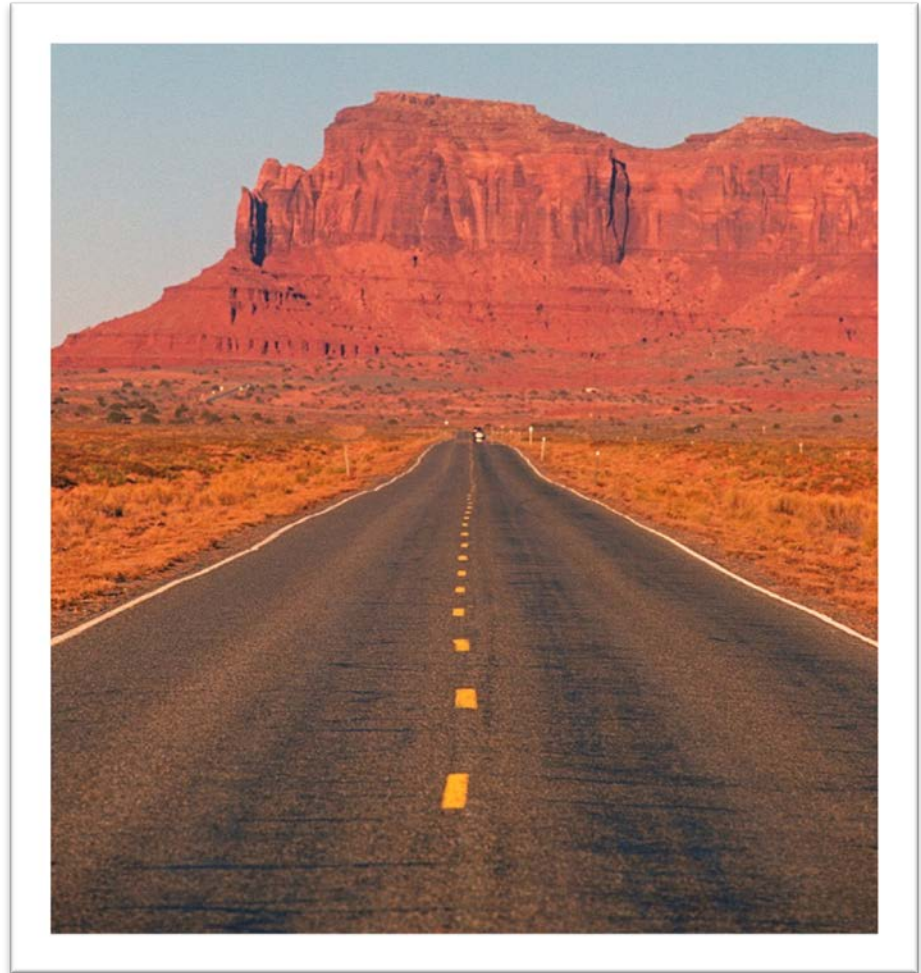


ARIZONA TEEN DRIVING SPECIAL REPORT



12/8/2017

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, 926 children have died in motor vehicle crashes that occurred in Arizona. 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.¹

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 or plane 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 or off-roads, 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 in Arizona. Table 1 shows the leading causes of injury-related deaths by age group in Arizona 2006 through 2016.

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

TABLE 1. FIVE LEADING CAUSES OF INJURY-RELATED DEATHS BY AGE GROUP, IN ARIZONA, FROM 2006-2016

Rank	0-27 Days 2%, n=71	28-365 Days 19%, n=554	1-4 Years 22%, n=653	5-9 Years 9%, n=274	10-14 Years 14%, n=411	15-17 Years 34%, n=1,021	All Deaths 100%, n=2,984
1	Suffocation n=40	Suffocation n=383	Drowning n=213	MVC/Transport n=141	MVC/Transport n=184	MVC/Transport n=365	MVC/Transport n=926 (31%)
2	MVC/Transport n=16	Blunt Force Trauma n=78	MVC/Transport n=190	Drowning n=41	Strangulation n=73	Firearm n=269	Suffocation n=487 (16%)
3	Blunt Force Trauma n=7	MVC/Transport n=30	Blunt Force Trauma n=99	Firearm n=26	Firearm n=63	Hanging n=137	Firearm n=384 (13%)
4	Firearm n=2	Drowning n=25	Suffocation n=41	Blunt Force Trauma n=19	Drowning n=18	Poisoning n=117	Drowning n=330 (11%)
5	Other Injury n=2	Exposure n=10	Fall Crush n=24	Fall/Crush n=16	Blunt Force Trauma n=15	Blunt Force Trauma n=36	Blunt Force Trauma n=254 (9%)

