



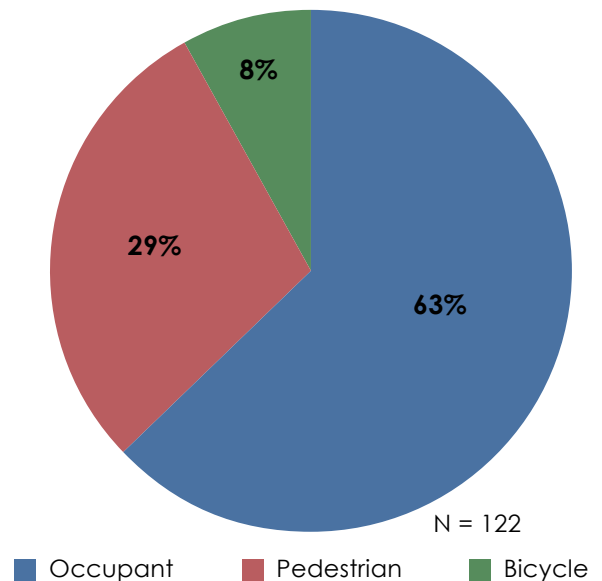
## OVERVIEW

In Dallas County, traffic-related injury death rates among children are typically less than or equal to traffic-related child injury death rates for the state of Texas and the United States. Nevertheless, traffic-related deaths are still a leading cause of injury death for children ages 1-17 in Dallas County.<sup>1</sup>

This report from the Dallas County Child Death Review Team (CDRT) provides information on traffic-related deaths of children in Dallas County from 2006 to 2011. All the deaths described in this report are preventable; therefore, recommendations are included to guide communities and organizations in preventing future traffic-related child injuries and deaths.

From 2006-2011, there were 124 traffic-related deaths of children 0-17 years of age in Dallas County. A traffic-related death was defined as any incident resulting in a child death that involved a motor vehicle, motorcycle, pedestrian or bicycle (this does not include hyperthermia or hypothermia deaths in cars). The analysis in this report is limited to 122 child deaths and excludes two fetal deaths that resulted from a motor vehicle crash.

**Traffic-related child deaths**  
Dallas County, 2006-2011



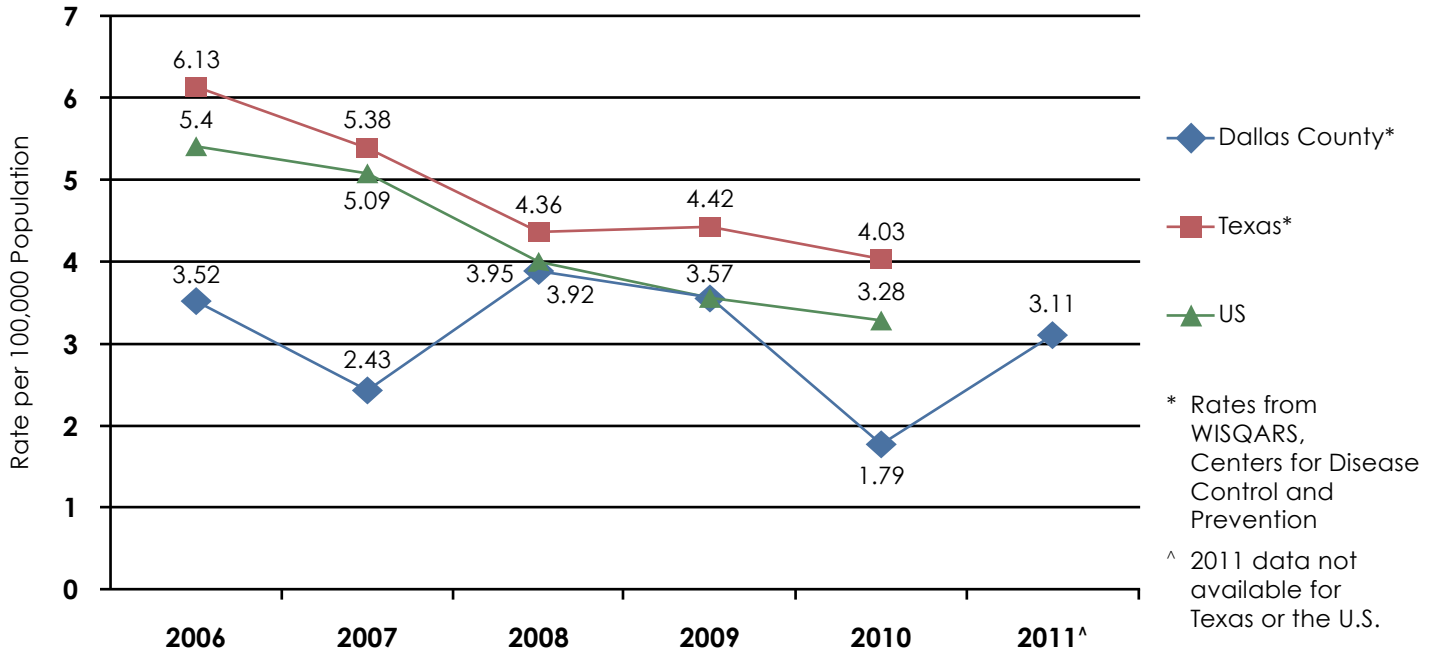
The Dallas County CDRT was established to conduct a comprehensive review of deaths of children 0-17 years of age to better understand how and why children die and to use the findings to take action that can prevent other deaths and improve the health and safety of children. Established in 1992, the Dallas County CDRT was the first multi-agency, multidisciplinary team to review child and adolescent fatalities in the state of Texas. The team meets under the legislative authority of the Texas Family Code, Chapter 264.

