Motor Vehicle Deaths to Children in Virginia

a report from the

VIRGINIA STATE CHILD FATALITY REVIEW TEAM

Virginia Department of Health
Office of the Chief Medical Examiner

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MOTOR VEHICLE DEATHS TO CHILDREN IN VIRGINIA

MISSION STATEMENT

As an interdisciplinary team, we review and analyze sudden, violent or unnatural deaths of children so that strategies can be recommended to reduce the number of preventable child deaths in Virginia.

This report was supported in part by Grant Number B04MC11161-01-00 from the Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, U.S. Department of Health and Human Services.

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Executive Summary

In 2002, 105 children under the age of 18 lost their lives in Virginia due to injuries received in a motor vehicle collision. Recognizing the impact that these injuries have on the health and safety of Virginia's children, the State Child Fatality Review Team undertook a comprehensive review of the circumstances surrounding motor vehicle deaths to children in 2002 in order to identify strategies to prevent future deaths. The children were grouped into three categories: vehicle occupants, pedestrians and riders of all-terrain or other motorized vehicles (ATV/Other). Several key findings emerged during the review. Among these are:

- Three out of every four deaths in this review occurred to children between the ages of 13 and 17.
- Two-thirds of the children who died were male.
- Alcohol and/or drug use was a factor in 26% of collisions reviewed by the Team. Of these, 54% involved adult drivers and 46% involved child drivers.
- Overall, 44% of the child motor vehicle occupants who lost their lives were wearing some form of safety equipment, compared to a statewide average of 70% of all occupants.[1] Children more frequently wore seat belts when driven by an adult (51%) than when driven by a child (41%).
- Over 60% of all fatal collisions involving children took place during daylight hours.
- In three out of four collisions, the weather was clear and the road surface was dry.
- Four out of six ATV/Other riders sustained fatal injuries to the head, yet only one child was reported as wearing a helmet.
- Pedestrian fatalities occurred most frequently among toddlers and teenagers.
- Of the five pedestrians under the age of two who died, four were playing in a driveway-type setting when they were struck by a motor vehicle.
- Eighty-seven percent of all children who died in motor vehicle occupant collisions were riding in the vehicle that was responsible for the collision. Fifty-seven percent of all children were either riding with a child driver or were a child driver themselves.
- Collisions involving child drivers with passengers most often occurred in the Northern Health Planning Region, whereas collisions involving children driving alone happened most frequently in the Southwest Health Planning Region.
- Running off the road, speeding, reckless driving, inattention and overcorrection were the driver actions that most frequently contributed to a motor vehicle collision among all drivers.
- None of the children whose deaths were reviewed by the Team were riding in a school bus at the time of the collision.
- Six drivers were convicted of either involuntary or aggravated involuntary manslaughter in connection with the fatal collision. Alcohol was a factor in all six collisions.
- Of the drivers who were responsible for the collision, 28% were never charged in connection with the fatal injury.

The Team concluded that many of these deaths could have been prevented by following simple practices such as driving at a safe speed, focusing complete attention on the task of driving, and maintaining vigilance in supervising young children around moving vehicles. The Team further recognizes the importance of educating teens on the risks of operating or riding in a vehicle with an unlicensed, fatigued or intoxicated driver. In light of these and other findings, the Virginia State Child Fatality Review Team offers recommendations pertaining to enforcement and prosecution of motor vehicle laws, vehicle safety, driver education and allocation of resources to reduce the number of motor vehicle deaths to children in Virginia.

[1] From Virginia Department of Motor Vehicles. Available online at: http://dmvnow.com/webdoc/safety/crash_data/seatbelt/pdf/use_rates.pdf (Accessed April 19, 2009).

SECTION I: BACKGROUND INFORMATION

INTRODUCTION

The Virginia State Child Fatality Review Team, hereinafter referred to as the Team, was established by the General Assembly in 1995. The purpose of the Team, as outlined in §32.1-283.1 of the Code of Virginia, is to systematically analyze child deaths that are of an unnatural or violent nature; deaths that occur suddenly within the first eighteen months of life; and/or deaths for which the cause or manner was not determined with reasonable medical certainty. Governed by the mandate to improve the health and well-being of all Virginians, the Team conducts these reviews to develop strategies for the prevention of future deaths.

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ORGANIZATION OF THE REPORT

This report contains four sections. Section I summarizes the characteristics of children who died in motor vehicle collisions and the circumstances surrounding their deaths. Section II presents information about the three types of child motor vehicle deaths identified by the Team in this review. These deaths were categorized according to the positioning of the child in relation to the motor vehicle as well as the type of vehicle involved in their death. These are: 1) child all-terrain vehicle or other motorized vehicle riders[2] (ATV/Other); 2) child pedestrians struck by a motor vehicle; and 3) child occupants of a motor vehicle. Section III details significant findings that emerged during the review process. Section IV concludes with the Team's consensus recommendations for the reduction of motor vehicle deaths to children in Virginia.

DEFINITION OF KEY TERMS

The Team reviewed all motor vehicle deaths of children occurring in Virginia in 2002. Characteristics of both the child and the driver of the child are analyzed throughout the report. In instances where the child who died was not the driver of the vehicle, a distinction was made with regard to the age of the driver.

Adult driver refers to any person aged 18 or older who was operating a motor vehicle in which the child or children who died were riding.

Child driver refers to any person up to but not including the age of 18 years who was operating a motor vehicle in which the child or children who died were riding.

Child restraint device refers to safety equipment utilized by children under the age of eight while occupying a motor vehicle, and includes child safety seats and booster seats.

Collision refers to any loss of control of a moving motor vehicle resulting in impact with an object outside the vehicle. Collisions may occur with stationary objects such as trees or ditches, or with moving objects such as pedestrians and other vehicles. The three types of collisions in this review are ATV/Other rider, pedestrian and occupant.

Occupant refers to anyone located inside a motor vehicle at the time of a collision. This may include drivers as well as passengers, and those who survived as well as those who did not.

Safety belt refers to safety equipment utilized by motor vehicle occupants ages eight and older. Safety belts, also known as seat belts, include both lap belts and shoulder harnesses.

BACKGROUND INFORMATION ON CHILDREN WHO DIED IN MOTOR VEHICLE COLLISIONS

In 2002, 105 children died in the Commonwealth of Virginia as a result of injuries sustained in a motor vehicle collision. Of the 105 children, 95 (90%) were residents of the Commonwealth. These deaths represent a total of 6,296 years of potential life lost in Virginia.

Not all children occupied a vehicle at the time of the fatal injury. Of 105 children whose deaths were reviewed by the State Child Fatality Review Team, 86 were drivers or passengers of a motor vehicle in motion, 13 were pedestrians and six were riding an all-terrain vehicle or other motorized vehicle (ATV/Other).

...greater than 80% of children occupying a motor vehicle who died were between the ages of 13 and 17.

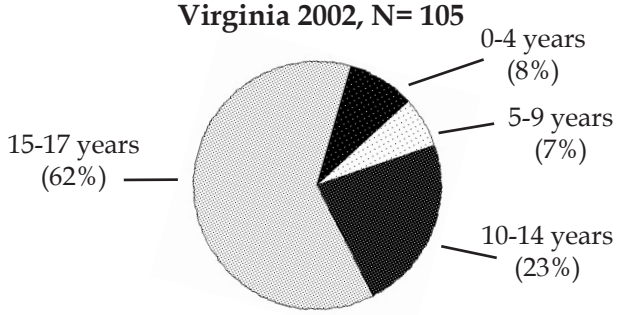
Age

Older children die more frequently in motor vehicle collisions than younger children: the mean age of children who died in 2002 was 13.5 years. Of the deaths reviewed by the Team, 62% occurred to those between the ages of 15 and 17, and 23% to children ages 10-14. In addition, seven percent of the deaths happened to children ages

[2] Other motorized vehicles include golf carts, go-carts, mopeds and motorized scooters.

SECTION I: BACKGROUND INFORMATION

FIGURE 1: Child Motor Vehicle Deaths by Age - Virginia 2002, N= 105



5-9, with eight percent to children between birth and four years of age. See Figure 1.

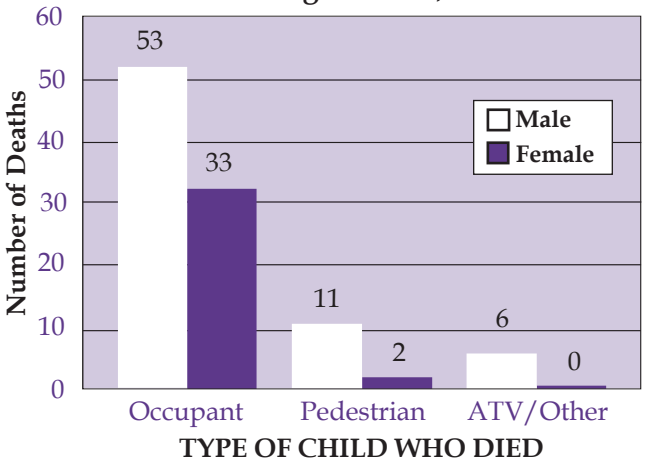
Teenagers are most likely to die in a motor vehicle collision. Three out of every four children in this review were between the ages of 13 and 17, and greater than 80% of children occupying a motor vehicle who died were between the ages of 13 and 17.

Two-thirds of the deaths in 2002 occurred to males...

Race/Ethnicity

Motor vehicle collisions affect children from every race and ethnic background. In this review, almost seven in ten deaths were to White children; roughly one in every five deaths occurred to Black children. Although the number of Hispanic children who died was low, the rate was highest among Hispanic children. In 2002, Hispanic children died in a motor vehicle collision at 1.5 times the rate of Black children.

FIGURE 2: Child Motor Vehicle Deaths by Gender - Virginia 2002, N=105



Gender

Boys die more frequently as a result of a motor vehicle collision than girls. Two-thirds of the deaths in 2002 occurred to males, including 11 of the 13 pedestrians and all six of the ATV/Other riders. See Figure 2.

OCME District[3]

The Office of the Chief Medical Examiner (OCME) investigates every motor vehicle death occurring in Virginia. The OCME is divided into four districts: Central, Northern, Tidewater and Western.[4] Children die more frequently from a collision in Western Virginia than anywhere else in the state. Specifically, the Western district, with 37% of all child motor vehicle fatalities in 2002, investigated three times as many deaths as the Tidewater district, with 12% of fatalities. See Figure 3.

