



**To:** Transport Planners

**From:** Adrian Davis

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**Subject:** School Travel Toolbox: No 5 Speeds of drivers in the presence of child pedestrians

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Top line: One significant contributor to crashes involving child pedestrians is vehicle speed. Issuing specific guidelines about appropriate speeds, drawing drivers' attention to the discrepancy between their beliefs and behaviours and enforcing the actual speed limit in the presence of child pedestrians are potentially promising strategies.

Pedestrian crashes are a major cause of child mortality and morbidity across the world.<sup>1</sup> One significant contributor to these crashes is vehicle speed. An analysis of the impact of vehicle speed on injury found that at 40 kph 25% of crashes are likely to be fatal, while at 50 kph this rises to 85%.<sup>2</sup>

Unfortunately, there is little evidence that drivers understand the dangers of speed around child pedestrians and slow down in their presence. In a US study of pedestrian injuries it was found that even on local streets and in residential zones, nearly 20% of children were struck by vehicles exceeding 30 mph (50 kph).<sup>3</sup> A Swedish study of driver speed and yielding to pedestrians at marked crossings found the age of the pedestrian made no difference to driver behaviour. Observations of pedestrian and driver behaviour in Nottingham, England found that pedestrians appeared to take the most effective avoidance action in potential collisions, and the age of the pedestrian had little impact on driver behaviour. Another study conducted in the same city at five junior schools (age range 3–11 years), found speeds were significantly higher in the presence of an adult pedestrian than when no pedestrian was present, with the presence of a child producing no significant change in speed.<sup>4</sup>

In keeping with previous studies a New Zealand study found minimal reductions in speed in the presence of child pedestrians.<sup>5</sup> While there was a smaller percentage of drivers traveling faster than 60 kph when children were present than when they were not, and drivers did travel an average of 2.82 kph slower when children were trying to cross the road than when there were no children present, their mean speed in this condition was still 52.78 kph, at which a likely 85% of collisions would be fatal. Drivers did not travel significantly more slowly on average when children were playing with a ball on the footpath than with no children present.

Drivers probably believe it is desirable to reduce their speed around children. Issuing specific guidelines about appropriate speeds, drawing drivers' attention to the discrepancy between their beliefs and behaviours through training programmes and advertising campaigns, and enforcing the actual speed limit are proposed.

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<sup>1</sup> Durkin, M., Laraque, D., Lubman, I., *et al.* 1999 Epidemiology and prevention of traffic injuries to urban children and adolescents. *Pediatrics*; 103:e74.

<sup>2</sup> Anderson, R., McLean, A., Farmer, M., *et al.* 1997 Vehicle travel speeds and the incidence of fatal pedestrian crashes. *Accident Analysis and Prevention*; 29: 667–74.

<sup>3</sup> Pitt, R., Guyer, B., Hsieh, C., *et al.* 1990 The severity of pedestrian injuries in children: an analysis of the pedestrian injury causation study. *Accident Analysis and Prevention*; 22: 549–59.

<sup>4</sup> Thomson, S., Fraser, E., Howarth, C. 1985 Driver behaviour in the presence of child and adult pedestrians. *Ergonomics*; 28:1469–74.

<sup>5</sup> Harre, N. 2003 Discrepancy between actual and estimated speeds of drivers in the presence of child pedestrians, *Injury Prevention*, 9: 38-41.