



Mississippi Kids Count: Vehicular Safety in Mississippi

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I. Introduction

Seventeen percent of the fatal injuries to children and youth on U.S. farms from 1995 to 2000 involved motor vehicles, including all-terrain vehicles (ATVs).¹ The American Academy of Pediatrics recommends that children not drive tractors and ATVs at all, since children do not have the coordination, reflexes, and good judgment needed to avoid crashes and other accidents.² Many of these vehicles present especially high risks of injury because they move at high speeds and have no protective covering for the rider. Roll-overs are a common cause of injury and death, especially on slopes.³

ATVs are particularly dangerous because they roll over easily, often landing on the rider. The three-wheel models are especially prone to roll-overs.⁴ ATVs are fairly unstable because they have a high center of gravity, poor suspension systems, no rear-wheel differential, and the ability to reach speeds of 30-50 mph.⁵ Adding passengers increases the danger: ATVs are made for one person, and additional passengers make them less stable and harder to control.⁶ Their weight—up to 800 lbs.—makes it difficult for people to escape from under them if they do overturn,⁷ and this hazard is especially problematic for children. Other injuries occur when the driver loses control, riders are thrown off, or the ATV collides with a fixed object.⁸ Injuries are especially likely when the rider is inexperienced, drives too quickly, and/or does not wear a helmet.⁹

About 40,000 children under 16 nationwide end up in the emergency room each year due to ATV-related injuries.¹⁰ According to the Marshfield Clinic in Wisconsin, “Children account for more than one-third of ATV-related injuries and 28% of ATV-related deaths.”¹¹ Many of these deaths are due to head injuries.¹²

Head injuries are also the cause of about 55% of bicycle fatalities for youth aged 19 and under.¹³ About 80% of bicycle deaths were due to collisions with motor vehicles, and 55.7% of these motor vehicle

¹ National Children’s Center for Rural and Agricultural Health and Safety. *2011 Fact Sheet: Childhood Agricultural Injuries*. http://www.marshfieldclinic.org/proxy/MCRF-Centers-NFMC-NCCRAHS-ChildAgInjuryFactSheet_Jan-2011.1.pdf (last visited Mar. 5, 2011).

² American Academy of Pediatrics, *Need for Speed: Motorized Vehicle Safety for Children*, Healthy Children (Jun. 6, 2010), <http://www.healthychildren.org/English/safety-prevention/on-the-go/pages/Need-For-Speed-Motorized-Vehicle-Safety-for-Children.aspx>.

³ *Id.*

⁴ *Id.*

⁵ American Academy of Pediatrics. *All-Terrain Vehicle Injury Prevention: Two-, Three-, and Four-Wheeled Unlicensed Motor Vehicles*, 105 *Pediatrics* 1352 (2000, policy reaffirmed May 1, 2007), abstract available at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;105/6/1352>.

⁶ Marshfield Clinic, “*I Didn’t Know*” Campaign Educates Parents About ATV Risks for Children, <http://www.marshfieldclinic.org/patients/?page=newsreleases&id=4303> (last visited Mar. 4, 2011).

⁷ *Id.*

⁸ Amer. Acad. Of Pediatrics, *supra* note 5.

⁹ *Id.*

¹⁰ Marshfield Clinic, *supra* note 6.

¹¹ *Id.*

¹² American Acad. Of Pediatrics, *supra* note 2.

¹³ Children’s Safety Network, *Promoting Bicycle Safety for Children: Strategies and Tools for Community Programs*, (Feb. 2011), http://www.childrensafetynetwork.org/publications_resources/PDF/traffic/CSNBikeSafety_brochure.pdf.

collision fatalities were due to head injuries.¹⁴ The best way to prevent these injuries is to wear a properly secured helmet, which reduces the risk of head and brain injury by 85-88%.¹⁵ The Children's Safety Network suggests helmet give-away programs or subsidies to encourage children to wear helmets, especially in low-income communities.¹⁶ It also suggests that parents wear helmets when riding bicycles because children are more likely to do so if their parents model safe behavior; visibility aids like reflectors or lights are also recommended.¹⁷

Bicycle fairs or skills training can also help train children on how to ride safely and educate them about the relevant laws.¹⁸ Bicycle injuries to children come with a heavy price aside from the inherent problem of the injuries themselves: the average annual cost of non-fatal bicycle injuries to children is about \$4.7 billion.¹⁹ These injuries are quite frequent, as 50 percent of all non-fatal bicycle injuries in 2008 affected riders aged five to 20.²⁰ Therefore, taking steps to increase the safety of children riding bicycles can have a significant human and financial impact.

