

## CASE STUDY

### Florida PedSafe

#### THE SETUP

East Orlando, Florida, is home to the University of Central Florida, averaging the second-highest number of enrolled students in the country, and the Central Florida Research Park, the most extensive research park in Florida with more than 10,000 employees in over 100 companies. Despite a population dependent on walking and cycling, the region was recognized as the most dangerous metro area for pedestrians by Smart Growth America's 2019 *Dangerous by Design* report.

To create safe streets for vulnerable road users, the Florida Department of Transportation (FDOT) District 5 launched PedSafe, a holistic pedestrian and bicycle safety improvement project deploying cutting-edge technologies to reduce pedestrian and cyclist accidents. With PedSafe, FDOT seeks to serve pedestrians based on their real-time movements for improved safety, ensuring all pedestrians received adequate crossing time before the pedestrian phase ends.

**Safety First,  
Efficiency by Design**

#### THE SOLUTION

FDOT selected GRIDSMART, an omnidirectional-imaging, real-time computer vision product, for its detection and tracking capabilities. With these capabilities, GRIDSMART can inform the traffic signal controller when pedestrians are moving through the crosswalk, or bikes are moving through the intersection, to minimize conflicts with vulnerable road users (VRUs) and allow extended clearance intervals only when necessary to both improve safety while maintaining efficiency.

The system's SMARTMOUNT Bell Camera, using ultra-wide-angle fisheye optics, has the unique ability to see the center of the intersection – i.e., the box – where vulnerable road users need the protection. For bicyclists, this method is a significant improvement to traditional stop-line discrimination. Legacy stop-line systems simply provide long green times when they believe there is a bicyclist at the stop-line. The extended green time utilizes statistics meant to protect slower travelers, not real-time actions at the intersection, meaning traffic efficiency and safety could be compromised. A similar approach can be used for pedestrians in the crosswalk by adding clearance time to protect slower travelers, or even sending messages to connected vehicles that might be turning to warn that there is a pedestrian crossing.

The significance? Pedestrians travel at different speeds, and some may need more or less time to cross the intersection safely. GRIDSMART does not waste green time on faster pedestrians and cyclists or place individuals traveling below expected speeds in danger.

GRIDSMART provides safety first and efficiency by design. This is the reason FDOT chose GRIDSMART for the PedSafe project. By deploying GRIDSMART, a more aggressive, vulnerable road user detector, FDOT has improved and is improving pedestrian and cyclist safety.