Nearly two-thirds (63 percent) of traffic-related child deaths were motor vehicle occupants including three motorcycle deaths. Thirty-five children (29 percent) died as pedestrians and 10 deaths (8 percent) were children riding bicycles.



### Rate of traffic-related child injury death by year

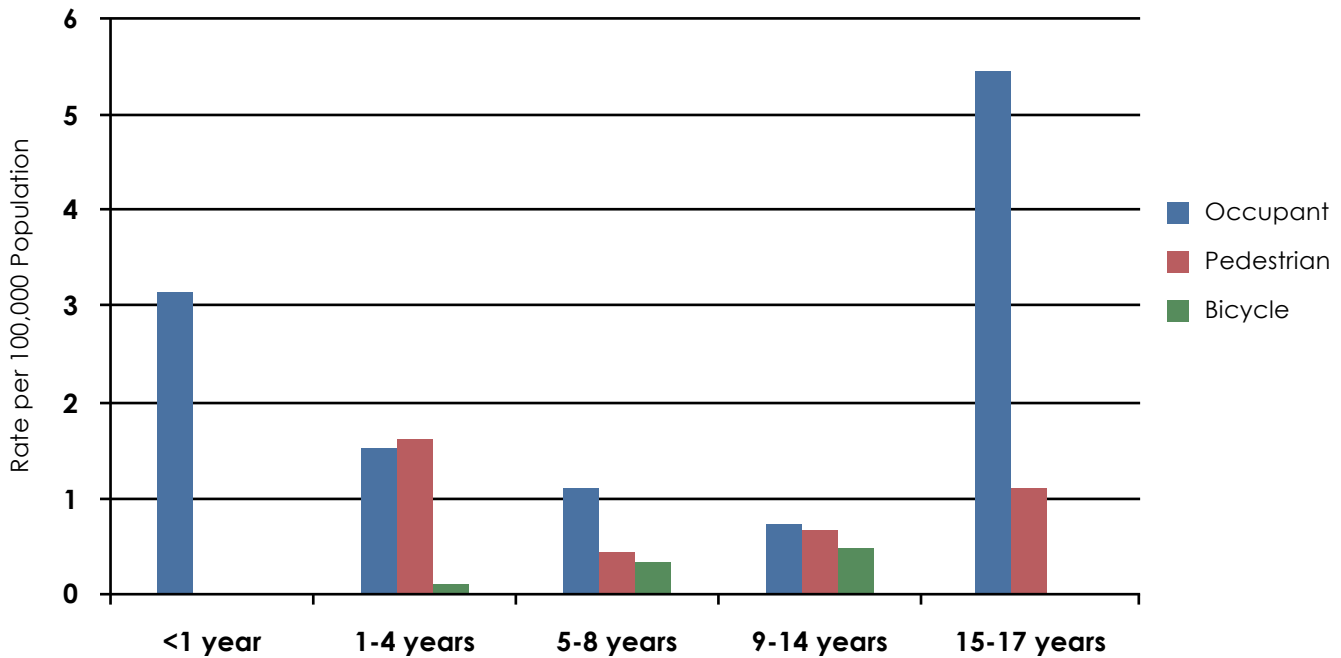
Dallas County, Texas and United States, 2006-2011



