

Increasing seat belt use among teens: A summary of research, resources, and programs.

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Section 1

Summary from the Literature*

- **Community-based interventions**
- **Policy**
- **School-based intervention**
- **Behavioral**
- **Parent-based interventions**
- **Economic incentives**
- **Importance of seat belts in a crash**

Community-Based Interventions

- Motor vehicle occupant protection issues have been introduced into local health departments in Michigan and how several of these health departments have developed programs to increase the proper use of child safety seats and safety belts in their communities. [Reynolds JA, Nyberg JM. Developing motor vehicle occupant protection programs in local health departments. Health Education Quarterly. 1984 Summer;11(2):159-70.]
- Safety belt and child restraint use as part of a healthy life-style and promotion of occupant protection as a life-style behavior. [Sleet DA. Reducing motor vehicle trauma through health promotion programming. Health Education Quarterly. 1984 Summer;11(2):113-25.]
- Special enforcement programs to increase belt use in states with secondary enforcement laws with a combined public information and education/enforcement program. The program was successful in increasing belt use at least temporarily along the special enforcement corridor. Evaluation activities suggests future research is needed to better understand the most effective mix of public information and enforcement efforts in states with secondary belt use laws. [Streff FM, Molnar LJ, Christoff C. Increasing safety belt use in a secondary enforcement state: Evaluation of a three-county special enforcement program. Accident Analysis & Prevention. 1992 Aug; 24(4):369-83.]

* All summaries are taken directly from journal articles or other original source.

- Lessons learned include the importance of police leadership, focused publicity about enforcement, and sustained rather than single-shot efforts. Enhanced penalties-in particular drivers license points-likely will be needed to reach hard-core nonusers. [Williams AF, Wells JK. The role of enforcement programs in increasing seat belt use. *Journal of Safety Research*. 2004; 35(2):175-80.]
- Males, in the 18-34 age group, persons with lower income and/or lower education levels, rural residents, residents of states with secondary enforcement laws were among those associated with lower self-reported seat belt use rates. [Milana M, McInturff B, Nichols JL. The effect of earned and paid media strategies in high visibility enforcement campaigns. *Journal of Safety Research*. 2004;35(2):203-14.]

Community-based intervention summary- A mixture of localized activities that include education, media, public awareness, and lifestyles have shown some increases in restraint use.

Policy

- Primary laws (also known as standard safety belt laws) allow police officers to pull over and ticket drivers solely for a safety belt violation, while secondary laws assert that police can ticket drivers for belt violations only after pulling them over for another (primary) offense such as speeding or running a red light. Nationwide crash data found that teens 16 to 19 used safety belts to a higher degree in states with primary belt laws. One of the strongest predictors of teen safety belt use was whether the state had a primary enforcement law. This suggests that one promising approach to increasing safety belt use among teen drivers is through more stringent legislation. [McCartt AT, Shabanova VI. (2002). *Teenage seat belt use: White paper*. Trumbull, CT: Preusser Research Group, Inc.]
- Primary laws are very effective in increasing safety belt use. Eighty-three percent of vehicle occupants used seat belts in states with primary seat belt laws compared to 75% of occupants in states with secondary seat belts laws. [Glassbrenner D. (2003). *Safety belt use in 2003*. DC: National Center for Statistics and Analysis, National Highway Traffic Safety Administration. (NTIS No. DOT HS 809 646).]
- Primary laws are more effective than secondary laws for increasing safety-belt use and reducing traffic fatalities. To reduce deaths from motor-vehicle crashes, states should consider enactment of primary laws. [Morbidity & Mortality Weekly Report. Impact of primary laws on adult use of safety belts: United States, 2002. 2004 Apr 2;53(12):257-60.]
- New York State's recently adopted mandatory seat belt use law on teenage drivers showed that 14% of the teenage drivers were wearing either shoulder or lap belts or both prior to adoption of the law that increased to 22% after adoption of the law, 60% one month after the effective date of the law, and 63% five months after the effective

date. Teenagers using seat belts were more often female, were younger, had completed driver education and had a longer trip from home to school. [Preusser DF, Williams AF, Lund AK. The effect of New York's seat belt use law on teenage drivers. *Accident Analysis & Prevention*.1987 Apr;19(2):73-80.]

- Seat belt laws significantly impact state fatal injury rates. Primary enforcement and all-seat coverage provisions appear to be particularly effective in reducing fatality rates. [Houston DJ, Richardson LE Jr, Neeley GW. Mandatory seat belt laws in the states. A study of fatal and severe occupant injuries. *Evaluation Review*. 1996 Apr;20(2):146-59.]
- Successful opposition to primary seat belt enforcement may have the unintended effect of producing racial disparities in motor vehicle crash mortality that adversely affects blacks. [Levine RS, Briggs NC, Schlundt DG, Stinson N Jr, Warren RC, Goldzweig IA. Seatbelt law enforcement and motor vehicle crash fatalities among blacks and whites in Louisiana and Mississippi. *Southern Medical Journal*. 2006 Feb;99(2):143-8.]
- Substantial improvement in safety belt use was seen even in a group of high-risk drivers. Rates of safety belt use rose from 73% to 95.6% ($P < .0005$). For drivers with blood alcohol concentrations of 0.10 or higher, rates rose from 53.4% to 92.1% ($P < .0005$) because of increased policy and enforcement. [Lange JE, Voas RB. Nighttime observations of safety belt use: An evaluation of California's primary law. *American Journal of Public Health*. 1998 Nov; 88(11):1718-20.]
- In a review of 48 studies primary enforcement laws were associated with reduction of mortality compare to secondary enforcement laws. This review suggests that primary enforcement laws are likely to be more effective than secondary laws. [Rivara FP, Thompson DC, Cummings P. Effectiveness of primary and secondary enforced seat belt laws. *American Journal of Preventive Medicine*. 1999 Jan;16(1 Suppl):30-9.]
- A systematic literature review found that primary enforcement laws are more effective at increasing seat belt use than secondary laws in the United States. These laws were enacted in the mid-1980s, when baseline belt use rates were below 35%. Smaller, but substantial increases in belt use were observed in states that replaced secondary with primary laws (median increase of 14 percentage points). Baseline belt use rates in these states ranged from 47 to 73%. Primary safety belt laws can further increase seat belt use even in states with relatively high baseline levels of belt use. [Shults RA, Elder RW, Sleet DA, Thompson RS, Nichols JL. Primary enforcement seat belt laws are effective even in the face of rising belt use rates. *Accident Analysis & Prevention*. 2004 May;36(3):491-3.]
- It was found that seat belt laws are associated with higher use rates and that the enforcement provision matters. To further increase safety belt use, it is recommended that states adopt primary enforcement and impose fines of at least \$50 for violating a seat belt law. [Houston DJ, Richardson LE Jr. Getting Americans to buckle up: The

efficacy of state seat belt laws. *Accident Analysis & Prevention*. 2005 Nov;37(6):1114-20.]

