

ARIZONA TEEN DRIVING SPECIAL REPORT



12/15/2012

Motor vehicle crashes in Arizona and the impact of driver inexperience.

The one consistent word that describes every family, neighborhood and community that loses a child to a motor vehicle crash is: devastated. Since 2006, 535 children have died in motor vehicle crashes. This report looks into the driving habits of the youth in Arizona in effort to save the lives of future young drivers.

Arizona Teen Driving Special Report

MOTOR VEHICLE CRASHES IN ARIZONA AND THE IMPACT OF DRIVER INEXPERIENCE.

INTRODUCTION

Protecting children from a devastating outcome begins with drivers of all ages making responsible decisions about driving. These decisions include using safety restraints, avoiding substance use and focusing on the act of driving. Parents are role models, who must display positive driving behaviors and enforce the safety rules for their children. A study that looked at the associations between parenting styles and teen driving, identified that parents should set rules and effectively monitor driving behaviors.

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The Arizona Child Fatality Review Program (CFR) began reviewing deaths of children from any cause or manner in 1993. At that time, a State Team was created to support local communities in establishing child fatality review teams, providing education and support to the local teams and compiling information for an annual report. Since 1993, child deaths in Arizona have been reviewed. During the review process, local teams collect the necessary information and scrutinize all details surrounding a child's death. This process is not to assign blame but to help local communities gain a better understanding into the causes of a child fatality in order to prevent future deaths. This information is also used to design prevention programs, initiate legislative action, rules, regulations and ordinances designed to save the lives of children.

This report looks closely into child deaths related to motor vehicle crashes. The data presented may differ from what is published in the Annual Child Fatality Review Reports. When applicable, narrative clarification is used, however it is important to note that specific details of a death may be included in a case to classify it as a motor vehicle death in one document and not the other. For example, a child who died in a boat crash would be captured in the Motor Vehicle Crash (MVC)/Transport section of the Annual CFR Report. Since this report focuses on motor vehicles being driven on established roadways, that death would be excluded from this report.

INCIDENCE OF MVC AMONG CHILD DEATHS

According to the National Highway Traffic Safety Administration, inexperienced drivers are at a considerably higher risk for injury and death due to motor vehicle crashes. Traffic crashes continue to be the leading cause of death for teens in America. Mile for mile, teenagers are involved in three times as many fatal crashes as all other drivers. The statistics regarding child deaths, including teens, in relation to motor vehicle crashes is similar

¹ Ginsberg, K., Durbin, D. et al. Associations Between Parenting Styles and Teen Driving, Safety-Related Behaviors and Attitudes Pediatrics Vol. 124 No. 4 October 1, 2009

in Arizona. Table 1 shows the leading causes of injury-related deaths by age group in Arizona 2006 through 2011.

Leading Causes of Injury-Related Deaths by Age Group, Arizona, 2006-2011							
Rank	0-27 Days 3%, n=46	28-365 Days 16%, n=271	1-4 Years 22%, n=378	5-9 Years 9%, n=163	10-14 Years 14%, n=240	15-17 Years 37%, n=639	All Deaths 100%, n=1,738
1	Suffocation n=17	Suffocation n=138	MVC/Transport n=119	MVC/Transport n=84	MVC/Transport n=109	MVC/Transport n=237	MVC/Transport n=581 (33%)
2	MVC/Transport n=11	Blunt Force Trauma nb=44	Drowning n=117	Drowning n=24	Firearm n=39	Firearm n=164	Firearm n=184 (11%)
3	Blunt Force Trauma n=5	MVC/Transport n=21	Blunt Force Trauma n=38	Firearm n=16	Hanging n=36	Hanging n=75	Drowning n=183 (11%)
4	Undetermined n=3	Drowning n=16	Suffocation n=19	Fire/Burn, Fall/Crush n=8, n=8	Drowning, Exposure n=9, n=9	Poisoning n=72	Blunt Force Trauma n=132 (8%)

