



**Pedestrian Safety In Forklift Operations:**

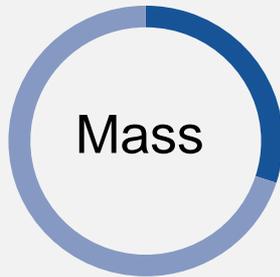
**An Introduction**

# Welcome

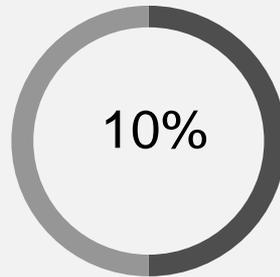
Cisco-Eagle is a national and international material handling systems integration company with customers in all 50 states and over 70 nations. We have broad experience in order fulfillment and picking operations.



## The Scope of the Problem: Serious Liability



Even at low speeds, forklift collisions are devastating—or fatal—to pedestrians, due to their mass.



Forklifts cause only 1% of industrial accidents but account for a whopping 10% of the industrial injuries.



Forklifts cause (on average) nearly 100 deaths, more than 34,000 serious injuries, and another 62,000 minor injuries in the United States every year\*



The costs are staggering - they cost industry hundreds of millions a year. A single incident can easily approach seven figures.

A 5,000-pound forklift moving at 10 mph with a 4,000-pound load has potential destructive force of 135,000-foot pounds of energy. That's equivalent impact to a large car at 20 miles an hour.

\* Source - OSHA



## Safety Applications: What to Guard/Where to Guard



### Safety Enhancement Focus

- Pedestrian/Lift Intersections
- Blind/Low Visibility Corners
- High Traffic Areas
- Any are where pedestrians and lifts coexist

### Six Distinct Scenarios

- Unguarded Walkways
- Guarded Walkways
- End of Aisle/Blind Corners
- Office Entry/Exit Points into aisles
- Open area walkways
- Special Areas/Applications



## It Goes Beyond Just Training

**Most regulators focus on driver training, and (a little) on pedestrian training.**

**Both are mandatory—and neither are enough for problem situations**

- **Regulations are vague about what is required** - A NIOSH recommendation from Preventing Injuries and Deaths of Workers Who Operate or Work Near Forklifts, is to “make every effort to alert workers when a forklift is nearby.”
- **Training seems inadequate for the high-danger potential areas** - While training processes are a must, are they enough for blind corners, high-traffic aisles, or intersections where forklifts and people on foot mingle.
- **Traffic management plans are a must** - But are they enough?
- **If you have had a hit or a near-miss, chances are you have a problem area** - These incidents are a red warning flag. If workers are complaining about having to dodge running forklifts, training and process may not be enough in tight spaces.

# Safety Enhancement Options

What are Your Choices? Where can you draw the line between automation, warning systems, training, and process?

## 1 Eliminate

Create areas that are pedestrian free

## 2 Minimize/Re-route

Route pedestrian aisles in more protected areas. Shorten exposed areas and minimize number of crossings

## 3 Enhance with Automated/Manual Safety Systems

Enhance crossings, blind corners and intersections with available technologies





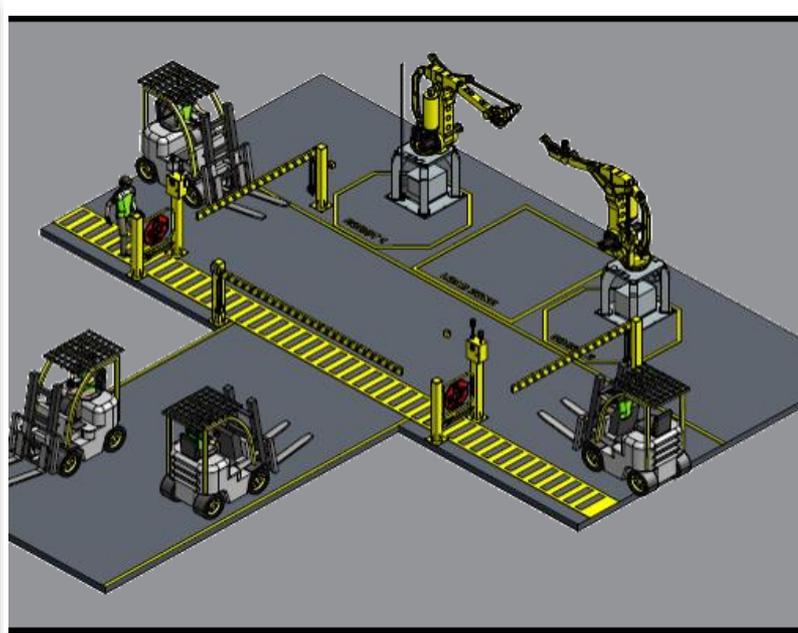
### Automated crossing management for high traffic, low visibility or problem areas



