Accidents involving pedestrians in crosswalks are a common cause of road fatalities. In-pavement flashing warning lights have been proposed as a means of increasing the conspicuity of a crosswalk when a pedestrian is using it. These systems, however, are more expensive to install than striping—the conventional way of identifying crosswalks. The Lighting Research Center (LRC) did a study of the effect on pedestrian safety of an in-pavement flashing warning light system compared to conventional striping.

The site chosen for the study was in Denville, New Jersey. The site was evaluated three times under different conditions:

• Evaluation 1: one marked crosswalk, badly eroded striping
• Evaluation 2: two crosswalks, freshly painted striping
• Evaluation 3: in-pavement flashing warning lights and striping on both crosswalks

Outcomes

Clear striping of a crosswalk
• Enhances the conspicuity of the crosswalk to drivers who are not familiar with the location
• Reduces conflicts between pedestrians and vehicles
• Does not reduce the mean speed at which vehicles approach the crosswalk, or the mean number of vehicles passing over the crosswalk while a pedestrian is waiting to cross

Adding an in-pavement flashing warning light system to a crosswalk that is already clearly striped
• Further enhances the conspicuity of the crosswalk to drivers who are not familiar with the location
• Does reduce the mean speed at which vehicles approach the crosswalk
• Does reduce the mean number of vehicles that pass over the crosswalk while a pedestrian is waiting

These effects diminish over time.

Recommendations

• In-pavement flashing warning lights are most suitable where there is competition for drivers’ attention.
• Manual triggering of the in-pavement flashing lights is preferred over automatic triggering.
• Drivers and pedestrians must be educated about appropriate behavior when in-pavement flashing warning lights are used.