Years of Potential Life Lost

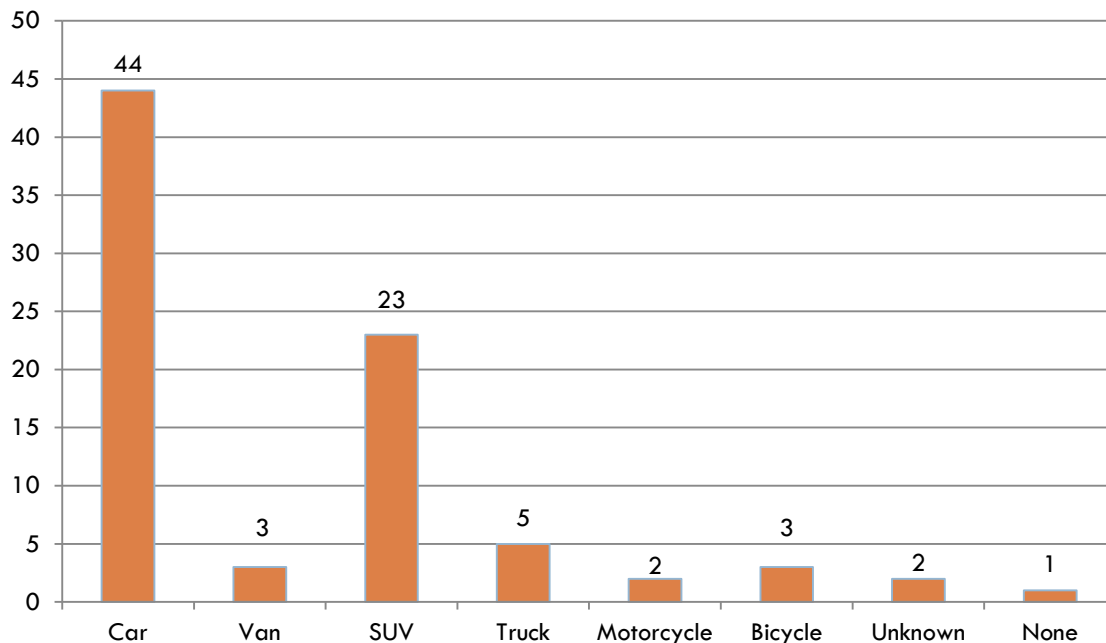
The concept of years of potential life lost estimates the average time a person would have lived had they not died prematurely. The impact that motor vehicle crashes have on communities is immense, especially when taking into consideration what the child could have contributed to their family, friends and community had they not died. Assuming that the child would have lived to an average age of 65 years old and that same child died at age one; the potential years of life lost would be 64. Taking into account the varying ages of the 535 children who have died prematurely as a result of motor vehicle crashes, since 2006, the potential life lost equals 29,306 years.

DEMOGRAPHICS FOR MOTOR VEHICLE DEATHS CAUSED BY DRIVERS BETWEEN THE AGES OF 15-17, ARIZONA, 2006-2011.

Type of vehicle involved in the motor vehicle crash

Deaths in this category include those in which the teen driver died while driving on an established roadway in a car, van, sport utility vehicle (SUV), truck, motorcycle or bicycle. There are two deaths where the vehicle type is unknown. This typically happens when the crash occurs on Native American Reservations where receiving records on a child death for the review process are not always available. When reports are limited, the type of vehicle involved often cannot be obtained. However, in the two cases where this occurred, it is known that the crash occurred on an established roadway and therefore, it can be concluded that it was a motor vehicle of some sort that was involved. Eighty-one percent of the child deaths happened in a car or SUV. Figure 1 shows the type of vehicle involved in child deaths.

FIGURE 1. VEHICLE INVOLVED IN CHILD DEATHS, ARIZONA, 2006-2011



Age and sex of child death

It should also be noted that it may not be the teen driver that died. If the driver was between the ages of 15-17 years of age and a child younger than 18 died, they would be included in this report. Ninety-four percent of children, who were killed during a motor vehicle crash where the driver was a teen, were teen drivers. Figure 2 shows the age of the child killed in the MVC. Males were more likely to die in a motor vehicle crash than were females, comprising 58% of the child deaths. Figure 3 shows the sex of the child killed in a MVC.