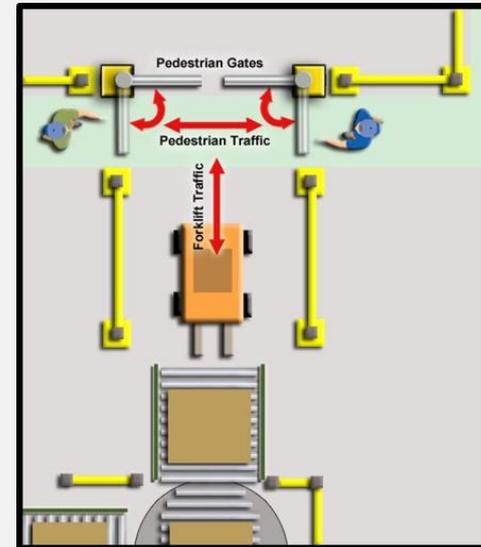
Automated AisleCop® systems help manage dangerous aisles, intersections, and corners with sensor-activated, mechanical gates that are programmed to refuse entry into a dangerous area if a forklift is detected in the monitored zone. Can be purchased in single, dual or multi-gate configurations, with many detection/activation options, with or without forklift aisle boom arms.



# AisleCop® System - Special Area Configurations

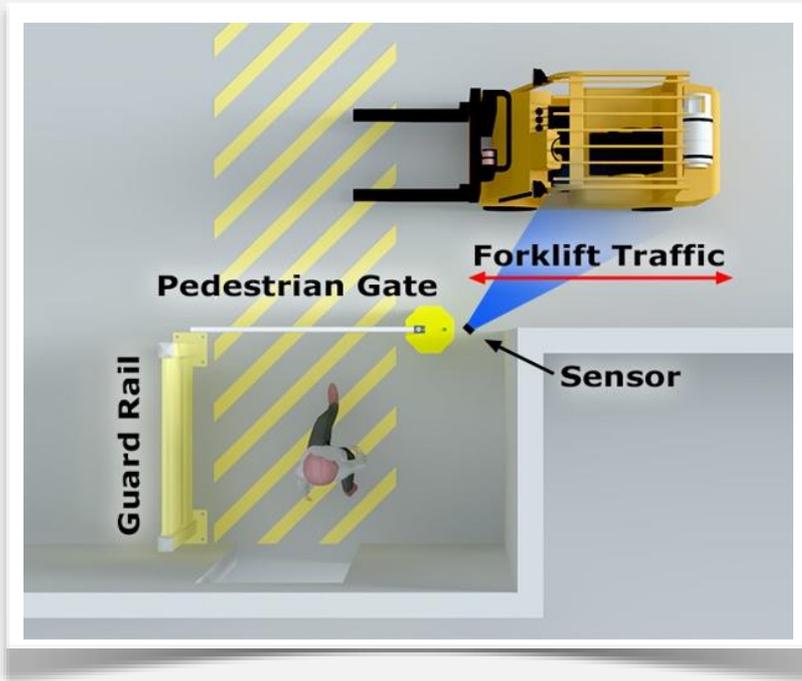


Ideal for robotic areas, work cells, palletizers, and other places where people, machinery, and forklifts interact





## Simple detection and warning system helps drivers see pedestrians



Many office/warehouse transitions are particularly dangerous, as people who aren't used to forklift traffic may enter exit (think office workers and guests who do not know safety protocols, people reading their phones, etc). Warning sensors may help, but for the most effective safety enhancement, an automated gate can help manage this perilous entryway most effectively.



