

Traffic-Related Injuries

BACKGROUND

National

According to the National Highway Traffic Safety Administration (NHTSA), the number of traffic fatalities decreased nearly 10% from 2007 to 2008 in the United States. However, over 37,000 lives were still lost in traffic-related fatalities in 2008. More than half of persons killed while traveling in passenger cars were unrestrained (55%). Motorcycle fatalities increased in the same year accounting for 14% of traffic fatalities (5,290 deaths).¹

Approximately 13,250 lives were saved in 2008 by the use of seat belts in passenger cars, and 244 lives of children younger than 5 years of age were saved by the use of child restraints. An additional 4,152 lives would have been saved if all unrestrained passenger vehicle occupants 5 years of age and older had been using a restraint device. Frontal air bags saved the lives of 2,546 occupants 13 years of age and older and motorcycle helmets saved 1,829 lives. If all motorcyclists who were involved in a crash had been wearing helmets, 823 more lives could have been saved. In addition, more than 700 young adults 18 to 20 years of age were saved by minimum drinking age laws (21 years old).²

From 2000 to 2006, motor vehicle crashes were the leading cause of unintentional injury death overall in the United States, resulting in over 300,000 fatalities.³ In 2008, nearly 970 children birth to 14 years of age were involved in fatal motor vehicle crashes and approximately 168,000 were injured.⁴ More than one in three deaths are a result of motor vehicle crashes among teens, and drivers 16 to 19 years of age are more likely to be involved in traffic-related incidents than any other age group. On average,

approximately 12 teens 16 to 19 years of age die every day from motor vehicle-related injuries. Teenagers and young adults 15 to 24 years of age account for 14% of the nation's population. However, males in this age group account for 30% (\$19 billion) of motor vehicle-related medical costs and females 15 to 24 years of age account for 28% (\$7 billion). According to the Centers for Disease Control and Prevention (CDC), teen drivers who are at high risk of being involved in crashes include males, teens driving with other teen passengers, and those who are newly licensed.⁵

In 2006, over 175,200 adults 65 years of age and older were injured as result of motor vehicle crashes. Older drivers are more likely to suffer from fatal motor vehicle injuries than are younger drivers. Older adults may have a higher risk of being involved in a motor vehicle crash due to poor vision, cognitive functions, and physical impairments. Seventy-six percent of older drivers and passengers involved in fatal crashes were wearing seat belts at the time of the crash compared to 62% of adult occupants younger than 65 years old.⁶

Oklahoma

Motor vehicle crashes were the leading cause of unintentional injury death among children and adults 1 to 64 years of age from 2000 to 2006 in Oklahoma. Each year, approximately 770 persons lose their lives in traffic-related fatalities. Overall fatality rates were highest among novice drivers 15 to 24 years of age and drivers 65 years of age and older.^{3,7}

Teen Drivers

In 2006, over 20,200 teens 16 to 19 years of age were involved in motor vehicle crashes in

Oklahoma. Sixty-eight teens in this age group died at a traffic crash scene or in a hospital emergency room. Of these, 36 were drivers, 26 were passengers and 6 had unknown occupant position. Unsafe speed (44%) and failure to stop or yield (14%) were the most common noted causes of the fatal motor vehicle crashes. Alcohol was a contributing factor in 8% of teen drivers. Seat belt use was known for 55 persons involved in these fatal crashes; of these, 67% were not restrained. Among the 218 teen drivers who were hospitalized, over half were male (61%). Fifty-seven percent of teen motorcyclists were not wearing a helmet; 80% of teens who died in a hospital were not wearing a seat belt.⁸

Older Drivers

In 2006, there were approximately 288,000 licensed drivers 70 years of age and older in Oklahoma, and motor vehicle crashes were the second leading cause of injury death in this age group. Older drivers were involved in 7,562 out of 75,408 motor vehicle crashes. The highest rate of injuries occurred among males, 80 to 84 years of age. Older drivers had lower fatality rates than younger drivers age 16 to 24 years of age. Failure to stop or yield (34%), improper turning (17%), and improper backing and/or changing lanes unsafely (16%) were the most common causes of motor vehicle crashes involving older drivers. There were 2,005 injuries (nearly 8 injuries per person) sustained by older adults who were hospitalized (257 hospitalizations).⁹

PROGRESS

Funding

The Injury Prevention Service (IPS) receives funding from the Oklahoma Highway Safety Office (OHSO) to conduct the Oklahoma Traffic Data Linkage Project (TDLP). The goal of the TDLP is to obtain comprehensive information on traffic crashes by linking data from multiple sources. The IPS links data from traffic crashes, hospitals, and

death certificates (traffic record data, Oklahoma Hospital Inpatient Discharge data, and vital statistics data). Linking traffic crash reports and data from the medical care system provides a more complete array of information to better understand motor vehicle crashes and their effects. The data can be used to develop, inform, and evaluate traffic injury prevention programs in Oklahoma. Crash data findings on teen drivers have been presented on national and local levels. A website has been developed for the TDLP, and the TDLP Board of Directors is assisting with additional promotion efforts.

