SAFER URBAN SPEED LIMITS

Position statement

An increasing proportion of those being killed on Victorian roads are people walking, especially older people. Australia has some of the highest urban speed limits in the developed world; vehicle speed is a key factor in road deaths and injuries.

Victoria Walks' vision is to make streets safer for everyone, particularly people walking to local destinations like schools, shops and public transport, and connecting with others in their community. Our vision aligns with the state government's 20-minute neighbourhood concept[1] and would support the implementation of government policy including the Victorian public health and wellbeing plan 2019–2023[2] and the Towards Zero 2016–2020 Road Safety Strategy.[3]

This position statement outlines how traffic speeds relate to walking, the evidence for lower speeds, the current approach to setting speed limits, and recommendations to improve walking conditions and public spaces through safer speed limits.

Consolidated recommendations

The Victorian Government should:

- Provide regular, ongoing funding for infrastructure improvements to support lower speed limits.
- Consider options for simplifying the process to change speed limits, particularly for specific location types such as schools and strip shopping centres.
- Investigate options for an express approvals process when applications to change speed limits are a result of rapid changes in the use of public space.
- Reduce the speed limit of collector roads in residential areas signed at 60 km/h to 50 km/h, or 40 km/h where appropriate.
- Review the safety, amenity and mobility impacts of lower speed limits on other urban roads currently set at 60 km/h or more.
- Reduce the default urban speed limit to 40 km/h.
- Determine the appropriate application of area wide 30 km/h speed limits in urban residential streets through 1) trials in middle and outer suburban areas and 2) monitoring the outcomes in comparable cities overseas and other parts of Australia.
- Implement a maximum, universal school zone speed limit of 40 km/h (including on roads with a usual speed limit of 80 km/h or more).
- Support councils and schools in applying reduced speed limits across a whole school precinct rather than limited to the area around a school gate.
- Provide options in the guidelines for speed limits of 30 km/h in places such as CBDs, major activity areas, near schools and residential areas.
- Pilot, or support councils to pilot, a 30 km/h zone in an area with high pedestrian activity in the middle or outer suburbs.
- Review the signage and infrastructure requirements for pedestrian priority zones to determine if they can be reduced or simplified.

Road authorities should be encouraged to apply 10 or 20 km/h pedestrian priority zones in:

- Areas where pedestrians are forced to share space with vehicles, such as carparks and laneways.
- Residential cul-de-sacs and potentially other local streets without footpaths.
- Locations with high pedestrian volumes and comparatively low traffic volumes, including around highly used public transport stops and interchanges.

"Recent research suggests that there are still large benefits to be gained by introducing an 'across the board' reduction of speed limits to 50 km/h on all types of urban and metropolitan roads that presently have a 60 km/h speed limit."

Archer, J., Fotheringham, N., Symmons, M., Corben, B. (2008). The impact of lowered speed limits in urban/metropolitan areas. MUARC, Melbourne.

Background

Over the past decade, the total number of people killed on Victorian roads has trended downwards according to TAC data.[4] By comparison, the number of people killed while walking in Victoria has remained reasonably constant. However, since 31 pedestrian deaths in 2017, the total has been rising, increasing to 37 in 2018 and 48 in 2019. This meant 2019 had the highest proportion of pedestrian deaths in a decade, at 18% of all people killed on the roads.

In 2019, more than half of the pedestrian fatalities were people aged 60 years or older, and 41% were aged over 70. Older people have been a steadily increasing proportion of pedestrian deaths over the last 20 years, even though the number of fatalities overall has declined.

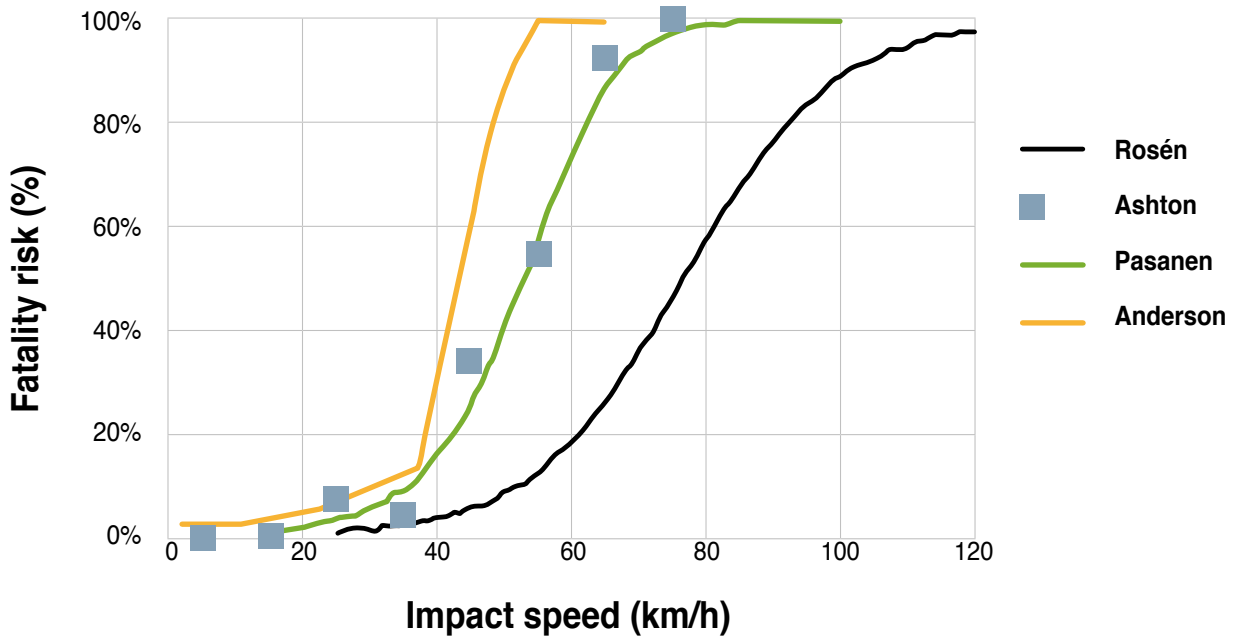
These figures suggest that the current road safety approach is not working for people walking as much as it is helping people in vehicles.