FIGURE 2. AGE OF CHILD DEATH INVOLVED IN MVC, ARIZONA, 2006-2011

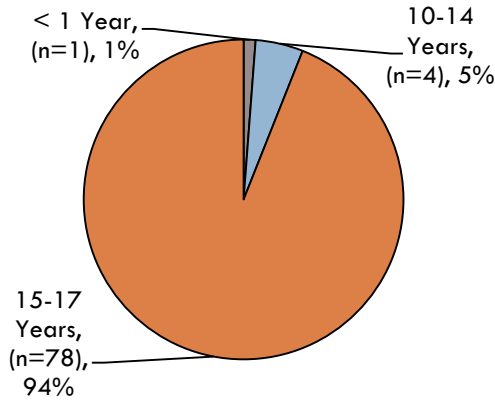
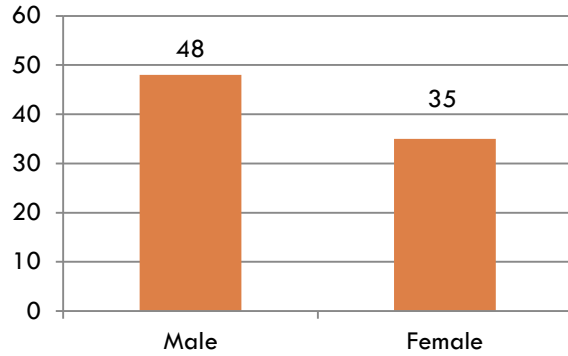


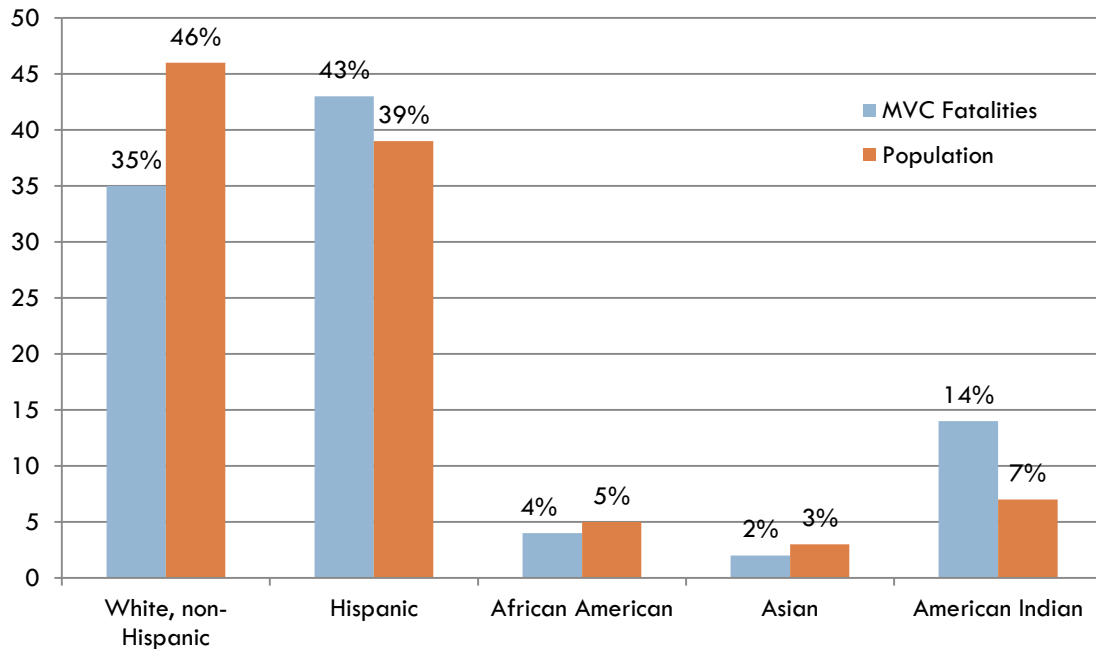
FIGURE 3. SEX OF CHILD DEATH INVOLVED IN MVC, ARIZONA, 2006-2011



