

# Promoting safe walking and cycling by reducing traffic speed



## Summary of the Safe Speed Interest Group research review November 2008

The Safe Speed Interest Group (SSIG) is a collaboration of health and local government stakeholders including the Heart Foundation and the Cities of Port Phillip and Yarra. The group promotes low speed limits (30km/h) in urban environments to create road conditions that encourage and support walking and cycling for transport.

This position builds on the advice of the World Health Organisation (WHO), which suggests that reducing motor vehicle speeds in areas where the road user mix includes high numbers of pedestrians and cyclists is particularly important in developing a safe road system. In the 2008 publication, *Speed management: a road safety manual for decision-makers and practitioners*, WHO specify that human tolerance to injury by a car is exceeded if the vehicle is travelling at more than 30km/h<sup>1</sup>.

The SSIG's specific interest in the impact of vehicle speed on walking and cycling rates is based on the recognised benefits of active transport<sup>1</sup>. These multiple benefits include:

- **health benefits** of increased physical activity, including reductions in chronic diseases such as cardiovascular disease, diabetes and obesity, and improved mental health and wellbeing<sup>2</sup>
- **transport benefits** of reduced congestion, car space requirements and costs<sup>3</sup>
- **environmental benefits** of reduced air, noise, and visual pollution<sup>4, 5</sup>
- **energy use** reductions through fewer car numbers and lower fossil fuel consumption and greenhouse gas emissions<sup>6</sup>
- **community strengthening** through increased social interactions on streets and within neighbourhoods<sup>7</sup>

- improved **community safety**, as 'peopled' places are safer places.

A research review commissioned by the Safe Speed Interest Group has identified that there is good evidence that perceived traffic hazards (including vehicle speed) are a major constraint on walking and cycling for transport in Australia. A small number of studies have found that speed reduction schemes improve individuals' perceptions of safety and increase active travel behaviour.

Evidence for the overall relationship between vehicle speed and active transport comes from four main sources:

- there is some, but not definitive evidence from pre/post assessments of speed reduction interventions in cities and municipalities that speed reduction schemes **contribute** to increased active transport<sup>8, 9</sup>
- low neighbourhood speed limits (usually 20-30km/h) are a common feature of countries with high rates of active transport. Reduced vehicle speed is considered to have contributed to more and safer walking and cycling in these countries<sup>10</sup>
- cross-sectional analytical studies generally report a positive association between neighbourhood traffic safety (perceived and/or measured) and walking and cycling<sup>11</sup>
- case studies of speed reduction initiatives in cities and towns frequently report reduced injury rates, and, less commonly (because it is often not measured), increased walking and cycling<sup>12, 13</sup>.

<sup>1</sup> Active transport is defined as purposeful walking, cycling or public transport trips, which usually require a short walk to and from stops/stations.

In Australia, despite widespread support for speed reduction, progress has been slow and urban speed limits remain high by international standards<sup>14</sup>. Where speed reduction interventions have been carried out in Victoria (50 km/h default speed limit, 40/60 km/h school zones, 40 km/h shopping strip zones), the results show a consistent pattern of reduced overall casualty crashes, with greater reductions in serious crashes involving pedestrians, cyclists and children/adolescents<sup>15, 16</sup>.

Changes in active transport rates as a result of speed limit changes in Victoria have not been measured to date. The impact of speed reduction on travel mode share has recently been included in the evaluation of traffic management interventions in other jurisdictions (e.g. Portsmouth City Council, UK 2008).

The main barriers to speed reduction are perceived and actual increases in vehicle travel time and associated costs. Evidence indicates that these are substantially overstated. Small travel time benefits (approximately 9 seconds/km in one study<sup>17</sup>) come at substantial cost in terms of the health and wellbeing of individuals and communities.

