

# THE RELATIONSHIP BETWEEN WALKING TO SCHOOL AND CHILD PEDESTRIAN INJURY IN TORONTO, CANADA

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**Background** Pedestrian collisions are a major cause of injury in Canadian children. Parents indicate that traffic injury risk is a leading reason why children are not encouraged to walk to school. Promoting walking to school must take injury risk into consideration. Previous studies investigating walking to school have generally relied on parent report, and have not included pedestrian injury data.

**Objective** To determine the relationship between observed numbers of children walking to school and collision rates at elementary schools.

**Methods** Observational counts were conducted of elementary school transportation modes to school in Toronto, Canada. Pedestrian-motor vehicle collision data from 2000–2009 were obtained. Negative binomial regression was used to model rates of child pedestrian injury within school attendance boundaries with observed proportion of children walking to school.

**Results** There were 441 collisions in 118 study school boundaries. A total of 16 137 children were observed walking. The mean collision rate was 78/1000/child years. The mean proportion of walking to school was 67%. Walking to school was a significant predictor of collisions (4.05, 95% CI 1.22 to 13.43).

**Significance** The proportion of children arriving to school using AST was higher and demonstrated greater variability than expected. Proportion of exposure to traffic with children walking to school was positively significantly associated with rate of child pedestrian collision. Increasing the numbers of children walking to school could have the undesired effect of increasing pedestrian injury rates, if efforts are not made to enhance pedestrian safety around schools.