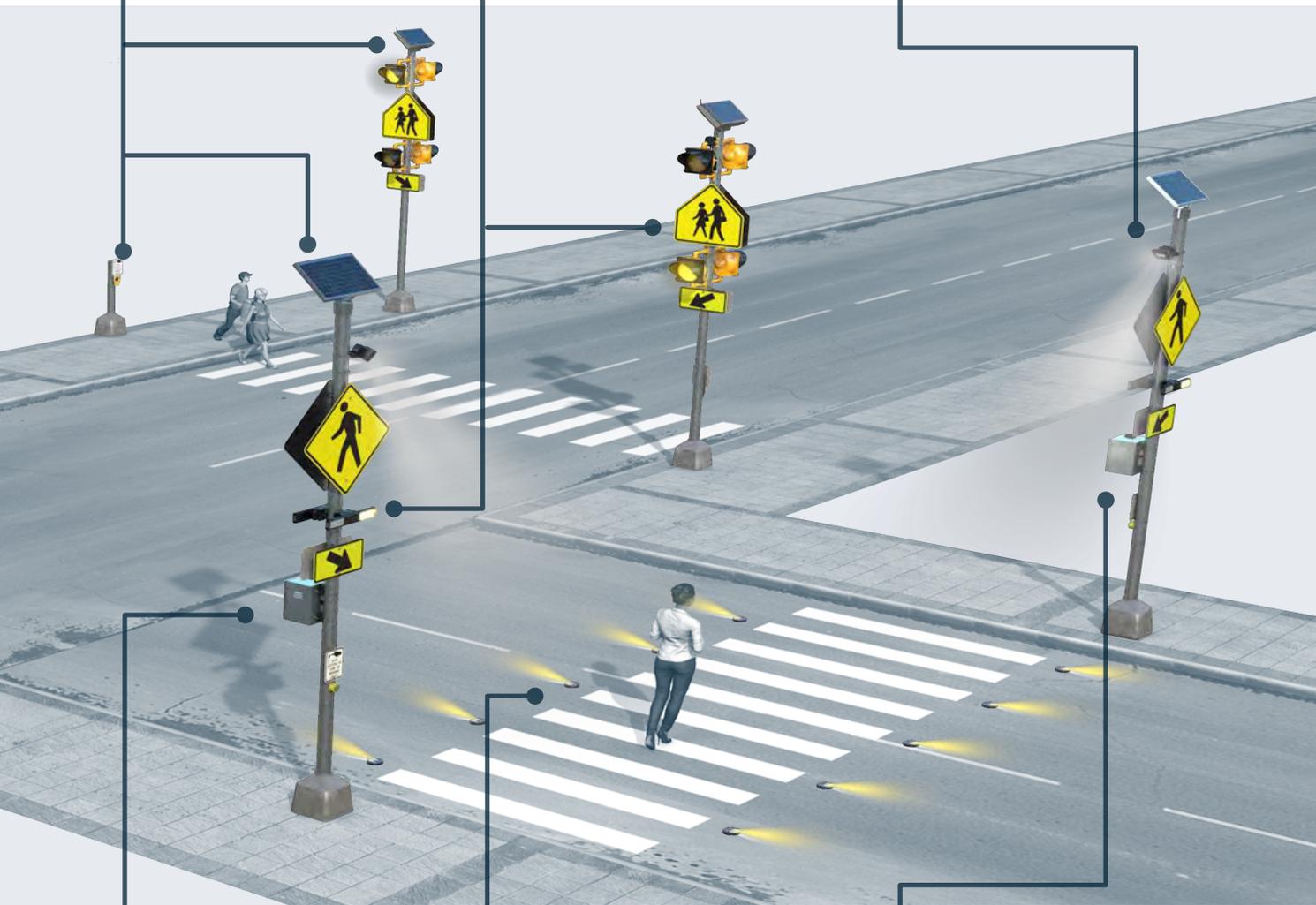
Traffic officials can remotely monitor system status and collect data, including activation trends through BlinkLink®.

### IN-ROAD WARNING LIGHTS

In-road warning lights outline the crosswalk, drawing attention to the pedestrian.

### TIME CLOCK

Programmability of the time clock provides traffic engineers the ability to schedule system activation within specific time frames.



# SYSTEM ACTIVATIONS

## USER-ACTIVATED

TAPCO Pedestrian Crosswalk Systems are typically user-activated by either the XAV2-LED or Bulldog push buttons.



### XAV2-LED PUSH BUTTON

The XAV2-LED push button is enhanced with an instructional sign and provides custom voice messages and yellow LED visual confirmation when pressed.

- ADA-compliant with locate tone
- Built-in microphone automatically adjusts voice confirmation volume to surrounding environment
- Weather-resistant speaker



### BULLDOG PUSH BUTTON

Activated with less than two pounds of force, the Bulldog push button provides two-tone audible activation confirmation, as well as red LED visual confirmation.