Years of Potential Life Lost

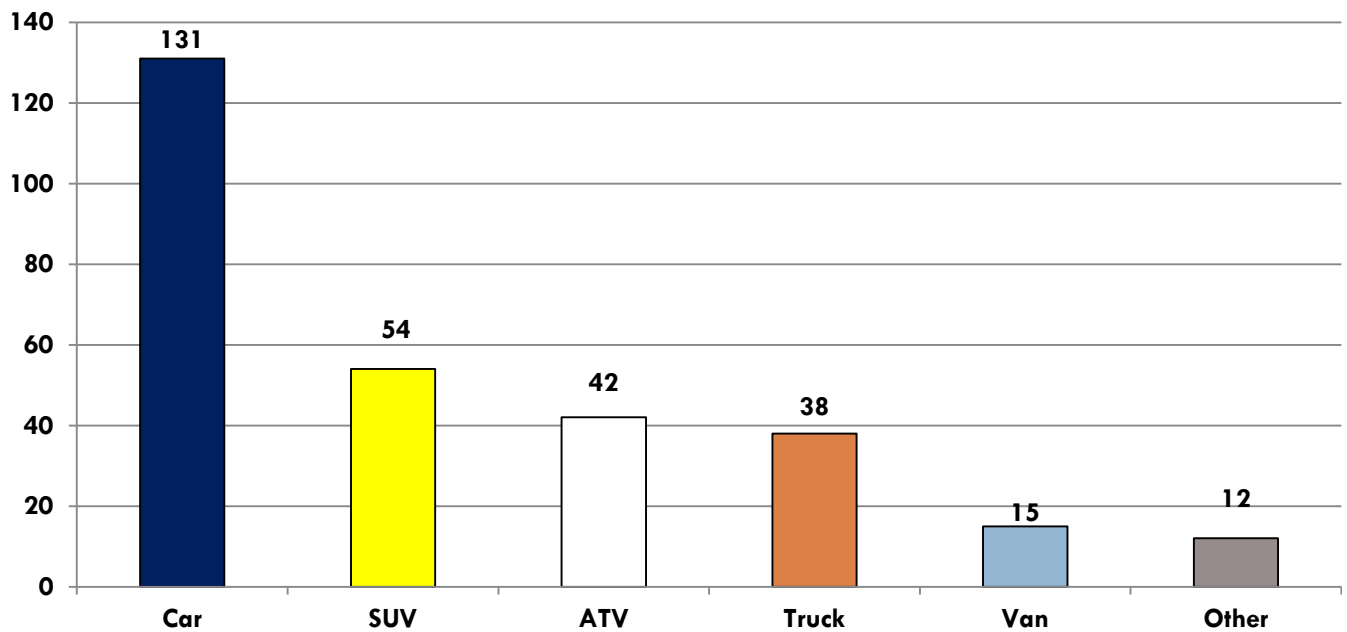
The concept of years of potential life lost estimates the average time a person would have lived had they not died prematurely. The impact that motor vehicle crashes have on communities is immense, especially when taking into consideration what the child could have contributed to their family, friends 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. From 2006-2016, 926 children died in Arizona from motor vehicle crashes and other transportation deaths. Excluding transportation deaths due to trains, planes, and watercrafts, 900 children died prematurely as a result of motor vehicle crashes on roads or off-road and this equates to **49,330 years of potential life lost**.

DEMOGRAPHICS FOR MOTOR VEHICLE CRASH (MVC) DEATHS CAUSED BY DRIVERS UNDER THE AGE OF 18 BETWEEN, IN ARIZONA, FROM 2006-2016.

Type of vehicle involved in the motor vehicle crash

Deaths in this category include only those in which drivers under the age of 18 either died or caused the death of another child while operating a motor vehicle like car, van, truck, motorcycle, and bicycle, on established roadways or All-Terrain Vehicle (ATV) on off-roads. **32%** of the children that died in motor vehicle crashes were due to drivers under the age of 18. Cars were the most used vehicles involved in child deaths. Figure 1 shows the type of vehicle involved in child deaths.

