

National Highway Traffic Safety Administration (NHTSA)
Office of Behavioral Safety Research & Office of Safety Programs
Pedestrian and Bicycle - TRB 2017

PEDESTRIAN AND BICYCLE SAFETY RESEARCH

• **RESEARCH TOOLS AND RESOURCES**

- ✓ **New Report: [Advancing Pedestrian and Bicyclist Safety: A PRIMER for Highway Safety Professionals](#).** This tool builds upon the pedestrian and bicyclist chapters of *Countermeasures That Work*. It offers a discussion of both behavior and engineering based pedestrian and bicyclist countermeasures, issues, and concepts to further an understanding and importance of a strategic and collaborative “3 E’s” (education, engineering, and enforcement) approach to pedestrian and bicycle safety. A basic grasp of engineering countermeasures by non-engineers, allows decision makers to actualize more opportunities to change pedestrian, bicyclist, and driver behavior and ways behavioral and engineering countermeasures can work together and complement one another to develop comprehensive, multi-faceted programs.
- ✓ **[Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices \(2015\)](#).** This reference, the 8th Edition, assists SHSOs to select effective, science-based traffic safety countermeasures for major highway safety problem areas, including pedestrian and bicycle safety. It describes major strategies and countermeasures relevant to SHSOs, summarizes their use, effectiveness, costs, and implementation time, and references important research summaries and individual studies. Countermeasures that relate to pedestrians (Chapter 8) and bicyclists (Chapter 9). (9th edition to be published mid-2017.)
- ✓ **[2012 National Survey of Bicyclist and Pedestrian Attitudes and Behaviors Database](#).** To access the database, see the NHTSA Driving Safety, Research & Evaluation, Survey Data page and click on the desired database. This survey randomly selected a national sample of 7,509 people, age 16 and older, to survey the scope and magnitude of bicycle and pedestrian activity and the public's behavior and attitudes regarding bicycling and walking. Report findings update the previous telephone survey of pedestrian and bicyclist attitudes and behavior conducted in 2002.
- ✓ **[Compendium of Traffic Safety Research Projects \(1985-2013\)](#).** Brief summaries of research on alcohol-involved driving, drug-involved driving, occupant protection (e.g., seat belts, and child safety seats), speed and other unsafe driving behaviors, motorcyclist safety, pedestrian and bicyclist safety, older driver safety, novice and young driver safety, fatigue and distraction, and emergency medical services. Chapter VI relates to Pedestrian and Bicycle Safety Research.
- ✓ **[Office of Behavioral Safety Research Electronic Library of Publications](#).** This electronic library includes research publications from NHTSA’s Office of Behavioral Safety Research.

• **EVALUATION**

- ✓ **Evaluation of the Effectiveness of Cameras as a Deterrent to Reduce School Bus Stop-Arm Violations.** This project investigates if using stop-arm cameras reduces violations and the extent to which drivers do not stop for school buses loading and unloading students before and after a public information program and implementation of a stop-arm bar camera enforcement program. (Final report expected: winter 2018.)
- ✓ **Evaluation of NHTSA’s Child Pedestrian Safety Curriculum.** This project: (1) evaluated the implementation of [NHTSA’s Child Pedestrian Safety curriculum](#) by schools, teachers, and caregivers; and (2) assessed how the curriculum impacted the knowledge and behaviors of young pedestrians. The curriculum teaches and encourages safe pedestrian behaviors for students at the elementary school level (grades K-5) and is designed to aid elementary age school children in developing age appropriate traffic safety knowledge and practical pedestrian safety skills. (Final report expected: spring 2017.)

- **ENFORCEMENT**

- ✓ **New Report: [The Effect of High-Visibility Enforcement on Driver Compliance to Pedestrian Right-of-Way Laws: 4-Year Follow-Up](#) and [Traffic Tech](#).** This follow-up study investigates the maintenance of motorist compliance to pedestrian yield right-of-way laws at intersections four years after a full pedestrian enforcement program was in effect in Gainesville, Florida. ([Click here for the initial study](#)).
- ✓ **New Research Project: Evaluating Enforcement of Bicycle Safety Laws.** This research study will assess the extent and typology of bicyclist/motor vehicle crashes, injuries, and fatalities based on bicyclist and motor vehicle driver action; determine which localities are enforcing bicycle safety statutes and how they are enforcing the statutes; determine what methodologies have been developed and are being used to observe and measure bicyclist/motor vehicle interactions; conduct a literature review of studies that have investigated safety laws including passing and yielding laws and detail the role passing distance or yielding versus other actions plays in bicycle/motor vehicle crashes; conduct naturalistic observations to quantify the targeted behavior; and determine the impact law enforcement combined with increased education about bicycle safety laws has on motorists driving near bicyclists.