Rates of traffic-related child injury death in Dallas County were generally less than or equal to traffic-related child injury death rates for Texas and the United States.

### Rate of traffic-related child injury death by age group

Dallas County, 2006-2011



Children who died as a result of traffic-related incidents were more likely to be occupants in a motor vehicle versus a pedestrian or bicyclist with the exception of children 1-4 years, who were slightly more likely to be pedestrians.

## MOTOR VEHICLE OCCUPANTS

Nationally, motor vehicle crashes are the leading cause of death for children age 4 and those ages 11-14.<sup>2</sup> In Dallas County, 77 children died as occupants in motor vehicle crashes between 2006-2011; one-quarter (25 percent, 19 deaths) were drivers and three-quarters (75 percent, 58 deaths) were passengers.

### Demographics of child motor vehicle crash occupant deaths

Dallas County, 2006-2011

	Drivers			Passengers			Total Occupants		
	Number	Percent	Rate*	Number	Percent	Rate*	Number	Percent	Rate*
<b>Gender</b>									
Female	3	16%	0.2	24	41%	1.7	27	35%	1.4
Male	16	84%	0.8	34	59%	1.7	50	65%	2.5
Total	19	100%		58	100%		77	100%	
<b>Age Group</b>									
Under 1 year	0	0%	0.0	8	15%	3.2	8	10%	3.2
1-4 years	0	0%	0.0	15	26%	1.5	15	20%	1.5
5-8 years	0	0%	0.0	10	17%	1.1	10	13%	1.1
9-14 years	0	0%	0.0	9	16%	0.7	9	12%	0.7
15-17 years	19	100%	3.0	16	27%	2.5	35	46%	5.5
Total	19	100%		58	101% <sup>^</sup>		77	101% <sup>^</sup>	
<b>Race/ethnicity</b>									
African American	2	11%	0.2	11	19%	1.3	13	17%	1.5
Hispanic	9	47%	0.4	36	62%	1.8	45	58%	2.2
Other	1	5%	0.5	1	2%	0.5	2	3%	1.5
Caucasian	7	37%	0.8	10	17%	1.1	17	22%	1.1
Total	19	100%		58	100%		77	102%	

\*Rate per 100,000 population

<sup>^</sup>Percents may not equal 100 percent due to rounding

Rates of child death among motor vehicle occupants were highest for males, Hispanic children and 15-17 year olds. Drivers were more likely to be Caucasian and male. Passengers tended to be younger and Hispanic.

### Circumstances\*

Based on the information gathered during the child death review process, the most common factors among motor vehicle crashes included speeding or unsafe speed for driving conditions (53 percent); drug or alcohol use by a driver (29 percent); recklessness (25 percent); driver inexperience (10 percent) and cell phone/driver distraction (10 percent).

- **Drugs or alcohol were involved in nearly one-third of the crashes resulting in child deaths (29 percent, 22 deaths).**

- **In crashes that involved drugs or alcohol, 73 percent (16 deaths) also involved speeding.**
- **Forty-two percent (8 deaths) of teen driver deaths were single vehicle crashes.**

\*The circumstances in crash deaths do not distinguish between the car in which the child was an occupant and another vehicle involved in the same collision. More than one circumstance can apply to each occupant crash; therefore, totals may not equal 100 percent.