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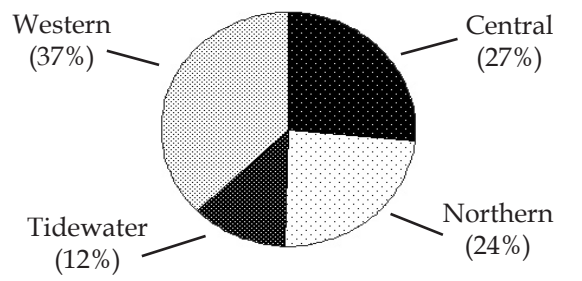
Injury Patterns and Cause and Manner of Death

Of 105 children, 91% sustained lethal injuries to the head and neck. Other fatal injuries included trauma to the chest, back and abdomen. After investigating the circumstances and establishing a cause of death, the OCME determines the manner in which a person died. Manner of death is classified into one of five categories: homicide, suicide, accident, natural or undetermined.[5] In this review, 103 child deaths were determined to be an accident and one death was ruled a suicide. The manner of death for one child was undetermined.

FIGURE 3: Location of Child Motor Vehicle Deaths by OCME District - Virginia 2002, N=105



[3] See Appendices C and D for a listing of localities in Virginia's Medical Examiner Districts and Health Planning Regions.
[4] The district where the child dies (which may be different from where the injury occurs) is the district that investigates the child's death.
[5] An undetermined death is one where, after medico-legal death investigation, a forensic pathologist cannot identify or isolate (1) the precise fatal injury or disease that caused a death; and/or (2) the specific circumstances surrounding the death that would distinguish a manner of death from unintentional injury, homicide, suicide or natural events.

SECTION I: BACKGROUND INFORMATION

Substance Use

The Team was concerned about the role of substance use in motor vehicle deaths to children. Alcohol or drug use may have been a factor in one-fourth of all motor vehicle fatalities to children in Virginia in 2002. Overall, substance use was either suspected or confirmed in 27 child deaths.[6] Twenty-four of these 27 deaths involved motor vehicle occupants, three involved pedestrians, and none involved ATV/Other riders. Substance use by both drivers and by children who died is discussed in further detail in Section III.

Alcohol or drug use may have been a factor in one-fourth of all motor vehicle fatalities to children in Virginia in 2002.

Use of Safety Equipment

Over half (57%) of the children whose deaths were reviewed by the Team were not using any type of safety belt, child restraint or protective gear at the time of the fatal injury. See Figure 4. Of the 86 vehicle occupants, 53% were unrestrained. Among the ATV/Other riders and pedestrians, including one bicyclist and one skateboarder, 89% wore no protective gear. Of those children who were using safety equipment, 82% were wearing both a lap belt and shoulder harness, 5% used only a lap belt and 3% used only a shoulder harness. Among young children using child restraint devices, three were in a car seat and one was in a booster seat.

...all thirteen pedestrian and all six ATV/Other fatalities took place between May and September.

Timing

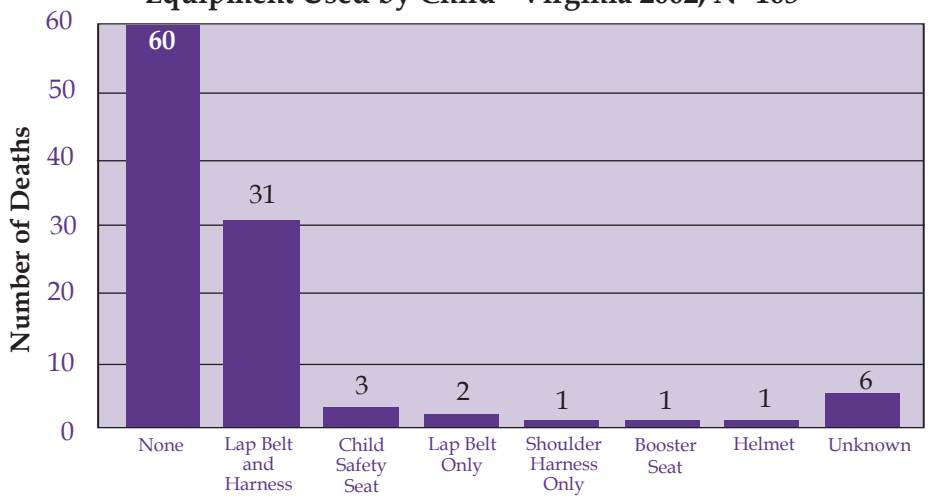
Motor vehicle deaths happen throughout the year, although some occur more frequently in warm weather. In 2002, all thirteen pedestrian and all six ATV/Other fatalities took place between May and September. See Figure 5.

Certain types of motor vehicle collisions occur more frequently on specific days of the week. For example, 62% of collisions involving child pedestrians happened on either a Monday or Tuesday. Half of the ATV/Other rider collisions took place on a Saturday. Overall, 43% of all fatal collisions involving children occurred on a weekend. See Figure 6.

Over half (57%) of the children whose deaths were reviewed by the Team were not using any type of safety belt, child restraint or protective gear at the time of the fatal injury.

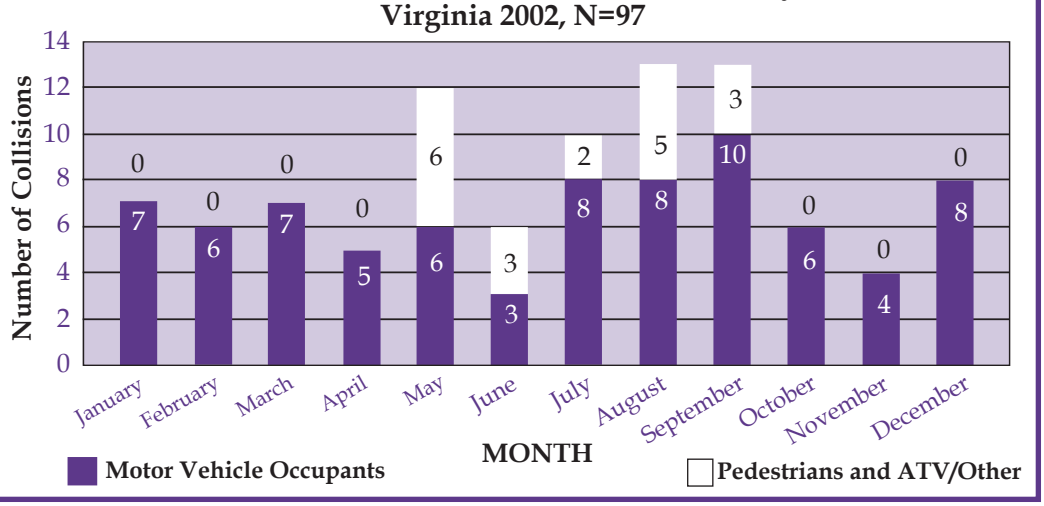
Almost two-thirds of the fatal collisions (63%) involving children in 2002 happened during daylight hours. Specifically, 25% took place between the hours of 2:00 and 6:00 in the afternoon. See Figure 7.

FIGURE 4: Child Motor Vehicle Deaths by Type of Safety Equipment Used by Child - Virginia 2002, N=105



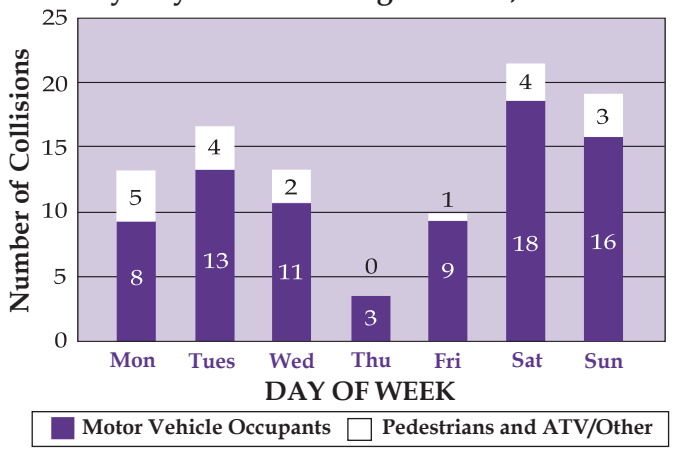
[6] Suspicion of substance use included evidence of drug and/or alcohol use by either the child, the driver of the child or the driver of the vehicle that hit the child as noted in the investigating officer's report of the collision. Confirmation of substance use was determined from serum toxicology tests.

FIGURE 5: Child Motor Vehicle Fatal Collisions by Month - Virginia 2002, N=97



Almost two-thirds of the fatal collisions (63%) involving children in 2002 happened during daylight hours. Specifically, 25% took place between the hours of 2:00 and 6:00 in the afternoon.

FIGURE 6: Child Motor Vehicle Fatal Collisions by Day of Week - Virginia 2002, N=97



Health Planning Region[7]

Virginia is divided into five Health Planning Regions: Central, Eastern, Northern, Northwest and Southwest. Children in Southwest Virginia are particularly at risk for dying in a motor vehicle collision. Over one-third of all fatal collisions in 2002 that the Team reviewed occurred in the Southwest Region alone. See Figure 8. At 12.1 deaths per 100,000 children, the rate of motor vehicle deaths to children in Southwest Virginia is double the rate of any other region in the state. See Table 1.

TABLE 1: Rate of Child Motor Vehicle Death by Health Planning Region - Virginia 2002

Health Planning Region	Rate*
Central	**5.6**
Eastern	**3.8**
Northern	**4.3**
Northwest	**5.4**
Southwest	**12.1**

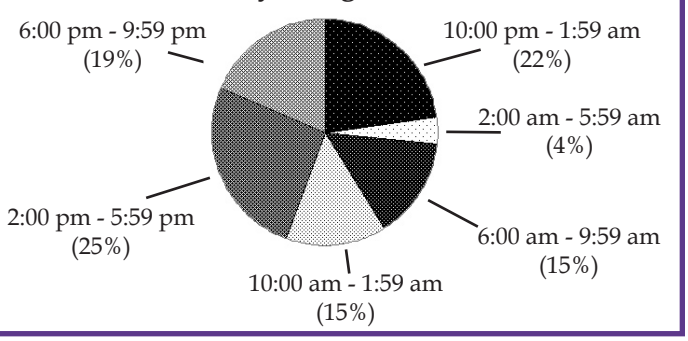
*Rate per 100,000 children

...the rate of motor vehicle deaths to children in Southwest Virginia is double the rate of any other region in the state.

Roadway and Weather Conditions

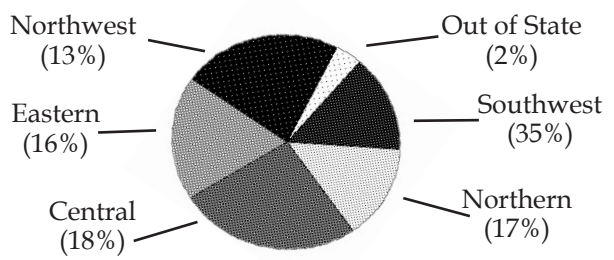
Children involved in a fatal collision most often die on a two-lane road. Overall, twice as many collisions reviewed by the Team occurred on a two-lane road when compared to a road with multiple lanes. See Figure 9.