- The change from secondary to primary enforcement was found to reduce annual passenger vehicle driver death rates by an estimated 7%. The majority of U.S. states still have secondary enforcement laws. If these remaining secondary laws were amended, an estimated 696 deaths per year could be prevented. [Farmer CM, Williams AF. Effect on fatality risk of changing from secondary to primary seat belt enforcement. *Journal of Safety Research*. 2005;36(2):189-94.]
- Given the lower rates of restraint use among teen drivers and their passengers, a comparison of primary enforcement laws on the restraint use of young teen passengers is of particular interest in motor vehicle crashes in states with primary versus secondary enforcement safety belt laws. Non-use of restraints by 13-15 year olds was 7.2% (95% CI 4.3-10.1%) greater in secondary enforcement states (10.8%) as compared to states with primary enforcement laws (3.6%). After controlling for driver's age and restraint status and the seating row of the occupant, a 13-15 year olds was over twice as likely to be unrestrained in a secondary enforcement state as compared to a primary enforcement state (adjusted RR=2.2, 95% CI 1.5-3.1). States considering primary enforcement provisions to their restraint laws should consider the potential benefits these laws may have to all occupants in the vehicle, particularly young adolescents who are nearing driving age. [Durbin DR, Smith R, Kallan MJ, Elliott MR, Winston FK. Seat belt use among 13-15 year olds in primary and secondary enforcement law states. *Accident Analysis & Prevention*. 2007 May;39(3):524-9.]
- States with secondary enforcement laws could increase belt use by 10 percentage points and improve public safety considerably by upgrading to primary enforcement. [Houston DJ, Richardson LE Jr. Safety belt use and the switch to primary enforcement, 1991-2003. *American Journal of Public Health*. 2006 Nov;96(11):1949-54.]
- The results demonstrated no difference in restraint use between NH and VT residents while traveling in a state with a seat belt law. However, significantly fewer NH residents reported restraint use when traveling in a state without a seat belt law. These dissimilarities were not explained by differences in risk taking behaviors or by differences in feelings of infringement on freedom. This suggests that actual seat belt use reflects adherence to the law rather than concerns over personal freedom. This may inspire a reassessment of the acceptability of an adult restraint law in New Hampshire. [Curtis KM, Rodi SW, Sepulveda MG. The lack of an adult seat belt law in New Hampshire: Live free and die? *Accident Analysis & Prevention*. 2007 Mar;39(2):380-3.]

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| <p>Policy summary- While policies to encourage seat belt compliance have demonstrated success. Motor vehicle-related injuries kill more people each year than any other cause of</p> |
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injury in the United States. Using safety belts is the single most effective means of reducing fatal and nonfatal injuries in motor vehicle crashes. However, three out of 10 Americans do not routinely use safety belts. Safety belt laws are an effective means to increase use of seat belts. Forty-nine states have adult safety belt laws. A systematic review of published studies, recommends that these strategies be implemented on the basis of *strong* evidence of effectiveness.

School-Based Interventions

- One school district developed a school and community safety belt incentive program to increase safety belt use among high school students. This article provides an overview of how one school district developed a school and community safety belt incentive program to increase safety belt use among high school students. The intervention program followed a seven-step process, involving community leaders, school officials, students, and local law enforcement personnel in its design, implementation, and evaluation. Local merchants and the Alabama Dept. of Health donated program incentives. Measurement of safety belt use among the target population revealed increased use throughout the program. [Wojtowicz GG, Peveler LA, Eddy JM, Waggle SB, Fitzhugh EC. The Midfield High School safety belt incentive program. *Journal of School Health*. 1992 Nov;62(9):407-10.]
- A policy making parking privileges contingent on belt use by student drivers and their passengers. This study evaluated the effects of implementing a school belt policy in a state with a primary enforcement belt law and high belt use rates, and a state with a secondary enforcement law and generally low use rates. Among students arriving at school in the morning, driver belt use increased from 42% before the policy to 67% about six months after; passenger belt use increased from 16% to 61% in the secondary law state. In the primary law state 86% of drivers and 79% of their passengers already were belted prior to the policy, there was no significant change. A school belt policy may have stronger effects in states where belt use is low. Strong penalties and enforcement are essential elements of an effective policy. [McCartt AT, Geary LL, Solomon MG. Requiring belt use as part of a school parking permit program: Does it increase students' belt use? *Traffic Injury Prevention*. 2005 Jun;6(2):120-6.]
- To determine seatbelt use of teenage drivers arriving at high schools in the morning and at evening football games compared with belt use of adults driving teenage passengers to these events, and teenage passenger belt use depending on whether they were being driven by another teenager or an adult. Unobtrusive observations of belt use were made at 12 high schools in Connecticut and Massachusetts. Among males, teenage drivers had lower belt use than adults; differences between female teenage and female adult drivers were slight. Teenage passengers had lower belt use in vehicles driven by other teenagers than in cars driven by adults, but more than 40% of

teenage passengers in vehicles driven by adults, presumed in most cases to be the teenager's parent, were not belted. Teenage passenger belt use was lower than teenage driver use regardless of gender. These differences were found both at morning arrivals and at football games, but teenage belt use was not much different in these two settings. Teenage passengers were belted more often if drivers were belted, whether the driver was another teenager or an adult, but a third of male passengers and 25%-30% of female passengers were unbelted even when drivers were belted. Avenues to address this include strong belt use laws and their enforcement, building belt use requirements into graduated licensing systems, and finding ways to influence parents and other adults to ensure that their teenage passengers use seatbelts. [Williams AF, McCartt AT, Geary L. Seatbelt use by high school students. *Injury Prevention*. 2003 Mar;9(1):25-8.]

School-based intervention summary - There was limited evidence of the effective use of schools as points of intervention to increase seat belt use. Programs showed some increase with policy and enforcement interventions, especially in areas where rates were low.

Behavioral

- There are many theories presented in the scientific literature on why teens have low safety belt use rates and high traffic-crash rates. Briefly, among the most frequently cited theories are the following: inexperience, immaturity, emotionality, sensation seeking, risk taking, power of friends, power of parents, and distractions. [Preusser DF, Ferguson SA, Williams AF. The effect of teenage passengers on the fatal crash risk of teenage drivers. *Accident Analysis & Prevention*. 1998 Mar;30(2):217-22.]
- The authors looked at differences in adult-child pairs stratified by restraint use, especially where a restrained child and an unrestrained adult were traveling together in a motor vehicle crash. Adult (> 20 years) and child (< 11 years) pairs were identified from motor vehicle crash data from 1992–2004 and stratified by restraint use: child and adult restrained, adult only restrained, child only restrained, and both not restrained. MVC records were linked to inpatient and emergency department records. These results indicate that while adults may be aware of the importance of restraining children, they often do not use restraints themselves and identify a population in which interventions could be targeted. [Cook LJ, Nelson DS, Olson LM. (2006, Nov). Are adults who use child safety restraints for children using seat belts themselves? Paper presented at the annual meeting of the American Public Health Association, Boston, MA.]

Parent Participation

- Although parents play a vital role during the learner stage of GDL by supervising driving practice, virtually nothing is known about the nature and quality of parental supervision. Both parents and teenagers perceived parents as supportive and helpful during driving sessions. The extended learning experience required by GDL programs

is a positive experience for many families. However, finding a method for helping parents achieve maximum benefits during this process will be challenging. The results also suggest that current requirements in the learner phase of most state GDL systems (6 months; 30 – 50 hours) may be inadequate to ensure that teenagers obtain a sufficient amount of experience to begin driving safely on their own. [Goodwin AH, Waller MW, Foss RD, Margolis LH. Parental supervision of teenage drivers in a graduated licensing system. *Traffic Injury Prevention*. 2006 Sep;7(3):224-31.]

- Intervention effects on parent limits on novice teenage driving who received information related to high-risk teenage driving compared to families who received standard information were efficacious in increasing parental restriction of high-risk teen driving conditions among newly licensed drivers. [Simons-Morton BG, Hartos JL, Leaf WA, Preusser DF. Persistence of effects of the Checkpoints program on parental restrictions of teen driving privileges. *American Journal of Public Health*. 2005 Mar;95(3):447-52.]

