

The good news about speed compliance in Victoria

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Abstract

Background: Low-level speeding has been a focus of the Transport Accident Commission's (TAC) public education program since 2001, yet achieving full compliance with speed limits remains a challenge. Public perceptions of speeding behaviour have changed for the better over the ensuing years, and speed surveys and enforcement data demonstrate that behaviour has changed.

Data: In preparation for the creation of a new wave of public education material, the authors reviewed an extensive range of survey data and vehicle speed data collected from covert mobile cameras.

Results: The overwhelming majority of Victorians comply with speed limits and a clear majority support the speed enforcement regime and view low level speeding (i.e. 5 km/h over the speed limit) as socially unacceptable. Indeed, the majority of Victorians think people should get booked for exceeding the speed limit in a 60 zone by 4 km/h. Compared with non-Victorians, Victorians are less tolerant of speeding and more likely to report driving at lower speeds. Social norms are shifting in favour of complying with speed limits.

Conclusion: Road safety practitioners and decision makers may be surprised at the level of support for speed enforcement, speed limit settings and public education. The community should be seen as an ally in efforts to reduce road trauma through speed management. Public education should therefore seek to build upon the existing momentum to further reduce tolerance of low level speeding. The development of future speed enforcement strategies can also be informed by this data.

Introduction

The Transport Accident Commission (TAC) pays for treatment and benefits for people injured in transport accidents. The TAC is a "no-fault" insurance scheme, which means that medical benefits will be paid to an injured person regardless of who caused the accident. A key function of the TAC is "to promote the prevention of transport accidents and safety in use of transport" (Transport Accident Act 1986).

Speeding is causally linked to crash occurrence and injury severity (Elvik et al., 2004) and is consequently a major concern of the TAC. While excessive speeding is rare and socially unacceptable, low level speeding is much more common (Alavi et al, 2014) and considered by many to be socially acceptable or at least not socially unacceptable (Nieuwesteeg, 2012). The low level speeding problem has been shown to outweigh the problem of excessive speeding (Doecke et al., 2011 and Alavi et al., 2014).

Therefore, for the TAC in its function as a promoter of road safety, low level speeding has been seen as a priority for many years, and has been a central focus of the TAC's public

education program since 2001 with the launch of the Wipe-Off 5 campaign. This campaign was part of a successful package of speed management changes implemented in Victoria between 2000 and 2004 (see D'Elia et al., 2007). A key element of the package tackled low-level speeding through a lowering of the detection threshold for speed cameras.

Driver and rider compliance with speed limits is vitally important in efforts to reduce road trauma. Improving compliance with speed limits, however, is a challenging task for several reasons; one important aspect being beliefs held by drivers and riders which minimize their perception of risk (Forward, 2010). Many Victorians, for example, do not believe that exceeding the speed limit by a small amount is dangerous (Lahausse et al., 2010). Enforcement, therefore, is a necessary measure to get drivers and riders to reduce their travel speeds.

Speed enforcement is a challenging issue for legislators, and the speed camera program in Victoria, as in Australia more broadly, has aroused considerable concern among the community. The concern was such that Victoria's Auditor-General was called upon to investigate Victoria's speed camera program. In his report, the Auditor-General praised the speed camera program but expressed concern about the public concern associated with the program (Pearson, 2011). An analysis by Mooren et al. (2013) highlights the nature of public sentiment as it is portrayed in the media, and the portrayal is bleak: speed cameras are loudly proclaimed as revenue raisers and an attack on personal freedom. A survey commissioned by the TAC in 2013 revealed that 52% of Victorians agree that "speed cameras are more about revenue raising than safety", while 34% admit that they "tend to flash oncoming drivers to warn about speed cameras" (Sweeney Research, 2012). It is important to note that a large number of people have personal experience with speed enforcement. Each year around 17% of drivers report that they have had a speed infringement in the previous 12 months (SRC, 2013).

The dissatisfaction that is present in the community is problematic because it places its "ongoing legitimacy at risk" (Pearson, 2011), and makes the task of improving compliance with speed limits more difficult – police, magistrates, and road designers are all sensitive to arguments against speed enforcement, particularly where those arguments relate to low-level speeding.

This paper reviews an extensive range of TAC survey data, along with vehicle speed data collected from covert mobile cameras, speed enforcement and offence data and data from other States and Territories, to assess the attitudes of Victorians towards speeding and speed enforcement.