- **PROBLEM IDENTIFICATION**

- ✓ **Effect of Electronic Device Use on Pedestrian Safety.** This project explored the use of electronic devices (and other distractors) by pedestrians and drivers when interacting on the roadway, and the extent to which the use of such distractors are involved in pedestrian/motor vehicle crashes and conflicts. This project was divided into three phases.
 - **[Literature Review \(Phase 1\)](#)** - a literature review of pedestrian distraction research including electronic device use and the role distraction on the part of pedestrians and/or drivers plays in pedestrian/motor vehicle conflicts.
 - **Naturalistic Observations (Phase 2)** - naturalistic observations to quantify distraction including electronic device use by pedestrians and motor vehicle drivers when interacting; and
 - **Crash Report Analysis (Phase 3)** -pedestrian/motor vehicle crash data analysis to quantify the extent to which electronic device use by either the pedestrian or driver is involved and to determine crash typology. (Phase 2 and 3 final report expected: summer 2017.)
- ✓ **Bicyclists and Other Cyclists Traffic Safety Facts – 2015 Data.** (Posting soon.)
- ✓ **Pedestrian Traffic Safety Facts – 2015 Data.** (Posting soon.)

PEDESTRIAN AND BICYCLE SAFETY PROGRAM

- **NEW PROJECTS---**

- ✓ **Determining Impaired Pedestrians Among DWI Offenders.** NHTSA awarded a Task Order contract to Dunlap and Associates to conduct a demographic analysis of alcohol impaired pedestrians killed in motor vehicle crashes in recent years and to identify whether additional analysis of particular groups, such as DWI offenders, is warranted to develop appropriate countermeasures. Alcohol involvement—for the driver and/or the pedestrian— was reported in 48% of all fatal pedestrian crashes in 2014. An estimated 34% of fatal pedestrian crashes had a pedestrian with a BAC of .08 grams per deciliter (g/dL) or higher. An estimated 14% of fatal pedestrian crashes had drivers with BACs of .08 g/dL or higher. (18-month effort.)
- ✓ **Statewide Pedestrian and Bicyclist Focus Education and Enforcement Effort.** NHTSA has entered agreements with Florida Department of Transportation, the Tennessee Governors Highway Safety Office, and the Arizona Governor’s Highway Safety Office to support their focus cities implement education and enforcement components of their local Pedestrian/Bicycle Safety Action Plans. This initiative seeks to identify State management processes and approaches that provide ongoing support for local communities to strategically address pedestrian/bicycle safety with education and enforcement efforts. (2-5 year projects.)
- ✓ **Community Based Bicyclist and Pedestrian Behavioral Safety Assessment.** NHTSA awarded Toole Design Group a contract to develop a review process that communities can use to assess their pedestrian

and bicyclist safety problems and helps provide recommendations for improvement. The proposed project will make available to communities a systematic process, uniformed guidelines, and technical assistance to address their bicycle and pedestrian behavioral safety problems. (18-month effort.)

