PEDESTRIAN PRESENCE DETECTION
ABOVE-GROUND VIDEO SENSORS FOR PEDESTRIAN DETECTION

C-Walk is a cost-effective and reliable solution that combines the benefits of video detection with state-of-the-art CMOS sensor technology. C-Walk has been designed to improve pedestrian protection as the pedestrian crosses the street (e.g. at zebra crossing near schools).

» DETECTION OF CROSSING PEDESTRIANS (OUTPUT GENERATION)
» PEDESTRIAN DETECTION AT INTERSECTIONS AND MID-BLOCK CROSSINGS

SafeWalk integrates 3D stereovision technology and intelligent detection for pedestrian presence at curbsides. Stationary pedestrians or those moving in the designated zone waiting to cross a roadway will generate a ‘detect’ state.

» DETECTION OF PEDESTRIANS WAITING TO CROSS THE ROAD
» DETECTION OF APPROACHING PEDESTRIANS INTENDING TO CROSS THE ROAD

Traficon pedestrian sensors are improving safety and efficiency in urban areas all around the world. Detection of pedestrians allows for the dynamic control of traffic lights and warning lights, such as flashing beacons or in-road lighting. The result? More safety, and at the same time less unnecessary delays to both pedestrians and motorists.

Traficon’s pedestrian sensor portfolio offers integrated solutions combining a camera and detector in one:

- **C-Walk**: detection of crossing pedestrians
- **SafeWalk**: detection of waiting and approaching pedestrians

WHY TRAFICON?
» ALL-IN-ONE SENSOR (CAMERA + DETECTOR)
» ABOVE-GROUND SENSOR
» ACCURATE ZONE POSITIONING
» MPEG-4 STREAMING VIDEO
» IP-ADDRESSABILITY
» RELIABLE DETECTION 24/7
» COST-EFFECTIVE SOLUTION
» FIELD-PROVEN PEDESTRIAN DETECTION ALGORITHMS

MAIN GOALS
» Better protection of pedestrians at intersections and crossings
» Reducing unnecessary delays to pedestrians and motorists

APPLICATION AREAS
» Traffic signal control
» Warning signal control

PRODUCTS
» C-Walk
» SafeWalk

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Traficon’s **C-Walk** and **SafeWalk** sensors make use of predefined detection zones ("virtual loops"). As soon as a pedestrian enters the predefined zone, a detection output is sent to the traffic light controller, enabling the software to **lengthen the green time for the pedestrian** and delay the green time for vehicles.

**The problem:**
- Reduced safety at signaled intersections

**The solution:**
- Detection-based traffic light control
- SafeWalk and/or C-Walk pedestrian detection sensors

**The results:**
- Safer crossing and better adapted green times for pedestrians
- Reduced waiting times for both pedestrians and motorists

**SafeWalk** has been designed to detect pedestrians adjacent to the pole on which it is mounted.

**With SafeWalk,** stationary pedestrians or those moving in the designated zone waiting to cross a roadway will activate the traffic lights.

**C-Walk** can adapt traffic light green times based on demand.

**C-Walk** is designed to improve pedestrian protection as the pedestrian crosses the street.
PEDESTRIAN DETECTION FOR ACTIVATION OF WARNING LIGHTS

The problem:
- Bad visibility of pedestrians at unsignalized crossings

The solution:
- Detection-based warning light activation
- SafeWalk or C-Walk pedestrian detection sensors combined with LED in-road markers or flashing beacons

The results:
- Increased pedestrian safety and visibility
- Reduced vehicle speed
- Increased braking distance

Warning lights are very effective in enhancing driver awareness and impacting on their behavior in ways that reduce risk to pedestrians. Warning lights will help motorists recognize pedestrians when crossing and reduce speed in time before approaching the actual crossing. However, traditional, continuously flashing warning signals will have a reduced effect, as motorists do not receive any real stimulus to change driving behavior. This is not the case with detection-based warning signals, which can be activated based on the detected presence of pedestrians.

Trafcon’s video detection sensors C-Walk and SafeWalk can be used to activate warning lights, such as in-road lighting or flashing beacons, as soon as pedestrians enter a pre-defined detection zone. Video detection from Trafcon will take into account the unpredictable behavior pedestrians typically have when crossing the road. By activating the warning lights, Trafcon’s sensor technology will enhance safety and visibility for vulnerable road users crossing the road.

Activation of in-road lighting

Activation of flashing beacons
**FAST & EASY INSTALLATION**

SafeWalk and C-Walk sensors have been designed to avoid expensive installation and maintenance costs. As such, **the installation process is quick and simple**: install it, connect it and start analyzing the pedestrian detection zone.

The sensors can simply be mounted on existing infrastructure. Also, a flexible bracket allows for horizontal and vertical mounting.

**USER-FRIENDLY SYSTEM CONFIGURATION**

Configuration of the sensor is done via portable PC with pre-installed **user-friendly** software. Configuration takes less than five minutes and can be performed by any user – no specialist knowledge is required.

Using camera images (JPEG snapshot), virtual pedestrian detection zones can be positioned accurately. Verification and viewing of the detection is possible via **MPEG-4 streaming video**.

**TRAFFICON IN THE FIELD**

- SafeWalk | Blacksburg, USA | flashing beacon activation
- C-Walk | Hendrik-Ido-Ambacht, the Netherlands | activation of flashing beacons and in-road lighting