The evidence

Lower speeds save lives

Research has clearly established that vehicle speed is a key factor in road trauma. Higher speeds result in more crashes as well as increasing crash severity. Pedestrians are not protected the same way vehicle occupants are and are more likely to be injured as a result of a crash. In a crash between a vehicle and a person walking, the risk of death for the person increases as vehicle speed increases. The exact relationship varies between studies, but the risk of the person walking being killed by a vehicle travelling at 50 km/h is between three and ten times the risk compared to 30 km/h[5]. The risk of serious injury and death begins to increase exponentially at around 25 km/h and 40 km/h respectively[6].

Estimates of pedestrian fatality risk by impact speed[i].



Rosén, E. (2011). Pedestrian fatality risk. Autoliv Research, Presented at Åbo Akademi University, Turku, Finland: 2011.

Older pedestrians are at even higher risk of injury, with people aged 70 or older approximately 1.6 times[7] more likely to be injured than people aged 16 to 39 years. They are more likely to sustain an injury if involved in a crash and take longer to recover. For older people who fracture a hip,[8] it is estimated that between 25 and 40% die within 12 months; for the remainder, an increased risk of death persists for years afterwards.

Amenity benefits of reduced speed

In addition to improved safety, lower traffic speeds contribute to more walking and general use of the streets, resulting in physical and mental health benefits[9] as well as improved social cohesion, personal safety and equality.

A review[10] of the relationship between speed limits and walking rates found limited studies conducted on this topic. A study[11] from Basel, Switzerland, found a speed limit of 20 km/h on local roads resulted in residents being two to three times more likely to talk, play, observe and sit in the public space compared to streets with a speed limit of 50 km/h.

A 32 km/h (20 mph) speed limit pilot scheme in South Central Edinburgh, UK,[12] found that once the lower speed limits were implemented, residents were strongly supportive of them and reported improved safety for children walking and playing, and improved walking and cycling conditions. There was a 7% increase in the number of trips walked, a 5% increase in the number of bicycle trips and a 3% reduction in car journeys in the year after the scheme was introduced.

[i] This position statement was previously published with a graph showing the cumulative distribution of mean vehicle speed, by injury severity and fatality for people walking, from a study in Sweden. While this shows similar results to the relationship between fatality risk and impact speed, it is not the same.

How Australia compares

Australia's urban default speed limit of 50 km/h on residential roads and speeds of 60-80 km/h on arterial roads are some of the highest urban speed limits in the world.

The International Transport Forum[13] observed in 2019 that 50 km/h is the highest urban speed limit (including arterial roads but not motorways) in most of the 44 countries reported. Nearly all reported countries have lower speed limits of between 20 and 40 km/h in residential areas or around schools. These local area speeds are not shown in the figure below.