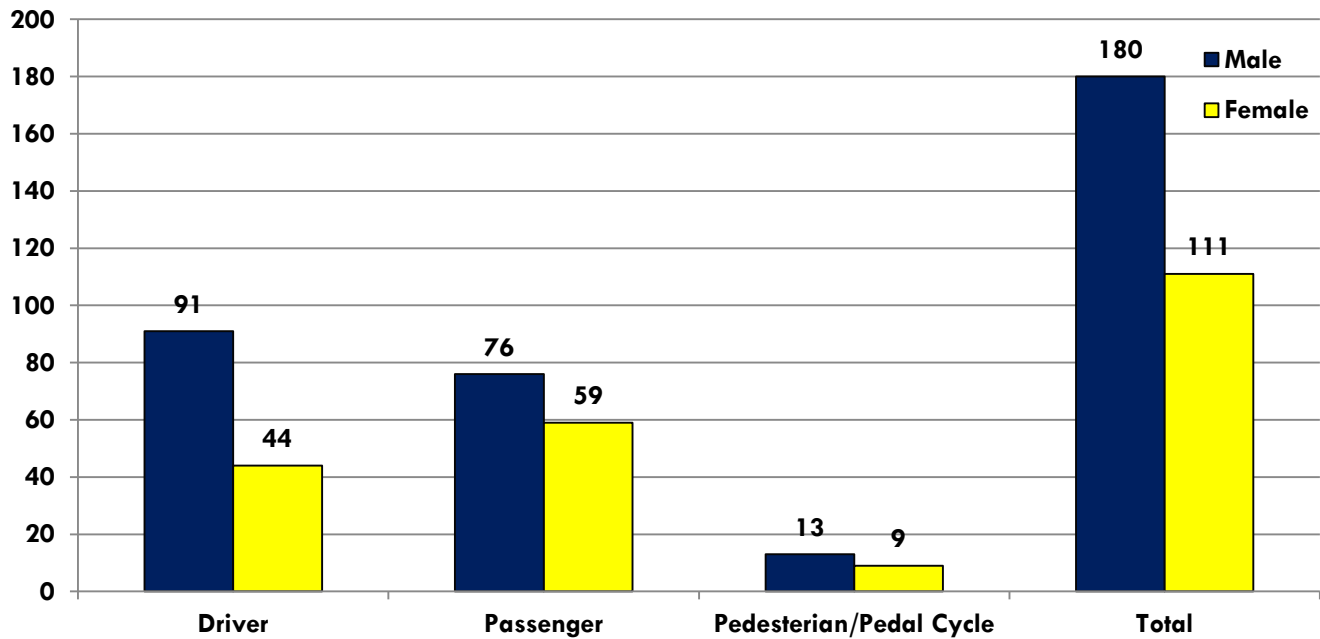
FIGURE 1. VEHICLE INVOLVED IN CHILD DEATHS FOR MVC DUE TO DRIVERS <18 YRS, IN ARIZONA, FROM 2006-2016



Age, sex, and race/ethnicity of child death

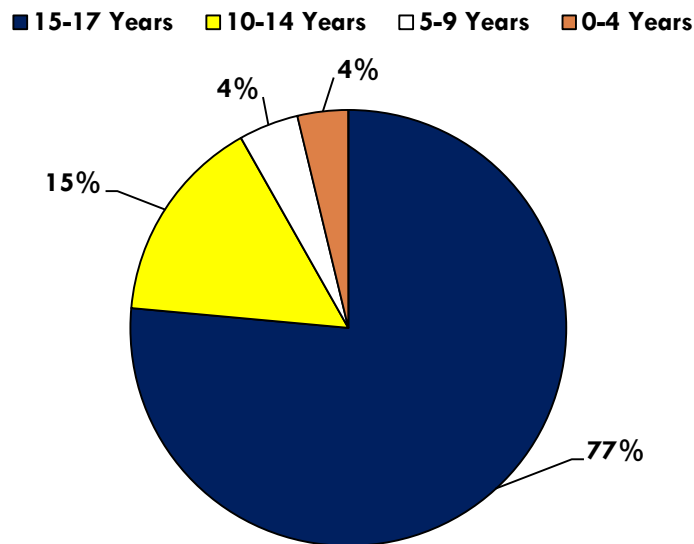
During 2006-2016, age and sex of child deaths due to drivers under the age of 18 varied considerably. Males accounted for 6% of child deaths that occurred from motor vehicle accidents compared to 38% for females. Males were 2 times more likely to be the driver involved in the motor vehicle accident than females. Figure 2 shows the sex of the child killed in a MVC.

