



**STOP SIGN
VIOLATIONS PUT
CHILD PEDESTRIANS AT RISK**

**A National Survey of Motorist Behavior
at Stop Signs in School Zones and
Residential Areas**

October 2003



INTRODUCTION

Walking is a no-cost transportation option that allows parents and children to spend time together, get exercise and improve air quality by not creating vehicle pollutants. Unfortunately, recent evidence indicates that kids are walking less. In 1969, nearly half of elementary school students walked or biked to school.¹ By 1995, only 10 percent of children traveled by foot to school.² This decline can be attributed to many causes, including traffic danger and other hazards that make walking unsafe for children.³

Decreased walking has contributed to a significant decline in child pedestrian deaths and injuries. However, pedestrian injury remains a leading cause of unintentional injury-related death among children.⁴ In 2000, 706 children ages 14 and under died⁵, an estimated 47,300 were treated in hospital emergency rooms for pedestrian-related injuries in 2001.⁶ Nearly 76 percent of these deaths and 73 percent of injuries were motor vehicle-related. The total annual cost of traffic-related pedestrian death and injury among children ages 14 and under is more than \$7.2 billion.⁷

Speeding and other driver behaviors are a contributing factor to pedestrian-related injuries. In 1999, a National SAFE KIDS Campaign survey found that two-thirds of drivers exceeded the posted speed limit in school zones during the 30-minute periods before and after school.⁸

Each year, stop sign violations are associated with approximately 200 fatal crashes and 17,000 non-fatal injury crashes.⁹ Children are at risk of injury when stop sign and pedestrian right-of-way laws are violated, yet studies investigating the rate of compliance with stop signs at intersections where children could be present have been lacking. Now SAFE KIDS and FedEx Express have closely examined driver behaviors at intersections in school zones and residential neighborhoods. This observational study determined the frequency of driver compliance with stop signs at unsignalized, marked and unmarked pedestrian crosswalks near schools and in residential areas.

METHODOLOGY

Data were collected by 72 SAFE KIDS coalitions, representing 39 states and the District of Columbia. Two hundred eighty-eight intersections were surveyed, using instruments and protocols developed by the National SAFE KIDS Campaign. A total of 25,660 vehicles were observed. All surveyed intersections were marked with stop signs and had no additional traffic control measures, such as crossing guards or flashing lights. All intersections were located in a school zone (52 percent) or a residential neighborhood with child pedestrian traffic (48 percent).

Each intersection was observed for 30 minutes by two observers who collected information about vehicle body type, stopping behavior, presence of pedestrians and whether pedestrians were crossing when the vehicle arrived at the intersection. Stopping behaviors were categorized as follows:

Stop before crosswalk – the wheels of the vehicle came to a complete stop before the crosswalk or stop sign (if crosswalk is unmarked)

Stop in or past crosswalk – the wheels of the vehicle came to a complete stop in or past the crosswalk (or past the stop sign if crosswalk is unmarked)

Rolling stop – the vehicle slowed at the crosswalk (marked or unmarked), but the vehicle wheels never came to a complete stop

No stop – the vehicle did not stop or slow significantly at the intersection

All coalitions submitted their surveys to the National SAFE KIDS Campaign for analysis. TELEform 7.0 software was used for data entry. Frequencies were generated using SPSS 8.0.