- ADA-compliant, vandal-resistant
- Housing components comply with NEMA specifications
- Yellow push button housing standard, black available upon request



Available wireless bollard station provides additional system configuration flexibility

# SYSTEM ACTIVATIONS

## PASSIVE

Enhance roadway safety and ensure system activation occurs with passive activation options: infrared bollards or Time Clock scheduling.



### INFRARED BOLLARDS

Vulnerable road users passively trigger LED-enhanced warning alerts by passing between bollards placed on either side of the crosswalk. The bollards can be AC-, solar- or battery-operated.

- Capability to determine pedestrian traffic direction
- Range up to 40 feet
- Battery power option requires no in-ground wiring with up to two years of autonomy



### TIME CLOCK

Most commonly used at school zone crosswalks, Time Clock configured hardware allows users to schedule system activation within specific time frames.



- Operated via PC or web-enabled devices
- Program up to 16 system activations per day
- Ability to schedule activations up to two years in advance

# SYSTEM ACTIVATIONS

## THERMAL DETECTION

The pedestrian thermal sensor uses infrared heat profiles to identify vulnerable road users moving within targeted detection zones to activate TAPCO Pedestrian Crosswalk Systems.

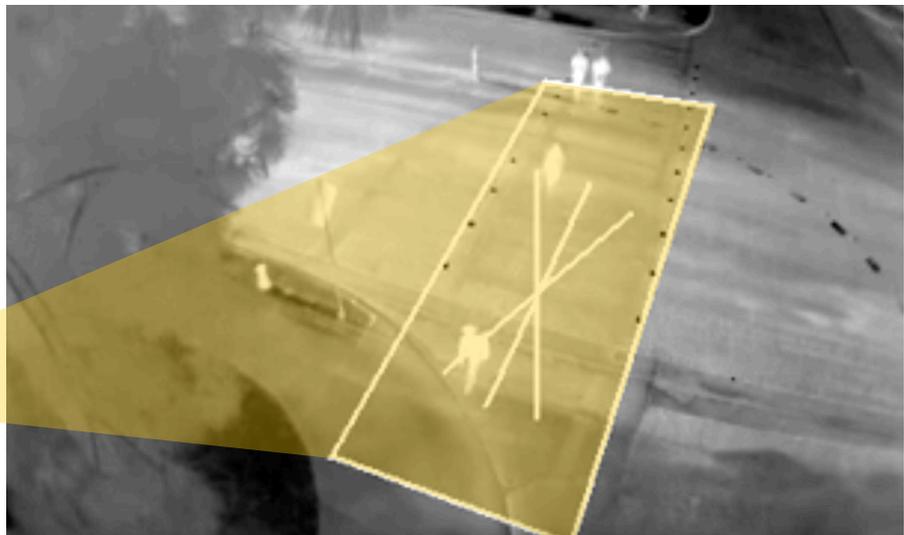
### WHY THERMAL?

The sensor's ability to detect directionality and presence reduces false detections caused by people walking away from the crosswalk or bicycles traveling parallel to oncoming traffic.

- Able to see in total darkness, through shadows and in sun glare, providing reliable detection 24/7
- Accurate detection utilizing infrared heat profiles
- Versatile functionality dependent upon need, with many possible zones and configurations
- Easy integration with user-actuated system options



**PEDESTRIAN  
THERMAL SENSOR**



**EXAMPLE OF PEDESTRIAN THERMAL DETECTION**

# WIRELESS COMMUNICATION

## BLINKERBEAM®

BlinkerBeam® wireless radios communicate system activation to all TAPCO warning alerts.

Placed at the detection or activation location, a transmitter radio sends wireless signals upon system activation to receiver radios located inside the control cabinet of each warning alert, triggering the alert to flash.

- Easy-to-read, backlit LCD display
- Intuitive joystick for in-field control
- Menu-driven diagnostics for quick set-up and configuration
- Three selectable power levels, up to one-watt, to increase signal distance
- Range of up to 900 feet; works with multiple antenna options to extend distance
- Utilizes 900 MHz frequency-hopping spread spectrum



