Victoria Walks Inc.
Level 7, 225 Bourke Street
Melbourne VIC 3000
P: 03 9662 3975
E: info@victoriawalks.org.au
www.victoriawalks.org.au
Registration No. A0052693U

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Submission to Victorian Road Safety Strategy

Background

Victoria Walks is a walking health promotion body funded by VicHealth to get more Victorians walking every day. Our vision is for vibrant, supportive and strong neighbourhoods and communities where people can and do choose to walk wherever possible.

The recent convergence of problems associated with rapid population growth in urban areas, obesity, inactivity, climate change, oil depletion, traffic congestion, road trauma, and threats to community liveability has highlighted the need for integrated, cross-sector efforts to increase the use of safer, smarter and more sustainable mobility options for the numerous short to medium distance trips that characterise urban living.

International evidence and expertise on the integration of road safety, transport and urban planning measures as a means of achieving a range of public policy objectives can assist Victoria to achieve further improvements in road safety, health, transport, the environment and community liveability in a relatively cost-effective manner (Litman and Doherty 2009).

The focus of this submission is on improving road safety in Victoria by addressing the safety needs of pedestrians. The submission responds to relevant questions posed in the Road Safety Strategy Directions Paper, and also proposes a number of 'over-arching' recommendations for improving road safety. The submission is structured as follows:

1. Improving pedestrian safety - injury prevention, health and social benefits
2. Pedestrian safety in Victoria and internationally
3. Recommendations
4. Summary, conclusions and future directions.

Executive summary

Victoria Walks commends the Victorian Government for undertaking a comprehensive review of the Victorian Road Safety Strategy. This is an opportune time to build on previous successes to achieve improved road safety for all road users in Victoria for the next decade.

Victoria Walks believes that the new road safety strategy can achieve significant gains to benefit Victoria's most vulnerable road users – pedestrians. At a time when Victorians face significant health, environmental and economic challenges, there is a growing imperative to shift towards more sustainable forms of transport, including active transport such as walking.

1. Why we need a new approach to road safety that prioritises pedestrians
Victoria now has the opportunity to lead the nation in reframing road safety laws to adopt a more people/pedestrian oriented approach. Critically, Victoria Walks believes that our entrenched 'car dominated culture' is outmoded and needs to be discarded in favour of a road safety strategy that prioritises pedestrians in a planned, consistent and systematic way. Improving the safety of vulnerable road users will contribute to improved health, transport efficiency, environmental sustainability and community liveability.

A road safety approach that prioritises pedestrians is needed now more than ever. Recent statistics show that:

- Past road safety improvements have benefitted drivers and passengers more than pedestrians (section 2.1)
- Victoria's fatality and serious injury rates for vulnerable road users are disproportionately higher compared to other developed countries (section 2.2)
- Noisy and dangerous driving are high community concerns (Recommendation 1).

1.1 Improved road safety to save pedestrian lives and injuries on Victorian roads
In 2011, 49 pedestrians were killed on Victorian roads, comprising 17% of road fatalities (BITRE 2012). In addition, in 2008-09, 722 pedestrians were seriously injured, 36% of which were classified as high threat to life injuries (AIHWa 2012). The economic cost of road crashes in Victoria in 2006 was estimated to be $2.7million for a fatal crash, $265,430 for a hospitalised injury crash, $14,430 for a non-hospitalised injury crash, and $10,075 for a property damage only crash (BITRE 2009).

For every pedestrian fatality in Victoria, there are about 15 serious pedestrian injuries (AIHW 2012a). Based on Australian data for 2008-09, pedestrians are more likely to sustain a high threat to life injury than any other road user group (36% of serious injuries compared with 27% for all road users). Pedestrians also have the longest episodes of care, with a mean length of stay of 7.6 days in hospital (compared with 5.4 days, 5.1 days, 4.8 days and 2.9 days for motorcyclists, car passengers, car drivers and pedal cyclists respectively).

Improving the safety of pedestrians will therefore result in substantial individual, social and economic benefits associated with reduced traffic crash deaths and injuries (Connelly and Supangan 2006).

1.2 Improved road safety to encourage active, healthy lifestyles
Traffic safety concerns are a major constraint on walking and cycling for the numerous short to medium distance trips that characterise daily life (Cleland et al 2008; Cycling Promotion Fund and National Heart Foundation 2011). This is particularly evident for children's trips to school. In 1970, 49% of children in Victoria walked to school and 16% travelled by car; but by 1994 these levels were effectively reversed, with 20% of young people walking and 52% travelling to school by car (ABS 1975; ABS 1995). The ABS no longer collects travel to school data, but state-based surveys (including in Victoria) suggest that rates of walking and cycling to school continue to decline, with parental concerns about traffic safety a major contributing factor (Carver et al 2008; Garrard 2010).

As older pedestrians are at greater risk of death and serious injury in collisions with motor vehicles, improved road safety can enable older Victorians to remain active in their local communities.

1.3 Improved road safety leads to more people walking, thereby reducing congestion
Traffic congestion is an increasing, and increasingly expensive problem in Australia's rapidly growing cities, including Melbourne. The costs of traffic congestion in Melbourne are projected to rise from $1.2 billion in 2005 to $3 billion by 2020 (Bureau of Infrastructure, Transport and Regional Economics 2007). Replacing motorised trips with active trips contributes to more efficient use of road space, and represents a cost-effective means of reducing traffic congestion.

2. How Victoria can achieve safer roads for pedestrians of all ages and abilities
To achieve a pedestrian centred road safety strategy, Victoria Walks makes the following recommendations:

Recommendation 1: Pedestrian safety should underpin Victoria's new road safety strategy
Central to this recommendation is the critical need for the road safety strategy to shift from a car dominant culture to a people / pedestrian oriented strategy. Associated with this is the need for a higher level duty-of-care of motorists for the safety of more vulnerable road users.

Furthermore, Victoria's new road safety strategy should adopt *Vision Zero* as its goal; with the target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020. This target should apply to all road users and not just motor vehicle occupants. Central to Vision Zero and the road safety strategy derived from it, is that pedestrian safety should not be compromised in order to achieve marginal improvements in motor vehicle travel times. All community members, regardless of their mode of travel, have a right to complete their journeys safely.

Recommendation 2: 'Safe speed' as the cornerstone of the Safe System approach
The Safe System framework should include Safe Speed, and be used as a basis for developing a strategy to achieve a 30% reduction in road crash fatalities and serious injuries for pedestrians and cyclists by 2020. Victoria Walks also supports more pedestrian oriented street design and enforcement of road rule breaches.

Recommendation 3: Road safety can be improved by appropriate behaviour change measures that promote 'shared responsibility' between road users
Victoria Walks recommends taking a more community centred approach to behaviour change measures with key messages to encourage a culture of shared responsibility rather than an individual-focused road safety culture, accident prevention over rehabilitation, and mutual respect on the road.

Recommendation 4: Health, planning and walking should be represented on high level road safety forums including the Ministerial Council for Road Safety

Recommendation 5: Reduced car use

Recommendation 6: Introduce measures that prioritises pedestrian safety
This includes improved level of service at all signalised crossings, mandate pedestrian oriented vehicle safety technologies, decrease road clutter and reducing BAC limits.

Now is the time for a new approach to road safety so we can once again hear the footsteps of children on our streets in great numbers and older Victorians are able to safely move around our streets and public spaces and actively participate in community life.

We need to approach road safety with our heads and act with our feet.

1. Improving pedestrian safety - injury prevention, health and social benefits

Our cities, towns, neighbourhoods and urban areas have become largely automobile dependent and less walkable. This has contributed to the emergence of more sedentary lifestyles in which Victorians do not engage in the recommended levels of physical activity. Physical inactivity is a significant factor in the dramatic rise in the levels of obesity and preventable diseases such as Type II diabetes and cardiovascular disease.