## MOTOR VEHICLE OCCUPANTS cont...

### Restraint Use

Seat belts (shoulder/lap belts), when used properly, lower the risk of fatal injuries to front-seat car occupants by 45 percent and the risk of moderate injury by 50 percent.<sup>2</sup> In addition, child safety seats reduce the risk of fatal injury for infants and toddlers by more than half,<sup>2</sup> and booster seats have been shown to reduce the risk of severe injury in motor vehicle collisions.<sup>3,4</sup> Of the 74 motor vehicle child occupant deaths (three motorcycle occupants were excluded as restraint use did not apply), approximately one in five children (22 percent, 16 deaths) were reported to be properly restrained.\* Proper restraint use by youth drivers was 37 percent and of child passengers was 16 percent.

Definition: Proper restraint use\*  
 <1-4 years: Child restrained in a car seat  
 5-8 years: Child restrained in a booster seat  
 9-17 years: Child restrained with a shoulder/lap belt

## BICYCLISTS

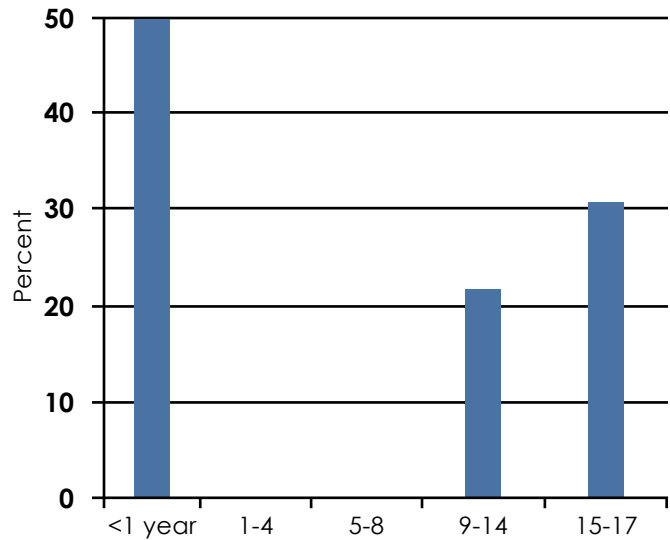
A total of 10 children were killed in motor vehicle-related crashes between 2006 and 2011 while riding a bicycle.

Bicycle-related death rates were highest for children 9-14 years of age and children of other racial backgrounds not listed in the table. All of the deaths were among males.

- **None of the child bicyclists were known to be wearing a helmet at the time of the incident.**
- **Two of the bicycle deaths involved environmental hazards such as overgrown bushes or a high retaining wall along the street, making it difficult for drivers to see the bicyclist. In addition, one bicycle death involved driver distraction (cell phone).**

## Proper restraint use in child occupant deaths

Dallas County, 2006-2011



The proportion of occupant restraint use varied by age.

- **None of the child occupants ages 1-8 years who died were properly restrained.**
- **Of booster seat age children (4-8 years), more than 80 percent were completely unrestrained in the vehicle at the time of the incident.**

## Demographics of child bicycle deaths

Dallas County, 2006-2011

Gender	Number	Percent	Rate*
Female	0	0%	
Male	10	100%	0.5
Total	10	100%	
Age Group	Number	Percent <sup>^</sup>	Rate*
Under 1 year	0	0%	
1-4 years	1	10%	0.1
5-8 years	3	30%	0.3
9-14 years	6	60%	0.5
15-17 years	0	0%	
Total	10	100%	
Race/ethnicity	Number	Percent <sup>^</sup>	Rate*
African American	3	30%	0.3
Hispanic	4	40%	0.2
Other	2	20%	1.0
Caucasian	1	10%	0.1
Total	10	100%	

\*Rate per 100,000 population

## PEDESTRIANS

Among traffic-related child deaths in Dallas County, more than one-quarter (29 percent, 35 deaths) were pedestrians.

### Demographics of child pedestrian deaths Dallas County, 2006-2011

Gender	Number	Percent <sup>^</sup>	Rate*
Female	13	37%	0.7
Male	22	63%	1.1
Total	35	100%	
Age Group	Number	Percent <sup>^</sup>	Rate*
Under 1 year	0	0%	
1-4 years	16	46%	1.6
5-8 years	4	11%	0.4
9-14 years	8	23%	0.7
15-17 years	7	20%	1.1
Total	35	100%	
Race/ethnicity	Number	Percent <sup>^</sup>	Rate*
African American	10	29%	1.2
Hispanic	17	49%	0.8
Other	1	3%	0.5
Caucasian	7	20%	0.8
Total	35	101%	

\*Rate per 100,000 population

<sup>^</sup>Percents may not equal 100 percent due to rounding

Rates of child pedestrian death were highest for children ages 1-4, African American children and males.