Race/Ethnicity of teen driving deaths

Race/ethnicity information regarding motor vehicle crashes is similar to what has been observed in all child deaths. Minorities are typically over-represented. This trend seems to remain similar when looking at all motor vehicle crashes versus the total population of all children. Figure 4 compares the race/ethnicity of the child death due to motor vehicle crashes against the child population averages from 2006 through 2011. American Indian children have the highest proportion of child deaths compared to the population average. The percentage of deaths is exactly double the population average for this race group.

FIGURE 4. RACE/ETHNICITY OF CHILD DEATHS COMPARED TO POPULATION AVERAGES, ARIZONA 2006-2011



County of residence for MVC deaths involving children

Maricopa County is the most populated county in the state as such it is unremarkable that most of the deaths occurred in this county. Figure 5 identifies child MVC deaths by county of residence.

FIGURE 5. ALL MVC CHILD DEATHS BY RESIDENT COUNTY, ARIZONA, 2006-2011

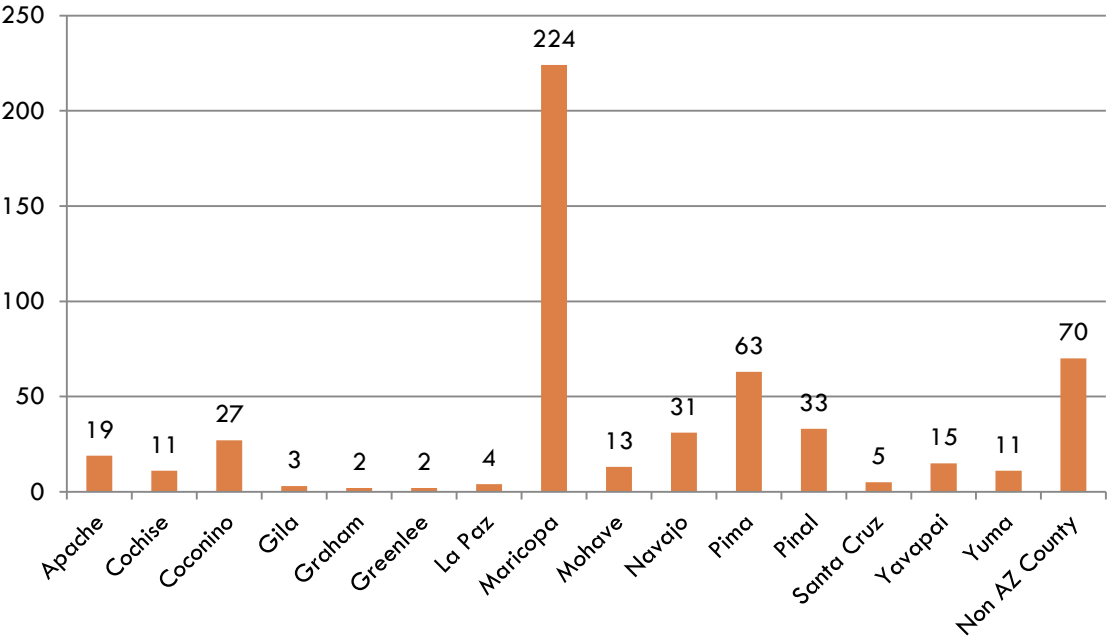
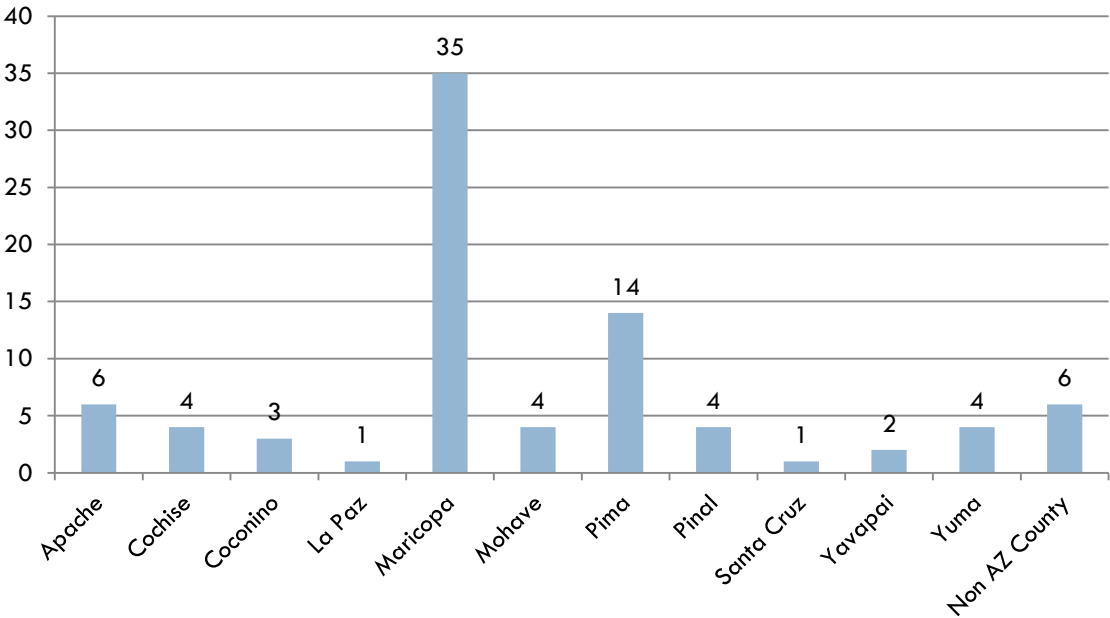