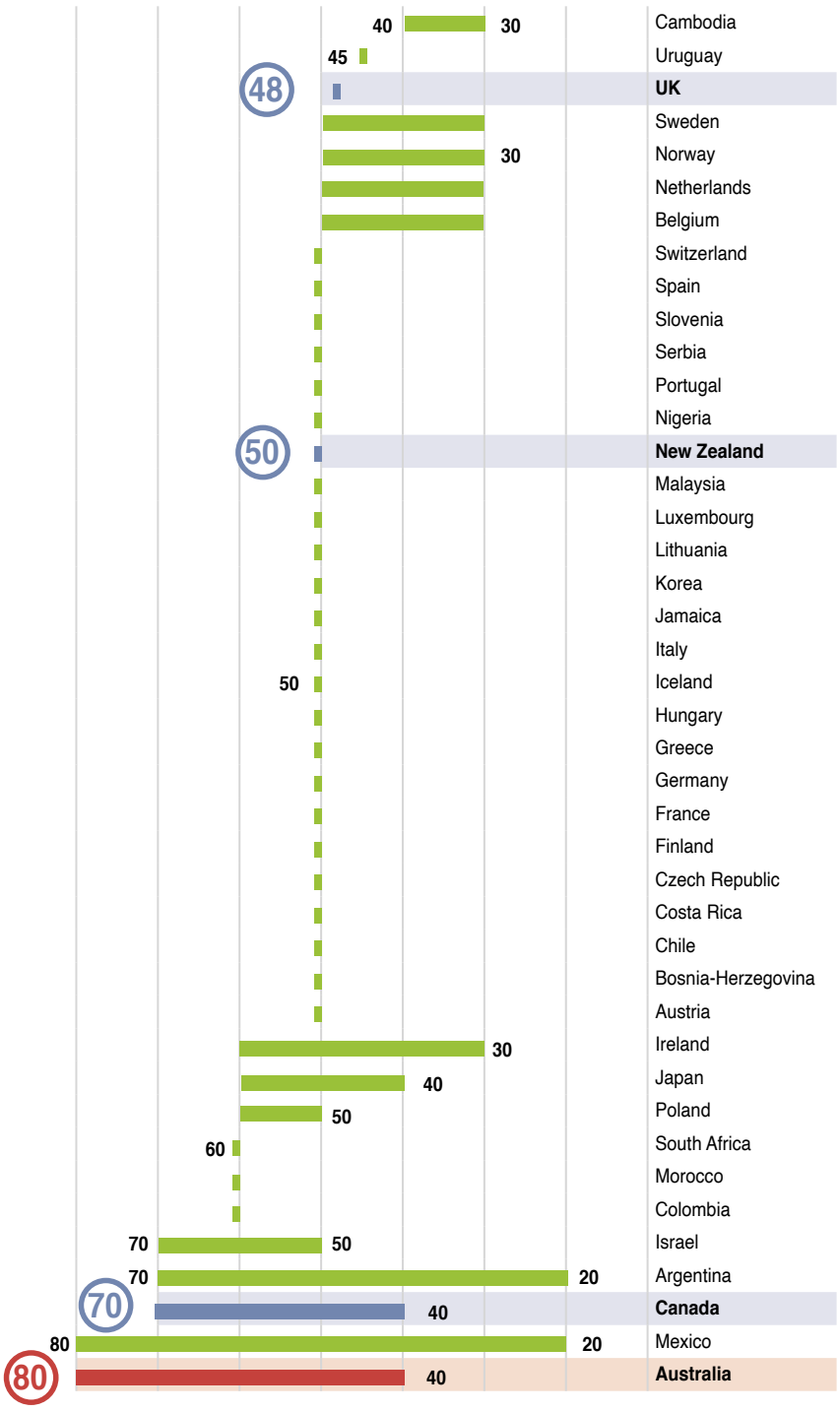
National speed limits on urban roads*

Comparable Countries

Australia

(Data source: IRTAD, 2019)

*Includes arterial roads but excludes motorways.



> "Underlying cultural values and norms are reflected in road safety policies, which, in Australia, result in speed limits considered unacceptably high in many other countries. Accordingly, pedestrians and cyclists can be 'blamed' for injuries that result from collisions with vehicles travelling at a legal but unsafe speed."
>
> Garrard, J. (2008).

The impact of lower speed limits on travel times

Driving times in urban areas are influenced primarily by the number of intersections, how they are controlled (signals, give way, roundabout, etc), turning vehicles, parking and congestion.[14] Speed limits have only a marginal impact and increases in travel time are always less than the proportionate decrease in speed limit.[15]

A simulation of Melbourne found that reducing the speed limit by 10 km/h on all roads apart from freeways would increase travel times by 3%, with a long-term increase of only 0.6% due to changes in travel behaviour.[16]

Also, many trips in urban areas are short, with 50% of trips in Melbourne less than 4.2 km.[17] This means they are less affected by changes to speed limits.

Quantifying the costs and benefits of lower speeds

Studies have attempted to put a dollar figure on the costs and benefits of reduced speed limits. The main costs generally relate to additional travel time and implementation (signage and media campaigns). The benefits are in reduced injuries, deaths and property damage.

A 2001 evaluation of reducing Australia's default urban speed limit from 60 km/h to 50 km/h found a net benefit of between $14 and $34 million per year, and at least $309 million if new crash cost savings values were used.[18] A different study in 1999 calculated the benefit of reducing the speed limit by 10 km/h on all Melbourne roads except freeways at more than $60 million.[19]

The impact of lower speed limits on driver behaviour

While not all drivers will obey a reduced limit, average speed and high-end speeding tends to be reduced. A report into the NSW 50 km/h default limit found that although the mean speed on roads dropped only slightly (from 57.2 to 56.7 km/h), the proportion of vehicles exceeding 60 km/h dropped from 37.6% to 15.6%. This small decrease in mean speed resulted in a 25.3% decrease in crashes, 22.3% decrease in injuries and 44.5% decrease in fatalities.[20]

Evaluation of the 50 km/h default limit[21] and Yarra Council's 30 km/h trial[22] suggest that speed limit reductions without any supporting engineering measures result in a small reduction in mean travel speeds in the short term, and a greater reduction for higher speeds. "Though the effect of speed limit changes on actual speeds is relatively small … even a change in speed of just 2 or 3 km/h has a large effect on road safety".[23]

It is often quicker, simpler and significantly cheaper to lower speeds than make infrastructure changes; however, changes to road design can reinforce the lower travel speed message. Some infrastructure types are only permitted on roads with speeds below 50 km/h. Currently there is no committed state or federal fund for councils to access to improve infrastructure as part of speed limit reduction programs.

Recommendation: The Victorian Government should provide regular, ongoing funding for infrastructure improvements to support lower speed limits.

