



# WRONG-WAY

## ALERT SYSTEM



A pioneering force in the industry, TAPCO has been bringing cutting-edge traffic safety solutions to communities nationwide since 1956. We specialize in manufacturing, servicing and distributing an expansive portfolio of traffic and parking safety solutions, leading the way when it comes to expertise and innovation. Safety is at the heart of all TAPCO innovations — and our mission to save lives prospers in each of our products, from our LED-illuminated LegendViz® technology and Wrong-Way Alert Systems to our groundbreaking pedestrian safety solutions.



#### Unmatched Expertise

Our team has worked alongside traffic professionals for more than 60 years, providing us with an exclusive, knowledgeable perspective on the needs of the traffic safety industry: past, present and future.



#### Innovative Technology

Traffic safety evolves — and so do we. We continue to be at the forefront of the industry by embracing cutting-edge advancements and tailoring our solutions to meet our customers' needs.



#### A Nationwide Presence

Our reach spans all 50 U.S. states — plus some regions of Canada, giving us valuable insight and an in-depth understanding of a range of community safety concerns and challenges.



#### Award-Winning Culture

At TAPCO, we have cultivated a collaborative culture that fosters innovation and instills a sense of pride. Our commitment to excellence is evident in our recognition as a repeat recipient of the Top Workplaces award.



## WHY A TAPCO WRONG-WAY ALERT SYSTEM?

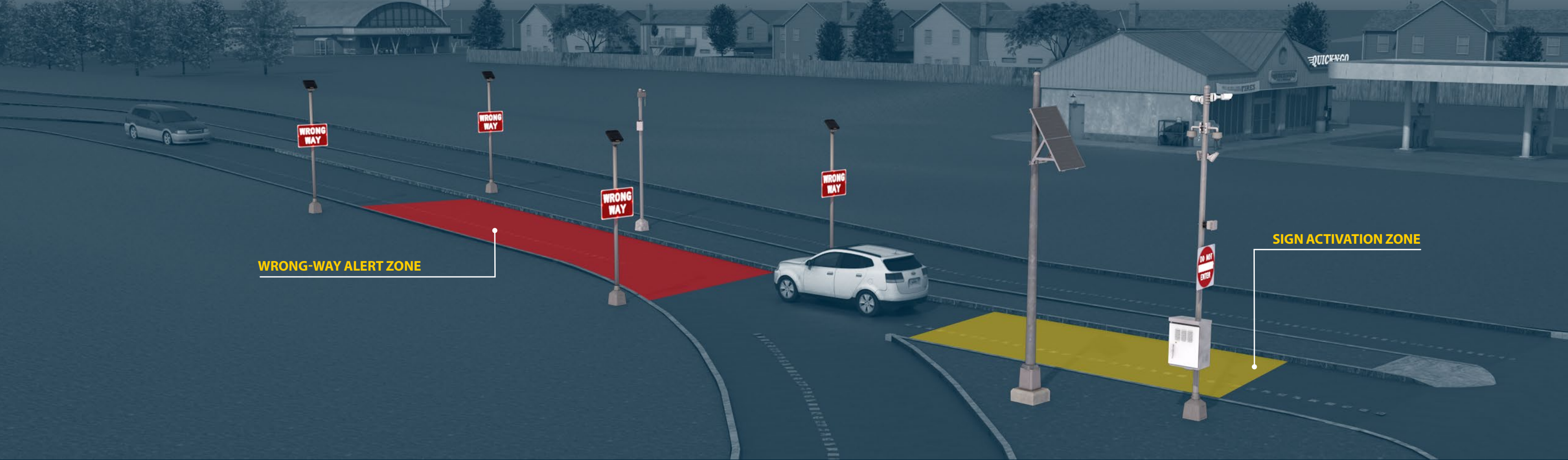
Leveraging state-of-the-art technology through strategic partnerships, TAPCO's Wrong-Way Alert System is manufactured as a holistic approach, where each component is fully integrated, creating a streamlined and smooth installation process for every customer.

TAPCO has led the industry in wrong-way solutions for the past fifteen years, but TAPCO has led the traffic safety industry in innovation since 1956. Visibility to wrong-way driving events has become more critical in recent years, especially as wrong-way collisions are some of the most deadly on the road.

Today, TAPCO's Wrong-Way Alert Systems do much more than they did fifteen years ago. Our systems detect wrong-way drivers and instantly translate wrong-way event information to concerned parties, including TMCs, DOTs, law enforcement agencies and maintenance contractors. Further, the Wrong-Way Alert System optimizes safety for all roadway users by sending digital alerts to nearby right-way drivers.

