

Report No. 4, October 2010

Inquiry into the road safety benefits of fixed speed cameras



Economic Development Committee

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speed cameras

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Foreword

Reducing Queensland's road toll has been a commitment of successive governments in Queensland for decades. Road safety reforms such as compulsory wearing of seatbelts, the introduction of BAC testing for drink driving, safer vehicles and safer roads have reduced Queensland's road toll.

These initiatives have seen the Queensland road deaths fall from a peak of 638 in 1973 to 331 in 2009, with predictions of a lower road toll this in 2010. The number of deaths per hundred thousand people has reduced from 32 in 1970-1971 to eight deaths per hundred thousand in 2008-2009.

Speeding remains a significant barrier to reducing Queensland's road toll even further. Crashes where speeding was a factor accounted for 75 fatalities in 2009, or 23 per cent of the road toll.

The dilemma facing Queensland is that while 66 per cent of drivers believe that it is not okay to exceed the speed limit, 58 per cent of people expressed a preference to exceed the 100 km/hr limit. This 'speed paradox' unfortunately shows that too many people are speeding, despite being aware of the risks.

Queensland introduced mobile speed cameras in 2007. Like many other road safety measures, it was accompanied with some controversy. While 71 per cent of Queenslanders support fixed speed cameras, some members of our community remain concerned about the motivation of speed camera programs.

The Economic Development Committee sought public submissions, met with road safety experts and held a public hearing to examine the question of fixed speed cameras. The committee has found that fixed speed cameras save lives and reduce the costs of road trauma for Queenslanders. The committee also found that fixed speed cameras remain a relative small part of the Queensland Government's speed enforcement measures.

However, the submissions to the committee have shown a need for better communication with the community about speed cameras. More information could be provided to the community about the effectiveness of speed cameras and the laws restricting speed camera revenue from being included with general government revenue.

The committee process is an important opportunity for public participation in the Parliament. I would like to particularly thank the submitters and witnesses who gave of their time, expertise and experience to assist the committee's deliberations.

I would like to thank the members of the committee for their deliberations and work in compiling this report. I would also like to thank the committee research staff who have assisted the Committee through this inquiry: Lyndel Bates, Joanna Fear, Alistair MacLennan, Margaret Telford, Liz Sbeghen and Anne Fidler.

I commend this report to the Parliament. I hope this report can contribute to the debate about how Queensland can continue to reduce our road toll and reduce the human, social and economic costs of road crash trauma on our community.



Evan Moorhead MP

Chair

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ABBREVIATIONS

ANPR	Automatic Number Plate Recognition
BITRE	The Bureau of Infrastructure, Transport and Regional Economics
CARRS-Q	Centre for Accident Research and Road Safety – Queensland
CDOP	Queensland Government Camera Detected Offence Program
DTMR	Queensland Department of Transport and Main Roads
The committee	Economic Development Committee
IPWEAQD	Institute of Public Works Engineering Australia Queensland Division
ISA	Intelligent Speed Adaptation
LGAQ	Local Government Association of Queensland
MUARC	Monash University Accident Research Centre
NMAA	National Motorists Association Australia
QPS	Queensland Police Service
RACQ	Royal Automobile Club of Queensland
SAS	Speed Activated Signs
SMAC	Speed Management Advisory Committee
TCO	The Queensland Police Service’s Traffic Camera Office
VAS	Vehicle Activated Signs

RECOMMENDATIONS

Recommendation 1:

The committee recommends that the Queensland Government investigates the benefits of a reward program for speed compliant drivers.

Ministerial Responsibility: Minister for Transport

Recommendation 2:

The committee recommends that the Queensland Government undertakes a comprehensive evaluation of the fixed speed camera program.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

Recommendation 3:

The committee recommends that the Queensland Government, when selecting a fixed speed camera model for use in Queensland, considers the initial purchase cost, costs associated with altering the road environment to ensure the camera's optimal operation, recurring maintenance costs, ease of transmission of data to the Traffic Camera Office, reliability of the camera and the way that the camera data fits with the Queensland Government processing systems for offences.

Ministerial Responsibility: Minister for Police, Corrective Services and Emergency Services

Recommendation 4:

The committee recommends that the Queensland Government creates and maintains a website that contains the location of each fixed speed camera, including combined red light and speed cameras, as well as the reasons for placing cameras at each of these locations, such as the crash history or potential to develop a crash history on each site. The website should also contain more general information regarding speeding.

Ministerial Responsibility: Minister for Transport

Recommendation 5:

The committee recommends that the Queensland Government provides a link to the proposed fixed speed camera website on all speed camera infringement notices.

Ministerial Responsibility: Minister for Police, Corrective Services and Emergency Services

Recommendation 6:

The committee recommends that the Queensland Government provides clearer information to local governments, the Local Government Association of Queensland and local road safety advisory committees on the criteria for selecting fixed speed camera sites and undertakes more consultation during the site selection process to ensure local knowledge, as well as evidence-based data, is used to inform decisions on site selection and promote greater public acceptance and understanding of fixed speed cameras.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

Recommendation 7:

The committee recommends that the Queensland Government places fixed speed cameras on roads with speed limits of less than 60 km/hr, particularly outside schools and kindergartens that present with crash potential or crash history and where other speed enforcement measures are inappropriate.

Ministerial Responsibility: Minister for Transport

Recommendation 8:

The committee recommends that the Queensland Police Service investigates whether the use of non-sworn officers in the mobile speed camera program would allow a greater number of policing hours to be used more effectively in other community safety activities.

Ministerial Responsibility: Minister for Police, Corrective Services and Emergency Services

Recommendation 9:

The committee recommends that the Queensland Government provides information to the public on a website on how data from the speed camera program is collected, for what purposes, for whom and for how long.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

Recommendation 10:

The committee recommends that the Queensland Government uses the revenue generated by the Camera Detected Offence Program, with the exception of the administration costs of the program, to fund one-off projects and that this revenue not be used as a source of recurrent funding.

Ministerial Responsibility: Minister for Transport

Recommendation 11:

The committee recommends that the Queensland Government amends the *Transport Operations (Road Use Management) Act 1995* to allow, in addition to the existing purposes for which camera detected revenue can be used, the use of camera detected revenue to improve the safety of local government-controlled roads and to conduct research for the purposes of improving road safety and road injury rehabilitation.

Ministerial Responsibility: Minister for Transport

Recommendation 12:

The committee recommends that the Queensland Government sets aside a proportion of revenue from the Camera Detected Offence Program into a Road Safety Fund. The fund will be accessible to local councils in partnership with community groups or other non-government organisations, through the Queensland Government on a grant basis for programs that address local road safety issues and the evaluation of these programs.

Ministerial Responsibility: Minister for Transport

Recommendation 13:

The committee recommends that the Queensland Government ensures that the criteria used for selecting sites for combined red light and speed cameras meet the requirements for both red light and speed cameras, rather than one or the other.

Ministerial Responsibility: Minister for Transport

Recommendation 14:

The committee recommends that the Queensland Government undertakes a process and outcome evaluation of all new speed enforcement technologies that they trial.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

Recommendation 15:

The committee recommends that the Queensland Government tables in Queensland Parliament all evaluations recommended in this report within 12 months of the evaluation's completion date.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

PART 1 – INTRODUCTION

The Economic Development Committee

1. The Economic Development Committee (the committee) is a select committee of the 53rd Queensland Parliament established by motion of the House on 23 April 2009. The role of this committee is to monitor and report on issues in the policy areas of employment, infrastructure, transport, trade, industry development, agriculture and tourism.
2. The committee is authorised by the Queensland Legislative Assembly to:
 - investigate any matter referred to it by separate resolution of the Legislative Assembly
 - instigate its own inquiries into legislative and policy issues with respect to the policy areas allocated to it. However, in carrying out its functions, the committee must give priority to those matters referred to it by any separate resolution of the Assembly
 - seek information from ministers of the Crown, directors-general of government departments, and commissioners and chief executive officers of statutory bodies, regarding current issues in the policy areas referred to it.

Inquiry terms of reference

3. The Economic Development Committee examined the road safety benefits of fixed speed cameras in Queensland. As part of this inquiry, the committee considered:
 - the effectiveness of fixed speed cameras in reducing speeding and road trauma
 - the criteria used to select sites for fixed speed cameras
 - the most efficient use of resources to maximise the road safety benefits of fixed speed cameras
 - the impact of new technologies on fixed speed cameras
 - the appropriate role of fixed speed cameras in the overall speed enforcement regime.

Inquiry process

4. The committee released an issues paper, *Issues Paper No. 2: Inquiry into the road safety benefits of fixed speed cameras*, on 11 March 2010 to promote informed discussion and encourage submissions. The committee published the issues paper on its website and distributed over 350 copies to interested groups and individuals. The committee also placed an advertisement in *The Courier Mail* on 13 March 2010. A copy of the newspaper advertisement is attached as Appendix A.
5. The committee wrote to 320 individuals and organisations inviting them to make a submission. Individuals and organisations could make submissions in the form of a letter, fax, email or an electronic submission form on the committee's website. Forty-nine individuals and organisations made submissions to the committee's inquiry. A list of these organisations and individuals is included in Appendix B.
6. Between 29 and 31 March 2010, the committee undertook a study tour to Melbourne and Canberra. During this trip, the committee met with representatives from a range of road safety organisations that provided information that assisted the committee with their inquiry. A full list of organisations is included in Appendix C. *Information Paper No. 1* tabled with this report provides further details regarding this study tour.
7. On Friday 6 August 2010, the committee held a public hearing to collect further evidence. Witnesses at the hearing included academics from the Centre for Accident Research and Road Safety – Queensland (CARRS-Q), the Royal Automobile Club of Queensland (RACQ), the National Motorists Association Australia (NMAA), the Local

Government Association of Queensland (LGAQ), Institute of Public Works Engineering Australia Queensland Division (IPWEAQD), the Queensland Department of Transport and Main Roads (DTMR), the Queensland Police Service (QPS) and individuals appearing in their private capacity. A full list of the witnesses is attached at Appendix D. A copy of the advertisement for the public hearing is at Appendix E. The committee also sought clarification regarding a number of issues from Professor Max Cameron from the Monash University Accident Research Centre (MUARC).

Responsibility of Ministers

8. This report makes recommendations for the Queensland Government to implement. Section 107 of the *Parliament of Queensland Act 2001* requires the responsible Ministers to respond to these recommendations within three to six months of the report being tabled. A copy of this section of the Act is at Appendix F.

PART 2 – SPEEDING AND SPEED ENFORCEMENT

Speed and road safety

9. Excessive speed is a significant factor in road safety, as it not only increases the likelihood of a crash occurring, but also contributes to the severity of injuries sustained in a crash. A significant amount of international research recognises these risks.¹ The relationship between speeding and the crash rate is not simple but it is consistent across studies. This is despite various methodological issues relating to the collection of data.² In this report, speeding refers to travelling above the posted speed limit.
10. Speeding can affect road crashes in different ways. For example, in two-car crashes, the greater the deviation in speed from the average, the higher the rate of crashes. This is thought to be due to increased interactions between vehicles when travelling at different speeds. In single-vehicle crashes, the higher the speed, the greater the risk of crashing and the greater the risk of an injury. This relationship is more straightforward: the faster the vehicle is travelling, the greater the energy absorbed by the occupants during the rapid change in velocity that occurs during a crash. Therefore, reducing 'top-end' speeders should also reduce the number of deaths and severe injuries in the crashes that do occur.³
11. A key Australian study found that the risk of crashing in a 60 km/hr speed zone doubled with every 5 km/hr increase in travelling speed above 60 km/hr.⁴ Although the case control methodology used in this study is a valid approach, it may not take into account the influence of other factors not included in the study that could influence crash risk, such as driver demographics or vehicle mass.⁵ However, case control studies best describe the relationship between individual vehicle speed and crash rate.⁶ The committee, therefore, concludes that there is a strong increase in crash risk as a vehicle's speed increases.
12. Speeding is a difficult behaviour to manage, as there is a widespread belief that a certain level of speeding is not dangerous or anti-social.⁷ Research

¹ L Carnis, A Rakotonirainy & J Fleiter, 'Speed enforcement programmes in France and Queensland: First elements for a systematic comparison. Proceedings High Risk Road Users – Motivating Behaviour Change: What Works and What Doesn't Work', paper presented at the National Conference of the Australasian College of Road Safety and the Travelsafe Committee, Brisbane, Queensland Parliament, September 2008, p. 40; L Friedman, P Barach & E Richter, 'Raised speed limits, case fatality and road deaths: A six year follow-up using ARIMA models', *Injury Prevention*, vol. 13, 2007, pp. 160-161.

² Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 10.

³ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 3.

⁴ CN Kloeden, AJ McLean, VM Moore & G Ponte, 'Travelling speed and the risk of crash involvement', Report CR172, Federal Office of Road Safety, Canberra, 1997, p. 56.

⁵ E Hauer, 'Speed and crash risk: An opinion', Report 04/02, Royal Automobile Club of Victoria (RACV) Pty. Ltd., Melbourne, 2004, p. 12.

⁶ L Aarts & I van Schagen, I. 2006, 'Driving speed and the risk of road crashes: A review', *Accident Analysis and Prevention*, vol. 38, 2006, p. 222; M Cameron, personal correspondence, Monash University Accident Research Centre, Melbourne, 12 September 2010, p. 3.

⁷ J Fleiter, A Lennon & B Watson, 'How do other people influence your driving speed? Exploring the 'who' and the 'how' of social influences on speeding from a qualitative perspective', *Transportation Research Part F*, vol. 13, 2010, p. 58; K Blincoe, A Jones, V Sauerzapf & R Haynes, 'Speeding

conducted by the RACQ identified that only 7 per cent of participants identified exceeding the speed limit by less than 10 km/hr as a serious speed offence.⁸ This idea that low level speeding is safe is reinforced when drivers exceed the speed limit without being caught or crashing. However, research suggests that a driver's increased speed may erode safety margins, compromise road safety and result in collisions.⁹

13. Despite this, there appears to be a mismatch between drivers' beliefs about speeding and their behaviour. One study found that although two-thirds of participants agreed that exceeding the speed limit was not okay and not worth the risk, over 58 per cent reported a preference to exceed the 100 km/hr speed limit. This indicates that, despite community concern about speeding and the research linking it to road crashes and injuries, speeding remains socially acceptable suggesting a paradox between the beliefs of drivers and their behaviour on the road.¹⁰
14. A number of factors affect a driver's ability to select the most appropriate speed including:
 - drivers ignoring, or assigning minor importance to, impacts of speed that they do not immediately notice or that do not directly affect them
 - drivers not correctly perceiving the relationship between speed and travel time
 - drivers underestimating the increase in the risk of crash associated with increased speed
 - drivers underestimating impact speed in situations in which it is clear that a crash is unavoidable but its severity can be reduced by braking
 - driver preferences with regard to safe speed are heterogeneous, making the coordination of speed choices difficult.¹¹

Factors associated with speeding

15. Research has identified a number of demographic, individual and social factors that can be used to predict the likelihood that an individual will engage in speed behaviours and be involved in speed-related crashes.¹² A summary of these factors is provided in Table 1.

drivers' attitudes and perceptions of speed cameras in rural England', *Accident Analysis and Prevention*, vol. 38, 2006, p. 371.