FIGURE 2. SEX OF CHILD DEATH INVOLVED IN MVC DUE TO DRIVERS <18 YRS, IN ARIZONA, FROM 2006-2016



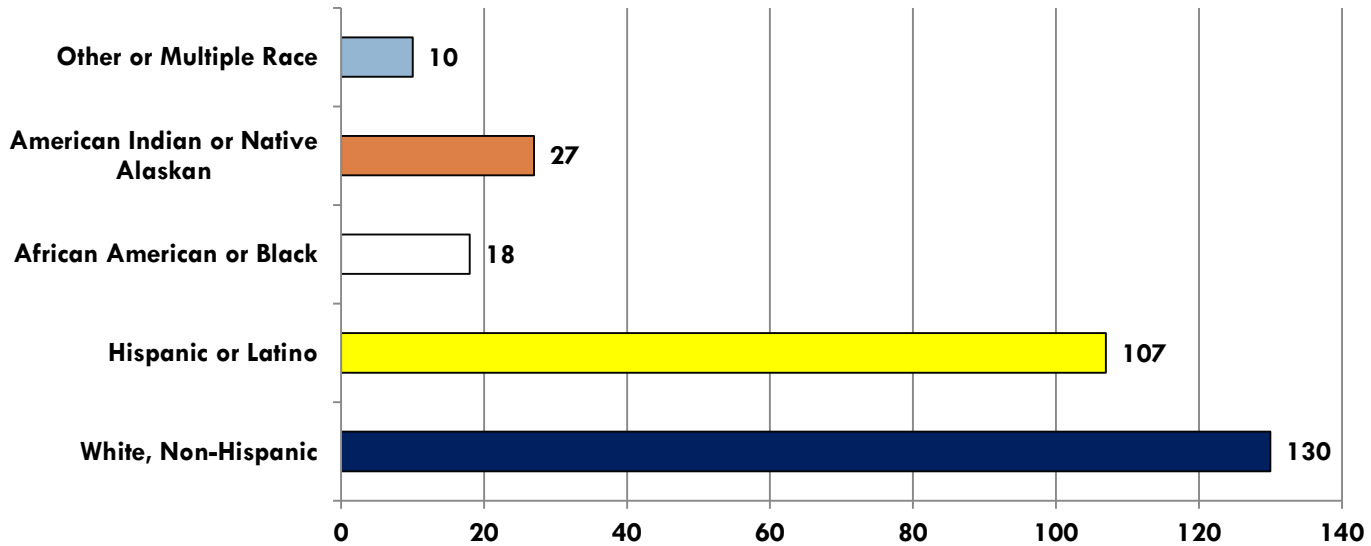
Children 15 through 17 years of age comprised 77% of motor vehicle child fatalities that occurred in Arizona. Within this age group 51% were identified as the driver in the motor vehicle accident. Figure 3 shows the age of the child killed in the MVC.

FIGURE 3. AGE OF CHILD DEATH INVOLVED IN MVC DUE TO DRIVERS <18 YRS, IN ARIZONA, FROM 2006-2016



Race/ethnicity information regarding motor vehicle crashes is similar to what has been observed in all child deaths. White non-Hispanic children made up 44% of children deaths involved in MVC due to drivers under the age of 18. Hispanic children accounted for another 37% of MVC deaths.