FIGURE 7: Child Motor Vehicle Fatal Collisions by Time of Day - Virginia 2002, N=97



[7] See Appendices C and D for a listing of localities in Virginia's Medical Examiner Districts and Health Planning Regions.

FIGURE 8: Child Motor Vehicle Fatal Collisions by Health Planning Region - Virginia 2002, N=97



Of particular interest to the Team was the percentage of fatal collisions that took place during conditions of good weather. In three out of every four child motor vehicle collisions where weather and road conditions were described, the weather was clear and the roadway surface was dry at the time of the collision. Roadway defects such as holes or ruts were not identified as a factor in any of the collisions reviewed by the Team. See Figures 10 and 11.

In three out of every four child motor vehicle collisions... the weather was clear and the roadway surface was dry...

Type and Age of Vehicle

Fatal motor vehicle collisions involve all sizes and models of vehicles. In almost half of the fatal collisions involving children in 2002, the child who died was an occupant in a sedan car. One-fifth of the collisions involved a pickup truck. See Figure 12.

The average age of vehicles involved in a child fatal collision in 2002 was 8.7 years. For insurance purposes, motor vehicles are divided into two categories: late model, which includes vehicles manufactured in the current calendar year and the preceding six years; and older model, which includes all vehicles manufactured more than six calendar years ago. In this review, all 1996-2002 vehicles were considered late model, and all vehicles manufactured prior to 1996 were considered older model. Four-fifths of the children who were driving at the time of the fatal collision were operating a vehicle that was older than six years, compared to 38% of adult drivers. See Figure 13.

FIGURE 9: Child Motor Vehicle Fatal Collisions by Type of Roadway - Virginia 2002, N=97

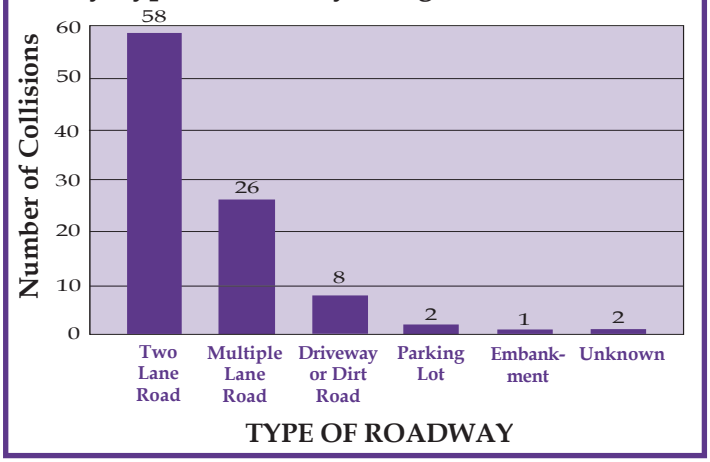


FIGURE 10: Child Motor Vehicle Fatal Collisions by Weather - Virginia 2002, N=97

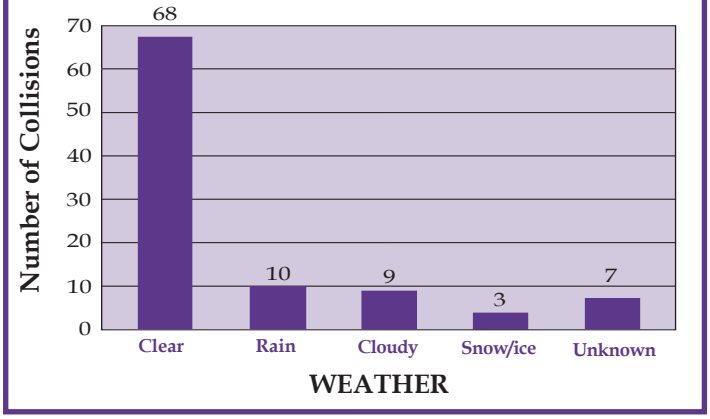
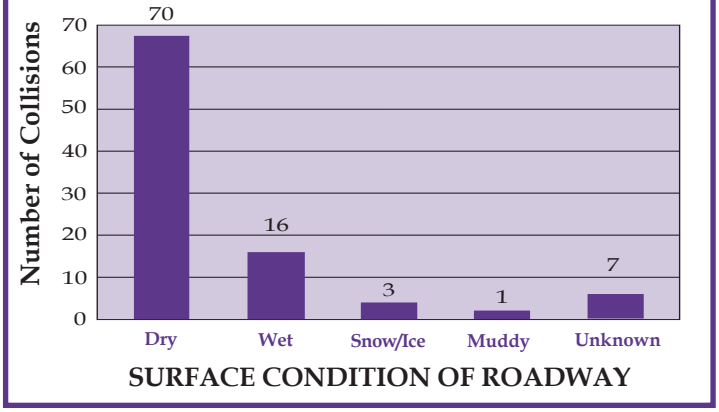
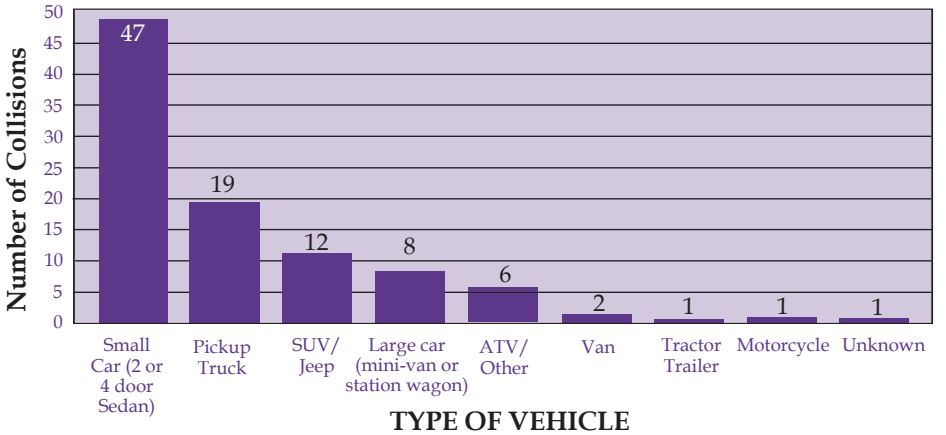


FIGURE 11: Child Motor Vehicle Fatal Collisions by Surface Condition of Roadway - Virginia 2002, N=97



SECTION II: TYPES OF CHILD DEATHS

FIGURE 12: Child Motor Vehicle Fatal Collisions by Type of Vehicle Occupied by Child Who Died - Virginia 2002, N=97



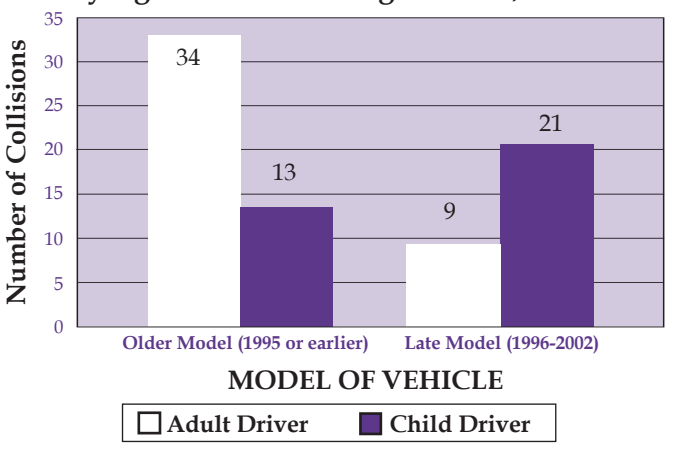
TYPES OF CHILD MOTOR VEHICLE DEATHS

During the review process the Team identified patterns regarding the circumstances of each child's death. The deaths were then grouped according to the relation of the child to the vehicle. The three types of child motor vehicle death are: ATV/Other rider, pedestrian and motor vehicle occupant.

ATV/Other Riders

The Team reviewed six deaths of children who were riding either an all-terrain vehicle (ATV, five cases) or other motorized vehicle (homemade go-kart, one case) at the time of injury. One child was not a resident of Virginia. All were White and male. The youngest was eight years old and the oldest was seventeen. The mean age of children who died was 12.3 years.

FIGURE 13: Child Motor Vehicle Fatal Collisions by Age of Vehicle - Virginia 2002, N=97*



*Age of vehicle unknown or not applicable in 20 cases.

All of these incidents occurred on private property. Two took place at a private off-road track and four happened in a residential area. Four of the six occurred away from the victim's residence. Four ATVs rolled over on top of the children and crushed them. In the remaining two, the children were pinned between the vehicle and a stationary object. The manner of death was an accident in all six collisions.

Additional findings on child ATV/Other deaths include:

- Children most frequently die from ATV/Other collisions during the summer. All six injuries took place between May and September of 2002, and three occurred in August alone.

- ATV/Other deaths to children frequently occur during daylight hours and on a weekend. All six deaths reviewed by the Team took place between 10:30 a.m. and 6:30 p.m. Half occurred on a Saturday, and one each on Sunday, Monday and Wednesday.

- Fatal injuries involving off-road vehicles often occur in rural areas. Five of the six ATV/Other deaths reviewed by the Team were investigated by the Western Office of the Chief Medical Examiner.

- Although five out of six ATV/Other deaths were also investigated by law enforcement, the Team noted a lack of detailed information regarding certain circumstances surrounding the fatal event. For example, the alignment of the roadway, surface conditions of the roadway, and weather conditions at the time of the incident were not documented in four of six cases. The size and model of the ATV were listed in three.

All three of the collisions where vehicle information was reported involved an ATV whose engine was too large for the age of the rider.

SECTION II: TYPES OF CHILD DEATHS

Upon conclusion of the review, the Team determined that 83% of the deaths involving ATV/Other riders were probably or definitely preventable. For example:

- Four out of six riders sustained fatal injuries to the head. Only one child was reported to have been wearing a helmet.
- All three of the collisions where vehicle information was reported involved an ATV whose engine was too large for the age of the rider.
- In one collision, two children were riding in a seat designed for one driver when they lost control and the vehicle collided with a stationary object.
- Five of the six riders were fourteen or under, yet only one was being supervised by an adult at the time of the injury.

In light of these circumstances, the Team recommends that additional resources be committed to increasing the enforcement of existing ATV laws in Virginia. The Team further recommends that the Code of Virginia be amended to require that: 1) All ATV riders complete an all-terrain vehicle safety class; and 2) No one under the age of 16 be allowed to operate an ATV without adult supervision. See Section IV for further details on Team recommendations.

