



Latest Trends in Child Pedestrian Safety

A Five Year Review



October 2007

The Problem

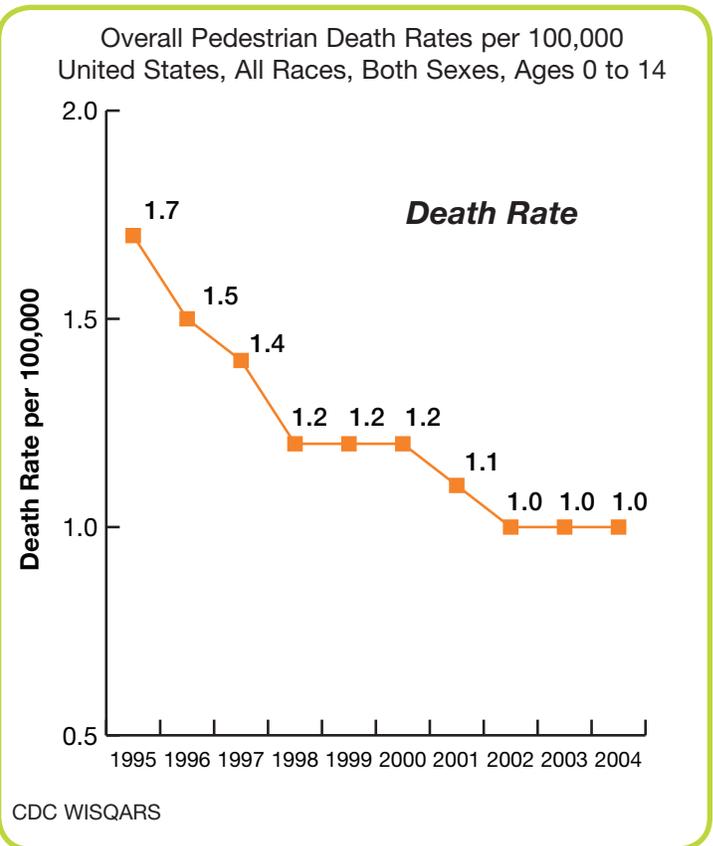
Between 1995 and 2004, the total number of children ages 14 and under killed as pedestrians decreased by 40 percent¹. However, pedestrian injury is still the second leading cause of injury-related death in the United States for children ages 5 to 14. According to the Centers for Disease Control and Prevention, 583 child pedestrians were killed in 2004; 70 percent of these deaths were a result of an incident with a motor vehicle. In addition, more than 33,571 children were treated in emergency rooms in 2005 for pedestrian-related injuries².

The percentage of children walking to school has plummeted from 42 percent in 1969 to just 16 percent in 2001³. A CDC study reports the top reason parents do not allow their children to walk to school is the distance from home to school, followed by traffic related concerns, weather, and crime⁴.

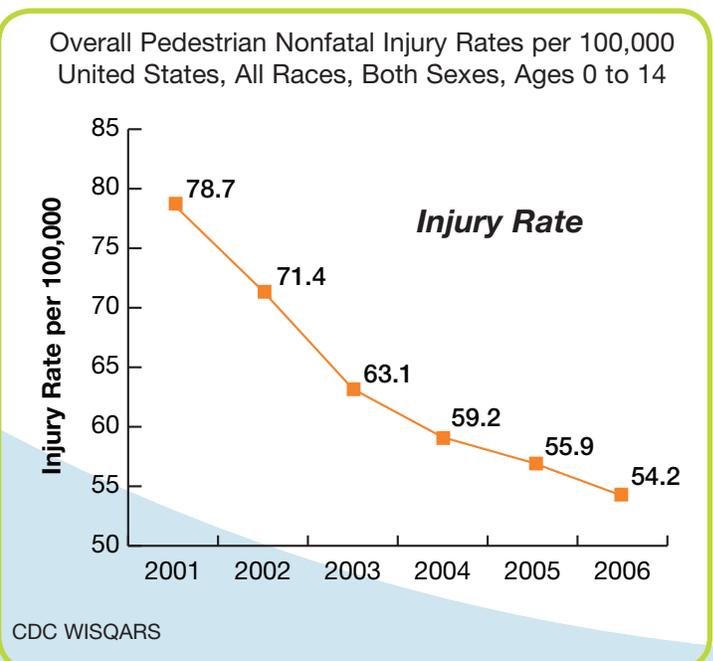
Although these numbers only reflect trends in walking to school, it is reasonable to infer that walking in general as a mode of transportation also has declined. This reduction in walking to school may have contributed to a significant decline in child pedestrian deaths and injuries and most likely contributed to a rise in obesity due to lack of physical activity among youth. However, pedestrian fatalities remain a serious concern for children.