From 2001 to 2009, the IPS received funding from the OHSO to implement an occupant protection program which was offered through county health departments statewide. In October 2009, the OHSO funded Safe Kids to coordinate the occupant protection program statewide, with a focus on rural areas. IPS staff will continue to provide support and assistance as needed.

Publications

Peer-Reviewed Publications

- All-terrain vehicle crash factors and associated injuries in patients presenting to a regional trauma center. *Journal of Trauma*, Nov 2007;63(5):994-9
- All terrain vehicle-related central nervous system injuries in Oklahoma. *Journal of the Oklahoma State Medical Association* May 2005;98(5):194-199
- All-terrain vehicle related nonfatal injuries among young riders: United States, 2001-2003. *Pediatrics* 2005;116:608-612.
- Blood alcohol content (BAC)-negative victims on alcohol-involved injury incidents. *Addiction*, 2002;97(7):909-914.
- Epidemiology of severe traumatic brain injury among persons 65 years of age and older in Oklahoma, 1992-2003. *Brain Injury* June 2007;21(7):691-9.
- Magnitude of major trauma in Oklahoma. *Journal of Oklahoma State Medical Association* 2004(2);97:70-74.

- Prevention of traffic deaths and injuries: the role of physicians. *Journal of the Oklahoma Medical Association* 2001;94(6):192-194
- Unintentional motor vehicle-train collisions--Oklahoma, 1995-2003. *Journal of the Oklahoma State Medical Association* 2009 Aug;102(8):263-6.

Other Publications

- *Oklahoma Injury Facts*. September 2003.

Summary Data Reports

- Injuries in Oklahoma, 2004
- Injuries in Oklahoma, 2005
- Injuries in Oklahoma, 2004-2006

Injury Update Reports

- Dangers of Traveling by Foot: Pedestrian-Related Traumatic Brain Injuries in Oklahoma, 1992-2002
- Fatal Injuries Among Children Left Unattended In or Around a Motor Vehicle in Oklahoma, 2000-2004
- Pedestrian-Related Traumatic Brain Injuries in Oklahoma, 1992-2002
- Work Zone-Related Deaths, Oklahoma, July 1997-December 2006

Fact Sheets

- Adolescent Injury in Oklahoma
- Alcohol-Related Crash Injuries and Deaths, Oklahoma, 2006
- Child Passenger Safety Common Errors
- Child Passenger Safety FAQ
- Impaired Driving
- Motorcycle Crash Injury
- Motor Vehicle Crash Injury Laws Q&A
- Motor Vehicle Crash Injuries
- Motor Vehicle Crash Injuries Among Children and Car Seat Use
- Older Driver-Related Crash Injuries and Deaths, Oklahoma, 2006
- Pedestrian-Related Injuries
- Teenage Traffic Injuries
- Tips For Keeping Your Child Happy in a Car Seat

- Traffic Crash Data Linkage Results Among Oklahoma Teens 16-19 Years of Age, 2006

Education and Planning Materials

- Breaking Away--Teaching Injury Prevention to Young Bicycle Riders
- PTA Guide to Bicycle Helmet Projects

Collaboration

From 2001 to 2009, the IPS partnered with the OHSO to implement an occupant protection program. This program offered eligible families the opportunity to receive child safety seats at no cost. Child passenger safety staff educated and instructed each family on how to properly secure a car or booster seat in their vehicle. Every family receiving a child safety seat was required to watch a child passenger safety video and was given additional information about child safety seat use. Family members were encouraged to participate in the installation process.

In October 2009, Safe Kids assumed management of the occupant protection program statewide. The IPS will continue to support the program by providing technical assistance, instructing one-day and four-day training classes, and conducting safety seat installations and checks.

A symposium on underage drinking was conducted in Oklahoma in 2006. Using the Spectrum of Prevention, a template of recommendations was prepared and distributed to various stakeholders following the symposium.

