



Safe speed for all road users:
promoting safe walking and cycling
by addressing traffic speeds in
Australia's urban environment

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Why walking and cycling?

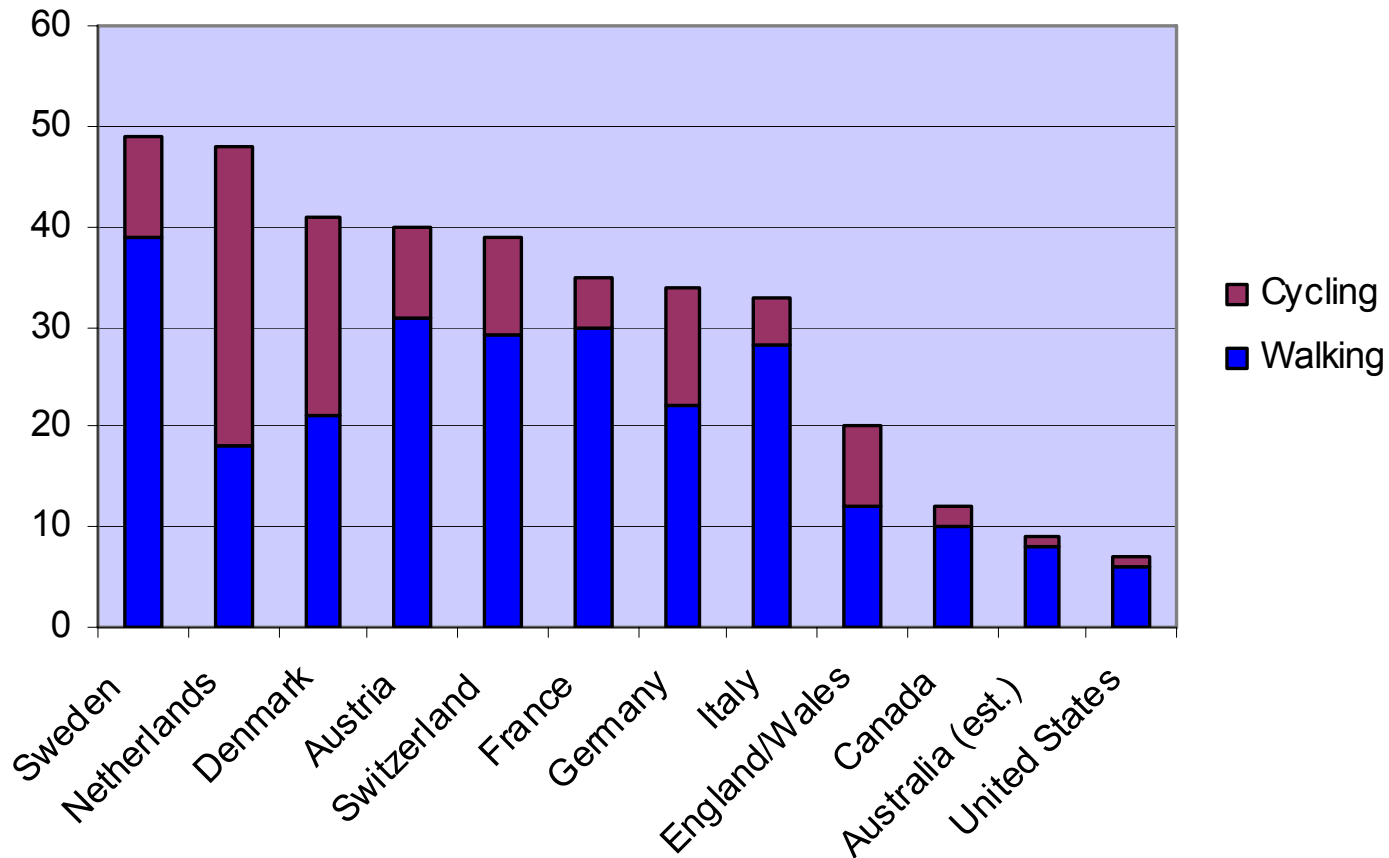
Active transport has many benefits across multiple sectors:

