



DOT HS 811 607

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Demonstration and Evaluation of the *Heed the Speed* Pedestrian Safety Program

Background

Research has shown that higher vehicular speeds are related to increased pedestrian injury severity and death. It is unclear, however, if lowering vehicle speeds in residential areas would result in lower frequency of pedestrian-involved crashes. This study built upon the pilot work of Blomberg and Cleven (2006) that tested the *Heed the Speed* initiative on a small scale in Phoenix and Peoria, Arizona. In that study, it was found that the program significantly reduced vehicle speeds on the road segments where it was implemented.

The current project focused on determining if the enforcement, education, and engineering approaches of the pilot program could be scaled up as a city-based countermeasure that might produce a reduction in the frequency of pedestrian-involved crashes.

Method

Extensive discussions and data analyses were used in the site selection process. Philadelphia, Pennsylvania, stood out because of a relatively high frequency of pedestrian-involved crashes, and because State and city personnel were interested in reducing pedestrian-involved crashes.

The Philadelphia Streets Department, Philadelphia Police Department, Pennsylvania Department of Transportation (PennDOT), and an engineering consulting firm called Street Smarts cooperated in the deployment of the program. Roadways for countermeasure deployment were selected by analyzing the preceding four years of pedestrian-involved crash data to identify cluster patterns in residential areas.

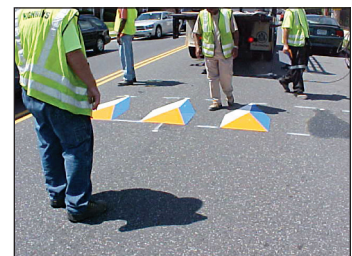
Based on the crash analyses and available program funding, 6 of Philadelphia's then 25 police districts were selected to participate in the program. Police officials elected to use most of the funds slated for enforcement to purchase four Speed Tracker units for each of the 6 districts, which use physical means to measure speed, rather than radar. Without these units they had no way to issue

meaningful citations for speeding because Pennsylvania law prohibited local police from using radar as a quantitative measure of speed. The new Speed Tracker units could be used to issue speeding tickets with the possible benefit that public awareness of the devices might deter speeding in the districts. The project purchased pneumatic and radar traffic counters for the Philadelphia Streets Department. These were used to measure vehicle speeds on roadways before and after countermeasures were deployed.

The original *Heed the Speed* slogan was combined with the name of a planned Philadelphia safe driving program. The resulting campaign – *Drive CarePhilly – Heed the Speed* was launched in June 2008. Although the project did not include paid media, Street Smarts (PennDOT's contractor for the distribution of safety education in Philadelphia) included the *Drive CarePhilly – Heed the Speed* message in community presentations and associated distributions. These delivery methods, as well as earned media, were the primary publicity components. The education distributions took place at schools and community meetings and emphasized the negative effects of excess speeds.



The Streets Department created three different speed limit signs using variations of the program slogan. The other engineering component was the installation of 42 sets of 3-D pavement markings on selected roadways. The three-dimensional illusions created by these "large mountains" had worked to reduce vehicle speeds in the Arizona pilot study.



As part of the program evaluation, researchers examined the countermeasure deployment activities of the program

and measured their impact on public awareness, vehicle speeds, and pedestrian-involved crashes.

Results

Citations

Despite the acquisition of the new Speed Trackers, no increases in the issuance of speeding citations were observed in the 6 police districts. The only observed increase in ticketing occurred when the Philadelphia Police Truck Enforcement Unit received separate funding for paid overtime to focus on speeding in a particular problem area. Through discussions with the police, it was found that the Speed Tracker units were not used to the degree planned because of vehicle attrition, difficulties with daily calibration, difficulties with enforcing on narrow residential streets, and the large volume of other high-priority calls that the police had to deal with on a daily basis. It should be noted that during the same study period, the remainder of the city demonstrated a large decrease in the number of speeding citations issued.

Public Education and Awareness

Educational material was distributed by Street Smarts to approximately 26,000 children and adults. Articles about the 3-D roadway markings and the related program were featured in Philadelphia newspapers and the *New York Times*, and the story was picked up by a major press media service.

A one-page, self-administered awareness survey was distributed by PennDOT at six Driver Licensing Centers near the targeted police districts, but not necessarily located within the districts. Overall, results indicated little awareness of the program's specific education, media, enforcement, or engineering efforts. While the awareness of the *Heed the Speed* tag line remained low throughout the program, the notability of the *Drive CarePhilly* tag line increased slightly over time.

Speeding

Of the 24 measurement locations, 17 showed some form of speed reduction (either a decrease in mean speed or an increase in the percentage of vehicles traveling the speed limit or less). Of the 7 measurement sites with 3-D materials installed on the roadway, 6 showed speed reductions.

Pedestrian-Involved Crashes and Fatalities

Pedestrian-involved non-fatal crash data were obtained for 2003 to 2009. Because of the infrequency of pedestrian

crashes, monthly crash counts from all 6 test districts (not just the roadways that received engineering efforts) were combined for analysis. No differences were found for the 6 test districts versus the rest of the city.

Pedestrian fatalities were examined separately and combined into quarterly counts due to small numbers of fatalities in the police districts. Nevertheless, the number was still small, which restricted the ability to study changes over time in the treatment districts. Again, there was not a significant change in the distribution of fatalities over time for the targeted districts versus the rest of the city.

Discussion and Recommendations

The aim of the study was to scale up the pilot *Heed the Speed* program to a city-based countermeasure program and determine if reducing speeds would lead to a decrease in pedestrian-involved crashes in residential areas. The study had mixed results given the move from roadway-specific to police-district-wide activities with limited enforcement, publicity, and community involvement. Speeds were reduced at the majority of measurement locations compared with baseline measures, especially at the 3-D material sites. On the other hand, the decision to employ Speed Tracker devices resulted in few new speeding citations, and the devices proved somewhat incompatible with the dense urban environment.

No reduction in pedestrian-involved crashes was documented in the 6 districts. In part, the absence of a crash reduction was not surprising given the lack of speed enforcement. The specific engineering techniques, however, appeared to have value for reducing speeds at the roadway level. Nevertheless, the overall program results were somewhat disappointing. The experience from *Drive CarePhilly – Heed the Speed* should be useful in any effort to expand *Heed the Speed*.

How to Order

To order *Demonstration and Evaluation of the Heed the Speed Pedestrian Safety Program*, prepared by Dunlap and Associates, Inc., write to the Office of Behavioral Research, NHTSA, NTI-130, 1200 New Jersey Avenue SE., Washington, DC, 20590, fax 202-366-7394, or download from www.nhtsa.gov/staticfiles/nti/pdf/811515.pdf. Marvin M. Levy, Jenny Ellis, Eunyoung Lim, and Jessica Cicchino were the Contracting Officer's Technical Representatives for this project.



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