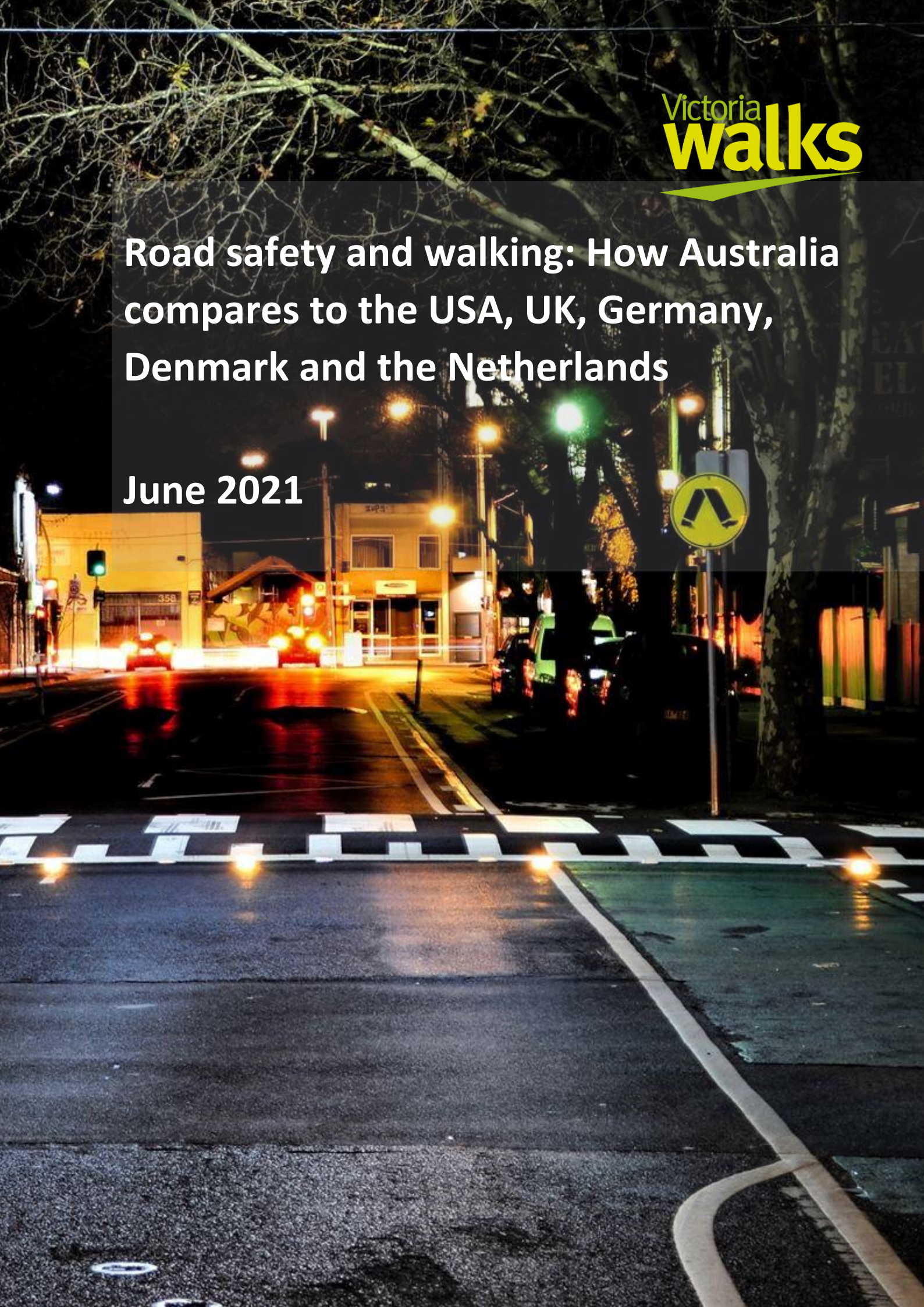


# Road safety and walking: How Australia compares to the USA, UK, Germany, Denmark and the Netherlands

June 2021



## Introduction

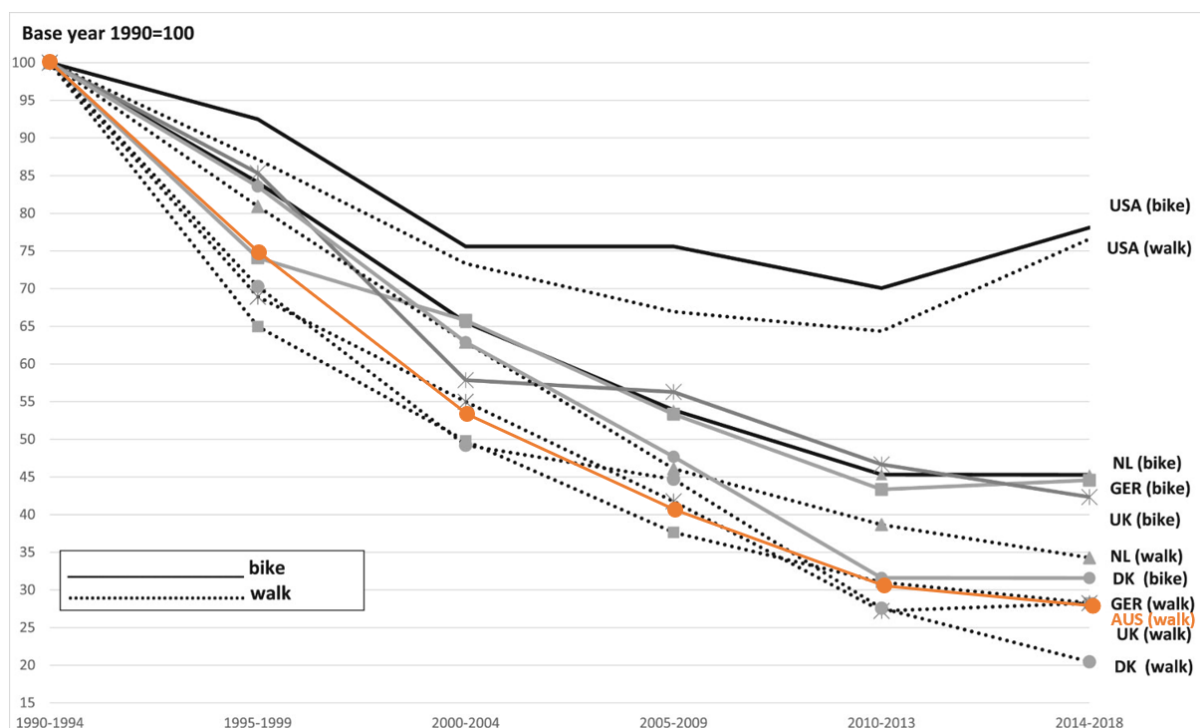
When a [major report](#) was released looking at pedestrian (and cyclist) deaths in the US compared to the UK, Germany, Denmark and the Netherlands over the past 30 years, it got us thinking – how does Australia stack up against the rest of the world?

Using the available Australian data, Victoria Walks has been able to put together the following picture of pedestrian safety in Australia versus the USA and Europe. This analysis builds on the [international comparison](#) by American academics Ralph Buehler and John Pucher (hereafter referred to as ‘the report’).

The good news is that pedestrian fatalities per capita fell in each country between 1990 and 2018. In the European countries studied, there was a sustained reduction of between 66% and 80%. The US didn’t fare so well; the rate fell by only 23% over the whole period, and actually increased after 2010.

These trends are shown in the graph below (from the report), with the Australian values overlaid. Australia experienced a reduction of 72% in the pedestrian fatality per capita rate between 1990 and 2018, a similar reduction as seen in the Netherlands and Germany<sup>1</sup>.

Figure 1: Trend in pedestrian fatalities per capita relative to a 1990 base year for the USA, Netherlands, Germany, UK, Denmark and Australia



It is important to note however that in the time around 1990, road deaths in Australia were reducing very quickly. In 1989, 501 pedestrians were killed, 420 in 1990 and 343 in 1991; a 32% reduction in just three years. It was around this time that [road safety initiatives](#) such as speed cameras, red light cameras and random breath testing were being rolled out. So Australia’s performance looks good largely because so many gains were made 30 years ago.

<sup>1</sup> Australian values calculated based on fatalities from BITRE’s [Australian Road Deaths Database](#) and population statistics from the [ABS](#).

It is also important to understand that the graph shows the *trend* for individual countries and does not provide a comparison of absolute values. To give an indication of the differences in safety, we calculated the number of people killed per capita while walking for each country in 2018. The rate in Australia was 7.1 pedestrian fatalities per million people, compared to 19.0 in the USA, 6.8 in the UK, 5.5 in Germany, 5.2 in Denmark and 3.2 in the Netherlands.<sup>2</sup> So although the reduction in the fatalities per capita rate was similar between Australia and Germany, Germany had a lower rate to begin with.

