

MAKING CROSSWALKS SAFER FOR PEDESTRIANS

PROBLEM STATEMENT

In Florida, almost one out of every five fatalities involves a pedestrian. The state's pedestrian fatality rate per 100,000 population is 3.6, almost twice that of the national rate of 1.9. A recent Surface Transportation Policy Project report (2000) ranked the Tampa-St. Petersburg-Clearwater metropolitan area as the most dangerous place for people to walk.

OBJECTIVES

The research objectives included implementing a multidisciplinary program consisting of engineering, education, and enforcement components to improve pedestrian safety at crosswalks, and evaluating the effectiveness of the program. The study consisted of three phases: community assessment, program implementation, and program evaluation. Several goals were established at the program's onset, including:

1. Increasing citywide motorists yielding behavior from single digit levels to over 70 percent.
2. Reducing conflicts and crashes in crosswalks by 50 percent.
3. Increasing pedestrians' feelings of comfort and safety while crossing the street.

FINDINGS AND CONCLUSIONS

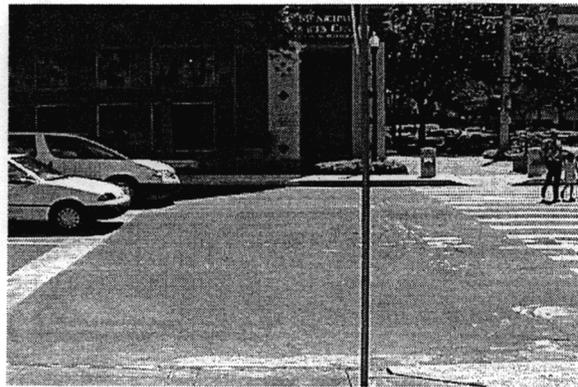
The results of the study demonstrated that strategies combining engineering, education, and enforcement efforts are effective in increasing motorist awareness of yielding to pedestrians in crosswalks and reducing conflicts between motorists and pedestrians. The results also suggest that multiple engineering interventions at crosswalks are more effective than single interventions at achieving program goals. This research highlights the value of using a multidisciplinary approach to address a community traffic safety issue and can be used as a tool to help communities design an effective program to target traffic safety issues.

Researchers analyzed data on motorists yielding behavior and pedestrian-motor vehicle conflicts collected during the baseline and post-intervention period, and examined overall patterns and patterns by site and intervention. Some of the key findings of the program evaluation included:

- Motorists yielding to pedestrians at signalized intersections increased from 60 percent during the baseline period to 62 percent during the post-intervention period, but did not reach the goal of 70 percent yielding except for a brief period.
- Motorists yielding to pedestrians at unsignalized intersections did not reach the 70 percent yielding level, but did increase from 3 percent yielding during the baseline period to 24 percent yielding overall during the post-intervention period.

- Two intersections, one signalized and one unsignalized, achieved the goal of 70 percent yielding or more during the post-intervention period.
- Pedestrian-motor vehicle conflicts at signalized intersections increased from 3 percent during the baseline period to 4 percent during the post-intervention period.
- Pedestrian-motor vehicle conflicts at unsignalized intersections decreased from 4 percent to 0.3 percent, surpassing the goal of reducing conflicts by 50 percent.
- Only two signalized intersections, among all of the observation sites, did not experience a reduction in pedestrian-motor vehicle conflicts by 50 percent or more as a result of the intervention(s).
- Intersections receiving multiple engineering interventions achieved the best results in increasing motorists yielding and decreasing pedestrian-motor vehicle conflicts.
- Improvements to pedestrians' feelings of comfort and safety while crossing the street could not be assessed because the post-survey was not administered at the program's conclusion.

While strong conclusions about the overall effectiveness of the multidisciplinary program could not be drawn, research results provide direction for future actions to improve pedestrian safety. Recommended engineering interventions include the installation of advance stop lines, motorist and pedestrian prompting signs, and lead pedestrian intervals at intersections with high pedestrian crash rates. While this study indicated that further research was needed to determine the effectiveness of education components, it was specifically suggested that young and older pedestrians, because they constitute a significant



An example of an advance stop line relocated 20 feet in front of the crosswalk.

percentage of pedestrian injuries and fatalities, be targeted for educational messages to improve pedestrian safety. Similarly, study of enforcement interventions were limited, and as such, not conclusive. However, enforcement campaigns appeared to have increased motorists yielding for a short period of time. It is therefore suggested that periodic warning and citation campaigns be used to inform both pedestrians and motorists about their obligations to obey crosswalk and pedestrian safety laws.

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