Walking-friendly neighbourhoods and urban spaces are essential to encourage and enable people to walk. Walking is associated with positive health outcomes, improved fitness and better physical, social and mental health. Making towns, cities and suburbs more walkable has numerous health, environmental and economic benefits.

Neighbourhoods in which people walk are more welcoming and inclusive: they have a stronger sense of community. People who live in walkable areas are more likely to know their neighbours, participate politically, trust others, and be socially engaged. When people walk, it also creates a stronger sense of safety and security. Traffic volume and speed is a clear barrier to walking for leisure, health, community connectedness and/ or transport.

1.1 Recent statistics

In 2011, 49 pedestrians were killed on Victorian roads, comprising 17% of road fatalities (BITRE 2012). In addition, in 2008-09, 722 pedestrians were seriously injured, 36% of which were classified as high threat to life injuries (AIHWa 2012). The economic cost of road crashes in Victoria in 2006 was estimated to be $2.7million for a fatal crash, $265,430 for a hospitalised injury crash, $14,430 for a non-hospitalised injury crash, and $10,075 for a property damage only crash (BITRE 2009). Improving the safety of pedestrians will therefore result in substantial individual, social and economic benefits associated with reduced traffic crash deaths and injuries (Connelly and Supangan 2006).

As the overall road toll in Victoria declines over time, it will become increasingly difficult to achieve further improvements (e.g. meeting the national target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020) without more systematically addressing the safety needs of vulnerable road users such as pedestrians, who comprise a sizeable and increasing proportion of road deaths and injuries. Victoria's ageing population presents an additional challenge in meeting this target, as older pedestrians are at increased risk of death and serious injury in collisions with motor vehicles (the major cause of pedestrian deaths and serious injuries).

Safe walking conditions also contribute to achieving several additional public policy objectives associated with reducing unsustainably high levels of car use in Victoria. Traffic safety concerns are a major constraint on walking and cycling for the numerous short to medium distance trips that characterise daily life (Cleland et al 2008; Cycling Promotion Fund and National Heart Foundation 2011). This is particularly evident for children's trips to school. In 1970, 49% of children in Victoria walked to school and 16% travelled by car; but by 1994 these levels were effectively reversed, with 20% of young people walking and 52% travelling to school by car (ABS 1975; ABS 1995). The ABS no longer collects travel to school data, but state-based surveys (including in Victoria) suggest that rates of walking and cycling to school continue to decline, with parental concerns about traffic safety a major contributing factor (Carver et al 2008; Garrard 2010).

International travel and road safety data indicate that it is possible to achieve high rates of relatively safe walking and cycling, including for children (Pucher and Dijkstra 2003; Christie et al 2004; Christie et al 2007; Garrard 2009). For example, the Netherlands (where 89% of children walk or cycle to school) now has one of the lowest bicycle fatality and serious injury rates in the developed world for children aged 0-11 years: 7 fatalities per year (compared with over 400 in 1970); one fatality per 170 million km cycled; and 125 in-patient admissions per year. These data demonstrate

that child road deaths and serious injuries can be dramatically reduced whilst also increasing their levels of walking and cycling.

1.2 Benefits of a pedestrian oriented road safety strategy

The provision of safe environments that encourage people of all ages and capacities to use active transport (walking, cycling and public transport) as part of their daily activities delivers multiple benefits including:

- health benefits of leading an active life (increased physical activity and reduced rates of chronic diseases)
- transport benefits of reduced congestion, car space requirements and costs
- increased mobility for people who do not drive cars (children, adolescents, older adults and some disadvantaged and low income groups)
- environmental benefits of reduced air, noise, and visual pollution
- energy use reductions through lower fossil fuel use and greenhouse gas emissions
- community strengthening through increased social interactions on streets and within neighbourhoods
- improved community safety, as 'peopled' places are safer places.

(Garrard 2008a; Giles-Corti et al 2010)

Daily walking or cycling to and from work reduces the risk of coronary heart disease (Hu et al 2007). For adults with diabetes, walking more than two hours a week was associated with 39% lower all-cause mortality and 34% lower CVD mortality (Gregg et al 2003). These health improvements also provide cost savings. In an economic analysis of moderate-intensity physical activity for adults with diabetes, a 3-mile daily walk resulted in cost savings (including health and social costs) of $1,000 per person per year (Di Loreto et al 2005).

Australia has one of the highest rates of obesity in the world; with the total cost of obesity in Victoria estimated to be $14.4 billion in 2008 (Access Economics 2008). Lack of 'incidental' physical activity such as walking and cycling for transport is a contributing factor to high rates of obesity for both children and adults. Countries with the highest levels of active transport tend to have the lowest obesity rates (Bassett Jr et al 2008), and a similar inverse association (for both obesity and type 2 diabetes) has been demonstrated for states and cities in the USA (Pucher et al 2010). An Australian study also found a positive association between time spent driving to work and being overweight or obese (Wen et al 2006).

Human-scale urban environments that support walking and cycling can also improve social interactions and increase community attachment, liveability, and amenity (Litman and Doherty 2009). Heavy traffic is associated with reduced street-based activities and social interactions between neighbours (Appleyard and Lintell 1980; Bosselmann and Macdonald 1999; Hart 2008). In response to these findings, and to their widespread omission in transportation planning, Litman (2009) has developed a comprehensive framework for transportation planning that includes valuing community cohesion and social connectedness.

Noise pollution associated with motor vehicle traffic also impacts on the health of Victorians. Transport is the main (and loudest) source of noise pollution in Victoria. Environmental noise impacts on people's lives through annoyance sleep disturbance, reduced work or school performance, stress and anxiety, reduced enjoyment of home life and other physical health effects. Seventy per cent of people hear traffic noise in their homes and over one million Victorians are annoyed by it. The social survey found that the percentage of people exposed to and annoyed by traffic noise has increased since 1986 (Environment Protection Authority 2007).

Traffic congestion is an increasing, and increasingly expensive problem in Australia's rapidly growing cities, including Melbourne. The costs of traffic congestion in Melbourne are projected to rise from $1.2 billion in 2005 to $3 billion by 2020 (Bureau of Infrastructure, Transport and Regional

Economics 2007). As Figure 1 demonstrates, replacing motorised trips with active trips contributes to more efficient use of road space, and represents a cost-effective means of reducing traffic congestion.

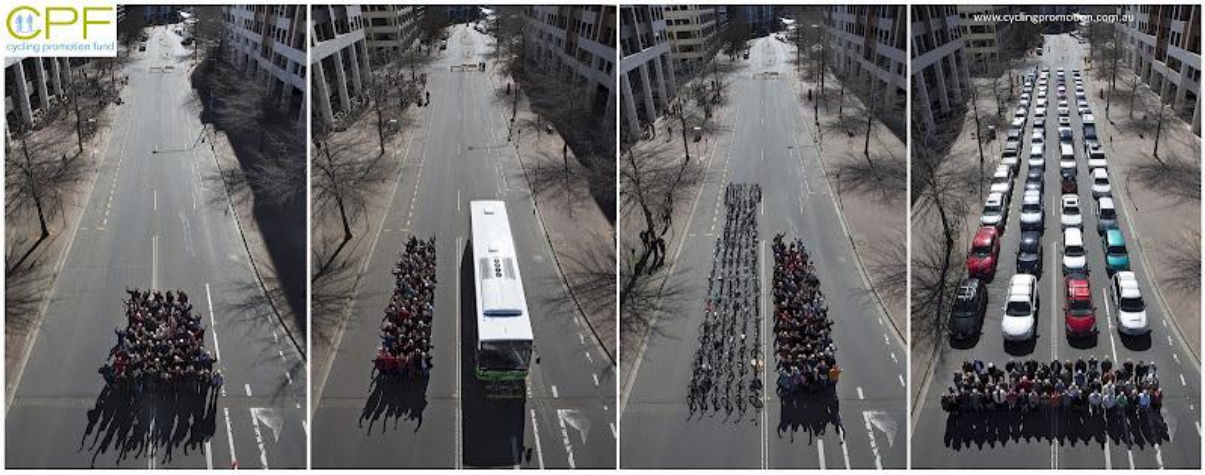

Figure 1: Road space required to move 69 people by walking, bus, bicycle and car, Canberra, September 2012

(Source: Cycling Promotion Fund [http://www.cyclingpromotion.com.au/])

Measures designed to increase the safety of active modes of travel, as described in this submission, will play an important role in achieving improvements in road safety and the associated co-benefits benefits outlined above.