ATV REGULATIONS AS OUTLINED IN §46.2-915.1 OF THE CODE OF VIRGINIA:

- No ATV may be operated on a public highway, except to cross by the most direct route.
- All ATV riders are required to wear an approved helmet.
- No one under the age of 16 may operate an ATV, with two exceptions: children less than 12 years of age may operate an ATV with no more than 70cc displacement; children between 12-16 may operate an ATV with no more than 90cc displacement.
- Passengers are prohibited, except on ATVs designed and equipped for such use.

Pedestrians

The Team reviewed the deaths of 13 child pedestrians who were hit by motor vehicles. Eleven of the thirteen children were male. Seven were White and four were Black. Two children were of Hispanic ethnicity. The mean age for pedestrians who died was 9.2 years.

Six of the thirteen pedestrian incidents happened on private property. All but two occurred under clear skies, and 62% took place during daylight hours. The manner of death was ruled an accident in twelve cases and undetermined in one.

The mean age for drivers was 38 years. All drivers were adults, and 69% were male. All thirteen had a valid license at the time of the collision. Of the thirteen drivers, 77% were the sole occupants of their vehicle when they struck the child.

Additional findings on child pedestrian deaths include:

- Children most frequently die from pedestrian collisions in warmer weather. All thirteen deaths occurred between May and September. Thirty-eight percent took place in May alone.
- Most pedestrian collisions occur on a weekday. Sixty-two percent of the fatal injuries happened on either a Monday or Tuesday, and 23% took place on a weekend.
- Toddlers and teenagers are the two age groups with the highest occurrence of pedestrian fatalities. Of the 13 children, 38% were between one and two years of age, and 46% were between the ages of thirteen and seventeen.
- Toddlers are frequently struck by someone they know who is operating a large vehicle on private property. Of the five toddlers who died, four were playing in a driveway-type setting at the time of the collision. The driver in each of the four collisions was either a parent or relative. In all four instances the vehicle that struck the child was either a sport utility vehicle (SUV) or pickup truck.
- In contrast, pedestrian collisions involving older children often take place on public streets. Two pedestrians were traveling in the roadway with the flow of traffic when they were struck. One was riding a bicycle and another was riding a skateboard. Neither was known to be wearing a helmet.
- No pedestrian collisions took place at an intersection. Five children were attempting to cross a street and two other children were chasing an object into the street when the collision occurred.
- Three children on private property, including one toddler, were struck by a vehicle traveling in reverse.

SECTION II: TYPES OF CHILD DEATHS

The Team determined that 62% of the deaths were definitely or probably preventable. Many deaths to pedestrians can be prevented by encouraging older children to follow basic road safety rules and by providing adequate supervision of younger children when around a vehicle. In light of these circumstances, the Team developed the following recommendations:

1. The Virginia General Assembly should enact legislation requiring that all bicycle riders wear approved helmets.

2. The automotive industry should incorporate back-up sensors in all SUVs, pickup trucks and vans.

3. Parents with small children should be encouraged to provide adequate supervision of their young children at all times when around a motor vehicle.

4. All children should be educated on road safety, such as not running into the street after an object, looking both ways before crossing a street, and crossing a street at an intersection.

Current law states that localities may enact ordinances to require children fourteen years of age and younger to wear an approved helmet while riding a bicycle.

Source: §46.2-906.1 of the Code of Virginia

Motor Vehicle Occupants

Occupants of motor vehicles accounted for 86 of the 105 deaths reviewed by the Team. During the review, the Team noted collision patterns unique to drivers of different ages. Occupants were therefore grouped according to whether the driver of the vehicle carrying the child who died was an adult or a child. Collisions involving adult drivers accounted for 42% of the motor vehicle occupant deaths to children in 2002, while collisions involving child drivers accounted for 57% of the deaths.[8] See Table 2. Child drivers were further divided into two categories: those with passengers and those who were driving alone. See Table 3.

TABLE 2: Motor Vehicle Occupant Deaths to Children - Virginia 2002

	Number of Fatal Collisions	Number of Children who Died
Child Drivers	43	49
Adult Drivers	34	36
Total	77	85

TABLE 3: Motor Vehicle Occupants: Characteristics of Child Who Died - Virginia 2002

	Adults Driving Children (n=36) %	Child Driving With Passengers (n=33) %	Child Driving Without Passengers (n=16) %
Status of Child in Car			
Driver	0	33	100
Passenger	100	67	0
Race/Ethnicity			
White, not Hispanic	61	67	100
Black	25	18	0
Hispanic	11	6	0
Other	3	9	0
Gender			
Male	50	61	88
Female	50	39	12
Residence			
Virginia	83	88	100
Out of State	17	12	0
Use of Safety Equipment, When Known			
Properly Used	42	39	43
Improperly Used	3	6	7
Not Used	55	55	50
Substance Use			
Alcohol	11	18	0
Street Drugs[1]	3	6	0
None	86	76	100

[1] Controlled substances such as marijuana or cocaine whose availability is restricted by law.

[8] In one collision the identity of the driver could not be determined. This case was removed from further analysis.

SECTION II: TYPES OF CHILD DEATHS

Upon reviewing the circumstances surrounding deaths in child motor vehicle occupant collisions, the Team noted the following patterns:

- Children drive passengers who are close to their own age. There were five adults among the passengers occupying a vehicle driven by a child. Four of these adults were less than 21 years of age.
- Four-fifths of all fatal collisions involving child drivers took place on a two-lane road.
- Child drivers stay close to home. Two-thirds of the collisions involving child drivers took place in the driver's county or city of residence. Of the child drivers without passengers, 81% were residents of the locality in which the collision occurred. See Appendix B for a listing of localities with three or more deaths.
- Adults are likely to travel longer distances. Of the ten children who died who were not residents of Virginia, seven were passengers in a vehicle being driven by an adult. In addition, adult drivers were involved in every fatal collision that occurred on an interstate.
- Adults driving children transport more passengers on average than do children driving children. Adult drivers carried a mean of 2.5 passengers while child drivers carried a mean of 2.1 passengers.
- One-third of the child driver deaths took place in vehicles with three or more occupants.
- Population density may be related to the type of collisions that take place. For example, collisions involving child drivers with passengers most often occurred in the Northern Health Planning Region, whereas collisions involving children driving alone happened most frequently in the Southwest Health Planning Region. In addition, of the seven collisions involving multiple child fatalities, five took place in either the Northern or Eastern Health Planning Region. None occurred in Southwest Virginia.
- Alcohol use is more frequent in collisions involving child drivers with passengers than in children driving alone. None of the children driving alone tested positive for alcohol above the legal limit of 0.01.[9]
- Children more often had a fatal collision at night than did adults. Of all the fatal nighttime collisions, 63% involved child drivers.
- Adults more often used safety equipment than the children they were transporting. In 58% of the deaths that took place while adults were driving children, the driver was wearing a safety belt. Conversely, only 47% of the children who died were using any safety equipment (including child restraints or safety belts).
- Of the four motor vehicle occupants under the age of five, 50% occupied child restraints that had been properly secured to the vehicle. See Table 3.
- Two-thirds of all collisions occurring at an intersection involved adult drivers.
- Six children and two adults died while riding in a vehicle operated by a child with no valid license. In each instance, the child was driving at least one passenger. In every case, the unlicensed child driver survived the collision. See Table 4.
- Unlike adult drivers, who frequently drove large passenger vehicles, 61% of the vehicles in the child driver category were 2- or 4-door sedan cars. Pickup trucks were most frequently driven by children with no passengers.
- None of the 77 occupant collisions were attributed to a driver using a cellular telephone or other wireless telecommunication device.

HIGHWAY SAFETY REGULATIONS PERTAINING TO CHILDREN:

- Drivers younger than the age of 18 may not operate a motor vehicle while using a cellular telephone or any other wireless telecommunications device.
- Drivers younger than 18 may not operate a motor vehicle between the hours of midnight and 4:00 a.m. Certain exceptions apply.
- Licensed drivers younger than 18 may transport no more than one passenger younger than 18 during the first 12 months of licensure; thereafter no more than three passengers younger than 18. Learner's permit holders may not transport more than one passenger under age 18.
- In Virginia, no child under the age of sixteen shall be transported in the rear cargo area of a pickup truck.

Sources: Insurance Institute for Highway Safety. www.iihs.org/laws (Accessed April 17, 2009.)

[9] In Virginia, a Blood Alcohol Concentration (BAC) Level of greater than 0.01 is considered the legal standard for intoxication for drivers younger than 21 years of age. In this review, 15 of the 16 child drivers who were alone at the time of the fatal collision were tested for blood alcohol.

Table 4: Motor Vehicle Occupants: Selected Characteristics of Collisions - Virginia 2002

	Adults Driving Children (n=36) %	Child Driving With Passengers (n=33) %	Child Driving Without Passengers (n=16) %
Weather			
Clear	82	73	44
Cloudy	6	9	19
Rain	6	9	31
Snow/Ice	3	9	0
Unknown	3	0	6
Selected Road Characteristics [1]			
Open Country/Rural Setting	58	52	63
Interstate	14	0	0
Two Lane	53	82	81
Intersection	28	11	6
Type of Vehicle			
Small Car (sedans, two-door)	44	73	44
Large Car(van, station wagon)	17	9	0
Pickup Truck	22	6	31
Sport Utility Vehicle	11	3	19
Motorcycle	0	0	6
Other/Unknown	6	9	0
Position in Vehicle of Child who Died			
Driver Seat	0	33	100
Front Right Seat	42	46	0
Middle Left Seat	3	0	0
Middle Middle Seat	3	0	0
Middle Right Seat	3	0	0
Rear Left Seat	25	9	0
Rear Middle Seat	14	9	0
Rear Right Seat	5	3	0
Cargo Area	5	0	0
Day of Week			
Monday	14	3	12
Tuesday	14	21	12
Wednesday	14	9	12
Thursday	3	0	12
Friday	14	9	19
Saturday	22	27	12
Sunday	19	31	19
Quarter of Year			
January - March	28	33	13
April - June	22	9	25
July - September	39	33	13
October - December	11	25	50
Time of Day			
12:01 am - 4:00 am	11	33	6
4:01 am - 8:00 am	17	0	25
8:01 am - 12:00 pm	14	6	18
12:01 pm - 4:00 pm	22	37	13
4:01 pm -8:00 pm	17	12	25
8:00 pm - 12:00 am	19	12	13
Common Driver Actions Prior to Collision[1]			
Inattention	24	33	44
Overcorrection	21	19	38
Ran Off Road	62	74	88
Reckless Driving	38	48	50
Speeding	50	59	75
License Status			
Valid Driver's License	100	79	100
Learner's Permit	0	3	0
Never Licensed	0	12	0
Unknown	0	6	0
Fault			
Driver of Child Who Died	80	94	100
Driver of Another Vehicle	20	6	0

[1] Percentages will not total to 100.