**BLINKERBEAM®  
WIRELESS RADIO**



**1 SYSTEM ACTIVATION**



**2 Activated  
BLINKERBEAM®  
TRANSMITTER RADIO**  
sends wireless  
signal to receiver(s)

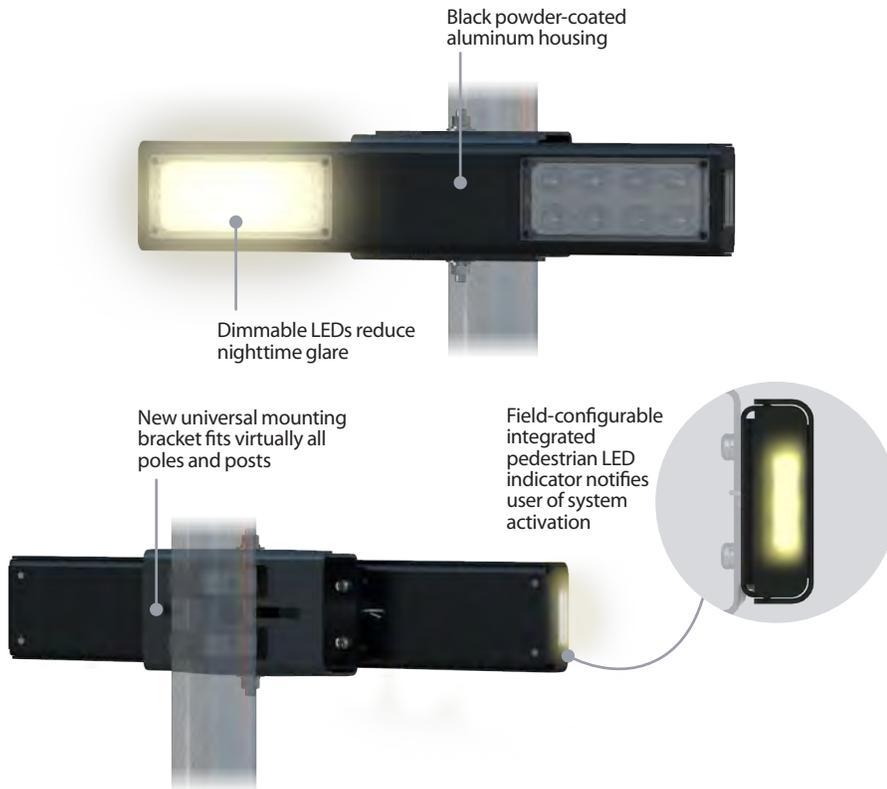
**3 BLINKERBEAM®  
RECEIVER RADIO(S)**  
activate LED-enhanced  
warning alerts



# LED-ENHANCED WARNING ALERTS

## RRFB: RECTANGULAR RAPID FLASHING BEACONS

A step above the industry standard, TAPCO RRFB light bars are extra-large rectangular rapid flashing beacons, making them highly visible to drivers approaching pedestrian crosswalks.



### FHWA-COMPLIANT (IA-21)

- Utilizes the WW+S flash pattern and meets SAE J595 Class 1 brightness and 7-inch indicator light spacing as outlined in Interim Approval 21

### VARIABLE DIMMING

- LEDs automatically dim based upon ambient light – maintaining optimal LED output and extending battery life

### PROVEN RESULTS

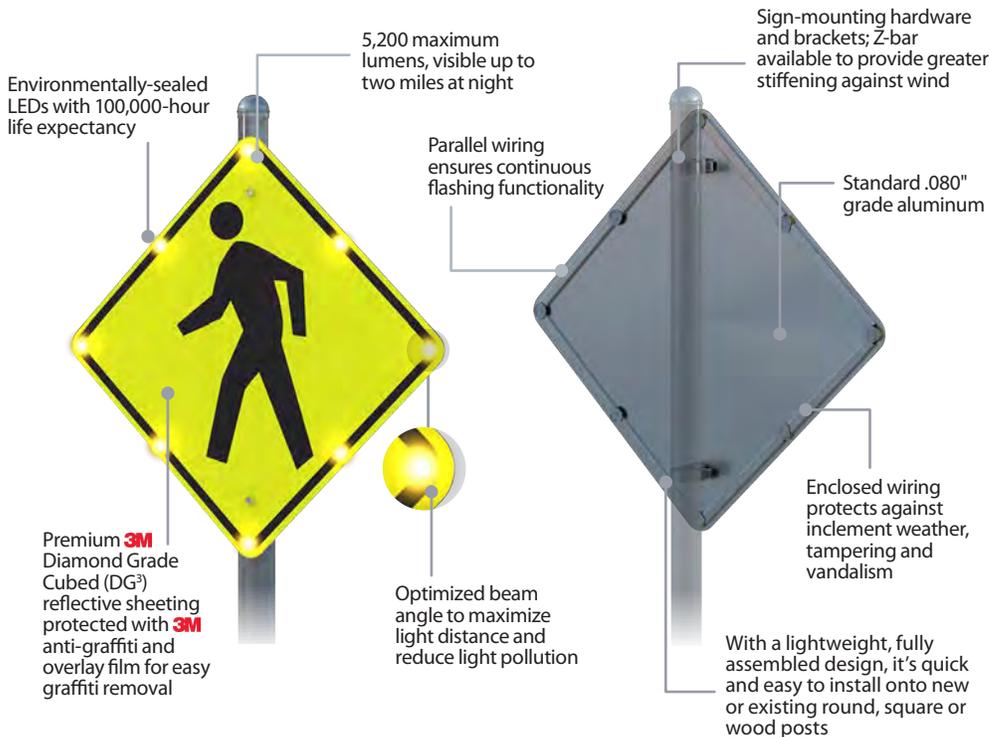
- Increases driver yield rates by as much as 90%\*



# LED-ENHANCED WARNING ALERTS

## BLINKERSIGN® FLASHING LED SIGNS

BlinkerSign® Flashing LED signs are edge-lit signs engineered to capture drivers' attention and increase yield rates to pedestrians at crosswalks while utilizing various amounts of amber LEDs dependent upon sign face.