With cutting-edge technology seamlessly integrated within the TAPCO Wrong-Way Alert System, there is no other system on the market with our high level of accuracy and lowest possible latency that is designed, manufactured and tested under one roof.

	SYSTEM CONFIGURATION	6-7
	SYSTEM ACTIVATIONS	8-9
	WRONG-WAY DRIVER WARNING ALERTS	10
	POWER OPTIONS	11
	CAMERA AND ILLUMINATOR	12-13
	CVI	14-15
	RIGHT-WAY DRIVER DIGITAL ALERTS	16-17
	BLINKLINK®	18-19
	PREVENTATIVE MAINTENANCE	20-21
	PROCUREMENT/CONSULTATIVE HELP	22-23



## SYSTEM CONFIGURATION

The TAPCO Wrong-Way Alert System is designed to detect wrong-way driving events, elevating safety through state-of-the-art technology. Equipped with video-as-a-sensor detection technology for heightened accuracy, the system keeps false positives low and mitigates wrong-way events at notorious wrong-way entry points:

- Side-by-side highway entrances and exit ramps
- Exit ramps near side streets
- Poorly lit entrance and exit ramps
- Mainlines

Further, when the Wrong-Way Alert System detects a wrong-way vehicle, it triggers flashing highly-visible LED-enhanced warning alerts to notify the wrong-way driver and encourage a self-correction. And for right-way drivers nearby, digital alerts are deployed to optimize safety outcomes.

### DID YOU KNOW?

**TAPCO's Wrong-Way Alert System is proven to reduce wrong-way events by 38%**

[According to the Texas Transportation Institute: Assessment of the Effectiveness of Wrong-Way Driving Countermeasures and Mitigation Methods]

**Uniquely engineered to fit any ramp configuration, the Wrong-Way Alert System utilizes a two-zone configuration** that is able to meet the needs of individual deployments, no matter the variable. With thousands of ramps installed and over fifteen years of experience in Wrong-Way Alert System deployment, TAPCO offers ease of installation for ramp configuration, power and communication restrictions, and budgetary constraints. With flexibility of design setup, TAPCO customizes each system to maximize wrong-way detection effectiveness.

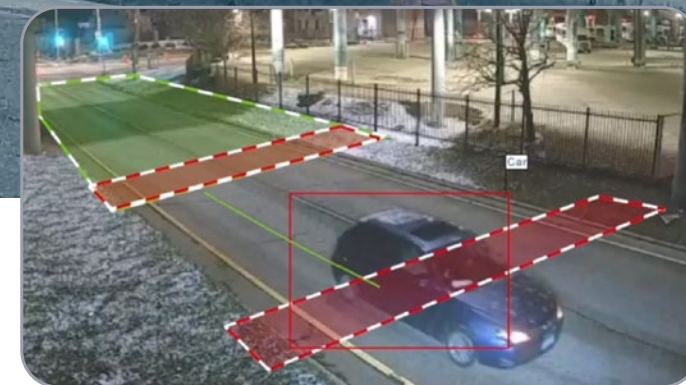
#### Sign Activation Zone:

Zone is designed for initial wrong-way driver detection, using radar technology. When a wrong-way driver is detected, various triggers are activated to create awareness for the driver and encourage a self-correction. Awareness tactics include:

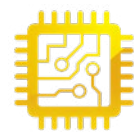
- BlinkerSign®
- LegendViz®
- BlinkerBeacon™
- Rectangular Flashing Beacon
- Digital alerts for right-way drivers

#### Wrong-Way Alert Zone:

If the driver fails to self-correct, the AI-driven video-as-a-sensor technology detects the wrong-way vehicle and the camera captures footage that triggers a BlinkLink® alert sent to TMCs, DOTs, law enforcement agencies or other key stakeholders in order to make near real-time safety decisions.



Actual wrong-way event captured by Bosch's sensor



## SYSTEM ACTIVATIONS

**TAPCO Wrong-Way Alert Systems feature industry-leading video-based detection, developed specifically for ITS integration.** Powered by Bosch technology, the system's AI-enabled video-as-a-sensor technology activates with a high level of accuracy, reducing the number of false positives caused by weather, vibration, headlights and other factors. By eliminating detection of external disturbances, the camera offers next-level precision and reliability when detecting wrong-way vehicles.

When a vehicle initiates a wrong-way event, the Wrong-Way Alert System activates to encourage the driver to turn around via highly visible LED-enhanced warning alerts. In instances where the driver fails to self-correct and continues driving in the wrong direction, the system verifies the movement and deploys further countermeasures.