The third type of vehicular hazard this paper will address involves farm equipment. Forty one percent of fatal accidents on farms to children under 15 involve tractors.²¹ Most tractor-related deaths are due to overturns, while others occur when children are run over, usually after falling off a moving tractor or starting the tractor in gear while standing on the ground.²² Keeping children off tractors as much as possible and away from work areas is the best way to prevent them from being run over. About 80% of children who live on farms ride on tractors with other family members,²³ but many experts recommend that they not ride on tractors at all.²⁴ Tractor overturn injuries are best prevented by installing seat belts and roll bars or rollover protective structures (ROPS), which prevent injury in 99% of cases.²⁵ Although manufacturers began installing these devices on all tractors over 20 horsepower in 1986, the continued use of older or off-market tractors means about half of the tractors used today on U.S. farms still do not have roll bars.²⁶ Installing them would cost \$1000 or more per tractor but would save about 100 lives per year—a comparable cost-benefit ratio to automobile air bags.²⁷

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ Nat'l Agricultural Tractor Safety Initiative, *Prevention*, <http://depts.washington.edu/trsafety/prevention.php> (last visited Mar. 6, 2011).

²² *Id.*

²³ Nat'l Institute for Occupational Safety & Health Agricultural Safety and Health Centers, *Nat'l Agricultural Tractor Safety Initiative*, p. 4, (Jun. 2004), http://depts.washington.edu/trsafety/files/Tractor_Initiative.pdf.

²⁴ *See, e.g.*, Amer. Academy of Pediatrics, *supra* note 2; Kubota Tractor USA, *Ten Commandments of Tractor Safety*, <http://www.kubota.com/f/safety/ten.cfm#Children>.

²⁵ Nat'l Agricultural Tractor Safety Initiative, *supra* note 21.

²⁶ *Id.*

²⁷ NIOSH, *supra* note 23 at 3.

II. The Current State of Vehicular Safety in Mississippi

All-Terrain Vehicles

Between 1982 and 2006, 260 Mississippians of all ages died in ATV accidents, 40% (105) of whom were younger than 16.²⁸ In 2007, four out of five children who died on ATVs were not wearing helmets at the time of the accident.²⁹ In 2008 and 2009, the non-fatal injury rate for children under the age of 16 on ATVs was nearly double the rate of injury for people over the age of 16.³⁰ The risk of injury or death is particularly high for rural white male children.³¹ As of September 2010, Mississippi is 13th in the nation in *number* (not rate) of ATV deaths, making Mississippians 3.5 times more likely than the average American to die in an ATV-related accident.³² ATV-related deaths increased five-fold in the state between 2000 and 2009.³³

Mississippi is one of five states with no general ATV safety legislation, although Mississippi law does limit ATV use in designated areas of state parks.³⁴ On average, states without ATV legislation have a death rate about two times higher than those with safety legislation.³⁵

Risk factors for ATV injuries include lack of helmet use, operation by children less than 16 years old, carriage of passengers on vehicles not designed to carry extra passengers, excessive speed, use on paved roads, use of drugs or alcohol, use after dark, and operator inexperience.³⁶ Helmet use alone has been shown to reduce the risk of death by 42%.³⁷

The legislature has become aware of problems concerning ATVs and recently has been attempting to address them. In the 2010 legislative session, 14 separate ATV bills were introduced into the Mississippi House or Senate, ranging in content from registration of ATVs to prevent theft, to laws prohibiting the use of ATVs on public highways and streets, to laws requiring helmets and safety certification courses.³⁸ All but two of these bills died in committee.³⁹ House Bill 504, which proposed amending the Motor Vehicle Commission Law to include ATVs and utility-type vehicles (UTVs) passed the House but died in the Senate Highways and Transportation Committee.⁴⁰ That bill would have brought ATV dealers under the authority of the Motor Vehicle Commission, which regulates and controls the sale and distribution of

²⁸ *ATV Safety: Miss.*, U.S. CONSUMER PRODUCT SAFETY COMMISSION (2011), <http://www.atvsafety.gov/state/mississippi.html>.

²⁹ *ATV-related Death and Injury*, MISS. STATE DEP'T OF HEALTH, http://msdh.ms.gov/msdhsite/_static/resources/3777.pdf (last visited Mar. 13, 2011).

³⁰ *Id.*; see also *All Terrain Vehicles in Mississippi: Policy Options for Saving Lives*, CTR. FOR MISS. HEALTH POLICY (Sept. 2010), <http://www.mshealthpolicy.com/documents/ATVIssueBriefUpdateEndnotesSept2010.pdf>.

³¹ *All Terrain Vehicles in Mississippi*, *supra* note 30.

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Report of All Measures*, MISS. LEGISLATURE (May 28 2011, 3:10 PM), http://billstatus.ls.state.ms.us/2010/pdf/all_measures/allmsrs.xml.

³⁹ *Id.*

⁴⁰ *House Bill 204*, MISS. LEGISLATURE (Mar. 15 2010, 12:42 PM), <http://billstatus.ls.state.ms.us/2010/pdf/history/HB/HB0504.xml>.

vehicles in the state.⁴¹ Senate Bill 2215, which would have required all ATV drivers to have a driver's license or to pass a special course and would have required all drivers under 16 on public property to wear a crash helmet, passed the Senate unanimously but died in the House Transportation Committee.⁴² Thus, no bills about ATVs became law in 2010.