Community support

In line with other road safety measures such as seatbelts and road safety cameras, the evidence is clear that lower vehicle speeds have a significant safety benefit at the population level. These benefits are not necessarily experienced at an individual level,[24] however surveys have found people generally understand that lower speeds are safer and broadly support them. A 2020 survey of Australians found that 64% of people support reducing the speed limit in neighbourhood streets to make them safer for people. In Victoria, the support was even higher at 66%.[25] A 2017 survey by the federal government found 88% of people are supportive of 40 km/h speed zones in areas with high pedestrian activity, with 65% strongly agreeing they should be in place.[26]

Once lower limits are introduced, community support tends to increase as people experience the benefits in their street.[27] Past road safety initiatives were based on expert opinion and fact. Community support is a worthwhile goal but was not a precondition for other road safety initiatives such as compulsory seatbelts, blood alcohol limits, speed cameras, red light cameras, and roadworthy testing. Politicians need to show leadership on this issue, making decisions based on evidence.

64%
of Australians

66%
of Victorians

Support lower speed limits in neighbourhood streets

(Data source: National Heart Foundation of Australia, 2020)

40 km/h speed zones in areas where lots of people walk

88%
support

65%
strongly support

(Data source: van Souwe, J., Gates, P., & Bishop, B., 2018)

Process for setting speed limits

Speed limits have historically been determined based on getting people around quickly and estimated compliance levels. Changes to speed limits in Victoria are governed by the Speed Zoning Guidelines[28] and are regulated by the State Government. Although the guidelines discuss various principles including safety, road classification is the key determining factor. This means factors such as actual or desired use, safety and amenity are not often considered.

The 50 km/h default limit can be reduced to 40 km/h under limited circumstances, such as in school zones and pedestrian activity areas. However strict criteria must be met for approval of 40 km/h limits in activity areas, including at least 400m of abutting retail (or other listed land uses), high levels of pedestrian activity at least 4 hours per day for 5 days per week, and preferably along roads with kerbside parking that are not key traffic routes.

The guidelines do not include 30 km/h speed limits as an option and lower limits of 10 km/h and 20 km/h are only listed as options in pedestrian priority shared zones and carparks. However, there is no requirement to apply this guideline so carpark operators can choose to set any speed limit, or more commonly none at all.

Higher speed limits of 60 km/h or 80 km/h are recommended for collector and arterial roads, depending on whether they are divided and where they are located. The only safety factors considered in limiting speed to 60 km/h in urban areas are a large number of driveways or pedestrians and cyclists.

Changes to speed limits are generally requested by councils, alongside a great deal of evidence and signage work, but require the approval of the state roads authority (currently the Department of Transport) and can be rejected by the Minister for Roads. This means speed limits may be determined based on political considerations rather than objective policy.

Councils can apply to the Department of Transport for a change to speed limits, but it must be done on a case-by-case basis and can require significant resources from both council and the Department of Transport.

Recommendation: The Victorian Government should consider options for simplifying the process to change speed limits, particularly for specific location types such as schools and strip shopping centres.

The current process for changing speed limits generally takes a long time. It has limited ability to respond to rapid changes in circumstances such as COVID-19 where outdoor dining, sometimes on existing roadways, is being encouraged.

Recommendation: The Victorian Government should investigate options for an express approvals process when applications to change speed limits are a result of rapid changes in the use of public space.

"While the research evidence is clear, barriers to speed reduction remain in the form of public perceptions and regulators' reluctance to act."

Garrard, J. (2008).

Road types

Arterial and collector roads

Analysis of crash statistics[29] found that roads in metropolitan Melbourne with a speed limit of 60 km/h or higher accounted for 77% of pedestrian deaths and half (51%) of pedestrian serious injuries from 2014 to 2018. Roads with a speed limit of 60 km/h accounted for the highest proportion of pedestrian deaths and serious injuries at 45% and 37% respectively.

Collector roads are similar to residential streets but with more destinations like schools and strip shops and usually higher traffic volumes.

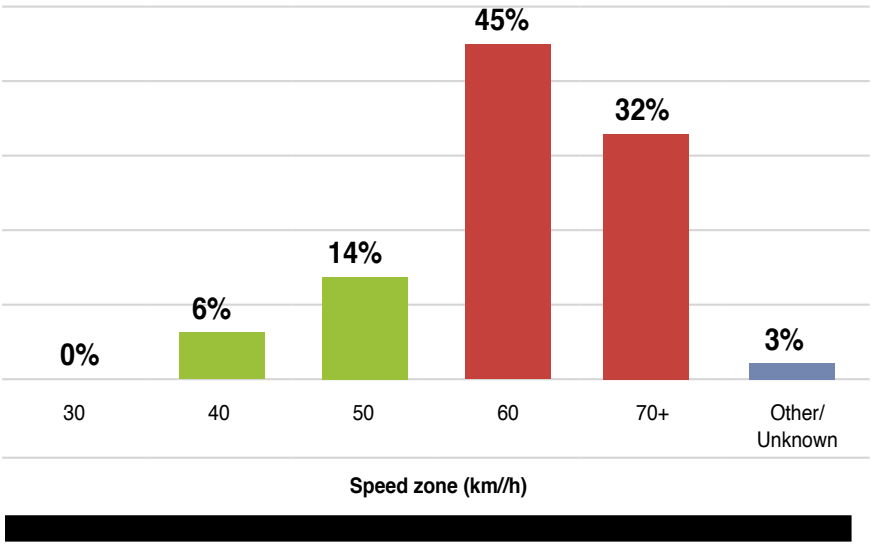
This leads to questions about whether they are best classified for moving traffic or for people. When the default urban speed limit was reduced, some collector roads were exempted and remain at 60 km/h; however, the safety risks remain.