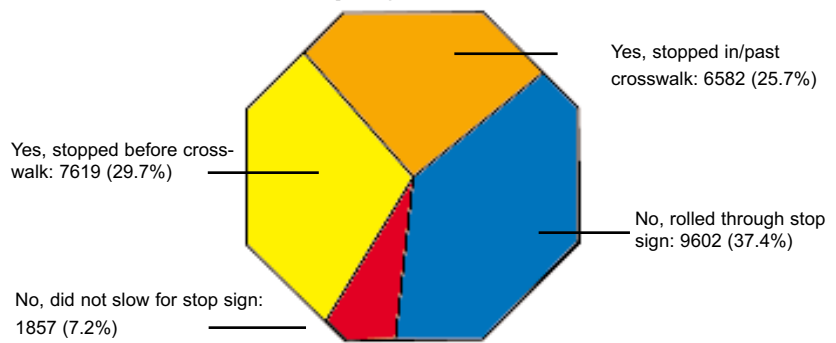


RESULTS

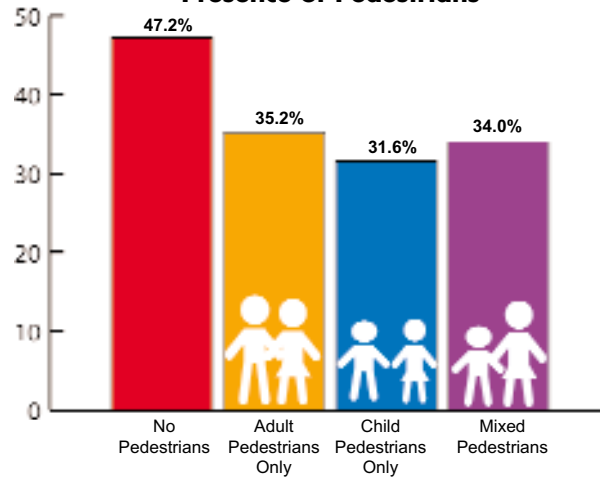
- Motorists did not obey stop signs, putting pedestrians and passengers in other vehicles at risk. Nearly half (45 percent) of vehicles surveyed violated the stop signs by not coming to a complete stop at intersections.
 - More than a third (37 percent) of motorists rolled through the stop signs.
 - Nearly a tenth (7 percent) of motorists did not even slow down for the stop signs.
- When a motorist completed a stop, the vehicle frequently stopped in or past the crosswalk, thus increasing the risk to pedestrians walking across the street. At intersections with marked crosswalks, one quarter (25 percent) of vehicles stopped in or past the crosswalks, impeding the pedestrian pathway.
- Motorists were more likely to stop when pedestrians were present.
 - Nearly a third (32 percent) of motorists violated the stop signs when child pedestrians were present.
 - Nearly half (47 percent) of motorists violated the stop signs when no pedestrians were present.
- Drivers were more likely to stop for pedestrians who were crossing than for those waiting to cross.
 - Nearly a quarter (24 percent) of drivers did not come to a complete stop at intersections where pedestrians were crossing.
 - More than a third (36 percent) of motorists violated the stop signs when pedestrians were waiting to cross.



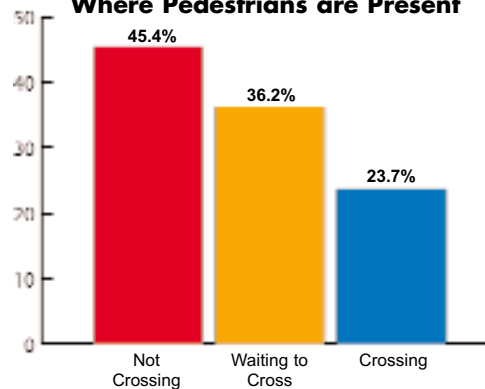
Observation of Stop Sign Violations



Stop Sign Violators in the Presence of Pedestrians



Stop Sign Violations at Intersections Where Pedestrians are Present



DISCUSSION

This observational survey of stop sign compliance in school zones and residential areas indicates that child pedestrians are at risk every day because of motorist behaviors. Child pedestrian safety must be a higher priority for our nation’s drivers.

Teaching children pedestrian safety is not enough, especially since we know that children under age 10 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.¹⁰

Child pedestrians cannot ensure their own safety, and parents cannot be sure their children are walking in a safe environment unless motorists – many of whom are also parents – respect traffic laws. Drivers need to be educated about the risks of traffic violations that they may consider to be minor, such as rolling through a stop sign. Enhanced awareness and enforcement of the laws being violated can save lives and create environments that are safe for child pedestrians.



CALL TO ACTION

Since 1999, SAFE KIDS and FedEx Express have teamed up to bring national and local attention to pedestrian safety issues. The two organizations launched the SAFE KIDS Walk This Way program, which has been instrumental in educating local communities about safe pedestrian behaviors and making school zones safer for child pedestrians. Now they are calling upon the 600 SAFE KIDS coalitions and chapters, concerned FedEx Express employees, other safety advocates, and transportation and law enforcement officials to heighten awareness in local communities about stop sign compliance and other safe driving behaviors.

Education

- Create and distribute public awareness tools like public service announcements and brochures to raise awareness of stop sign laws and penalties for violations
- Conduct media campaigns to help drivers learn about safe behaviors
- Encourage parents to walk or bike with their children to school, if possible, to decrease traffic congestion and increase safety
- Provide ongoing drivers' education through state motor vehicle departments
- Promote programs that encourage more walking and less driving, such as the Partnership for a Walkable America's International Walk to School Day
- Develop "walking school buses" or other programs that provide adult supervision along routes child pedestrians take to school

Enforcement and Enactment

- Conduct targeted stop sign enforcement campaigns regularly
- Establish new pedestrian right-of-way and jaywalking laws, and enforce existing ones
- Advocate for stricter penalties and increased fines for violators of stop sign and other traffic laws
- Support federal funding to support Safe Routes to School through the Pedestrian and Cyclist Equity Act of 2003

Engineering

- Dedicate more funds to slowing down cars and increasing the visibility of traffic signs and signals
- Evaluate effectiveness of existing traffic-calming markings, signals and signs
- Assess driving conditions in residential areas and near school zones and determine effective traffic-calming measures

References

¹ Beschren D. *Nationwide personal transportation study: Transportation characteristics of school children.* Washington (DC): U.S. Department of Transportation, Federal Highway Administration; 1972.

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³ Centers for Disease Control and Prevention. *Barriers to children walking and biking to school - United States, 1999.* MMWR 2002;51:701-704.

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⁷ Economics and Insurance Resource Center, Children's Safety Network. *December 2002. [Estimates based on 2001 dollars.]*

⁸ Taft CH, Kane BE, Mickalide AD, Paul HA. *Child pedestrians at risk in America: a national survey of speeding in school zones.* Washington (DC): National SAFE KIDS Campaign; October 2000.

⁹ National Center for Statistics and Analysis, National Highway Traffic Safety Administration. *FARS, NASS GES, 1998-2002.* Washington (DC): U.S. Department of Transportation, 2003.

¹⁰ Dunne RG, Asher KN, Rivara FP. *Behavior and parental expectations of child pedestrians.* Pediatrics 1992;89:486-90.

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