In October 2002, Safe Kids Worldwide (formerly the National Safe Kids Campaign) released a study titled "Report to the Nation on Child Pedestrian Safety." The report highlighted child pedestrian injury trends from 1990-2000. This report, "Latest Trends in Child Pedestrian Safety: A Five Year Review," is an updated look at child pedestrian safety issues, including demographic information on the victims, where and when these incidents are taking place, and new this year, information on the drivers involved in these incidents.

As shown by the graph below, the pedestrian death rate for children ages 0-14 has declined by 40 percent over the past 10 years.

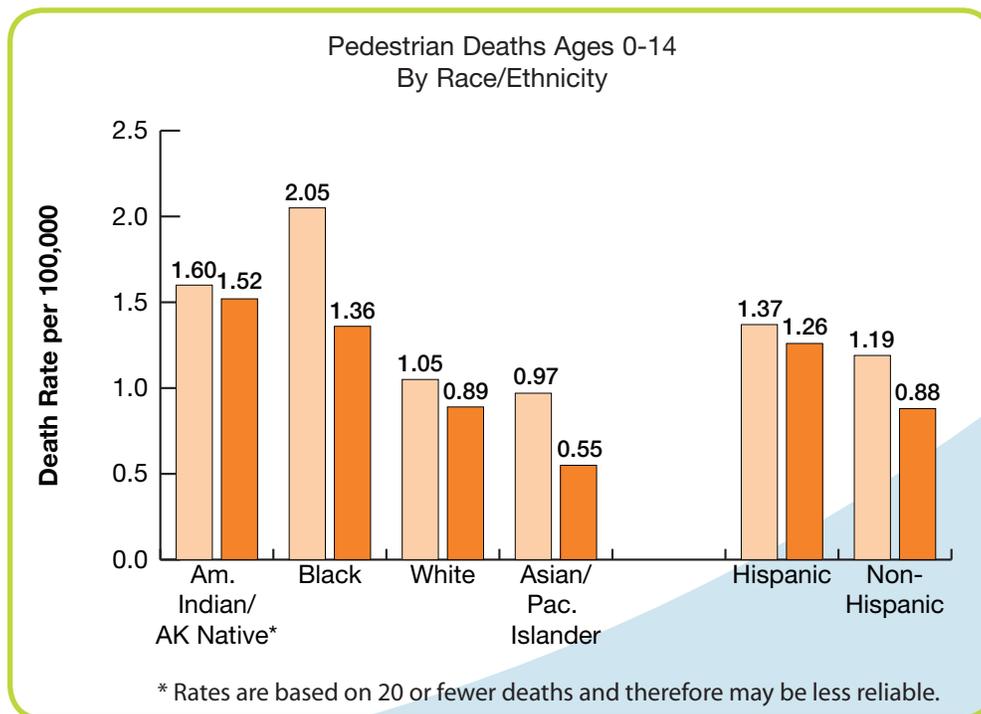
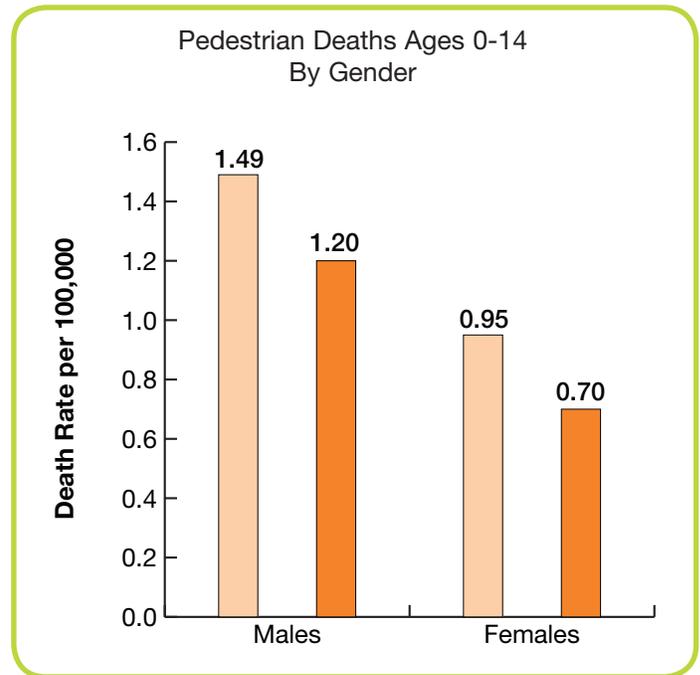
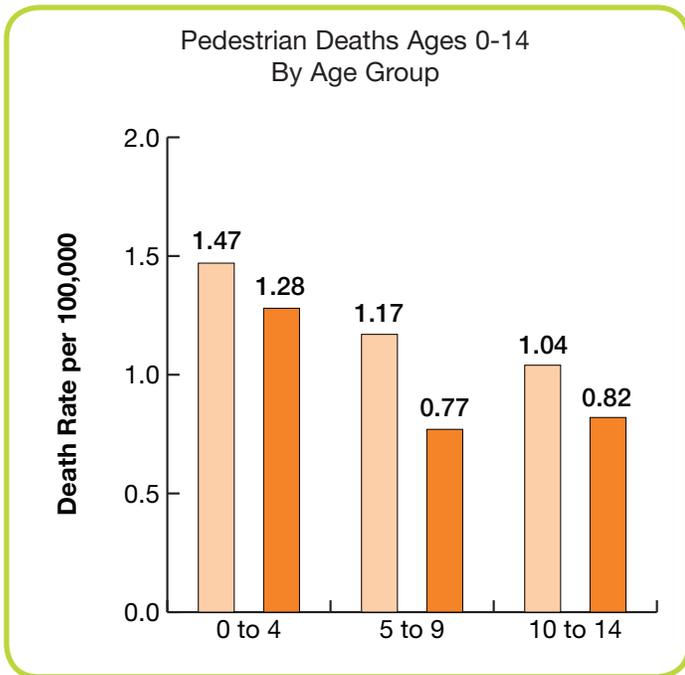


Over the past five years, the pedestrian injury rate for children ages 0-14 has declined by 29 percent.



Overall Pedestrian Death Rates, 1999 and 2004 (rates per 100,000 population, age adjusted, CDC WISQARS)⁵

These rates include all pedestrian deaths that occurred as a result of a motor vehicle incident as well as those that were not classified as motor vehicle-related.



METHODOLOGY

Data from the Department of Transportation's National Center for Statistics and Analysis, Fatality Analysis Reporting System was obtained in August 2007 to study trends in child pedestrian-related fatalities.⁶ This data contained records of all motor vehicle incidents that involved child pedestrians ages 0 to 14 from 2001 to 2005. The data was sorted and any records of pedestrians older than 14, those who were not fatally injured, or those where fatality or age was either unknown or unreported were removed. A total of 345 records were not used for the purposes of this study.

From 2001 to 2005, 1,811 motor vehicle traffic incidents involved a fatally injured child pedestrian. Some 1,830 children lost their lives in these incidents. While 323 child pedestrians were killed in 2005, the data shows there has been a 30 percent decline in the number since 2001.

