NCDOT Traffic Safety Unit Programs

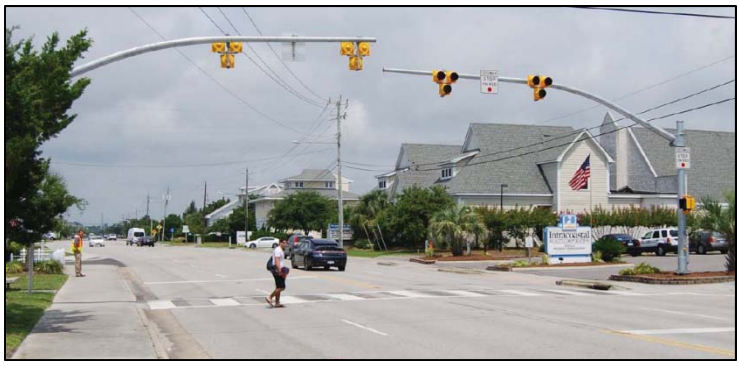
Pedestrian Countermeasure Evaluations

NCDOT has completed studies on HAWK Beacons (a.k.a. Pedestrian Hybrid Beacons) and Rectangular Rapid Flash Beacons (RRFB) to assess pedestrian and motorist compliance. A handful of these pedestrian countermeasures have been installed across North Carolina in recent years.

HAWK Beacon Evaluation

A HAWK beacon is a traffic control device used to allow pedestrians to cross the roadway. The signal changes to a solid red indication for drivers to stop to pedestrians in the crosswalk. A before and after compliance study at a single HAWK location in Wrightsville Beach reveals:

- Vehicle yielding rates at the crosswalk improved by 19% from before to after installation, from 27% to 46% (regardless of whether the HAWK was activated or not).
- All vehicles yielded 74% of the time the HAWK signal was red.
- Pedestrians activated HAWK 51% of the time the crosswalk was used.



Wrightsville Beach HAWK Beacon

RRFB Evaluation

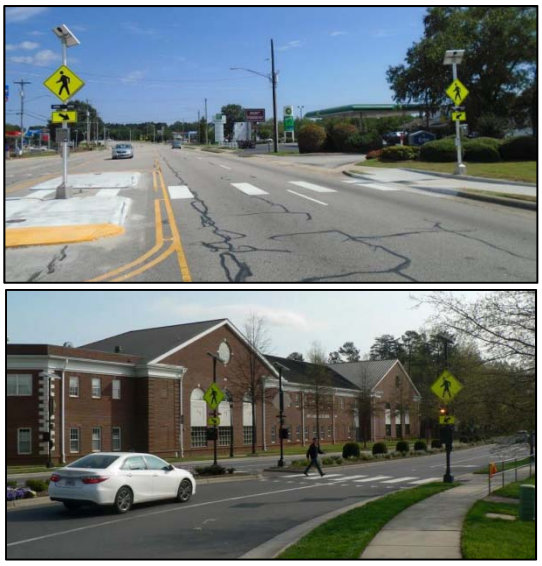
A RRFB is a warning device that uses rapid flashing amber LED lights to supplement pedestrian warning signs. Unlike the HAWK beacon, it is not a traffic control device, but rather serves to alert drivers of the presence of pedestrians in the crosswalk. Before and after compliance studies at RRFB locations in Fayetteville (two adjacent RRFBs) and Davidson (four adjacent RRFBs) reveal:

Fayetteville Sites

- Vehicle yielding rates at the existing crosswalk improved by 24% from before to after installation, from 6% to 30% (regardless of whether the RRFB was activated or not).
- Vehicle yielding rates were 40% with RRFB activation.
- Pedestrians activated the RRFB 56% of the time the crosswalks were used.

Davidson Sites

- Vehicle yielding rates improved from 39% in the before period to 56% after without RRFB activation, and 78% after with RRFB activation (Two-Stage Crossing).
- Pedestrians activated the RRFB 61% of the time the crosswalks were used.



Top: RRFB from the Fayetteville location
Bottom: RRFB from the Davidson location