### Location

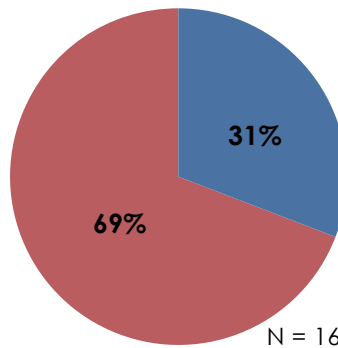
More child pedestrian deaths (57 percent, 20 deaths) occurred in areas considered to be public roadways (roads, streets or highways) than in driveways, alleyways and parking lots (43 percent, 15 deaths).

- **Hispanic and African American children accounted for nearly all (14 out of 15) pedestrian deaths that occurred in driveways, alleyways and parking lots.**

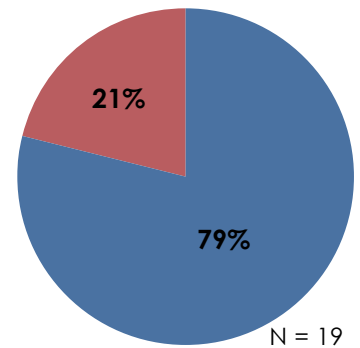
## Child pedestrian deaths by location

Dallas County, 2006-2011

### 0-4 year olds



### 5-17 year olds



- Road/Street/Highway
- Driveway/Alleyway/Parking Lot

Preschool-age children (0-4 year olds) were more likely to die as pedestrians in driveways, alleyways and parking lots (69 percent), while school-age children and adolescents (5-17 year olds) were more likely to die as pedestrians on roads, streets and highways (79 percent).

### Back over/Front over

Definition: Back overs are incidents in which a child is struck by or rolled over by a vehicle moving in reverse.<sup>5</sup> Front overs are incidents in which a child is struck by or rolled over by a vehicle slowly moving forward.<sup>6</sup> For the most part these incidents take place in driveways or parking lots.

Approximately one-third (34 percent, 12 deaths) of child pedestrian deaths were due to a back over or a front over. There were slightly more back overs (7 deaths) compared to front overs (5 deaths).

All but one (92 percent, 11 deaths) back over/front over deaths were of children between the ages of 1-4 years. The majority (83 percent, 10 deaths) of back over/front over child deaths occurred in driveways or parking lots.

- **All of the vehicles involved in a back over or front over child death were either trucks (n= 5), SUVs (n=5) or vans (n=2).**

## PREVENTING TRAFFIC-RELATED CHILD DEATHS

The information in this report suggests that focusing efforts on improving outreach and education regarding child passenger safety laws, increasing enforcement and modifying the environment may have the most impact in preventing traffic-related deaths to children.

**Occupant restraint use:** Texas has a strong law regarding the primary enforcement of seat belt use and child safety seats, including booster seats until 8 years of age.<sup>7</sup> However, this report showed that nearly eight out of ten child occupants were not properly restrained. Furthermore, the large majority (83 percent) of children that were booster seat age (4-8 years) were completely unrestrained. Specific recommendations include:

- Increasing enforcement of primary seat belt use and child passenger safety laws
- Partnering with churches, car dealerships, hospitals and schools to conduct car seat inspection stations
- Collaborating with day care centers and elementary schools to develop administrative policies that require parents and caregivers to have appropriate child restraint seats in their cars when they drop off and pick up school-age children

**Speed enforcement:** More than half of the motor vehicle crash deaths of children involved an adult driver or a youth driver that was speeding or driving at unsafe speeds for the road and/or weather conditions. In addition, one-quarter of the child motor vehicle occupant deaths involved recklessness. Recommendations for the most effective countermeasures include:<sup>8</sup>

- Stricter enforcement of speed limit laws
- Automated enforcement (e.g., traffic cameras)
- Public information when combined with enforcement
- Enforcement of Graduated Driver Licensing (GDL) laws for young drivers