Year	Deaths
2001	421
2002	373
2003	366
2004	347
2005	323
Total	1,830

Note: Due to the limitations in the available data, the findings do not necessarily reflect the true exposure of pedestrians or drivers to walking and driving.

RESULTS

Who's Dying?

Children ages 2, 13 and 14 accounted for the highest number of pedestrian deaths during the five years studied. Children from birth to age 2 are more likely to suffer non-traffic related pedestrian injuries, including those occurring in driveways, in parking lots and on sidewalks.⁷

Some 60 percent of all children killed as pedestrians were male and 35 percent were female. In 5 percent of the incidents, gender was unrecorded. This discrepancy between number of males and females hit by vehicles as pedestrians is consistent over the five-year period.

Pedestrian Deaths by Race and Ethnicity
All Races, Both Sexes, Ages 0 to 14, 2000 - 2004

Race/Ethnicity	Percentage
White	52%
Black	24%
Hispanic	17%
Asian*	2%
American Indian	1%

* Including Asian Indian, Asian Pacific Is., Chinese, Filipino, Japanese, Vietnamese and Other Asian.

According to data from the CDC over a similar five year period, 2000-2004, the death rate for child pedestrians based on race and ethnicity is as follows.

Pedestrian Deaths and Rates per 100,000
All Races, Both Sexes, Ages 0 to 14, 2000 - 2004

Race	Number of Deaths	Population	Crude Rate
White	1,641	235,728,386	0.70
Black	651	49,866,628	1.31
Asian/Pac. Islander	60	13,301,705	0.45
Am. Indian/AK Native	35	4,111,068	0.85

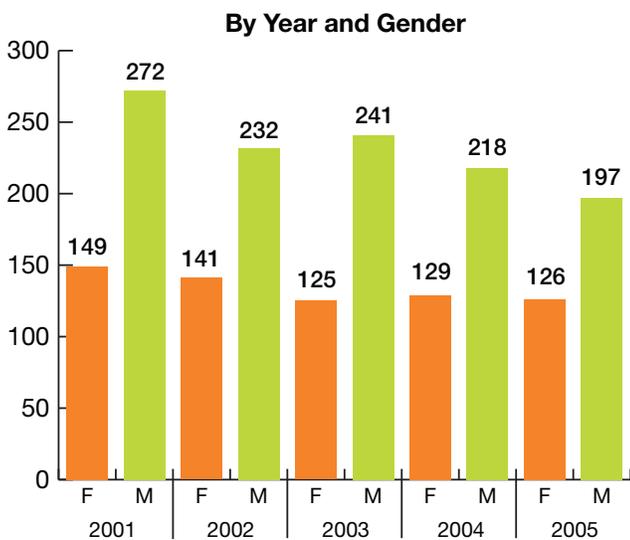
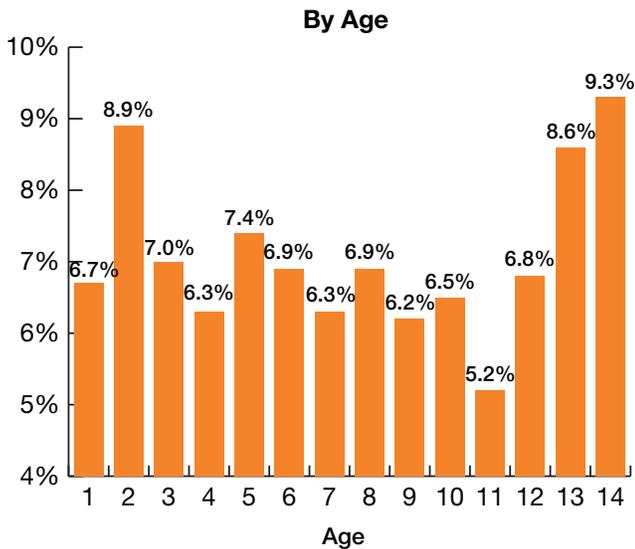
Ethnicity	Number of Deaths	Population	Crude Rate
Non-Hispanic	1,880	246,428,155	0.76
Hispanic	496	56,579,632	0.88

CDC WISQARS

While the number of pedestrian deaths are highest for white children ages 0-14, according to CDC data, aggregate data from over a similar five year period, 2000-2004, black children have the highest rate of death as pedestrians involved in motor vehicle incidents based on population size. The death rate is also higher for Hispanic children as well as for American Indian/AK Native children. The death rate is second lowest for white children with the Asian children having the lowest rate.