2. Pedestrian safety in Victoria and internationally

The introduction to the Road Safety Strategy Directions Paper states that:

> *"Victoria is a world leader in road safety thanks to a well-considered and consistent regime of successful initiatives, many of them pioneering."* (p.6)

This is a major achievement, and the development of a new Victorian road safety strategy provides an opportunity for further improvements. As a basis for further reductions in road deaths and trauma in Victoria, it is important to acknowledge that:

(i) in the last few years, there has been a levelling off in road deaths in Victoria, suggesting that new directions and initiatives are required to achieve the national target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020 (Australian Transport Council 2011);
(ii) reductions in road deaths in Victoria in the last 10 years have been predominantly for car occupants, with fewer improvements for vulnerable road users such as pedestrians, cyclists and motorcyclists;
(iii) serious injury rates for most road user groups are increasing; and
(iv) international experience and evidence indicates that road fatality and serious injury rates for vulnerable road users can be substantially lower than current rates in Victoria.

These trends point to the need for new road safety initiatives that improve the safety of all road user groups, and the development of a strategy aimed at preventing serious injuries as well as deaths (as proposed in the Road Safety Strategy Directions Paper).

2.1 Past road safety improvements benefit drivers and passengers more than pedestrians

Pedestrians are among our most vulnerable road users. Pedestrian vulnerability to traffic crash injury is two-fold. Not only do people who walk lack vehicle crash protection, but they are also more likely to be vulnerable due to their age. Children and adolescents may lack the knowledge, skills and experience to safely negotiate hazardous road environments, and older adults may be at risk due to reduced agility, perceptual abilities and cognitive processing, and increased fragility in the event of a collision with a motor vehicle.

Nevertheless, discouraging walking (including for these population groups) is neither desirable nor feasible. Children, adolescents, and older adults frequently depend on walking to meet their mobility needs; including walking to and from public transport. They also obtain substantial health benefits through regular daily walking (Pucher et al 2010). All citizens, and particularly our most vulnerable, have a right to complete their journeys safely regardless of their mode of travel (Jacobsen et al 2009).

A key principle of the Safe System approach is the establishment of a 'forgiving' road transport system. As set out in the National Road Safety Strategy 2010-2020:

> *"The road system must allow for human error [including pedestrian error] and provide forgiving environments that prevent serious injury or death when crashes occur. A Safe System ensures that the forces in collisions do not exceed the limits of human tolerance. Speeds must be managed so that humans are not exposed to impact forces beyond their physical tolerance. System designers and operators need to take into account the limits of the human body in designing and maintaining roads, vehicles and speeds*" (Australian Transport Council 2011, p.34).

In 2011, 49 pedestrians were killed on Victorian roads, comprising 17% of road fatalities (BITRE 2012). Trend data indicate relatively small improvements in pedestrian safety in recent years. Over the last 10 years (2002 to 2011), pedestrian fatalities in Victoria have shown only a small decline relative to motor vehicle occupants, and also relative to the reduction in pedestrian fatalities in Australia as a whole (see Figure 2) (BITRE 2012).

These data indicate that road safety improvements in Victoria in the last 10 years have benefited drivers and passengers more than pedestrians, and while Victoria outperforms Australia as a whole in reduced driver and passenger fatalities, it is underperforming relative to Australia as a whole in reducing pedestrian fatalities.

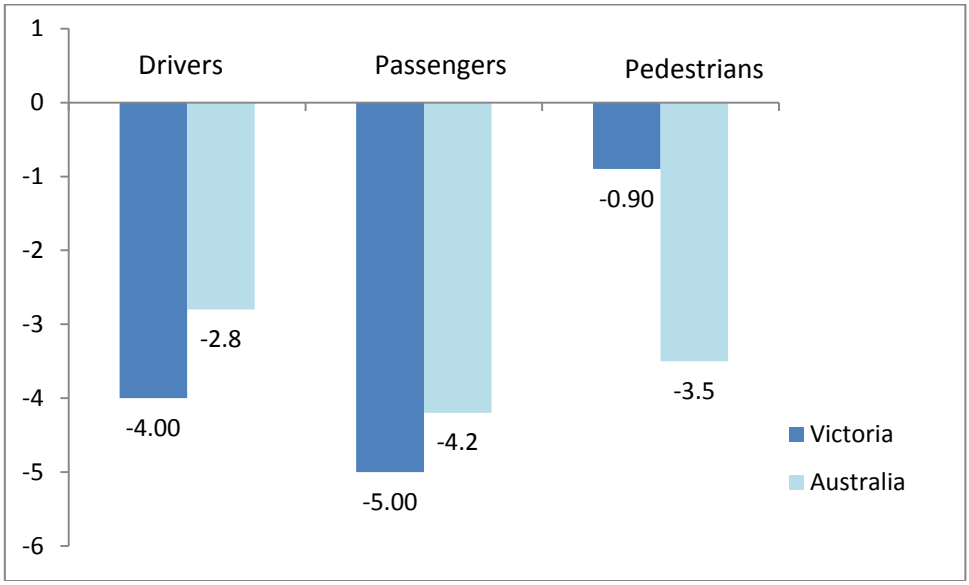

Figure 2: Average annual percentage change in fatalities, 2002-2011 (Source: BITRE 2012)

2.2 Victoria's fatality and serious injury rates are disproportionately high

A number of developed countries have rates of death and serious injury among vulnerable road users such as pedestrians and cyclists that are substantially lower than in Victoria (see Table 1). These countries also tend to have relatively high levels of walking and cycling for transport, and lower overall rates of road fatalities and serious injuries. This is a win-win-win scenario – safer conditions for walking and cycling lead to reduced pedestrian and cycling injuries, more walking and cycling (Garrard 2008b), and a range of benefits associated with replacing car trips with active trips, including an overall reduction in road deaths and trauma (Elvik 2009).

Low pedestrian fatality rates also appear to be associated with low rates of overall road traffic crash fatalities (see Figure 3). In fact, countries such as Sweden, Germany, the Netherlands and Norway comprise a cluster of countries characterised by high levels of relatively safe walking, and low overall road traffic fatality rates. These countries therefore experience multiple benefits and efficiencies in the public policy domains of injury prevention, health, efficient transport, environmental sustainability and community liveability.