Parent participation summary- Although a recent trend to increase driving skills for young drivers with parental supervision has shown favorable results, increasing the intensity of interventions is needed to empower parents.

Economic incentives

- Economic incentives could prove useful in promoting safety belt use for student drivers who wore safety belts were given coupons worth five dollars in North Carolina high school parking lots. The drivers were also entered into a lottery for \$300. These incentives coincided with an educational campaign. This combined intervention raised observed belt use from 21% to 55%. Follow-up observations showed a slip to 36%, although this was still above pretest baseline levels. [Campbell BJ, Hunter WW, Stutts JC. The use of economic incentives and education to modify safety belt use behavior of high school students. *Health Education*. 1984 Aug-Sep;15(5):30-3.]

Importance of seat belts in a crash

- A recent legislative effort in New Hampshire to institute a graduated licensing system for teenagers (TA) led to an analysis of state data on fatal crashes involving TA drivers. Data on fatal crashes involving TA drivers was obtained for the years 1991 through 1996 from the Fatal Accident Unit, Division of State Police, New Hampshire Department of Safety. From 1991 through 1996, there were 100 events resulting in 109 total deaths, of which 76 were TA. Five involved motorcycles. Four drivers struck pedestrians, and two struck children on bicycles. In one case, an object fell from a truck, crushing a car. The remaining 88 were single- or multiple-car crashes, and these were analyzed further. Two thirds of the drivers were boys. The driver breakdown by age was 15 years, 3; 16 years, 21; 17 years, 26; 18 years, 20; 19 years, 18. The TA driver was killed in 47% of the events. Nineteen percent resulted in the

death of the driver of another car. In 62 events, there were passengers in the TA's car, and in 55% of these, a passenger was killed. Twenty percent of the crashes involved drugs or alcohol, and almost two thirds of these occurred between 10:00 PM and 6:00 AM. Seat belts were not used by at least 72% of those injured fatally. In 59%, known traffic violations, usually speeding, contributed. More detailed data were available for 1995 through 1996, during which there were 30 crashes resulting in 33 deaths. Speed limit did not correlate with number of crashes. One-car crashes outnumbered multiple-car, 57% to 43%. Ninety percent occurred on single-lane roads. Most significantly, 63% of the drivers had been licensed less than 1 year and 47% less than 6 months. In this latter group, drugs and alcohol played no role, and none occurred between 11:00 PM and 6:00 AM. Two at-risk groups exist. The first is inexperienced sober TA drivers on single-lane roads during conventional hours. As experience increases, the second group appears: TA who have been drinking and are out late at night. Prevention strategies must take into account these two groups. [Liu JY, Mooney DP, Meyer MM, Shorter NA. Teenage driving fatalities. *Journal of Pediatric Surgery*. 1998 Jul;33(7):1084-8.]

- Among patients presenting to an emergency department after a motor vehicle crash, unbelted occupants are more likely to require inpatient admission and to have sustained a severe injury to numerous body regions than are belted occupants. [Allen S, Zhu S, Sauter C, Layde P, Hargarten S. A comprehensive statewide analysis of seatbelt non-use with injury and hospital admissions: New data, old problem. *Academic Emergency Medicine*. 2006 Apr;13(4):427-34.]
- Compared to adults, restrained children aged 5-9 were 2.7 times (OR 2.74; 95% CI 1.17 to 6.43) as likely to sustain an AIS2+ abdominal injury, and tended to be more at risk of AIS2+ head injuries, but were less at risk of AIS2+ chest injuries. [Javouhey E, Guérin AC, Gadegbeku B, Chiron M, Floret D. Are restrained children under 15 years of age in cars as effectively protected as adults? *Archives of Diseases in Childhood*. 2006 Apr;91(4):304-8.]
- Teenage passengers were belted more often if drivers were belted, whether the driver was another teenager or an adult, but a third of male passengers and 25%-30% of female passengers were unbelted even when drivers were belted. Teenagers have high crash risk but low belt use, which adds to their injury problem. Strong belt use laws and their enforcement, building belt use requirements into graduated licensing systems, keeping young beginners out of high risk driving situations, and finding ways to influence parents and other adults to ensure that their teenage passengers use seatbelts. [Williams AF, McCart AT, Geary L. Seatbelt use by high school students. *Injury Prevention*. 2003 Mar;9(1):25-8.]
- Seat belt use was examined for teenage (16-19 years) drivers who were fatally injured in traffic crashes were related to states' observed belt use rates for all ages. The mean belt use was 36% among fatally injured teenage drivers and 23% among fatally injured teenage passengers. One of the strongest predictors of higher belt use for both drivers and passengers was whether the crash occurred in a state with a primary seat

belt law. Belt use rates for fatally injured teenage drivers ranged from 20% or less in six states to more than 60% in two states. Lower belt use among fatally injured teenage drivers was associated with increasing age; male drivers; drivers of SUVs, vans, or pickup trucks rather than cars; older vehicles; crashes occurring late at night; crashes occurring on rural roadways; single vehicle crashes; and drivers with BACs of 0.10 or higher. Teenage driver belt use declined as the number of teenage passengers increased, but increased in the presence of at least one passenger 30 years or older. Graduated driver licensing systems should incorporate strong provisions that require seat belt use by teenage drivers and passengers. [McCartt AT, Northrup VS. Factors related to seat belt use among fatally injured teenage drivers. *Journal of Safety Research*. 2004;35(1):29-38.]

- This article investigated the effect on two measures of risky driving in the presence of young male and female passengers. Vehicles exiting from parking lots at 10 high schools were observed and the occupants were identified by gender and age (teen or adult). The speed and headway of passing traffic were recorded at a nearby site. Overall, the observed rate of high risk driving for the teen male driver/male passenger condition was about double that of general traffic. In conclusion, the presence of male teenage passengers was associated with risky driving behavior among teenage drivers. [Simons-Morton BG, Lerner N, Singer J. The observed effects of teenage passengers on the risky driving behavior of teenage drivers. *Accident Analysis & Prevention*. 2005 Nov;37(6):973-82.]
- Safety belt use in the United States has risen steadily over recent years, reaching 80% in 2004. Yet, using the National Highway Traffic Safety Administration's Fatality Analysis Reporting System, safety belt use among fatally injured front-seat outboard occupants of passenger vehicles was only between 42% and 46% for the years 1999 to 2003. One possible explanation is that safety belt use is different during different times of the day. A full statewide nighttime belt use observation survey was conducted in 2004. This survey was conducted simultaneously with Connecticut's annual full statewide daytime belt use survey. Night belt use observations of drivers and passengers are possible using newly available near-military-grade night vision goggles and handheld infrared spotlights. Both day and goggle-assisted night observations were conducted at 100 observation sites in Connecticut. Procedures for day and night observations were as nearly identical as possible. The night belt use rate was 6.4 percentage points lower than the day rate (83.0 versus 76.6). Consistent with belt use among Connecticut fatalities, day versus night differences were greatest in urban areas. There was evidence that day versus night differences were greater before as compared to after a May 2004 belt use enforcement program. [Chaudhary NK, Geary LL, Preusser DF, Cosgrove LA. (2005). Connecticut's day and night safety belt use. DC: National Highway Traffic Safety Administration. (NTIS No. DOT HS 809 954).]

Importance of seat belts in a crash summary- Not only do seat belts provide protection from injury, they are critical for young drivers who face additional risks because of their age, gender, driving experience, and other factors associated with their driving practices.

Increasing seat belt use among teens: A summary of research, resources, and programs.