Note: Data in chart titled "Pedestrian Death Rates 0 -14 By Race/ Ethnicity" on the previous page reports all pedestrian deaths, not only motor vehicle related pedestrian deaths, which is why the rates are lower.

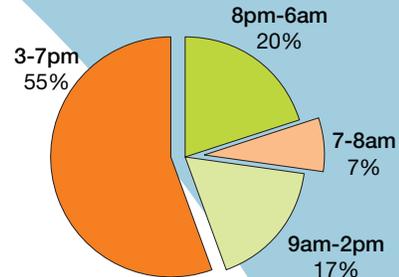
Child Pedestrian Death Rates Among Children Ages 14 and Under
2001 - 2005



The downward trend in the rates of child pedestrian fatalities over the five-year period is consistent across the demographic groups. While the findings of the 2002 report are still valid—boys are more likely to be fatally injured than girls and children ages 0 to 4 are at the highest risk—there has been significant reduction in each category. The largest reduction in fatality rates was shown in children ages 5 to 9, which declined at twice the rate of children ages 0 to 4 and 10 to 14.

When and Where?

After-school hours and dusk remain the most dangerous times for child pedestrians, with 55 percent of fatal incidents occurring between 3 and 7 p.m.

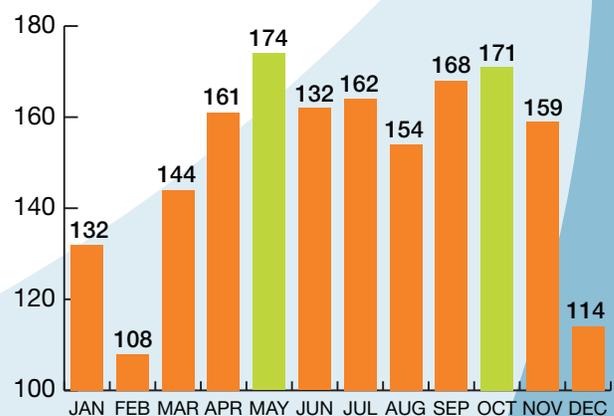


Children at a higher risk of being injured or killed as pedestrians are more likely to live in urban or high-density areas or in low-income households. In contrast, those at lower risk tend to live in areas of lower density and in households of higher socioeconomic status.^{9 10 11 12 13 14}

More than 80 percent of the fatal incidents occurred in areas other than intersections such as a mid-block location, and 75 percent were on roads that were not divided. The majority, 66 percent, of pedestrian deaths occurred on roads that were classified as urban, although there is a higher ratio of deaths to injuries in rural areas because of higher impact speeds on rural roads.¹⁵ The majority of all incidents, both rural and urban, occurred on local roads.

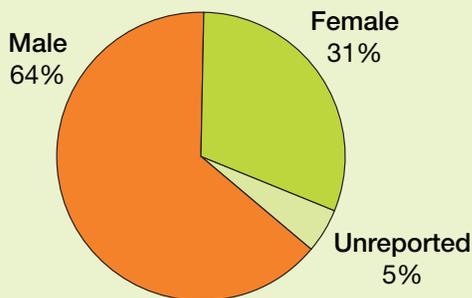
Time of Year

Incidents resulting in child pedestrian fatalities are highest during the spring and fall, with the greatest number of child pedestrian deaths due to motor vehicle incidents occurring during the months of May and October.