⁸ RACQ, *Submission No. 42*, 2010, p. 17.

⁹ S Heslop, J Harvey, N Thorpe & C Mulley, 'Factors that comprise driver boredom and their relationships to preferred driving speed and demographic variables', *Transportation Planning and Technology*, vol. 33, no. 1, 2010, p. 75.

¹⁰ J Fleiter & B Watson, 'The speed paradox: The misalignment between driver attitudes and speeding behaviour', paper presented to the Road Safety Research, Policing and Education Conference, Wellington, New Zealand, 2005, p. 1.

¹¹ R Elvik, 'A restatement of the case for speed limits', *Transport Policy*, vol. 17, 2010, p. 202.

¹² Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 7.

Table 1: Characteristics associated with increased propensity to speed and speed-related crash involvement

Characteristic	Evidence	Sources
Demographic		
<i>Gender</i>	Males more likely to choose greater speeds; report more positive attitudes toward speeding; be high-range/recidivist offenders; be involved in fatal speed-related crashes	Fuller et al. (2008); Liu et al (2005); McColl (2001); Parker et al (1995); RTA (2000); Shinar et al (2001); Stradling et al. (2003); Walker et al. (2009); Watson, et al. (2009)
<i>Age</i>	Younger drivers more likely to choose greater speeds; report more positive attitudes toward speeding; state that driving faster is enjoyable; have lower perceptions of risk; report deliberate speeding; be high-range/recidivist offenders; be involved in speed-related crashes	Brown & Cotton (2003); Harrison et al. (1998); Liu et al (2005); McColl (2001); Palamara & Stevenson (2000); Parker et al. (1992); RTA (2000); Stradling et al. (2000); Walker et al. (2009); Williams et al. (2006); Watson, et al. (2009)
Individual		
<i>Infringement and crash histories</i>	Increased likelihood of speeding behaviour among individuals with past infringement and crash histories.	Cooper (1997); Fildes et al. (1991); Harrison et al. (1998); Iversen & Rundmo (2002); Maycock et al. (1998); Read et al. (2002); Stradling et al. (2000); Williams et al. (2006); Watson, et al. (2009)
<i>Risky driving behaviours</i>	Increased likelihood of speeding behaviour and more positive attitudes toward speeding among individuals with tendencies to engage in other risky driving behaviours; particularly true in the case for young drivers	Gabany et al. (1997); Harrison et al. (1998); Machin & Sankey (2008); Palamara & Stevenson (2000); Stradling et al. (2000)
<i>Perceptions of own driving ability</i>	Increased likelihood of speeding behaviour among individuals who display over-confidence, have an inflated perception of their own driving ability	Harrison et al. (1998); Palamara & Stevenson (2000); Read et al. (2002); Walker et al. (2009)
<i>Perception of risk</i>	Increased likelihood of speeding behaviour among individuals who perceive their risk of detection as being lower	Harrison et al. (1998); Homel (1986)
<i>Personality traits</i>	A number of traits found to be positively associated with speeding: sensation-seeking; normlessness; perceived invulnerability; heightened internal loss-of-control; and, authority-rebellion	Corbett (2001); Fernandes et al. (2007); Iversen & Rundmo (2002); Jonah (1997); Machin & Sankey (2008); Stradling et al. (2000)
<i>Protective factors</i>	A number of traits found to be positively associated with speeding: aversion to risk-taking; and, altruism	Brown & Cotton (2003); Machin & Sankey (2008)
Situational		
<i>Socio-economic status</i>	Increased likelihood of speeding behaviour associated with lower socio-economic status drivers	Lipscombe & Wilkinson (1996); Maycock et al. (1998); Stradling et al. (2000)
<i>Annual mileage</i>	Increased likelihood of speeding behaviour associated with greater exposure to road (greater mileage)	Fildes et al. (1991); Harrison et al. (1998); Maycock et al. (1998); Stradling et al. (2000)
<i>Time pressures</i>	Increased likelihood of speeding behaviour among drivers in a rush	Fuller et al. (2008); Gabany et al. (1997); Read et al. (2002); Stradling et al. (2003)
<i>Occupational driving</i>	Increased likelihood of speeding behaviour among individuals driving for work purposes; anticipated regret and perceived social norms serve protective function	Fildes et al. (1991); Harrison et al. (1998); Maycock et al. (1998); Newman et al. (2004)
<i>Passengers</i>	Mixed evidence: effect of passengers likely to be moderated by other factors (e.g., age, gender, experience); family members found to be a protective factor	Baxter et al. (1990); Fildes et al. (1991); Glendon (2007); Glendon & Sutton (2005); Walker et al. (2009)
<i>Vehicle characteristics</i>	Motorcyclists overrepresented in speeding related crashes; some evidence of greater speeding among vehicles with larger engine capacities; increased likelihood of speeding among drivers of newer vehicles	Fildes et al. (1991); Fuller et al. (2008); Glendon (2007); Glendon & Sutton (2005); Lipscombe & Wilkinson (1996); Liu et al (2005); Stradling et al. (2000); Williams et al. (2006)
<i>Road environment</i>	Speed-related crashes occur more frequently when negotiating bends and on rural roads; speeding more frequent in clear, daytime conditions	Lipscombe & Wilkinson (1996); Liu et al (2005); RTA (2000)

Source: Centre for Accident Research and Road Safety – Queensland, Submission No. 43, 2010, p. 8.

NB: Appendix G contains the full references of each citation in this table.

Speed limits

16. Speed limits on roads are used to regulate traffic speed thus promoting road safety by establishing an upper limit on speed and by reducing the variance of the speed between vehicles.¹³ They are needed to efficiently coordinate driver speed choice. In order to justify speed limits, the speed limit must influence actual driving speeds, bring the driving speeds closer to optimum speeds and the costs of enforcing speed limits should not exceed the benefits of having them in place.¹⁴
17. Research suggests that speed limits influence speed and that the average speed of traffic would be higher if speed limits did not exist. However, it is difficult to identify optimum speed limits.¹⁵
18. There are different methods to select speed limits. Economic theory suggests that drivers need limits because driver speed choices affect others but that drivers do not consider the impact of their speed on others. A public health perspective suggests that speed limits should be set so that the impact speed of crashes never exceeds the human tolerance for impact that results in death or permanent impairment. The traffic engineering perspective suggests that speed limits should reflect the design standards of a road. Therefore, a freeway that is designed to the highest standards should have the highest speed limits while a road that services local traffic only should have a low speed limit.¹⁶
19. One version of the traffic engineering perspective is the 85th percentile criterion.¹⁷ This method sets the speed limit at the speed that 85 per cent of drivers would travel at if there were no signed speed limits.¹⁸ This is the method that has been traditionally used to set speed limits in Australia, although this method may be a barrier to achieving crash injury reductions.¹⁹
20. The committee considers that the 85th percentile method to set speed limits is inappropriate. This method only considers what the driver believes is an appropriate travelling speed rather than the needs of other, more vulnerable, road users such as pedestrians, cyclists and motorcyclists. The committee believes that a range of factors needs to be considered when setting speed limits.
21. One reason, given by some drivers, that speed limits are exceeded is that individuals do not believe that the limits are credible. If drivers consider that a speed limit is not appropriate for a certain section of road, they may ignore the limit and make their own decision regarding an appropriate driving speed²⁰

¹³ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 3.

¹⁴ R Elvik, 'A restatement of the case for speed limits', *Transport Policy*, vol. 17, 2010, pp. 196 & 203.

¹⁵ R Elvik, 'A restatement of the case for speed limits', *Transport Policy*, vol. 17, 2010, p. 203.

¹⁶ R Elvik, 'A restatement of the case for speed limits', *Transport Policy*, vol. 17, 2010, pp. 196 - 197.

¹⁷ R Elvik, 'A restatement of the case for speed limits', *Transport Policy*, vol. 17, 2010, p. 197.

¹⁸ G Goeldner, Vice-President, National Motorists Association Australia, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August, 2010, p. 16; R Elvik, 'A restatement of the case for speed limits', *Transport Policy*, vol. 17, 2010, p. 197.

¹⁹ J Lahausse, N van Nes, B Fildes & M Keall, 'Attitudes towards current and lowered speed limits in Australia', *Accident Analysis and Prevention*, vol. 42, 2010, p. 2109.

²⁰ C Goldenfeld & I van Schagen, 'The credibility of speed limits on 80 km/hr rural roads: The effects of road and person(ality) characteristics', *Accident Analysis and Prevention*, 2007, p. 1121.

with some studies suggesting that drivers want to drive approximately 10 per cent over the posted speed limit.²¹

22. Several submitters to the inquiry indicated that they believed speed limits were not set at the correct level²² or that there was a need to vary speed limits, for instance based on weather conditions, rather than relying on static speed signs.²³ This is despite Australia having relatively high speed limits across much of its road network when compared with other Organisation for Economic Co-operation and Development countries.²⁴ Research has suggested that it is not possible to identify a speed limit that would be acceptable to all drivers, although there may be a limit that is more credible for all road users.²⁵
23. The document used to guide the setting of speed limits in Queensland is Part 4 of the *Manual of Uniform Traffic Control Devices*.²⁶ Some of the factors considered when setting speed limits are pavement and shoulder conditions, lane widths, horizontal and vertical road alignment, traffic volumes, road activities including the presence of pedestrians and cyclists, frequency of intersections and property access, on-road parking activity, magnitude of property setback, the presence of line marking, channelisation and medians, and proximity to roadside hazards.²⁷
24. As road environments are complex, involving a range of users, the committee believes it is appropriate to consider a range of issues when selecting speed limits in Queensland. The committee, therefore, concludes that the use of Part 4 of the *Manual of Uniform Traffic Control Devices* is the most appropriate method for calculating safe speed limits in Queensland.

Speeding in Queensland

25. Speeding is recognised as a major cause of death and serious injury on Queensland roads.²⁸ As shown in Figure 1, since 1994 the proportion of road fatalities that were the result of crashes involving speeding drivers or riders has risen from below 15 per cent to over 25 per cent (falling to 22.7 per cent in 2009).²⁹

²¹ J Fleiter & B Watson, 'The speed paradox, The misalignment between driver attitudes and speeding behaviour', paper presented to the Road Safety Research, Policing and Education Conference, Wellington, New Zealand, 2005, pp. 6-7; C Goldenbeld & I van Schagen, 'The credibility of speed limits on 80 km/hr rural roads: The effects of road and person(ality) characteristics', *Accident Analysis and Prevention*, 2007, p. 1127.

²² G Lewis, *Submission No. 19*, 2010, p. 5; National Motorists Association Australia, *Submission No. 32*, 2010, p. 11

²³ T Kelly, *Submission No. 47*, 2010, p. 1; N Wall, *Submission No. 36*, 2010, pp.5-6.

²⁴ J Lahausse, N van Nes, B Fildes & M Keall, 'Attitudes towards current and lowered speed limits in Australia', *Accident Analysis and Prevention*, vol. 42, 2010, p. 2108.

²⁵ C Goldenbeld & I van Schagen, 'The credibility of speed limits on 80 km/hr rural roads: The effects of road and person(ality) characteristics', *Accident Analysis and Prevention*, 2007, p. 1128.

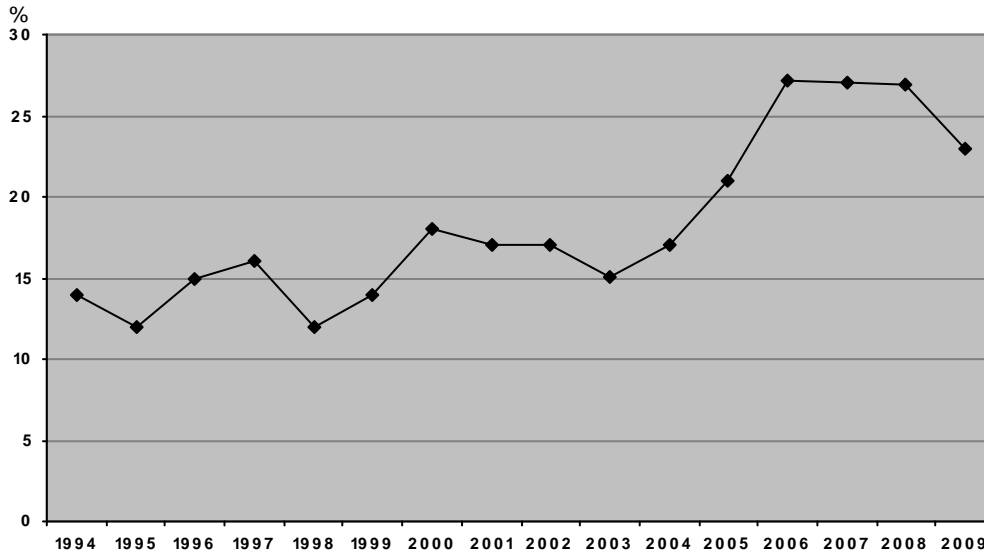
²⁶ D Stewart, Director-General, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28.

²⁷ D Stewart, Director-General, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28.

²⁸ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 7.

²⁹ Queensland Government, *Submission No. 46*, 2010, p. 3.

Figure 1: Speed-related fatalities as a percentage of all road fatalities, Queensland 1994-2009



Source: Queensland Government, Submission No. 46, 2010, p. 4.