Method

The TAC commissions a number of surveys of drivers and the general public in Victoria, and collects data on a range of safety performance indicators. This paper attempts to synthesise the available evidence as it relates to speeding behaviour and attitudes towards speeding.

The Road Safety Monitor survey has been run annually since 2001. Since 2010 it has involved a mail-based recruitment with mixed mode completion (hard copy, phone interview, on-line). A random sample of at least 1,500 licence holders is drawn from a database of all Victorian licence holders. Intensive follow up by mail and phone is carried out over an 8-week period to boost participation rates, and generous incentives prize draws are also utilised.

Response rates from year to year vary between 47 and 51%. This survey collects demographic, attitudinal and behaviour data on key road safety issues.

On four occasions since 2009 the TAC has run a survey investigating social acceptability of speeding behaviours (Nieuwesteeg & Lowery, 2011). The methodology has varied over time. In 2013, 2,000 participants from Victoria completed the on-line survey after being recruited from a proprietary survey panel (Ipsos, 2014). An additional 3,544 interviews were conducted in other Australian States and Territories. The survey investigated the level of acceptability and unacceptability of a range of social behaviours, including some driving behaviours. Additional questions probed self-reported behaviours, beliefs and attitudes towards a number of road safety issues.

Also included in this analysis is an ongoing TAC public education evaluation survey (Wallis, 2014) provides behavioural and attitudinal data. This survey is a perpetual survey of at least 100 participants every week. It recruits participants by mail using a licence holder database, from an on-line proprietary survey panel and by random digit dial phone interviewing.

Administrative data used in this analysis includes travel speed recordings collected by covert mobile speed cameras across Victoria, and speeding enforcement data from the Department of Justice.

Results

Attitudes towards speeding and speed enforcement

Table 1 presents the results from three TAC surveys to a number of questions about beliefs, motivations and attitudes relating to speeding and speeding enforcement.

Table 1: Attitudes towards speeding survey results (agreement with statements)

	% agree	Source
Speeding increases my chances of crashing	88%	RSM, 2013
If I know I have been speeding, I feel guilty	63%	RSM, 2013
Driving a few kilometres over the speed limit in a 60km/h zone is dangerous	86%	PEEP, 2014
I drive over the speed limit if I'm sure I'll get away with it	18%	SA, 2014
Penalties for speeding act as a deterrent when I'm driving	76%	RSM, 2013
It's easy to avoid being caught speeding	12%	RSM, 2013
If I was to speed the next time I drive, I would have a high chance of being caught	66%	RSM, 2013
Enforcing the speed limit helps lower the road toll	75%	RSM, 2013
The fines, demerit points and other legal penalties of driving above the speed limit are too light	30%	SA, 2014
I think speed cameras would be more effective if you did not know if they were operating	54%	SA, 2014

These results present a generally positive picture, indicating that the Victorian community accept that speeding is dangerous, that enforcement is necessary and that it does act as a deterrent. It is also very positive that just 18% of drivers say they would drive over the speed limit if they were sure they would get away with it, suggesting that many in the community do not need enforcement in order to comply with speed limits.

The Road Safety Monitor asks the community “how fast should people be allowed to drive in a 60/100 zone without being booked for speeding”. The results, plotted in Figure 1, show that Victorians have a more lenient disposition towards speeding enforcement in higher speed zones (SRC, 2013). The results clearly indicate the over half of people in the community believe drivers should be booked for driving 64kms per hour in a 60 zone and 106 kms per hour in a 100 zone. Over a quarter of the community believe there should be no tolerance at all, and that drivers should be booked for exceeding the speed limit by just 1km per hour.