Table 1: Road traffic fatalities and walking share of transport trips, 2007
(Sources: WHO 2009; BITRE 2012; AIHWa 2012)

Country (state)	Pedestrian fatalities (per 100,000 population)	Road traffic fatalities (per 100,000)	Walking share of transport trips (%)
Norway	0.50	5	22
The Netherlands	0.58	4.8	22
Sweden	0.62	5.2	23
Germany	0.84	6	23

France	0.91	7.5	19
Australia	0.97	7.6	NA
Victoria	0.79	6.4	12
Belgium	0.99	10.1	16
New Zealand	1.01	10.1	NA
Switzerland	1.04	4.9	45
UK	1.14	5.4	24
Canada	1.16	8.8	7
Italy	1.29	9.6	NA
Spain	1.39	9.3	NA
USA	1.56	13.9	9
Japan	1.68	5	NA

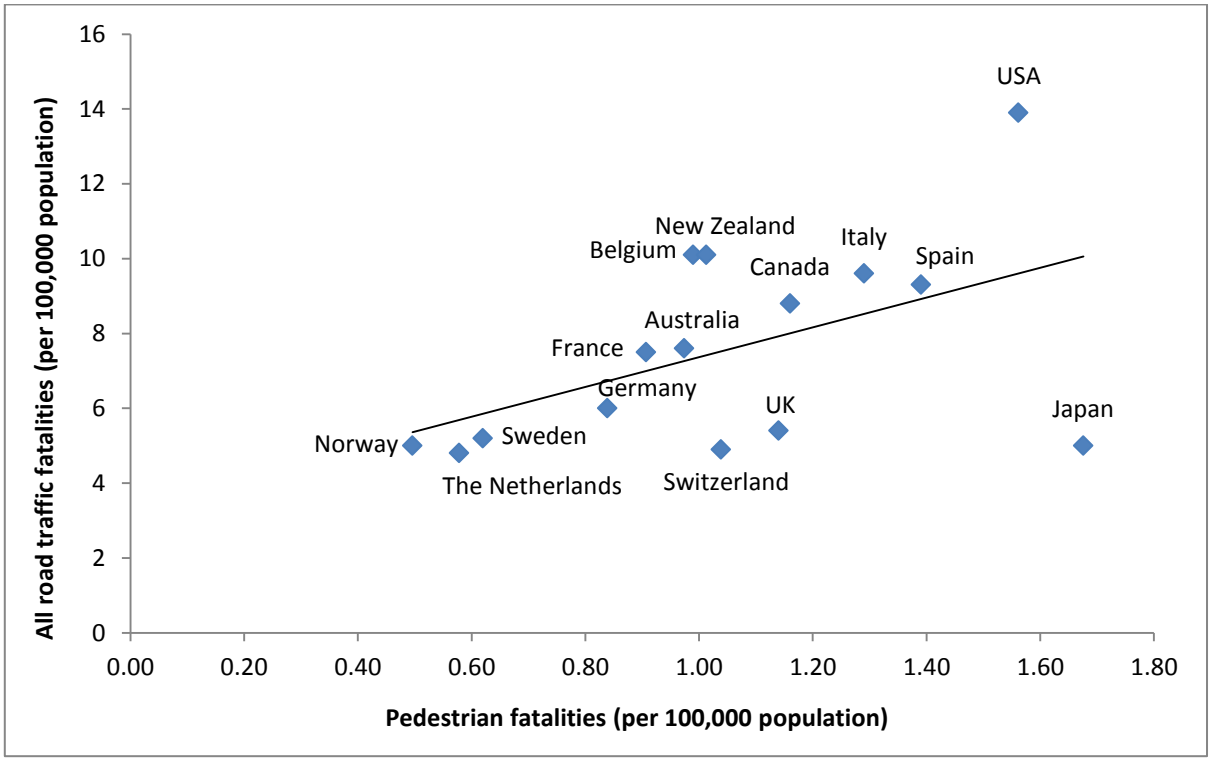

Figure 3: Road traffic fatality and pedestrian fatality rates, 2007
(Source: WHO 2009)

2.3 Speed reduction is key to reducing pedestrian road traffic injuries and fatalities
The harm caused by road traffic crashes also includes serious injuries. For every pedestrian fatality in Victoria, there are about 15 serious pedestrian injuries (AIHW 2012a). Based on Australian data for 2008-09, pedestrians are more likely to sustain a high threat to life injury than any other road user group (36% of serious injuries compared with 27% for all road users). Pedestrians also have the longest episodes of care, with a mean length of stay of 7.6 days in hospital (compared with 5.4 days, 5.1 days, 4.8 days and 2.9 days for motorcyclists, car passengers, car drivers and pedal cyclists respectively).

Consistent with injury severity and length of stay in hospital, nearly all pedestrian serious injuries (95%) are caused by collision with a motor vehicle. In contrast, less than half (49%) of serious injuries for car occupants are due to collision with another motor vehicle, with 44% due to non-

collision crashes (e.g. over-turning, falling or being thrown from a vehicle) or collision with a fixed or stationary object (AIHW 2012a). Consequently, improving pedestrian safety predominantly involves avoiding collisions with motor vehicles.

Pedestrians themselves have a role to play in crash prevention, but so too do external factors such as the road environment, vehicle speed and the behaviour of drivers. Older adults tend not to be 'risk-takers' in the conventional sense. The relatively high levels of pedestrian death and serious injury among older adults are attributable more to 'mistakes' than 'risk-taking behaviour'. These 'mistakes' are more commonly the result of cognitive impairment due to medical conditions (such as moderate to severe dementia, moderate to severe Parkinson's Disease, stroke, and multiple sclerosis) rather than normal age-related cognitive decline (Oxley et al 2004).

The most effective measure for reducing pedestrian road traffic crash deaths and serious injuries is speed reduction (World Health Organization (WHO) 2008). Lower vehicle speeds provide a more 'forgiving' environment in the event of pedestrian errors, consistent with a key principle of the Safe System approach. In contrast, there is little evidence for the effectiveness of pedestrian education programs in reducing pedestrian injuries. A review of injury prevention strategies concluded that "There is little evidence that efforts to change the behaviour of elderly pedestrians [e.g. through road safety education] have any long-term effects, and there is no evidence that programs focused on drivers have any benefit." (Rivara et al 1997). A more recent review reported similar findings (Duperrex et al 2002) though it should be noted that there have been few rigorous evaluations of pedestrian education programs.

The time trend and comparative data (including international data) outlined earlier point to an opportunity to further improve Victoria's road safety performance (and achieve a number of health, transport, environmental and community liveability co-benefits) by incorporating evidence-based measures for reducing pedestrian fatalities and serious injuries. The following section is a summary of broad-based recommendations for achieving these goals.

3. Recommendations for improving pedestrian safety

These recommendations have pedestrian *safety* as their focus, but are also based on the principle of intersectoral collaboration to achieve multiple public policy objectives. As outlined in this submission, improving the safety of vulnerable road users can contribute to improved health, transport efficiency, environmental sustainability and community liveability.

The development of Victoria's new road safety strategy provides an excellent opportunity to contribute to achieving these goals through integrated road safety, urban planning and transport planning measures, consistent with Victoria's 2010 Transport Integration Act. The Act includes the Vision Statement that "*The Parliament recognises the aspirations of Victorians for an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible State*", and specifies objectives for:

- social and economic inclusion
- economic prosperity
- environmental sustainability
- integration of transport and land use
- efficiency, coordination and reliability
- safety and health and wellbeing.

(http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt5.nsf/DDE300B846EED9C7CA257616000A3571/BC2280585B69A291CA2577910008AF32/$FILE/10-6a010.pdf)

Recommendation 1: Pedestrian safety should underpin Victoria's new road safety strategy

This recommendation addresses the following discussion points:

- What do you think Victoria's road safety goal should be?
- Should we aim for zero fatalities and serious injuries on our roads, understanding that most of us will need to make an effort (and perhaps make compromises to achieve this)?
- Does our effort being put into reducing road trauma reflect community priorities?
- As a road user, what do you think are some of the key safety issues on our roads?

Victoria's new road safety strategy should incorporate a greater focus on the safety of vulnerable road users, particularly pedestrians. Pedestrian safety must underpin Victoria's Road Safety Strategy and be built into the road system. Currently, pedestrian safety measures tend to be ad hoc and reactive, rather than planned, consistent and systematic. Facilities for the safe movement of vulnerable road users should be integrated into urban and transport planning in the same way that provisions are made for safe car travel. It is imperative for individual health and well-being and Victoria's economic productivity that improvements in pedestrian safety underpin strategies to increase walking levels.

