

**THE IRREPLACEABLE ROLE OF PARENTS IN
TEACHING CHILDREN TO WALK SAFELY TO SCHOOL**

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INTRODUCTION

Safety in school zones is always a sensitive topic. An accident that involves a child on the way to school, and especially one in the school zone, will trigger a vigorous response. There is a societal expectation that the trip to school will be safe.

A report published in 2011 in Quebec indicated that most accidents involving children occur at other times and places - 371 children were injured in the school year during the usual hours for trips between home and school (for the period 2003-2007), which represents 18,1 % (371/2 043) of the total number of injured children. [1] Yet, the school remains the focus of concern.

Parents exert strong pressure to ensure safety in school zones.

Government authorities have responded positively to the pressure. For example, in a 2002 manual, the Quebec Ministry of Transportation states that “(it) generally favours reducing the speed limit in zones where there are schools and playgrounds on local roads. As the aim is user safety, particularly that of children, it is important to provide various incentives to ensure the efficiency of such a measure: the presence of school crossing guards, clear signage, appropriate design, etc.” [2] The accompanying illustration includes curb extensions on a 2 x 1 lane street. Manitoba recently went through this process, before allowing local traffic authorities the power to set speed limits for school zones at 30 km/h [3]

Police forces are heavily used to do surveillance work in school zones for a number of driver behaviours. The Quebec section of the CAA has been monitoring school zones just after the start of the school year since 2009. On September 12, 2011, 223 road infractions were noted in 11 school zones between 7 a.m. and 8:30 a.m.:

- Speeding – 172
- Disregard of road signs – 150
- Lack of seatbelts – 136
- Unsafe conduct as kids left vehicle – 112
- General unsafe conduct – 100 (including double parking)
- Failure to use flashers – 83
- Cell phone use – 16
- Disregard of school bus – 9

“Cmdr. Pierre Rousseau of the Montreal police said they run an enforcement campaign at the start of every school year, re-emphasizing to drivers the importance of safety around schools.” [4]

Educational efforts have been tried, generally through schools, sometimes in playgrounds. The evaluation of such efforts has given limited results. For example, the Quebec Automobile Insurance Board found that road safety knowledge had improved in Grade 3 for students who had followed its curriculum material in four out of 13 objectives, while in Grade 6, there was no significant difference between the experimental and control groups [5]. The report states that the students had not been observed in real traffic situations, and that these results did not reflect traffic behaviour. [6]

In the area of cycling safety, “Existing research only provides inconsistent support for cycle safety education for children. The only study to consider crashes as an outcome showed no effect of cycle safety education, while the only study to consider injury outcomes showed a negative effect of training. A randomised control trial that considered observed behaviour showed no effect.” [7]

Other initiatives have sprung up in response to parents’ concern for safety, for example the Walking School Bus, where at least two adults lead a group of children along a predetermined route and schedule to get to school. The adults are responsible for the safety of the children and so must maintain a strict discipline. It is not considered an educational activity, where the adults would teach children how to understand traffic. The program relies on volunteers, whose long-term involvement requires a lot of organization. In Quebec, the Canadian Cancer Society has set up the “Trottibus” program to help in the administration.

There is much improvement which could come from better street design in school zones, far beyond what some reports consider. For example, NCHRP Report 600, **Human Factors Guidelines for Road Systems** has a section on “Methods to Reduce Driver Speeds in School Zones”, which it says “refers to traffic control devices and pavement markings that are used to encourage drivers to drive at lower speeds in school zones.” [8] As such it does not even consider geometric design. The example it provides (see Figure 1) is a four-lane arterial, with speed limits of 35 mph in the school zone. This would not provide a level of safety appropriate for elementary school surroundings. As we will see in my presentation tomorrow, consideration should first be given to reducing the number of lanes. However, this may not be possible, for other reasons.

But one essential ingredient is missing from the list of safety efforts: parental involvement in teaching their children how to walk safely to school and elsewhere. It is a crucial element to ensure a safe systems approach. The subject is very little discussed in the literature: “surprisingly, few studies have explored parent-related factors that may moderate this risk.” [9] A research project undertaken in France demonstrates a spike in pedestrian accidents involving children ages 11 and 12 [10]. The researcher attributes this phenomenon to the change in parents’ decisions – for younger children, parents protect their children, whereas the older children are given more freedom, but without the training that should have been given.