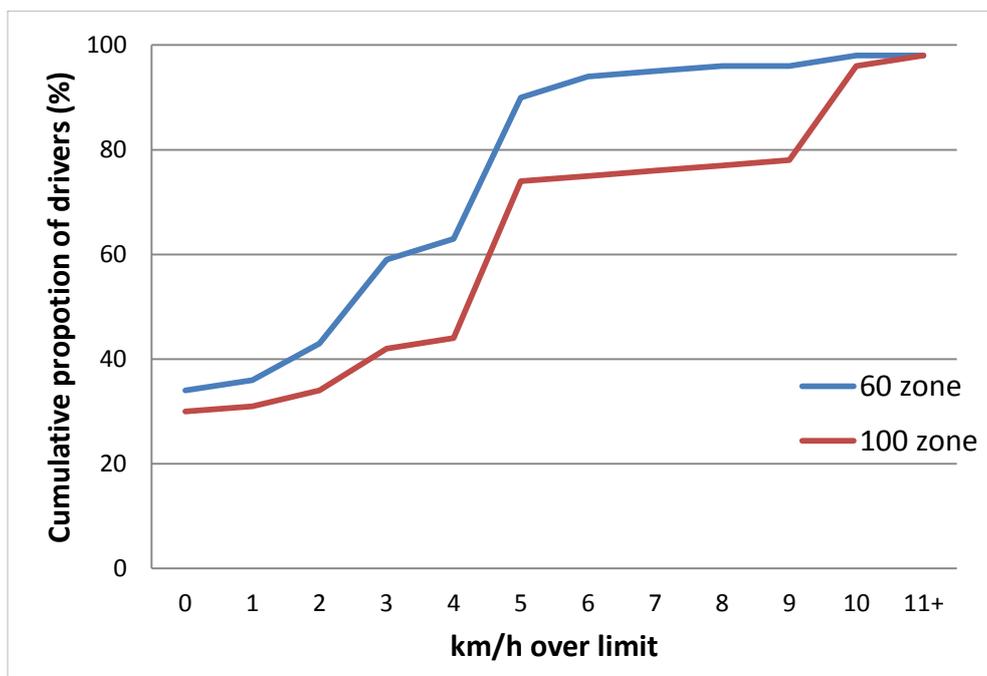


Figure 1: Speed over the speed limit at which drivers think they should be able to drive without being booked, in 60 and 100 zones

Social norms

When asked how many of their family and friends think it is okay to speed by a few kms per hour in a 60 zone, 2% said “all”, 12% said “most” and 13% said “about half”, while 29% said none of their family and friends think it is okay (n=372, current drivers who completed survey during a 3-week period in May 2014) (Wallis, 2014).

The Social Acceptability survey asked participants to assess how acceptable or unacceptable they would consider another person’s behaviour in a number of social settings. Five questions asked in 2014 related to low level speeding (Note: for an extensive analysis of 2010 survey results, inclusive of additional speeding behaviours, see Nieuwesteeg & Lowery, 2011). The results are shown in Table 2 (Ipsos, 2014). A majority of Victorians consider the speeding scenarios in Table 2 to be unacceptable. As others have noted (e.g., Fleiter & Watson, 2006), drivers have greater tolerance for speeding in a 100 zone than in lower speed zones.

Table 2: Social acceptability of low-level speeding, survey results

	How would you judge another person's behaviour if they... (% unacceptable)								
	Net acceptable	Very acceptable	Acceptable	Somewhat acceptable	Neither acceptable or unacceptable	Somewhat unacceptable	Unacceptable	Very unacceptable	Net unacceptable
Drove 60kph in a 50kph zone	8	1	2	5	8	20	33	30	84
Drove 50kph in a 40kph zone	7	1	2	4	10	21	33	30	84
Drove 110kph in a 100kph zone	13	1	4	8	13	22	26	26	74
Drove 55kph in a 50kph zone	18	2	5	11	18	27	23	14	64
Drove 65kph in a 60kph zone	20	2	5	12	18	27	21	13	62

Self-reported speeding behaviour

The TAC Public Education Evaluation Program (PEEP) (Wallis, 2014), found that 37% of respondents indicated that they had “in the last 3 months... intentionally driven over the posted speed limit, even if by only a few kilometres an hour” (n=749, current drivers who completed survey during a 6-week period from May to June 2014).

When participants in TAC social acceptability (SA) research (Ipsos, 2014) were asked to nominate what speed they normally drove in 40, 50, 60 and 100 zones, 22%, 27%, 28% and 39% said they normally drive over the speed limit, respectively.

The Road Safety Monitor (RSM) approaches the question of self-reported speeding behaviour differently to most other surveys on this topic. A two-part question first asks respondents to name the speed that they think a person should be penalised at in 60 and 100 zones, and then asks how often the respondent personally exceeds that speed. According to this self-defined speeding question, 55% of drivers exceed their self-defined speed limit in 60 zones, and 52% in 100 zones (SRC, 2013). This survey also found that 17% of drivers had “been caught speeding in the last 12 months” (n=948) (SRC, 2013).

These results are summarised in Table 3.