Shifting from a car dominant culture to a people / pedestrian oriented strategy

There are several key safety issues on our roads, but a critical issue that underpins road safety issues in general in Victoria is the focus on transport systems and road safety strategies that prioritise car travel and motor vehicle occupant safety over the mobility and safety needs of non-motorised road users. This manifests as:

- the widely and strongly held belief that "the road system is for cars"
- pedestrians and cyclists are often held to be responsible for their injuries because they "choose to expose themselves to risk by using the road system designed for cars and/or fail to take adequate actions to avoid being struck by a motor vehicle"
- pedestrian and cyclist safety is often compromised to achieve small reductions to motor vehicle travel time (e.g. inappropriate speed limits; lack of pedestrian crossings; short pedestrian crossing times at signalised intersections and crossings; the need for pedestrians

to activate walk signals at signalised intersections, and to do this several times at more complex intersections)
- motorists frequently fail to obey road rules that govern interactions with pedestrians (e.g. failing to give way to pedestrians when turning left or right, particularly at unsignalised intersections, failing to look for and/or give way to pedestrians when reversing out of driveways, failing to stop behind stop lines at stop signs and signalised crossings, motor bike riders riding on footpaths to park their bikes –an offence that appears entirely unpoliced)
- driver training that does not give sufficient emphasis to the importance of avoiding collisions with pedestrians and cyclists.

This 'car dominated culture' results in impatient, discourteous, inattentive, distracted and selfish driving that places personal needs (e.g. to travel as fast as possible) above community safety and wellbeing. This manifests as several risky behaviours (e.g. tailgating, failure to give way to pedestrians when turning left or right, 'dooring' of cyclists, failure to leave a safe distance when overtaking cyclists, and general harassment and abuse of cyclists). A frequent comment from people returning from driving, walking and cycling overseas (particularly in the European countries with low crash injury rates) is the high level of aggressive driving behaviour in Australia compared with their overseas counterparts.

Failure to acknowledge and challenge these (usually inadvertent) by-products of living in a 'car culture' constrains further advances in road safety, because it constrains and delays the shift in thinking required to improve road safety for all road users.

Higher level of duty-of-care of motorists for the safety of more vulnerable road users
Victoria's road safety strategy should aim to establish a higher level of duty-of-care of motorists for the safety of more vulnerable road users. This approach should challenge the unfortunate and dangerous mindset that has inadvertently developed in Victoria and other car-oriented countries that the road system is for motor vehicles, and that more vulnerable road users are therefore largely responsible for their injuries. This 'victim-blaming' attitude implies that it is pedestrians and cyclists who should avoid hazardous drivers – not the other way around. This perception should be reversed, thereby bringing Victoria in line with countries such as Sweden, The Netherlands, Denmark and Germany.

Victorian Road Safety Strategy should incorporate 'Vision Zero' principles
The goal of Victoria's new road safety strategy should be 'Vision Zero'; that is, zero fatalities and serious injuries. Ambitious, but feasible targets should also be included as a means of planning and monitoring progress towards Vision Zero. The National Road Safety Target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020 is an appropriate target (Australian Transport Council 2011), and this target should apply to all road users and not just motor vehicle occupants.

Benefits of the Vision Zero approach include that it:
(i) reinforces the view that all road trauma is unacceptable; that death and injury is not the inevitable by-product of mobility in developed countries; and that small improvements in motorised mobility should not be at the expense of road traffic deaths and serious injuries;
(ii) focuses attention on reducing death and injury for all road users, and not just motor vehicle occupants; and
(iii) assists to establish a broad-based culture of road safety that enhances community support for road safety measures (e.g. reduced speed limits and their enforcement).

These benefits of the *Vision Zero* approach may have contributed to the substantial reductions in pedestrian deaths in countries such as Sweden (*Vision Zero*) and The Netherlands (*Sustainable Safety* – similar to Vision Zero) compared with Victoria, where the main focus has been on motor vehicle occupants (see Figure 4). Higher population growth in Victoria than in Sweden and The Netherlands in the decade from 1999 to 2009 may also have contributed to these trends. However,

it is also important to note that the populations of Sweden and the Netherlands are about double and treble (respectively) that of Victoria, and their citizens walk about twice as much per person as do Victorians (see Table 1). It therefore appears that *Vision Zero* and *Sustainable Safety* are effective road safety strategies, including for vulnerable road users such as pedestrians.

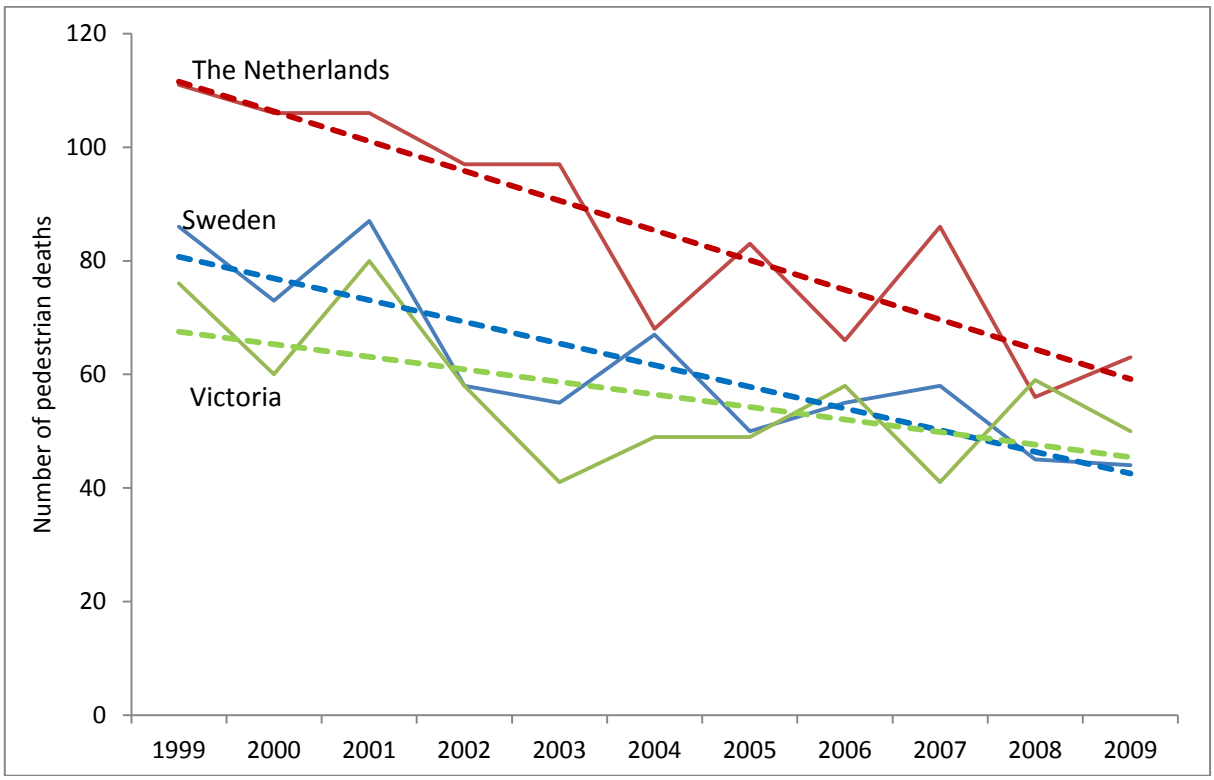

Figure 4: Pedestrian deaths, 1999-2009, The Netherlands, Sweden and Victoria
(Sources: BITRE 2012;
http://ec.europa.eu/transport/road_safety/pdf/statistics/historical_country_transport_mode.pdf)

Vision Zero works *because* it requires all citizens to make an effort (and sometimes make compromises) to achieve this goal. This may be more palatable to the general public than some decision-makers believe. Most Australians are concerned about dangerous driving and want safer roads (see section below, including Figure 5).