The report investigated potential factors that may explain the growing difference between the pedestrian fatality rate in the US compared with Europe. The five that appear to be most important are:

1. Walking and cycling infrastructure
2. Urban speed limits
3. Distance driven
4. Vehicle size
5. Law enforcement of driver behaviour

In the following sections, Victoria Walks compares Australia with the US and Europe. It should be noted that international comparisons are fraught, with data often captured and reported in different ways in different countries. In addition, the differences between countries are likely due to a myriad of factors and the report (and this analysis) will not necessarily capture all of them.

### Walking infrastructure and street design

According to the report, Dutch, Danish and German cities have been improving walking facilities since the 1970s to make them safe, convenient, high quality and integrated through physical separation from vehicles (footpaths on both sides of most roads) and protection at intersections (marked crossings, raised crossings, refuge islands, pedestrian signals with ample crossing times).

In comparison, pedestrian improvements in the US only started in about 2000, have tended to be small scale and limited to only a select number of cities. The US has also had much more focus on providing wide roads for high traffic volumes and speeds as well as intersections designed to get lots of cars through.

There are many layers of detail to infrastructure issues and the cultural approaches that go with them. American cities have pedestrian crossings, for example, but for a variety of reasons they may not be as safe as crossings in other countries.

Australian cities tend to sit somewhere between the US and Europe. Many roads have footpaths and pedestrian signals are provided at most signalised intersections. However, the arterial road network can be hostile to pedestrians with a focus on moving lots of vehicles at high speeds. We have also created a car dependent culture with many people living too far from shops and services to have the option to walk there.

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<sup>2</sup> International values calculated using pedestrian deaths from [GHSA](#) for the USA, [ITF](#) for Germany and Denmark, [DfT](#) for the UK and [Statista](#) for the Netherlands. Population values for all countries from [worldometer](#).

## Urban speed limits

It is well known in road safety that lower speeds result in fewer and less serious injuries. The study reports that general city-wide speed limits are similar in both Europe (50 km/h) and the US (56 km/h or 35 mph). However, in the European countries there have been further reductions to 30 km/h across significant areas of local residential streets and associated traffic calming. They also make use of 'home zones' – "*Woonerven*" in the Netherlands and "*Spielstrassen*" in Germany – where everyone shares the street, as well as car free zones.

In comparison, there are few examples of speed limits below 50 km/h in the US. Exceptions are the cities of Boston, Washington, Philadelphia, Portland and New York, all of which have general speed limits of 40 km/h (25 mph) and some slow zones limited to 32 km/h (20 mph). High speed roads are the greatest danger to pedestrians; 57% of pedestrian deaths in the US between 2010 and 2015 occurred on roads with speed limits above 56 km/h (35 mph).

Australia is traditionally more like the US in terms of speed limits, having limits [high by world standards](#). We also have a default urban speed limit of 50 km/h with limits of 60 km/h or more on arterial and collector roads. In Victoria, [40% of pedestrian injuries](#) occur on roads with speed limits of 60 km/h or more, and a further 30% on 50 km/h roads. [Three in four deaths](#) of people walking in Victoria occur on roads with a speed limit of 60 km/h or more, a higher proportion than in the US.

The situation in Australia is slowly changing. The introduction of school and shopping zones means short sections of arterial roads have been reduced to 40 km/h. Advocacy for lower residential speeds, particularly by local governments, has resulted in many inner-city areas with blanket speed limits of 40 km/h and even some of 30 km/h.

## Distance driven

When there is more traffic, there is more risk of being killed while walking. The study found that in 2018, US drivers travelled 15,800 km per capita, about twice the distance driven in Germany (7,800 km), Denmark (7,200 km) and the UK (7,000 km) and significantly more than the 5,500 km in Netherlands.

Australian drivers covered 10,128 km per capita<sup>3</sup>, less than those in the US but more than Europe.

## Vehicle size

The study presents evidence that larger, heavier vehicles such as SUVs pose greater risks to pedestrians than smaller passenger cars. Personal light trucks (made up of SUVs, pickup trucks and minivans) in the US are larger and more powerful than those in Europe. They made up 72% of all new personal vehicle sales in 2018; much more than the 27-39% found across the four European countries.

Australia is also seeing a trend towards larger vehicles. In [2020](#), SUVs made up 49.6% of all new vehicle sales. Light commercial vehicles (such as vans, utes, pickups and small buses) made up a further 22.4%, meaning nearly three in four new vehicles sold are larger than a traditional passenger vehicle.

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<sup>3</sup> Based on a total of [255,031 million km](#) travelled in the 12 months to June 2018 and a population of [25,180,200](#).

## Law enforcement

Not only does a country need to have laws in place to keep road users safe, they must be obeyed and enforced. The study notes that as a general rule, the Netherlands, Denmark and Germany tend to more strictly enforce traffic laws than the US.

