

CASE STUDY

Lakeland, Florida - Intersection Collision Avoidance Safety Program (iCASP)

Helping to Save Lives Using Smart technology



Lakeland is a vibrant community conveniently located along I-4 between Tampa and Orlando. With a population just over 100,000, the city limits cover 74.4 square miles. Lakeland has many lakes that are community focal points, providing scenic areas for recreation. In fact, much of Lakeland’s culture and iconic neighborhoods are built around the 38 named lakes found in the community.



Problem

According to the AAA Foundation, **28% of crash deaths that occur at signalized intersections are the result of a driver running through a red light.** The City of Lakeland, with the Police and Public Works Departments and through its Traffic Operations and Parking Services (TOPS) Division, is committed to preventing crashes and saving lives, and is moving closer to a Vision Zero approach by addressing this problem head on.

Project

The City’s traffic signals system is 100% connected by fiber, has at least 11 red-light camera intersections in place, and advanced traffic signal controllers have been deployed to collect high-resolution data through video and other detection methods. The City has established that adding **advanced detection at the intersection to monitor vehicles and their speeds in the “dilemma zone” can lead to a reduction in intersection collisions** caused by red-light runners.

The objective of iCASP focuses on motorists' behavior and saving lives by reducing red-light running crashes at signalized intersections. The solution takes advantage of the City's existing high-resolution traffic controllers and red-light camera system, and deploys advanced vehicle detection systems that can detect the speed and distance of vehicles approaching the intersection

to reduce the severity and number of red-light running crashes – the ultimate goal being to eliminate them completely. iCASP is designed to effectively predict and then extend the “all-red” signal phase and delay the opposing green signal phase to avoid crashes.



Iteris' Vantage Vector®



Econolite Cobalt Controller



Iteris SPM™

Solution

The solution comprises a combination of **Iteris' Vantage Vector® Hybrid detection solution, Iteris SPM™ and Econolite Cobalt controllers**. The Iteris Vantage Vector detection system provides the typical measures of effectiveness protocols such as: arrival on green and red; occupancy; queuing; pedestrian crossings; phasing data; and pre-empts. Further, the “Vector” component provides advance detection for speed and distance; general extension capabilities; and dilemma zones. Data was collected from high-resolution Econolite Cobalt controllers through automated traffic signal performance measures (ATSPM) to demonstrate the technology and the number of vehicles that are continuing to run red lights. Red-light camera coverage captured video of crashes and infractions for six months. The results show that 48 motorists per day still run the red light after the green light has gone on and some drivers were shooting through red lights up to 14 seconds after oncoming traffic had a green light.

The City presented the solution and results from the pilot to the Florida Department of Transportation with the intent of seeking their approval to deploy the program within the City of Lakeland.

In the News

ABC Action News: Lakeland To Present Red Light Study To FDOT To Make Traffic Lights Stay Red Longer And Prevent Crashes
Watch the report here (<https://www.abcactionnews.com/news/region-polk/lakeland-to-present-red-light-study-to-fdot-to-make-traffic-lights-stay-red-longer-and-prevent-crashes>)