### MUTCD-COMPLIANT

- Each BlinkerSign® is MUTCD-compliant and flashes in accordance with MUTCD section 2A.07

### HIGH QUALITY, MADE IN THE USA

- Manufactured in Brown Deer, Wisconsin, each BlinkerSign® is engineered to withstand the harshest environmental conditions

### VARIABLE DIMMING

- LEDs automatically dim based upon ambient light – maintaining optimal LED output and extending battery life



# LED-ENHANCED WARNING ALERTS

## BLINKERBEACON™ FLASHING LED BEACONS

BlinkerBeacon™ Flashing LED Beacons provide drivers real-time warning when pedestrians are in or about to enter an approaching crosswalk.

12" round amber LED visible up to one mile at night with 100,000 hours life expectancy

Yellow or black polycarbonate LED housing

Meets and exceeds MUTCD and ITE standards

Black polycarbonate cut visor and door standard. Yellow available upon request

Aluminum mounting assembly painted to match LED housing

### MUTCD-COMPLIANT

- Each BlinkerBeacon™ can flash in accordance with MUTCD section 4L.03

### VARIABLE DIMMING

- LEDs automatically dim based upon ambient light – maintaining optimal LED output and extending battery life

### AVAILABLE OPTIONS

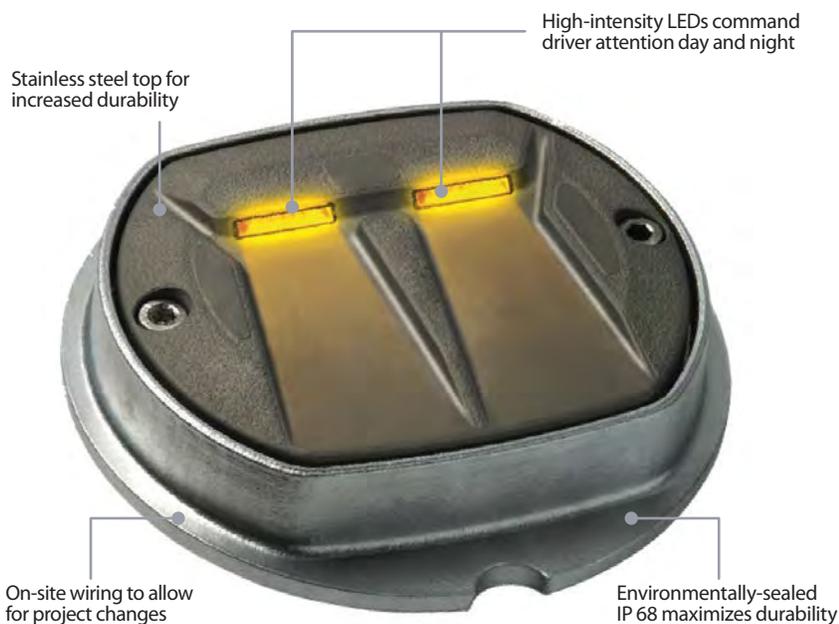
- 8" or 12" LED modules
- ITE-compliant 12V power options
- Cut visor standard, tunnel visor available



# LED-ENHANCED WARNING ALERTS

## IN-ROAD WARNING LIGHTS

Embedded in the pavement to outline the crosswalk and oriented to face oncoming traffic, In-Road Warning Lights (IRWL) flash in unison to alert drivers of pedestrians actively crossing the road.



### MUTCD-COMPLIANT

- Each IRWL is MUTCD-compliant

### LOW PROFILE

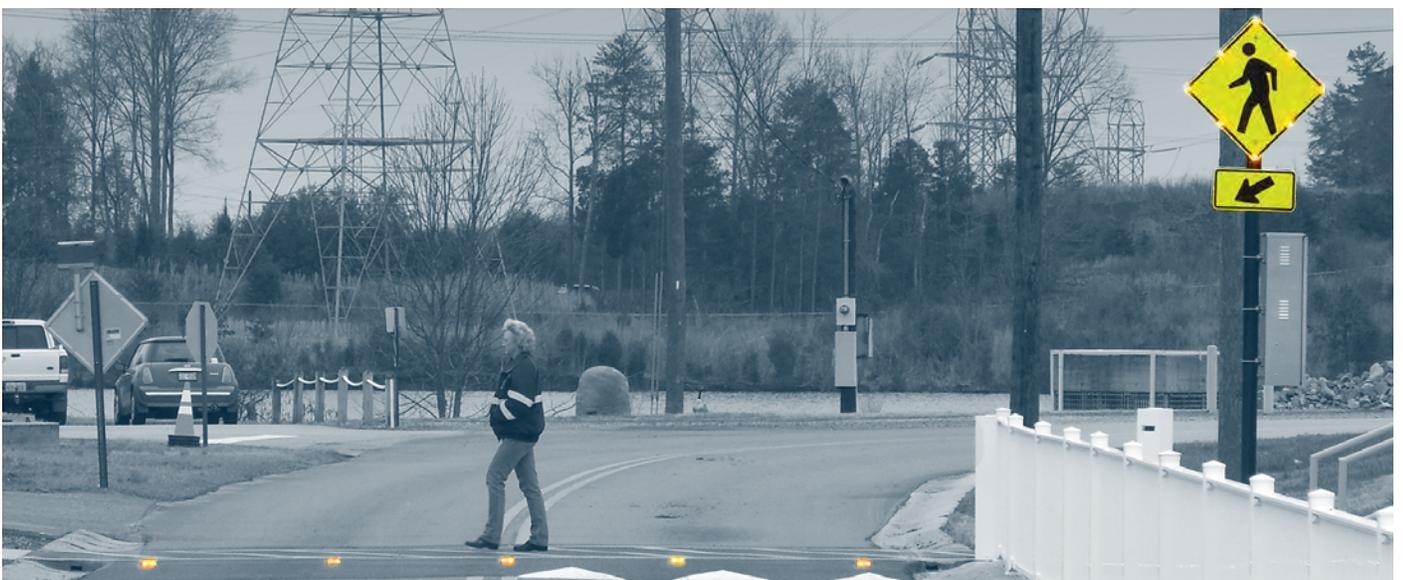
- Allows bicycles and pedestrians to safely pass over.
- Snowplow compatible options available