Recommendations:

The Victorian Government should reduce the speed limit of collector roads in residential areas signed at 60 km/h to 50 km/h, or 40 km/h where appropriate.

The Victorian Government should review the safety, amenity and mobility impacts of lower speed limits on other urban roads currently set at 60 km/h or more.

Proportion of people walking killed in Melbourne, by speed zone (2014 – 2018)



Data source: Analysis of crash data (VicRoads 2019)

"Reducing speed limits is one of the quickest and cheapest tools available to lower vehicle speeds."

City of Melbourne. (2020b).

Local roads in residential areas

The default urban speed limit of 50 km/h applies in most residential streets across Melbourne, replacing the previous 60 km/h default in 2001. Pedestrians and cyclists were the biggest winners from this change, with a reduction of between 25% and 40% in fatal and serious injury pedestrian related crashes per month in metropolitan Melbourne.[30]

As compliance with the 50 km/h default speed limit has increased over time, it is expected the same would apply to a lower limit in residential areas.[31]

40 km/h speed limits have been introduced in some residential areas of Victoria:

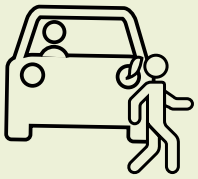
- City of Yarra first introduced 40 km/h speed limits in residential areas in 2006 and now all residential streets are limited to 40 km/h or less.[32]
- Other inner-city councils of Melbourne,[33] Yarra,[34] Darebin,[35] Port Phillip[36] and Maribyrnong[37] all have 40 km/h speed limits in some residential areas, with plans to extend these.
- There are a few examples of 40 km/h residential areas in other parts of Melbourne, such as in St Albans north of the main shopping area and in Springvale next to The Necropolis.
- The City of Mildura in north western Victoria introduced a speed limit of 40 km/h across 19 residential areas.[38]

There is significant support among Australian road safety professionals for a default speed limit less than 50 km/h in urban residential streets,[39] as well as from the Royal Australasian College of Surgeons.[40]

Recommendation: The Victorian Government should reduce the default urban speed limit to 40 km/h.

Lowering the default urban speed limit from 60 to 50 km/h in 2001

↓ 25% - 40%



reduction in fatal and serious injury walking related crashes in Melbourne

(Data source: Archer, J., Fotheringham, N., Symmons, M., Corben, B., 2008)

The 2020 Stockholm Declaration includes a resolution to focus on speed management and mandate a speed limit of 30 km/h in locations where vulnerable road users and vehicles mix.[41] While it is not common in Australia, around the world there are many examples of 30 km/h default speed limits in residential areas:

- Graz, Austria, introduced 30 km/h speed limits in residential streets in 1992.[42]
- In Portland, Oregon, a 32 km/h (20 mph) residential limit was introduced in 2017. It has since been extended to all cities in the state.[43]
- In Toronto, Canada, a default speed limit of 30 km/h was applied to all local and some collector roads in the Toronto and East York District, covering approximately 865,000 residents.[44]
- Spain approved legislation in 2020 to implement 30 km/h speed limits on urban roads with a single lane each way.[45]
- The Netherlands first introduced 30 km/h speed limits on urban residential streets in the 1970s,[46] and now the limit applies to 70% of urban roads.[47] In October 2020 they resolved to reduce the default speed limit to 30 km/h.[48]
- Urban residential streets in Japan are limited to 30 km/h.[49]

A Canadian study found that reducing the speed limit from 40km/h to 30km/h on more than 300km of local roads in one area resulted in a 28% decrease in pedestrian crashes and a 67% decrease in serious and fatal injuries.[50] An analysis of 20 years of data from London found that introducing 32 km/h (20 mph) speed limits resulted in a 32.4% decrease in pedestrian injuries.[51]

The City of Yarra completed a trial of 30 km/h area wide speed limits for residential streets in parts of Fitzroy and Collingwood in 2018–19. Evaluation found speeding reduced and resident support increased. Council has since endorsed a proposal to make the limit permanent.[52]

Recommendation: The Victorian Government should determine the appropriate application of area wide 30 km/h speed limits in urban residential streets through 1) trials in middle and outer suburban areas and 2) monitoring the outcomes in comparable cities overseas and other parts of Australia.

Areas of high pedestrian activity

Victoria has begun to acknowledge the safety benefits of lower speed limits and implemented them in selected areas with large numbers of pedestrians.

School zones

Land transport accidents are the leading cause of death for Australian children aged 0–14.[53] The after-school period is the most dangerous for children, with 51% of injuries in children 15 years and under occurring between 2pm and 6pm.[54] Reducing speed limits around schools is a proven measure to reduce road related crash injuries.[55]

School zones in South Australia have a speed limit of 25 km/h any time any child is in the zone[56] and 30 km/h school zones have been announced for three locations in Manly (NSW).[57]

The RACV, with support from Kidsafe Victoria, Parents Victoria and the Victorian Association of Catholic Primary School Principals, has called for the State Government to reduce all 60 km/h school speed zones to 40 km/h.[58]

Recommendation: The Victorian Government should implement a maximum, universal school zone speed limit of 40 km/h (including on roads with a usual speed limit of 80 km/h or more).