It is also important to recognise that there can be major misperceptions about some of the 'compromises' required to improve road safety. An example is reduced speed and travel time. Most people have poor awareness of the small impact of reduced speed limits on overall travel time in built-up areas. These misperceptions can be effectively addressed using well-designed communication campaigns. Investing in increased community support for 'compromises' in the interests of improved road safety is an important component of road safety strategies. Without this support, effective road safety measures may not be able to be implemented.

Noisy and dangerous driving are high community concerns
Community members express high levels of concern about dangerous driving, and place a high priority on road safety. In the most recent ABS survey of Australian's perceptions and experiences of 'crime victimisation', survey respondents were asked questions relating to their perceptions and opinions about social disorder issues in their local area. Social disorder refers to antisocial behaviour which may or may not constitute criminal offences such as public drunkenness, noisy neighbours and offensive language or behaviour (ABS 2012).

As illustrated in Figure 5, noisy and dangerous driving were the major concerns people had about social disorder in their community.

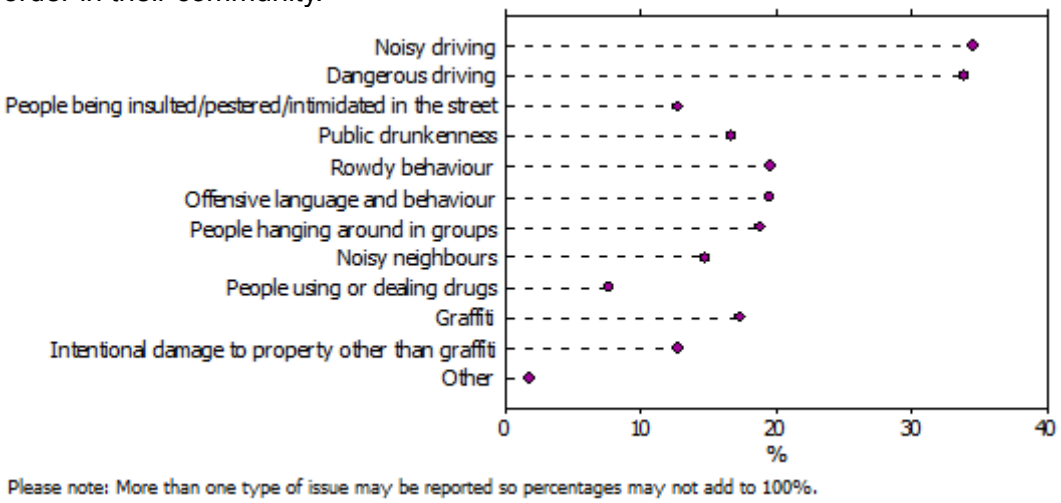

Figure 5: Perceptions of social disorder issues, adult Australians (%), 2011
(Source: ABS 2012)

Recommendation 2 - 'Safe speed' should be a cornerstone of the Safe System approach

This recommendation addresses the following discussion points:

- How should the safety of pedestrians be improved in Victoria?
- What are your views on the current penalties for speeding?
- What do you think are the most effective ways to stop motorists from speeding?
- Should speed limiting devices be fitted in vehicles of repeat speeders?
- Should all vehicles sold in Australia be top speed limited to 140 km/h?
- Should all vehicles in Victoria be fitted with technology that helps drivers know the speed limit area they are travelling in?
- Would you like to see more 40 km/h speed limits in strip shopping centres, and high pedestrian areas including residential streets?

Safe System approach should form the basis for Victorian Road Safety Strategy
It is recommended that the Safe System approach, which provides the framework for the Victorian Road Safety Strategy, should form the basis for the development of an appropriate package of measures designed to reduce pedestrian deaths and injury.

Given the crucial role that vehicle speed plays in pedestrian safety, 'safe speed' should be included (along with safe roads, vehicles and people) as one of the four cornerstones of the Safe System approach. This would bring the Victorian Road safety Strategy in line with the National Road Safety Strategy 2010-2022 (Australian Transport Council 2011).

Lower speed limits save lives
Current speed limits, particularly in built up areas, do not adequately reflect human tolerance to collision with a motor vehicle. This is particularly the case in residential areas, shopping precincts, public transport hubs/stops, near schools (current school zones cover too small an area to enable most children to walk or ride safely for the entire trip to school), and in other areas of relatively high pedestrian activity.

The most important and effective measure for improving the safety of pedestrians is speed reduction. Speed limits in Victoria, including in urban areas, are higher than internationally recommended levels, and also higher than in most developed countries (Fildes et al 2005).

A key recommendation in this submission is to reduce speed limits in residential areas and within a 2 km radius of schools, shopping strips, parks, and major trip generators such as universities, TAFE colleges, hospitals, large shopping complexes, and other employment centres. The internationally recommended safe speed limit is 30 km/h for areas where vulnerable road users are exposed to vehicular traffic (as defined by the biomechanical tolerance to crash impact forces) (World Health Organization (WHO) 2008; International Transport Forum 2011). However, given that speed limits in built-up areas in Victoria are substantially higher than this [and also higher than in many other developed countries (Fildes et al 2005)] it may be more feasible to introduce a step-wise reduction (from 50 km/h to 40 km/h in the short-term, and subsequently to world's best practice of 30 km/h).

Promote more pedestrian oriented street design and enforcement of road rule breaches
'Speeding' includes both travelling above the speed limit, as well as travelling too fast for the road and traffic conditions, and mix of road users. Lower speed limits mean that exceeding the speed limit, both deliberately and inadvertently then occurs at lower and therefore safer speeds. Traffic calming measures, including street design, also assist in reducing speeding.

Continued and more widespread enforcement of speed limits using predominantly covert means of detection will assist in more system-wide speed reduction than simply "slowing down in the vicinity of speed cameras". It will be important to address the widely held perception that speed enforcement is largely 'revenue-raising' by establishing bi-partisan political support for speed enforcement; encouraging the mass-media to assist in reducing road trauma by ceasing to portray speed enforcement as 'revenue-raising'; and increasing community awareness of the role of even small increases in speed in traffic injuries.

Develop a comprehensive, integrated package of measures aimed at making speeding socially unacceptable and travelling at safe speeds the social norm. It is important that the community recognises that speeding is not just the domain of young, male, so-called 'hoon' drivers; but rather, we all need to drive at a safe speed at all times. Measures could include:

- Designing built up areas for slower speeds. 'Design speed' is one of the most effective ways to reduce vehicular traffic speed and is critical to increasing walking levels.
- Raising awareness of the small impact of speeding on travel time (including in driver education and licence-testing).
- Highlighting the high proportion of drivers who drive within the speed limit rather than the minority who don't (as part of the process of normalising driving within the speed limit).
- Increasing the financial incentives for not speeding and publicise the number of people receiving these incentives.
- Introducing further restrictions on motor vehicle advertising that emphasises speed and fast acceleration.

Victoria Walks' response to specific discussion points:

- What are your views on the current penalties for speeding?
  The current penalties are adequate.

- Should speed limiting devices be fitted in vehicles of repeat speeders?
  Yes.

- Should all vehicles sold in Australia be top speed limited to 140 km/h?
  Yes. Excessively high maximum speeds tend to normalise high speeds and make reading the speedometer more difficult (due to the wide range of the speed scale).

- Should all vehicles in Victoria be fitted with technology that helps drivers know the speed limit area they are travelling in?