26. Significant numbers of Queensland motorists are driving above the posted speed limits. DTMR has conducted two state-wide speed surveys that indicate between 20 and 50 per cent of motorists are not complying with posted speed limits.³⁰ As shown in Table 2 below, the preliminary findings of the second state-wide speed survey conducted in October 2009 suggest large groups of individuals drive above the posted speed limits in all speed limit zones and in both urban and rural locations.

Table 2: Speed distribution data, second Queensland wide speed survey, October 2009 (preliminary data)

Speed limit	Location	% at or below limit	% 10 km or less over the limit	% more than 10 km over limit
50 km/hr	Urban	60.39	28.8	10.81
60 km/hr	Urban	52.97	33.91	13.12
	Rural	52.94	37.3	9.76
80 km/hr	Urban	57.14	31.17	11.69
	Rural	68.36	24.95	6.69
100 km/hr	Urban	77.24	19.68	3.08
	Rural	63.38	29.79	6.83

Source: R Nolan, personal correspondence, Queensland Government, Brisbane, 25 April 2010, p. 2.

³⁰ Queensland Government, Submission No. 46, 2010, p. 4.

27. Queensland also has 40 km/hr zones near schools where the existing speed limit is 50, 60 or 70 km/hr.³¹ Research suggests that there is a need for these slower zones and that compliance with this limit is relatively easy.³² Given that speed limits are intended to control the top speeds, but are often ignored, means that enforcement is important.³³

Speed enforcement

28. The large number of drivers engaged in speeding behaviours needs to be considered when developing effective countermeasures.³⁴ Authorities can try to change drivers' speeding behaviour through education (such as driving licence education and campaigns), enforcement (such as police surveillance and speed cameras), physical measures in the traffic environment (such as speed humps and narrowing of the roads) or in the vehicle (such as intelligent speed adaptation).³⁵ Road safety countermeasures must consider the appropriate balance between ensuring drivers remain mobile, as well as safe.³⁶
29. Enforcement tends to have a short-term deterrent effect and sustaining it can be difficult.³⁷ Without sufficient speed enforcement, it will remain difficult to achieve a sustained reduction in driving speeds across the road network.³⁸
30. The traditional method of speed enforcement involves police officers using radar equipment in mobile patrol vehicles to identify and punish speed offenders. There are several issues with this method. It is resource intensive, inconsistent in application and does little to slow motorists. It may be difficult to observe speeds at the worst places and times and police officers may be diverted to other duties. In congested areas, there may be no safe place to pull over speeding vehicles.³⁹
31. However, an increase in the use of police for speed enforcement is a common suggestion.⁴⁰ It is argued that the use of police for speed enforcement will allow fines to be issued in context and police to focus on high-risk

³¹ Queensland Department of Transport and Main Roads, *School zone speed limits*, Queensland Government, Brisbane, June 2010, retrieved 27 August 2010, <http://www.tmr.qld.gov.au/Safety/School-road-safety/Safe-school-travel-safest/School-zone-speed-limits.aspx>.

³² J Fleiter, A Lennon & B Watson 2007, 'Choosing not to speed: A qualitative exploration of differences in perceptions about speed limit compliance and related issues', paper presented to the Australasian Road Safety Research, Policing and Education Conference, Melbourne, 17–19 October 2007, p. 5.

³³ A Delaney, H Ward, M Cameron, & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 404.

³⁴ Centre for Accident Research and Road Safety – Queensland, *Submission No. 9*, 2010, p. 9.

³⁵ H Warner & L Aberg, 'Drivers' beliefs about exceeding the speed limits', *Transportation Research Part F*, vol. 11, 2008, p. 376.

³⁶ L Bates, B Watson & M King, 'Mobility and safety are conflicting goals for transport policy makers when making decisions about graduated driver licensing', *International Journal of Health Promotion and Education*, vol. 48, no. 2, 2010, p. 50.

³⁷ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 3.

³⁸ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 2.

³⁹ A Delaney, H Ward, M Cameron & A Williams, 2005, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, pp. 404-405.

⁴⁰ P Caldwell, *Submission No. 10*, 2010, p. 1; D Calvert, *Submission No. 27*, 2010, p. 1; S Durston, *Submission No. 17*, 2010, p. 1; C Hendry, *Submission No. 26*, 2010, p. 2; D Kennedy, *Submission No. 15*, 2010, p. 1; National Motorists Association Australia, *Submission No. 32*, 2010, p. 16; L Pack, *Submission No. 1*, 2010, p. 2; S Smerdon, *Submission No. 16*, 2010, p. 1.

behaviours⁴¹ and other dangerous driving behaviours.⁴² A police officer would reduce the risk immediately.⁴³

32. The advent of new technology and the fact that police are unable to be on all roads and at all times has resulted in many countries increasingly using speed cameras that may be manned or unmanned, mobile or fixed, as well as overt or covert.⁴⁴ However, the increased use of speed cameras must be intense enough to ensure that drivers perceive that they risk being caught and punished if they exceed the limit.⁴⁵

Enforcement mix

33. There is a need to utilise a variety of speed enforcement methods that are tailored to specific situations. A one-size-fits-all approach to speed enforcement is unlikely to be fully effective.⁴⁶ However, further development, research and evaluations are needed to identify the optimum mix of speed enforcement,⁴⁷ as well as the benefit cost ratio of using one form of enforcement, such as fixed speed cameras, over other enforcement measures.⁴⁸
34. Other speed enforcement strategies are more suited to particular situations and contexts. Fixed speed cameras should be used at black spot locations or those locations that have the potential to develop a crash history, particularly where it is difficult for police to conduct other forms of enforcement,⁴⁹ because speed cameras only work for short distances before and after the fixed speed camera. Mobile speed cameras are better at dealing with the rest of the road network. Additionally, the use of point-to-point cameras help to augment the other speed enforcement tools that already exist.⁵⁰
35. Covert cameras help maintain the uncertainty and unpredictability of enforcement in the public's mind.⁵¹ This is particularly important given that drivers report speeding on a regular basis despite knowing where fixed speed cameras are located and believing that they are able to identify mobile

⁴¹ L Pack, *Submission No. 1*, 2010, p. 2.

⁴² J Tucker, Senior Road Safety Advisor, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 14; P Caldwell, *Submission No. 10*, 2010, p. 1; D Calvert, *Submission No. 27*, 2010, p. 1; National Motorists Association Australia, *Submission No. 32*, 2010, p. 16.

⁴³ M Bates, President, National Motorists Association Australia, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 17; S Durston, *Submission No. 17*, 2010, p. 1.

⁴⁴ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 3.

⁴⁵ A Nova, K Perez, E Sanatamarina-Rubio, M Mari-Dell'Olmo & A Tobias, 'Effectiveness of speed enforcement through fixed speed cameras: A time series study', *Injury Prevention*, vol. 16, 2010, p. 12; T Prenzler, *Submission No. 35*, 2010, p. 1.

⁴⁶ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 2; J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, pp. 11, 13.

⁴⁷ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 5.

⁴⁸ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, p. 17.

⁴⁹ D Stewart, Director-General, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28.

⁵⁰ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 5.

⁵¹ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 5.

camera sites and police vehicles. Individuals that speed regularly appear to resent covert policing.⁵²

36. Enforcement is a key feature of current Australian speed management strategies and Australian jurisdictions have developed, implemented and evaluated increasingly sophisticated speed enforcement techniques as their primary speed management tool over several decades.⁵³ In Queensland, on-road policing by the QPS is the preferred method of enforcing speed with speed cameras providing supplementary enforcement.⁵⁴ The RACQ believes that fixed speed cameras are not a replacement for effective on-the-road police presence.⁵⁵ Traffic patrols, hand-held and moving radars, as well as visible speed cameras are also used to enforce speed limits in Queensland.⁵⁶ The Queensland Government has recently added to traditional enforcement measures, introducing point-to-point speed cameras and combined red light/speed cameras utilising digital technology.⁵⁷
37. On-road enforcement by QPS officers is a key strategy used to monitor speed in Queensland with permanent traffic branches in most police districts. The QPS allocated 220,734 officer hours towards non-camera on-road speed enforcement during 2008-09. This was in addition to the camera detected enforcement.⁵⁸
38. During peak periods, the QPS uses extra police officers, for instance from headquarters, to help enforce road laws. During the 2008 National Christmas Road Safety Campaign, non operational police officers provided approximately 4,500 hours of additional road safety enforcement. This was 9 per cent of the officer hours used for road safety enforcement during the campaign.⁵⁹
39. The committee believes that fixed speed cameras are an important part of the enforcement mix to manage speeding in Queensland. However, it notes that fixed speed cameras are only one in a range of possible tools. The use of fixed speed cameras should therefore be considered carefully to ensure that they are used appropriately.

⁵² J Fleiter, A Lennon & B Watson, 'Choosing not to speed: A qualitative exploration of differences in perceptions about speed limit compliance and related issues', paper presented to the Australasian Road Safety Research, Policing and Education Conference, Melbourne 17 – 19 October 2007, p. 5.

⁵³ J Fleiter, B Watson, A Lennon & M King, 'Speeding in Australia and China: A comparison of the influence of legal sanctions and enforcement practices on car drivers', paper presented to the 2009 Australasian Road Safety Research, Policing and Education Conference, Sydney, November 2009, p. 2.

⁵⁴ Queensland Government, *Submission No. 46*, 2010, p. 8.

⁵⁵ J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 11.

⁵⁶ D Soole, A Lennon & B Watson, 'Driver perceptions of police speed enforcement: Differences between camera-based and non-camera based methods – results from a qualitative study', paper presented to the Proceedings of the Australian Road Safety Research, Policing and Education Conference, Adelaide, November 2008, p. 2.

⁵⁷ A Bligh, N Roberts & R Nolan, *It's got to stop – tough new measures on the way*, joint ministerial media statement, the Queensland Premier and Minister for the Arts; the Minister for Police, Corrective Services and Emergency Services; and the Minister for Transport, Brisbane, 13 December 2009, retrieved 1 March 2010, www.cabinet.qld.gov.au.

⁵⁸ Queensland Police Service, 'Annual Report 2008-09', Queensland Government, Brisbane, 2009, p. 67.

⁵⁹ Queensland Police Service, 'Annual Report 2008-09', Queensland Government, Brisbane, 2009, p. 68.

Social factors

40. Individuals that believe speeding is safe may not perceive laws governing driving speeds and associated enforcement methods as legitimate.⁶⁰ Therefore, using only legal sanctions to manage the speed at which people drive ignores the potential benefits of harnessing social factors.⁶¹
41. Factors, such as role modelling, attitudinal influences and social reinforcements, appear to influence speeding. Therefore, there is scope to exploit the use of social sanctions for speeding and social praise for speed limit compliance and responsible driving in future interventions.⁶²
42. Currently in Queensland, there are limited social rewards for drivers that comply with speed limits. However, there may be some benefit in rewarding drivers that comply with speed limits in order to make speeding less socially acceptable.⁶³
43. Queensland had a reward system that operated throughout the 1980s and into the early 1990s. The program recognised drivers that had not been awarded demerit points. When the program was evaluated, it was found to not have an effect given that some individuals that received rewards had been committing traffic offences but had not been caught. However, this program operated before the introduction of the camera detected offence program (CDOP).⁶⁴
44. The committee suggests that there is value in rewarding drivers that are not caught driving above the posted speed limit. One way of rewarding drivers is to offer them a small discount off their car registration if, over a number of years, they have not been caught speeding. While this discount would only be offered to individuals that own vehicles, and would not apply to company vehicles, the committee believes it will help create a more positive social environment that discourages speeding.
45. There appears to be some public support for a reduction in vehicle registration costs for individuals that do not accumulate demerit points.⁶⁵ The committee concludes that this initiative deserves further consideration, as the existence of the CDOP means speeding drivers are more likely to be caught and will be less likely to receive any reward for safe driving.

Recommendation 1:

The committee recommends that the Queensland Government investigates the benefits of a reward program for speed compliant drivers.

Ministerial Responsibility: Minister for Transport

⁶⁰ J Fleiter, A Lennon & B Watson, 'Choosing not to speed: A qualitative exploration of differences in perceptions about speed limit compliance and related issues', paper presented to the Australasian Road Safety Research, Policing and Education Conference, Melbourne, 17 – 19 October 2007, p. 2.

⁶¹ J Fleiter, A Lennon & B Watson, 'How do other people influence your driving speed? Exploring the 'who' and the 'how' of social influences on speeding from a qualitative perspective', *Transportation Research Part F*, vol. 13, 2010, p. 49.

⁶² J Fleiter, A Lennon & B Watson, 'How do other people influence your driving speed? Exploring the 'who' and the 'how' of social influences on speeding from a qualitative perspective', *Transportation Research Part F*, vol. 13, 2010, p. 60.

⁶³ J Fleiter, Senior Research Officer, Centre for Accident Research and Road Safety - Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 5.

⁶⁴ M Stapleton, Executive Director, Road Safety, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 40.

⁶⁵ Sinclair, C. 2010, *Submission No. 13*, p. 1.

46. Other strategies, such as ecodriving, could be used to change community perceptions regarding speeding.⁶⁶ Ecodriving occurs when drivers save petrol and reduce vehicle emissions by changing their driving behaviour, for instance by travelling at slower speeds.⁶⁷
47. When a car is travelling in non-congested conditions, fuel consumption increases as the vehicle's speed increases. For example, a vehicle travelling at 90 km/hr rather than 110 km/hr uses 23 per cent less petrol. However, when a car is travelling below 20 km/hr, petrol consumption increases significantly.⁶⁸ As there are many different pollutants contained in vehicle emissions, the optimum speed at which the pollutants are minimised varies by pollutant.⁶⁹ However, further research regarding ecodriving is needed.⁷⁰
48. The committee considers that there is value in using other strategies apart from enforcement to change community perceptions regarding speeding. The Queensland Government should use strategies, such as ecodriving, to encourage drivers to travel at slower speeds because of the cost savings that result to individuals and the environmental benefits.

Speed cameras

49. A speed camera can be defined as the use of a camera to automatically record speed choices.⁷¹ As shown in Figure 2, these can vary by both mobility (fixed or mobile) and visibility (hidden or visible).⁷² Mobile speed cameras are the most common method of enforcing speed limits, although fixed cameras are becoming more popular.⁷³

⁶⁶ N Haworth & M Symmons, 'Driving to reduce fuel consumption and improve road safety', paper presented to the Australasian Road Safety Research, Policing and Education Conference, Melbourne, 2001, p. 1.