### VARIABLE DIMMING

- LEDs automatically dim based upon ambient light – maintaining optimal LED output night and day

### MULTIPLE LED OPTIONS

- Uni-directional and bi-directional arrangements



# POWER AND CONTROL OPTIONS

## FLEX POWER

Flex Power options provide flexible system configuration for multiple applications and power requirements while allowing easy access to control cabinets. Any TAPCO system can be designed to fit your power or environmental need.

### AC POWER OPTIONS



Cabinet houses controller and radio

**120VAC**



### STREETLIGHT POWER

Tap into existing infrastructure to power TAPCO systems.

### POPULAR SOLAR PACKAGES

TAPCO offers many solar packages to choose from. Some of the most popular are listed below, with other options available upon request.



**13-watt solar panel  
14Ah battery capacity**



**26-watt solar panel  
27Ah battery capacity**



**30-watt solar panel  
35Ah battery capacity**

# POWER AND CONTROL OPTIONS

## FLEX POWER



**55-watt solar panel**  
**48Ah battery capacity**

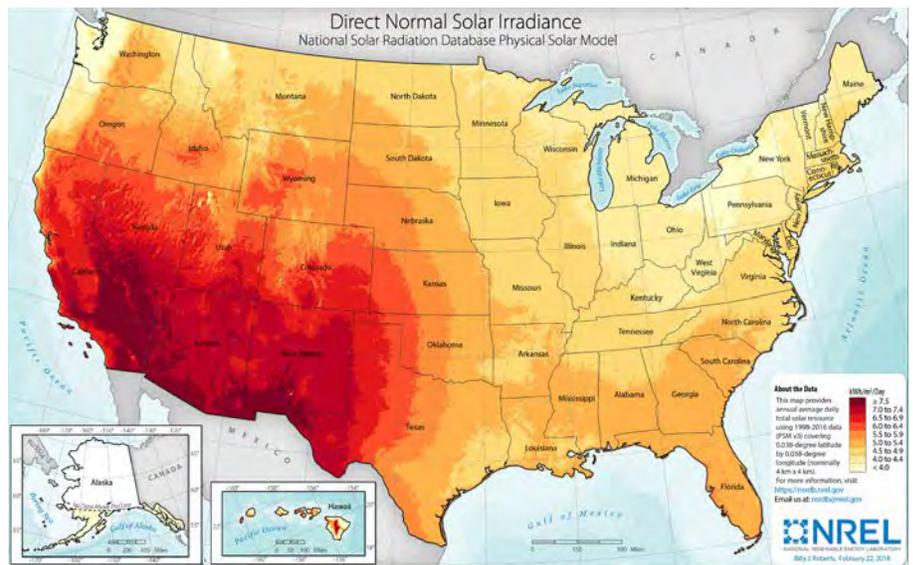


**85-watt solar panel**  
**105Ah battery capacity**

### SOLAR REQUIREMENTS

Critical solar factors, such as direct normal irradiance and global horizontal irradiance, vary depending on system location. To ensure the right power configuration, we conduct solar calculations to meet desired system power needs.

Call us today for a free solar consultation! **(800) 236-0112**



# POWER AND CONTROL OPTIONS

## SELF-CONTAINED SOLAR CABINETS

Uniquely designed using durable polycarbonate, TAPCO's new 13-Watt Self-Contained Solar Cabinet is a lightweight option that powers a wide range of traffic-calming devices.