During the 2011 Mississippi Legislative Regular Session, 17 bills concerning ATVs were introduced; all but one died either in committee or on the chamber floor.⁴³ Senate Bill 2196, signed into law March 30, 2011, requires anyone driving an ATV on public property to have a driver's license or a certificate showing completion of a safety course, which will be available through a course of the Cooperative Extension Service using 4-H curriculum.⁴⁴ The law also requires all children under 16 operating or riding ATVs on public property to wear a helmet, and violations of these provisions are punishable by a \$50 fine.⁴⁵ This new law obviously does not address all the safety issues associated with children's use of ATVs, especially because it applies only to public property, but it serves as an important starting point for state regulation of the vehicles.

Bicycles

While bicycle injury statistics for Mississippi are less widely available than ATV statistics, various Mississippi policy actors are concerned about bicycle safety for children. The Mississippi Driver's Manual contains the language, "[w]atch carefully for children riding bicycles. Most have not been taught that the bicycle is a vehicle and must be ridden in a lawful manner."⁴⁶ One particular area of concern is the use of helmets. In 2009, 94.4% of Mississippi's high school students reported they "never or rarely" wore a helmet when riding a bicycle.⁴⁷ To date helmet laws have been left to municipalities, and only three Mississippi cities (Hernando, Ridgeland, and Starkville) have bicycle helmet laws, all of which were passed in 2010.⁴⁸

The Mississippi State Department of Health conducts pedestrian and bicycle safety activities throughout the state, including classroom and community presentations and helmet distribution.⁴⁹ The Department of Health also administers the "Safe Routes to School" program, the stated goals of which are to

⁴¹ See MISS. CODE ANN. §63-17-69.

⁴² *Senate Bill 2215*, MISS. LEGISLATURE (Mar. 15 2010, 1:12 PM), <http://billstatus.ls.state.ms.us/2010/pdf/history/SB/SB2215.xml>.

⁴³ *Report of All Measures*, MISS. LEGISLATURE (Mar. 5, 2011, 8:34 AM), http://billstatus.ls.state.ms.us/2011/pdf/all_measures/allmsrs.xml.

⁴⁴ *Senate Bill 2196*, MISS. LEGISLATURE (May 28 2011, 3:19 PM), <http://billstatus.ls.state.ms.us/2011/pdf/history/SB/SB2196.xml>.

⁴⁵ *Id.*

⁴⁶ *Mississippi Driver's Manual*, DEP'T OF PUB. SAFETY, Aug. 2010, at 31, available at [http://www.dps.state.ms.us/dps/dps.nsf/webpageedit/LicenseManuals_DriversLicenseManuals_DL-manualPDF/\\$FILE/MHP%20Driver%20Manual%20Sm%20WEB.pdf?OpenElement](http://www.dps.state.ms.us/dps/dps.nsf/webpageedit/LicenseManuals_DriversLicenseManuals_DL-manualPDF/$FILE/MHP%20Driver%20Manual%20Sm%20WEB.pdf?OpenElement).

⁴⁷ *Youth Risk Behavior Surveillance*, DEP'T OF HEALTH AND HUMAN SERVICES, CTRS. FOR DISEASE CONTROL AND PREVENTION, June 4, 2010, at 41, available at <http://www.cdc.gov/mmwr/pdf/ss/ss5905.pdf>.

⁴⁸ *Helmet Laws for Bicycle Riders*, BICYCLE SAFETY HEALTH INST., <http://www.helmets.org/mandator.htm> (last updated Jan. 5, 2011).

⁴⁹ *Injury and Violence Prevention*, MISS. STATE DEP'T OF HEALTH, <http://msdh.ms.gov/msdhsite/static/43,0,98.html> (last visited Mar. 5, 2011).

encourage children to bike or walk to school as well as foster community awareness about safe routes for children, bicycles, and pedestrian safety.⁵⁰

In 2010 the first statewide bicycle safety law was passed, the John Paul Frerer Bicycle Safety Act.⁵¹ The Act requires drivers of motor vehicles to maintain three feet of distance between the vehicle and the bicycle when passing a bicyclist on any public road.⁵² It also makes it unlawful for a person to “harass, taunt, or maliciously throw an object” at a bicyclist.⁵³ The Act was named after John Paul Frerer, an eighteen year old who died in 2009 while biking on Highway 6 near Tupelo.⁵⁴ While it at least partially addresses the issue of motor vehicle collisions, the Act requires nothing of bicyclists themselves. Dealing with motor vehicles’ interactions with bicycles is important, but combining those efforts with a requirement of helmet use would be a much more comprehensive solution to the major safety issues associated with bicycles nationwide.⁵⁵

Tractors and Farm Equipment

Although children often work on family farms in Mississippi, farm equipment deaths are relatively rare: only 10 children under the age of 19 died in accidents involving tractors from 1990-2000.⁵⁶ However, Mississippi has no licensing requirement or minimum age to drive farm equipment on public roads (excluding interstate highways), provided the farm equipment is traveling during daylight hours within fifty miles of its point of origin.⁵⁷ On average, Mississippi has 125 collisions between motor vehicles and farm machinery each year, with most collisions resulting in property damage and/or injury to the driver of the motor vehicle and only about one to two percent resulting in death to the operator of the farm equipment, likely because of disparities in the vehicles’ weights.⁵⁸ The Mississippi Farm Bureau recommends that farm safety include keeping children from riding along on tractors driven by adults, and not allowing children to ride in the back of farm trucks.⁵⁹

III. Other States’ Efforts to Increase Vehicular Safety

All-Terrain Vehicles

⁵⁰ *Safe Routes to School*, MISS. STATE DEP’T OF HEALTH, http://msdh.ms.gov/msdhsite/_static/43,0,98,442.html (last visited Mar. 5, 2011).