Table 3. Self-reported speeding, survey results

	% agree	Source
Exceed self-defined speed limit at least some of the time, 60 zone	55%	RSM 2013
Exceed self-defined speed limit at least some of the time, 100 zone	52%	RSM 2013
Exceed self-defined speed limit most/all the time, 60 zone	5%	RSM 2013
Exceed self-defined speed limit most/all the time, 100 zone	5%	RSM 2013
Caught speeding in last 12 months	17%	RSM 2013
Intentionally driven above posted speed limit, even if by only a few kms	37%	PEEP 2014
Speed normally drive at, (at least 1km over) 60 zone	28%	SA 2014
Speed normally drive at, (at least 1km over) 100 zone	39%	SA 2014

Administrative data on demerit points reveals that 71% of Victorian licence holders have no demerit points at present, indicating that they have not received a traffic infringement for at least 3 years. Therefore, the number of licence holders who have not received a speeding infringement in the last 3 years exceeds 71%.

Observed behaviour

Covert mobile speed cameras operate at approximately 2,000 locations in Victoria, and are in areas with high crash risk and/or speed-related problems. The collected speed data is managed by the Department of Justice (DoJ). A random sample of 349,023 speed recordings for 2013 was acquired from the DoJ, covering all speed zones and metropolitan and rural locations (Alavi et al., 2014). The sample was selected from observation sessions where the traffic volumes were inside one standard deviation from the mean traffic volumes. This avoided speed readings during abnormally dense or sparse traffic situations.

Table 4 highlights the levels of compliance in 50, 60, 80 and 100 zones. Compliance levels are higher in metropolitan locations and in higher speed zones.

Table 4. Cumulative proportion of vehicles travelling within speed limits and low-level speeding

	100 zone		80 zone		60 zone		50 zone	
	Metro	Rural	Metro	Rural	Metro	Rural	Metro	Rural
Compliant	95.0%	89.8%	97.4%	91.9%	90.2%	88.0%	77.8%	75.6%
Up to 5 kms over	99.6%	99.2%	99.5%	97.9%	97.7%	97.1%	92.3%	92.8%
Up to 10 kms over	99.9%	99.8%	99.9%	99.3%	99.4%	99.3%	97.8%	97.9%

An alternative source of Victorian travel speed data is metropolitan speed zone surveys provided by VicRoads. Across 26 sample sites in 60 and 16 sites in 80 zones during May 2013, mean speeds were 58.9 kms per hour and 75.6 kms per hour respectively. The survey data is useful in that it provides a longitudinal series covering 20 years (see Figure 2 below). For comparison, the DoJ covert speed camera data showed median speeds of 53 kms per hour and 69 kms per hour in 60 and 80 zones. The trends in both 60 and 80 zones exhibit decreases in mean travel speeds from 2000 to 2003, which coincides with the aforementioned package of speed management changes implemented in Victoria. Since 2004 the mean speeds

recorded in 80 zones have maintained a level around 75.5 kms per hour. Mean speeds in 60 zones declined very gradually from around 60 kms per hour in 2003 to around 58 kms per hour since 2011.