### INCREASED AUTONOMY

- Up to 28Ah of battery power delivers autonomy up to 30 days

### COMPATIBLE

- Supports Bulldog push button and passive activations, without reducing LED and system performance

### EASY TO INSTALL

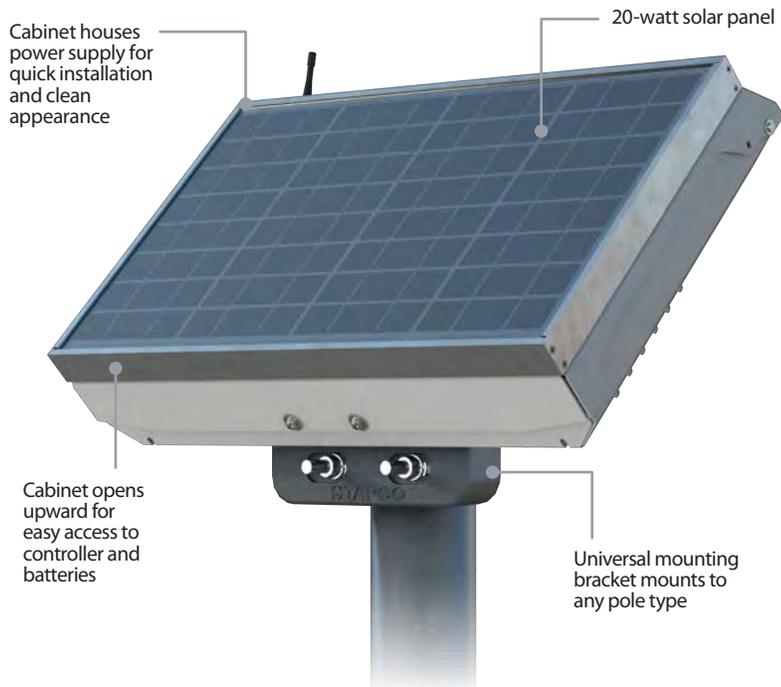
- Weighs one-third as much as traditional cabinets, enabling one-person installation



# POWER AND CONTROL OPTIONS

## SELF-CONTAINED SOLAR CABINETS

TAPCO's 20-Watt Self-Contained Solar Cabinet provides 44Ah of battery power in discreet, powder-coated aluminum housing.



### INCREASED VOLTAGE

- The 12-volt system is engineered to power a larger assortment of warning alert options

### XAV2-LED PUSH BUTTON COMPATIBILITY

- Accommodates XAV2-LED push button activation, and other options

### COMPACT DESIGN

- Easily attaches onto new or existing posts and poles



# ENHANCEMENTS

## CONNECTED VEHICLE INTERFACE

Add another layer of safety to your pedestrian solution with the Connected Vehicle Interface (CVI), an Ethernet interface for TAPCO Pedestrian Crosswalk Systems to connect with and communicate information to connected vehicle infrastructure, such as typical Road Side Units (RSU).



### IN-VEHICLE ALERTS

- Upon system activation, connected vehicles receive notifications through dashboard displays and other onboard devices

### NETWORK AGNOSTIC

- Transmits data via Dedicated Short-Range Communication (DSRC) or cellular RSUs

### ATMS INTEGRATION

- Connects with Advanced Traffic Management Systems to provide traffic managers with actionable system data

### MODULAR

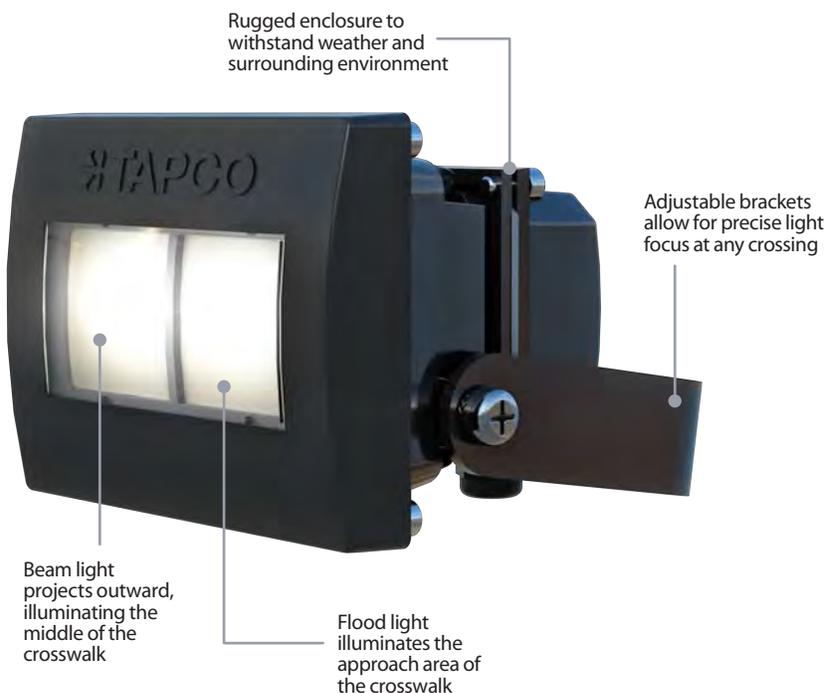
- Can be added to existing or new TAPCO Pedestrian Crosswalk Systems



# ENHANCEMENTS

## SAFEWALK™ CROSSWALK ILLUMINATOR

Increase pedestrian visibility at poorly lit, two-lane crossings with the SafeWalk™ Crosswalk Illuminator, a simple safety enhancement to TAPCO Pedestrian Crosswalk Systems.