⁶⁷ M Symmons, G Rose & G Van Doorn, *Ecodrive as a road safety tool for Australian conditions*, Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, 2009, p. 49.

⁶⁸ Joint Transport Research Centre, *Speed Management*, Organisation for Economic Co-operation and Development Publishing, Paris, 2006, p. 44.

⁶⁹ Joint Transport Research Centre, *Speed Management*, Organisation for Economic Co-operation and Development Publishing, Paris, 2006, p. 43.

⁷⁰ M Symmons, G Rose & G Van Doorn, *Ecodrive as a road safety tool for Australian conditions*, Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, 2009, pp. 49-51.

⁷¹ D Poulter & F McKenna, 'Is speeding a 'real' antisocial behaviour? A comparison of with other antisocial behaviours', *Accident Analysis and Prevention*, vol. 39, 2007, p. 384.

⁷² D Soole, B Watson & A Lennon, 'The impact of police speed enforcement practices on self-reported speeding: An exploration of the effects of visibility and mobility', *Proceedings of the 2009 Australasian Road Safety Research, Policing and Education Conference*, November, 2009, p. 5.

⁷³ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 11.

Figure 2: Classification of various enforcement methods by visibility and mobility

MOBILITY			
		<i>Stationary</i>	<i>Moving</i>
VISIBILITY	<i>Visible</i>	Fixed/permanent speed cameras Overt mobile speed camera vans	Marked patrol vehicle in the traffic flow Marked patrol car on the side of the road Overt operation of a hand-held radar
	<i>Hidden</i>	Covert mobile speed camera vans	Unmarked patrol vehicle in traffic flow Covert operation of a hand-held radar

Source: Centre for Accident Research and Road Safety – Queensland, Submission No. 43, 2010, p. 11.

50. There are wide variations in speed camera programs with differences in the amount of penalty, where the fine money is allocated, whether cameras are overt or covert, presence of warnings relating to the camera, as well as the type and placement of signs (if any), and how far above the speed limit a vehicle may travel before a photo is taken and a penalty is imposed.⁷⁴
51. The evidence available to the committee indicates that speed cameras appear to reduce speed and crash risk.⁷⁵ One research review found a 9 to 35 per cent crash reduction and a 7 to 30 per cent injury reduction as a result of speed camera installation.⁷⁶ A subsequent review found, at camera sites, a 19 per cent crash reduction overall and a 44 per cent crash reduction in serious and fatal injuries in one English jurisdiction.⁷⁷
52. Even when evaluations of speed cameras identify that they reduce speeding and, as a result, crashes, injuries and fatalities, the speed camera program may be discontinued. This occurred in June 2001 when the incoming government ceased the speed camera program in British Columbia, Canada despite the positive road safety outcomes identified in the evaluation.⁷⁸
53. There appear to be several concerns associated with speed camera programs. These include reliability, legal and fairness issues.
54. The reliability of speed cameras and how they are operated is a key issue. In 2003 in Victoria, one vendor provided equipment that was found to be inaccurate. This led to negative publicity, suspension of camera use at three sites and reimbursement of fines and demerit points to about 90,000 motorists.⁷⁹

⁷⁴ A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 406.

⁷⁵ A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 405.

⁷⁶ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 26.

⁷⁷ A Jones, V Sauerzapf & R Haynes, 2008, 'The effects of mobile speed camera introduction on road traffic crashes and casualties in a rural county of England', *Journal of Safety Research*, vol. 39, no. 1, p. 101.

⁷⁸ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 3.

⁷⁹ A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 408.

55. Legal issues include the ability to identify the driver,⁸⁰ as well as whether the owner or the driver of a vehicle is responsible for the speeding violation.⁸¹ Some argue that speedometers may not be sufficiently accurate to keep detected speed within the enforcement tolerances or that speed cameras are a violation of civil liberties.⁸²
56. Some groups believe that speed cameras are unfair due to a failure to notify the offender immediately, lack of witnesses to the offence, and the lack of opportunity to explain the circumstances of the event on the spot to a police officer. Some people argue that cameras are located where it is safe to speed or that speed limits are set too low in the locations of the cameras. Although the opponents of speed cameras are a minority of the driving population, they can be very vocal and visible to politicians and the media.⁸³
57. The committee believes that all speed camera programs must be credible in order to maintain confidence in the program. The committee notes that the QPS has a practice of not proceeding with a traffic infringement notice if there is doubt regarding the offence. The committee supports this practice as it helps maintain the credibility and integrity of the CDOP.

Evaluation issues

58. The quality of evaluations of speed cameras is considered weak with most studies not having adequate control or discussion of potential confounders.⁸⁴ For example, most evaluations of fixed and mobile speed camera programs do not have satisfactory comparison groups or adequate control of potential confounders.⁸⁵ Regression to the mean effects, where reductions are attributed to an intervention, such as a fixed speed camera, but more accurately represent a regression of abnormally high levels to prior, more 'normal' levels, may also be an issue.⁸⁶ Most studies only controlled, or described a few, if any, other factors influencing the frequency of road crashes, such as, seasonality, time of day, changes in road design, speed limits, traffic volumes and levels of road safety publicity.⁸⁷
59. A further methodological issue is the reliance on statistical methods rather than effective research design for evaluations. This may be a cost issue given that good research design is more expensive and complicated to implement.⁸⁸
60. Evaluations need better vehicle exposure and traffic volume information over time, given the importance of taking into account changes in exposure when

⁸⁰ A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 405.

⁸¹ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 3.

⁸² A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 405.

⁸³ A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, pp. 405, 414.

⁸⁴ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 17; C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 27.

⁸⁵ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 16; P Pilkington & S Kinra, 'Effectiveness of speed cameras in preventing road traffic collisions and related casualties: Systematic review', *BMJ*, vol. 330, 2005, p. 332.

⁸⁶ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 17.

⁸⁷ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 27.

⁸⁸ W Harrison, 'What works in speed enforcement?', paper presented to the NRMA Insurance National Speed and Road Safety Conference, Adelaide, August 2001, p. 2.

analysing the effects of road safety programs. This is particularly important given that the studies available are of a quasi-experimental design, where the adequacy and appropriateness of comparison areas is often questionable. However, it is becoming more difficult, if not impossible, to find matching controls in some places, where the use of automatic enforcement is widespread and in use for significant periods.⁸⁹

61. Road safety interventions are often multifaceted with the introduction of speed cameras likely to have been accompanied by other road safety initiatives, such as traffic calming measures and education campaigns.⁹⁰ General changes in driver behaviour and attitudes may also make it difficult to evaluate the effects of speed cameras.⁹¹ Additionally, new enforcement strategies are implemented in conjunction with existing enforcement strategies meaning that the effects of the new strategy are not identified separately from the pre-existing enforcement methods.⁹² This makes it difficult to identify the exact contribution that speed cameras make to crash and injury reductions.
62. Very few studies report on the frequency of injury crashes for different categories of road users, including pedestrians, cyclists, motorcyclists and vehicle occupants. This makes it difficult to examine the effect of automatic enforcement on road trauma by road user category.⁹³
63. Despite the methodological limitations of the many evaluations of speed camera programs, the consistency of reported positive reductions in speed and crash outcomes across all studies show that speed enforcement detection devices are an effective intervention for reducing the number of road traffic crashes, injuries and deaths.⁹⁴ In order to address the methodological issues associated with speed camera evaluations, there is a need for further research that utilises more rigorous research designs.⁹⁵

Queensland's mobile speed camera program

64. Mobile speed cameras were introduced into Queensland prior to fixed speed cameras. At the time mobile speed cameras were introduced into Queensland, this type of camera was used in all Australian jurisdictions with the exception of Queensland and the Northern Territory.⁹⁶ The Transport

⁸⁹ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, pp. 27-28.

⁹⁰ P Pilkington & S Kinra, 'Effectiveness of speed cameras in preventing road traffic collisions and related casualties: Systematic review', *BMJ*, vol. 330, 2005, p. 333.

⁹¹ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 16.

⁹² W Harrison, 'What works in speed enforcement?', paper presented to the NRMA Insurance National Speed and Road Safety Conference, Adelaide, August 2001, p. 2.

⁹³ C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 28.

⁹⁴ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 4; C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 28; P Pilkington & S Kinra, 'Effectiveness of speed cameras in preventing road traffic collisions and related casualties: Systematic review', *BMJ*, vol. 330, 2005, p. 332.

⁹⁵ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 16; C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 28; P Pilkington & S Kinra, 'Effectiveness of speed cameras in preventing road traffic collisions and related casualties: Systematic review', *BMJ*, vol. 330, 2005, p. 332.

⁹⁶ P Lucas, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4497.

Legislation Amendment Bill was introduced into the Queensland Parliament on 13 November 1996. This Bill expanded the range of offences that could be detected by cameras, including speed. Prior to Parliament passing this legislation, the only offence that could be detected via camera was red light running.⁹⁷ The Bill was supported by both sides of the House.⁹⁸ The number of speed cameras currently used in Queensland is lower than many other Australian and overseas jurisdictions, particularly in the context of the size of our road network.⁹⁹

65. Queensland runs a modest speed camera program with 30 on-road cameras. The Queensland speed camera program is based on the random allocation of cameras to sites so that people become uncertain about where enforcement will occur.¹⁰⁰
66. An evaluation of Queensland's mobile speed camera program, which was first introduced in May 1997, found evidence that mobile speed cameras reduced crashes. The evaluation estimated that in 2005, all crashes within two kilometres of a speed camera site fell by 34 per cent. Fatal crashes and crashes that resulted in a hospitalisation or medical treatment being provided to an individual fell by 48 per cent. This reduction in crashes resulted in an estimated saving in costs for the community of \$2 billion.¹⁰¹

⁹⁷ V Johnson, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4004.

⁹⁸ J Elder, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4462.

⁹⁹ B Watson, Director, Centre for Accident Research and Road Safety – Queensland, 2010, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August, p. 2.

¹⁰⁰ M Stapleton, Executive Director, Road Safety, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 31.

¹⁰¹ S Newstead, *Evaluation of the Crash Effects of the Queensland Speed Camera Program in the Year 2005*, Monash University Accident Research Centre, Melbourne, August 2006, p. 2.

PART 3 – FIXED SPEED CAMERAS

67. A fixed speed camera is an automated device used to detect speeding.¹⁰² Fixed speed cameras operate remotely from a permanent single location at the roadside.¹⁰³ They can operate 24 hours a day, all days of the year.¹⁰⁴
68. Fixed speed cameras are effective at reducing speed at or near the enforcement location.¹⁰⁵ Therefore, they are generally used in areas with a high intensity of speed-related problems¹⁰⁶ to reduce crash risk where engineering solutions are not possible.¹⁰⁷ Fixed speed cameras may also help to detect the small number of high risk, serious repeat offenders.¹⁰⁸
69. The localised effects of fixed speed cameras make them most appropriate in places where there is a demonstrated crash history, or there is the potential for such a crash history to develop, and in locations where other types of enforcement is difficult. Enforcement may be difficult at these locations for practical or safety reasons.¹⁰⁹ Fixed speed cameras also allow police more time to carry out other duties, as the cameras do not require an operator.¹¹⁰
70. As well as Queensland, fixed speed camera programs operate in New South Wales, Victoria, Australian Capital Territory, Tasmania and Europe, including the United Kingdom.¹¹¹ Table 3 outlines the types of fixed speed cameras used in the various Australian states.

¹⁰² Queensland Department of Transport and Main Roads, *Fixed Speed Cameras*, Queensland Government, Brisbane, 2009, retrieved 16 February 2010, www.transport.qld.gov.au, p. 1.

¹⁰³ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 12; S Christie, R Lyons, F Dunstan & S Jones, 'Are mobile speed cameras effective? A controlled before and after study', *Injury Prevention*, vol. 9, 2003, p. 302.

¹⁰⁴ S Christie, R Lyons, F Dunstan & S Jones, 'Are mobile speed cameras effective? A controlled before and after study', *Injury Prevention*, vol. 9, 2003, p. 302.

¹⁰⁵ W Harrison, 'What works in speed enforcement?', NRMA Insurance National Speed and Road Safety Conference, Adelaide, August 2001, p. 5.

¹⁰⁶ D Soole, Assistant Project Officer, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 4.

¹⁰⁷ Queensland Government, *Submission No. 46*, 2010, p. 8.

¹⁰⁸ T Prenzler, *Submission No. 35*, 2010, p. 1.

¹⁰⁹ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 2; Queensland Government, *Submission No. 46*, 2010, p. 6.

¹¹⁰ Queensland Government, *Submission No. 46*, 2010, p. 6.

¹¹¹ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 12.

Table 3: Fixed speed cameras by Australian state, 2010

State	Fixed speed	Point-to-point	Red light/speed	Planned expansion
ACT	9	-	13	Point-to-Point proposed
NSW	141 locations, using 176 cameras	24 safe-t-cams (heavy vehicles)	50	Planning to upgrade to 200 red light/speed
NT	-	-	9	-
QLD	9 (plus Clem 7)	-	-	Intro digital tech in 2010: 1 x Point-to-Point, 2 x fixed speed, 2 x red light/speed
SA	-	-	71	Point-to-Point proposed
TAS	3	-	-	-
VIC	33	1 system	116	
WA	-	-	1	Point-to-Point proposed to provide travel time information only

Source: Queensland Government, Submission No. 46, 2010, p. 42.