Since the introduction of school zones in Victoria in 2004, no one has been killed in these areas[59] and the number of crashes in school zones involving any pedestrian or cyclist fell by 16.5%.[60] However, Victoria's current model of school zones manages speed only around school gates used by children, not on the other school perimeter roads that do not have a gate.

There is a need to consider an alternative precinct-based approach that protects children across the broader school neighbourhood and gives parents confidence in allowing their children to walk or cycle to school. For instance, allowing councils to apply a 30 km/h limit on all roads within 500m of a school boundary will support walking to school, making it safer and more appealing, and allowing supporting infrastructure to be built. Local governments tend to have a good understanding of how people access schools and are well placed to nominate the relevant zone.

Recommendation: The Victorian Government should support councils and schools in applying reduced speed limits across a whole school precinct rather than limited to the area around a school gate.

Shopping strips and business districts

Speed limits of 40 km/h were progressively introduced across 18 Victorian shopping strips from 2003. A 2008 analysis of the program found a reduction of 8.1% in all casualty crashes and 16.9% in pedestrian crashes, although neither finding was statistically significant which means the reduction could have occurred for other reasons.[61] The study also found even a 1% reduction in crashes provides positive economic benefits. This program has now been rolled out more broadly and councils can apply for a 40 km/h limit in shopping areas. There has been significant focus on movement within shopping strips but less on how to make it more safe and pleasant for people to walk there in the first place.

In the 5 years following the reduction of speed limits to 40 km/h in the Hoddle Grid in 2012, crashes between vehicles and pedestrians were reduced by about 37%, and 170 people avoided seriously injury.[62]

Suburban CBDs are also using 40 km/h limits. They have been implemented permanently along Burgundy Street, Heidelberg; in much of Dandenong CBD between 8am and midnight; and they are under consideration for the Box Hill activity centre.[63]

A 30 km/h speed limit applies along Swanston Street through Melbourne's CBD and approximately 750m of Liebig Street in Warrnambool's CBD. Transport for NSW has implemented 30 km/h High Pedestrian Activity Areas in parts of Sydney.[64]

Recommendations:

The Victorian Government should provide options in the guidelines for speed limits of 30 km/h in places such as CBDs, major activity areas, near schools and residential areas.

The Victorian Government should pilot, or support councils to pilot, a 30 km/h zone in an area with high pedestrian activity in the middle or outer suburbs.

Introduction of 40 km/h in the Melbourne CBD in 2012

37%
crashes involving people walking

170 people
avoided serious injury

(Data source: City of Melbourne, 2020b)

"Of course, it's not only a question of speed limits, although I think all our specialists do say that is the most important single thing affecting traffic safety."

Anni Sinnemäki, Deputy Mayor of Urban Environment in Helsinki, 2020.

Pedestrian priority zones

Lower speeds of 20 km/h and 10 km/h can be applied in areas where drivers are required to give way to pedestrians on the road, referred to as 'shared zones' in the guidelines. In Victoria, these zones usually require threshold treatments and significant signage, which can discourage councils from applying.

In Melbourne CBD, the 'little' streets such as Flinders Lane, Little Collins Street, Little Bourke Street and Little Lonsdale Street were reduced to 20 km/h in September 2020.[65] Speed limits of 20 km/h apply on select roads in the Sydney CBD around light rail stops[66] and for the Bunda Street shared zone in Canberra.[67] Pedestrian priority zones should be applied more broadly, especially in high pedestrian areas where they are likely to need shared space with vehicles.

Recommendations:

The Victorian Government should review the signage and infrastructure requirements for pedestrian priority zones to determine if they can be reduced or simplified.

Road authorities should be encouraged to apply 10 or 20 km/h pedestrian priority zones in:

- **Areas where pedestrians are forced to share space with vehicles, such as carparks and laneways.**
- **Residential cul-de-sacs and potentially other local streets without footpaths.**
- **Locations with high pedestrian volumes and comparatively low traffic volumes, including around highly used public transport stops and interchanges.**

References

[1] DELWP. (2020). *20-minute neighbourhoods*. Retrieved from: https://www.planning.vic.gov.au/policy-and-strategy/planning-for-melbourne/plan-melbourne/20-minute-neighbourhoods

[2] Department of Health & Human Services. (2019). *Victorian public health and wellbeing plan 2019–2023*. Victorian Government, Melbourne.

[3] Victorian Government. (2016). *Towards Zero 2016-2020: Victoria's Road Safety Strategy & Action Plan*. Melbourne.

[4] TAC. (2020). *Searchable road trauma statistics*. Retrieved from: http://www.tac.vic.gov.au/road-safety/statistics/online-crash-database

[5] Rosén, E. & Sander, U., (2009) *Pedestrian fatality risk as a function of car impact speed.* Preprint of article published in Accident Analysis and Prevention 41 (2009) 536–542

[6] Kröyer, H. (2015). *Is 30 km/h a 'safe' speed? Injury severity of pedestrians struck by a vehicle and the relation to travel speed and age.* IATSS Research, Vol 39 (Iss 1), pp. 42-50.

[7] Oxley, J., O'Hern, S., Stephan, K., Burtt, D., & Rossiter, B. (2020). *Understanding Pedestrian Crashes in Victoria.* Victoria Walks, Melbourne.

[8] Oxley, J., O'Hern, S., Burtt, D., Rossiter, B. (2016). *Fall-Related Injuries While Walking in Victoria.* Victoria Walks, Melbourne.