⁵¹ MISS. CODE ANN. §63-3-1309 (2010).

⁵² *Id.*

⁵³ MISS. CODE ANN. §63-3-1313 (2010).

⁵⁴ Kalisha Whitman, *John Paul Frerer Bicycle Safety Act*, WTVA NEWS (Jan. 26, 2010, 4:44 PM), http://www.wtva.com/news/local/story/John-Paul-Frerer-Bicycle-Safety-Act/dp7xV2-glkiOjzOASk_Qw.csp.

⁵⁵ See Children’s Safety Network, *supra* note 13.

⁵⁶ *1990-2000 Mississippi Tractor Deaths by Age*, MISS. AGRIC. AND FORESTRY EXPERIMENT STATION, <http://msucares.com/safety/death/images/image001.gif> (last visited Mar. 5, 2011).

⁵⁷ *Mississippi Driver’s Manual*, *supra* note 46, at 10, 68.

⁵⁸ Bonnie Coblenz, *Farm Machines, Cars Share Fall Highways*, MISS. STATE U. AG. COMM., Oct. 2, 2008, at 30, available at <http://msucares.com/news/print/commnews/cn08/081002.html>.

⁵⁹ *Agricultural Safety Awareness Week is March 7-13*, MISS. FARM BUREAU FED’N, <http://www.msfb.com/news/news%20releases/100226%20ag%20safety%20awareness%20week.aspx> (last visited Mar. 5, 2011).

One study has found that laws requiring ATV riders to wear helmets were not enough to protect children riders from serious head injury or even death and so recommended the extreme step of prohibiting anyone under the age of 16 from driving or riding an ATV.⁶⁰ That would undoubtedly be an effective response to the problem, but many states have been able to improve safety and keep their childhood death rates from ATV-related injuries far lower than Mississippi's without taking such an extreme step. Because an outright ban might be politically difficult in a state like Mississippi, it is instructive to look at these more nuanced approaches that have succeeded elsewhere. Effective legislation has included restrictions on where ATVs can be used, safety requirements for the vehicles themselves, adult supervision requirements, and other approaches to regulate ATV use by youths.

1. Prohibit ATV use on public roads and highways

Many states have lowered ATV-related child deaths by prohibiting their use on public roads and highways. In fact, this is one of the most common solutions that other states have adopted. In Arkansas, regardless of the operator's age, ATVs may only be driven on public roads or highways in order to get from one field to another.⁶¹ Furthermore, when crossing, the operator must come to a complete stop and yield to traffic.⁶² In combination with other safety laws (discussed below), this policy has contributed to Arkansas' relatively low rate of just 63 ATV-related deaths of children under 16 between 1982 and 2006⁶³ as compared with Mississippi's 105 over the same period,⁶⁴ even though the states have roughly equal populations.⁶⁵

Tennessee prohibits ATVs on public roads and highways except to cross⁶⁶ and despite a population over twice the size of Mississippi,⁶⁷ it had just 98 ATV-related deaths of children under 16 between 1982 and 2006.⁶⁸ Similar laws have passed in states such as North Carolina,⁶⁹ Maine,⁷⁰ Oklahoma,⁷¹ and Texas.⁷² All of these states have large rural populations, like Mississippi, but have seen proportionally far fewer ATV-related childhood deaths.⁷³

2. Require parental supervision of children operating ATVs

⁶⁰ Heather T. Keenan & Susan L. Bratton, *All-Terrain Vehicle Legislation for Children: A Comparison of a State With and a State Without a Helmet Law*, 113.4 PEDIATRICS e330 (2004), available at <http://pediatrics.aappublications.org/cgi/content/full/113/4/e330>.

⁶¹ ARK. CODE ANN. §27-21-106 (2010).

⁶² *Id.*

⁶³ *ATV Safety: Ark.*, U.S. CONSUMER PRODUCT SAFETY COMMISSION (2011), <http://www.atvsafety.gov/state/arkansas.html>.

⁶⁴ *ATV Safety: Miss.*, *supra* note 28.

⁶⁵ *Resident Population Data*, U.S. CENSUS 2010, <http://2010.census.gov/2010census/data/apportionment-pop-text.php>.

⁶⁶ TENN. CODE ANN. §55-1-105 (2011).

⁶⁷ U.S. Census 2010, *supra* note 65.