- ✓ **health:** ↑physical activity, ↓sedentary behaviour = less chronic disease
- ✓ **transport:** congestion, car space and costs
- ✓ **environment:** air, noise, visual, energy use, greenhouse gas emissions
- ✓ **community liveability:** amenity and social connectedness
- ✓ **community safety:** 'peopled' places are safer places

Active travel: cross-country comparisons

Walking and cycling shares of urban trips

(Source: adapted from Pucher and Dijkstra 2003)





The Australian transport environment

Car-oriented:

- Range of socio-environmental, public policy and regulatory factors that favour car use
- Active travel choices more difficult than car travel

Other environments

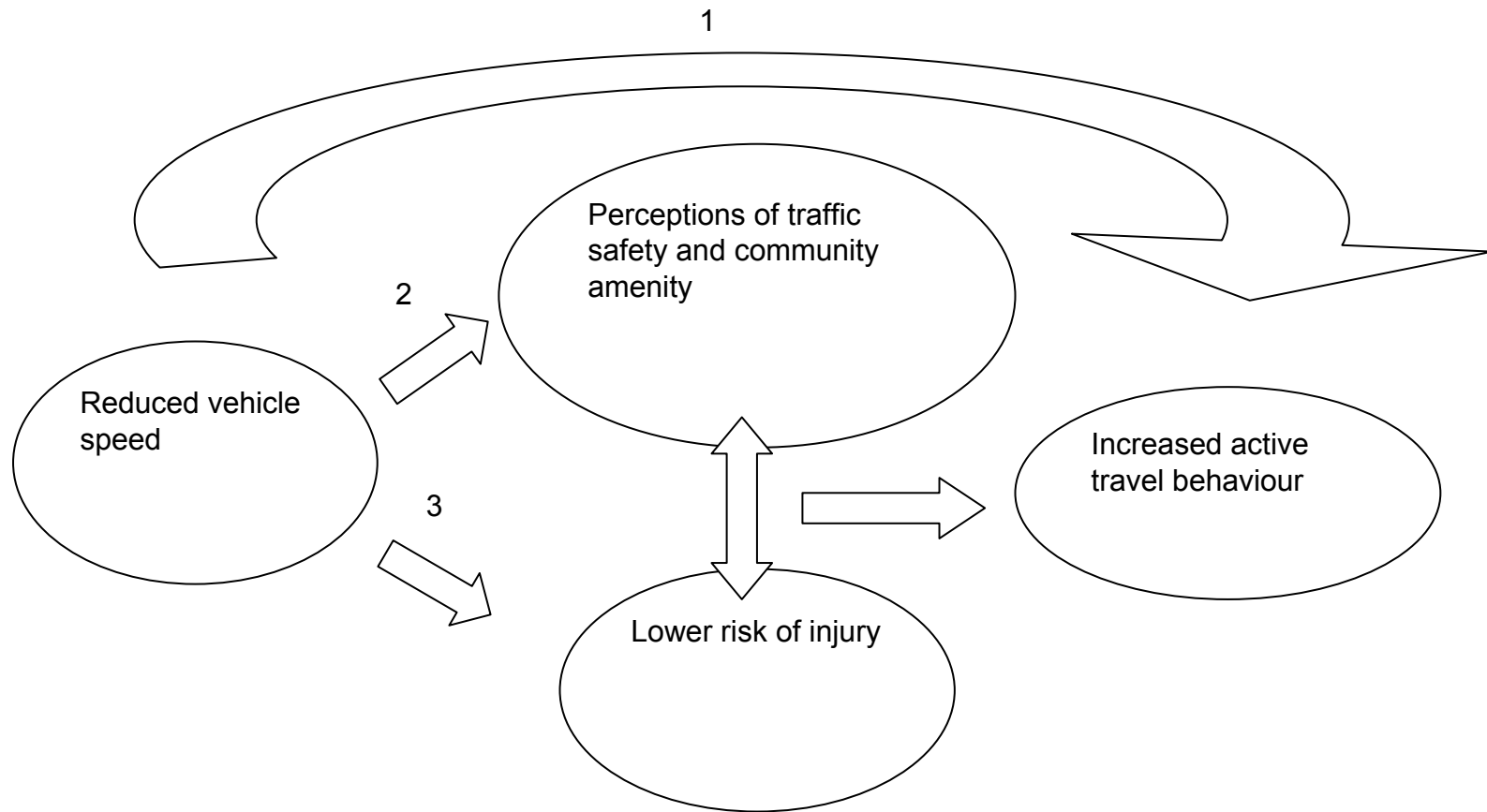
- High levels of walking and cycling for transport associated with balanced transport planning:
 - All industrialised countries with high active travel mode share (eg the Netherlands, Denmark and Japan) have strong focus on traffic calming
 - For example, in Berlin (Germany) 3,800 km of city streets (72%) are traffic calmed, with speed limit of 30km/hr or less (Pucher 2008)



