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The Effect of High-Visibility Enforcement on Driver Compliance With Pedestrian Right-of-Way Laws: 4-Year Follow-Up

In large cities, pedestrians can account for 40% to 50% of traffic fatalities. In 2014 there were 4,884 pedestrian fatalities and about 65,000 injuries in the United States (NHTSA, 2015). Many of these incidents occur at crosswalks where drivers fail to comply with pedestrian crossing laws. Driver compliance increased in Gainesville, Florida, after applying NHTSA's high-visibility enforcement (HVE) model to pedestrian right-of-way laws. The original study report is available at www.nhtsa.gov/staticfiles/nti/pdf/811786.pdf.

This current study was a follow-up to the original Gainesville pedestrian HVE project. The objective was to determine the extent to which the observed increases in driver yielding obtained in the original study persisted over a follow-up period of nearly 4 years after the HVE intervention program ended.

Program Background

The original study conducted four waves of HVE of pedestrian yield right-of-way laws over the course of one year. The Pedestrian Safety Program was a joint enforcement effort by the Gainesville Police Department, the University of Florida Police Department, and the Alachua County Sheriff's Office and was supported by paid radio ads, earned media, public outreach to schools and communities, street signage, and feedback signs.

For measurement purposes, the city selected 12 crosswalks with high pedestrian crossings, and randomly assigned six sites to the treatment condition and six sites to the control condition (also called generalization or spillover sites) where program activities did not occur. Officers conducted pedestrian decoy operations, where a plainclothes officer stepped into a crosswalk in advance of an approaching vehicle (staged crossing) that had ample time to come to a safe stop (as defined by a precise dilemma zone). During the first wave, officers issued warnings. Citations were issued for the remainder of the HVE program.

There were 20 staged crossings, and as many unstaged crossings as occurred naturally two or three times per week at each of the 12 sites for the duration of the study. At both treated and untreated sites, motorists' yielding right-of-way following the HVE pedestrian operations increased and continued to climb with each successive enforcement wave. As shown in Table 1, at the treated sites, yielding for staged crossings averaged 32% during baseline and 66% by the end of the HVE program. At the untreated generalization sites, yielding for staged crossings sites averaged 37% during baseline and 59% by the end of the HVE program.

Table 1. Mean Percentage of Drivers Yielding to Pedestrians at Enforcement and Generalization Sites by Phase of the Project

	Percentage of Drivers Yielding	
Phase	Enforcement Sites	Generalization Sites
Baseline	31.5	36.7
HVE 1 - Warnings, Flyers, Parent Outreach, University of Florida Outreach, and Earned Media	44.7	46.3
HVE 2 - Ticketing, Earned Media, Paid Radio Ads, and Feedback Signs	52.5	51.1
HVE 3 - Ticketing, Earned Media, and Feedback Signs	56.7	52.5
HVE 4 - Ticketing, Feedback Signs, and In-Street Signs	66.0	58.5
Follow-Up 2014	77.5	79.1
Follow-Up 2015	75.7	74.7

Current Study

This follow-up study involved no new HVE or publicity. Observers collected data on staged and unstaged crossings at the same six sites at which enforcement took place in the original study and at the same six generalization sites where no enforcement had taken place. Observers employed the same observation procedures used in the original study. Results showed yielding behavior continued on an upward trend with both the enforcement and generalization sites exhibiting significantly higher rates of driver yielding during the follow-up period than at the end of the intervention period almost 4 years earlier. Yielding rates across both follow-up periods averaged 76.5% at the enforcement sites and 77.0% at the generalization sites. (See Figures 1 and 2.) Thus, above and beyond the significant increase documented by the original study from before to

Figure 1. Mean Percentage of Drivers Yielding to Pedestrians at Enforcement Sites During Each Condition of the Program by Week