[9] Badawi, Y., Maclean, F., and Mason, B. (2018). *The economic case for investment in walking.* Victoria Walks, Melbourne.

[10] Garrard, J. (2008). *Safe speed: promoting safe walking and cycling by reducing traffic speed.* The Heart Foundation, City of Port Phillip and City of Yarra, Melbourne.

[11] Kelly, J-F., Breadon, P., Davis, C., Hunter, A., Mares, P., Mullerworth, D., Weidmann, B. (2012). *Social Cities.* Grattan Institute, Melbourne.

[12] RSPA. (2017). *Road Safety Factsheet: 20mph Zones and Speed Limits Factsheet*. Birmingham.

[13] International Traffic Safety Data and Analysis Group (IRTAD). (2019). *Road Safety Annual Report 2019.* OECD/ITF, Paris.

[14] Garrard, J. (2008). *Safe speed: promoting safe walking and cycling by reducing traffic speed.* The Heart Foundation, City of Port Phillip and City of Yarra, Melbourne.

[15] Archer, J., Fotheringham, N., Symmons, M., Corben, B. (2008). *The impact of lowered speed limits in urban/metropolitan areas.* MUARC, Melbourne.

[16] Ibid

[17] DEDJTR. (2015). *Travel in metropolitan Melbourne: VISTA Survey 2013.* Victorian Government, Melbourne.

[18] Haworth, N., Ungers, B., Vulcan, P., Corben, B. (2001). *Evaluation of a 50 km/h Default Urban Speed Limit for Australia.* National Road Transport Commission, Melbourne.

[19] Archer, J., Fotheringham, N., Symmons, M., Corben, B. (2008). *The impact of lowered speed limits in urban/metropolitan areas.* MUARC, Melbourne.

[20] International Traffic Safety Data and Analysis Group (IRTAD). (2018). *Speed and Crash Risk.* OECD/ITF, Paris.

[21] Hoareau, E., Newstead, S., Cameron, M. (2006). An evaluation of the default 50 km/h speed limit in Victoria. MUARC, Melbourne.

[22] Yarra City Council. (2019). *Yarra Council recommends maintaining 30 km/h limit.* Retrieved from: https://www.yarracity.vic.gov.au/news/2019/12/18/yarra-council-recommends-maintaining-30kmh-limit

[23] International Traffic Safety Data and Analysis Group (IRTAD). (2018). *Speed and Crash Risk.* OECD/ITF, Paris.

[24] Safe System Solutions. (2019). Myth 4: *"I feel safe so the speed limit should be higher" – BUSTED*. SSS, Melbourne.

[25] National Heart Foundation of Australia. (2020). *What Australia Wants – Living locally in walkable neighbourhoods*. Melbourne.

[26] van Souwe, J., Gates, P., & Bishop, B. (2018). *Community Attitudes to Road Safety – 2017 Survey Report.* Australian Government, Canberra.

[27] Garrard, J. (2008). *Safe speed: promoting safe walking and cycling by reducing traffic speed.* The Heart Foundation, City of Port Phillip and City of Yarra, Melbourne.

[28] VicRoads. (2017). *Traffic Engineering Manual: Speed Zoning Guidelines.* Vol 3, Ed 1.

[29] VicRoads. (2019). *Interactive Crashstats 2014-2019.* Retrieved from: https://public.tableau.com/views/CrashstatMainlandingpage/Mainpage?:embed=y&:display_count=yes&:showTabs=y&:showVizHome=no&%3Adisplay_count=yes&%3Atoolbar=no&%3Arender=false#1

[30] Archer, J., Fotheringham, N., Symmons, M., Corben, B. (2008). *The impact of lowered speed limits in urban/metropolitan areas.* MUARC, Melbourne.

[31] Kloeden, C., Woolley, J. (2020). *Vehicle speeds in South Australia 2018.* Centre for Automotive Safety Research, Adelaide.

[32] City of Yarra. (2016). *Safe Travel Strategy – Towards Zero: Yarra's plan to eliminate traffic deaths and serious injuries by 2026*. City of Yarra, Melbourne.

[33] City of Melbourne. (2020a). *City speed limits.* Retrieved from: https://www.melbourne.vic.gov.au/parking-and-transport/roads/road-safety/Pages/city-speed-limits.aspx

[34] City of Yarra. (undated). *Move with us.* City of Yarra, Melbourne.

[35] City of Darebin. (2019). *Darebin Speed Limit Reduction Program 2019-20.* Retrieved from: http://www.darebin.vic.gov.au/-/media/Transport-Engineering-2019/40kmspeedlimitreductionprogrammap-August2019.ashx?la=en

[36] Allaoui, T. (2016, April 4). *Port Phillip Council dropping speed limit to 40km/h in seventy per cent of streets.* Herald Sun. Retrieved from: https://www.heraldsun.com.au/leader/inner-south/port-phillip-council-dropping-speed-limit-to-40kmh-in-seventy-per-cent-of-streets/news-story/86a9adb9649f9b47ac723bc8fa63847c

[37] Maribyrnong City Council. (2019). *Safer local roads.* Retrieved from: https://www.maribyrnong.vic.gov.au/Works-and-projects/Safer-local-roads

[38] Mildura Rural City Council. (2018). New speed zones in residential areas to boost pedestrian safety. Retrieved from: https://www.mildura.vic.gov.au/Latest-News/New-speed-zones-in-residential-areas-to-boost-pedestrian-safety

[39] Power, J. (2019). Cut speed limits to 30km/h and save lives, road safety expert says. The Sydney Morning Herald. Retrieved from: https://www.smh.com.au/national/nsw/proven-ways-to-reduce-road-deaths-and-injuries-20190221-p50zaq.html

[40] Royal Australasian College of Surgeons. (2015). *Position Paper: Road Trauma Prevention.* Melbourne.

