**Spotlight on a child is not a miniature adult**

# Kids see the world differently than adults

## Their unique perspective places children at special risk around traffic

Kids will be kids. So don't expect them to be anything else. But understanding how they're different can help us minimize their special risks in traffic. That's the advice of the members of the *Partnership for a Walkable America* — a coalition of private, federal, state, and local organizations from across the country that are united with the common cause of promoting walking and increasing street safety for pedestrians.

"Children walk differently from adults," said Maria Vegega of the National Traffic Safety Administration (NHTSA) in Washington D.C. "When a child walks to school or to the bus stop, for example, it's not necessarily a purposeful walk. Instead, children are checking out the scenery. If they're walking with friends, they're probably joking, running, pushing each other back and forth, laughing and talking. The walk to school or to the bus stop isn't the purposeful walk that it might be for an adult. It's more of an exploratory walk, and they may be oblivious to traffic."

The small size of children complicates matters because it makes it difficult for drivers to see them, said Diane Winn of the Pediatric Injury Prevention Research Group at the University of California at Irvine.

"Plus, children have a lower field of vision so being able to see in and around cars is more difficult for them," she said. "And sometimes they don't understand that if they see the car, that doesn't necessarily mean that the driver sees them. Kids look at the world from their point of view and aren't able to put themselves into the point of view of another person."

Children also have difficulty judging traffic, Winn said. They have problems judging gaps in traffic and they have limited ability to detect a moving vehicle in their side vision. Additionally, they have difficulty judging the speed of traffic and determining whether a car is coming or going; moving or standing still.

"If you think about it, interacting with a moving vehicle is a complicated task. It involves judging speed, time and distance as well as other factors," Winn said. "That's real hard for kids."

Vegega agreed: "Children don't have the same cognitive skills as adults in terms of being able to judge traffic. It's not until age 9 or 10 that children begin to have the skills to safely walk in traffic."

Lack of understanding about how cars work adds to the vulnerability of children in traffic, according to John Fegan of the Office of the Secretary of the U.S. Department of Transportation.

"A car obviously just can't stop on a dime and kids don't have an understanding of that. I don't think they have a sense of the danger that a car could hit them. And they're rewarded for that belief and that behavior because most likely, they have run across the street many times and have *not* been hit by a car. But it only takes one time."

Because children tend to focus on one thing at a time, they often don't take in the information that's necessary to handle all traffic situations, Winn said.

## How kids are different in traffic:

- Children don't think about getting hurt. They have no concept of death until about age 9.
- Kids are impulsive and impatient. They are prone to dart into traffic on a whim.
- Kids focus on one thing at a time. When they're concentrating on a ball game in their yard, they are not thinking about nearby traffic.
- Kids confuse the worlds of fantasy and reality.
- Children have difficulty figuring out what is important information.
- Children have trouble judging traffic speed, gaps in traffic, or whether a car is coming, going, or standing still.
- Kids have limited ability to detect traffic in their side vision.
- Kids have difficulty figuring out the meaning and direction of sounds.
- Children tend to focus on sounds that interest them (the ice cream truck) rather than those that are important in traffic (car engines).
- Children have trouble understanding that a car can't stop as quickly as they can.
- Children lack knowledge or understanding of traffic rules and dangers.
- Kids are smaller than adults, and have trouble seeing traffic, and being seen by drivers.
- Children often think that if they can see a car, then the driver sees them, even if they are standing behind a shrub or a parked car.
- Kids confuse eye contact with drivers as permission to cross.
- Kids don't realize that drivers are paying attention to many things and aren't focused on just them.

"They might be more interested in the ice cream vendor across the street and not notice the car coming down the street," she said. "And even if they were to notice the approaching car in this scenario, that doesn't necessarily mean they would have the ability to make the right safety decisions. Kids have difficulty determining what is relevant information and what is irrelevant information related to a task. They also don't realize that drivers may be distracted and involved in other activities while driving and may not even be aware of them."

All of these qualities combined make children at special risk of being injured when they are around traffic. According to figures from the U.S. Department of Transportation, approximately 30,000 children ages 15 and younger were injured in pedestrian crashes in the United States in 1996. On average that year, 346 boys and 231 girls were injured each week. That year, 715 children died in pedestrian crashes — nine boys and five girls each week.

## Drivers: Slow down!

One of many things that can be done to help children be safer around traffic is for drivers to slow down.

"Most drivers do not want to be tearing through a neighborhood and putting children at risk," said Lauren Marchetti of the UNC Highway Safety Research Center in Chapel Hill, N.C. "They're not thinking about that. They're thinking about other things. Awareness of why it's important to drive slower can help drivers realize why speeding isn't good behavior. This awareness can also help make communities more receptive to the idea of enforcement. Even going five miles an hour over the speed limit can affect whether a driver can avoid hitting a child or how badly a child is hurt when he is hit."

Tom Samuels of the Chicago Department of Transportation agreed: "Traffic speed is a decisive factor in determining the walkability of a neighborhood for children. A child hit by a car traveling at 40 mph has an 85 percent chance of being killed and a 15 percent chance of being severely injured. At 30 mph, the risk of being killed drops to 45 percent and the chance of severe injury becomes 50 percent. And at 20 mph, the chance of being killed is 5 percent, the risk of severe injury is 65 percent, and there is a 30 percent chance of sustaining minor injuries alone."