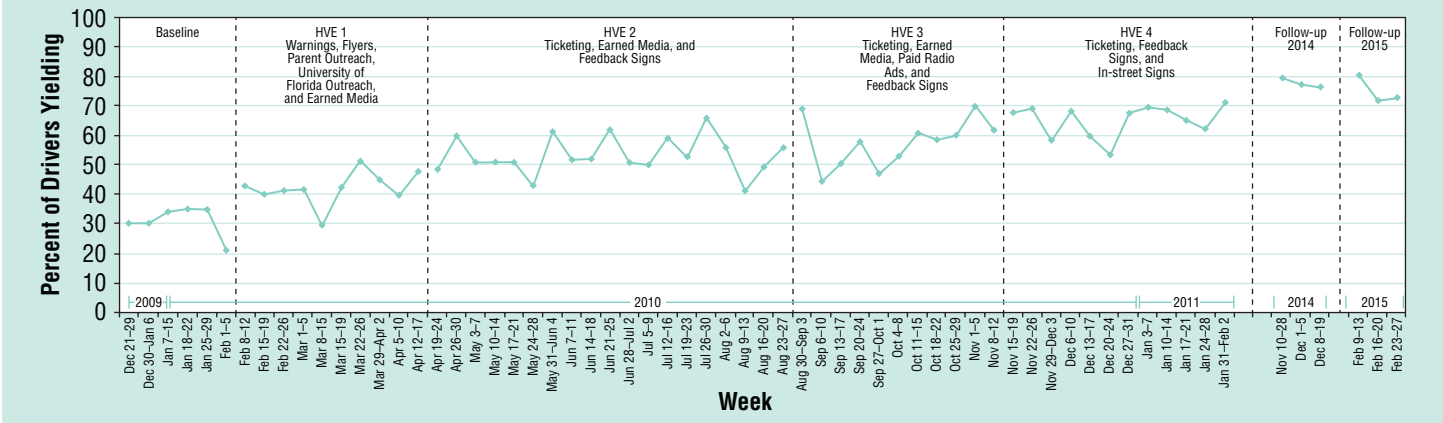
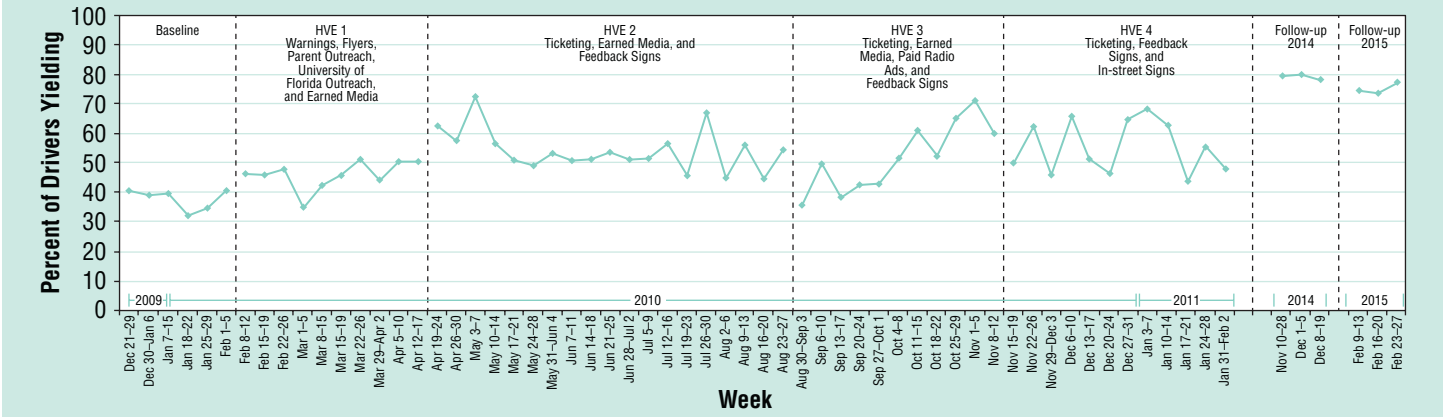


Figure 2. Mean Percentage of Drivers Yielding to Pedestrians at The Generalization Sites During Each Condition of the Program by Week



immediately after the intervention, this study showed an additional significant increase in yielding from the end of the intervention to the follow-up period.

Discussion

As demonstrated in the previous study, during the HVE program, a slow and steady increase in the percentage of drivers yielding right-of-way to pedestrians was observed over the course of the program year. Yielding also increased steadily at comparison sites, showing that the program generalized to other crosswalks. Long-term maintenance of this behavior change was observed in the current study even though additional HVE efforts were not deployed after the program ended. The sustained increase in yielding behavior across treated and untreated sites over the intervening 4 years after the HVE program ended suggests a sustained change in driving culture. While it is important to consider study limitations and other plausible explanations for the change including a wider spread regional behavior change, the encouraging outcomes support the reasonableness of trying similar HVE efforts in other locales, particularly where the rate of drivers yielding to pedestrians is low.

How to Order

Download a copy of the *The Effect of High-Visibility Enforcement on Driver Compliance With Pedestrian Right-of-Way Laws: 4-Year Follow-Up* (29 pages) from https://one.nhtsa.gov/staticfiles/nti/pdf/812364_HighVisibilityEnfDriverCompPeds4YearFollowUp.pdf. Kristie Johnson, Ph.D., was the Contracting Officer's Representative for this project.

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