TAPCO prioritizes connectivity with each Wrong-Way Alert System, which is why each system comes equipped with BlinkLink® (smart city software) and API integration capabilities. Once triggered, connected systems send a real-time wrong-way event notification to TMCs, DOTs, law enforcement agencies or other key stakeholders via cellular modem or fiber networks, allowing officials to take immediate action.

Our Wrong-Way Alert Systems take the safety of other drivers into consideration as well. If a wrong-way vehicle is detected, the system can trigger overhead message boards and send digital alerts to right-way drivers in the area of potential danger.

**DID YOU KNOW?**

**Bosch video-as-a-sensor accuracy levels extend beyond the 95% threshold, making it the most accurate system on the market**



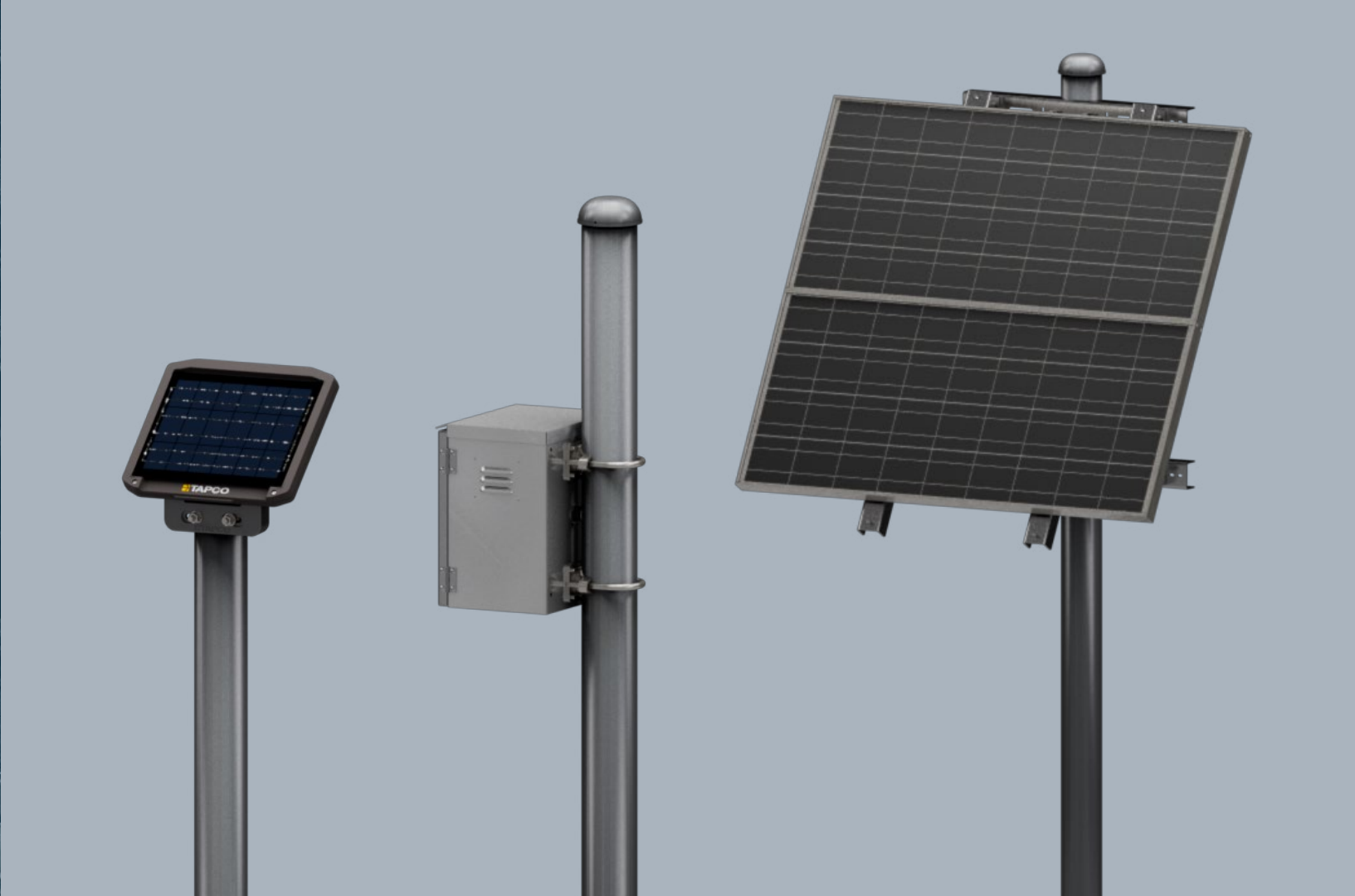
**BOSCH**



Video



Product Brief



## WRONG-WAY DRIVER WARNING ALERTS

Poor visibility, ambiguous entry points and inadequate signage are all factors that contribute to wrong-way driving incidents. And with the majority of wrong-way events occurring after dark, static Do Not Enter and Wrong-Way signs can be difficult to see, especially from a distance.