Figure 6 shows deaths of children which involved a teen driver by county of residence.

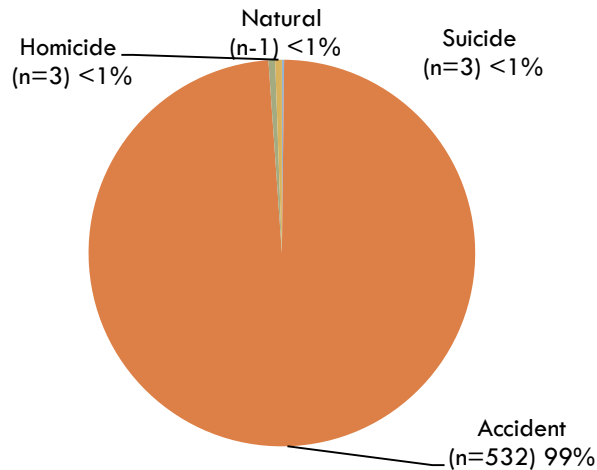
FIGURE 6. CHILD DEATHS INVOLVING A TEEN DRIVER BY COUNTY OF RESIDENCE, ARIZONA, 2006-2011



Manner of child death involved in MVC

When classifying a manner of death, a medical examiner takes several things into consideration: information from the hospital, law enforcement, scene investigation and psychosocial information when it is available. Based on this information the medical examiner then chooses from several manners of death: accident, homicide, natural, undetermined and unknown. Figure 7 shows all MVC child deaths by manner.