71. Some jurisdictions in the United Kingdom are removing their fixed cameras due to concerns over their cost-effectiveness and a reduction in central government funding for cameras.¹¹² The town of Swindon in the UK turned off its fixed speed cameras in 2009,¹¹³ with a number of other counties announcing plans to turn off some or all their cameras.¹¹⁴

Introduction of fixed speed cameras in Queensland

72. Fixed speed cameras are one in an array of tools used by QPS to manage speed and enforce speed limits.¹¹⁵ QPS operated 30 fixed and mobile speed cameras during 2008-09. In the same period, QPS allocated 220,734 officer hours for non-camera on-road speed enforcement.¹¹⁶
73. Fixed speed cameras were introduced in Queensland in 2007.¹¹⁷ The Queensland Government hosted a Road Safety Summit in February 2006. One result of this summit was a commitment to improve road safety through the implementation of fixed speed cameras on Queensland roads. Fixed

¹¹² D Barrett, 'Speed Camera Switch Off Sees Fewer Accidents', The British *Telegraph*, 7 August 2010, retrieved 17 September 2010, <http://www.telegraph.co.uk/motoring/news/7931842/Speed-camera-switch-off-sees-fewer-accidents.html>

¹¹³ British Broadcasting Corporation, 'Town Ditches Fixed Speed Cameras', BBC News UK, 31 July 2009, retrieved 17 September 2010, http://news.bbc.co.uk/2/hi/uk_news/england/wiltshire/8177247.stm

¹¹⁴ British Broadcasting Corporation, 'Oxfordshire Speeding Increase After Cameras Turned Off', BBC News UK, 10 August 2010, retrieved 17 September 2010, <http://www.bbc.co.uk/news/uk-england-oxfordshire-10929488>; British Broadcasting Corporation, 'Lack of Police Funds Could End South West Speed Cameras', BBC News UK, 22 July 2010, retrieved 17 September 2010, <http://www.bbc.co.uk/news/uk-england-10733021>; The Mirror, 'Speed Camera Turn Off Starts', *The Mirror* UK, 2 August 2010, retrieved 17 September 2010, <http://www.mirror.co.uk/news/top-stories/2010/08/02/speed-camera-turn-off-starts-115875-22457737/>

¹¹⁵ I Stewart, Deputy Commissioner, Specialist Operations, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, pp. 28, 31.

¹¹⁶ Queensland Police Service, 'Annual Report 2008-09', Queensland Government, Brisbane, 2009, p. 67.

¹¹⁷ M Stapleton, Executive Director, Road Safety, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 31.

- speed cameras were introduced because of the evidence supporting their ability to deter drivers from speeding and reduce crashes at specific sites.¹¹⁸
74. In Queensland, fixed speed cameras are deployed in order to maximise the effect of the Queensland Government Camera Detected Offence Program (CDOP) and to complement the overall aim of this program, which is to create a general deterrent effect.¹¹⁹ General deterrence occurs when the public perceive that speed laws are enforced by QPS and that members of the public risk being detected and punished when they violate speed laws.
 75. DTMR and QPS deploy fixed speed cameras in accordance with internal *Fixed Speed and Red Light Camera Selection Guidelines*. The guidelines provide the principles, framework and process for matching high risk sites with appropriate fixed camera treatments in order to produce a safer road environment for Queensland road users.¹²⁰
 76. The first fixed speed cameras were introduced into south-east Queensland in 2007 at:
 - Bruce Highway at Burpengary (14 December 2007)
 - Main Street approach to Story Bridge at Kangaroo Point (14 December 2007)
 - Pacific Motorway at Tarragindi (22 February 2008).¹²¹
 77. An additional six speed camera sites were established in the regions with the worst road toll at that time (North Coast, South Eastern and Southern regions):
 - Gold Coast Highway at Broadbeach (31 August 2009)
 - Warrego Highway at Redwood (31 August 2009)
 - Gold Coast Highway at Labrador (28 September 2009)
 - Warrego Highway at Muirlea, Ipswich (24 December 2009)
 - Nicklin Way at Warana (24 February 2010)
 - Sunshine Motorway at Mountain Creek, Mooloolaba (24 February 2010).¹²²
 78. There are also two speed camera sites, in each direction of travel, in the Clem7 tunnel, which opened in March 2010.¹²³
 79. Digital technology was introduced into the CDOP in 2010. This has resulted in a wider range of fixed speed cameras, including 'spot' speed, combined red light/speed and point-to-point camera systems. QPS's digital implementation project team is currently installing and testing a small number of fixed digital cameras at sites around Brisbane:
 - two combined red light/speed camera locations: Waterworks Road and Jubilee Terrace, Ashgrove and Beaudesert and Compton Roads at Calamvale
 - two 'spot' fixed speed camera locations: Pacific Motorway, Loganholme and Gateway Arterial Road at Nudgee

¹¹⁸ Queensland Government, *Submission No. 46*, 2010, p. 6.

¹¹⁹ Queensland Government, *Submission No. 46*, 2010, p. 6.

¹²⁰ Queensland Government, *Submission No. 46*, 2010, p. 6.

¹²¹ Queensland Government, *Submission No. 46*, 2010, p. 6.

¹²² Queensland Government, *Submission No. 46*, 2010, p. 6.

¹²³ Queensland Government, *Submission No. 46*, 2010, p. 6.

- one point-to-point speed camera system: Bruce Highway, Caloundra Road to Wild Horse Mountain at Beerburrum.

80. These cameras are expected to become operational in late 2010.¹²⁴

Fixed speed camera evaluations

81. Evaluations of fixed speed camera programs have occurred in both Victoria and New South Wales. One study examined the impact of fixed speed cameras in enforcing speed limits in Melbourne's CityLink Domain Tunnel. This study found that these fixed speed cameras reduced the number of drivers exceeding the 80 km/hr speed limit by 66 per cent. Additionally, the proportion of drivers exceeding 90 kilometres and 110 kilometres were reduced by 79 per cent and 76 per cent respectively.¹²⁵
82. In 2005, an evaluation of the fixed digital speed camera program in New South Wales was conducted across 20 sites. The evaluation identified that these cameras reduced average speed by approximately 6 km/hr within the speed camera zone. Overall, there was a positive effect in reducing the number of vehicles exceeding the speed limit. Additionally, the evaluation found that there was a significant reduction of all reported crashes within camera zones and crashes involving casualties within camera zones.¹²⁶
83. Research on fixed speed cameras in New South Wales identified that drivers decrease speed on approach to, and passing, the cameras before increasing speed again when travelling away from the camera. Thus, the deterrent value and safety benefits of the speed cameras, because they only operate at one point, are limited to a total length of approximately 500 metres around each camera.¹²⁷
84. Evaluations of fixed speed cameras in the United Kingdom demonstrated significant decreases in the number of crashes that caused injuries near camera sites.¹²⁸ A review of the speed camera program in the United Kingdom that used three years of data from a substantial number of sites identified that there was a 71 per cent reduction in the number of vehicles exceeding the speed limit at fixed speed camera sites compared with 21 per cent at mobile speed camera sites. Additionally, the number of deaths and serious injuries fell by 51 per cent at fixed camera sites and by 28 per cent at mobile speed camera sites.¹²⁹
85. Another study, based on 62 fixed speed cameras at various locations with 30 mph speed limits throughout the United Kingdom, identified that cameras reduced injury crashes. This survey found that on 30 mph roads, mean speeds were reduced by an average 4.4 mph and a 35 per cent reduction of drivers exceeding the speed limit. Cameras were also found to have this impact within a kilometre of the camera site.¹³⁰

¹²⁴ Queensland Government, *Submission No. 46*, 2010, p. 6.

¹²⁵ M Cameron & A Delaney, *Development of strategies for best practice in speed enforcement in Western Australia: Final Report*, Monash University Accident Research Centre, Melbourne, 2006, p 16.

¹²⁶ ARRB Group Project Team, *Evaluation of the fixed digital speed camera program in NSW*, ARRB Group, Sydney, 2005, pp. 42-44.

¹²⁷ NSW Centre for Road Safety, *Submission No. 29*, 2010, p. 1.

¹²⁸ A Hooke, LJ Knox & D Portas, 'Cost benefit analysis of traffic light and speed cameras', *Police Research Series*, Paper 20, Home Office London, 1996, p. vi.

¹²⁹ A Gains, B Heydecker, J Shrewsbury & S Robertson, 'The National Safety Camera Program – Three-year evaluation report', PA Consulting Group, London, 2004, pp. 5-6.

¹³⁰ L Mountain, W Hirst & J Maher, 'Costing lives or saving lives: a detailed evaluation of the impact of speed cameras', *Traffic Engineering and Control*, vol. 45, no. 8, 2004, pp. 280-287.

86. A study of a trial fixed speed camera program implemented in Scottsdale, Arizona found evidence that fixed speed cameras reduced average speeds and the incidence of most crash types. The introduction of six cameras along an eight mile stretch of freeway was found to have reduced mean speeds and decreased the odds of vehicles exceeding the speed limit by 88 per cent.¹³¹ A further review of the program found that average speeds had been reduced by 9 mph and there had been a reduction in all crash types except rear-end crashes.¹³² A study into the effectiveness of fixed speed cameras in Barcelona found that they reduced crashes for medium to high speed roads, although, their effectiveness on roads with lower speed limits and traffic lights was not demonstrated in this study.¹³³
87. As well as reducing crashes, fatalities and injuries, fixed speed cameras should enhance compliance with the law. Given that non-compliance to traffic laws can be intimidating, stressful and inconvenient for other drivers, this is an additional reason to use this enforcement tool.¹³⁴
88. The committee notes the general evidence in support of the use of fixed speed cameras despite the fact that there may be some limitations with individual research methodology. Results in Queensland are likely to differ, given the different criteria used to select fixed speed camera sites. The committee notes that Australia has more stringent site selection criteria that generally require fixed speed cameras be deployed in black spots.¹³⁵
89. The committee supports the continued use of fixed speed cameras in Queensland. The fixed speed camera program in Queensland should continue to be based on research evidence and best practice policy.

Economic evaluation of fixed speed cameras

90. Deaths and injuries caused by road crashes result in significant social and economic costs. It has been estimated by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) that \$3.5 billion was lost in 2006 to road traffic crashes in Queensland. The BITRE definition of social costs includes: human costs, loss of life, treatment of injuries and ongoing care of persons with disabilities, property costs and general costs.¹³⁶
91. In order to reduce road trauma the Queensland Government has invested in a fixed speed camera program. It is important to evaluate this investment to assess whether it generates a net economic benefit to the community and to provide a comparison against other forms of speed enforcement.¹³⁷ This evaluation would assess whether the benefits of investing in fixed speed cameras (reduction in social costs) outweighs their costs. The relevant costs include: the costs of purchasing, installing, operating and maintaining the

¹³¹ RA Retting, SY Kyrychenko & AT McCart, 'Evaluation of automated speed enforcement on Loop 101 freeway in Scottsdale, Arizona', *Accident Analysis and Prevention*, vol. 40, 2008, p. 1506.

¹³² S Kangwon, SP Washington & I van Schalkwyk, 'Evaluation of the Scottsdale Loop 101 automated speed enforcement demonstration program', *Accident Analysis and Prevention*, vol. 41, 2009, p. 393.

¹³³ A Nova, K Perez, E Sanatamarina-Rubio, M Mari-Dell'Olmo & A Tobias, 'Effectiveness of speed enforcement through fixed speed cameras: A time series study', *Injury Prevention*, vol. 16, 2010, p. 16.

¹³⁴ T Prenzler, *Submission No. 35*, 2010, p. 1.

¹³⁵ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 18.

¹³⁶ Bureau of Infrastructure, Transport and Regional Economics, *Road crash costs in Australia 2006*, Report 118, Canberra, November 2009, p 83.

¹³⁷ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, p 42

equipment, and offence processing costs incurred by the QPS' Traffic Camera Office (TCO).

92. Due to the time taken to compile crash statistics, an evaluation of Queensland's fixed camera program has yet to be undertaken. However, the detection rates at most fixed speed camera sites, particularly those sites that have operated for a significant length of time, are falling.¹³⁸
93. Existing research from other jurisdictions, however, indicates that fixed speed cameras are effective in reducing crashes at the camera site and delivering a positive net economic benefit. Table 4 presents the findings of a number of studies of the effectiveness of fixed speed cameras in terms of reducing casualty crashes and the benefit cost ratio of the program.

Table 4: Key study summaries: effectiveness of fixed speed cameras

Report and fixed speed camera program evaluated	Size of program Evaluated	Reduction in casualty crashes	Benefit cost ratio of program
Hooke et al (1996)	475 sites mostly fixed speed camera serviced by up to 102 camera in 10 Police Regions in the United Kingdom	28 per cent	3.4
Gains (2005)	4000 sites in 38 partnership areas in the United Kingdom	24 per cent	2.7 (4 th year)
ARRB (2005)	First 28 sites in New South Wales	23 per cent	3.5 to 3.6 (depending on the program life assumed)

Source: Adapted from MH Cameron & A Delaney, 'Development of strategies for best practice in speed enforcement in Western Australia: Final report', report presented to Department of the Premier and Cabinet, Office of Road Safety, Western Australia, Report No. 270, Monash University Accident and Research Centre, September 2006, p. 42.

NB: Appendix G contains the full references of each citation in this table.

94. Hooke, Knox and Portas noted that crashes fell by 28 per cent at speed camera sites and concluded 'that the investment of £5.3 million to install speed cameras generated a return of five times this amount in terms of casualty prevention after one year and more than 25 times the amount after 5 years'.¹³⁹ Similarly, a report on the Cost Recovery Program in the United Kingdom by Gains, Nordstrom, Heydecker and Shrewsbury indicated that there was a 22 per cent reduction in the number of personal injury collisions and that the program generated a positive benefit cost of around 2.7:1.¹⁴⁰
95. An ARRB evaluation of the NSW fixed speed camera program identified that speed cameras resulted in a 23 per cent reduction of casualty crashes and a benefit cost ratio of between 3.4-3.5 depending on the program life assumed.¹⁴¹
96. The committee concludes that, based on previous studies, it would be reasonable to assume that an evaluation of fixed camera sites in Queensland would result in a positive economic benefit. Studies in other jurisdictions

¹³⁸ Queensland Government, *Submission No. 46*, 2010, pp. 11, 36-39.

¹³⁹ A Hooke, LJ Knox & and D Portas, 'Cost benefit analysis of traffic light and speed cameras. Police Research Series', Paper 20, Home Office London, 1996, p. 34.

¹⁴⁰ A Gains, M Nordstrom, B Heydecker & J Shrewsbury, *The national safety camera programme: four year evaluation report*, PA Consulting Group and University College London, London, 2005, pp. 6, 83.

¹⁴¹ ARRB, *Evaluation of the fixed digital speed camera program in NSW*, RC2416, 2005, p. 46.

indicate that for every dollar spent on fixed speed cameras by government, the community is saved between \$2.70 and \$3.60 in road trauma costs.

97. However, the committee believes that an evaluation of the benefit of fixed speed cameras to the Queensland community is warranted. Any evaluation should consider how the effectiveness of the program is affected by location criteria, the type of camera, publicity of the CDOP, crashes, changes to driver behaviour around the camera site, economic benefits and educational initiatives. This will allow comparison with other speed enforcement measures, such as covert speed detection.