TAPCO's LED-enhanced warning alerts are designed to command attention, increasing both roadway compliance and driver awareness. Our wide variety of alerts can be added to any Wrong-Way Alert System to heighten visibility and ensure the safety of all roadway users.

TAPCO's alert options include edge-lit warning lights, internally-illuminated technology, flashing beacons and RFBs, all of which can be paired with any Wrong-Way Alert System. Common applications include poorly lit ramps, side-by-side highway access points and ambiguous roadway configurations; however, an alert-equipped system can be added to any location to elevate safety.

**DID YOU KNOW?**

**LegendViz® sign technology has been shown to increase sign legibility by as much as 100% (Texas A&M TTI)**



Brochure



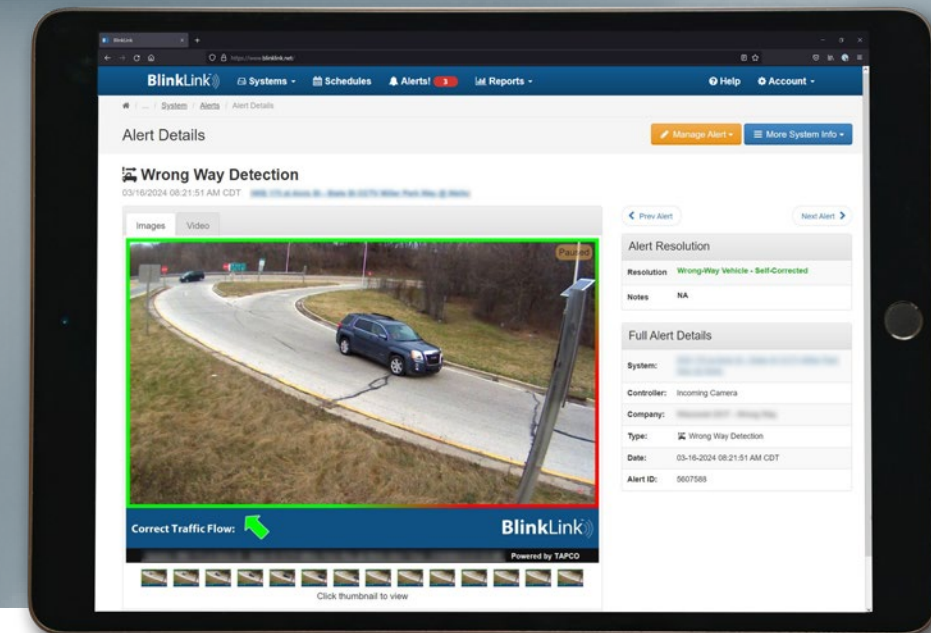
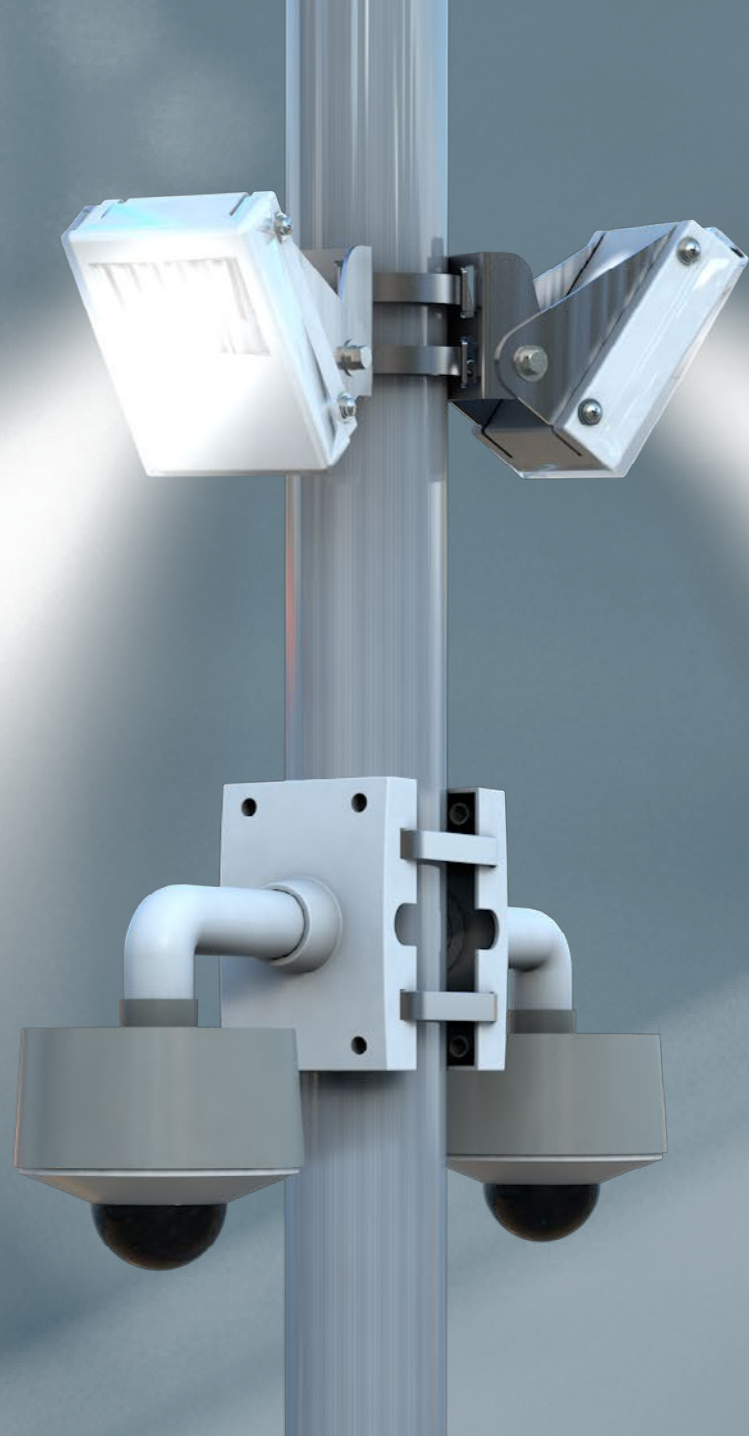
## POWER OPTIONS