Yes. This will help to reduce inadvertent speeding.

- Would you like to see more 40 km/h speed limits in strip shopping centres, and high pedestrian areas including residential streets?
  Yes.

Recommendation 3: Road safety should be improved by appropriate behaviour change measures that promote 'shared responsibility' between road users

This recommendation addresses the following discussion points:

- How should the safety of pedestrians be improved in Victoria?
- How do we make people aware of the 'hidden toll' of serious injury and its potentially lifelong impacts?

There are indications that road safety in Victoria may be reaching the limits of further benefits through behaviour change measures directed at high-risk behaviours such as speeding and drink/drug driving using current educational, regulatory and enforcement measures.

Whilst maintaining these effective measures, the new Victorian road safety strategy should also aim to establish road safety as a social norm, placing more emphasis on the full range of potentially hazardous road user behaviours, and implementing measures aimed at increasing shared responsibility among all Victorians for road safety. The current *Arrive Alive!* message and the new Victorian number plate message *Stay Alert Stay Safe* have a strong individual focus.

This submission recommends a change from negative, individual-focused road safety messages to messages that have a positive, 'shared responsibility' theme. Evidence from the social psychology/behaviour change literature also indicates that it may be more effective to promote awareness of the large number of people doing the right thing, than to focus on the poor behaviour of the minority (McKenzie-Mohr and Smith 1999). This assists in establishing positive behavioural norms rather than (inadvertently) conveying the message that poor behaviour is the norm.

In addition, negative, 'hard hitting' messages may create the perception that the streets are dangerous places; thereby contributing to the 'social trap' of further reducing the use of modes of travel that cause little road trauma, and increasing more harmful motorised travel.

Road safety awareness – prevention is better than rehabilitation

It is important to increase awareness of serious injury rates and their impacts, though negative, scare-based campaigns are unlikely to be effective (Hastings et al 2004). There is also a risk that threat and fear-arousing campaigns may undermine strategies aimed at increasing children's and adults' use of active and sustainable transport modes by increasing people's perceptions that the road network is dangerous.

Victoria's road safety strategy should explore alternative, more positive approaches to awareness-raising and behaviour change. Examination of alternative approaches should extend beyond the road safety field and include other public health campaigns. For example, raising awareness of the large number of people affected by, and involved in, serious road trauma could draw on the concepts used in the TV advertisement conducted as part of Australia's national HIV/AIDS strategy several years ago: "How many people are you really sleeping with" in which the TV screen gradually filled with 'multiplying beds'. An equivalent road safety message could be along the lines of "If you think it's just you – think again", accompanied by images of the numerous people and services affected by a serious road injury. Alternative, more positive focused messages could include "Prevention is better than rehabilitation", or "Prevention is the only cure we've got".

Road safety education should promote mutual respect between road users

Road safety education (including in schools, driver education, and licence-testing) should be revised to place more emphasis on the importance of motorists respecting the rights of pedestrians and cyclists, obeying the road rules in relation to pedestrians and cyclists, and taking care to avoid collisions with pedestrians and cyclists.

Road safety education should increase public awareness of giving way to pedestrians when entering and exiting private properties and car parks, and making left and right turns (compliance with this road rule is particularly poor at unsignalised intersections, and when turning into the minor road arms of T-intersections).

Pedestrian education for children should be maintained, but its limitations as a stand-alone measure for reducing child pedestrian injuries should be acknowledged.

Given the lack of demonstrated efficacy, the current focus on 'educating' older pedestrians (e.g. to cross roads safely) should be replaced with an increased emphasis on an overall Safe System approach to improving the safety of the rapidly increasing numbers of older pedestrians.

Suggestions for road safety messages
Some possible road safety messages based on the principles of positive messages, designed to create social norms of safe road user behaviour and social as well as individual responsibility for avoiding crash injuries include:

Safe driving is contagious – infect a friend today!
Safe driving – everyone's a winner!
Safe driving – because we're worth it.
Road safety – a way of life.
Road trauma: prevention is better than rehabilitation.
Road trauma: prevention is the only cure we've got.
Road safety: think with your head, act with your feet.

Recommendation 4: Health, planning and walking should be represented on high level road safety forums including the Ministerial Council for Road Safety

Road safety should also take the approach that it has critical role to play in increasing the levels of walking and cycling for transport and recreation and this should be a focus of road safety strategies.

Pedestrians and cyclists should be represented on high level road safety forums.

The Ministerial Council for Road Safety should also include the Minister for Health and the Minister for Planning.

The Victorian Pedestrian Advisory Council (VPAC) should be properly resourced to input into road safety strategy development on an ongoing basis. VPAC had its inception meeting in March 2012 and was due to have its second (half day planning) meeting in June and third meeting in September 2012. Neither the second nor third meeting has been held, which has resulted in a lost opportunity for VPAC to be engaged in the development of the Road Safety Strategy.

Recommendation 5: Reduced car use

It is recommended that the Victorian Road Safety Strategy incorporates reduced car use as an effective road safety measure. Reduced car use reduces the exposure of both car occupants and pedestrians and cyclists to the risk of collision with a motor vehicle. Modelling based on exposure levels and the relative risks of motorised and non-motorised modes of travel indicates that a sizable

shift from motorised to non-motorised travel can lead to an overall reduction in injury crashes (Elvik 2009). Increasing the mode share of trips undertaken by foot, bicycle and public transport will require the adoption of a more 'integrated policy' approach to road safety rather than viewing road safety in isolation from urban planning, transport planning, and health, education and environmental policy.

Recommendation 6: Introduce measures that prioritise pedestrian safety

This recommendation addresses the following discussion points:

- How should the safety of pedestrians be improved in Victoria?
- What are the biggest hurdles to reducing death and serious injury?

Victoria's achievements in reducing deaths and serious injuries by implementing effective measures for reducing speeding and drink-driving are commendable, but some measures with demonstrated effectiveness have not been acted on. These include:

- reducing speed limits, particularly in urban areas
- banning low light-transmission window-tinting (which allows light transmittance of only 35% for all windows of a motor vehicle other than the windscreen)
- adopting vehicle design features that reduce pedestrian and cyclist injuries (including restricting the use and design of bull-bars)
- improved front-end geometry of vehicles
- encouraging the purchase of motor vehicles that are less hazardous to pedestrians and cyclists
- encouraging reduced car use
- improving the many road infrastructure, environment and traffic conditions that increase the risk of injury to pedestrians and cyclists (Oxley et al 2004).

Achieving these changes requires a road safety strategy that complements other government priorities such as reducing traffic congestion, increasing physical activity, fostering environmental sustainability, and creating strong, socially connected communities.

Improvements in road infrastructure, environment and traffic conditions should also be key components of a Safe System strategy for improving pedestrian safety. These include the operation, phases, timing and placement of traffic signals at intersections and pedestrian crossings; road width, sight distance, and refuge islands; and well-designed, well-lit and well-maintained road and footpath surfaces that are free of obstacles.

Improve the pedestrian level of service at all Victorian signalised crossings

Many signalised crossings have extremely poor pedestrian levels of service that both impacts pedestrian safety (e.g. compliance) and reaffirms the dominances of a culture that gives primacy to car travel over walking, thereby making walking for transport less appealing. Many crossings have extremely long waiting times, short crossing times, do not have auto green or auto call-up. Most do not give pedestrians an auto head start (early green), and lamentably, some even give vehicles a head start over pedestrians.

Some pedestrian crossings have been sited at dangerous positions such as a few metres from an intersection, so that cars have no warning of a crossing when they enter a road (e.g. Lygon St, Carlton, near Pelham St). Frequently new crossings are installed with the lowest level of pedestrian service possible (no auto call up, head start, short crossing times etc.) even when the crossing is not on a major road and it has no real bearing to network operating plans (e.g. crossing at Drummond and Faraday Streets, Carlton). The installation of such poor levels of service unfortunately suggests a cultural disregard for walking.

