



Florida Department of Transportation Research

Development of Statewide Guidelines for Implementing Leading Pedestrian Intervals in Florida

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Current Situation

Pedestrian safety is always a high priority for the Florida Department of Transportation (FDOT), especially as FDOT moves Florida toward a truly multimodal transportation system. Intersections are where vehicles and pedestrians are most likely to interact and where most pedestrian injuries occur so intersections are a focal point for improving pedestrian safety. A low-cost measure that can help in this situation is the Leading Pedestrian Interval (LPI), in which a Walk signal is given a few seconds before the traffic light turns green, giving pedestrians a head start and alerting drivers to pedestrians' presence. LPI is not applied at all intersections, and more research-based guidance is needed to determine where LPI is useful and how it should be applied.

Research Objectives

University of South Florida researchers conducted an integrated study to determine the suitability and effectiveness of LPI implementation at intersections.

Project Activities

The researchers developed a preliminary set of guidelines for LPI implementation based on extensive background work. A literature review was conducted to examine current practices and evaluations of effectiveness. They supplemented this information with knowledge gained from practitioners using a variety of methods. Based on the literature review, the researchers developed a questionnaire about LPI implementation guidelines. The questionnaire was administered to experienced traffic engineers and managers in cities and counties both in and out of Florida. Several of the engineers and managers were selected for follow-up interviews via teleconference to gain additional insight into their answers to the questionnaire. Teleconferences were also held with at least one traffic operations specialist in each FDOT district.

Based on their background work, the researchers revised the preliminary guidelines and began the process of selecting intersections where LPI could be implemented and evaluated. The researchers selected 11 turn lanes on nine intersections which represented many types of intersection geometry and were distributed across the state, in all FDOT districts. The researchers worked with FDOT district staff to implement an LPI on each of the 11 selected turn lanes. Observational and statistical data were collected for each turn lane before and after implementation of the LPI. At most of the intersection with LPI, pedestrian-vehicle conflicts were reduced with no appreciable reduction in vehicle throughput. In some cases, the LPI cleared the crosswalk more quickly and slightly reduced the average waiting time for a right turn.

Results from field testing led to a finalized set of guidelines for LPI implementation that can be applied throughout Florida.

Project Benefits

Better guidance and broader use of LPIs promises to lower the number of pedestrian-vehicle conflicts at intersections and further reduce pedestrian injuries in Florida.

For more information, please see www.fdot.gov/research/.



LPI allows these pedestrians to enter a busy intersection before cars.