### LIGHTS UPON ACTIVATION

- Activates concurrently with LED-enhanced warning alerts

### BRIGHT BY DESIGN

- Illuminates two-lane crosswalks to meet and exceed the FHWA's recommendation of 20 Lux

### MODULAR

- Can be added to existing or new TAPCO Pedestrian Crosswalk Systems

### FLEXIBLE

- For solar or line voltage applications



# SMART CITY SOFTWARE

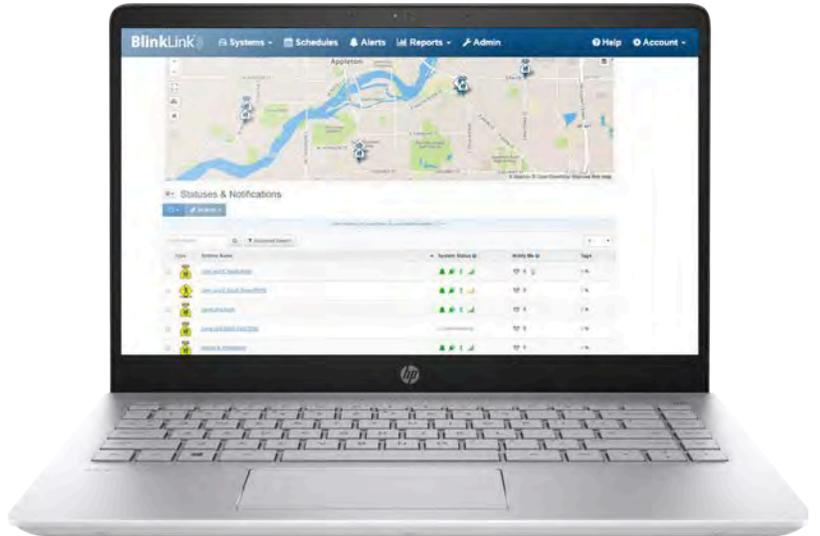
## BLINKLINK® POWERED BY TAPCO

### INTELLIGENT WARNING SYSTEM MONITORING FOR SMART CITY INFRASTRUCTURE

BlinkLink®, powered by TAPCO, is an easy-to-use, cloud-based software application for agencies to remotely manage and monitor their Intelligent Warning Systems.

Securely connected through reliable cellular networks, BlinkLink® collects real-time data and sends voice, email and SMS notifications to predetermined recipients.

- Access on any web-enabled device
- Easily program and view the status of every system
- Analyze system activation trends and gain insight to problem areas
- Keep your whole team informed through activation notifications
- Generate custom activation reports

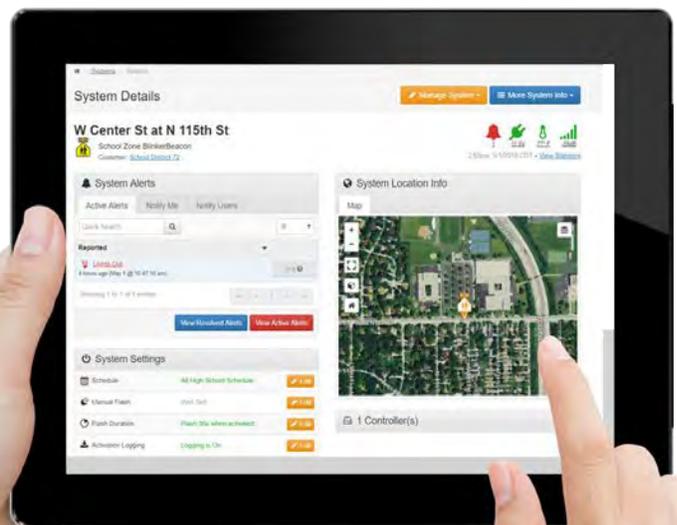


Collect real-time data, including activation trends

Monitor status of beacon LED performance with the new **Lights Out** feature



Remotely manage and monitor every Intelligent Warning System



# ENGINEERED-TO-ORDER (ETO)

## CUSTOM OPTIONS

### NEED SOMETHING MORE SPECIALIZED?

We realize no safety enhancement project is the same. That's why we offer engineered-to-order solutions designed for your specific needs. You'll work with our innovative engineering staff to outline your safety concern, and we'll customize a solution utilizing a variety of tools to build a system tailored to you.

To customize your Pedestrian Crosswalk System, call **(800) 236-0112** or email **[blinkersales@tapconet.com](mailto:blinkersales@tapconet.com)** now!