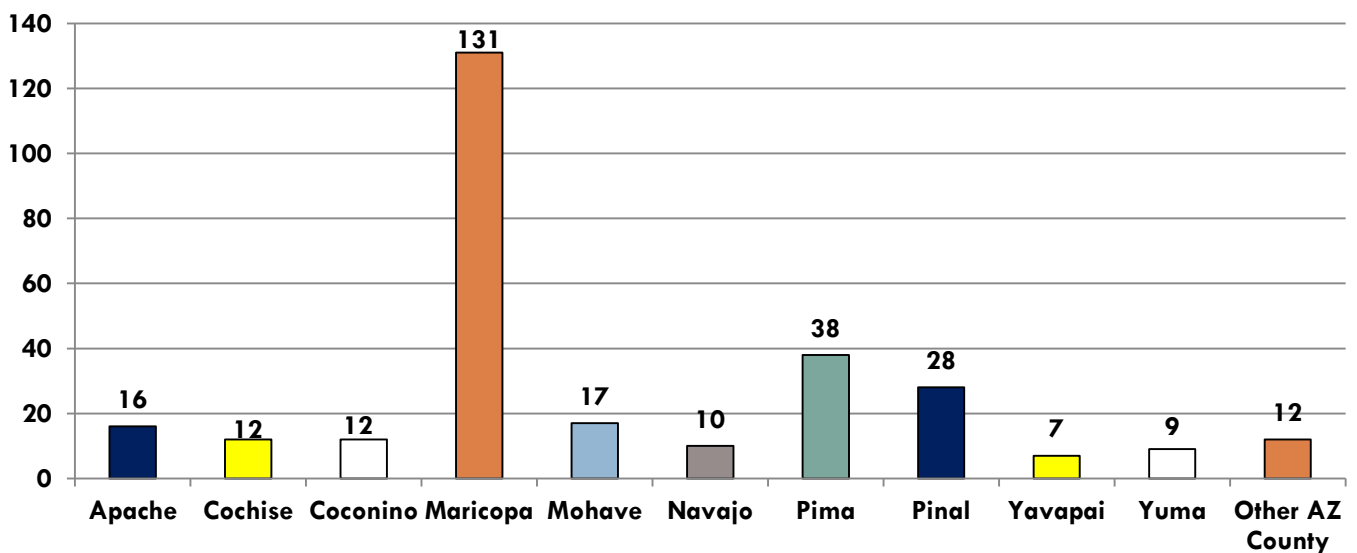
FIGURE 4. RACE/ETHNICITY OF CHILD DEATH INVOLVED IN MVC DUE TO DRIVERS <18 YRS, IN ARIZONA, FROM 2006-2016



County of residence for MVC deaths involving children

Forty-four percent of children involved in MVC deaths due to drivers under the age 18 years were residents of Maricopa County.

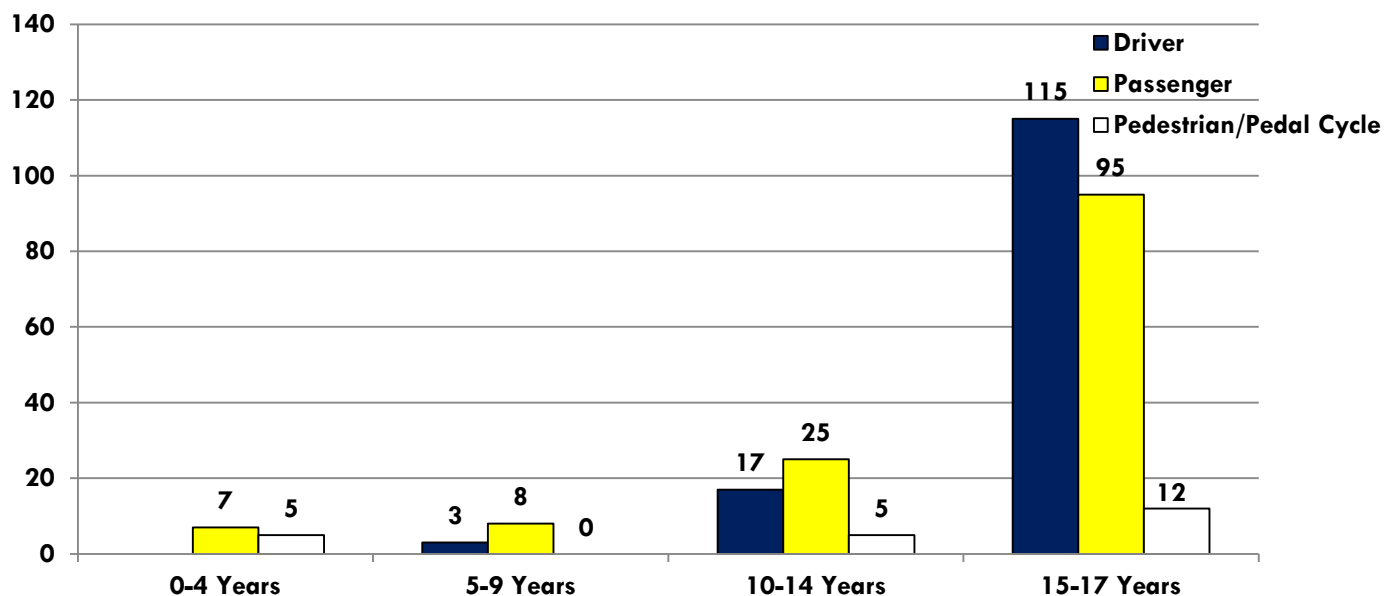
FIGURE 5. RESIDENT COUNTY OF CHILD DEATH INVOLVED IN MVC DUE TO DRIVERS <18 YRS, IN ARIZONA, FROM 2006-2016