TAPCO offers a variety of power options for flexible configuration, including Flex Power and Top-of-Pole Self-Contained Control Cabinets. All Wrong-Way Alert Systems can be designed to fit your power or environmental needs with the option to use existing AC power at site location as well.

Flex Power offerings include AC and solar power to provide flexible system configuration for multiple applications and power requirements, while also allowing easy access to control cabinets.

Top-of-Pole Self-Contained Control Cabinets are equipped with solar capabilities. Designed for quick installation, these power options blend seamlessly into the environment and bypass the need for trenching or in-ground wiring.

Throughout the selection process, TAPCO works closely with each agency to find the best fit for each Wrong-Way Alert System's power needs. As solar requirements vary, depending on the unique needs and geographical location of each community, TAPCO conducts solar calculations to find the optimal power configuration for each system's solar package.



## CAMERA AND ILLUMINATOR

Each Wrong-Way Alert System is equipped with a camera and illuminator to capture each wrong-way event. Upon system activation, the camera and illuminator work in tandem to provide high-quality visual verification.

Designed to flood the Wrong-Way Alert Zone with bright, high-performance light, the LED illuminator enhances visibility of the vehicle and roadway, providing optimal lighting conditions for the camera to capture vital information.

The system's camera works seamlessly with the illuminator, capturing real-time imagery of the event. These images allow key stakeholders to review wrong-way events with accuracy.

**DID YOU KNOW?**

**With BlinkLink®, you can receive notifications and footage of any wrong-way event**



Camera Data Sheet



Illuminator Data Sheet



## CONNECTED VEHICLE INTERFACE (CVI)

TAPCO's Connected Vehicle Interface (CVI) is designed to seamlessly connect with any Intelligent Warning System to deploy in-vehicle alerts. Once the system is triggered, the CVI establishes communication between the warning system, the road-side unit (RSU) and the vehicle's on-board unit (OBU) to activate the approaching motorist's in-vehicle alert. By providing another level of warning, TAPCO's CVI elevates situational awareness and driver response to create a safer roadway experience for all.

**DID YOU KNOW?**

TAPCO's CVI won the 2019 New Products Innovation Award, presented by American Traffic Safety Services Association (ATSSA)