Safe Speed Interest Group's key question

- **How does vehicle speed impact on active transport?**

Vehicle speed and active travel behaviour



Pathway 1:

Speed and active travel behaviour

- **Three types of studies contribute to evidence for this overall pathway**
- 1. Evidence from the evaluation of speed reduction interventions in cities and towns:
 - Based on limited available research - some evidence that traffic calming measures *contribute* to the promotion of active travel.
 - Impacts likely to vary according to location, the nature and extent of the traffic calming measures, and population demographics

Pathway 1:

Speed and active travel behaviour

- 2. Evidence from cross-country comparative analyses (macro-level 'natural experiments'):
 - Countries, cities and municipalities with high rates of active transport incorporate traffic calming as a key element in promoting active transport
 - Low neighbourhood speed limits (usually 20-30km/hr) a common feature of active transport promotion and participation (Pucher and Buehler 2008).

Pathway 1: Speed and active travel behaviour

- 3. Survey-based analytical studies (non-interventions that analyse differences in people's transport environments and active travel behaviour):
 - Very few studies have examined traffic speed as a correlate of walking and cycling for transport – most studies focus on urban form
 - Overall, some emerging evidence that traffic safety measures including traffic calming may increase walking and cycling among children, adolescents and adults in Australia (Carver et al 2008)



Pathway 2: Speed and perceptions of safety and community amenity

- **Proposes that reduced vehicle speed will improve perceptions of safety and amenity, which will increase active travel**
- Few studies have examined the impact of speed on perceived safety and community amenity