SCHOOL ZONE SPEED LIMITS

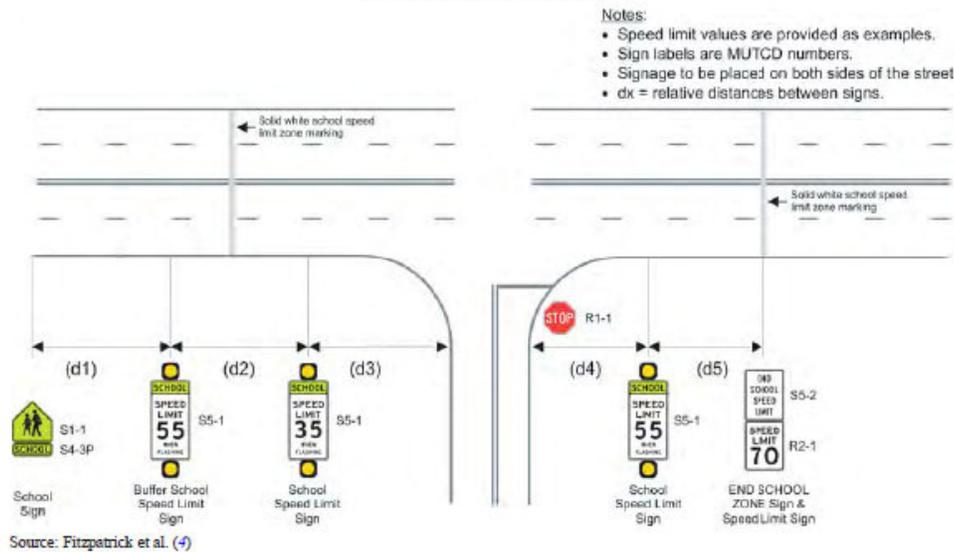


Figure 1. Example provided for reducing speeds in school zones

RECOMMENDATIONS THAT HAVE BEEN ENUNCIATED BY A NUMER OF ORGANIZATIONS AND ADOPTED BY AGENCIES

Many organizations have adopted policies that discourage young children from walking to school. For example, an American program recommends children under the age of 10 not cross a street alone. [11] Some research seems to favour this approach: “Children as young as 6 and 7 years old lack the perceptual skills of even slightly older children, skills that reach adult levels after about the age of 10.” [12]

Rampant misconceptions about children’s abilities

The AAA Foundation for Traffic Safety has produced a video “Children in Traffic” (reedited in 1999 as “The New Children in Traffic”) that explores some of the problems children face in traffic. When asked for the scientific research that was used to back up the claims, an official with the foundation explained that the video was an adaptation of a German video done in the early 1980’s that was accompanied by a brochure that discusses its contents. Unfortunately, the brochure did not present any references. As important an issue as children’s abilities should be, insufficient research is available.

Here are some of the statements collected over the years in documents dealing with the abilities of children:

- ❖ “Children up to the age of 12 years don’t have the physical stature, behavioural or cognitive skills to negotiate through traffic.” (Guyer 1998, in [13])
- ❖ “Until they have at least the age of 10 to 11, children don’t have the competence to judge traffic.”
- ❖ “Children 9 years old or less should always be accompanied by alert adults or older children when crossing the street.” (Alberta Safe Kids, 1998 in [13])
- ❖ “Studies show that children under the age of 9 years do not have the cognitive skills to make safe judgments about traffic, even after they have been taught clear rules. Peripheral vision is not fully developed. They are less able to judge the speed of vehicles, the distance between objects, and their own abilities. Importantly, children tend to underestimate the risk and consequences of collision (Safe Kids Canada 1999 Results of the Focus Canada Survey Attitudes and Behaviours on Road Safety)” [14]
- ❖ “According to child development specialists, the level of development of children of less than 9 years old exposes them to risk near traffic.”
- ❖ “On foot, under 8 to 9 years old, accompany them, because they are too small to go alone to school. “
- ❖ “The stage of pre-operational intelligence spans from around 18 months to 7 years. Four main features of the pre-operational stage of development put these young children at risk when travelling in traffic, and make it difficult for a child in this developmental stage to "learn" traffic safety. These include:
 - i) egocentric thinking
 - ii) rigid thinking
 - iii) not understanding cause and effect
 - iv) distorting facts in order to create a personal reality.” [15]
- ❖ “Up to the age of 8, the child has difficulty judging if a vehicle is moving.”
- ❖ “Up until the age of 10 or 11 at least, children don’t have the competence to judge traffic.” (NHTSA, Talking points, p. 3)
- ❖ “Young children lack the maturity and developmental skills to cross the street on their own and should be accompanied either by an adult or by responsible older children.” [16]
- ❖ “Studies have shown that children do not reach traffic maturity until about the age of 10. They have limited perceptual ability to estimate the speed of oncoming vehicles and to apply the knowledge of safe crossing behaviour.” [17]

In a presentation to the Road Safety Research Network in Quebec City this past May, an eminent researcher from the University of Montreal stated it this way: “At the age of 10 or older, the child has better behavioural regulation, fewer distractions and a better awareness of dangers. He or she has more knowledge of how to evaluate complexity and how to estimate speed.”