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Section 2

Examples of Community-Based Programs*

Overview: Within this section are state and community based activities that describe safety belt programs specifically targeted toward teenage drivers.

- Community
- School
- Family
- Enforcement

COMMUNITY

- A **comprehensive program** in Minnesota titled **Teens Driving Safe** has been shown to effectively increase safety belt use among teen drivers. This program used both **enforcement** and **education** strategies. Analysis of crash data, police records, and observational surveys indicated that the program increased 16-18-year-old teens' safety belt use from 74% to 78%.
[Teens Driving Safe: Final Report – Plymouth, Maple Grove and Minnetonka, Minnesota.]
- A comprehensive teen driving safety program called **MAKUS** was implemented in Chattanooga, Tennessee. The acronym stands for “Michael Appleby Keeping Us Safe.” The program, named after a teenager who was killed in a car crash, incorporates educational approaches and involvement from school administrations, parents, and students. Some activities involved within the program are **units on driving safety within high-school physics and wellness classes**, safety belt checks, rewards in the form of food coupons for safety belt compliance, and a **mentorship program** in which high school upperclassmen mentor younger students about driving safety. The document that was reviewed reported a 95% safety belt compliance rate after the program was implemented, which was “well above the national average for adults, and more than double the rate for teens”. [Erie Insurance. (2002). *Bittersweet 16: Young drivers, grave risks and no easy answers*. Erie Insurance. Retrieved January 14, 2004]
- In Spokane, Washington, titled **Driving for Life** combined education and awareness activities, **strict enforcement**, media efforts, peer education, and

* All summaries are taken directly from journal articles or other original source.

community involvement. The increased enforcement led to more citations issued for safety belt violations, but more importantly, observed safety belt use increased by 10% to 16% at three area high schools. Further, self-reported belt use of “always” using a safety belt increased from 46% to 71%. [*Driving for life: Final report – Spokane, Washington.*]
www.erieinsurance.com/lookinout/WhosLookinOut/Bittersweet.pdf]

- A goal of the **Holt County comprehensive traffic safety program** was to increase safety belt use of high-school drivers. Observational surveys showed an increase in safety belt use from 21% to 31%. [*Nebraska: Holt County Citizens for Safe Driving.* Traffic Safety Digest. Retrieved January 9, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/summer2002/su01_w09_NE.htm]
- In Nebraska, the **Youth on the Move** program and the Holt County Citizens for Safe Driving program both reported increased safety belt use among teens. The Youth on the Move program included youth-initiated safety belt checks, safety messages, incentives, visual reminders, and drug-free parties. Results showed an increase in observed safety belt use from 40.5% to 49.1%. [*Nebraska: Youth on the Move.* Traffic Safety Digest. Retrieved January 9, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/winter2001/win2001-15.html]
- In Illinois, **Operation SCORE** (Student Concentrated Occupant Restraint Efforts) included a **zero-tolerance enforcement** and an educational component. Observational surveys showed that safety belt use increased from an average of 43% to as much as 70% in some high schools. [*Illinois: Operation SCORE (Student Concentrated Occupant Restraint Efforts).* Traffic Safety Digest. Retrieved January 14, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/Fall1999/fall-899.html]
- **South Dakota Join a Winning Team Seat Belt Promotion**
The *Join A Winning Team* Seat Belt Promotion was developed through a partnership between the South Dakota Highway Safety Office and local Safe Communities coalitions. Prior to program implementation, an observational survey was conducted, recording seat belt use by drivers and passengers arriving at schools in the pilot communities. Drivers consisted of all individuals involved in the transport process of the educational system, including parents, students, faculty and bus operators. Using this information, seat belt use rates were established for all participating schools. A series of injury prevention activities were integrated into the curricula of participating schools, targeting students in kindergarten through grade 12. Local public health, medical emergency medical services, fire law enforcement and judicial professionals provided topical presentations to students on a quarterly basis.
<http://www.nhtsa.dot.gov/people/outreach/safedige/winter2001/win2001-11.html>

- The **St. Lucie County Youth Traffic Safety Program** in Florida was an educational campaign designed to increase awareness of the dangers of driving while impaired and to increase teen safety belt use. This campaign included several programs such as “Strides for Safety,” “Ghost Out,” “Prom Promise,” “Buckle Up America!,” and “Take the Lead.” Although the observational surveys “indicated a marked increase in the use of safety belts by middle and high school students...,” no statistics regarding the effectiveness of the program were included. [*Florida: St. Lucie County Youth Traffic Safety Program*. Traffic Safety Digest. Retrieved January 14, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/fall1997/n5-1.html]

- **Colorado part-time seat belt users campaign:** The Denver Metropolitan Safe Community Coalition conducted a series of focus groups and results indicated that part-time seat belt users were more likely to be influenced to use their seat belts every time they traveled in a motor vehicle than those who never wear a seat belt. Campaign activities were then created to target part-time seat belt users. Hispanic residents of Denver in particular were identified as having a low seat belt use rate. The Denver Metropolitan Safe Community Coalition developed the Part-Time Seat Belt Users Campaign to increase seat belt use through a public awareness and education campaign. A pledge campaign/contest was conducted in local elementary schools; area high schools held media contests; a Dodge Prowler sports car was rented to drive in the St. Patrick's Day parade; *Seat Belt Man* and *Buckle the Dog* were created to help deliver the message to children; employer campaigns featuring ice cream socials and give-aways were developed; and the campaign was promoted through booths at local safety fairs, public events and child safety seat checkpoints. Self-reported seat belt use in Denver increased to 84%, from a baseline rate of 75%.
<http://www.nhtsa.dot.gov/people/outreach/safedige/summer2001/sum01-3.html>

- **Batter Up and Buckle Up—A Winning Combination!** was created to provide public education on traffic safety and create a high visibility media event. The Safety and Health Council of Greater Omaha and the National Highway Traffic Safety Administration (NHTSA) Region 7 office sponsored a Omaha Royals AAA baseball game. The Omaha Royals Organization sold the entire stadium gate of 20,000 tickets to the Safety and Health Council at a sizeable discount. The Safety and Health Council recruited partners that included the Omaha Police Department, the Omaha Fire Department, the local Safe Kids Coalition, and private organizations. A private media marketing group promoted the event and billboards publicized the event and projected Buckle Up America! and Air Bag Safety Campaign messages. An awards ceremony was conducted at home plate to recognize individuals and organizations that helped conduct the Arrive Alive Safe & Sober event.
<http://www.nhtsa.dot.gov/people/outreach/safedige/Winter1999/n5-133.html>