Recommendation 2:

The committee recommends that the Queensland Government undertakes a comprehensive evaluation of the fixed speed camera program.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

PART 4 – ELEMENTS OF A FIXED SPEED CAMERA PROGRAM

Signage

98. The approaches to fixed speed camera locations can be signed. It appears that the presence of a sign identifying that a speed camera is ahead can affect the number of drivers speeding through that location. For instance, a survey that measured the impact of cameras on residential streets in Montgomery County, Virginia in the United States found that the proportion of drivers travelling more than 10 mph over the speed limit decreased by 70 per cent on streets with both warning signs and speed cameras, 39 per cent at sites with a sign but no camera, and 16 per cent without signage or a speed camera.¹⁴² However, the impact of camera signage on road safety has not been the subject of significant academic research, possibly due to the presence of many confounding factors.¹⁴³ As shown in Table 5, different signage practices are used in different Australian states.

Table 5: Interstate comparison of speed and red light camera signage

STATE	SITE-SPECIFIC SIGNS	GENERAL SIGNS
ACT	'RED LIGHT AND SPEED CAMERA AHEAD' signs at intersections with speed/red light cameras	'SPEED AND RED LIGHT CAMERAS USED IN THE ACT' used at major state border entry points
NEW SOUTH WALES	Each fixed speed camera has three signs 'SPEED CAMERA 24 HOURS', 'SPEED CAMERA AHEAD' and 'HEAVY FINES, LOSS OF LICENCE' Each red light/speed camera location signed on approach 'SAFETY CAMERA AHEAD'	-
QUEENSLAND	Each fixed speed camera has two signs 'SPEED CAMERA 24 HOURS', 'SPEED CAMERA AHEAD'; trial of advisory signs at 8 red light camera intersections currently under way	'SPEED CAMERAS ARE USED IN THIS AREA' and 'SPEED AND RED LIGHT CAMERA SIGNS ARE USED IN QUEENSLAND'
SOUTH AUSTRALIA	'SAFETY CAMERA AHEAD' signs erected at each approach to red light camera (some older signs read 'RED LIGHT AND SPEED CAMERA AHEAD')	-
TASMANIA	'PERMANENT SPEED CAMERA AHEAD' signs on approach to fixed speed camera; 'RED LIGHT AND SPEED CAMERA AHEAD' signs at intersections with speed/red light cameras	'RED LIGHT AND SPEED CAMERAS OPERATE IN THIS STATE' signs on highways
VICTORIA	'ROAD SAFETY CAMERAS OPERATE IN THIS AREA' sign erected in areas where fixed speed, red light, speed/red light or point-to-point speed cameras are used	'SPEED AND RED LIGHT CAMERAS OPERATE THROUGHOUT VICTORIA' used at major state border entry points
WESTERN AUSTRALIA	-	'SPEED CAMERAS ARE USED IN WESTERN AUSTRALIA'

Source: Queensland Government, *Submission No. 46, 2010*, p. 25.

¹⁴² RA Retting, CM Farmer & AT McCartt, 'Evaluation of Automated Speed Enforcement in Montgomery County, Maryland,' *Traffic Injury Prevention*, vol. 9, 2008, p. 444.

¹⁴³ Queensland Government, *Submission No. 46, 2010*, p. 10.

99. The signage policy for fixed speed cameras in Queensland was established in 2007 prior to the installation of the first fixed speed cameras. The policy provides for prominent advisory signs at fixed speed camera locations. The purpose of the signs is to:
- discourage speeding at the fixed speed camera site in order to improve compliance with speed limits and reduce crashes at these locations
 - increase public awareness of the use of fixed speed cameras and contribute to the perception that road users who travel above posted speed limits will be caught and penalised.¹⁴⁴
100. The *Transport Operations (Road Use Management) Act 1995* does not refer to signage for fixed speed cameras. The signs are advisory in nature and do not affect the ability of fixed speed camera detections to be prosecuted.¹⁴⁵
101. Currently, motorists should pass two signs with a minimum of one sign alerting them to the presence of fixed speed cameras. The sign specifications have recently been changed to remind drivers that the cameras are 'for road safety'. Queensland also uses general signage, particularly at state borders, to alert motorists that speed and red light cameras operate in Queensland.¹⁴⁶ Signage should not cause additional distractions.¹⁴⁷
102. Given that the Queensland Government is trialling new types of fixed speed cameras, such as combined red light and speed cameras and point-to-point cameras, and the fact that the impact of signage on road safety and speeding has not yet been analysed in Queensland, the signage policy is currently under review.¹⁴⁸ This review will consider research and best practice from Australia and overseas with a view to maximising the road safety effectiveness of fixed speed (and red light) cameras in Queensland. It will also take into account new technologies, such as in-vehicle navigation systems that advise drivers of the presence of fixed speed cameras.¹⁴⁹
103. Support for signed fixed speed cameras amongst submitters to the committee's inquiry was mixed. Several submitters were in favour of signed fixed speed cameras,¹⁵⁰ while others did not support signs for fixed speed cameras.¹⁵¹ The committee notes that both LGAQ and IPWEAQD recommend clearer signage, in conjunction with fixed speed cameras, to increase the number of drivers that are deterred from driving above the posted speed limit.¹⁵²
104. The committee supports the use of signs that advise drivers of the presence of fixed speed cameras. The committee considers that these signs play an

¹⁴⁴ Queensland Government, *Submission No. 46*, 2010, p. 10.

¹⁴⁵ Queensland Government, *Submission No. 46*, 2010, p. 10.

¹⁴⁶ Queensland Government, *Submission No. 46*, 2010, p. 10.

¹⁴⁷ Roadsense, *Submission No. 33*, 2010, p. 3.

¹⁴⁸ Queensland Government, 2010. *Submission No. 46*, p. 10.

¹⁴⁹ Queensland Government, *Submission No. 46*, 2010, p. 10.

¹⁵⁰ Road Accident Action Group, *Submission No. 30*, 2010, p. 1; T McRae, *Submission No. 5*, 2010, p. 1; P Caldwell, *Submission No. 10*, 2010, p. 1; C Sinclair, *Submission No. 13*, 2010, p. 1; S Smerdon, *Submission No. 16*, 2010, p. 1; Roadsense, *Submission No. 33*, 2010, p. 3; Redland City Council, *Submission No. 37*, 2010, p. 1; Royal Automobile Club of Queensland, *Submission No. 42*, 2010, pp. 7-8.

¹⁵¹ J Underwood, *Submission No. 8*, 2010, p. 1; N Heywood, *Submission No. 12*, 2010, p. 1; S Durston, *Submission No. 17*, 2010, p. 1; C Hendry, *Submission No. 26*, 2010, p. 2; D Calvert, *Submission No. 27*, 2010, p. 1; T Kelly, *Submission No. 47*, 2010, p. 1.

¹⁵² Local Government Association of Queensland, *Submission No. 34*, 2010, p. 2; Institute of Public Works Engineering Australia Queensland Division Inc., *Submission No. 48*, 2010, p. 1.

important role in encouraging drivers to reduce their speed, particularly in locations that have a history of crashes or the potential for crashes. However, given the Queensland Government is reviewing the signage policy, the committee will not make any recommendations regarding signage for fixed speed cameras.

Camera equipment

105. There are a number of different types of cameras that can be used to detect speed at a location. The use of different types of cameras can create issues when considering the processing of speed and other infringements, as well as maintaining the system. In South Australia, the Department for Transport, Energy and Infrastructure uses an open tender process to purchase new cameras. This means that every new batch of cameras may be from a different vendor, as well as a different make and model. This requires multiple support arrangements with vendors and repairers, as well as a greater investment in spare parts and testing apparatus, technical training for staff and various back office support solutions. Once the fixed speed cameras have been tested and commissioned, they then become assets owned by South Australian Police who then maintain, manage and operate the cameras.¹⁵³
106. Queensland is currently trialling a number of camera types for different situations. The first round of fixed speed cameras (those introduced in late 2007 and early 2008) were from an existing vendor. An open tender process is now being used to purchase digital fixed speed cameras. As part of this process, QPS states the required specifications, including the data required and how they want the data delivered.¹⁵⁴ With the digital proof-of-concept cameras, there are two types of combined red-light and speed cameras from two different vendors. With point-to-point there is only one in the proof of concept range and with fixed speed cameras there are three different types and three different vendors.¹⁵⁵
107. The committee notes that QPS is currently trialling a number of fixed speed camera types and vendors. The committee believes that it is important to consider a range of factors when selecting the most appropriate fixed speed camera. This includes initial purchase cost, costs associated with altering the environment to ensure the most effective operation of the camera, recurring maintenance costs, ease of transmission of data to the TCO, reliability of the camera and the way that the camera data fits with the Queensland Government processing systems.

¹⁵³ South Australia Police, *Submission No. 40*, 2010, p. 2.

¹⁵⁴ I Stewart, Deputy Commissioner, Specialist Operations, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 30.

¹⁵⁵ A Hales, Officer in Charge, Traffic Camera Office, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 30.

Recommendation 3:

The committee recommends that the Queensland Government, when selecting a fixed speed camera model for use in Queensland, considers the initial purchase cost, costs associated with altering the road environment to ensure the camera's optimal operation, recurring maintenance costs, ease of transmission of data to the Traffic Camera Office, reliability of the camera and the way that the camera data fits with the Queensland Government processing systems for offences.

Ministerial Responsibility: Minister for Police, Corrective Services and Emergency Services

Penalties for speed camera detected offences

108. In Queensland, the penalty for being caught speeding by a camera varies by the amount over the speed limit that the driver is detected travelling at. As shown in Table 6, a driver that is detected speeding up to 12 km/hr above the posted speed limit is allocated one demerit point and is fined \$133.00. A driver that is detected driving over 40 km/hr above the posted speed limit is allocated 8 demerit points and fined \$933.00. They also receive a six month licence suspension.¹⁵⁶ QPS does not withdraw a speeding fine, or offer a warning, to drivers that have a good driving record.¹⁵⁷
109. Camera detected offences may allow other people, who were not driving, to accumulate the demerit point penalty. Individuals that have been caught speeding may have a family member with ample demerit points that declares they were speeding at the time of the offence and therefore receives the penalty. Alternatively, points are sometimes exchanged with non-family members in return for a payment.¹⁵⁸
110. The monetary penalty for an organisation is significantly higher than that for individuals.¹⁵⁹ The acceptance of a higher fine in lieu of not identifying the driver of a vehicle can be interpreted as evidence of government revenue raising.¹⁶⁰ However, the increased monetary penalty provides an incentive for organisations to identify the driver of the vehicle. According to the Queensland Government, this system works well in the majority of cases, although, there are some issues in identifying the drivers of vehicles in organisations where the driver rotates through the vehicle.¹⁶¹

¹⁵⁶ Queensland Police Service, *Information on Infringement Notices Issued for Speed and Red Light Camera Detected Offences*, Queensland Police Service, Brisbane, nd, p. 2, retrieved 15 September 2010,

<http://www.police.qld.gov.au/Resources/Internet/programs/roadSafety/documents/Introduction.pdf>.

¹⁵⁷ Queensland Police Service, *Demerit Points, Penalties and Issuing of a Warning*, Queensland Police Service, Brisbane, nd, p. 1, retrieved 15 September 2010, <http://www.police.qld.gov.au/Resources/Internet/programs/roadSafety/documents/demeritPtsPenaltyIssueWarn.pdf>.

¹⁵⁸ J Fleiter, A Lennon, & B Watson, 'Choosing not to speed: A qualitative exploration of differences in perceptions about speed limit compliance and related issues', paper presented to the Australasian Road Safety Research, Policing and Education Conference, Melbourne, 17 – 19 October 2007, p. 7.

¹⁵⁹ Queensland Police Service, *Information on Infringement Notices Issued for Speed and Red Light Camera Detected Offences*, Queensland Police Service, Brisbane, nd, p. 2, retrieved 15 September 2010, <http://www.police.qld.gov.au/Resources/Internet/programs/roadSafety/documents/Introduction.pdf>.

¹⁶⁰ J Fleiter, A Lennon, & B Watson, 'Choosing not to speed: A qualitative exploration of differences in perceptions about speed limit compliance and related issues', paper presented to the Australasian Road Safety Research, Policing and Education Conference, Melbourne, 17 – 19 October 2007, p. 8.

¹⁶¹ M Stapleton, Executive Director, Road Safety, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 32.

Table 6: Speed camera detected offence penalties, Queensland

Office bracket	Demerit point allocation	Monetary penalty (individual)	Licence suspension period	Monetary penalty (organisation)
Up to 12 km/hr	1 point	\$133.00	Nil	\$ 666.00
13 – 20 km/hr	3 points	\$200.00	Nil	\$1000.00
21 – 30 km/hr	4 points	\$333.00	Nil	\$1666.00
31 – 40 km/hr	6 points	\$466.00	Nil	\$2333.00
Over 40 km/hr	8 points	\$933.00	6 months	\$4666.00
Red light	3 points	\$300.00	Nil	\$1500.00

NB: Double demerit points for drivers detected travelling more than 20 km/hr over the speed limit more than once in 12 months.

Source: Queensland Police Service, *Information on Infringement Notices Issued for Speed and Red Light Camera Detected Offences*, Queensland Police Service, Brisbane, nd, p. 2, retrieved 15 September 2010, <http://www.police.qld.gov.au/Resources/Internet/programs/roadSafety/documents/Introduction.pdf>

111. As shown in Table 7, most infringement notices (58.1 per cent) issued are for speeding offences that occur when the driver is travelling up to 12 km/hr over the posted speed limit. Very few infringement notices (0.3 per cent) are issued for those that travel more than 40 km/hr over the speed limit.

Table 7: Infringements issued by fixed speed camera penalty bracket, Queensland, 2008

Penalty bracket **	Up to 12 km/hr	13-20 km/hr	21-30 km/hr	31-40 km/hr	More than 40 km/hr	Total
Number of fixed speed camera infringements	41,933	26,264	3,362	437	182	72,178
Per centage	58.1	36.3	4.7	0.6	0.3	100

Source: Department of Transport and Main Roads, *Annual Report 2008-09*, Queensland Government, Brisbane, vol. 1, September 2009, p. 122.