SECTION II: TYPES OF CHILD DEATHS

- Three of the drivers of collisions reviewed by the Team were believed to have fallen asleep while driving. All three were adult females.
- Of the drivers who were not at fault, 80% were adults and 70% were female.
- Of the 27 child drivers who did not survive the collision, 22% had prior offenses on their driving record, including one reckless driving, three speeding and one driving under the influence of alcohol (DUI). The Team did not review driving records of those who survived or of drivers eighteen or older. See Table 5.
- None of the 86 occupant deaths included a child occupying the rear cargo area of a pickup truck.

...the Team determined that 85% of the deaths involving motor vehicle occupants were either probably or definitely preventable.

- Two children who died were riding in the rear cargo/luggage area of a vehicle.
- Regardless of the age of the driver, driver actions leading up to the collision were the same. Running off the road, speeding, reckless driving, inattention and overcorrection were the top five actions contributing to a child motor vehicle fatality in 2002.[10]

Upon completing its review, the Team determined that 85% of the deaths involving motor vehicle occupants were either probably or definitely preventable. In addition to using safety equipment and avoiding driving while intoxicated, the Team believes that many child deaths can be prevented by following simple practices such as driving at a safe speed, maintaining proper control of a vehicle, and focusing complete attention on the task of driving. Section IV details the Team's recommendations to prevent future deaths to child motor vehicle occupants.

TABLE 5: Motor Vehicle Occupants: Selected Characteristics of Child Driver Who Died - Virginia 2002

	Child Driving With Passengers n=11 %	Child Driving Without Passengers n=16 %
Had Completed Driver Education	73	94
Had Attended Court-Ordered Driving Clinic	9	19
Was Violating Law on Passenger Restriction at Time of Collision	18	0
Was Violating Law on Curfew Restriction at Time of Collision	27	6
Prior Driving Convictions		
Driving Under the Influence	9	0
Reckless Driving	0	6
Speeding	9	13
Not Applicable	82	69

CHILD SAFETY EQUIPMENT REGULATIONS AS OUTLINED IN §46.2-1095 OF THE CODE OF VIRGINIA:

- Child restraint devices are required for children through the age of seven- until the 8th birthday.
- Children ages eight through fifteen must be belted correctly in vehicle safety belts in vehicles manufactured after January 1, 1968.

[10] See Appendix A for a complete listing of driver actions.

SECTION III: OTHER SIGNIFICANT FINDINGS

OTHER SIGNIFICANT FINDINGS IN CHILD MOTOR VEHICLE DEATHS

During its review the Team identified patterns among certain motor vehicle occupant and pedestrian collisions. These findings are summarized here.

Tractor Trailers

The Team reviewed six collisions where at least one of the vehicles involved was a tractor trailer. These collisions resulted in seven child and three adult deaths. One child was a passenger in the tractor trailer, while the remaining six were riding in a vehicle struck by the tractor trailer. All six collisions occurred during the day. Two-thirds occurred on a multiple-lane highway. The driver of the tractor trailer was at fault in four collisions. Although five of the six collisions involved more than one vehicle, only one occurred at an intersection. All of the tractor trailer operators were male. No alcohol or drug use was suspected or confirmed in the drivers of any vehicles.

...none of the children who died were riding in a school bus at the time of the fatal collision.

The Team identified these preliminary patterns in the collisions involving tractor trailers, but concluded that it did not have enough information to formulate recommendations for the prevention of future child deaths. For this reason the Team recommends that motor vehicle collisions involving tractor trailers be studied in further detail. See Section IV.

Senior Citizens

Drivers aged 60 and older were involved in four motor vehicle collisions that resulted in the deaths of five children and one adult. Three of these four collisions occurred between the hours of 8:00AM and noon, and three took place at an intersection. Three children who died were passengers in the vehicle being driven by the senior. In addition, one senior struck a vehicle occupied by the child who died, and another senior driver collided with a child pedestrian. The Team noted that senior drivers were at fault in all four collisions.

School Buses

Upon reviewing the three collisions involving a school bus, the Team noted that none of the children who died were riding in a school bus at the time of the fatal collision. Rather, the three injuries happened either outside of a bus or in a vehicle that struck a school bus. One victim, a pedestrian, was struck by another vehicle after exiting a parked bus in a residential area. The other two were occupants of vehicles (driven by a child) that were on their way to a school when they collided with a bus carrying students. The driver of the child who died was found to be at fault in both occupant collisions. In each collision the weather was rainy and the surface of the roadway was wet. Excessive speed was determined to have contributed to both collisions. The Team noted that inexperience in handling adverse road conditions may have been a contributing factor.

Substance Use

Alcohol and/or drug use was either suspected or confirmed in collisions that claimed the lives of one-fourth of the children who died in a motor vehicle crash in 2002. The Team reviewed 26 substance-related collisions resulting in 27 child deaths. The children who died included six drivers, eighteen passengers, three pedestrians and no ATV/Other riders.

The Team noted several patterns of substance use among occupants of motor vehicles. For example, collisions involving substance use frequently occurred at night (69%), on either a Saturday or Sunday (65%), in an open country/ rural setting (62%), and involved a single vehicle (81%). One-third of the fatal injuries occurred in northern Virginia.

...collisions involving substance use frequently occurred at night (69%); on either a Saturday or Sunday (65%); in an open country/ rural setting (62%); and involved a single vehicle (81%).

Alcohol was the substance most commonly used by occupants. Among drivers of the child who died, 70% were suspected of using alcohol and 22% were suspected of using street or other drugs.[11] In almost two-thirds (65%) of collisions involving substance abuse, either the driver or occupants were witnessed to have consumed alcohol prior to entering the vehicle. In over one-quarter of the collisions (27%), alcohol was present inside the vehicle. Almost one-fifth of the children who died had obtained alcohol from an adult.

Substance use occurs among drivers of all ages. The age of the 26 drivers ranged from 14 to 42 years: twelve

[11] Street or other drugs refers to substances such as marijuana or cocaine whose availability is restricted by law or whose use is inconsistent with the manner in which it was prescribed.

were teenagers and fourteen were adults. Substance use is also associated with multiple occupants. Out of 24 occupant deaths, 23 children were riding in a vehicle with at least one other person at the time of the collision.

Relatively few children involved in substance-related collisions used safety equipment. Slightly more than one-third (35%) were wearing a safety belt at the time of the collision.

...50 drivers who were responsible for the collision survived and could have faced charges in connection with the fatal injury. Thirty-two of these drivers were charged and twenty-six were convicted.

The Team noted the necessity of educating teens on the importance of making sound decisions when accepting a ride from another driver. Although 70% of the drivers involved in a substance-related collision were suspected of using alcohol, two-thirds of the children who died were passengers. In addition, all but one of the child occupants were riding in the vehicle of the individual(s) believed to be impaired. The Team concluded that many of the substance-related collisions could have been prevented through refraining from alcohol use, using safety belts, assigning a designated driver, and/or adults refusing to provide alcohol to minors.

Legal Consequences

Of the 97 collisions reviewed by the Team, 50 drivers who were responsible for the collision survived and could have faced charges in connection with the fatal injury. Thirty-two of these drivers were charged and twenty-six were convicted. Fourteen drivers survived the collision for which they were responsible, but did not face charges stemming from the incident.[12]

Six drivers were convicted of either involuntary or aggravated involuntary manslaughter. All six had been involved in an alcohol-related collision: three drivers received convictions for both driving under the influence (DUI) and involuntary manslaughter. All six received jail or prison time: five of the sentences were partially suspended and one was fully suspended. In addition, the operator's license for three drivers was suspended.

The Team noted that certain types of collisions have a greater likelihood of prosecution than others. For example, in the nine multiple vehicle collisions where the child who died was not riding with the driver at fault, charges were obtained against the second driver in all nine collisions. Thus, 100% of collisions involving a child being struck and killed by a driver in another vehicle resulted in prosecution. On the other hand, in the 35 collisions where the child who died was riding with the driver at fault (who subsequently survived), 14 of these drivers never faced charges for the death. Thus, only 60% of collisions involving children being killed by the driver of the vehicle in which they were riding resulted in prosecution.

...100% of collisions involving a child being struck and killed by a driver in another vehicle resulted in prosecution.

Of 13 pedestrian collisions, the driver of the vehicle was found to be at fault in four. Of those four, charges were brought against two drivers. Half of all drivers found to be at fault in a pedestrian collision were charged with crimes relating to the offense. Of the remaining nine pedestrian deaths, four involved a toddler being struck in a driveway-type setting. The Team noted that lack of adequate supervision around a moving vehicle may have contributed to the collisions. None of the four deaths resulted in prosecution.

...60% of collisions involving children being killed by the driver of the vehicle in which they were riding resulted in prosecution.

Many of the collisions with legal consequences involved substance use. Of the nine drivers who tested positive for alcohol and who survived the collision, charges were brought against eight and convictions were obtained for six. One of the drivers, an adult, had a previous conviction for DUI within the past five years, but was driving with a valid license. Eleven children whose deaths were reviewed by the Team tested positive for alcohol above the legal limit of 0.01; five children had obtained alcohol from an adult. Out of the five, one adult was charged and convicted in connection with supplying substances to a minor.

[12] Four additional drivers survived the collision, but charges and convictions are unknown.

SECTION III: OTHER SIGNIFICANT FINDINGS

The Team voiced concerns that, in many instances, no charges were ever filed against the person responsible for the death of the child- whether a driver, parent responsible for supervising a child, or adult supplying alcohol to a child. For instance, excessive speed was a factor in six of every ten occupant collisions. However, not one driver was convicted of speeding and only 56% of the drivers who survived were charged with any violation at all. See Table 6.

The Team also noted that when charges were filed against a responsible driver and convictions obtained, sentences were routinely reduced from the original charges. Every driver in this review whose sentence included jail or prison time had either part or all of their sentence suspended. The Team recommends more aggressive prosecution of individuals whose actions or lack thereof lead to the death of a child in a motor vehicle collision.