SCHOOL

- **High School Parking Privilege Agreement:** The project was implemented statewide in North Carolina in 2005-06 in 54 schools with on-campus parking privileges and over 130 schools are now enrolled. First time offense is a written warning, second time offense in a one-week loss of parking privileges, etc. all the way to loss of privileges for fifth offense.
<http://www.lifesaversconference.org/webfiles2007/Horner.ppt>
- A program implemented in Illinois, called **Operation Cool** used incentive-based contests, safety belt contracts, education, and **normative feedback** to increase the safety belt use of high school students. The program increased observed teen safety belt use from 55% to 70%, and showed rates of up to 90% in many schools. [*Illinois: Operation Cool*. Traffic Safety Digest from the Web at www.nhtsa.dot.gov/people/outreach/safedige/winter2000/win00-6.html]
- An educational project titled **Highways or Dieways** in Minnesota was a component of the Teen Occupant Protection Program. This project included police presentations at high schools which provided teens with traffic safety facts, gave rewards to drivers observed wearing safety belts, **conveyed personal stories** about traffic accidents, and provided a rollover simulator to educate teens on the dynamics of traffic crashes. Short-term analysis revealed that **on the day after the program** safety belt use increased by 18.6%, and a one-month follow-up showed a sustained 9.3% increase over the baseline rate. [Minnesota Office of Traffic Safety. (2002). *Teen Occupant Protection Program (TOPP)*. Minnesota Office of Traffic Safety. Retrieved January 4, 2004, from the Web at www.dps.state.mn.us/ots/resource_catalog/forms/Sticha%20manual.doc]
- An educational program titled **Operation Educate Teens** effectively increased observed safety belt use among teens 15 to 18 years old by 19%. This program encouraged teens to conduct educational activities that increased safety belt use among their **peers**. Analysis of crash data indicated that teen crash rates also declined after the program was implemented. [*Minnesota: Operation Educate Teens*. Traffic Safety Digest. Retrieved January 9, 2004, from the Web at www.nhtsa.gov/people/outreach/safedige/fall2002/fa02_w09_MN.htm]
- A **peer-led educational campaign** in Soda Springs, Idaho aimed to reduce teen impaired driving and increase teen safety belt use. The program also included a safety belt promotion contest. Observational surveys showed a substantial increase in teen (15–19) safety belt use, from 27% to 71%. [*Idaho: Soda Springs Police Department Youth Driver Education Project*. Traffic Safety Digest. Retrieved January 14, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/winter2001/win2001-2.html]
- North Carolina created educational youth safety programs to increase teens' safety belt use rate, awarding grants to schools participating in **peer-led**

- educational campaigns.** The student-led awareness activities were successful in increasing safety belt use rates by 22% in 1993, 14% in 1994, and 9% in 1996. [North Carolina: Youth Safety Program. Traffic Safety Digest. Retrieved January 14, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/fall1997/n5-4.html]
- The **Buckle Down and Buckle Up** educational and motivational program in South Carolina increased the safety belt use of drivers younger than 21. This program incorporated **visual displays** of the number of teen fatalities (such as a “ribbon tree” hung with ribbons representing lives lost in traffic accidents), to remind students of traffic safety issues. The program increased teen safety belt use by 11.6%, although the method for obtaining this figure was not specified within the document. [South Carolina: Buckle Down and Buckle Up. Traffic Safety Digest. Retrieved January 9, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/fall2000/fal00-2.html]
 - A program implemented in Maryland to increase safety belt use among the students evoked a healthy competition between five area high schools. The **Battle of the Belts** program also included an educational component, and increased student drivers’ safety belt use by 5.8% and student occupants’ belt use by 10.4%. [Maryland: Battle of the Belts. Traffic Safety Digest. Retrieved January 14, 2001, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/winter1999/n5-124.html]
 - The **Save Your Face, Click It or Ticket Westchester Teen Safety Belt Program** works to increase teen safety belt use by educating teen drivers about the importance of safety belt use, coordinated with Westchester County Police and local police departments. Strategies included incorporating safety information into existing teen driving programs; distributing brochures to teens at county DMV offices; a teen driving website; a comprehensive high school safety belt assembly program using the New York State Police rollover or convincer to demonstrate the affect of unsafe driving behaviors; teen-inspired public address system announcements broadcast during school hours to reinforce the importance of safety belt use; brochures and posters; a safety belt contest for student drivers; Students Against Destructive Decisions students issuing mock tickets to fellow students driving into the parking lot without wearing a safety belt; students wearing safety belts given a key chain and a coupon for an opportunity to win bigger prizes; and commercials shot at local high schools featuring local teens and aired on numerous networks for 13 weeks. Safety belt surveys showing a 20% increase in safety belt use since the program's start. http://www.nhtsa.dot.gov/people/outreach/safedige/spring2004/SPR04_W13_NY.htm
 - One school district developed a **school and community safety belt incentive program** to increase safety belt use among high school students. The intervention program followed a seven-step process, involving community leaders, school

- officials, students, and local law enforcement personnel in its design, implementation, and evaluation. Local merchants and the Alabama Dept. of Health donated program incentives. Measurement of safety belt use among the target population revealed increased use throughout the program. [Wojtowicz GG, Peveler LA, Eddy JM, Waggle SB, Fitzhugh EC. The Midfield High School Safety Belt Incentive Program. *Journal of School Health*. 1992 Nov;62(9):407-10.]
- This study evaluated the effects of implementing a school policy making parking privileges contingent on belt use by student drivers and their passengers in a state with a primary enforcement belt law and high belt use rates, and a state with a secondary enforcement law and generally low use rates. Among students arriving at school in the morning, driver belt use increased from 42% before the policy to 67% about six months after; passenger belt use increased from 16% to 61% in the secondary law state. In the primary law state 86% of drivers and 79% of their passengers already were belted prior to the policy, there was no significant change. **A school belt policy may have stronger effects in states where belt use is low.** Strong penalties and enforcement are essential elements of an effective policy. [McCartt AT, Geary LL, Solomon MG. Requiring belt use as part of a school parking permit program: does it increase students' belt use? *Traffic Inj Prev*. 2005 Jun;6(2):120-6.]

FAMILY

- **K.E.Y.S. (Keeping Every Youth Safe)** program is designed to help families communicate the importance of safe-driving behaviors with their teenage drivers. It is designed to provide parents of teens, ages 15 through 18, with a series of age-appropriate information to encourage safe-driving habits. These materials are presented in a format for parents and teens to complete activities together. <http://www.usaedfoundation.org/KEYS.asp>
- Nebraska created an educational **Youth Driver Training Program** encouraging **parental involvement to increase safe driving among teens.** Although the results were modest at best, self-reports showed that students who “always” wear their safety belts increased from 34.4% to 36.5%, and those who “never” wear their safety belts dropped from 17.1 to 14.5%. [*Nebraska: Youth Driver Training Program*. Traffic Safety Digest. Retrieved January 14, 2004, from the Web at www.nhtsa.dot.gov/people/outreach/safedige/summer2000/sum00-12.html]
- A program called **Checkpoints** in Connecticut promoted **parental management** of teen driving behaviors. This program targeted parents with persuasive messages and educational materials to influence them to adopt driving restrictions for their teens. The program included **videos, newsletters, and other materials**, and also included a behavioral contract for parents and teens to sign. Although no empirical evidence was provided regarding safety belt use specifically, previous research is cited showing that more frequent parental supervision is associated

with a higher likelihood of teen safety belt use. [Simons-Morton, B. G., Hartos, J. L., and Leaf, W. A. (2002). Promoting parental management of teen driving. *Injury Prevention*, 8(ii24-ii31).]

ENFORCEMENT

- Special enforcement programs to increase belt use in states with secondary enforcement laws with a combined public information and education/enforcement program. The program was successful in increasing belt use at least temporarily along the special enforcement corridor. Evaluation activities and suggests future research needs to better understand the most **effective mix of public information and enforcement efforts** in states with secondary belt use laws. [Streff FM, Molnar LJ, Christoff C. Increasing safety belt use in a secondary enforcement state: evaluation of a three-county special enforcement program. *Accid Anal Prev* 1992 Aug;24(4):369-383]
- Lessons learned include the importance of police leadership, focused publicity about enforcement, and sustained rather than single-shot efforts. **Enhanced penalties-in particular drivers license points-likely will be needed to reach hard-core nonusers.** [Williams AF, Wells JK. The role of enforcement programs in increasing seat belt use. *Journal of Safety Research*. 2004;35(2):175-80.]

