NON-SIGNALIZED CROSSING SAFETY AUDIT

ConnVAS
Sensing the future

Identifying Preventable Risks at Non-Signalized Crossings

The ConnVAS Safety Audit is designed to analyze pedestrian, cyclist, and micro-mobility crosswalk safety conditions at non-signalized crossings with video analytics. These sites may include mid-block, school zones and trail crossings along with non-signalized intersections.

While RRFBs and HAWKs improve safety conditions, there are still safety shortcomings - a large percentage of vulnerable road users do not activate the Ped Call button and cross without flashing beacons; drivers often fail to yield to flashing beacons when no vulnerable road users are visible to them in the crossing, vulnerable road users often do not pay attention to approaching vehicle traffic while crossing, and default flashing beacon times do not always match with actual vulnerable road user crossing times.

Safety Audit Overview

ConnVAS and its partners will use the ConnVAS video analytics solution, including our Crosswalk Analyzer, to provide a detailed safety audit report. In addition to the report, ConnVAS will provide video clips that will help users assess the scope of risks at the crossings, and whether there is justification for making any additional investments to protect vulnerable road users, such as:

- Adding the ConnVAS MAGIC system, an automatic pedestrian and vehicle passive detection and intelligent control system to an existing RRFB or HAWK installation, or
- Installing a new ConnVAS Enhanced RRFB or HAWK system at a crosswalk that currently does not have an RRFB or HAWK system.

Safety Data Collected and Analyzed

The ConnVAS Safety Audit evaluates and analyzes the safety conditions of a pedestrian crosswalk at a non-signalized location using video analytics. The system processes video footage recorded at the crosswalk and its surroundings over a period of one week or until a significant data sample is collected. The product examines the following:

The number of pedestrians and cyclists using the crosswalk during peak hours, over a 24-hour period, and throughout the data collection period.

At RRFB-equipped crossings, the percentage of pedestrians and cyclists who activate the RRFB compared to those who cross without activation.

The number of vehicles passing through the crosswalk during peak hours, over a 24-hour period, and throughout the data collection period.

The number of near-miss incidents occurring at the crosswalk during peak hours, over a 24-hour period, and throughout the data collection period.

Vehicle speeds of cars approaching and traveling through the crosswalk during the data collection period.

The number of traffic violation incidents occurring at the crosswalk during peak hours, over a 24- hour period, and throughout the data collection period.

Proposed Justifications for Installing an Enhanced RRFB System Including the MAGIC System

1. The crosswalk has a history of traffic accidents or near-miss incidents.

2. The average vehicle speed on the roadway exceeds 30 MPH.

3. The crosswalk is located near a school, playground, community center, or similar facility.

4. The system detects a high number of near-miss incidents – more than two per hour during peak hours.

5. The system detects a high number of traffic violations of the type "failure to yield to pedestrians" – more than five per hour during peak hours.

6. More than 50 pedestrians use the crosswalk per hour during peak times.

7. More than 300 vehicles pass through the crosswalk during peak hour.

8. Pedestrians experience long waiting times at the edge of the crosswalk – more than one minute of waiting for over five pedestrians per hour during peak hours.

9. At crosswalks where an RRFB system is already installed, more than 70% of pedestrians do not activate the flashing beacons (do not press the activation button).

Requirements for Conducting the Analysis

✓ Installation of a camera to record video footage of the crosswalk and its surroundings for one week or until a significant sample of data has been collected.

✓ A camera equipped with a cellular connection will transmit the video in real time to ConnVAS for our cloud-based Crosswalk Analyzer solution.

✓ Alternatively, a video recording from the data collection period can be sent to ConnVAS for analysis.

✓ Installation and removal of cameras and modem will be coordinated through partner or directly with public agency.