Being vigilant for children who might unexpectedly dart into the road is another way that drivers can help, said Vegega, who is Chief of the Safety Countermeasures Division in NHTSA's Office of Traffic Injury Control Programs. Studies have shown that many pedestrian crashes involving kids ages 5-14 can be attributed to "dart out" behavior. Research has also shown that driveways are common places where child pedestrian injuries are likely to occur.

"We need to educate drivers to look for children when they're backing out of their driveways and when driving through residential areas or other places where children are likely to be," Vegega said.

## Designing streets for the most vulnerable

Children are some of the most vulnerable users of streets, according to members of the *Partnership for a Walkable America*.

"Children walk in a cocoon oblivious to everything outside of their immediate surroundings," Samuels said, adding that children are, in a sense "the barometer measuring the safety and livability of our environment. If we can create an environment that is safe and enjoyable for children, it will also be so for adults, the elderly and the disabled."

"For the traffic engineer, this means designing streets for the greater comfort and convenience of pedestrians," he said. "Cities need to reduce unnecessary pedestrian barriers, increase opportunities for crossing busy intersections in safety, provide direct walking routes to schools and other neighborhood amenities, and provide incentives for walking."

Many U.S. cities are starting to do this by adopting a solution called "traffic calming" that has been used in Europe for the past 30 years. It involves a multitude of techniques including narrowing streets and zigzagging roads.

"The end result can be significantly reduced traffic speeds and reduced traffic crash rates," Samuels said.

According to Winn, traffic engineering designs that accommodate pedestrians are one of the most promising ways of making streets safer for children "because they change the driver's behavior without the driver consciously having to think about it each time they get in the car."

"If the road is designed such that it is more difficult to drive fast," she said, "you drive slower."

## Learning the rules

Teaching kids skills to be safe around traffic is important. However, parents cannot rely upon young children to always remember and apply those rules.

"Some people are opposed to educating children in pedestrian safety because they think it puts the onus on children and takes it away from the drivers to be responsible," Winn said. "Then there are others who say, you should teach some skills and help children build on those skills to become better, safer pedestrians in the long haul. It's a real dilemma because we're not going to change kids. They have to go through certain developmental stages and while they may be able to improve certain skills, you can't educate them if they're not developmentally mature enough to handle the situation. Basically, you want to provide kids with some traffic safety skills but you can't expect them to always follow them."

Constant reinforcement of the rules is necessary, Vegega said.

"Parents can't assume that just because the child has been taught the rules, that the child has actually internalized them," she said.

Some of the difficulty children have in putting traffic safety rules into action comes from the fact that situations often arise where children don't realize that they are a pedestrian, Marchetti said.

"I mean that in two ways — one, they didn't start out as a pedestrian but ended up one — they're at play and suddenly they are chasing a ball and they're running toward the road. Even though they've been taught how to behave as a pedestrian, if they don't realize they are pedestrians, the chances of them remembering the safety rules are quite small," Marchetti said. "The other is when they start out a pedestrian but in their mind they go off to some other wonderful place. Children are marvelous in their attention to a butterfly, a brightly-colored something, an interesting person, an animal — and suddenly they're not a pedestrian anymore. And again, the chances of them remembering they are pedestrians and that there are skills that will help them survive is just not very likely."

## Kids need play

Lots of child pedestrian injuries take place while children are playing near their home, Winn said.

"One point I want to emphasize is how very important play is for kids," Winn said. "Kids need to be

able to run and play. That's how they learn about themselves and the world. We need to make our neighborhoods and streets safer so kids can be kids."

According to Samuels, "Sidewalks and front yards provide the best possible opportunities for children's play, and consequently personal growth. Because the primary mode of transportation available to children is walking, these places are inherently accessible and easily monitored by adults," he said. "They offer minimal commute time, which is critical considering the hectic schedules of children trying to balance school, sports, music lessons, family functions, meals, and all the other demands on their time."

Watching how children walk down streets can give adults valuable insights into understanding the opportunities that streets provide for kids, Samuels said.

"What may seem to an adult as nothing more than a limited function resource — such as a sign, pole or sewer grate — offers innumerable play opportunities for a child," he said.

## Working together

Winn encouraged parents, drivers and traffic engineers to work together toward creating an environment where kids can be kids.

"In designing streets, traffic engineers should strive to make neighborhoods not just walkable but also playable," she said.

"Parents need to think back to when they were kids — to a different era in the United States when walking was not as hazardous," she said."Kids are walking less now. They're playing outside less and we need to make it comfortable and safe for them to be outside. Childhood is an exciting opportunity and we've got to make it work for kids. When we think back to when we were kids, some of the best memories we have are from when we were playing with our friends and had those first opportunities to walk independently to the store or park."

Making our communities more playable and more walkable is everyone's responsibility, said Jerry Scannell of the National Safety Council.

"Maybe one of the best messages that something like the *Partnership* can bring forward is that we all have to come together and share responsibility for this," he said. "If parents did their part and drivers did their part and traffic engineers did their part — all of this over time would create a better environment in which our children would not only be safer, but enjoy walking more."

**For more information on ways to make your community walkable see the Web site of the *Partnership for a Walkable America* at http://www.nsc.org/walk/wkabout.htm**

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