112. The committee notes that there are mixed research results regarding the impact of increasing penalties for traffic offences.¹⁶² Research has suggested that the primary focus of enforcement should be on increasing the perception that offenders will be caught, rather than the severity of penalties.¹⁶³ One study identified that a single speeding citation has limited effects on changing a driver's likelihood of receiving subsequent speeding citations.¹⁶⁴
113. The committee notes that CARRS-Q at the Queensland University of Technology is currently undertaking a research project with other partner organisations examining the penalty change that occurred in Queensland in 2003 when demerit point and monetary fine penalties were increased for

¹⁶² J Fleiter, Senior Research Officer, Centre for Accident Research and Road Safety - Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 7.

¹⁶³ D Zaal, *Traffic Law Enforcement: A Review of the Literature*, Report No. 53, Monash University Accident Research Centre, Melbourne, 1994, p. vii; S Lawpoolsri, J Li & E Braver, 'Do speeding tickets reduce the likelihood of receiving subsequent speeding tickets? A longitudinal study of speeding violators in Maryland', *Traffic Injury Prevention*, vol. 8, no. 1, 2007, p. 32.

¹⁶⁴ S Lawpoolsri, J Li & E Braver, 'Do speeding tickets reduce the likelihood of receiving subsequent speeding tickets? A longitudinal study of speeding violators in Maryland', *Traffic Injury Prevention*, vol. 8, no. 1, 2007, p. 31.

speeding.¹⁶⁵ Given this research project is currently occurring, the committee will not make a recommendation regarding increased penalties.

Fixed speed camera website

114. Research suggests that it is important, when introducing speed camera programs, that governments communicate the dangers of high speeds in terms of increased injury risk and increased crash risk, articulate the rationale for speed cameras and how they are being used, the likelihood of detection and associated penalties, and ensure reliable equipment and operating procedures.¹⁶⁶ The Victorian Government, on their website *Cameras Cut Crashes* (www.justice.vic.gov.au/camerascutcrashes), provides information regarding speed and speed cameras.¹⁶⁷ The website includes information about camera location and compliance certificates.¹⁶⁸
115. In its submission, RACQ recommended that the Queensland Government maintains and creates a website that contains details of the locations and types of fixed speed cameras, including combined red light and speed cameras, in Queensland. The RACQ suggested that the website should contain statistics to justify the installation of the camera at that location¹⁶⁹ and research regarding the impact of fixed speed cameras.¹⁷⁰ The RACQ believes that this website could be one tool to help improve public acceptance of the speed camera program.¹⁷¹
116. The committee concludes that a website regarding speed cameras, and speeding more generally, is one tool that can be used to encourage wider public acceptance of the speed camera program. This website should contain the location of each fixed speed camera, including combined red light and speed cameras, as well as the reasons for placing cameras at those locations, such as the crash history or potential to develop a crash history. More general information regarding speeding should also be placed on the website. A link to the website should be provided on all speed camera infringement notices.

Recommendation 4:

The committee recommends that the Queensland Government creates and maintains a website that contains the location of each fixed speed camera, including combined red light and speed cameras, as well as the reasons for placing cameras at each of these locations, such as the crash history or potential to develop a crash history on each site. The website should also contain more general information regarding speeding.

Ministerial Responsibility: Minister for Transport

¹⁶⁵ J Fleiter, Senior Research Officer, Centre for Accident Research and Road Safety - Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 7.

¹⁶⁶ A Delaney, H Ward, M Cameron, & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 413.

¹⁶⁷ J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 11.

¹⁶⁸ Victorian Government, *Cameras Cut Crashes*, Victorian Government, Melbourne, 2010, retrieved 17 September 2010, www.justice.vic.gov.au/camerascutcrashes.

¹⁶⁹ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, p. 9.

¹⁷⁰ J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 11.

¹⁷¹ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, p. 9.

Recommendation 5:

The committee recommends that the Queensland Government provides a link to the proposed fixed speed camera website on all speed camera infringement notices.

Ministerial Responsibility: Minister for Police, Corrective Services and Emergency Services

PART 5 – LOCAL GOVERNMENT-CONTROLLED ROADS

117. Road safety is an important issue for local governments with local governments managing over 156,000 km of the approximate 180,000 km road network in Queensland.¹⁷² Between 2000 and 2009, the road toll on local government-controlled roads increased by 29.9 per cent, while the toll on state-controlled roads decreased by 9 per cent. During this same period, 41 per cent of all fatal crashes in Queensland occurred on local government-controlled roads. More than 54 per cent of all crashes in Queensland that resulted in hospitalisation or medical treatment occurred on local government-controlled roads.¹⁷³
118. The LGAQ represents local governments on road safety issues as a member of the Roads Alliance, which also has DTMR, QPS and RACQ as members.¹⁷⁴ Through the Roads Alliance, local governments were involved in the establishment of multi-agency road safety partnership projects in the Moreton Bay, Sunshine Coast and Toowoomba Regional Council areas.¹⁷⁵
119. Recently, LGAQ established the Queensland Road Safety Partnership Steering Committee with DTMR, and other road safety stakeholders, to improve the collaboration between state and local road owners in an effort to promote road safety on the overall road system.¹⁷⁶ Local governments also participate in road safety issues as members of local Speed Management Advisory Committees (SMAC).¹⁷⁷

Support for fixed speed cameras

120. On behalf of their members, LGAQ and the IPWEAQD support the use of fixed speed cameras on state- and local government-controlled roads as part of a suite of Queensland's speed enforcement strategies.¹⁷⁸ Other speed management strategies supported include behavioural campaigns to improve road safety, development of infrastructure, and ensuring the appropriate road design.¹⁷⁹

Local government involvement in fixed speed camera site selection

121. Fixed speed cameras are installed on both local government- and state-controlled roads, as long as the location satisfies the road safety risk

¹⁷² Local Government Association of Queensland, *Submission No. 34*, 2010, p. 1 and Institute of Public Works Engineering Australia Queensland Division Inc., *Submission No. 48*, 2010, p. 1.

¹⁷³ Local Government Association of Queensland, *Submission No. 34*, 2010, p. 1 and Institute of Public Works Engineering Australia Queensland Division Inc., *Submission No. 48*, 2010, p. 1.

¹⁷⁴ Local Government Association of Queensland, 2010, *Submission No. 34*, p. 2.

¹⁷⁵ G Hoffman, Director of Policy and Representation, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 20.

¹⁷⁶ Local Government Association of Queensland, 2010, *Submission No. 34*, p. 2.

¹⁷⁷ Queensland Police Service, *Speed Detection*, December 2009, retrieved 7 September 2010, http://www.police.qld.gov.au/rti/published/policies/traffic-manual/06/Ch_06_PT1.htm#06_03_08; I Stewart, Deputy Commissioner, Specialist Operations, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 37.

¹⁷⁸ Local Government Association of Queensland, *Submission No. 34*, 2010, p. 2; Institute of Public Works Engineering Australia Queensland Division Inc., *Submission No. 48*, 2010, p. 1; D Stewart, Director-General, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 31.

¹⁷⁹ J Deller, Institute of Public Works Engineering Australia Queensland Division, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 24.

- criteria.¹⁸⁰ Currently, of the nine fixed speed cameras in operation, two are located on local government-controlled roads at Main Street, Kangaroo Point and Nicklin Way, Warana.¹⁸¹
122. The criteria for determining fixed speed camera site selection is based on the Queensland Government's *Fixed Speed and Red light Camera Site Selection Guidelines* and evidence from DTMR's crash history (proven risk) and crash potential (assessed risk) data.
 123. Speed camera sites are chosen to maximise improvements in road safety.¹⁸² The data includes all speed related crashes. DTMR provides maps displaying the location of these crashes to QPS with a number of crashes grouped together within a zone. According to QPS policy, speed camera sites may be established on any road within the zone.¹⁸³
 124. This information is then provided to local SMACs, which generally include representatives from QPS (Chair), DTMR, local authorities, and RACQ. Based on the crash history data, SMACs then determine where speed cameras are located.¹⁸⁴
 125. However, deploying a fixed speed camera only occurs as a last enforcement measure when it is unsuitable, unsafe or ineffective to enforce speed limits by mobile cameras, handheld speed devices or police patrol.¹⁸⁵ The committee notes that approval from the executive management of DTMR and QPS is required first when determining the necessity for a fixed speed camera because of the costs involved with their installation and maintenance.¹⁸⁶ In this way, SMACs are involved in the initial consultation process to rule out the use of a mobile speed camera treatment and in the final process when the recommendation for a fixed speed camera site is submitted to a SMAC for endorsement.¹⁸⁷
 126. This process is similar in other Australian states. For example, in Victoria the location of mobile and fixed speed camera sites is the responsibility of Victoria Police. However, as in Queensland, Victoria's Traffic Management Units must consult with their local Community Road Safety Council when approving mobile speed camera sites. All Community Road Safety Councils have a police member.¹⁸⁸ It is, however, unclear how involved the Community Road Safety Councils are in determining fixed speed camera sites.

¹⁸⁰ Local Government Association of Queensland, 2010, *Submission No. 34*, p. 2.

¹⁸¹ Queensland Government, *Submission No. 46*, 2010, p. 6; A Hales, Inspector, Officer in Charge, Traffic Camera Office, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 37.

¹⁸² Queensland Government, 2010, *Submission No. 46*, pp. 8, 14.

¹⁸³ Queensland Police Service, *Speed Detection*, December 2009, retrieved 7 September 2010, http://www.police.qld.gov.au/rti/published/policies/traffic-manual/06/Ch_06_PT1.htm#06_03_08.

¹⁸⁴ Queensland Police Service, *Speed Detection*, December 2009, retrieved 7 September 2010, http://www.police.qld.gov.au/rti/published/policies/traffic-manual/06/Ch_06_PT1.htm#06_03_08; I Stewart, Deputy Commissioner, Specialist Operations, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 37.

¹⁸⁵ Queensland Government, *Submission No. 46*, 2010, pp. 9, 14.

¹⁸⁶ Hales, A. Inspector, Officer in Charge, Traffic Camera Office, Queensland Police Service, 2010, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August, p. 37.

¹⁸⁷ A Hales, Inspector, Officer in Charge, Traffic Camera Office, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 37; Local Government Association of Queensland, *Submission No. 34*, 2010, p. 2.

¹⁸⁸ Victorian Auditor-General's Office, *Making travel safer: Victoria's speed enforcement program*, July 2006, retrieved 17 September 2010, http://download.audit.vic.gov.au/files/road_safety_report.pdf, p. 59.

127. In New South Wales, the criteria for selecting fixed speed camera sites was developed by the Roads and Traffic Authority, in consultation with the New South Wales Police Service and NRMA Motoring and Services. Site selection is based on crash analysis, speed data and an inspection of the site by the Roads and Traffic Authority. Details are then forwarded to New South Wales Police for formal endorsement of the site.¹⁸⁹
128. Currently in Queensland, DTMR is developing an evaluation framework that incorporates the introduction of fixed speed cameras and the site selection process. That evaluation is planned for when sufficient data is available.¹⁹⁰
129. The committee notes the concerns of LGAQ regarding the involvement of local councils in selecting sites in their regions for fixed speed cameras. LGAQ stated in its submission and during the public hearing that they would like a full partnership approach to site assessments and in the process of identifying and recommending a fixed speed camera site.¹⁹¹
130. The committee also notes RACQ's support for the openness and accountability of the mobile speed camera program and believes that it provides a good model for the introduction of any future programs, such as the fixed speed camera program. The RACQ also suggests more active involvement on its part in the fixed speed camera program in order to be able to help promote public acceptance and understanding of fixed speed cameras.¹⁹²
131. The committee concludes that the current process, which involves local councils and RACQ through SMACs, provides councils and RACQ with an opportunity to raise any speed-related issues with DTMR and QPS. The committee also anticipates the results from the evaluation of the introduction of the fixed speed camera program to highlight ongoing concerns in the area of consultation.
132. However, the committee recommends that the Queensland Government provides clearer information to local governments, the LGAQ and local road safety advisory committees on the criteria for selecting fixed speed camera sites and undertakes more consultation during the site selection process to ensure local knowledge, as well as evidence-based data, is used to inform decisions on site selection. As RACQ has suggested, this will help promote public acceptance and understanding of fixed speed cameras.

¹⁸⁹ New South Wales Roads and Traffic Authority, *Submission No. 29*, 2010, pp.1, 2.

¹⁹⁰ Minister for Transport, personal correspondence, 1 July 2010, p. 2.

¹⁹¹ Local Government Association of Queensland, *Submission No. 34*, 2010, p. 2; G Hoffman, Director of Policy and Representation, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 21; R Michael, Principal Advisor, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 22.

¹⁹² J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 11.

Recommendation 6:

The committee recommends that the Queensland Government provides clearer information to local governments, the Local Government Association of Queensland and local road safety advisory committees on the criteria for selecting fixed speed camera sites and undertakes more consultation during the site selection process to ensure local knowledge, as well as evidence-based data, is used to inform decisions on site selection and promote greater public acceptance and understanding of fixed speed cameras.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

Fixed speed cameras on low speed roads

133. Fixed speed cameras are currently only deployed on roads with speed limits of 60 km/hr or more.¹⁹³ However, LGAQ and IPWEAQD state that the policy to deploy fixed speed cameras on roads with speed limits less than 60 km/hr needs to be reviewed, as many local government-controlled roads have speed limits lower than this and these roads may require special speed enforcement strategies.¹⁹⁴
134. An example of this is school zones that have designated 40 km/hr speed limits. LGAQ and IPWEAQD suggest that while crash potential data looks at risk factors that are likely to result in crashes, such as characteristics of the road and road infrastructure to determine crash potential,¹⁹⁵ it also needs to consider community infrastructure situated on a road, such as schools and kindergartens.¹⁹⁶
135. Alternatively, the RACQ recommends that speed cameras are used only on roads that have 60 km/hr speeds or above, as this is the best allocation of resources given that crashes are probably more severe on 60 km/hr roads than those with lower speed limits.¹⁹⁷
136. However, the committee notes an evaluation of 10 fixed digital speed cameras in 40 km/hr school speed zones in New South Wales that indicated that the cameras had an immediate and sustained impact on reducing speeds at schools zones and a positive impact on reducing speed on the approaches to the zones.¹⁹⁸
137. The committee also notes the vulnerability of other road users, including pedestrians, cyclists and school children, on roads with speed limits of less than 60 km/hr. There is a significant difference in terms of injury resulting from

¹⁹³ A Hales, Officer in Charge, Traffic Camera Office, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 37; Queensland Police Service, *Speed Detection*, December 2009, retrieved 7 September 2010, http://www.police.qld.gov.au/rti/published/policies/traffic-manual/06/Ch_06_PT1.htm#06_03_08.