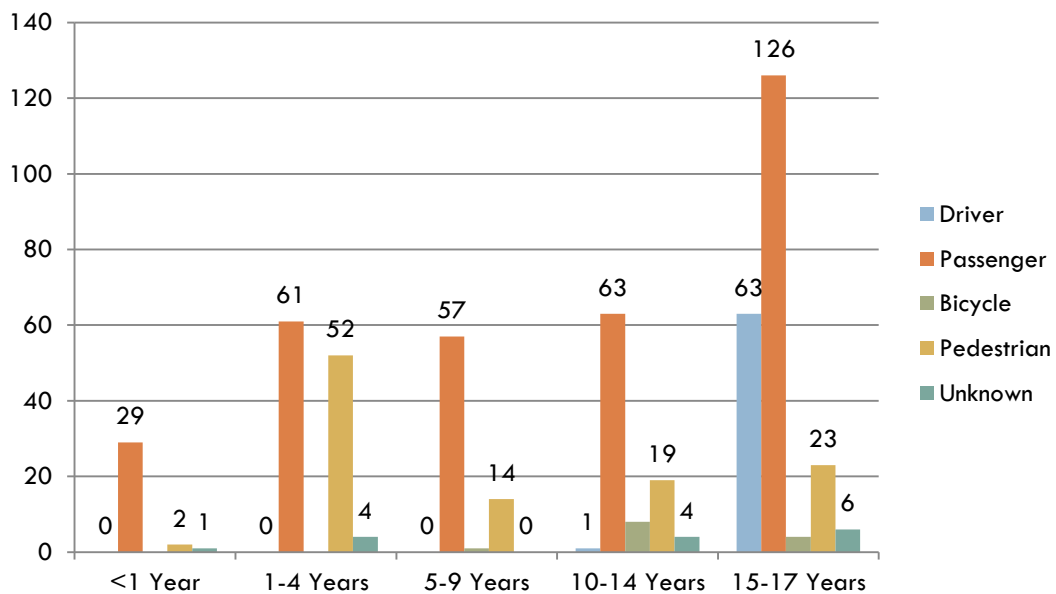
FIGURE 7. ALL MVC CHILD DEATHS BY MANNER, ARIZONA 2006-2011



Location of child during fatal MVC

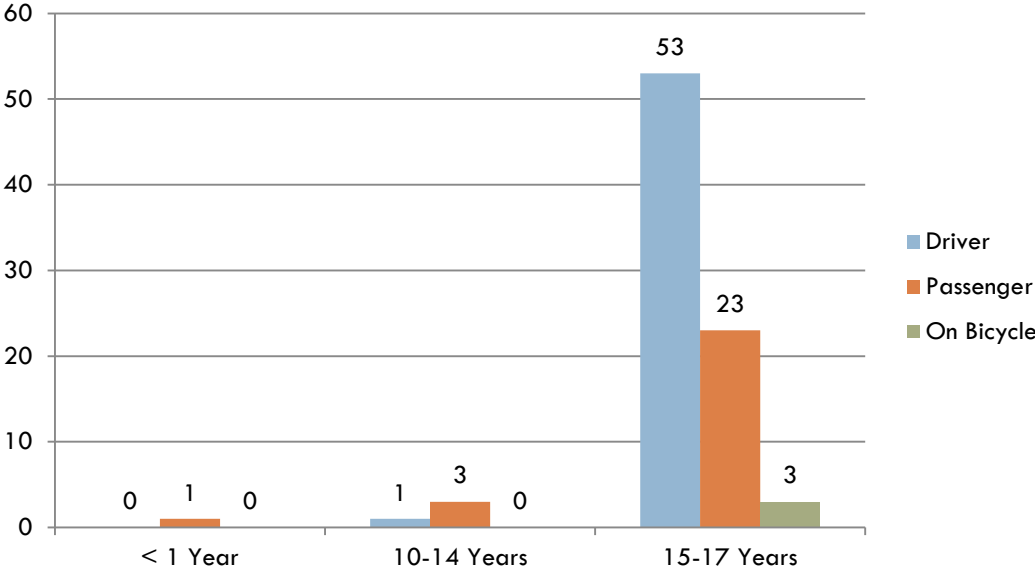
For all child deaths due to MVC, the position of the child in the car is important, especially when compared to all child deaths due to MVC and teen drivers involved in a fatal MVC. Figure 8 shows all child deaths, their position in or around the vehicle and their age.

FIGURE 8. LOCATION OF CHILD FOR ALL MVC CHILD DEATHS, ARIZONA, 2006-2011



In 66% of the crashes that involved a teen driver, it was the teen driver who died. However, in 36% of the cases, a teen driver was involved in the death of a passenger or another child riding a bicycle. These numbers do not add up to a total of 100% because there may have been more than one death in a given crash.