⁶⁸ *ATV Safety: Tenn.*, U.S. CONSUMER PRODUCT SAFETY COMMISSION (2011), <http://www.atvsafety.gov/state/tennessee.html>.

⁶⁹ N.C. GEN. STAT. §20-171.19 (2010).

⁷⁰ 12 ME. REV. STAT. §13157-A (2011).

⁷¹ OKLA. STAT. §47-1151(E) (2011).

⁷² 37. 1 TEX. ADMIN. CODE §21.8 (2009).

⁷³ *ATV Safety: State ATV Info.*, U.S. CONSUMER PRODUCT SAFETY COMMISSION (2011), <http://www.atvsafety.gov/state/state.html>.

Another common state action that has reduced childhood deaths involving ATVs is to require that children under a certain age be supervised by an adult or a licensed driver. In Arkansas, children under 12 must be supervised by someone over 18.⁷⁴ In Texas, anyone under 14 operating an ATV must be accompanied by an adult.⁷⁵ In Georgia, North Carolina, and Maine, the age under which supervision is required is 16.⁷⁶ Many of these laws have exceptions for children operating ATVs on their parents' land.⁷⁷

3. Require a headlight and taillight for ATVs operated at night

In North Carolina, anyone (regardless of age) operating an ATV must have a lighted headlight and taillight from half an hour after sunset until half an hour before sunrise.⁷⁸ Between 1982 and 2006, just 98 children under 16 have died in ATV-related accidents in North Carolina⁷⁹ compared with Mississippi's 105, despite the fact that North Carolina has over three times the population of Mississippi.⁸⁰ Texas and Arkansas, two more of Mississippi's southern neighbors, have the same headlight and taillight law as North Carolina.⁸¹ Texas has had just 131 deaths of children under 16 over the same period, which again represents a far lower per capita rate than Mississippi's 105.⁸²

4. Enforce the laws through reasonable penalties

A key aspect of ATV safety laws is for a state to show that it takes the matter seriously by imposing penalties on violators. States vary in their enforcement, but violations generally result in small fines. In Arkansas, the fine can be as little as \$10 or as much as \$50.⁸³ Oklahoma has a similar range of \$10 to \$100.⁸⁴ In Georgia, the fine for violation can be more severe—up to \$500.⁸⁵ These states all lack a mandatory minimum fine and allow a range of possible penalties, giving law enforcement officers the ability to tailor the punishment to the circumstances.

Some states also authorize imprisonment for violators: up to 30 days in Arkansas⁸⁶ or even up to six months in Georgia.⁸⁷ Generally, states do not specify whether the penalty may or must be imposed on the child or his or her parent(s).

5. Allow exemptions for non-recreational use

⁷⁴ ARK. CODE ANN. §27-21-106.

⁷⁵ 37. 1. TEX. ADMIN. CODE §21.8 (2009).

⁷⁶ *Ga. ATV Rules & Regulations*, RACEWAY ATV (Dec. 23, 2005), <http://www.racewayatv.com/atv-blog/2005/12/georgia-atv-rules-and-regulations.html>; N.C. GEN. STAT. §20-171.19; ME. REV. STAT. 12. 220, §13157-A.

⁷⁷ *See, e.g.* ME. REV. STAT. 12. 220, §13157-A (2011).

⁷⁸ N.C. GEN. STAT. §20-171.19 (2010).

⁷⁹ *ATV Safety: NC*, U.S. CONSUMER PRODUCT SAFETY COMMISSION (2011), <http://www.atvsafety.gov/state/northcarolina.html>.

⁸⁰ *ATV Safety: Miss.*, *supra* note 28; U.S. Census 2010, *supra* note 65.

⁸¹ 37. 1. TEX. ADMIN. CODE §21.8 (2009); ARK. CODE ANN. §27-21-106 (2010).

⁸² *ATV Safety: Tex.*, U.S. CONSUMER PRODUCT SAFETY COMMISSION (2011), <http://www.atvsafety.gov/state/texas.html>; U.S. Census 2010, *supra* note 65.

⁸³ ARK. CODE ANN. §27-21-106 (2010).

⁸⁴ OKLA. STAT. 47-1151(E) (2011).

⁸⁵ *Raceway ATV*, *supra* note 76.

⁸⁶ ARK. CODE ANN. §27-21-106 (2010).

⁸⁷ *Raceway ATV*, *supra* note 76.

In an agrarian state such as Mississippi, some families may have a legitimate need to use ATVs for farming purposes. ATV safety laws can take account of this situation by exempting ATV operators who are not riding their ATVs for recreational purposes. Texas takes this approach by allowing ATV operators to drive on public roads and highways if they are using the vehicles for agricultural purposes.⁸⁸ North Carolina takes a broader approach and exempts operators from all ATV safety laws if using the vehicles for farming, hunting, or trapping.⁸⁹ Because children can still be injured or killed while using ATVs for non-recreational purposes, from a health and safety perspective it makes sense for Mississippi to follow a more narrowly-tailored scheme like that of Texas.