Much of the literature on the subject of child development is heavily influenced by research undertaken by the renowned French psychologist Jean Piaget, which has stood the test of time. But is this sufficient to advise parents not to let their children walk to school? What has not been well researched is the adaptation mechanisms that children employ or could employ to mitigate their reduced level of certain abilities.

THE CONSEQUENCES CREATED BY THESE POLICIES

“Because of the mindset created about the level of children’s maturity, the response has been to shield him from the street.” [18] Psychological research has led parents and safety organizations to assume that children around the ages of 5 to 8 years old cannot handle traffic situations. Parents have responded by increasingly driving their child to school. “The problem with this perspective.... is that the child becomes autonomous for his mobility later and later in life.” [18] (Another very serious problem is that traffic levels around schools have intensified, indeed increasing risks for those who continue to travel otherwise.)

Driving their child to school then seems to parents to be the best way to fulfill their responsibility for their child’s safety. Indeed, a report could be interpreted to back up this choice: “This data demonstrates that the injury risk is more important for walking trips (OR = 4,7) and cycling trips (OR = 18,1) than for automobile trips (OR = 1). It also is clear that injury risk is higher for bike trips than walking trips. In general, these same trends are observed in the Quebec City and Sherbrooke regions, as well as in Trois-Rivières. The only exception to the rule is the Three Rivers region where the injury risk for children aged 9 to 12 is comparable for walking trips and automobile trips. This being said, it is important to emphasize that the probability for a children to be injured is relatively low for pedestrians (1 injury for 325 733 km) and even for cyclists (1 injury for 84 674 km).” [19]

The application, by other people, of Piaget’s research to traffic safety is very much open to question. The limitations of this type of reasoning are evident when one learns that, in Japan, practically all children 6 years old walk to school unescorted. “Japan is a world away when it comes to walking to school. Just 1.7% of Japanese children ride the bus to school, and children walk to school in groups, unaccompanied by their parents—even first graders.” [20]

Nonetheless, we do not wish to underestimate the risks involved. “Crossing the street involves 26 different tasks.” [21] One needs to ask how young children learn to do tasks. Practice, with parental guidance and supervision in the early stages, is essential. “From practice to concept: the child must experiment to understand how the road environment functions.” [22]

THE MANY ROLES PARENTS CAN PLAY

Parents have a wide variety of responsibilities in helping their children learn, from an early age, what constitutes safe walking behaviour. Parents have first to demonstrate proper behaviour themselves when their children are still very young, perhaps 3 or 4 years old. If parents have been crossing on the red light (in the absence of a walk signal) until the child is 5 or 6 years old, he may have learned the lesson that it is acceptable to cross in this manner, even if the parent now tries to teach him a “better way.” The consequences of a parent crossing on the red light, when his child is not present, may not be dramatic, for example if there is no conflicting traffic, because the adult is able to gauge if the situation is dangerous or not. The young child is not able to make such judgements. So, even in cases of no conflicting traffic, the parent should obey traffic rules and wait for the proper signal, thus teaching his child the safer way.

Since children learn gradually and by repetition, the walk to school represents a major opportunity to solidify this training. Firstly, parents need to act as scouts to identify the best route to school, which is as direct as possible and safe. If the child would be required to cross high-traffic volume streets without traffic controls, or without a school crossing guard, this would not be an acceptable way to learn. In such cases, the parent needs to modify the walking environment.

Secondly, parents can evaluate the safety of the route that they have selected. There may be areas or intersections that require more training and more attention from the child. For example, is there a sidewalk on the entire route? What kinds of intersection treatments are there? As adults, we often take for granted the multitude of different treatments (horizontal or vertical traffic lights, flashing lights, colours, arrows, pedestrian signals or not) – children need to learn. It has been shown that parents “assess multiple factors when determining the intensity of supervision necessary for their children. Notably, parents adjust their supervision in direct relation to changes in the physical environment.” [23]

Parents are probably the best people capable of evaluating their child as to his or her level of development, his understanding of traffic conditions and his character.

Above all, parents need to teach proper behaviour all along the route, taking into account the hazards and their child’s abilities and translating all this information into a way their child can handle it. Parents have to translate the tasks involved in crossing the street into activities that fit their child.

When their child is getting ready to enter Grade 1, before school opens (so as to avoid a period of greater child (and parent ?) anxiety), parents should travel the route a number of times (children learn from repeating the same situation) and use age-adapted rules to handle traffic situations – for example, when I walked with my son, our rule at a local to local street intersection was to wait until we could not see any car moving towards us – traffic volumes were low enough for this rule to work well.. My son thus did not have to determine the speed and distance of on-coming cars.