TABLE 6: Summary of Charges and Convictions Against Responsible Drivers in Child Motor Vehicle Deaths - Virginia 2002

	Number of Charges	Number of Convictions
Reckless Driving	20	10
DUI	8	5
Involuntary Manslaughter	8	4
Aggravated Involuntary Manslaughter	3	2
Failure to Maintain Proper Control of Vehicle	3	3
Operating a Motor Vehicle Without a License	3	3
Hit and Run	1	1
Eluding Police	1	1
Failure to Obey a Traffic Sign/Signal	1	1
Uninsured Vehicle	1	1
Violating License Restrictions	1	1
Restraint Violation for Adult	0	0
Restraint Violation for Child	0	0
Speeding	0	0
Other/Unknown	13	12

SECTION IV: RECOMMENDATIONS

RECOMMENDATIONS

This review by the State Child Fatality Review Team revealed two basic but important findings. First and foremost, as many as four-fifths of these motor vehicle collision deaths could have been prevented through changes in policy, law, education, and behavior. Second, child deaths in and around motor vehicles occur when drivers, passengers and pedestrians do not follow simple safety practices. Many of these deaths result from unsafe driving practices such as speeding and overcorrection; the failure to obey traffic signs and signals; the nonuse or improper use of seat belts and other safety equipment; operation of a motor vehicle by an unlicensed driver; and inadequate supervision of toddlers in and around motor vehicles. **Effective and substantive education for new and teenage drivers is critical to the safety of these children and their passengers.** In case after case, Team members discussed the need for a common sense, patient, and diligent approach to driving among all persons using Virginia roadways. They concluded that effective strategies for the prevention of motor vehicle deaths must be multi-faceted and target public awareness, attitudes and behaviors.

Effective and substantive education for new and teenage drivers is critical to the safety of these children and their passengers.

In light of its findings, the Team offers the following recommendations to reduce the number of motor vehicle deaths to children in Virginia:

Legislative Changes

The State Child Fatality Review Team supports the strengthening of laws related to teenage driving, impaired driving, operation of ATVs, helmet use, occupant protection and speeding. Recommended additions to the Code of Virginia are indicated by italicized and bolded text and recommended subtractions by strike-through and bolded text. New recommendations for legislative changes are also bolded in this section.

1. **The Virginia General Assembly should amend the definition of involuntary manslaughter as outlined in § 18.2-36.1 of the Code of Virginia. Recommended changes are listed below:**

   § 18.2-36.1. Certain conduct punishable as involuntary manslaughter.

   A. Any person who, as a result of driving under the influence in violation of clause (ii), (iii), or (iv) of § 18.2-266 or any local ordinance substantially similar thereto unintentionally causes the death of another person, shall be guilty of involuntary manslaughter.

   B. If, in addition, the conduct of the defendant was so gross, wanton and culpable as to show a reckless disregard for human life, he shall be guilty of aggravated involuntary manslaughter, a felony punishable by a term of imprisonment of not less than one nor more than 20 years, one year of which shall be a mandatory minimum term of imprisonment.

   C. ***If a person knowingly supplies alcohol to a person under age 21 in violation of clause (A1) of § 4.1-306 and that person subsequently operates a motor vehicle after having consumed the supplied alcohol and causes a death, the supplier of the alcohol shall be guilty of involuntary manslaughter.***

   ~~C.~~ D. The provisions of this section shall not preclude prosecution under any other homicide statute. This section shall not preclude any other revocation or suspension required by law. The driver's license of any person convicted under this section shall be revoked pursuant to subsection B of § 46.2-391.

2. **The Virginia General Assembly should increase penalties for impaired driving as outlined in § 18.2-266.1 of the Code of Virginia. Recommended changes are listed below:**

   § 18.2-266.1. (Expires July 1, 2010) Persons under age 21 driving after illegally consuming alcohol; penalty.

   A. It shall be unlawful for any person under the age of 21 to operate any motor vehicle after illegally consuming alcohol. Any such person with a blood alcohol concentration of 0.02 percent or more by weight by volume or 0.02 grams or more per 210 liters of breath but less than 0.08 by weight by volume or less than 0.08 grams per 210 liters of breath as indicated by a chemical test administered as provided in this article shall be in violation of this section.

   B. A violation of this section is a Class 1 misdemeanor. Punishment shall be (i) forfeiture of such person's license to operate a motor vehicle for a period of one year from the date of conviction and (ii) a mandatory minimum fine of ~~**$500**~~ ***$1,000*** or performance

of a mandatory minimum of 50 hours of community service. This suspension period shall be in addition to the suspension period provided under § 46.2-391.2. The penalties and license forfeiture provisions set forth in §§ 16.1-278.9, 18.2-270 and 18.2-271 shall not apply to a violation of this section. Any person convicted of a violation of this section shall ~~be eligible to~~ attend an Alcohol Safety Action Program under the provisions of § 18.2-271.1 and may, in the discretion of the court, be issued a restricted license during the term of license suspension.

C. Notwithstanding §§ 16.1-278.8 and 16.1-278.9, upon adjudicating a juvenile delinquent based upon a violation of this section, the juvenile and domestic relations district court shall order disposition as provided in subsection B.

§ 18.2-266.1. (Effective July 1, 2010) Persons under age 21 driving after illegally consuming alcohol; penalty.

A. It shall be unlawful for any person under the age of 21 to operate any motor vehicle after illegally consuming alcohol. Any such person with a blood alcohol concentration of 0.02 percent or more by weight by volume or 0.02 grams or more per 210 liters of breath but less than 0.08 by weight by volume or less than 0.08 grams per 210 liters of breath as indicated by a chemical test administered as provided in this article shall be in violation of this section.

B. A violation of this section shall be punishable by forfeiture of such person's license to operate a motor vehicle for a period of six months from the date of conviction and by a fine of not more than $500 $1,000. This suspension period shall be in addition to the suspension period provided under § 46.2-391.2. The penalties and license forfeiture provisions set forth in §§ 16.1-278.9, 18.2-270 and 18.2-271 shall not apply to a violation of this section. Any person convicted of a violation of this section shall be eligible to attend an Alcohol Safety Action Program under the provisions of § 18.2-271.1 and may, in the discretion of the court, be issued a restricted license during the term of license suspension.

C. Notwithstanding §§ 16.1-278.8 and 16.1-278.9, upon adjudicating a juvenile delinquent based upon a violation of this section, the juvenile and domestic relations district court shall order disposition as provided in subsection B.

3. **The Virginia General Assembly should change the criteria for the proper use of all-terrain vehicles as outlined in § 46.2-915.1 A of the Code of Virginia. Recommended changes are listed below:**

§ 46.2-915.1. All-terrain vehicles and off-road motorcycles; penalty.

A. No all-terrain vehicle shall be operated:

1. On any public highway, or other public property, except (i) as authorized by proper authorities (ii) to the extent necessary to cross a public highway by the most direct route, or (iii) by law-enforcement officers, firefighters, or rescue squad personnel responding to emergencies;

2. By any person unless he has completed an all-terrain vehicle safety class.

~~2.~~ 3. By any person under the age of 16, except that (i) children between the ages of 12 and 16 may operate all-terrain vehicles powered by engines of no more than 90 cubic centimeters displacement and (ii) children less than 12 years old may operate all-terrain vehicles powered by engines of no more than 70 cubic centimeters displacement;

4. By any person under the age of 16 without adult supervision;

~~3.~~ 5. By any person unless he is wearing a protective helmet of a type approved by the Superintendent of State Police for use by motorcycle operators;

~~4.~~ 6. On another person's property without the written consent of the owner of the property or as explicitly authorized by law; or

~~5.~~ 7. With a passenger at any time, unless such all-terrain vehicle is designed and equipped to be operated with more than one rider.

B. Notwithstanding subsection A, all-terrain vehicles may be operated on the highways in Buchanan County if the following conditions are met:

1. Such operation is approved by action of the Buchanan County Board of Supervisors for operation along the Pocahontas Trail on Bill Young Mountain and across Virginia Route 635 in Buchanan County;

2. Signs, whose design, number, and location are approved by the Virginia Department of Transportation, have been posted warning motorists that all-terrain vehicles may be operating on the highway;

3. Such all-terrain vehicles are operated during daylight hours on the highway for no more than one mile between one off-road trail and another;

4. Signs required by this subsection are purchased and installed by the person or club requesting the Board of Supervisors' approval for such over-the-road operation of all-terrain vehicles;

5. All-terrain vehicle operators shall, when operating on the highway, obey all rules of the road applicable to other motor vehicles;

6. Riders of such all-terrain vehicles shall wear approved helmets; and

7. Such all-terrain vehicles shall operate at speeds of no more than 25 miles per hour.

No provision of this subsection shall be construed to require all-terrain vehicles operated on a highway as provided in this subsection to comply with lighting requirements contained in this title.

C. Any retailer selling any all-terrain vehicle shall affix thereto, or verify that there is affixed thereto, a decal or sticker, approved by the Superintendent of State Police, which clearly and completely states the prohibition contained in subsection A of this section.

D. A violation of this section shall not constitute negligence, be considered in mitigation of damages of whatever nature, be admissible in evidence or be the subject of comment by counsel in any action for the recovery of damages arising out of the operation, ownership or maintenance of an all-terrain vehicle or off-road motorcycle, nor shall anything in this section change any existing law, rule or procedure pertaining to any such civil action, nor shall this section bar any claim which otherwise exists.

E. Violation of any provision of this section shall be punishable by a civil penalty of not more than $500.

F. The provisions of this section shall not apply:

1. To any all-terrain vehicle being used in conjunction with farming activities; or

2. To members of the household or employees of the owner or lessee of private property on which the all-terrain vehicle is operated.

G. For the purposes of this section, "all-terrain vehicle" shall have the meaning ascribed in § 46.2-100.

4. **The Virginia General Assembly should amend § 46.2-1095 *Child restraint devices required when transporting certain children; safety belts for other children* by changing the age requirement for seat belt use:**

§ 46.2-1095. Child restraint devices required when transporting certain children; safety belts for other children less than ~~sixteen~~ ***eighteen*** years old required; penalty.

A. Any person who drives on the highways of Virginia any motor vehicle manufactured after January 1, 1968, shall ensure that any child, up to age eight, whom he transports therein is provided with and properly secured in a child restraint device of a type which meets the standards adopted by the United States Department of Transportation. Further, rear-facing child restraint devices shall be placed in the back seat of a vehicle. In the event the vehicle does not have a back seat, the child restraint device may be placed in the front passenger seat only if the vehicle is either not equipped with a passenger side airbag or the passenger side airbag has been deactivated.

B. Any person transporting any child less than ~~sixteen~~ eighteen years old, except for those required pursuant to subsection A to be secured in a child restraint device, shall ensure that such child is provided with and properly secured by an appropriate safety belt system when driving on the highways of Virginia in any motor vehicle manufactured after January 1, 1968, equipped or required by the provisions of this title to be equipped with a safety belt system, consisting of lap belts, shoulder harnesses, combinations thereof or similar devices.

C. A violation of this section shall not constitute negligence, be considered in mitigation of damages of whatever nature, be admissible in evidence or be the subject of comment by counsel in any action for the recovery of damages in a civil action.