FIGURE 9. LOCATION OF CHILD FOR MVC DEATHS INVOLVING A TEEN DRIVER, ARIZONA, 2006-2011



RICK FACTORS AMONG DRIVERS AND PASSENGERS INVOLVED IN FATAL MVC WHEN A TEEN WAS DRIVING.

Compared to MVC deaths among all drivers when there was a child death, teen drivers were more likely to engage in risky behavior. These risk factors placed them at much higher risk of being killed in a MVC than more experienced drivers.

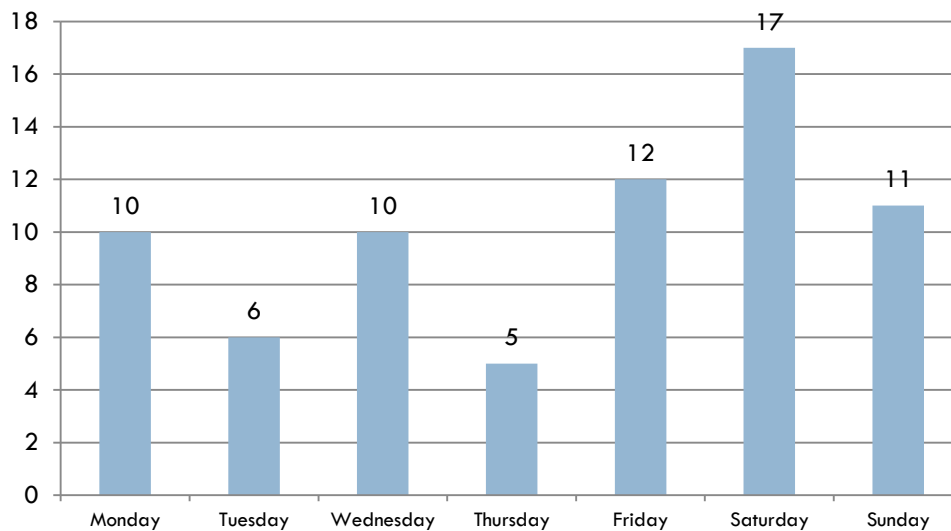
TABLE 2. SHOWS THE MOST COMMON PREVENTABLE FACTORS INVOLVED IN TEEN DRIVING FATAL MVC, ARIZONA, 2006-2011.

Preventable Factor	Number	Percent
Improper/Non-Use of Restraints	52	62%
Speeding	48	57%
Driver Was Impaired	34	40%
Driver Distraction	15	18%

*More than one factor may have been involved in each death.

Additionally, a child was more likely to die in a teen driver related-MVC on a Saturday. Figure 10 shows the number of child deaths where a teen was driving by day of the week.

FIGURE 10. CHILD DEATHS DUE TO TEEN DRIVERS BY DAY OF THE WEEK, ARIZONA 2006-2011



ARIZONA GRADUATED DRIVER LICENSE LAW

The graduated driver license program allows inexperienced drivers to gain skills by beginning in low-risk situations and phasing in more complex driving conditions requiring higher skill level as their experience grows. The rules as they relate to the GDL, according to the Arizona Department of Transportation are as follows:

Graduated INSTRUCTION PERMIT Requirements

- Teen must be at least 15 years and 6 months old.
- Teen and parent must provide necessary application documents
- Teen must pass written and vision tests.
- Teen must have a licensed driver **who is at least 21 years of age** seated in the front seat next to him or her at all times.

Graduated DRIVER LICENSE Requirements

- Teen must be at least 16 years old.
- Teen must hold an Arizona class G permit for at least six months.
- Teen must have completed **20 hours** of supervised, behind-the-wheel daytime driving practice and **10 hours** of supervised, behind-the-wheel nighttime driving practice – a total of **30 hours** before applying for a graduated driver license.
- For the first six months, a teen with a graduated driver license cannot drive between the hours of midnight to 5:00am unless:
 - A parent or legal guardian who has a valid driver license is sitting in the front passenger seat,
 - The teen driving to or from a sanctioned school sponsored activity, sanctioned religious activity, place of employment, or family emergency.
- Teen with a Graduated Driver License shall not drive a motor vehicle containing more than one passenger under the age of 18 on a public highway, *unless*:
 - The passengers are the teen driver's siblings or,
 - The teen driver is accompanied by a parent or legal guardian with a valid driver license and occupies the front passenger seat.