[41] Stockholm Declaration. (2020, February 19-20). *Third Global Ministerial Conference on Road Safety: Achieving Global Goals 2030*. Stockholm.

[42] RSPA. (2017). *Road Safety Factsheet: 20mph Zones and Speed Limits Factsheet.* Birmingham.

[43] City of Portland. (2020). Speed Limits. Retrieved from: https://www.portland.gov/transportation/vision-zero/speed-limits

[44] The Centre for Active Transportation. (undated). *District-Wide Speed Limit Reduction.* Retrieved from: https://www.tcat.ca/project/saferstreetsnearschools-getting-started/district-wide-speed-limit-reduction/

[45] Martin, C. (2020). New Spanish law to require 30 km/h speed limit in urban areas. Eltis. Retrieved from: https://www.eltis.org/in-brief/news/new-spanish-law-require-30-kmh-speed-limit-urban-areas

[46] 30km/h. (undated). NL Netherlands TRENDSETTER for 30 km/h. Retrieved from: https://en.30kmh.eu/why-30kmh-20-mph/trendsetter-cities-for-30-kmh-20mph/nl-netherlands-trendsetter-for-30-kmh/

[47] International Traffic Safety Data and Analysis Group (IRTAD). (2018). *Speed and Crash Risk.* OECD/ITF, Paris.

[48] Marie, A. (2020). *30 is the new 50: the Dutch reduce the default speed limit nation-wide.* Retrieved from: https://ecf.com/news-and-events/news/30-new-50-dutch-reduce-default-speed-limit-nation-wide

[49] International Traffic Safety Data and Analysis Group (IRTAD). (2018). *Speed and Crash Risk.* OECD/ITF, Paris.

[50] Fridman, L., Ling, R., Rothman, L., et al. (2020). *Effect of reducing the posted speed limit to 30 km per hour on pedestrian motor vehicle collisions in Toronto, Canada - a quasi experimental, pre-post study.* BMC Public Health 20, 56.

[51] Grundy, C., Steinbach, R., Edwards, P., et al. (2009). *Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006: controlled interrupted time series analysis.* BMJ, 339.

[52] Yarra City Council. (2019). *Yarra Council recommends maintaining 30 km/h limit.* Retrieved from: https://www.yarracity.vic.gov.au/news/2019/12/18/yarra-council-recommends-maintaining-30kmh-limit

[53] Australian Institute of Health and Welfare. (2020). *Australia's children.* AIHW, Canberra.

[54] Oxley, J., O'Hern, S., Stephan, K., Burtt, D., & Rossiter, B. (2020). *Understanding Pedestrian Crashes in Victoria.* Victoria Walks, Melbourne.

[55] World Health Organisation. (undated). *Children and road traffic injury. Fact sheet based on the World report on child injury prevention.* WHO, Geneva.

[56] Department of Planning, Transport and Infrastructure. (undated). *School zones, signs and restrictions around schools.* Way2Go Factsheet, DPTI, Adelaide.

[57] James Griffin MP. (2020). *Safer Speed Zones for Manly.* Retrieved from: https://www.jamesgriffinmp.com/safer_speed_zones_for_manly

[58] RACV. (2020). *RACV continues push for 40 km/h zones for all schools.* Retrieved from: https://www.racv.com.au/about-racv/our-business/media-releases/school-speed-zones.html

[59] TAC. (undated). *Speed limits on Victorian roads.* Retrieved from: http://www.tac.vic.gov.au/road-safety/towards-zero/safer-speeds/speed-limits

[60] Garrard, J. (2008). *Safe speed: promoting safe walking and cycling by reducing traffic speed.* The Heart Foundation, City of Port Phillip and City of Yarra, Melbourne.

[61] Ibid

[62] City of Melbourne. (2020b). *Submission to economy and infrastructure committee inquiry into the increase in Victoria's road toll.* Submission 72.

[63] MGS Architects. (2019). *Review of Strategic Direction: Box Hill Metropolitan Activity Centre: Analysis & Options.* Melbourne.

[64] Transport for New South Wales. (2020). *Speed limits - Sydney Region.* Retrieved from: https://roadsafety.transport.nsw.gov.au/speedlimits/sydney-25062020.html

[65] City of Melbourne. (2020c). *Little Streets.* Retrieved from: https://www.melbourne.vic.gov.au/building-and-development/shaping-the-city/city-projects/Pages/little-streets.aspx

[66] Transport for New South Wales. (2020). *Speed limits - Sydney Region.* Retrieved from: https://roadsafety.transport.nsw.gov.au/speedlimits/sydney-25062020.html

[67] ACT Government. (2017). *New flags to promote pedestrian safety on Bunda Street shareway.* Retrieved from: https://www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/rattenbury/2015/new-flags-to-promote-pedestrian-safety-on-bunda-street-shareway

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

January 2021