Location of child during fatal MVC

Majority of child deaths occurred in children 15 through 17 years of age. In this age group, 51% of child deaths occurred in the driver seat. In addition to inexperience driving, children 10 through 14 years of age also accounted for 36% of child deaths in their age group. Children 5 through 14 were more likely to experience MVC fatalities as passenger than pedestrians.

FIGURE 6. CHILD LOCATION OF CHILD DEATH INVOLVED IN MVC DUE TO DRIVERS <18 YRS, IN ARIZONA, FROM 2006-2016



Risk Factors Contributing to MVC Child Death among Drivers <18 Years of Age

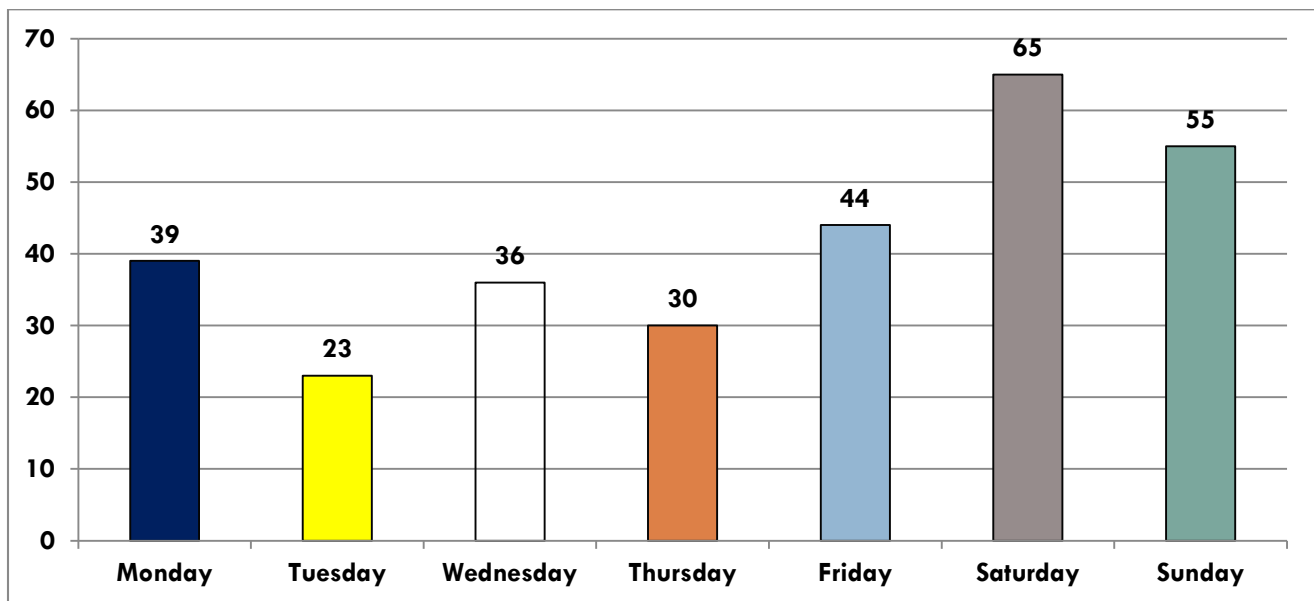
Compared to MVC deaths among all drivers when there was a child death, teen drivers were more likely to engage in risky behavior. These risk factors placed them at much higher risk of being killed in a MVC than more experienced drivers. Improper/Non-Use of restraints contributed to 56% of MVC deaths. Speeding was a factor in 50% and impairment due to alcohol or drugs was a factor in 32% of deaths. Lack of helmet use was identified in 54% of deaths involving ATV, motorcycles, powered scooters, and bicycles combined.