**Alcohol impairment:** In Texas, it is illegal for persons under the age of 21 to operate a motor vehicle or watercraft while having any detectable alcohol in their system. Driving while intoxicated (DWI) is a Class B misdemeanor. DWI with a passenger younger than 15 years of age is a state jail felony.<sup>9</sup> Despite the current laws, 22 children died in motor vehicle crashes in Dallas County where at least one driver in the incident was impaired with drugs or alcohol. Some examples of effective practices to prevent alcohol-related traffic injuries include:<sup>10</sup>

- Requiring ignition interlocks for all convicted DWI offenders, including first-time offenders
- Implementing sobriety checkpoints to deter impaired driving by increasing a perceived risk of arrest if a person chooses to get behind the wheel after drinking
- Increasing the enforcement of laws prohibiting the sale of alcohol to minors

**Bicycle safety:** The majority (60 percent) of bicycle crash deaths occurred in the city of Dallas, which has an existing bicycle helmet law. Still, none of the child bicyclists in this report were known to be wearing a helmet at the time of the fatal incident. Bike helmets are the most effective way to prevent brain injuries upon impact. In addition to working with local leaders to ensure a bike helmet law is in place for all jurisdictions without bike helmet laws, education and enforcement activities should be implemented in jurisdictions with an existing bike helmet law. Policies and environmental change to provide safe and accessible space for bicycle riders should be considered as well. Specific recommendations are:

- Partnering with groups such as schools, community clubs and churches to provide on-going information on bicycle safety and helmet use
- Identifying environmental changes (e.g., better sidewalks, additional bike lanes, improved signage or eliminating sight line barriers) and implementing a Safe Routes to School project

## ACKNOWLEDGEMENTS

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## REFERENCES

1. Dallas County Child Death Review Team 2006-2011 data. 2013.
2. Department of Transportation (U.S.), National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts 2011 Data: Children. (DOT HS811 767). Washington, D.C.: NHTSA; 2013.
3. Durbin DR, Elliott MR, Winston FK. Belt-positioning booster seats and reduction in risk of injury among children in vehicle crashes. *JAMA*. 2003;289(21):2835–2840.
4. Arbogast KB, Jermakian JS, Kallan MJ, Durbin DR. Effectiveness of belt positioning booster seats: an updated assessment. *Pediatrics*. 2009;124(5):1281–1286.
5. Centers for Disease Control and Prevention. Nonfatal Motor-Vehicle-Related Back Over Injuries Among Children–United States, 2001-2003. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5406a2.htm>. Accessed 14 August 2013.
6. Kids and Cars. Retrieved from Kids and Cars.org; Back Overs: <http://www.kidsandcars.org/back-overs.html>. Accessed 14 August 2013.
7. Texas Department of Public safety. (n.d.). Texas Occupant Restraint Laws. Retrieved from Texas Department of Public Safety: [http://www.txdps.state.tx.us/director\\_staff/public\\_information/seatbelt.htm](http://www.txdps.state.tx.us/director_staff/public_information/seatbelt.htm).
8. Goodwin, A., Kirley, B., Sandt, L., Hall, W., Thomas, L., O'Brien, N., and Summerlin, D. (2013, April). Countermeasures that work: A highway safety countermeasures guide for State Highway Safety Offices. 7th edition. (Report No. DOT HS 811 727). Washington, D.C.: National Highway Traffic Safety Administration.
9. Texas Alcoholic Beverage Commission. (n.d.) Laws, Rules and Regulations. Retrieved from Texas Alcoholic Beverage Commission: <http://www.tabc.state.tx.us/laws/index.asp>.
10. Centers for Disease Control and Prevention. Impaired Driving. Retrieved from Injury Prevention & Control: Motor Vehicle Safety: [http://www.cdc.gov/Motorvehiclesafety/Impaired\\_Driving/index.html](http://www.cdc.gov/Motorvehiclesafety/Impaired_Driving/index.html). Accessed 12 August 2013.

## FOR MORE INFORMATION, PLEASE CONTACT:

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# CDRT

**Child Death Review Team | 2013**

Brief Report Traffic-related Child Deaths, 2006-2011



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