Legislation

Occupant Protection

In 2004, Oklahoma legislators passed a child safety seat law which requires children birth to five years of age to be properly restrained in a car seat or booster seat when traveling in a motor vehicle. Children ages six to twelve years old must be properly restrained in a child safety seat or seat belt. Prior to 2004, children birth to three years of

age were required to be in a car seat, and children four to five years old could be restrained in a seat belt, regardless of their seating position in the vehicle. Oklahoma's primary seat belt law covers all persons 13 years of age and older seated in front vehicle seating positions.

The *Forget-Me-Not Vehicle Safety Act* was passed in 2008, making it illegal for caregivers to leave children six years of age or younger unattended in a motor vehicle, unless accompanied by a person at least 12 years of age or older.

In 2009, child endangerment offenses were expanded to include any parent or guardian who knowingly permits a child to be present in a vehicle when the driver is impaired or under the influence of alcohol or other intoxicating substance, or when the parent or guardian is the impaired driver or under the influence of alcohol or other intoxicating substance.

Cell Phone Use and Text Messaging

Currently, Oklahoma has no laws relating to cell phone use or text messaging while driving. In 2009, nine legislative bills relating to cell phone use were introduced; however, none of them passed.

Helmet Use

Oklahoma has a partial helmet law that requires all motorcyclists younger than 18 years of age to

wear a motorcycle helmet. The state does not have any helmet laws pertaining to bicyclists.

All-terrain Vehicles

All-terrain vehicles (ATVs) purchased on or after July 1, 2005 must be registered and titled in Oklahoma. Use of ATVs are prohibited on streets and highways except to cross these roads, for no more than 300 feet to cross a railroad track during daylight hours, or on unpaved roads on United States Forest Service property.⁵

Oklahoma state law requires riders younger than 18 years old to wear a helmet when operating an ATV on public lands, and prohibits operators of ATVs on public lands from carrying passengers unless the vehicle was designed by the manufacturer for passengers. A bill to make ATVs street legal was introduced in the 2009 session, but did not pass.

Graduated Driver Licensing

Oklahoma established a Graduated Driver Licensing (GDL) law in 1999. GDL consists of four levels of licensing; no license, learner permit, intermediate license, and unrestricted license. This system allows full driving privileges to novice drivers gradually, and requirements vary with each level. GDL restricts the number of passengers and the amount of driving time allowed for young, novice drivers. Table 1 from the Oklahoma Department of Public Safety shows GDL as it affects Oklahoma drivers 15 to 18 years of age.

Table 1. Oklahoma Graduated Driver Licensing Law

License Type	Driving Privileges	Requirements	
		With Driver Education	No Driver Education
No License	<u>When:</u> While receiving instruction from and accompanied by a certified driver education instructor	-At least 15 years old -While receiving instruction from a certified instructor	(Not eligible)
Learner Permit	<u>When:</u> While accompanied by a licensed driver at least 21 years old	-At least 15 1/2 years old -Must be currently receiving instruction in or have	-At least 16 years old -Must have passed written driving exam

		completed driver education -Must have passed written driving exam -Must have passed vision exam	-Must have passed vision exam
Intermediate License	<u>When:</u> 5am to 11pm, unless for activities related to school, church, or work <i>or</i> any time if accompanied by licensed driver at least 21years old <u>Passengers:</u> 1 passenger <i>or</i> only people who live in the driver's home <i>or</i> any passenger if accompanied by licensed driver at least 21years old	-Must have had a Learner Permit for at least 6 months -Must have had at least 40 hours (10 hours at night) of behind-the-wheel training from licensed driver at least 21 years old and licensed for at least 2 years -Must have no traffic convictions on driving record -Must have passed driving skills exam	-Must have had a Learner Permit at least 6 months -Must have had at least 40 hours (10 hours at night) of behind-the-wheel training from licensed driver at least 21 years old and licensed for at least 2 years -Must have no traffic convictions on driving record -Must have passed driving skills exam
Unrestricted License	<u>When:</u> unrestricted <u>Passengers:</u> unrestricted	-Must have had an Intermediate License for at least 6 months -Must have no traffic convictions on driving record	-Must have had an Intermediate License for at least 1 year -Must have no traffic convictions on driving record
		-OR-	
		-Must be at least 18 years old -Must have passed all driving and vision exams	

Underage Drinking

According to Oklahoma's zero tolerance law, if drivers younger than 21 years of age are found to have a blood alcohol level over 0.02 percent before or while operating a motor vehicle, they may be charged with impaired driving offenses.

