Effective Crosswalk Illumination

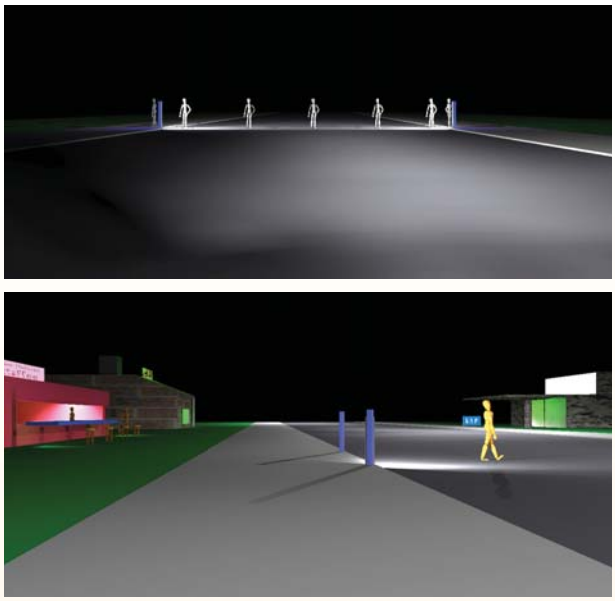
Reduced nighttime visibility is a probable contributor to pedestrian injuries and fatalities.

Through the Region II University Transportation Research Center, the LRC completed a project for the New Jersey Department of Transportation to systematically evaluate different approaches to lighting at pedestrian crosswalks for improving pedestrian visibility and detection.

Simulation testing

The project team conducted a series of photometrically accurate lighting simulations in order to assess the visual conditions resulting from different lighting configurations, and assessed the economics (initial cost, and electricity and maintenance costs) of each system evaluated.

The results suggested that a bollard-based fluorescent lighting system mounted at the ends of a crosswalk and oriented to provide vertical illumination on pedestrians in the crosswalk could be a feasible, cost-effective approach.



These renderings demonstrate the effectiveness of the bollard-based fluorescent lighting system.

Field demonstration

This configuration was demonstrated at an intersection in Old Bridge, New Jersey. Results of the one-night experiment confirmed that this method was practical. Suggested improvements to the approach, such as use of louvers for glare control and coordinating light output levels with the timing of pedestrian signals to provide an alerting signal, also were provided in the report.

LRC researchers demonstrated the bollard-based lighting design at a New Jersey intersection.

Sponsors

Region II University Transportation Research Center (UTRC II)

New Jersey Department of Transportation (NJDOT)

Equipment donation

Philips Hadco

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