6. An example of a leading full scheme of ATV regulation

Along with its headlight and taillight requirements, North Carolina has several other ATV regulations that make it a leader in the field. As noted above, children under 16 are not allowed to operate ATVs at all without supervision by someone over 18. Even if supervised, they can only operate ATVs with (at most) 90 cubic centimeter engines—sometimes called “mini-ATVs.”⁹⁰ Regardless of age, North Carolina requires all ATV operators to wear helmets and eye protection.⁹¹ The state also prohibits any ATV use on public roads except to cross.⁹² Operators using ATVs for hunting, trapping, or farming are exempt from all these safety regulations.⁹³ As noted above, North Carolina had only 95 children killed in ATV-related accidents from 1982 to 2006—ten fewer than Mississippi despite a much larger population.⁹⁴

Bicycles

The most obvious and most common way to address the safety of children riding bicycles is to require them to wear helmets. Requiring children to wear helmets while riding bicycles is an extremely popular idea: a 2008 poll conducted by Gallup on behalf of the National Highway Traffic Safety Administration (NHTSA) showed that 90% of people over 16 supported such laws.⁹⁵ Such laws’ popularity is justified: they have proven to be very effective in the 38 states where at least some helmet laws exist at the state or local level, or both.⁹⁶ In addition to passing bicycle helmet laws, as mentioned above, helmet giveaways, helmet subsidies, or bicycle fairs and skills training are also good ways to encourage the use of bicycle helmets.⁹⁷

⁸⁸ 37. 1. TEX. ADMIN. CODE §21.8 (2009).

⁸⁹ N.C. GEN. STAT. §20-171.19 (2010).

⁹⁰ *ATV Safety: NC*, *supra* note 79.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*; *ATV Safety: Miss.*, *supra* note 28; U.S. Census 2010, *supra* note 65.

⁹⁵ *Nat’l Survey of Bicyclist and Pedestrian Attitudes and Behaviors, Vol. I: Summary Report*, U.S. DEPT. OF TRANSPORTATION NAT’L HIGHWAY TRAFFIC SAFETY ADMIN. (August 2008), <http://www.nhtsa.gov/DOT/NHTSA/Traffic%20Injury%20Control/Articles/Associated%20Files/810971.pdf>.

⁹⁶ *Helmet Laws for Bicycle Riders*, BICYCLE HELMET SAFETY INSTITUTE (Jan. 5, 2011), <http://www.bhsi.org/mandator.htm>.

⁹⁷ Children’s Safety Network, *Promoting Bicycle Safety for Children: Strategies and Tools for Community Programs*, (Feb. 2011), http://www.childrensafetynetwork.org/publications_resources/PDF/traffic/CSNBikeSafety_brochure.pdf.

New York saw remarkable results after it began requiring bicycle riders under age 14 to wear helmets. In 1990, before the law was passed, 464 children under 14 were hospitalized for traumatic brain injuries resulting from a bicycle accident.⁹⁸ In 1995, after the law was enacted, the number was just 209.⁹⁹ This law also seems to have had the benefit of lowering the hospitalization rate for traumatic brain injuries for riders over 14, although the decline was less dramatic.¹⁰⁰ New Jersey passed a similar law and saw the number of children under 14 who died as a result of bicycle accidents drop by 60%.¹⁰¹ In 1994, California passed a law requiring all riders under the age of 18 to wear a helmet.¹⁰² A subsequent study found that by the year 2000, the proportion of traumatic brain injuries in children subjected to the law had dropped by 18.2% compared with the period before the law was enacted.¹⁰³ These examples illustrate the effectiveness of statewide bicycle helmet legislation in increasing child bicycle safety.

There have been equally remarkable results in municipalities that have enacted their own local helmet laws. A study by the NHTSA found a 316% increase in helmet use in children aged 5-14 in Austin, Texas after that city passed a helmet law.¹⁰⁴ The same study also found that in Duvall County, Florida, the injury rate fell by 34% after passing a helmet law.¹⁰⁵

Although a study found that North Carolina experienced only small immediate effects after that state passed a helmet law,¹⁰⁶ these results are consistent with another study showing that helmet laws are much more effective in the long term than in the short term.¹⁰⁷ One possible explanation for this slow realization of benefits is that it can take time for citizens to become aware of a newly-passed law, and thus change their activities to conform to the law. This issue can be counteracted by promotional campaigns, such as one that took place in New York.¹⁰⁸ This campaign involved individual promotional efforts within New York communities following the passage of the state's first helmet laws in 1989.¹⁰⁹

One issue to consider when crafting a helmet law is what standards helmets must conform to. The Consumer Product Safety Commission (CPSC) issued a federal standard for all bicycle helmets sold after 1999; however, it does not cover helmets made for other purposes (such as skateboarding), nor does it cover helmets made before 1999.¹¹⁰ Other popular standards used in helmet laws are those of the

⁹⁸ *Id.*

⁹⁹ *Id.* It is important to recognize that as with all studies of helmet use, it is difficult to control for what is caused by the law and what is caused by other factors such as publicity, improvements in road pavement, and the number of miles driven by riders.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² CAL. VEH. CODE §21212 (2010).