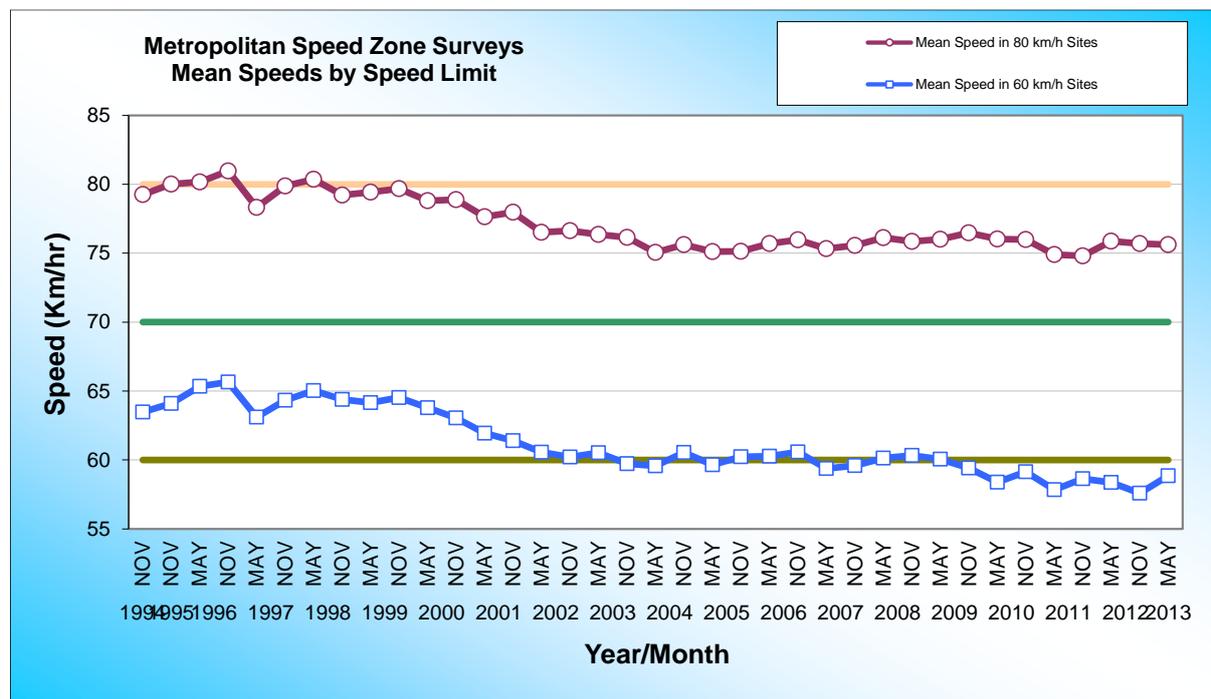


Figure 2: Mean travel speeds recorded by VicRoads metropolitan speed zone survey

The metropolitan speed zone surveys provide a useful comparison with the data captured by covert speed cameras, though there are a number of differences that render the two sources incompatible. The DoJ data is based on vehicle travel past covert cameras operated from unmarked vehicles parked on the side of the road. Locations of speed camera operations are published and imbedded in some GPS software, the cameras can be observed from the front of the unmarked vehicle, and some local drivers can be expected to become familiar with camera locations. The VicRoads data is unlikely to be biased to the same extent by vehicles slowing down in the testing location, but the survey is limited to 75 sites each recording 100 vehicles during May and November, on weekdays between 10AM to 12PM and 1PM to 3PM. The methodology further differs from the DoJ data in that a vehicle is only recorded if the vehicle has at least 4 seconds headway to ensure the vehicles counted in the survey have unimpeded travel flow.

Comparisons with rest of Australia

The Social Acceptability survey provided a point of comparison with the rest of Australia for several self-reported driving behaviours and social norm questions. Victorian survey participants reported greater rates of driving at or below the speed limit in 50, 60 and 100 zones and reported greater rates of unacceptability for low level speeding behaviours. These results are provided in Table 5. All results are statistically significant (Ipsos, 2014). Another important aspect to the Victorian public perspective on speeding is revealed in the contrast between Victorians and those Australians note from Victoria. Victorians are more tolerant (statistically significantly lower proportion of the community considering the behaviour to be unacceptable) of a wide range of socially unacceptable behaviours, including taking illegal

drugs before driving, a man hitting a woman, spending the month's mortgage/rent money on gambling, pushing in front of someone in a queue (Ipsos, 2014).

Table 5: Comparisons of Victoria with other Australian jurisdictions, survey results

		Vic	Non-Vic
Self-reported driving speed			
	Normally drive below/at speed limit, 50 zone	73	64
	Normally drive below/at speed limit, 60 zone	72	62
	Normally drive below/at speed limit, 100 zone	61	51
How would you judge another person's behaviour if they... (% unacceptable)			
	Drove 60kph in a 50kph zone	84	80
	Drove 50kph in a 40kph zone	84	81
	Drove 110kph in a 100kph zone	74	68
	Drove 55kph in a 50kph zone	64	57
	Drove 65kph in a 60kph zone	62	54

Alternative interstate comparisons are available from the national “Community attitudes to road safety – 2009 survey report” (Petroulias, 2014). The survey found that, though not statistically significant, Victorian motorists recorded the highest levels of agreement that they are more likely to be involved in an accident if they increase speed by 10 kms per hour and that an accident at 70 kms per hour is more severe than at 60 kms per hour.

Victorians were significantly more likely to agree that the penalties associated with speeding should decrease (24% compared with Australian average of 13%). Victorians were also significantly more likely than the Australian average to report that their driving speeds have decreased over the last two years (Petroulias, 2014).