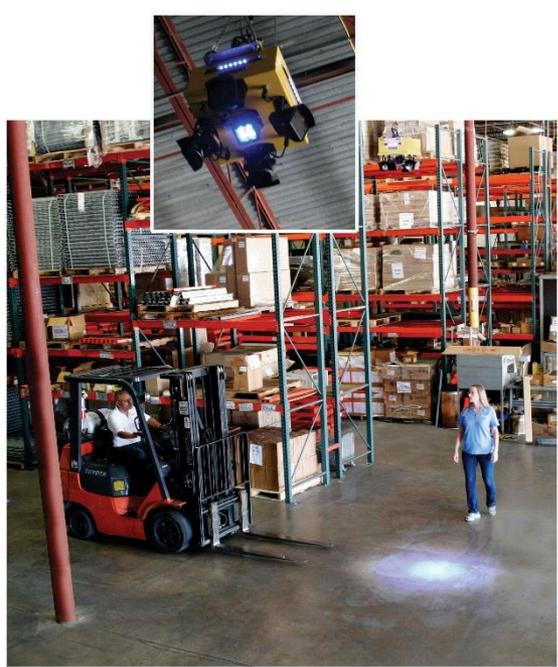
## Simple detection and warning system helps drivers see pedestrians



- Photo eye detects the passage of pedestrians and triggers a bright, highly visible, LED strobe light to help alert forklift operators
- High-duty cycle gate, built for constant daily use, easily pushes open and swings closed.
- The 90" high alert strobe is at eye level for forklift operators.
- Adjustment of the strobe duration from 15 seconds to 1 minute is done by simply turning an adjustment button.
- 36" wide standard. Custom sizes available upon request.



### Overhead motion sensor with FloorAlert™ Projection System

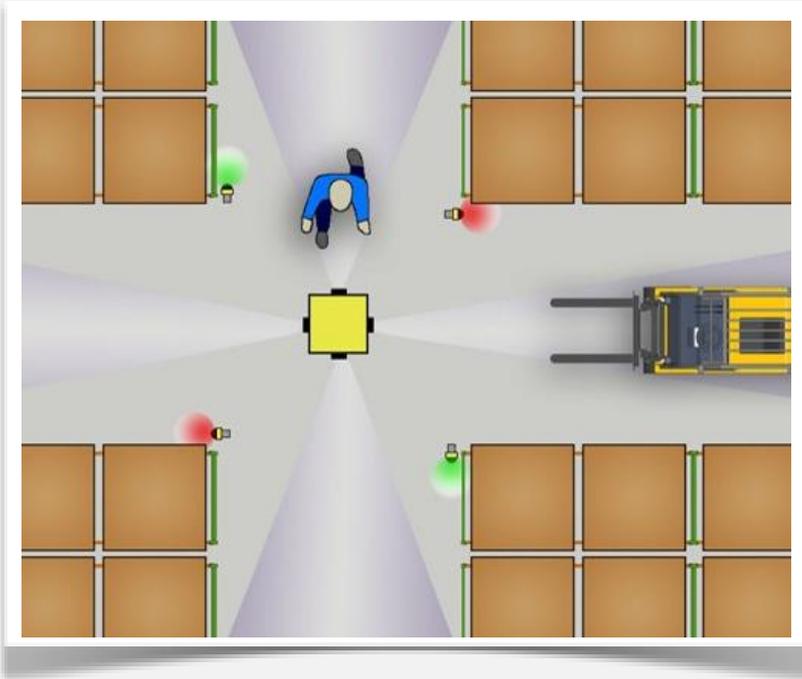


- Ceiling-suspended sensor monitors 2,3, or 4 ways.
- When traffic is detected in at least two directions, a highly-visible flashing alert light is projected on the floor at the center of the intersection.
- Does not trigger for traffic moving away.
- This indicates to pedestrians and forklifts that they should move with caution.
- Once traffic has cleared the monitored zone, the flashing light vanishes.