## Speeding

As previously noted, higher speeds lead to more deaths and serious injuries. The four European countries cited tend to have strict enforcement of speed limits with automated cameras and processes to detect and fine speeding drivers. In UK cities approximately 22% of drivers exceed the speed limit and 45% in the Netherlands. It should be noted too that in places with lower speed limits, the impact of travelling faster than the speed limit may not be as significant.

In comparison, the US only have 12 states with any automated speed cameras and in fact they are prohibited in some places because they are seen as an invasion of privacy! Unsurprisingly then, nearly three in four (74%) drivers in US cities exceed the speed limit.

In Australia there are [1335 fixed speed cameras](#), which puts us in the top ten countries on a per capita basis. We also have many mobile speed cameras and speeding attracts significant penalties. No comparable values for measured rates of speeding in Australia could be found, however a [2017 survey](#) by the federal government found 27% of people believe that a driver can speed while still driving safely.

## Drink driving

Driving while under the influence of alcohol is one of the key causes of road trauma. The Netherlands, Germany and Denmark have a [blood alcohol limit](#) of 0.5 g/L and alcohol related road deaths make up between 5% and 13% of all road deaths in those three countries. The UK and the US both have a blood alcohol limit of 0.8 g/L and alcohol is a factor in 11% and 29% of road deaths respectively.

Australia has a limit of 0.5 g/L (equivalent to 0.05g/100mL or 0.05%) but the [National Road Safety Strategy 2011-2020](#) suggests that drink driving is a factor in 30% of road deaths. This indicates that drink driving is much more of a problem in Australia than in the Netherlands, Germany, Denmark and perhaps to a lesser extent the UK. Although the Australian proportion is similar to that seen in the US, the Australian limit is lower which suggests fewer people drink driving at higher levels.

## Phone use

Worldwide, drivers are becoming more distracted due to mobile phones and in car technology. Using a mobile phone while driving increases the risk of causing a fatal crash [four fold](#).

In the four European countries studied there are strict regulations around the use of mobile phones while driving and they are generally enforced. In the UK, 21% of adults reported using their phone while driving, with rates of 39% in Germany and 49% in the Netherlands. The report doesn't specify how *frequently* respondents use their phone while driving, which is an important consideration.

In the US, police are allowed to issue tickets for using a mobile phone while driving in 21 states. In other states, it can only be issued as a secondary offence, meaning the driver must have been stopped for another reason first. This could explain why many more drivers in the US (68%) reported using their phones than in the European countries.

In comparison, Australia generally has strict regulations about mobile phone use while driving and they are enforceable with significant penalties. Several states including Victoria have even started

travelling [new technology](#) to detect people using their phones while driving. However, rates of driving while distracted are still high. In a [2017 survey](#) by the federal government 64% of people reported using their mobile phone while driving (including hands free), consistent with findings since 2009.

## Conclusions

While it's always risky to compare different countries that may collect data in different ways, we can draw some broad conclusions.

The report finds that the actual measures taken to reduce pedestrian deaths in the US do not match the Vision Zero rhetoric most transport agencies have adopted. The Netherlands, Denmark and Germany use proven strategies to make streets safe for people walking, such as providing high quality walking infrastructure, implementing safe speed limits, and enforcing the law.

But the flattering comparison with a struggling USA should not leave everyone else to rest on their laurels. As the report notes, *“Even countries that are relatively safe for walking and cycling, such as the Netherlands, Denmark, and Germany, are far from Vision Zero and could also further improve walking and cycling safety. In many cases, that would involve adopting more of the measures that have already proven to be successful in their own cities.”* The same could be said for Australia.

In something of a pyrrhic victory, the international comparison suggests Australia is doing reasonably well on enforcement of speed limits, but perhaps only because the limits are too high to begin with. Our performance on drink driving looks alright compared to the US, but poor in comparison to Europe. On the sheer amount of driving we do, Australia is better than the US and worse than Europe. On vehicle size, Australia is clearly following the deadly path of America. If Australia wants to improve, clearly we should take our cues from Europe rather than the US.

Australian governments need to take steps to reduce urban speed limits and build cities that support walking, cycling and public transport rather than more driving. The push to reduce drinking and mobile phone use while driving needs to continue.

## Further reading

For further information including recommendations to improve road safety for people walking in Australia, please see:

- [Understanding Pedestrian Crashes in Victoria](#) – a comprehensive review
- Victoria Walks [submission](#) to the Australian Parliament's Joint Select Committee on Road Safety – for recommended approaches to improving road safety
- [Safer Road Design for Older Pedestrians](#) – for recommended infrastructure treatments and street design
- Victoria Walks' position statement on [Safer Urban Speed Limits](#)