Summary of best practices to increase teen safety belt use

1. Proven effective strategies that increase safety belt use in the general population will likely have the most immediate and greatest potential for increasing teen safety belt use. Upgrade state safety belt laws to primary enforcement and highly publicized enforcement of safety belt use laws.
2. Graduated Drivers Licensing laws that explicitly include requirements for safety belt use in all three phases, and sanctions that prohibit “graduation” to the next licensing phase if there is a safety belt citation, could increase teen safety belt use substantially.
3. Community programs that combine education, peer-to-peer persuasion, publicized enforcement, and parental monitoring have some potential for increasing teen belt use.
4. Technological solutions that enhance safety belt reminders appear to be effective for all age groups. Safety belt use recorders could allow parents of teens to monitor teen behavior, if accepted by the public. Interlock systems, such as not allowing the radio or compact disk player to turn on until all passengers are wearing safety belts, also hold promise and could be very effective, especially for teens.

5. Combinations of strategies seem to work better than one strategy alone. A community program including education, diversity outreach, highly publicized enforcement, and parental involvement would likely have a substantial effect on teen belt use. These strategies would probably need to be sustained for the effect to last over time. While each strategy is not without barriers, careful planning, implementation and evaluation can result in effective programs and add greatly to our current knowledge of teen safety belt use.

Increasing seat belt use among teens: A summary of research, resources, and programs.

Prepared by Chris Hanna, Children's Safety Network
April 2007

Section 3

Support Materials

- Pamphlets/brochures
- Media and Promotional campaigns
- Reports
- Sources of data
- PowerPoint
- Teen driving programs
- Curriculum guides

PAMPLETS/BROCHURES

Graduated Driver Licensing: Questions & Answers

National Highway Traffic Safety Administration and the Insurance Institute for Highway Safety

http://www.iihs.org/brochures/pdf/gdl_brochure.pdf

Driver Training: Developing Skills for a Lifetime Teaching Your Teen to Drive and Driver Training: Developing Skills for a Lifetime A Teen's Guide to getting a Driver's License

Brochures available through the Ohio Department of Public Safety, PO Box 182081, Columbus, OH 43218

Beginning Teenage Drivers

Insurance Institute for Highway Safety

http://www.highwaysafety.org/brochures/pdf/beginning_drivers.pdf

Graduated Drivers Licensing: Questions and answers.

Brochure for teens that includes the seat belts subject from the Insurance Institute for Highway Safety

http://www.iihs.org/brochures/pdf/gdl_brochure.pdf

Beginning teen driver traffic safety. Brochure for teens that includes the seat belts subject from the Insurance Institute for Highway Safety

English:

http://www.iihs.org/brochures/pdf/beginning_drivers.pdf

Spanish:

http://www.iihs.org/brochures/pdf/beginning_drivers_sp.pdf

MEDIA/PROMOTIONAL CAMPAIGNS

Unconscious Motivators and Situational Safety Belt Use: Literature Review and Results from an Expert Panel Meeting

A small proportion of people never wear safety belts, but the vast majority are situational safety belt users,” wearing a belt only when they think it is necessary. NHTSA researchers hypothesized that these part-time wearers use unconscious defense mechanisms (i.e., repression, denial, rationalization, and fatalism) to suppress conscious thought of the consequences of being in a crash. To explore whether unconscious defense mechanisms are an appropriate intervention point to encourage the full-time use of belts, NHTSA commissioned a literature review and expert panel meeting on the role of unconscious motivators in response to safety threats. The literature review suggested increased mindfulness, enhanced efficacy, increasing the social desirability of compliance, disrupting resistance, and encouraging anticipatory regret as ways to overcome unconscious motivators. The expert panel suggested the following techniques: reframe personal control, reframe the reason for wearing belts (e.g., make it unrelated to safety), reframe the perception of who wears belts, use indirect messages which are non-threatening, and recognize the factors that make belt wearing a unique behavior.

<http://www.nhtsa.dot.gov/people/injury/research/UnconsciousMotivators/images/UnconsciousMotivators.pdf>

Do or Die

Heavy vehicle seatbelt campaign

http://www.rta.nsw.gov.au/roadsafety/advertisingcampaigns/hv_seatbelt.html

Wear it or wear the cost

On this website from Queensland, Australia, the first ad shows a young man paralyzed from the waist down and how he can't do much on his own.

[http://www.roadsafety.qld.gov.au/qt/LTASinfo.nsf/index/rs_campaigns_seatbelts,](http://www.roadsafety.qld.gov.au/qt/LTASinfo.nsf/index/rs_campaigns_seatbelts)

High-Intensity Social Norms Safety Belt Campaign for Teens: 2005-2007

MOST of Us has designed a survey and controlled intervention to test whether the social norms approach can effectively and efficiently increase safety belt use among teens. This pilot project is currently being carried out in two interventions and two control high schools in a major metropolitan area. The target audience is being surveyed online using a random stratified sample. This self-report data will be compared with observational surveys carried out at the same time points. Results of these surveys are being used to create an in-school and online social norms seatbelt campaign in the intervention schools. Follow-up online and observational surveys will measure changes in attitudes and behaviors brought about by the intervention. Sponsor: National Highway Traffic Safety Administration <http://mostofus.org/projectdetail.php?id=59>

Chicago Tribune series on teen crashes

Teen crashes is a key theme that emerged over the last year in dozens of articles published by the Tribune as the newspaper focused on seeking answers to the problem of teens dying in accidents.

<http://www.chicagotribune.com/news/specials/chi-teendriviers-series-specialpackage,0,5555056.special>

The Think! Road Safety

Website from the UK has a seatbelt campaign TV ad called "Backwards" with a car crash to three young men who are not wearing their seat belts. The reruns show what would happen if they made a split second choice and buckled up. There is also a crash simulator on the website, you can choose how many people are in the car, and where they are seated and the speed they are traveling at, then you see the outcomes if they wore the proper restraints or not.

<http://www.thinkroadsafety.gov.uk/campaigns/seatbelts/seatbelts.htm>

Buckle Up and Smile for Life

In 2002, the National Dental Association (NDA) launched its first community education program, titled "Buckle Up and Smile for Life." All 20 NDA societies were encouraged to undertake community outreach activities during the months of February and April—February being Dental Health and Black History Month, and April being National Minority Health Month. As part of the campaign, NDA distributed its brochure, "Leading the Way, Lighting the Future—Buckle Up and Smile For Life," at its 89th annual convention in Dallas, TX.

Part 1

<http://www.thefreelibrary.com/Buckle-Up+and+Smile+for+Life:+uncommon+partners+find+common+ground+to...-a0103996610>

Part 2

<http://www.thefreelibrary.com/Buckle-up+and+smile+for+life%3a+uncommon+partners+find+common+ground+to...-a0107277207>

Click It or Ticket Campaign

- Educational materials on seat belts for all ages. Includes "Rural creative materials" part. <http://www.buckleupamerica.org/ciot-planner/planner/index.cfm>
- **Thanksgiving planner 2006**
Educational materials on seat belts for all ages. The authors recommend disseminating them **in schools** as well as in other community settings.
<http://www.buckleupamerica.org/thanksgiving06/planner/index.cfm>

- Partners for rural traffic safety action kit
<http://www.nhtsa.dot.gov/People/injury/airbags/ruralsafety/contents.html>

REPORTS*

Increasing Teen Safety Belt Use: A Program and Literature Review

National Highway and Traffic Safety Administration (NHTSA)

This document will serve as a supplement to Increasing Teen Safety Belt Use: A Program and Literature Review developed by NHTSA in November 2005. The executive summary provides an excellent review of legislative, enforcement, comprehensive approaches, technology, peer-led approaches, counseling, and parental involvement strategies that have been shown to increase safe practices in adolescent drivers.