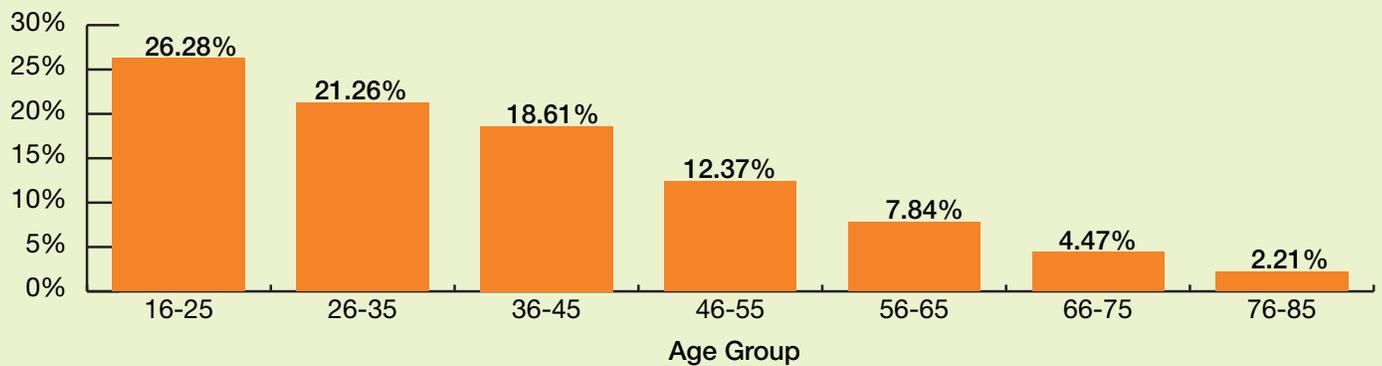


Spotlight on Drivers

Drivers ages 16 to 25 have been involved in more incidents where a child pedestrian was killed than any other age group. Males are at the wheel during incidents that result in a child pedestrian fatality more than twice as often as females.



Eighteen-year-old drivers accounted for 4 percent (68) of the child pedestrian deaths over the five-year period studied, more than any other age driver. Forty-three incidents involved 18-year-old male drivers compared to 25 incidents involving 18-year-old female drivers.



Of the 1,811 drivers who were involved in fatal crashes with child pedestrians, 2 percent of drivers were found to test positive for having drugs in their system, and 7 percent tested positive for alcohol use. More than 12 percent of the incidents were categorized as a “hit and run.” Other top characteristics recorded include: driving too fast (9.2 percent), failure to yield (7.1 percent) and being inattentive (e.g. reading, talking, eating) (6.5 percent). Less than 20 percent of drivers were making a turn when the fatal incident occurred; more than 80 percent were driving straight.

Vehicle Type

Four-door sedans were involved in more incidents than any other vehicle type (29 percent) followed by the standard pickup truck (15 percent). Overall, sedans (two- and four-door) accounted for a total of 38 percent of all incidents. Minivans accounted for 7 percent of all incidents and utility vehicles (small, midsize, and large SUV’s) accounted for 13 percent.

Why?

Children are particularly vulnerable to pedestrian injuries because they are exposed to traffic threats that exceed their cognitive, developmental, behavioral, physical, and sensory abilities. This is exacerbated by the fact that parents often overestimate their children’s pedestrian skills. Children are impulsive and have not yet developed the skills to judge how far away a car is and how quickly it is approaching. Usually, these skills develop gradually and are not fully mastered until at least age 10.

Traffic environments also contribute to the frequency and severity of pedestrian-related crashes. Children are more likely to get hit by cars in areas with high traffic volume, a higher number of parked cars on the street, higher posted speed limits, the absence of a divided highway, few pedestrian control devices, and few alternative play areas, such as parks.