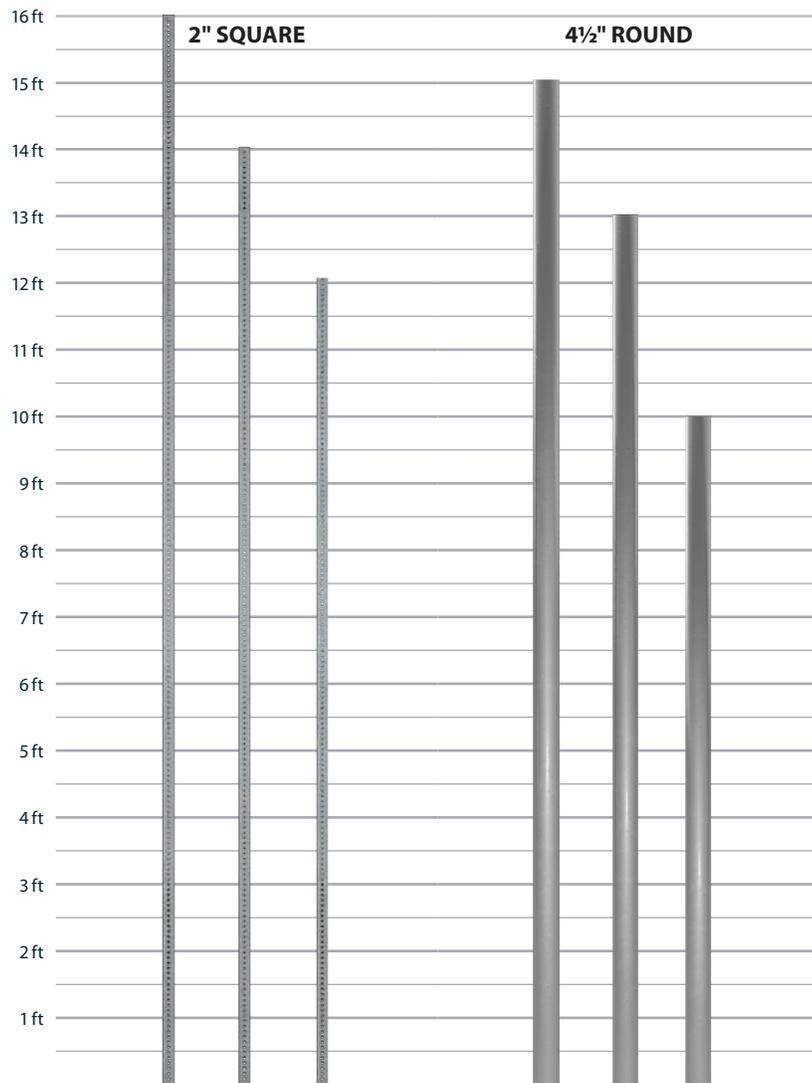


# COMMON POLE KITS

## POLES & BREAKAWAY ANCHORS

### COMMON POLE KITS

Pole configuration plays a crucial role in the design of your Pedestrian Crosswalk System. Below are some of our most popular options.



### 2" x 2" Square Post Kits

- **Include:** post height of choice, sleeve and assembly hardware
- Sign brackets and anchor sold separately

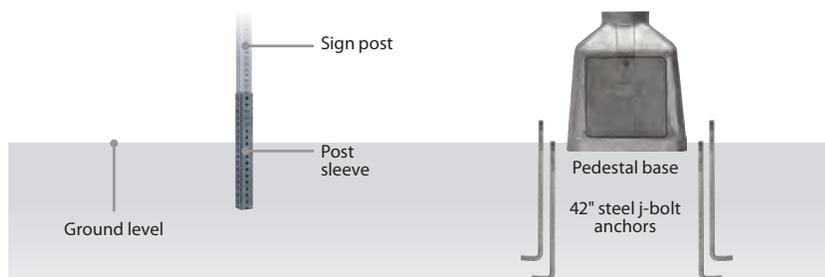
HEIGHT	PART NUMBER
12 ft	114401K
14 ft	138313
16 ft	138314



### 4 1/2" OD Round Pole Kits

- **Include:** pole height of choice, pedestal base, 42" steel j-bolt anchors and assembly hardware
- 18" steel j-bolt anchors available
- Sign brackets sold separately

HEIGHT	PART NUMBER
10 ft	107889
13 ft	101919
15 ft	101920



Additional poles, anchors and mounting options are available depending up weight loads, including 2 3/8", 2 7/8" and wood posts.

# TAPCO SOLUTIONS

## INTELLIGENT WARNING SYSTEMS

TAPCO designs comprehensive traffic solutions that improve mobility and safety for all users.



**WRONG-WAY ALERT**



**CURVE WARNING**



**SPEED AWARENESS**



**SCHOOL ZONE WARNING**



**OVERHEIGHT WARNING**



**INTERSECTION CONFLICT WARNING**



**HIGH WATER WARNING**



**EMERGENCY VEHICLE WARNING**

### SAVE TIME AND MONEY WITH OMNIA PARTNERS AND TAPCO

Did you know we offer an exclusive discount through our competitively solicited OMNIA Partners contract? Participating government and non-profit agencies that purchase direct from the contract receive the lowest available price and free shipping on our entire product portfolio.



 **TAPCO**<sup>®</sup>  
Safe travels.

 (800) 236-0112

 [TAPCOnet.com](https://www.TAPCOnet.com)