TABLE 2. MOST COMMON PREVENTABLE FOR CHILD DEATH INVOLVED IN MVC DUE TO DRIVERS < 18 YRS, IN ARIZONA, FROM 2006-2016

Preventable Factor*	Number	Percent
Improper/Non-Use of Restraints	163	56%
Speeding	146	50%
Driver Was Impaired	92	32%
Driver Distraction	56	19%
Helmet Not Used (ATV, Motorcycle, Bicycle)	28	54%
*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 7 shows the number of child deaths where a teen was driving by day of the week.

FIGURE 7. DAY OF THE WEEK OF CHILD DEATH INVOLVED IN MVC DUE TO DRIVES < 18 YRS, IN ARIZONA, FROM 2006-2016



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 child death involved in MVC due to drivers under the age of 18

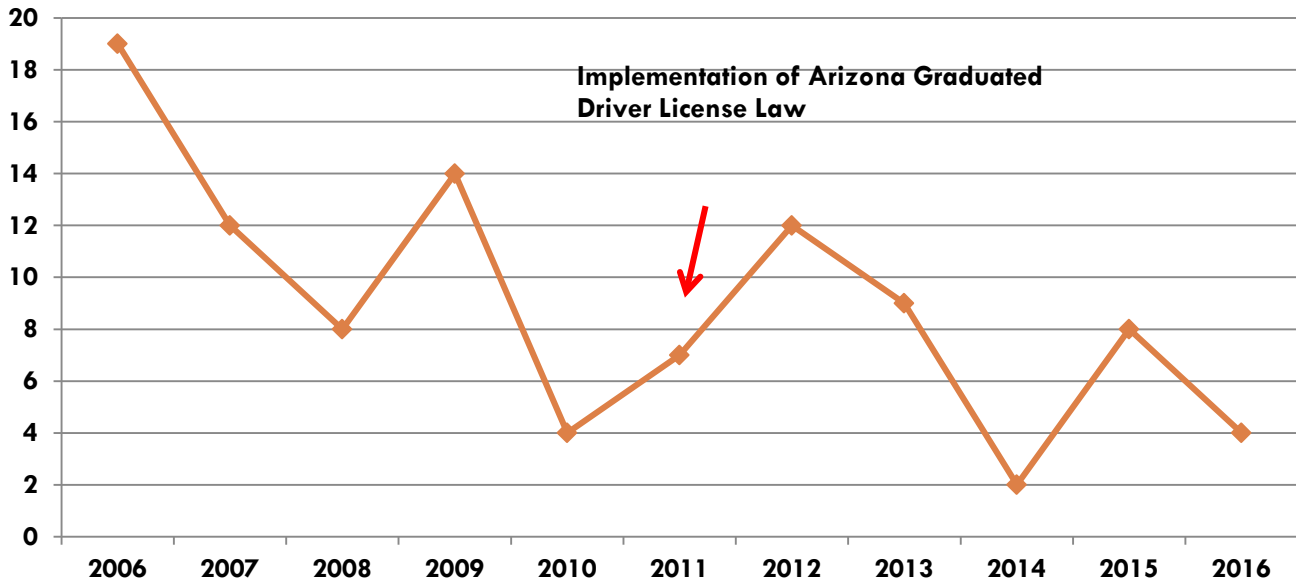
License Status	Number	Percent
No License	81	34%
Instruction Permit	5	2%
Graduated Driver's License	65	27%
Unknown/Other	25	10%
Full, Valid License	54	23%
License Was Suspended	8	3%

* ATV and other (scooter, forklift, etc.) not included

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 8 shows the decrease of teen driver who died in MVC beginning in 2006 trending to 2016.

**FIGURE 8. IMPLEMENTATION OF ARIZONA GDL AND
NUMBER OF TEEN DRIVERS WHOM DIED IN MVC, IN ARIZONA, FROM 2006-2016**



*ATV and other (scooter, forklift, etc.) drivers not included

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>