Video



Product Brief



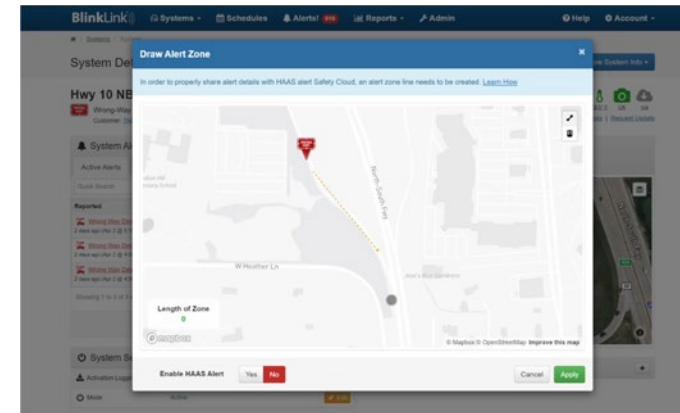


\*official notification display may vary

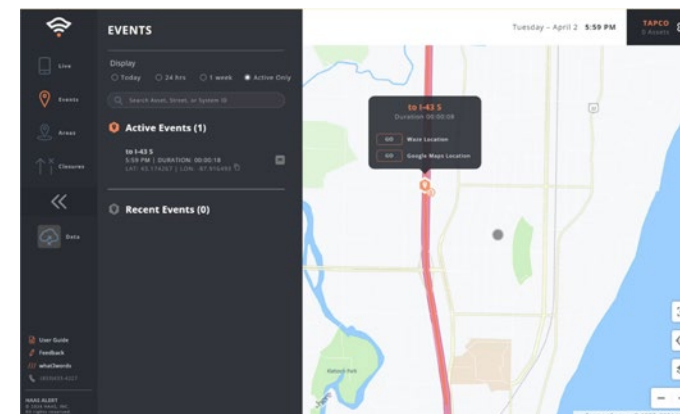


## RIGHT-WAY DRIVER WARNING ALERTS

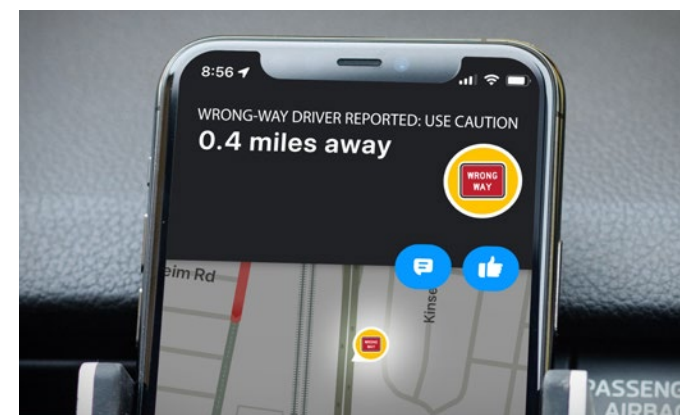
Each Wrong-Way Alert System offers additional safety optimization for right-way drivers with HAAS Alert. When the Wrong-Way Alert System verifies a driver has passed through the Wrong-Way Alert Zone, the system triggers an alert via HAAS' Safety Cloud®. Digital warning alerts are sent to nearby right-way drivers in a predetermined stretch of roadway designed in collaboration with TAPCO and DOT engineers. Right-way drivers who are at risk of a wrong-way collision will receive a message similar to "WRONG-WAY DRIVER REPORTED: USE CAUTION".



**Alert Zone established**  
HAAS' Safety Cloud® and TAPCO's BlinkLink® are connected, where a predetermined stretch of roadway near the the wrong-way detection point is configured by TAPCO and DOT engineers. This becomes the HAAS Alert Zone.



**Wrong-way driver detected**  
If a vehicle is detected advancing in the wrong direction through TAPCO's Wrong-Way Alert Zone, BlinkLink® relays the alert to HAAS' Safety Cloud®, which delivers advanced warning to right-way drivers.