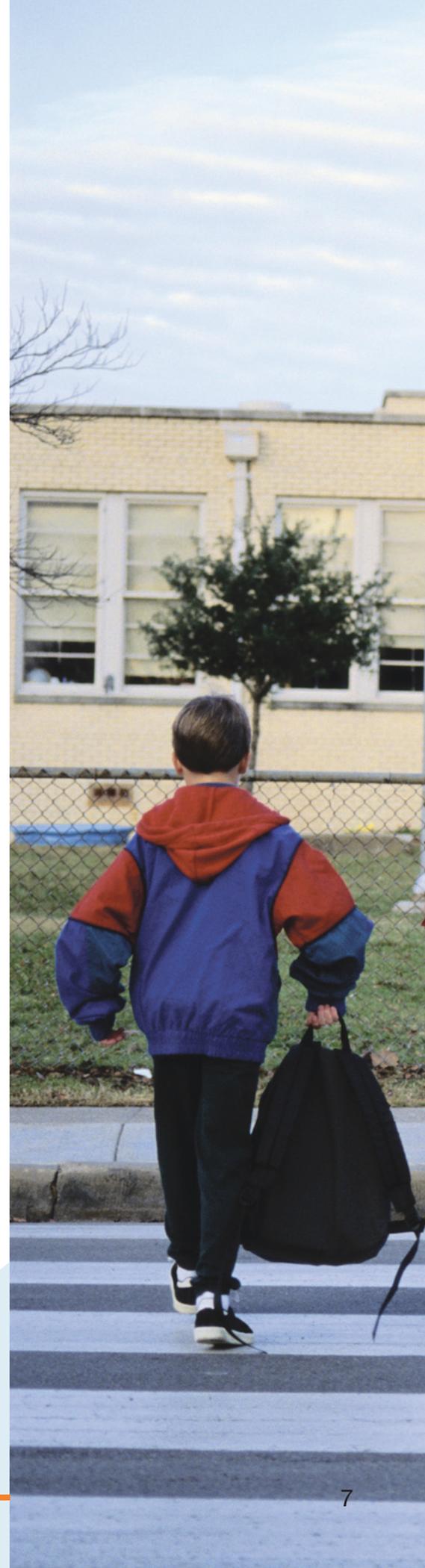
Conclusion

The downward trend in child pedestrian fatalities shown in this report is encouraging, but more needs to be done to protect children from injury as they walk. A multifaceted approach which includes education, advocacy and engineering for safer pedestrian environments is necessary to continue the prevention of injuries and encourage more children to walk.

In 2000, Safe Kids Worldwide, with the support of FedEx, launched Safe Kids Walk This Way, a program that addresses child pedestrian death and injury at behavioral and environmental levels. The Safe Kids Walk This Way pedestrian safety program is a community-based effort that teaches children to be safe pedestrians, teaches adults to be safe drivers, and advocates for environmental improvements in places where children walk or would like to be able to walk.

Over the past eight years, Safe Kids' 600 coalitions and chapters in the United States, concerned FedEx volunteers, transportation and law enforcement officials, and other safety advocates have banded together to heighten awareness of how walkable communities protect our children's health and safety. The Safe Kids Walk This Way program is just one way to contribute to the downward trend in pedestrian fatalities. Based on findings from this research project, Safe Kids Worldwide advises that future child pedestrian safety initiatives incorporate these specific actions:

- Increase the visibility of child pedestrians through the use of retro-reflective materials and light/bright colors on jackets and backpacks, especially during low-light hours such as early in the morning, after school and evening hours
- Adapt safety education and messages to groups who are at the highest risk for injury: male, American Indian and Alaskan native, and black children
- Educate young drivers about the risks of being involved in a child pedestrian/motor vehicle crash through driver education classes and graduated licensing programs
- Create injury prevention messages and materials targeted to drivers who are most likely to be involved in a pedestrian incident
- Support traffic engineering measures to reduce pedestrian/motor vehicle crashes, such as the separation of pedestrians from vehicles by time or space, and the reduction of vehicle speed
- Establish and enforce lower motor vehicle speed limits, especially in residential areas and near schools where children walk or would like to be able to walk



Endnotes

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Martin R. Eichelberger, M.D.
Founder and Director

Safe Kids Worldwide
1301 Pennsylvania Avenue, NW
Suite 1000
Washington, DC 20004
tel 202-662-0600
fax 202-393-2072

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