Pathway 2: Speed and perceptions of safety and community amenity

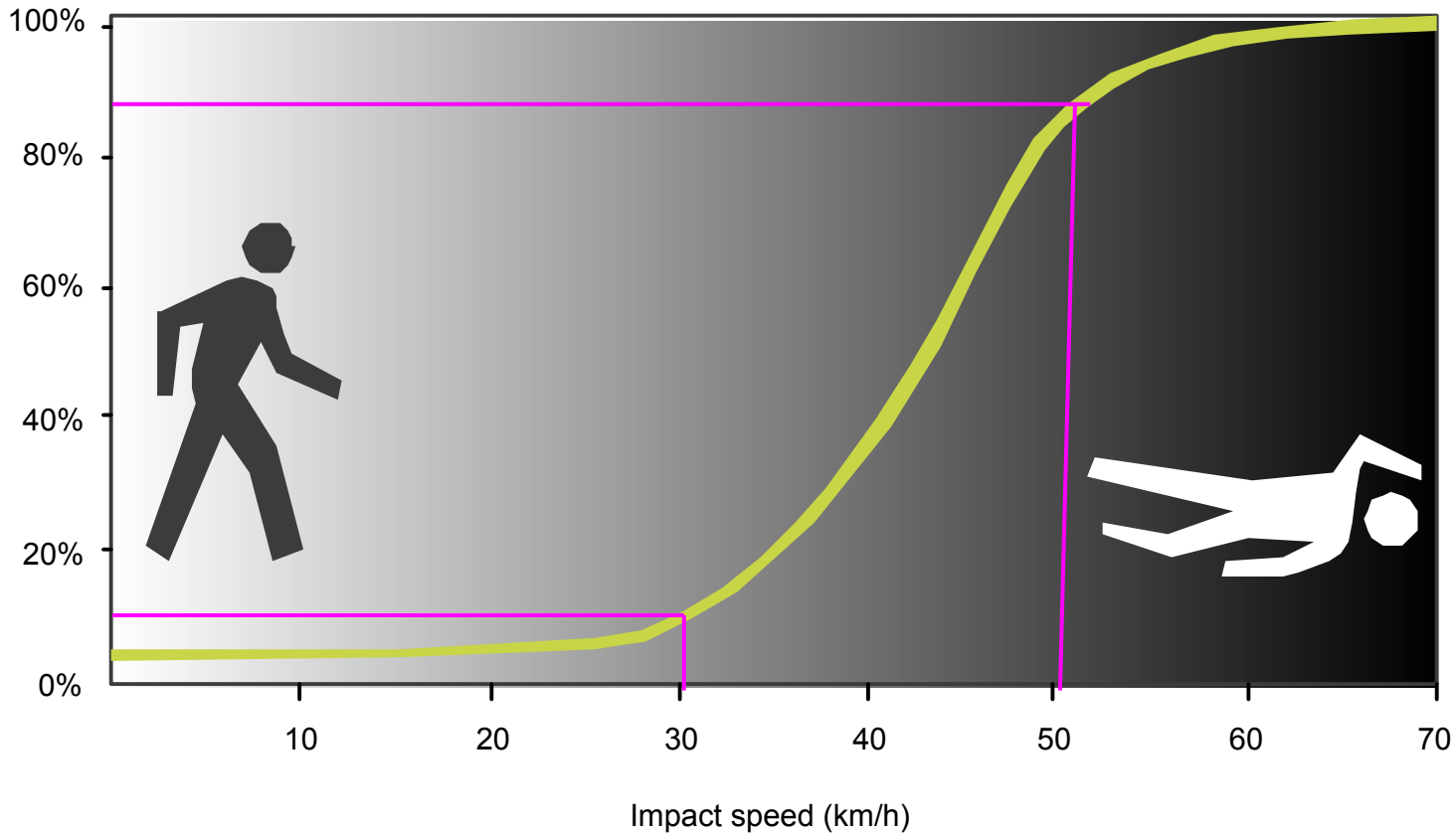
- Evidence of improvements in safety perceptions following traffic calming measures in Denmark:
 - increased feeling of security
 - 'barrier effect' reduced, particularly for elderly.
- 10 traffic calming schemes in Scotland, post-implementation residents reported:
 - increased neighbourly interaction
 - improved perceptions of pedestrian safety, and
 - improved neighbourhood appearance.

Pathway 3:

Speed and risk of injury

- **Proposes that reduced speed will lower risk of injury to pedestrians and cyclists, resulting in increased active travel behaviour**
- Speed is the single most important contributor to road fatalities (WHO 2008)
- Speed is an aggravating factor in all crashes - speed contributes to the severity of crash outcomes regardless of the cause.
- Pedestrians and cyclists at greatest risk of excessive or inappropriate vehicle speed.

Probability of fatal injury: 50km/hr compared with 30km/hr (Source: WHO 2008)