*The full review, developed for the SSIG by Dr Jan Garrard, will be available in late November. If you would like to receive a copy, please register your interest with Kellie Horton at the Heart Foundation by calling (03) 9321 1525 or emailing [kellie.horton@heartfoundation.org.au](mailto:kellie.horton@heartfoundation.org.au)*

Overall, the findings from the review indicate that lower traffic speed in urban areas (based on a speed limit of 30 km/h) will certainly improve pedestrian and cyclist safety, and is likely to contribute to increased rates of walking and cycling for transport. In the absence of rigorous research data (due to a lack of studies addressing the question), multiple sources of less rigorous evidence suggest an association between lower vehicle speeds and increased rates of active transport.

Lack of definitive proof of the effectiveness of interventions should not preclude local and state government taking action in this area and any future speed limit reductions in urban areas should include changes in walking and cycling rates as a key evaluation measure.

Speed reduction can have additional benefits in the form of reduced fuel use, air and noise pollution and greenhouse gas emissions, as more people are encouraged to shift from car-based transport to walking and cycling. This modal shift will translate into a more active and connected community, resulting in a healthier population.

<sup>1</sup>World Health Organisation (WHO) (2008). *Speed management: a road safety manual for decision-makers and practitioners*. Geneva, Global Road Safety Partnership.

<sup>2</sup>Bull FC, Bauman A, Brown WJ, Bellew B. (2004). *Getting Australia Active II: an update of evidence on physical activity for health*. Melbourne, National Public Health Partnership. (<http://www.nphp.gov.au/publications>).

<sup>3</sup>Bureau of Transport and Regional Economics (2007). *Estimating urban traffic and congestion cost trends for Australian cities*, Working Paper 71. Canberra, Department of Transport and Regional Services.

<sup>4</sup>Litman T. (2004). Quantifying the benefits of nonmotorized transportation for achieving mobility management objectives. Victoria, BC, Canada, Victoria Transport Policy Institute.

<sup>5</sup>Dora C, Phillips M. (2000). *Transport, environment and health*. Copenhagen, WHO Regional Office for Europe.

<sup>6</sup>Litman T. (2004). Quantifying the benefits of nonmotorized transportation for achieving mobility management objectives. Victoria, BC, Canada, Victoria Transport Policy Institute.

<sup>7</sup>Leyden K. (2003). Social capital and the built environment: the importance of walkable neighbourhoods. *American Journal of Public Health*, 93: 1546–51.

<sup>8</sup>Scottish Office (1999). *The community impact of traffic calming schemes, Final Report*. Prepared by Ross Silcock. Edinburgh, Scottish Office.

<sup>9</sup>Morrison D, Thomson H, Petticrew M. (2004). An evaluation of the health effects of a neighbourhood traffic calming scheme. *Journal of Epidemiology and Community Health*, 58: 837–40.

<sup>10</sup>Pucher J, Beuhler R. (2008). Making cycling irresistible: lessons from the Netherlands, Denmark and Germany. *Transport Reviews*, 28(4): 495 - 528.

<sup>11</sup>Carver A, Timperio A, Crawford D. (2008). Perceptions of neighborhood safety and physical activity among youth: the CLAN Study. *Journal of Physical Activity and Health*, 5: 430–44.

<sup>12</sup>Herrstedt L. (1992). Traffic calming design—a speed management method: Danish experiences on environmentally adapted through roads. *Accident Analysis and Prevention*, 24: 3–16.

<sup>13</sup>Lines CJ, Machata K. (2000). *Changing streets, protecting people: making roads safer for all*. In: Proceedings of the Best in Europe Conference, Brussels, European Transport Safety Council, 37–47.

<sup>14</sup>Fildes B, Langford J, Dale A, Scully J. (2005). Balance between harm reduction and mobility in setting speed limits: a feasibility study. Sydney, Austroads Inc.

<sup>15</sup>Hoareau E, Newstead S, Cameron M. (2008). *An evaluation of the default 50 km/h speed limit in Victoria*. Melbourne, Monash University Accident Research Centre.

<sup>16</sup>Scully J, Newstead S, Corben B. (2008). *Evaluation of the crash effects of strip shopping centre treatments in Victoria*. Melbourne, Monash University Accident Research Centre.

<sup>17</sup>Herrstedt L. (1992). Traffic calming design—a speed management method: Danish experiences on environmentally adapted through roads. *Accident Analysis and Prevention*, 24: 3–16.