A comprehensive review of the scientific literature, state and federal government reports and other sources of information was conducted to determine the magnitude of the problem of teen safety belt use and to identify and summarize programs, interventions, and strategies that can potentially increase safety belt use by teens. Nearly 270 documents were reviewed for this report. It is clear from the data, a comprehensive review of the literature, and discussions with key informants, that the most promising strategies available to increase safety belt use by teens are likely to be those strategies that have proven to increase safety belt use in the general population.

<http://www.nhtsa.dot.gov/people/injury/NewDriver/TeenBeltUse/images/DOHHS809899TeenBeltUse.pdf>

Preventing Teen Motor Crashes: Contributions from the Behavioral and Social Sciences: Workshop Report

National Research Council (NRC)

http://www.nap.edu/catalog.php?record_id=11814

Access to NRC workshop slides: <http://www.bocyf.org/051506.html>

Motor Vehicle Occupant Protection Facts

National Highway and Traffic Safety Administration (NHTSA)

The facts contained in this booklet can be used to develop speeches and presentation materials, public information and education materials, backgrounders and news releases for the media, and to promote the use of occupant restraints in conjunction with law enforcement officials. Black-and-white duplicates of many of the charts are included in the back pocket of the original booklet for use as overheads or to support materials developed for local and state use.

<http://www.nhtsa.dot.gov/people/injury/airbags/OccupantProtectionFacts/introduction.htm#how>

Leading the Way in Motor Vehicle Injury Prevention: A Compendium

National Association of County and City Health Officials (NACCHO)

* All summaries are taken directly from journal articles or other original source.

This publication provides local health departments' motor vehicle injury-prevention program descriptions and contact information, and a listing of federal traffic safety resources. http://www.naccho.org/pubs/product1.cfm?Product_ID=34

Teen Crashes Everyone's At Risk

AAA Foundation for Traffic Safety

The AAA Foundation for Traffic Safety analyzed data from the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS) from 1995 through 2004, and identified all fatal crashes involving 15-, 16-, and 17-year-old drivers of passenger vehicles. This analysis shows that between 1995 and 2004 crashes involving 15- to 17-year-old drivers claimed the lives of 30,917 people, of which 11,177 (36.2%) were those drivers themselves. However, the majority of fatalities in these crashes were people other than those drivers, and included 9,847 of their passengers, 7,477 occupants of vehicles operated by drivers 18 years of age or older, and non-motorists.

<http://www.aaaexchange.com/Assets/Files/200611814220.TeenDriversRisk2.pdf>

Driving: Through the Eyes of Teens

A research report of The Children's Hospital of Philadelphia and State Farm Insurance of a survey of 5,665 students to learn about their perceptions and experiences surrounding teen driving.

http://stokes.chop.edu/programs/injury/files/PCPS_Reports/1289teen.pdf

A National Agenda for Increasing Safety Belt Use Among Teenagers Automotive Coalition for Traffic Safety, Inc.

www.actsinc.org

Safety Belts and Older Teens - 2005 Report

National Highway and Traffic Safety Administration (NHTSA)

<http://www.nhtsa.dot.gov/people/injury/NewDriver/beltsandTeenfacts/pages/index.htm>

Safety Belts and Teens - 2003 Report

National Highway and Traffic Safety Administration (NHTSA)

<http://www.nhtsa.dot.gov/people/injury/airbags/buckleplan/buasbteens03/index.htm>

MMWR Recommendations and Reports

2001 May 18; 50(RR-7):1-14.

Motor-Vehicle Occupant Injury: Strategies for Increasing Use of Child Safety Seats, Increasing Use of Safety Belts, and Reducing Alcohol-Impaired Driving Motor-vehicle occupant injury: strategies for increasing use of child safety seats, increasing use of safety belts, and reducing alcohol-impaired driving.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5007a1.htm>

Four NHTSA Teen Demonstration Projects and other research of strategies that affect teen behavior indicate that combined approaches, such as strengthening safety belt laws,

educating the public, publicizing the new or existing law, enforcing the law, and working with community organizations to provide outreach to the public, have potential to increase safety belt use. Research shows that combined strategies involving education, publicity, visible enforcement, and community outreach changes traffic safety behaviors. <http://www.nhtsa.dot.gov/people/injury/NewDriver/TeenBeltUse/pages/5ConcReccs.htm>

Traffic Crashes Take Their Toll on America's Rural Roads: The Need to Establish Rural Seat Belt Programs

National Highway and Traffic Safety Administration (NHTSA)

Highway fatalities are a major epidemic in this country and most occur on rural roads involving rural residents. Only one-fifth of the nation's population lives in rural areas, yet two-fifths of the vehicle miles traveled and three-fifths of all fatal crashes occur there. This includes drivers, occupants, pedestrians, motorcyclists, and pedal cyclists. The percentage of fatal crashes rise to 65% when looking only at rural passenger vehicle fatalities: 20,302 occupants killed in passenger cars, pickup trucks, and sport utility vehicles (SUVs) on rural roads. More than half of those killed are unrestrained, signifying the overwhelming need for traffic safety programs in rural areas. Progress is being made, as noted in the examples of rural seat belt programs highlighted in this document.

<http://www.nhtsa.dot.gov/people/injury/airbags/RuralCrashes/index.htm>

CDC Community Guide. "Effectiveness of Primary versus Secondary Safety Belt Use Laws," 2001.

A systematic review of published studies, conducted on behalf of the Task Force on Community Preventive Services by a team of experts, found primary laws to be more effective in increasing safety belt use and reducing fatalities. Based on this review, the **Task Force recommends that these strategies be implemented on the basis of strong evidence of effectiveness**

<http://www.thecommunityguide.org/mvoi/mvoi-safety-belt-prim-law.pdf>

Dinh-Zarr, Bella, et al. "**Reviews of Evidence Regarding Interventions to Increase the Use of Safety Belts.**" American Journal of Preventive Medicine 21 vol. 4S (2001): 48-65.

Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, Second Edition, 2007

National Highway Traffic Safety Administration (NHTSA)

Geared toward state highway safety offices, this guide aids in the selection of evidence-based traffic safety interventions for major traffic safety problems. It describes major strategies and countermeasures; summarizes prevalence of use, effectiveness, costs, implementation time; and provides references to major research. There are plans to update annually and address new problem areas as they arise.

http://www.nhtsa.dot.gov/staticfiles/DOT/NHTSA/Traffic%20Injury%20Control/Articles/Associated%20Files/CountermeasuresThatWork_2007.pdf

2007 Roadmap to State Highway Safety Laws, January 2007
Advocates for Highway and Auto Safety

This report highlights gaps in Advocates' list of 15 essential and lifesaving highway safety laws and is a call to action for governors and state legislators. Motor vehicle crashes continue to cause over 43,000 deaths and 3 million injuries per year and cost the nation over \$230 billion. Passage of the 15 laws identified in Advocates' report will help prevent these tragedies and, at the same time, will save the states billions of dollars in economic costs associated with highway crashes.

http://www.saferoads.org/sec_roadmap2007.htm

Youth and Road Safety

World Health Organization

Each year nearly 1.2 million people die and millions more are injured or disabled as a result of road traffic crashes. The vast majority (over 90%) of all road traffic deaths and injuries occur in low-income and middle-income countries. In high-income countries, most of those killed or injured in road traffic crashes are drivers and passengers of four-wheeled vehicles. In low-income and middle-income countries, however, “vulnerable road users” – pedestrians, cyclists and motorcyclists and users of public transportation – constitute a higher proportion of road users, and consequently make up a larger proportion of those injured or killed on the roads.

