

Attachment I

The Effects of High Visibility Enforcement (HVE) on Driver Compliance to Pedestrian Yield Right of Way Laws

Background

Data from the Fatality Analysis Reporting System (FARS) indicate that in 2006, 61,000 pedestrians were injured and another 4,784 pedestrians were killed in traffic crashes. Past data has indicated that a lack of driver compliance is associated with pedestrian motor vehicle crashes. One way of increasing driver compliance is to use high visibility enforcement. Past research conducted both in the U.S. and abroad indicates that the use of increased enforcement coupled with increased publicity about the enforcement program has been associated with substantial increases in compliance with occupant protection laws as well as a reduction in alcohol related crashes.

In 1985, Van Houten and Malenfant developed an enforcement strategy described as a pedestrian decoy operation (Malenfant, Van Houten, Hall & Cahoon, 1985; Van Houten, Malenfant, & Rolider, 1985). In September 2008, the National Highway Traffic Safety Administration (NHTSA) awarded a research contract to the Western Michigan University (WMU) to determine whether the use of sustained enforcement of the yield the right-of-way laws when combined with publicity would increase compliance rates by motorists and reduce the occurrence of crashes.

General Study Plan

The study plan calls for the evaluation of a high visibility enforcement (HVE) program targeting drivers not yielding right-of-way to pedestrians. The proposed study involves an increase in visible enforcement over a longer period of time (one year). In addition, increased emphasis will be placed on publicizing the study and providing feedback to the public in the target jurisdiction. One goal is to change motorist behavior at these locations so that fewer conflicts occur at intersection locations. Another goal is to determine the feasibility of analyzing crash data in a meaningful way to evaluate the overall impact of the high visibility pedestrian decoy program.

Eligibility Criteria

Evaluation requirements. The evaluation of the program requires the city/county have access to police accident reports and GIS data for pedestrian crashes.

Implement HVE of Pedestrian Right-of-Way Laws. The WMU team of experts will work with city/county officials to design a HVE program that targets drivers failing to yield right-of-way to pedestrians. The multifaceted program will include enforcement activities, supplemented by educational and low cost engineering strategies to increase the perceived level of enforcement on a citywide basis. WMU will provide start-up funds to the city/county to assist in implementing the countermeasures.

Western Michigan University (WMU) Key Team Members

Dr. Van Houten has conducted research in the area of pedestrian safety for over 30 years. Many of the countermeasures he has developed and researched to improve pedestrian safety are in the MUTCD. He is the past Chair of the TRB Pedestrian Committee and a member of the NCUTCD. Dr. Van Houten recently carried out a large-scale project in Miami-Dade County for FHWA that examined all high pedestrian crash corridors and evaluated low cost engineering and educational treatments to reduce pedestrian crashes on a corridor wide basis and is currently working on a second study for FHWA evaluating innovative low cost countermeasures for reducing pedestrian crashes. He has also conducted research for NHTSA on pedestrian enforcement in Miami Beach, FL, WITH DR. LOUIS MALENFANT that was associated with significant increases in the percentage of drivers yielding to pedestrians and a sustained reduction in the number of pedestrian crashes.

Dr. Louis Malenfant is the preeminent expert on pedestrian right-of-way enforcement. He designed and evaluated the first HVE program focused on increasing driver yielding right-of-way to pedestrians with Dr. Van Houten in the 1980s AND WITH LT JOHN MINER IN THE 1990S. He and DR. VAN HOUTEN CO-AUTHORED A MAJOR REPORT TITLED "COURTESY PROMOTES SAFETY" FOR THE CITY OF ST. PETERSBURG, FLORIDA WHICH GAVE IMPETUS TO THE MAJOR CHANGES TO IMPROVE PEDESTRIAN SAFETY IN THAT CITY OVER THE PAST 10

YEARS. He has continued to work on developing treatment countermeasures to improve traffic safety, and has been particularly active in developing programs to improve traffic safety.