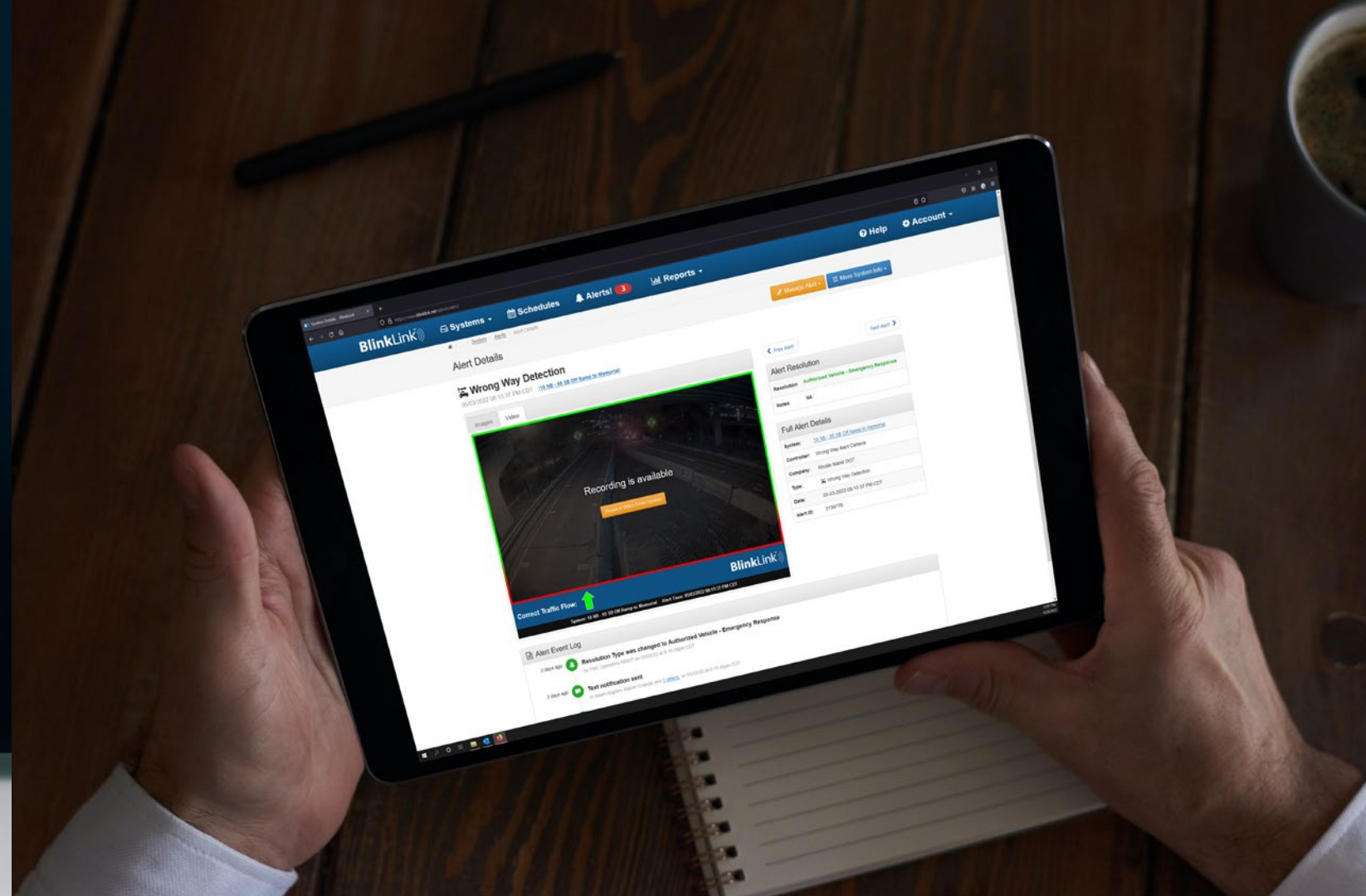
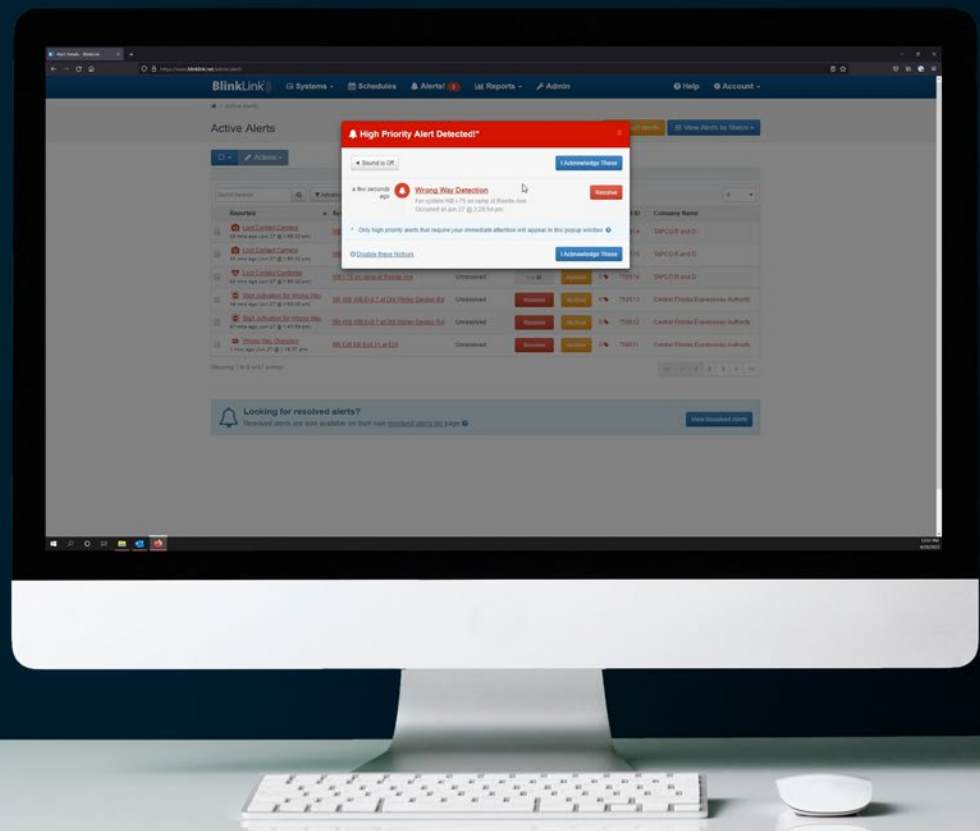