This report focuses on young road users, defined as those under 25 years of age. The document highlights the main risk factors for road traffic injuries, noting how many of these risks are elevated in youth. It stresses that successful prevention programs can be put in place to protect young people, and presents examples of interventions from different geographic and cultural contexts that have been shown to be effective.

www.who.int/violence_injury_prevention/publications

Family Guide to Teen Driver Safety

National Safety Council

See Section 4: “Risks from Choices We Make: Unsafe Driving Behaviors
Understand the risks of choosing to drive unsafely.

Seat Belts—Every Trip, Every Occupant, Every Time”

<http://www.nsc.org/issues/teendriving/guide.htm>

Teen Drivers: Fact Sheet

Centers for Disease Control and Prevention-National Center for Injury Prevention and Control

“Compared with other age groups, teens have the lowest rate of seat belt use. In 2003, 18% of high school students reported they rarely or never wear seat belts when riding with someone else (CDC 2004b).”

<http://www.cdc.gov/ncipc/factsheets/teenmvh.htm>

SOURCES OF DATA

National Occupant Protection Use Survey (NOPUS)

National Highway Traffic Safety Administration (NHTSA)

To collect detailed information on a national level about shoulder belt, child restraint, and motorcycle helmet use. Most state surveys collect data only for the vehicles and persons

covered by the safety belt law in their state. In addition to a lack of consistent data on restraint use, detailed data were not available for safety belt use for occupants of passenger cars and light trucks separately and by age and sex of the occupant. Similarly, no national data were available for child restraint use or motorcycle helmet use. Restraint use varies by both type of vehicle (car or light truck), age and sex of occupant, and various other factors. However, no national level data are available with measurable reliability that captures restraint use by these factors. An observational survey conducted at a random sample of approximately 4,000 road segments across the country for vehicles in urban, suburban and rural areas will be observed.

<http://www-nrd.nhtsa.dot.gov/departments/nrd-01/summaries/4313ga.html>

In 2006, NHTSA conducted the National Occupant Protection Use Survey (NOPUS). The overall observed shoulder belt use rate was 82% in 2005, compared to 80 percent observed in 2004, 79% in 2003, 75% in 2002, 73 percent in 2001, 71% in 2000, and 67% in 1999. In 1994, the overall observed shoulder belt use rate was 58%.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSF2001/2001occpro.pdf>

2003 Motor Vehicle Occupant Safety Survey, Volume 4: Crash Injury and Emergency Medical Services Report

National Highway Traffic Safety Administration

This report examines the findings of the 2003 Motor Vehicle Occupant Safety Survey related to crash injury and emergency medical services. Persons not wearing a safety belt at the time of the (most recent) crash were about twice as likely to be hospitalized from the crash-related injuries as those wearing safety belts.

<http://www.nhtsa.dot.gov/people/injury/research/2003MVOSSVol4/images/1779EMS>

Youth Risk Behavior Survey (YRBS)

Centers for Disease Control and Prevention

The national YRBS monitors priority health risk behaviors that contribute to the leading causes of death, disability, and social problems among youth and adults in the United States. The national YRBS is conducted every two years during the spring semester and provides data representative of 9th through 12th grade students in public and private schools throughout the United States. <http://www.cdc.gov/healthyyouth/yrbs/>

Fatality Analysis Reporting System (FARS)

The Fatality Analysis Reporting System (FARS) contains data on a census of fatal traffic crashes within the 50 states, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a traffic way customarily open to the public, and must result in the death of an occupant of a vehicle or a non-occupant within 30 days of the crash.

FARS data are obtained solely from the state's existing documents:

- Police Accident Reports Death Certificates
- State Vehicle Registration Files Coroner/Medical Examiner Reports
- State Driver Licensing Files Hospital Medical Reports
- State Highway Department Data Emergency Medical Service Reports

- Vital Statistics Other State Records
<http://www-fars.nhtsa.dot.gov/main.cfm>

POWERPOINT PRESENTATIONS

Data Support for Primary Seat Belt Legislation: The Massachusetts Example
http://www.atsip.org/oldsite/forum2004/Sessions/Monday_1_12/S03/s3_rothenburg.pdf

Primary Seat Belt Laws PowerPoint slides
http://www.publichealthgrandrounds.unc.edu/traffic/handout_slides.pdf

Seat belt presentation at Lifesavers 2006
<http://www.lifesaversconference.org/webfiles2006/chen.ppt>

Increasing Seat Belt Use Primary Enforcement and Beyond
Lifesavers 2005 <http://www.lifesaversconference.org/webfiles2005/Haseltine.ppt>

Teen Belt Use Symposium Recommendations- Phil Haseltine
Lifesavers Conference March 26, 2007
<http://www.lifesaversconference.org/workshops.html#OHSPT>

TEEN DRIVING PROGRAMS

Family Guide to Teen Driver Safety, A Seat Belts – Every Trip, Every Occupant, Every Time: P. 39. http://www.nsc.org/teendriversafety/pdf/NSC_Guide_Front.pdf

Defensive Driving Course: Alive at 25

This highly interactive four-hour program teaches young drivers how to take control of situations by taking responsibility for their own driving behavior. The National Safety Council developed DDC-Alive at 25 to specifically target drivers in this age group. Since 1995, more than 400,000 young adults have learned life-saving defensive driving skills through DDC-Alive at 25. In a recent study by the Colorado State Patrol, 93% of DDC-Alive at 25 participants said they would change their driving behavior afterwards. Courts and schools nationwide use DDC-Alive at 25 in their graduated license and violator programs. Seat belts: P. 14. <http://www.nsc.org/train/ddc/student/alive25.cfm>

Ford Motor Company. Driving Skills for Life

Driving Skills for Life (DSFL) helps young drivers improve their skills in four key areas that are critical factors in more than 60% of vehicle crashes: 1) hazard recognition; 2) vehicle handling; 3) speed management; and 4) space management. DSFL is a FREE comprehensive program that includes learning tools such as: website which includes four study modules and quiz, several interactive games and enhanced curriculum; educator packet that can be used by students and parents at home, as well as educators in the classroom and community settings; and 30-minute documentary.

<http://www.drivingskillsforlife.com/index.php>

Tips for teens: Insist on safety belt use

<http://www.drivingskillsforlife.com/content/view/39/lang,en/>

Injury Prevention

Newly released edition of journal that focuses on young drivers

Inj Prev 2006; 12(Suppl 1): i19-i24.

<http://injuryprevention.bmj.com/>

Toyota Driving Expectations

The National Safety Council, in partnership with Toyota, launched a national program called Toyota Driving Expectations. The free program is designed to teach teens and parents alike about defensive driving techniques against a backdrop of real-world scenarios.

<http://www.toyotateedriver.com/>

Drive It Right: Talking to Teens about Safe Driving

Developed by Discovery and Allstate as a comprehensive educational program designed to urge teens to understand, discuss and identify safe driving solutions. The program's DVD provides very candid and hard-hitting real-life stories behind the accident statistics.

<http://allstate.discoveryeducation.com/>

CURRICULUM GUIDES

Move With Science

Educating teens about the reality of crashes and the effectiveness of belt use. A guide for secondary school science teachers that teaches the principles behind transportation technology and safety, "Move With Science," has been developed by the National Science Teachers Association (NSTA) in cooperation with NHTSA. For more information, contact NSTA Special Publications, 703/243-7100, or visit their website:

www.nsta.org.