Status of teen's driver's license at the time of fatal MVC.

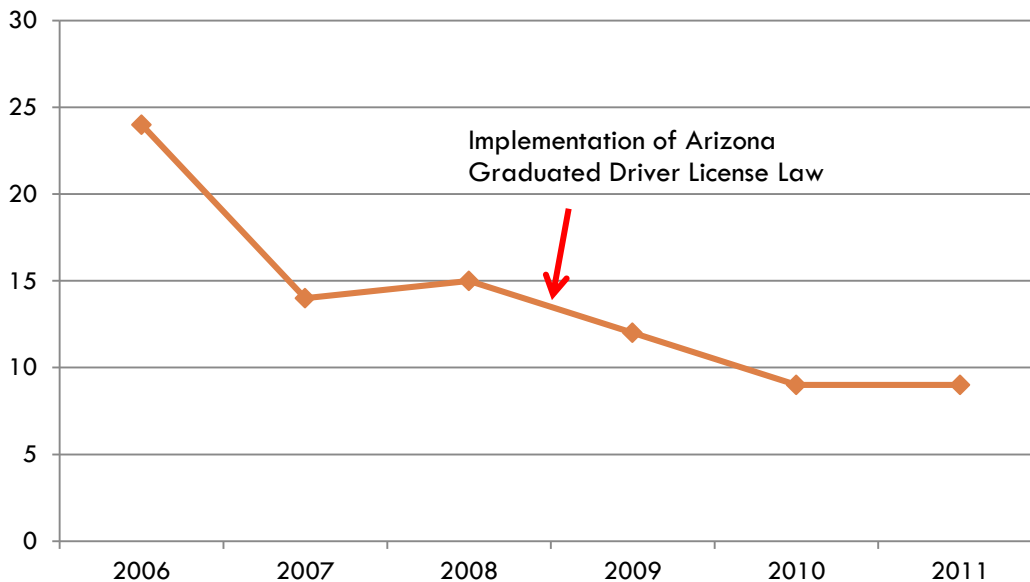
License Status	Number	Percent
No License	28	23%
Instruction Permit	5	6%
Graduated Driver's License	17	20%
In violation of Graduated Driver's License	7	41%*
Full, Valid License	31	37%
License Was Suspended	3	4%

*41% of those children driving under a graduated driver's license were in violation of its provisions.

Effectiveness of Graduated Driver License Law

The number of deaths has decreased since the implementation of the graduated driver license law. Although there have been many community programs aimed at teen drivers, this policy change may have had a significant impact on reducing the number of child deaths associated with MVC. Figure 11 shows the decrease of deaths beginning in 2006 trending to 2011.

FIGURE 11. IMPLEMENTATION OF ARIZONA GDL AND NUMBER OF TEEN DRIVER DEATHS, 2006-2011



Conclusion

The Insurance Institute for Highway Safety advocates that states adopt all five components of the young driver licensing laws: minimum intermediate license age of 17, minimum permit age of 16, at least 65 supervised practice hours and during the intermediate stage a night time driving restriction starting at 8 p.m. and a ban on all teen passengers.

Parents can implement their own GDL rules to protect their child. Practice driving will empower your teen and your rules will provide much needed limits to keep him or her safe. Create rules to address the leading hazards for teen drivers, such as driving at night. There are many resources available to get you started.

There are apps for cell phones that can be used to monitor your teens driving habits, stop incoming texts and send calls to voice mail when the car is in motion.

Having a signed agreement with your teen on the rules is another way to be involved with your teen's driving such as Parents are the Key: <http://www.cdc.gov/ParentsAreTheKey>