Changes in behaviours and attitudes

Speed enforcement data from the Department of Justice shows that fewer speed infringements are issued than at any time since 2001. In the 12 months to December 2013 there were 469,955 infringements issued from the covert mobile speed camera program in Victoria. There has been a clear downward trend in the number of such infringements, while the number of hours of enforcement and the number of cars assessed has continued to rise. The 1.19% of vehicles assessed as speeding above tolerance levels is the lowest annual result since the camera program was established, and compares with a result of 2.41% in 2001.

The disposition of Victorians to speeding has shifted along with the declines observed in travel speeds (Figure 2). This has been evident in questions asked in the Road Safety Monitor about what constitutes speeding (SRC, 2013) (Figure 3).

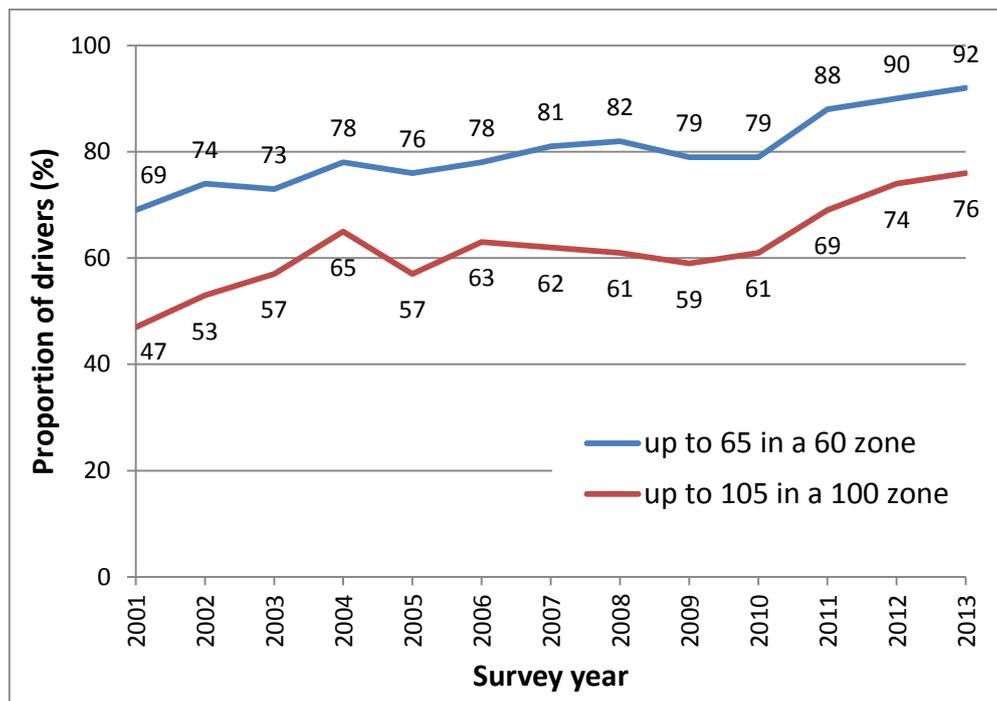


Figure 3. Definition of speeding in 60 and 100 zones – from 2001 to 2013

While the community has shifted in its definition of what constitutes speeding, few other attitudinal and belief questions measured in TAC surveys have shifted substantially since 2001, with the exception being questions relating to the likelihood of being caught, where the perceived likelihood has increased.

The social acceptability research conducted in 2014 (see Table 2) (Ipsos, 2014), recorded significantly increased levels of social unacceptability of speeding behaviours. Driving at 50 kms per hour in 40 zone was considered unacceptable by 81% of respondents, compared with 69% in 2010 and 74% in 2012. Driving at 110 kms per hour in a 100 zone has moved from 61% in 2010 to 72% in 2014, while driving at 65 kms per hour in a 60 zone has increased from 51% in 2012 to 59% in 2014 (Nieuwesteeg et al., 2011 and Ipsos, 2014).

Discussion

The findings presented here seem to concur with local research on speeding attitudes and behaviours (e.g., the contradiction between attitudes and behaviour as in Fleiter & Watson, 2006), and could be further analysed to contribute something to the ongoing exploration of speed-related behaviour. In this instance, however, the authors sought to relay the Victorian experience of recent years, which presents a healthy picture of progress towards full compliance with speed limits.