Victoria Walks recommends that all new signalised crossings have the highest level of pedestrian service as the default and that this level should be modified only if there is a justifiable reason for this to occur.

Mandate pedestrian oriented vehicle safety technologies
'Vehicle safety technologies' are proposed for future implementation, but these are mainly focused on the safety of car occupants. Some existing vehicle safety technologies with proven efficacy in reducing pedestrian injuries have not been implemented. These include frontal vehicle design, bull-bar design and car window tinting. In these instances non-essential, largely aesthetic car design feature should not be permitted to over-ride the safety of other road users, particularly pedestrians, cyclists, and motorcyclists.

Decrease road clutter
Review of legislation and the enforcement of legislation relating to the erecting of signs, including variable message signs used for advertising, on road ways and road related areas should be conducted. As Figure 6 demonstrates, Victorian roadways and road reserves are frequently cluttered with advertising and related signs that are highly likely to distract drivers and/or reduce the visibility or noticing of official road warning signs (Edquist 2008). Currently it is not always clear which legislation (e.g. Road Management Act, Victorian Planning provisions and Road Safety Traffic Management regulations) is relevant on specific roadways and which authority should enforce the legislation. Subsequently, it appears that the erection of such signs appear to be largely unregulated. In the interest of road safety, Victoria Walks recommends a review of relevant legislation and the development of a universal approach to this issue and that existing legislation and regulations are enforced.

Figure 6: Road and road related areas cluttered with advertising

Maintain current road rules relevant to cycling on footpaths
Victoria Walks is aware that some cyclists and cycling bodies advocate for laws to be changed to allow bicycles to be ridden on footpaths, particularly secondary students. Victoria Walks supports current legislation that allows children under 12 years and accompanying adults to ride on footpaths. Footpaths are for feet, they are for walking, but also stopping, playing, talking and interacting. That is, they are the basis of public and community space and should not be turned into vehicular transport routes (bicycle or otherwise).

Walking for transport has great capacity for uptake for short trips and walking for leisure and health has the greatest capacity for uptake as a regular form of physical activity and incidental exercise (walking is the most prevalent form of medium intensity physical activity of Australian adults). Accessible, safe and well maintained footpaths are essential for increasing walking for transport, health and/or leisure, particularly for children, older people and people with a disability.

Current Road Rules should not be modified to allow bicycle riders over 12 years of age to be permitted to ride on footpaths.

Reduce BAC limits from 0.05 to 0.02

- What are your views on the current BAC limits and penalties for drink driving?
  Current penalties for drink driving are adequate.

  Current BAC limits should be reduced from 0.05 to 0.02. This recommendation is consistent with the evidence that alcohol-related harm occurs for BAC levels below 0.05. While the risk of impaired driving is lower for BACs < 0.05 than for BACs ≥ 0.05, the overall amount of harm may be considerable due the larger number of drivers with BAC levels between 0.02 and 0.05.

- Should alcohol interlocks be a standard feature of all new vehicles in the future?
  Yes.

- Should all drivers who are detected drink driving have an alcohol interlock fitted to the car they drive?
  Yes.

4. Summary, conclusions and future directions

Victoria has an excellent track record of implementing innovative measures that have led to large reductions in road traffic deaths in the last four decades. Several factors now point to the need for further innovations; namely, a shift in focus to more systematically address the safety needs of people who use active, sustainable forms of transport. Pedestrians pose few risks to other road users, but are exposed to life-threatening risks from them. Despite their vulnerability, and their right to move around safely in public places, they have been overlooked in the development of transport systems and road safety strategies.

Victoria Walks believes that the factors that necessitate a change in direction are:

- Reductions in fatalities have plateaued in the last few years.
- Serious injuries over the last decade have not shown the same reductions as fatalities.
- Improvements have mainly been for motor vehicle occupants; with vulnerable roads users (pedestrians, cyclists and motorcyclists) less likely to have benefited from the road safety measures implemented.
- If this trend continues, Victoria will be unable to meet the national road safety target of a 30% reduction in crash fatalities and serious injuries by 2020; in part because vulnerable road users will comprise an increasing proportion of overall injury crashes.
- This will be further exacerbated by Victoria's ageing population, because older adult pedestrians are at greater risk of death and serious injury than younger age groups.
- Several other OECD countries have achieved what the new Victorian road safety strategy should aspire to; namely, lower overall fatality and serious injury rates that include lower fatality and serious injury rates for pedestrians.
- Countries such as Sweden, the Netherlands, Germany and Denmark, that have relatively high rates of safe walking and cycling, experience multiple benefits associated with reduced road traffic injuries, improved health, less traffic congestion, reduced air and noise pollution and greenhouse gas emissions, and improved community liveability.
- Victoria is well-placed to also realise these benefits, and improving the safety of pedestrians is an important component of the integrated package of measures that can lead to more children and adults walking more safely more often.
- Road safety, transport, urban planning, environment and health sectors should work in partnership to achieve these goals.
- Victoria's new road safety strategy should adopt *Vision Zero* as its goal; with the target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020. This target should apply to all road users and not just motor vehicle occupants.
- The Safe System framework should include Safe Speed, and be used as a basis for developing a strategy to achieve a 30% reduction in road crash fatalities and serious injuries for pedestrians and cyclists by 2020.
- Central to Vision Zero and the road safety strategy derived from it, is that pedestrian safety should not be compromised in order to achieve marginal improvements in motor vehicle travel times. All community members, regardless of their mode of travel, have a right to complete their journeys safely.
- The new Victorian road safety strategy should include reduced vehicle speeds, including lower speed limits in built-up areas, as vehicle speed is a major factor in pedestrian fatalities and serious injuries. Speed reductions should be accompanied by a package of measures that assist drivers to comply with speed limits, including a communication strategy to improve drivers' acceptance of, and compliance with speed limits.
- Additional components of the Safe System strategy should include safe vehicles (vehicle design features that reduce the risk of collision and/or the risk of serious injury in the event of a collision with a pedestrian); safe roads (road features and traffic conditions designed to optimise flow and safety for all road users); and safe road users.

Because nearly all pedestrian deaths and serious injuries are caused by being struck by a motor vehicle, there should be a strong focus on safe road user behaviour (including, but not limited to speeding and drink/drug driving). The overarching aim in changing road user behaviour should be the development of a culture of mutual respect and considerate, law-abiding behaviour among all road users who share public road space.

Action to achieve culture change should include, but not rely solely on the enforcement of road rules. Rule-making and enforcement measures are effective in achieving safer road user behaviour, but it is not possible (or efficient) to make rules for all contingencies, or for enforcement agencies to be everywhere at all times. An oft-quoted reflection on the limitations of regulation and law-enforcement is the statement by former Chief Justice of the US Supreme Court, Earl Warren that:

> *"Society would come to grief without ethics, which is unenforceable in the courts, and cannot be made a part of the law.... Not only does law in civilized society presuppose ethical commitment; it presupposes the existence of a broad area of human conduct controlled only by ethical norms".*

The case for an ethical norm that holds that the protection of human health takes priority in the trade-off between the benefits of increased mobility and the human and economic costs of death and injury can be made in Victoria, as it has overseas, through the Vision Zero approach to road safety.

International experience demonstrates that walking can be made safer. Strategies that have been implemented successfully overseas should be modified, trialled and evaluated in Victoria so that the benefits of improved road safety in Victoria are extended to all road user groups. The new Victorian road safety strategy provides a timely opportunity to invest in action to achieve the multiple cross-sectoral benefits associated with high levels of safe walking in Victoria.

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