Richard D. Blomberg directed the Walk Smart Baltimore study and has developed innovative ways to reduce pedestrian crashes. He has also developed and evaluated the *Heed the Speed* program for NHTSA to reducing speeding in urban neighborhoods through a multifaceted treatment package consisting of engineering, enforcement and education components. He has also developed many effective educational tools to improve pedestrian safety.

Dr. Brad Huitema is a nationally recognized expert in the area of statistical analysis with a specialization in time series analysis.

Contract Information

The work is being performed under Task Order DTNH22-06-D-00036 for NHTSA. Eunyong Lim is the NHTSA Contracting Officer's Technical Representative. For further information, please contact: Dr. Ron Van Houten, Western Michigan University: Cell phone: 269-929-2609; E-mail: Ron.vanhouten@wmich.edu

Attachment II

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Essential Program Elements

Enforcement Elements

1. Western Michigan University (WMU) team will provide one Train-the-Trainer Workshop on how to conduct an effective pedestrian enforcement operation.
2. WMU team will schedule short periodic debriefing sessions with the police enforcement team to provide them with feedback and to inform them on the progress of the study.
3. WMU team will prepare a detailed schedule of enforcement capable of producing a sustained change in driver yielding behavior
4. The Subcontractor agrees to conduct a minimum of four waves of enforcement operations in a course of one year. Each enforcement wave lasts two weeks.
5. The Subcontractor agrees to use special sandwich board signs to help drivers identify police pedestrian enforcement operations as pedestrian safety operations.
6. The Subcontractor agrees to divide enforcement into a warning phase, followed by a citations phase for drivers that fail to yield for pedestrians in crosswalks

Engineering Components

1. The Subcontractor agrees to place advance yield (stop) markings and signs at busy multilane crosswalks.
2. The Subcontractor agrees to post signs reminding drivers of the presence of enforcement and the penalty for violating pedestrian right-of-way
3. The subcontractor agrees to ensure that a minimum of 10 crosswalks are clearly marked with paint or thermoplastic material.

Education Components

1. The Subcontractor agrees to distribute educational flyers for all drivers stopped for failing to yield. *All required printed materials prepared by the WMU research team will be submitted for acceptance by the participating agency at the beginning of the project to assure that all parties understand and commit to it.*
2. The Subcontractor and WMU team will jointly determine a variety of low cost educational countermeasures to enhance the program.

Feedback System

1. The Subcontractor agrees to provide and install several inexpensive community feedback signs displaying the percentage of drivers yielding to pedestrians during the past week.

Data Collection and Evaluation

1. A full or part-time project coordinator will be hired by the WMU research team to oversee the data collection and to verify that all components of the research project are implemented as directed by the research team. This coordinator will provide weekly reports to the Principal Investigator. All discrepancies with the action plan will be reported promptly. Any sign of procedural drift will also be reported immediately to facilitate the use of corrective measures.
2. The WMU team agrees to hire and train research assistants to sample yielding at targeted and non-targeted sites.
3. The WMU research team will train research assistants on how to accurately record the data and provide training materials that can be used to train new assistants.
4. The WMU research team will also provide all data sheets and data recording materials necessary to record the efficacy of the program.
5. The WMU research team will provide a plan to link enforcement and the feedback system to driver learning. *All required printed materials, specifications for the educational interventions prepared by the research team will be submitted for acceptance by the participating agencies at the beginning of the project to assure that all parties understand and commit to it for the duration of the project.*
6. Perceived level of enforcement will be obtained by a anonymous intercept survey of drivers donated by the Subcontractor. The intercept technique involves sampling or “intercepting” respondents who are near the locus of the interventions. Since we are interested in drivers, the intercept point could be a gas station, parking lot, supermarket or other site downstream of the data collection locations for behavior. WMU will develop the intercept questionnaire for the cooperating site and prepare a protocol for the data collectors to follow.

Management and coordination of the project

In order to assure that all components of the project are implemented as planned and in line with projected costs, the WMU research team will manage and administer it.