- ✓ **Pedestrian and Bicycle Information Center (PBIC)** (Pedestrian and Bicyclists) NHTSA has joined with FHWA to provide yearly funding, throughout the five year period of performance, to support behavioral related issues, including education, enforcement, research and policy efforts to address a comprehensive approach to pedestrian and bicycle safety associated with motor vehicles on public roadways. (5 years.)
- **NEW PRODUCTS**
 - ✓ [North Carolina Pedestrian Education and Enforcement Demonstration Project](#)
 - ✓ [Chicago Pedestrian Education and Enforcement Demonstration Project](#)
 - ✓ **FL Pedestrian Education and Enforcement Demonstration Project** (Posting soon.)
 - ✓ **NM Pedestrian Education and Enforcement Demonstration Project** (Posting soon.)
 - ✓ **Philadelphia Pedestrian Education and Enforcement Demonstration Project** (Posting soon.)
- **ENFORCEMENT**
 - ✓ [Pedestrian Safety Enforcement Operations: A How-To Guide](#). This resource offers law enforcement agencies guidance and programmatic information to assist them in developing and deploying pedestrian safety enforcement programs. It includes promising practices identified through a systematic literature review, from law enforcement agencies, and from a panel of subject matter experts.
- **EDUCATION- YOUTH**
 - ✓ Research report: [Bicycle Safety Education for Children from a Developmental and Learning Perspective](#). This research includes a literature review of the developmental capacities of children ages 5 to 16 and associated learning theories, and discusses how this relates to teaching children how to ride bicycles safely.
 - ✓ [NHTSA's Child Pedestrian Safety Curriculum](#) teaches and encourages safe pedestrian behaviors for students at the elementary school level (grades K-5) and is designed to aid elementary age school children in developing age appropriate traffic safety knowledge and practical pedestrian safety skills.
 - ✓ Research report: [Promising Practices to Increase Bicycle Proper Helmet Use Among Middle School Youth](#). This report summarized findings and lessons learned to increase proper bicycle helmet use among middle school students, based on an 8 week peer-based program. Final internet based products on the program can be used as a national peer-based model consisting of all the resources needed for organizations to replicate this program including video training, guidance, and downloadable materials, see <http://cers-safety.com/hsp.htm>.
 - ✓ [Tips for Preteens & Teens: Prevent Pedestrian Crashes](#) (See description below.)
 - ✓ [Tips for Preteens & Teens: Prevent Bicycle Crashes](#). These two downloadable handouts about crashes are each divided into two pieces. One piece explains defensive walking (or biking) and how safe walking (or biking) in relation to traffic is a precursor to safe driving. The second piece conveys types of common crashes between pedestrians and cars or between bicycles and cars and explains what happens, shows what it looks like, and offers what pedestrians, bicyclists and motorists can do to prevent the crashes.
- **EDUCATION- ALL AGES**
 - ✓ **Videos:** These videos may be used on closed circuit TV's or replicated without NHTSA permission.
 - (1) [Helmet Fit](#) (Spanish) for parents and adults; (2) [Ride Smart. It's Time to Start](#) (grades 3-7); (3) [Bike Safe-Bike Smart](#) (grades 3-7); (4) [Bicycle Safety Tips](#) (adults); Stop and Look with Willy Whistle child pedestrian safety video (grades K-2); [Getting There Safely youth pedestrian safety video](#)
 - ✓ [Motion Graphic Videos](#): These five education tools express the desired safe behaviors using visual cues rather than language to incorporate the needs of non-English speaking or non-literate audiences.

- (1) [Fitting a Bicycle Helmet](#); (2) [Bike Riding Safety](#); (3) [Rules of the Road](#); (4) [Driving Safely around Pedestrians and Bicyclists](#); and (5) [Walking Safely](#).

- **EDUCATION – NON-ENGLISH SPEAKING AUDIENCES**

- ✓ **Final Report: Reaching Immigrant Adults on Walking/Biking Safety Through English as a Second Language Course.** This research project evaluated the usability of the [Walk and Bike Safely](#) curriculum designed to teach adults beginning level English. It shares lessons learned and insight for next steps in reaching Hispanic audiences.
- ✓ **Motion Graphics:** see prior description and hyperlinks.

PARTNERSHIP ACTIVITIES AND PRODUCTS:

- ✓ With Shape America: [Model Bicycle Curriculum: Bikeology- On-Bicycle Youth Training Course for Physical Education Teachers and Recreation Professionals](#). This curriculum, suitable for middle-high school, includes lesson plans and assessments to enable physical education teachers and recreation specialists to effectively teach the most essential skills to promote skill ability and safety while bicycling. The curriculum and any desired training is available through **Shape America**, including [twelve supplemental parent tip sheets](#).
- ✓ **With Safe States Alliance:** This partnership effort is directed at *Pedestrian Safety and Injury Prevention* and supports collaboration between public health and traffic safety. Funded through NHTSA, Safe States Alliance (SSA), a non-profit membership organization for state health departments is: 1) supporting community based pedestrian injury prevention initiatives through sub-grants to four states (RI, OR, CA, and KY) (completed, pending six month evaluation and final report, winter 2017); 2) creating recommendations for pedestrian injury surveillance (final publication, winter 2017); and 3) developing “Make the Case” for integration of injury prevention and pedestrian safety efforts (publication release, summer 2017.)

QUICK WEB LINKS:

NHTSA’s Behavioral Safety Research page: <https://one.nhtsa.gov/Research/Behavioral-Research>

NHTSA’s Bicycle Safety page: <https://www.nhtsa.gov/road-safety/bicyclists>

NHTSA’s Pedestrian Safety page: <https://www.nhtsa.gov/road-safety/pedestrian-safety>

For Parents and Caregivers: Parent Central: <http://www.safercar.gov/parents/onthemove.htm>

[Traffic Safety Marketing: https://www.trafficsafetymarketing.gov/get-materials/bicycle-safety/bicycle-safety](https://www.trafficsafetymarketing.gov/get-materials/bicycle-safety/bicycle-safety) and <http://prod.del1.trafficsafetymarketing.gov/PedestrianSafety>

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