D. A violation of this section may be charged on the uniform traffic summons form.

E. Nothing in this section shall apply to taxicabs, school buses, executive sedans, or limousines.

5. **The Virginia General Assembly should revoke § 46.2-906.1 permitting local ordinances on helmet use by bicycle riders. It should enact legislation requiring helmet use by all bicycle riders and imposing penalties for noncompliance.**

6. **The Virginia General Assembly should enact legislation pertaining to juvenile traffic cases whereby children who have a deferred finding in previous traffic offense cannot receive a deferred finding in subsequent motor vehicle offenses.**

7. **The Team supports legislation allowing Virginia's local communities to use photo-red technology.**

8. **The Team supports legislation extending the primary seat belt law in Virginia to include all ages.**

9. **The Governor and the Virginia General Assembly should commit additional resources to increase the enforcement of traffic laws in the Commonwealth**.

State And Local Safety Programs

The State Child Fatality Review Team recognizes the contribution to public safety made by Virginia's local and state agencies, including the Departments of Health, Transportation, Education, Motor Vehicles, Alcoholic Beverage Control, and State Police. The Team recommends the continued support of motor vehicle safety campaigns promulgated by these agencies and their programs throughout the Commonwealth.

10. The Virginia Department of Alcoholic Beverage Control should continue to provide educational materials for parents and teenagers.

11. The Virginia Department of Motor Vehicles should continue their collaboration with the Virginia Department of Education to insure that all parents and guardians of teenagers receive the "Virginia Department of Education 45-Hour Parent/Teen Guide."

12. The Virginia Department of Education should implement the "Partners for Safe Teen Drivers" program in all Virginia public schools. This program requires parents or guardians of teenagers who intend to take the Behind-the-Wheel portion of Driver's Education to attend a meeting to better prepare them to teach their children to drive. In addition, parents should be educated about the availability of new tools, such as "black boxes," to help them monitor their children's driving.

13. The Supreme Court of Virginia should educate juvenile judges about new tools to monitor the driving behavior of children who have committed a motor vehicle violation.

14. The Virginia Department for the Aging and Virginia Department of Motor Vehicles should continue to support partnerships between public and private organizations, such as the "Virginia GrandDriver" program, for the purpose of promoting safe elderly driving.

15. DRIVE SMART Virginia should partner with the Insurance Institute for Highway Safety and National Highway Traffic Safety Administration to educate Virginia parents about the safest vehicles for teenage drivers and drivers who transport children.

16. The Virginia Department of Health should continue to educate parents on proper installation and use of car safety seats and booster seats for young children and infants.

17. Local police or sheriff's departments should sponsor monthly or bimonthly in-car basic evasive driving clinics for parents and children who have gone through the driver licensing program.

18. Health and mental health care providers should educate children and their parents about the risk factors of driving for teens with distractibility and inattention disorders.

19. The Virginia Pharmacists Association should continue to educate the public regarding the potential dangers associated with driving while taking certain medications.

20. The State Child Fatality Review Team endorses the Commonwealth's "Strategic Highway Safety Plan: 2006-2010," a plan developed by the Virginia Department of Transportation in cooperation with federal, state, local and private sector safety stakeholders.

Law Enforcement And Commonwealth's Attorneys

The State Child Fatality Review Team recognizes the need for the enforcement of existing traffic laws and the punishment of persons found guilty of traffic violations.

21. Virginia law enforcement personnel and its Commonwealth's Attorneys should

aggressively investigate and prosecute all cases involving persons who knowingly supply alcohol to persons under the age of 21.

22. Virginia law enforcement personnel, its Commonwealth's Attorneys and the Supreme Court of Virginia should encourage the full enforcement of drunken driving laws. Plea bargaining and other diversionary programs that fail to fully prosecute drunken driving offenders may increase risk for recidivism.

23. The Virginia Department of Alcoholic Beverage Control should continue to enforce alcoholic beverage control laws and regulations.

Death Investigation

24. The Office of the Chief Medical Examiner should screen drivers and passengers who die in motor vehicle collisions for ethanol, cocaine and opiates.

Motor Vehicle Industry

The Team supports the following recommendations concerning vehicle safety improvements.

25. The Automotive Industry should incorporate the following innovations into the manufacture of new automobiles:
    a. Technology that reduces driver inattention and lowers the risks of drivers falling asleep.
    b. Back-up sensors in all sport utility vehicles, pickup trucks and vans.
    c. Five-point harnesses to promote seat belt use.
    d. Ignition switches that require all occupants to use restraints before starting the engine.

26. The Automotive Industry should consider creating optional "designer" restraint systems that can be purchased by parents to promote seat belt use by children and teenagers.

27. The Automotive Industry and Child Safety Seat Manufacturers should continue their efforts to standardize child safety seats in vehicles.

28. The Automotive Industry should place a sticker near the cruise control feature on automobiles warning drivers of the dangers of using cruise control while fatigued.

29. ATV Manufacturers should continue to place educational stickers on ATVs describing the unique restrictions for age, size and weight for each model.

Areas Of Further Study

Through this review, members of the State Child Fatality Review Team learned about the dynamics and characteristics of child death in motor vehicle collisions. That so many deaths were preventable was notable and striking. At the same time, the Team recognized that its work reflected just a small piece of a larger puzzle, and that other agencies and organizations in Virginia could contribute to a comprehensive understanding of these tragic and premature deaths. In this spirit, Team members made the following suggestions for further study:

30. The Virginia Department of Transportation (VDOT) should document the location and cause of child motor vehicle fatalities in the Commonwealth and, using this information, identify high risk areas for targeted prevention efforts. The data for young drivers should be disaggregated according to age of the driver with 15, 16 and 17 year old drivers in one group and 18 to 20 year old drivers in another group. The causes of the fatalities should be carefully documented to identify all of the circumstances associated with the incident. The Team discussed the potential value of adding rumble strips, strobe lights, speed messages (how fast you are going) and flashing warning signs along stretches of roads in high risk areas.

31. The Virginia Association for Driver Education and Traffic Safety should take the lead in forming a multidisciplinary task force to review the Virginia Driver Education program. This task force should use the information from the Team's review and the VDOT study on the location and causes of child motor vehicle fatalities in the Commonwealth to establish consistency in driver education. Concerns raised by the Team's review include variation in the content of driver education, in the level of preparedness among instructors, and in parental involvement in their child's preparation for driving.

32. The Virginia Department of Education should take the lead in establishing a task force of driver education instructors to assess how student performances in driver education classes should be evaluated in light of the available data on child motor vehicle fatalities. Substantive questions to address include requiring a minimal number of quizzes or tests,

requiring students to pass certain units, and requiring instructors to demonstrate certain skills to child drivers during the behind the wheel portion of the course.

33. The Virginia General Assembly should authorize the Joint Legislative Audit and Review Commission (JLARC) to conduct a study evaluating the laws and penalty structure regarding child drivers who violate motor vehicle laws. The Team recognizes the need for laws and penalties that balance prevention and correction. JLARC should develop recommendations to improve the effectiveness of the juvenile court system in rehabilitating child drivers who violate motor vehicle laws. Significant issues reviewed by the team include the effectiveness of laws pertaining to graduated licensing, alcohol offenses by minors, traffic offenses and the range of dispositional alternatives in the juvenile court system.

34. The Virginia Transportation Safety Training Center should investigate the location and cause of child motor vehicle fatalities that involve commercial vehicles and make recommendations to improve the safety of children on Virginia's public highways and roads.

Appendix A

TABLE 7: Patterns Among Drivers Involved in Vehicular Collisions Resulting in Child Fatalities - Virginia 2002

Action	Number of Child Drivers (n=43)	Number of Adult Drivers (n=34)
Running off the Road	34	21
Exceeding the Speed Limit	25	14
Reckless Driving	21	13
Inattention	16	8
Overcorrection	11	7
Exceeding Safe Speed but not Speed Limit	3	9
Driving on the Wrong Side of the Road	2	4
Passing Another Vehicle	2	2
Failure to Obey Road Signs/Signals	1	3
Failure to Negotiate a Curve	1	4
Failure to Yield the Right of Way	1	2
Eluding Police	1	0
Falling Asleep	0	3
Hit and Run	0	1
Improper Turn	0	1
Unknown	1	0

Appendix B

TABLE 8: Number of Fatal Child Motor Vehicle Collisions for Localities with Three or More Deaths - Virginia 2002

Locality	Number
Fairfax County	12
Arlington County	4
Bedford County	4
Pittsylvania County	4
Chesterfield County	3
Henry County	3
Prince William County	3
Spotsylvania County	3
Virginia Beach City	3

Appendix C

Virginia Localities by Medical Examiner District and Health Planning Region

LOCALITY	MEDICAL EXAMINER DISTRICT (OCME)	HEALTH PLANNING REGION
Accomack County	Tidewater	5. Eastern
Albemarle County	Central	1. Northwest
Alexandria City	Northern	2. Northern
Alleghany County	Western	3. Southwest
Amelia County	Central	4. Central
Amherst County	Western	3. Southwest
Appomattox County	Western	3. Southwest
Arlington County	Northern	2. Northern
Augusta County	Western	1. Northwest
Bath County	Western	1. Northwest
Bedford City	Western	3. Southwest
Bedford County	Western	3. Southwest
Bland County	Western	3. Southwest
Botetourt County	Western	3. Southwest
Bristol City	Western	3. Southwest
Brunswick County	Central	4. Central
Buchanan County	Western	3. Southwest
Buckingham County	Central	4. Central
Buena Vista City	Western	1. Northwest
Campbell County	Western	3. Southwest
Caroline County	Central	1. Northwest
Carroll County	Western	3. Southwest
Charles City County	Central	4. Central
Charlotte County	Central	4. Central
Charlottesville City	Central	1. Northwest
Chesapeake City	Tidewater	5. Eastern
Chesterfield County	Central	4. Central
Clarke County	Northern	1. Northwest
Colonial Heights City	Central	4. Central
Covington City	Western	3. Southwest
Craig County	Western	3. Southwest
Culpeper County	Northern	1. Northwest
Cumberland County	Central	4. Central
Danville City	Western	3. Southwest
Dickenson County	Western	3. Southwest
Dinwiddie County	Central	4. Central
Emporia City	Central	4. Central
Essex County	Central	5. Eastern
Fairfax City	Northern	2. Northern
Fairfax County	Northern	2. Northern
Falls Church City	Northern	2. Northern
Fauquier County	Northern	1. Northwest
Floyd County	Western	3. Southwest
Fluvanna County	Central	1. Northwest