¹⁰³ Brian Ho-Yin Lee, Joseph L. Schofer, and Frank S. Koppelman, *Bicycle Safety Helmet Legislation and Bicycle-Related Non-Fatal Injuries in California*, <http://www.enhancements.org/download/trb/trb2004/TRB2004-000874.pdf>.

¹⁰⁴ *Executive Summary: Profiles of the Six Jurisdictions*, U.S. DEPT. OF TRANSPORTATION NAT'L TRAFFIC SAFETY ADMIN., <http://www.nhtsa.gov/people/injury/pedbimot/bike/BikeHelmetUseLawsWeb/pages/1ExecSumm.htm>.

¹⁰⁵ *Id.*

¹⁰⁶ Libby Thomas et al., *Helmet Use in North Carolina Following a Statewide Bicycle Helmet Law*, UNIV. OF N.C. HIGHWAY SAFETY RESEARCH CTR. (Dec. 2002), <http://www.hsrc.unc.edu/pdf/2002/FinalReport.pdf>.

¹⁰⁷ Darren Grant & Steven M. Rutner, *The Effect of Bicycle Helmet Legislation on Bicycling Fatalities*, 23 J. Policy Analysis & Management 595 (2004).

¹⁰⁸ *Helmet Laws for Bicycle Riders*, *supra* note 96.

¹⁰⁹ *Id.*

¹¹⁰ *Safety Standard for Bicycle Helmets*, 16 CFR Part 1203, CONSUMER PRODUCT SAFETY COMMISSION.

American Society for Testing and Materials,¹¹¹ the American National Standards Institute,¹¹² and the Snell Memorial Foundation¹¹³. These competing standards can cause problems for lawmakers, but Louisiana has come up with a replicable solution. Its helmet law requires a CPSC-approved helmet if it was made after 1999, but allows the helmet to meet standards from the other agencies if it was made before then.¹¹⁴ Using broad language can also solve the confusion about which helmets satisfy a law's standards. For an example of this approach, the Bicycle Helmet Safety Institute recommends the language used in the 2010 ordinance passed by Hernando, Mississippi because it "covers all the bases and has up-to-date language on standards."¹¹⁵ As such, other Mississippi municipalities (as well as the state legislature) have an exemplary jurisdiction to look to within their own state.

Another issue for those putting together a helmet law is what the appropriate penalty should be. Many states and municipalities have adopted fines, enforceable against either the rider or the parent. The city of Vancouver, Washington allows a fine up to \$50 for violating the helmet law, which is to be issued to the parent if the child rider is under 11 years old.¹¹⁶ Austin, Texas imposes a \$20 fine for the first offense and a \$40 fine for subsequent offenses.¹¹⁷ In Oregon, the fine is \$25.¹¹⁸ Many, if not most, jurisdictions allow the fine to be waived if the violator can prove that he or she purchased a helmet within 30 days of receiving a ticket.¹¹⁹

Issuing a fine, however, can lead to problems of enforcement. One such problem is that many are uncomfortable with the image of troopers ticketing children. Another is that it might be practically problematic to enforce: it would be a logistical nightmare for the law enforcement officer to have to ticket the child, then put the bicycle in his or her trunk and drive the child home. On the other hand, it would reduce the law's educational value if officers gave tickets to helmet-less riders only to allow them to continue riding without a helmet. To solve this issue, some places take a different approach to enforcement. In the State of Maryland and the town of Oakwood, Ohio, for example, police officers have the authority to wave over a child riding a bicycle without a helmet, but may only issue a warning and distribute educational materials.¹²⁰ In New Mexico, the state partners with a non-profit organization called "Safe Kids" to help police officers maintain a few helmets in the trunks of their cruisers in order to distribute them to kids riding without helmets.¹²¹ This has the added benefits of providing a positive

¹¹¹ ASTM F2727 – 09 Standard Guide for Manufacturers for Labeling Headgear Products, AM. SOCIETY FOR TESTING AND MATERIALS (2009), <http://www.astm.org/Standards/F2727.htm>.

¹¹² ASTM F1447 – 06 Standard Specifications for Helmets Used in Recreational Bicycling or Roller Skating, AM. NAT'L STANDARDS INSTITUTE (2006), <http://webstore.ansi.org/RecordDetail.aspx?sku=ASTM+F1447-06>.

¹¹³ Snell Helmet Safety Standards, SNELL MEMORIAL FOUNDATION (2010), <http://www.smf.org/stds>.

¹¹⁴ How Should a Bicycle Helmet Law Deal With Standards, Bicycle Helmet Safety Institute (May 1, 2010), <http://www.bhsi.org/stds4law.htm>.

¹¹⁵ *Id.* The text of the ordinance itself is available at http://www.bhsi.org/law_hernando.pdf.

¹¹⁶ Vancouver, Safety Standard for Bicycle Helmets, CONSUMER PRODUCT SAFETY COMMISSION, 16 CFR Part 1203 (Feb. 25, 2008), available at http://www.bhsi.org/law_vancouver.pdf.