\*official notification display may vary

**HAAS sends alert to vehicles/phones**  
Right-way drivers within the Alert Zone will receive a warning message similar to "WRONG-WAY DRIVER REPORTED: USE CAUTION" via their in-vehicle navigation.



Product Brief



# B BLINKLINK®

**Managing a network of Wrong-Way Alert Systems can be a drain on time and resources.**

Smart city platforms like BlinkLink® are designed to make traffic management easier — and when it comes to wrong-way events, necessary. Wrong-way collisions have potential fatal outcomes, making timely decision-making critical. BlinkLink® not only sends wrong-way event alerts to TMCs, DOTs and law enforcement agencies, but they provide livestreaming abilities to view the event and trigger other mechanisms such as overhead message board warnings and connected vehicle alerts.

By providing near real-time data in one place, networks also help users quickly identify system issues, maintenance needs and activation trends. Once a problem is identified, the platform immediately notifies transportation officials via voice, email or SMS alerts.



Brochure



**The cool thing about BlinkLink® is that it has its own diagnostics that will come through and send emails. I don't even have to go to BlinkLink®, it comes to me.**

– Buck Hodgkinson, Senior Field Service Technician at RIDOT



With additional capabilities such as image/video capture and livestreaming, platforms like BlinkLink® provide vital data to not only act quickly in the event of an emergency, but also identify future infrastructure improvements through activation trends.

BlinkLink® is preprogrammed with all TAPCO Wrong-Way Alert Systems with the option for premium upgrading.

TAPCO experts are readily available to navigate connectivity options and concerns.



Video



## PREVENTATIVE MAINTENANCE

### **Caring for a Wrong-Way Alert System extends beyond procurement and installation.**

Servicing a system can optimize performance and extend lifespan, making it a vital step in maintaining any community's systems. TAPCO offers service agreements to accompany any Wrong-Way Alert System installation or supplement existing deployments.

TAPCO's preventative maintenance plans provide continued care of any traffic system, including scheduled visits, warranty extensions and record-keeping. Once a system is installed, TAPCO customers can "set it and forget it," with experienced service technicians available to provide next-level service for years to come.



Video

Preventative maintenance packages are available for any TAPCO Intelligent Warning System. Additionally, TAPCO offers customized packages to supplement resources for non-TAPCO traffic systems and equipment, ensuring peace of mind for any deployed system. Standard services include scheduled visits to perform inspections and/or testing, plus complete system updates, with comprehensive documentation provided after each visit.

Other benefits of a TAPCO service agreement include:

- Discounted BlinkLink® subscription
- Discounted equipment packages
- Maintenance contractor technical support
- Customizable agreements



## PROCUREMENT

TAPCO ensures the buying process is as easy and fair as possible. By offering the option to purchase products through purchase agreements, TAPCO ensures that communities nationwide can access high-quality traffic safety solutions at an affordable price.

[Purchase agreements and contracts](#) offered by TAPCO include national cooperative contracts through [Omnia Partners](#) and federal contracts through GSA. These partnerships are designed to streamline the purchasing process, allowing transportation officials to obtain the solutions they want. Not only do purchase agreements save time and money, but they also provide transparency and peace of mind throughout the buying process.

Additionally, TAPCO has partnered with select programs to provide contracts on a state level. By offering solutions that adhere to regional standards, these programs simplify the procurement process for state agencies and give them the ability to enhance safety in their communities.



## CONSULTATIVE HELP

Each community's roadway network is set up differently — and it can sometimes be difficult to identify the most suitable fit for a roadway. TAPCO offers consultative help to communities seeking the best solution for the problem facing their roadways. During the consultation process, TAPCO's experts gather information about specific needs, infrastructure characteristics and more to assess the situation and recommend a right-fit solution.

TAPCO understands that the one-size-fits-all approach isn't always suitable, which is why engineered-to-order options are available to address specific wrong-way system needs. TAPCO's deep understanding of the industry paired with 60+ years of experience ensures our team of experts is equipped with the knowledge to select the optimal technology for any solution, carefully considering factors such as accuracy, reliability and compatibility for the best possible fit.



(800) 236-0112 TAPCO.net.com