Parents also have to establish some firm rules, such as not allowing the child to have anything in his hands – not a ball, not a cellular phone, nothing that will distract.

If it is appropriate, parents also are well placed to pressure municipalities or Ministries of Transportation to remedy any situation that is unsafe (not by only lowering the speed limit!). Parents can work together, for example, under the umbrella of an Active, Safe Routes to School committee, to identify the problems and promote solutions.

Parents can help with Walking School Buses. However, with a group of children, the adult's primary responsibility is ensuring the safety of all. The adult can do very little individualized teaching, so that the result is that the child is not developing his ability and his autonomy in walking.

It is probably more useful if the child is accompanied separately on his pre-school trips (4th paragraph above) by his mother and his father. Some research is suggesting that there is a difference between the male and female perspective [24]. So, the parents could come up with a consensus on the safety concerns and procedures.

IS THERE STILL A NEED FOR A 30 KM/H ZONE AROUND SCHOOLS?

“One needs to adapt the school experience to the needs of the child who is rapidly developing.” [25]

Yes, since, for example, young children remain easily distracted, by parents, siblings, friends.... Young children also handle one issue at a time, so that if traffic is coming from two directions, they can be stymied. In many municipalities, school zones have become heavily trafficked areas. As well, young children may not have grasped the danger that moving vehicles represent – many television programs and video games represent vehicles as friendly characters. These are only some examples of child psychology one needs to consider; there are at least 20 factors that come into play: physical, motor, emotional, cognitive, perceptual, socio-relational, risk comprehension and perception and socio-economic.

Yes, since the school area is where the largest number of children will be present.

There is a need to focus on school areas for the most rigorous speed management, so this low speed limit should not be posted everywhere. There is a need to modify the physical characteristics of the street to ensure that this lower speed limit is both credible and observed. [26]

HOW TO HELP PARENTS BECOME PART OF THE SOLUTION – THE NEED FOR A COMPREHENSIVE, CONCISE GUIDE

To our knowledge, efforts to improve elementary school road safety have tended to focus strongly on school-based curricula, which can be useful, but are never sufficient, or on publicity campaigns. Most government initiatives to promote walking to school neglect the parents' many and essential roles. Many efforts tend to emphasize the adherence to traffic rules and the need to look right and left before crossing. Again, to our knowledge, there does not exist a comprehensive guide to help parents in this task. A partial guide, for example was produced by ICBC: “*Look, Listen and Be Seen – Be a Safe Pedestrian*”. On one page, it includes these items: “Map it out, Road rules, Set a good example, Look, Listen, Be seen, Railway crossings, Parked vehicles, Crossing basics, Sidewalk/no sidewalk and try asking them when they think it's safe”

A fact sheet (Traffic – A Child’s Point of View) put out by Active and Safe Routes to Schools (undated) references the *Pedestrian Crossing Control Manual for British Columbia and a list distributed by the Canadian Institute of Child Health*, and provides 14 limitations of children’s abilities in traffic. It doesn’t distinguish children on the basis of their age.

Some usable and some debatable items appear in a December 4, 2013 fact sheet, *Pedestrian Safety Tips*, from the organization Parachute, which amalgamates Safe Communities Canada, Safe Kids Canada, SMARTRISK and ThinkFirst Canada, as one injury prevention organization. It indicates: “A three or four year old can ...learn that it is not safe to run out into the road, even after a favourite toy.” According to certain studies, children are spontaneous, so this statement should be verified. Their list of tips is not said to be comprehensive.

Parents need to understand child psychology in general, and the important changes that take place as they age, over and above what they perceive their child is capable of or what they have read in magazines. The child is able to do more than what the literature suggests. We strongly suggest that a guide be prepared to teach parents how to teach their child how to walk safely. A guide made for parents would alert them to the consequences of their own behaviour, signal important elements of child psychology they need to know, give leads on how to evaluate danger from their child’s perspective and provide the multiple reasons why they should encourage their child to walk and to walk safely.

The guide could be used by facilitators to take parents on a walkabout so that they get familiar with the different aspects they need to consider.

Who would undertake and who would fund a guide of this nature? Not likely a ministry of transportation, nor a ministry of education, nor a ministry of health; somehow, it falls into a gap. Perhaps, agencies such as ICBC, SGI, SAAQ and the Public Health Agency of Canada (PHAC) could be interested in such a project. Once a guide is written, a strategy needs to be established to reach parents; perhaps through Parent-Teacher Associations, public health agencies and lifestyle champions.

CONCLUSION

A lot of effort is undertaken by a host of agencies and organizations to try to make school zones safer. But, if an essential element is missing, are we making the most of our investments? Are we trying to compensate for the under-involvement of parents by setting up a lot of programs in other areas? A guide would at least help those parents who are trying to help their children become safe pedestrians and then safe cyclists.

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