¹¹⁷ Bicycle Helmet Use Laws: Lessons Learned From Selected Sites, U.S. DEPT. OF TRANSPORTATION NAT'L TRAFFIC SAFETY ADMIN <http://www.nhtsa.gov/people/injury/pedbimot/bike/BikeHelmetUseLawsWeb/pages/>.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ *Id.*; *Helmet Laws for Bicycle Riders*, *supra* note 96.

¹²¹ John McPhee, *Child Helmet Safety Act—A New Law in N.M. on July 1st, 2007*, N.M. DEPT. OF HEALTH, <http://www.las-cruces.org/news/docs/HelmetSafetyAct.pdf>.

point of contact between the community and law enforcement, and not penalizing poor families who do not feel they can afford helmets. Mississippi could attempt to forge a similar partnership, as Safe Kids is already active in the state.¹²²

A final issue to consider when drafting a helmet law is which vehicles to cover. While some states only require helmets for bicycles, New Mexico takes a much broader approach. It requires helmets for minors riding bicycles, scooters, skateboards, and in-line skates.¹²³ The state made this policy choice on the theory that only requiring helmets for bicycles would be discriminatory, confusing, and difficult to enforce.¹²⁴ At the time it passed, the law was also the first to require helmets for tricycle riders.¹²⁵ Its reason for doing so was two-fold. First, it did so because the three-wheel design is inherently unstable, which is why the US outlawed the manufacture of three-wheel ATVs.¹²⁶ Second, it did so because 2-5 year olds (those most likely to ride tricycles) are also the most vulnerable to accident and injury.¹²⁷ Of course, the law has the additional benefit of establishing good habits early in children's lives so that continuing to wear helmets as they get older seems only natural. Such a comprehensive approach to self-propelled vehicles principally used by children could have a major impact on helmet use in Mississippi and thereby create a safer environment for the state's children.

Tractors and Farm Equipment

Legislative restrictions on the use of farm vehicles are tricky, both to pass and to enforce. To the extent that states do address the use of certain vehicles for farm work, they tend to make such usage an *exception* to general safety laws—for example, North Carolina's farm-use exemption to its ATV safety regulations.¹²⁸ However, agriculture does rank among the most hazardous industries in the country¹²⁹ and as such some safety standards are clearly necessary, particularly to the extent children are involved in farm work.

The National Institute for Occupational Safety and Health (NIOSH), a subdivision of the Federal government's Centers for Disease Control and Prevention, was the main funding source for a set of guidelines first promulgated in 1999 for children working on farms.¹³⁰ Known as the North American Guidelines for Children's Agricultural Tasks (NAGCAT), the project is an excellent example of public-private partnership: NIOSH provided public dollars for the guidelines' development, while the private National Children's Center for Agricultural Health and Safety at the Marshfield Clinic Research

¹²² *Find a Coalition: Miss.*, SAFE KIDS USA (2009), <http://www.safekids.org/in-your-area/coalitions/list.html?localstate=MS&state=MS>.

¹²³ McPhee, *supra* note 121.

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *ATV Safety: NC*, *supra* note 79.

¹²⁹ Nat'l Institute for Occupational Safety & Health, *Workplace Safety & Health Topics: Agricultural Safety*, <http://www.cdc.gov/niosh/topics/aginjury/> (2011).

¹³⁰ Nat'l Institute for Occupational Safety & Health, *NIOSH Publications & Products: Guidelines for Children's Agricultural Tasks*, <http://www.cdc.gov/niosh/docs/2011-129/> (2011).

Foundation actually produced the content.¹³¹ The NAGCAT is available in publication format, but is also online and free for parents to use interactively in determining whether their children are ready for certain farm chores.¹³²

In a randomized experiment, NAGCAT's efficacy was tested in New York State in the mid-2000s.¹³³ On farms where the guidelines were actively distributed, preventable injuries in children aged seven to 19 were cut in half and children's participation in dangerous tasks like ATV use were significantly delayed.¹³⁴ As such, even in the absence of legislative action, the active distribution of NAGCAT or similar guidelines to Mississippi farming families could have a major impact on child safety in agricultural settings.

Most of the available safety standards for children's responsibilities on farms, including on tractors and other vehicles, are privately promulgated and distributed. Very few states, if any, have passed effective (and enforced) laws regulating child safety on farm vehicles.

IV. Conclusion

Preventable child injuries and deaths from vehicle-related accidents are all too common in Mississippi, as in the nation as a whole. Through a combination of ATV regulation, bicycle helmet laws, and increased awareness about farm safety for children, Mississippi's lawmakers and other leaders can take important steps toward reducing the frequency of these tragic situations.

¹³¹ *Id.*

¹³² Marshfield Clinic Research Foundation, *N. Am. Guidelines for Children's Agricultural Tasks (NAGCAT) Guidelines*, <http://www.nagcat.org/nagcat/> (2011).

¹³³ NIOSH, *supra* note 130.

¹³⁴ *Id.*