Appendix C

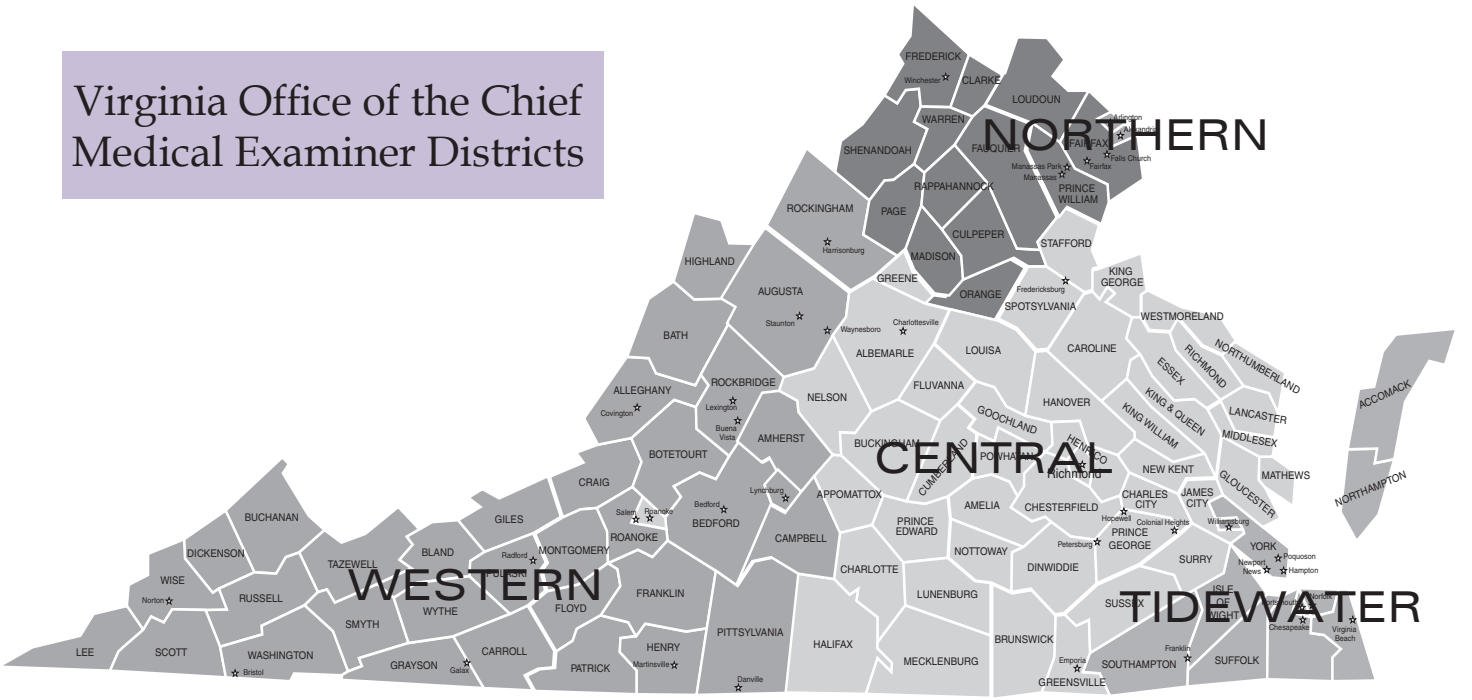
LOCALITY	MEDICAL EXAMINER DISTRICT (OCME)	HEALTH PLANNING REGION
Franklin City	Tidewater	5. Eastern
Franklin County	Western	3. Southwest
Frederick County	Northern	1. Northwest
Fredericksburg City	Central	1. Northwest
Galax City	Western	3. Southwest
Giles County	Western	3. Southwest
Gloucester County	Central	5. Eastern
Goochland County	Central	4. Central
Grayson County	Western	3. Southwest
Greene County	Central	1. Northwest
Greensville County	Central	4. Central
Halifax County	Central	4. Central
Hampton City	Tidewater	5. Eastern
Hanover County	Central	4. Central
Harrisonburg City	Western	1. Northwest
Henrico County	Central	4. Central
Henry County	Western	3. Southwest
Highland County	Western	1. Northwest
Hopewell City	Central	4. Central
Isle of Wight County	Tidewater	5. Eastern
James City County	Central	5. Eastern
King and Queen County	Central	5. Eastern
King George County	Central	1. Northwest
King William County	Central	5. Eastern
Lancaster County	Central	5. Eastern
Lee County	Western	3. Southwest
Lexington City	Western	1. Northwest
Loudoun County	Northern	2. Northern
Louisa County	Central	1. Northwest
Lunenburg County	Central	4. Central
Lynchburg City	Western	3. Southwest
Madison County	Northern	1. Northwest
Manassas City	Northern	2. Northern
Manassas Park City	Northern	2. Northern
Martinsville City	Western	3. Southwest
Mathews County	Central	5. Eastern
Mecklenburg County	Central	4. Central
Middlesex County	Central	5. Eastern
Montgomery County	Western	3. Southwest
Nelson County	Central	1. Northwest
New Kent County	Central	4. Central
Newport News City	Tidewater	5. Eastern
Norfolk City	Tidewater	5. Eastern
Northampton County	Tidewater	5. Eastern
Northumberland County	Central	5. Eastern
Nottoway County	Central	4. Central

Appendix C

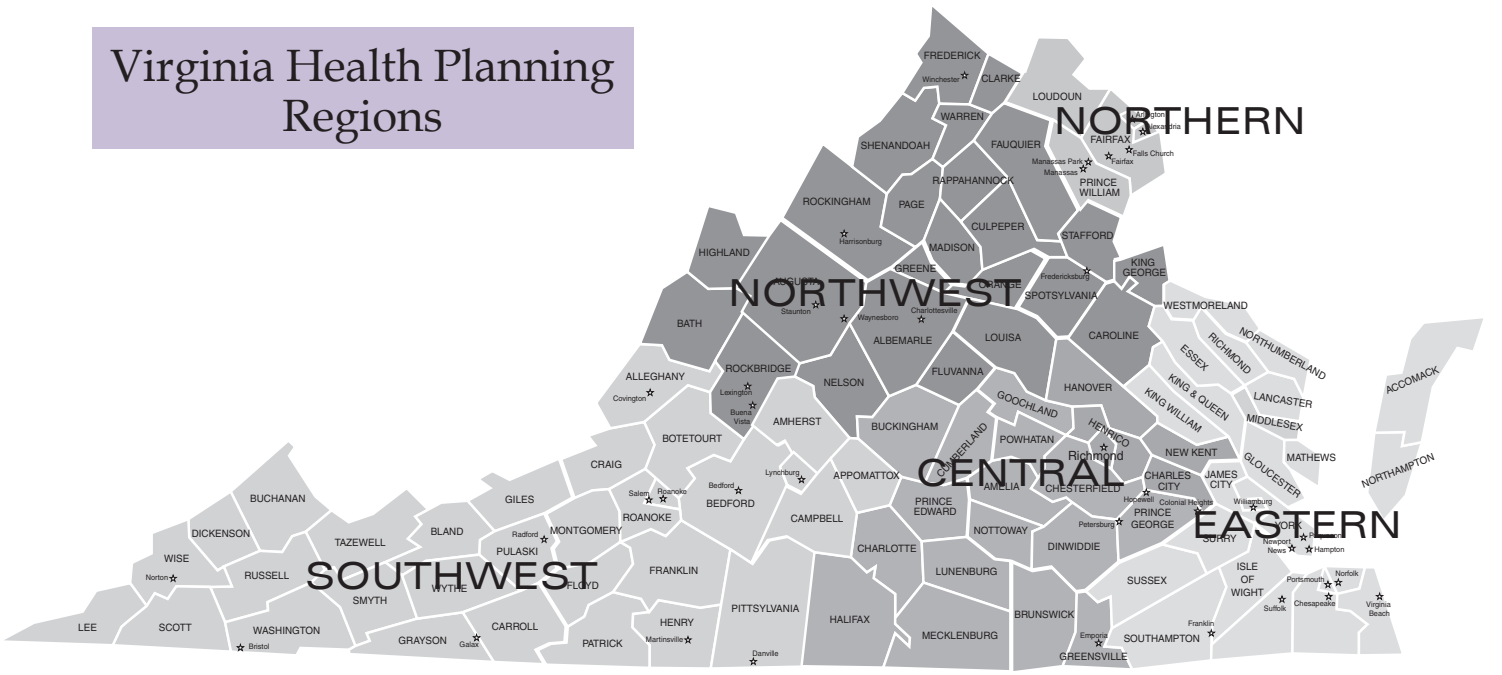
LOCALITY	MEDICAL EXAMINER DISTRICT (OCME)	HEALTH PLANNING REGION
Orange County	Northern	1. Northwest
Page County	Northern	1. Northwest
Patrick County	Western	3. Southwest
Petersburg City	Central	4. Central
Pittsylvania County	Western	3. Southwest
Poquoson City	Tidewater	5. Eastern
Portsmouth City	Tidewater	5. Eastern
Powhatan County	Central	4. Central
Prince Edward County	Central	4. Central
Prince George County	Central	4. Central
Prince William County	Northern	2. Northern
Pulaski County	Western	3. Southwest
Radford City	Western	3. Southwest
Rappahannock County	Northern	1. Northwest
Richmond City	Central	4. Central
Richmond County	Central	5. Eastern
Roanoke City	Western	3. Southwest
Roanoke County	Western	3. Southwest
Rockbridge County	Western	1. Northwest
Rockingham County	Western	1. Northwest
Russell County	Western	3. Southwest
Salem City	Western	3. Southwest
Scott County	Western	3. Southwest
Shenandoah County	Northern	1. Northwest
Smyth County	Western	3. Southwest
Southampton County	Tidewater	5. Eastern
Spotsylvania County	Central	1. Northwest
Stafford County	Central	1. Northwest
Staunton City	Western	1. Northwest
Suffolk City	Tidewater	5. Eastern
Surry County	Central	4. Central
Sussex County	Central	4. Central
Tazewell County	Western	3. Southwest
Virginia Beach City	Tidewater	5. Eastern
Warren County	Northern	1. Northwest
Washington County	Western	3. Southwest
Waynesboro City	Western	1. Northwest
Westmoreland County	Central	5. Eastern
Williamsburg City	Central	5. Eastern
Winchester City	Northern	1. Northwest
Wise County	Western	3. Southwest
Wythe County	Western	3. Southwest
York County	Tidewater	5. Eastern

Appendix D

Virginia Office of the Chief Medical Examiner Districts



Virginia Health Planning Regions



This report is available at the following website:
http://www.vdh.virginia.gov/medexam/childfatality.htm

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HRSA
Health Resources and Services Administration
Maternal and Child Health Bureau

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