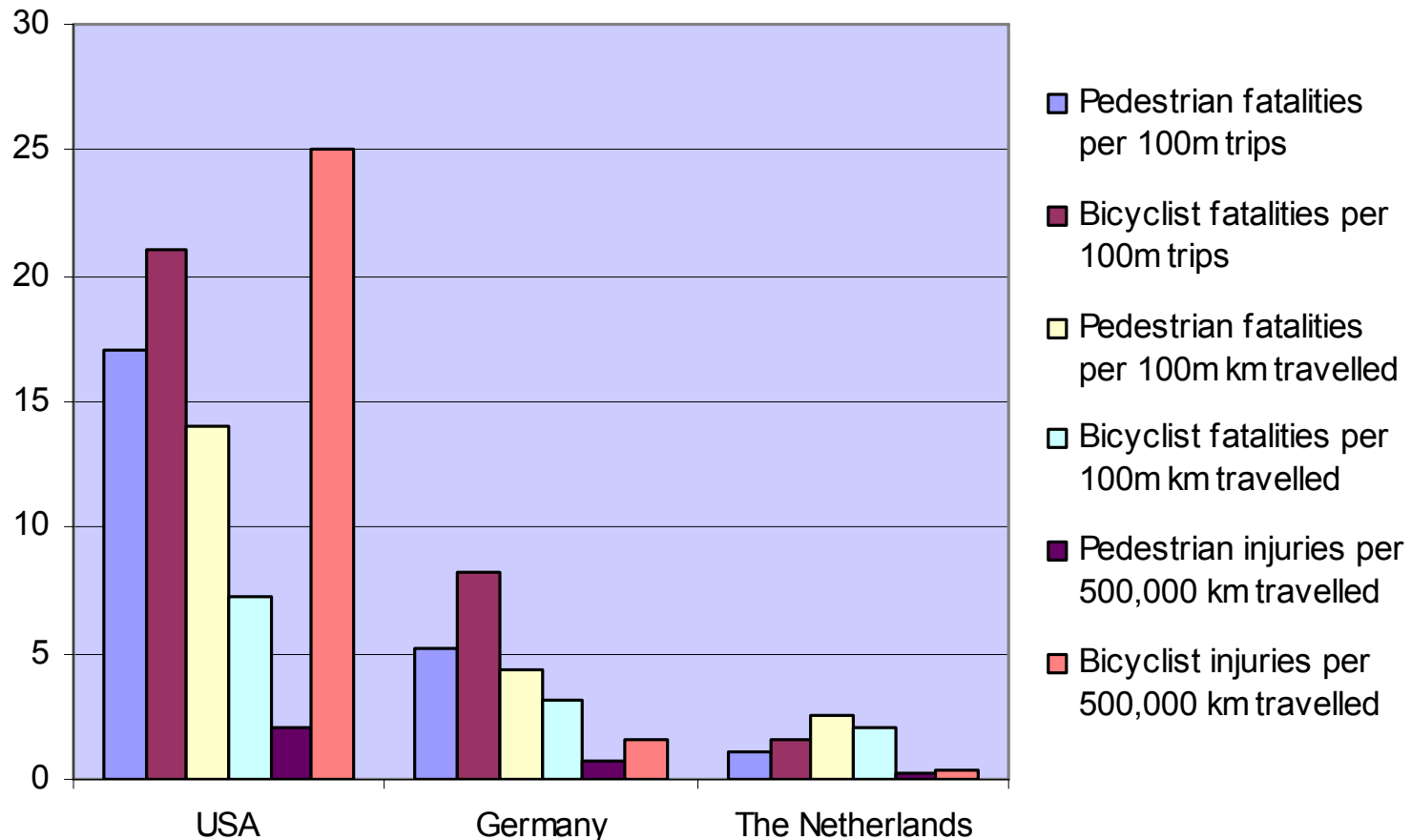


Speed and risk of injury

- The human tolerance to injury by a car is exceeded if the vehicle is travelling at more than 30 km/h.
- While most unprotected road users survive if hit by a car travelling at 30 km/h, the majority are killed if hit by a car travelling at 50 km/h (WHO 2008).
- Most traffic systems are not designed on the basis of human tolerance.
- But some do it better than others...

Pedestrian and cyclist casualties, cross-country comparisons

(Source: Pucher and Diikstra 2003)



Summary

- Pathway 1:
 - Low vehicle speeds associated with active transport participation
- Pathway 2:
 - Traffic calming may improve perceptions of safety and amenity for pedestrians and cyclists
- Pathway 3:
 - Low vehicle speeds reduce risk of injury for cyclists and pedestrians, making these transport modes more attractive options

Conclusions

- Speed reduction in Australian cities and towns has potential to increase active transport, resulting in multiple health and social benefits
- ‘Safe speed’ conceptualised as speeds that minimise risk of injury
- In light of multiple benefits of active transport:
 - ‘healthy speed’ = injury prevention + more!

Conclusions (cont.)

- When implemented overseas, speed reduction has achieved high levels of community support; improved safety for all road users; negligible increases in car travel times and increased rates of active modes of transport.
- A growing number of safe speed initiatives in Victoria suggest that similar changes in Australia are not only desirable but also achievable.



For further information

Safe Speed Interest Group Forum

Date: Friday 14th November

Time: 1.30-5.00 pm

Venue: VicHealth (Carlton)

Cost: Free

Contact Kellie Horton on 9321 1525