## Unguarded Walkway Safety Options

### Overhead sensor and floor-mounted traffic light system



- Systems utilize four stoplights controlled by an automated overhead motion sensor.
- The primary (forklift aisle) has priority with green lights until a pedestrian enters the monitored zone.
- When traffic is detected, the lights change to red in the primary aisle. For a preselected timeframe, all lights are red (stop). Then, the secondary aisle turns green to indicate that traffic may cross with caution.
- Once the foot traffic has cleared, the cycle changes so that all lights are red for a preselected time, then green in the primary aisle so that normal traffic can resume.

*Stoplight systems do not physically block traffic. Pedestrians and forklifts should proceed with caution. All normal safety procedures should still be followed.*



## ZoneSafe Proximity Detection Systems



Warning systems help warn drivers, pedestrians of potential collisions

- ZoneSafe utilizes advanced identification and detection technologies, audible alarms, flashing lights and management software to help increase awareness and visibility.
- The system utilizes RFID technology, which creates an invisible 360-degree protection & detection zone around equipped vehicles (or other assets). This can be referred to as the "collision zone".
- The system uses detection antennas, single/multiple zones, and variable detection ranges (3 to 9 meters). Many different configurations can be created.

*ZoneSafe systems do not physically block traffic. Pedestrians and forklifts should proceed with caution. All normal safety procedures should be followed.*

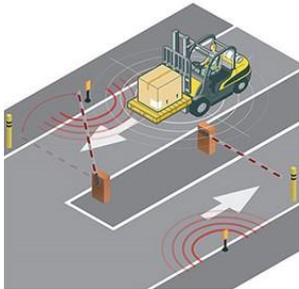


## ZoneSafe Applications – Can be used in virtually any space



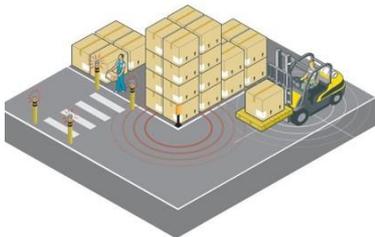
1

**Pedestrian protection:** System detects pedestrians within defined zones and warns forklift drivers of their presence.



2

**Vehicle access systems:** gates are automated through use of a ZoneSafe antenna system that creates a detection zone around the gate. Transponder tags signal the antenna to open the gate as they approach.



3

**Fixed Crossings:** ZoneSafe alerts both driver and pedestrian through an audible and visual alarm at busy intersections, blind corners and more.



## Traffic Safety Sensor Warning Systems

### Motion detection helps alert workers and drivers in warehouses, manufacturing



- Applications include rack aisles, corners, dock areas, entryway doors, and more.
- These are warning systems that do not control or manage traffic. They provide information to both drivers and pedestrians that another may be present in the monitored zone.
- Available rack-mounted, wall-mounted, or ceiling-mounted.
- Simple installation: many models bolt in and plug in. Some models can be wired to facility power or utilize longer lasting batteries.
- See individual sensors for more info.



## Sospes: Mobile Safety Incident Reporting Software



### Report Incidents

- Involving Injuries
- Property Damage
- Environmental Hazards
- Security Threats

### Report Close Calls

### Make Suggestions

#### WHAT YOU GET

Capture incident details immediately to improve accuracy and reliability of reporting

Identify high risk issues and behavior before they become incidents; involving all workers raises everyone's awareness

Workers have great ideas, so let's make it easier to learn them



Allows workers to report incidents or close calls and make suggestions - all in real time

- Sospes is a fast and simple mobile application that allows your people to quickly and easily report workplace incidents in real time.
- You will know when, where and how incidents are occurring and how you can change your operation to increase safety and reduce risks. In addition, workers can report dangerous practices or situations before they have a chance to become an incident—anonously if desired.
- The Supervisor Portal system lets management complete these incident reports, open an investigation and seamlessly generate regulatory reports to reduce the time and paperwork involved in safety compliance and improvement.

The background of the slide is a detailed architectural floor plan. It shows various rooms, corridors, and structural elements. Dimensions are indicated with numbers like 0.80, 0.20, 1.50, 0.46, 1.00, 1.70, 0.75, 0.50, 1.40, 1.00, 2.00, and 0.50. There are also symbols for windows (W1), doors, and other architectural features. A large blue curved shape is on the left side of the slide.

Questions?





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