Social norms are recognised to be powerful motivators of behaviour (Goldstein et al., 2008), and the attitudes and behaviours of significant others (e.g., family members, friends, colleagues) are considered to be most important. However, Haglund & Åberg (2000) found that drivers were more influenced by the perceptions of other drivers' speeds. This can be seen as encouraging, as the behaviour of the majority of motorists can influence those who have a disposition towards speeding behaviour.

The discrepancies noted between attitudes and behaviours warrant further discussion, however. From a self-report perspective, over half of respondents admit that they speed at least some of the time, while 37% report that they have intentionally exceeded the speed limit. A similar ratio admits it is normal for them to drive at least 1 km per hour over the speed limit, with greater levels of compliance in low speed zones. These results seem to be at odds with the reported social norms (e.g., almost two-thirds consider driving 55 kms per hour in a 50 zone to be unacceptable) and very high levels of acknowledgement that speeding is risky. This concept, referred to as the speed paradox by some authors, has been considered elsewhere (Fleiter & Watson, 2006). Among those factors that have been noted to influence driving speed, the perceived likelihood of being caught and a driver's past experience, or a lack thereof, with enforcement are important. The high levels of experience with enforcement and perceptions of risk of being caught as reported in this paper have undoubtedly contributed to the relatively high levels of compliance. Another important issue is that two-thirds to two-fifths of drivers do not define driving within 3 kms per hour of the speed limit as speeding.

In contrasting the administrative data on driving speeds with self-reported data, the authors recognise that self-reported driving speeds are shown to be inaccurate (e.g., Corbett, 2001, Paris & Van den Broucke, 2008). When reflecting on past experience, drivers tend to provide an average figure, biased towards the speed limit. Data collected from speed surveys and mobile speed cameras relates to isolated events. We can reasonably conclude that most drivers inadvertently exceed the speed limit by a small amount on occasions, but that their typical speeds are below the speed limit or below the tolerance thresholds set by enforcement agencies.

The results compiled here support the view that low level speeding should remain a primary focus of public education and enforcement. High level speeding, on the other hand, is almost unanimously disapproved of by the Victorian community and media alike (Nieuwesteeg, 2012). Speed enforcement regimes should continue to focus on low level speeding for two main reasons. Firstly, the gains associated with reducing rates of low level speeding will outweigh the gains associated with reducing high level speeding by virtue of the sheer numbers of drivers operating marginally above the speed limit compared with excessive above (Alavi et al., 2014). And secondly, enforcement reinforces the dangers of low level speeding and supports what is expected by the community (social norms).

It is pleasing to note that the majority of motorists drive at or under the speed limit, consider low level speeding to be unacceptable, believe drivers should be booked for exceeding the speed limit by more than 5kms per hour, and agree that enforcing the speed limit helps lower the road toll.

While there is a sizeable group of drivers in the community who have tolerant views about speeding and those who's driving behaviour attracts significant attention from road safety practitioners, this paper has not examined these in any detail, preferring to focus instead on the overall community profile. The TAC and its road safety partners invest much analytical and practical effort on those who are the main target of efforts to improve compliance with speed limits.

Conclusion

The evidence presented here serves as a reminder to road safety practitioners that there is a great deal of community support for their work. The reality about community attitudes

towards speeding and enforcement is quite different from the emotive anti-enforcement message heard at times in the popular media. Among the Victorian community there is a broad level of support for speed enforcement, speed limit settings and public education, demonstrated through actual compliance with speed limits, views that speeding is socially unacceptable, agreement that speeding is dangerous and opinions about tolerance within the speed enforcement regime.

Still, there is room to continue to shift social norms through public education and enforcement. Public educators can be buoyed by the significant progress over the past thirteen years, and seek to build upon the existing momentum to further reduce tolerance of low level speeding. The existing good will in the community can be used to support those drivers who intend to always comply with speed limits, as well as utilising social norms to demonstrate to intentional low level speeders that they are out of step with the community.

The development of future speed enforcement strategies can also be informed by this data. This must be done with care, noting the concerns held by many in the community about the revenue aspect of speed enforcement and the prevalent belief among Victorian motorists that the penalties for speeding are too high. Road safety practitioners must monitor this issue, noting the aforementioned cautionary advice of the previous Auditor-General of Victoria. Nonetheless, the community has little tolerance for low level speeding and a majority believe low level speeders should be booked. This strongly suggests that the community should be seen as an ally in efforts to reduce road trauma through speed management.

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