Oklahoma passed a law in 2006 making it illegal for a person to knowingly and willfully give alcohol or controlled dangerous substances to a minor (person under 21 years of age) who is invited by that person to a residence, building, or property owned or procured by that person. If this act results in the death of a person, violators will be fined and/or convicted of a felony. Fifty-five Oklahoma communities have taken this law a step further by adopting social host ordinances which prohibit persons from knowingly hosting gatherings where alcoholic beverages are available to minors.

Ignition Interlock Devices

A measure related to the installation of an alcohol ignition interlock device as a condition of modifying license revocation or driving privileges becomes effective November 1, 2009. Another bill requiring persons to use ignition interlock devices when convicted of first-time driving under the influence offenses became dormant after failing to be heard in committee.

GOALS/OBJECTIVES

Goal

- Collect relevant data and provide educational information to reduce traffic-related injuries and deaths.

Objectives

- Increase seat belt use to 92% by 2015.
Baseline: 2009 Oklahoma Highway Safety Office data for Oklahoma: seat belt use=84.2%.
- Increase child safety seat use among children birth to six years of age to 90% by 2015.
Baseline: 2009 Oklahoma Highway Safety Office data for Oklahoma: proper restraint use=86.3%.
- Decrease the proportion of high school age students who have driven a vehicle when drinking alcohol within a given month to 10% by 2015.
Baseline: 2007 Youth Risk Behavior Survey data for Oklahoma: students who have driven a vehicle when drinking alcohol during the past 30 days=13.3%.

ACTION PLAN

- Continue to support statewide programs to reduce traffic-related deaths through 2015.
- Maintain the TDLP through 2015.
- Continue to support and participate in the TDLP Board of Directors through 2015.
- Continue to support and participate in the Statewide Buckle Up Committee through 2015.

- Continue to conduct child safety seat checks and provide technical assistance to parents and caregivers through 2015.
- Continue to provide technical assistance to county health department program contacts and participate in child safety seat check events and instruct child passenger safety trainings through 2015.
- Continue to collect surveillance data on traumatic brain injuries, ATV and traffic injuries and fatalities using Oklahoma Medical Examiner data, Vital Records data, and Oklahoma Highway Safety Office data through 2015.
- Work with the Oklahoma Highway Safety Office and the Department of Public Safety to increase awareness of Graduated Driver Licensing laws among parents and caregivers of novice drivers through 2015.
- Prepare and disseminate traffic-related news releases, fact sheets, and reports through 2015.
- Fulfill traffic-related data requests as need through 2015.
- Support traffic safety legislation by providing partners and legislators with relevant data, reports, fact sheets, and educational information through the 2015 as appropriate.
- Support legislation restricting cell phone use and texting while driving by providing relevant data, reports, fact sheets, and educational information through the 2015 legislative session.

REFERENCES

¹National Highway Traffic Safety Administration. 2008 Traffic Safety Annual Assessment – Highlights. Retrieved 17 September 2009, from: <http://www-nrd.nhtsa.dot.gov/Cats/listpublications.aspx?Id=F&ShowBy=DocType>.

²National Highway Traffic Safety Administration. Lives Saved in 2008 by Restraint Use and Minimum Drinking Age Laws. Retrieved 17 September 2009, from: <http://www-nrd.nhtsa.dot.gov/Cats/listpublications.aspx?Id=F&ShowBy=DocType>.

³Centers for Disease Control and Prevention. WISQARS. Retrieved 17 September 2009, from: <http://www.cdc.gov/injury/wisqars/index.html>.

⁴Centers for Disease Control and Prevention. Child Passenger Safety: Fact Sheet. Retrieved 17 September 2009, from: http://www.cdc.gov/MotorVehicleSafety/Child_Passenger_Safety/CPS-Factsheet.html.

⁵Centers for Disease Control and Prevention. Teen Drivers: Fact Sheet. Retrieved 17 September 2009, from: http://www.cdc.gov/MotorVehicleSafety/Teen_Drivers/teendrivers_factsheet.html.

⁶Centers for Disease Control and Prevention. Older Adult Drivers: Fact Sheet. Retrieved 17 September 2009, from: http://www.cdc.gov/MotorVehicleSafety/Older_Adult_Drivers/adult-drivers_factsheet.html.

⁷Injury Prevention Service, Oklahoma State Department of Health. Injuries in Oklahoma, 2004-2006.

⁸Injury Prevention Service, Oklahoma State Department of Health. Fact Sheet: 2006 Traffic Crash Data Linkage Results Among Oklahoma Teens 16-19 Years of Age.

⁹Injury Prevention Service, Oklahoma State Department of Health. Fact Sheet: Older Driver-Related Crash Injuries and Deaths, Oklahoma, 2006.