¹⁹⁴ R Michael, Principal Advisor, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 26.

¹⁹⁵ Queensland Government, *Submission No. 46*, 2010, pp. 14, 15.

¹⁹⁶ R Michael, Principal Advisor, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 21; J Deller, Institute of Public Works Engineering Australia Queensland Division, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 21.

¹⁹⁷ J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 14; J Tucker, Senior Road Safety Advisor, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 14.

¹⁹⁸ ARRB, *Evaluation of speed cameras in 40 km/h school speed zones*, RC 2881, 2005, p. ii.

two cars colliding than with a car colliding with a pedestrian even at a speed of 30 km/hr.¹⁹⁹

138. Therefore, the committee considers the use of fixed speed cameras on roads with speed limits of less than 60 km/hr is appropriate, particularly outside schools and kindergartens. The use of fixed speed cameras on these roads needs to be considered in conjunction with the crash history or crash potential of the road and where the use of other speed enforcement measures is inappropriate.

Recommendation 7:

The committee recommends that the Queensland Government places fixed speed cameras on roads with speed limits of less than 60 km/hr, particularly outside schools and kindergartens that present with crash potential or crash history and where other speed enforcement measures are inappropriate.

Ministerial Responsibility: Minister for Transport

¹⁹⁹ J Fleiter, Senior Research Officer, Centre for Accident Research and Road Safety—Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, pp. 5, 10; M Stapleton, Executive Director, Road Safety, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, pp. 29, 30; C Campbell, Acting Chief Superintendent, Manager, State Traffic Support Branch, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 36.

PART 6 – REVENUE AND PROCESSING OF INFRINGEMENT NOTICES

Processing of infringement notices

139. There are up to three agencies involved in the processing of a camera detected offence. Figure 3 shows the process that occurs for infringements.²⁰⁰
140. After an infringement occurs, an infringement notice is posted to the registered owner of the vehicle.²⁰¹ The Minister for Transport advised the committee that QPS's Traffic Camera Office's timeframes for issuing infringement notices average between seven and ten days from detection to when an infringement notice is sent. These average timeframes are affected by issues such as interstate registration inquiries, dealers' plates and courier services (particularly in more remote areas).²⁰²
141. QPS is considering ways to improve the processing times. The introduction of digital technology is likely to reduce the time taken to process infringement notices as the process is likely to become more automated.²⁰³

Outsourcing of camera program and infringement processing

142. In 1994, Queensland Parliament's Travelsafe Committee recommended that trained uniformed police officers operate speed cameras for the first five years of the speed camera program. They suggested that other options could be considered after this time but only if QPS retained operational control of the speed camera program.²⁰⁴
143. The government response to the Travelsafe Committee's report, tabled 23 May 1995, stated:
- If speed cameras were to be introduced, operation by uniformed police officers would be supported. A review after five years is opposed on the grounds that it will raise unrealistic expectations. Public opposition to speed camera operation by personnel other than police is not likely to change.*²⁰⁵

²⁰⁰ Auditor-General of Queensland, *Results of audits performed for 2001-02 as at 30 September 2002*, Report No. 4 for 2002-03, Queensland Audit Office, November 2002, Brisbane, p. 77.

²⁰¹ M Stapleton, Executive Director, Road Safety, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 32.

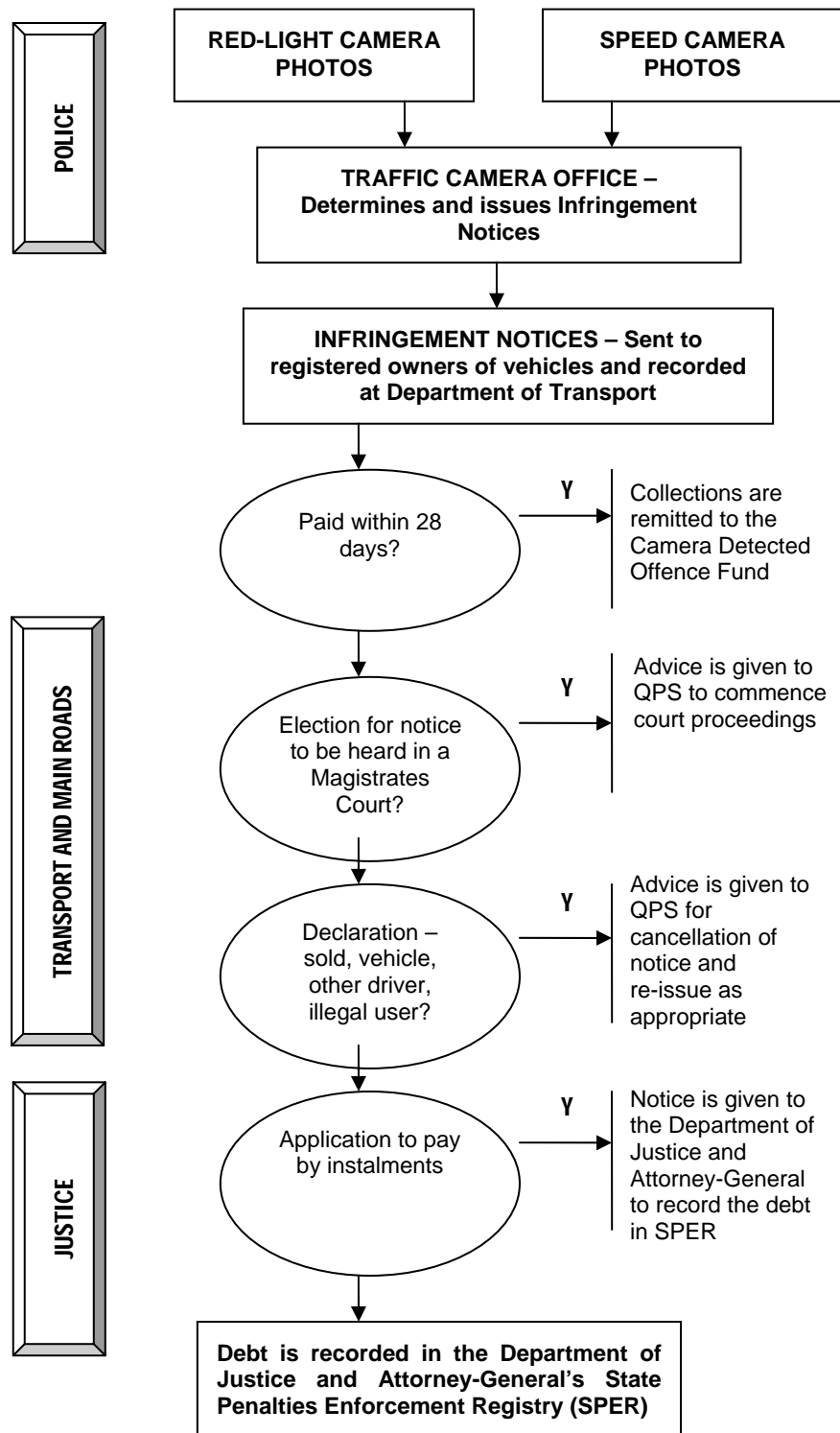
²⁰² Minister for Transport, personal correspondence, 1 July 2010, p. 2; A Hales, Officer in Charge, Traffic Camera Office, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28.

²⁰³ A Hales, Officer in Charge, Traffic Camera Office, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28.

²⁰⁴ Travelsafe Committee, *Speed Cameras: Should they be used in Queensland?*, Report No. 15, Queensland Parliament, Brisbane, November 1994, p. 33.

²⁰⁵ The Treasurer, The Minister for Transport and the Minister for Main Roads, Response to the Parliamentary Travelsafe Committee's Report No. 15, 'Speed cameras: should they be used in Queensland?', Queensland Government, Brisbane, 23 May 1995, pp. 6-7.

Figure 3: Process followed once an offence is detected by a camera, Queensland



Source: Adapted from L. Scanlan, Auditor-General of Queensland Report No. 4 2002-03: Results of Audits Performed for 2001-02 as at 30 September 2002, Queensland Audit Office, Brisbane, 2002, p. 77.

144. The RACQ believes that all speed enforcement in Queensland should continue to be conducted exclusively by appropriately trained QPS officers.²⁰⁶ This reinforces the concept that a speed camera fine is perceived as the same as a policeperson stopping a driver on the road. The operation of speed cameras by police officers reinforces that speed cameras are credible, should be respected and assist in projecting a police presence.²⁰⁷ Further, the RACQ suggests that any privatisation of speed enforcement, including automated devices such as fixed speed cameras, should be avoided in order to assist in maintaining the integrity and public acceptance of Queensland's speed camera system.²⁰⁸
145. At the committee's public hearing, DTMR advised that a benefit of the fixed speed camera program is that it allows police more time to carry out other duties as the camera does not require an operator.²⁰⁹ Currently, police operate mobile speed cameras outside of normal work hours and are paid special duties to undertake those duties.²¹⁰ Non-sworn technicians maintain the red light cameras.²¹¹
146. A number of individual submitters identified that police enforcement should be preferred over camera enforcement, whether mobile or fixed cameras.²¹² Submitters critical of speed camera programs often criticise the diversion of police officers to this task away from other types of policing.
147. There are workplace health and safety issues related to the operation of speed cameras. This is due to the possibility that a camera operator may be attacked. Other states, that do not use sworn police officers to operate their cameras, have needed to implement strategies to prevent attacks on their non-sworn officers.²¹³
148. Maintaining public confidence in speed camera enforcement is essential to changing driver behaviour. Other jurisdictions have used non-sworn officers in their mobile speed camera program and have been able to maintain the integrity of their program and improve data collection.
149. The committee believes that the QPS should investigate whether the use of non-sworn officers in the mobile speed camera program could allow a greater number of policing hours to be used more effectively in other community safety activities.

²⁰⁶ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, pp. 17-18.

²⁰⁷ J Wikman, Executive Manager Traffic and Safety, Royal Automobile Club of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 12.

²⁰⁸ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, pp. 17-18.

²⁰⁹ D Stewart, Director-General, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28.

²¹⁰ I Stewart, Deputy Commissioner, Specialist Operations, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 33.

²¹¹ A Hales, Officer in Charge, Traffic Camera Office, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 33.

²¹² P Caldwell, *Submission No. 10*, 2010, p. 1; D Calvert, *Submission No. 27*, 2010, p. 1; S Durston, *Submission No. 17*, 2010, p. 1; C Hendry, *Submission No. 26*, 2010, p. 2; D Kennedy, *Submission No. 15*, 2010, p. 1; National Motorists Association Australia, *Submission No. 32*, 2010, p. 16; L Pack, *Submission No. 1*, 2010, p. 2; S Smerdon, *Submission No. 16*, 2010, p. 1.

²¹³ Hales, A. Officer in Charge, Traffic Camera Office, Queensland Police Service, 2010, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August, p. 33.

Recommendation 8:

The committee recommends that the Queensland Police Service investigates whether the use of non-sworn officers in the mobile speed camera program would allow a greater number of policing hours to be used more effectively in other community safety activities.

Ministerial Responsibility: Minister for Police, Corrective Services and Emergency Services

Privacy issues

150. Some individuals and groups claim that photographic enforcement of speed limits allows police to act as a 'Big Brother', spying on law-abiding citizens.²¹⁴ The committee received submissions outlining the general issues relating to privacy and the recording of information via speed cameras. The main issues include:

- a lack of information available to the public regarding the recording of vehicle movement through fixed and point-to-point speed cameras
- whether the data is retained if an offence is not committed and for how long
- whether the Queensland Government undertakes steps to ensure the data remains anonymous if the data is retained
- a lack of information regarding who has access to the data and under what circumstances.²¹⁵

151. The Australian Privacy Foundation recommends that a Privacy Impact Assessment be completed as part of the trialling of the fixed speed camera program in order to clearly identify what the data collected from the cameras collected will be used for, by whom and what steps will be undertaken to ensure that the data is not accessed by persons outside of this for other purposes.²¹⁶

152. The committee concludes that the public is entitled to know how data from the speed camera program is collected, for what purposes, for whom and for how long. In this regard, the committee recommends that this information is made available on a website specifically designed to provide all relevant information regarding Queensland's speed camera program. (Refer to Recommendation 4 for further details on the proposed fixed speed camera website).

Recommendation 9:

The committee recommends that the Queensland Government provides information to the public on a website on how data from the speed camera program is collected, for what purposes, for whom and for how long.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

²¹⁴ A Delaney, H Ward, M Cameron, & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 404.

²¹⁵ N Wall, *Submission No.36*, 2010, p. 5.

²¹⁶ Australian Privacy Foundation, *Submission No.22*, 2010, p. 1.

Revenue

153. Traffic cameras generate significant amounts of revenue, with the CDOP generating over \$61.5 million in Queensland in 2008-2009. This revenue was from infringements associated with mobile speed cameras, fixed speed cameras and red light cameras.²¹⁷

Public perception of revenue raising

154. Individuals opposed to the use of cameras to detect speed and red light offences will often claim that the aim of the cameras is to raise revenue rather than increase road safety.²¹⁸ Many governments place revenues that result from increased speed enforcement, including the revenue generated from speed cameras, into general revenue after deducting the cost of the increased enforcement. This reinforces a perception that increased speed enforcement is used as 'revenue raising'.²¹⁹
155. Many members of the community perceive that one function of speed camera enforcement programs is to generate revenue for the government.²²⁰ Several submitters to the committee's inquiry stated that this was the case.²²¹ Furthermore, a 2005 Australian Transport Bureau national survey found that 56 per cent of respondents agreed with the view that '*speeding fines are mainly intended to raise revenue*'.²²²
156. Research conducted in New South Wales found that study participants thought that fixed digital speed cameras would 'reduce speeding' (55 per cent), 'reduce crashes' (30 per cent) and 'improve road safety' (31 per cent). These results were stable over the four surveys conducted in September 2000, late March/early April 2001, September 2001 and September 2002. By comparison, the number of participants that associated fixed digital speed cameras with revenue raising was small (15 to 25 per cent).²²³
157. It appears that individuals are more likely to believe that fixed speed cameras are for revenue purposes if they know an individual that has been caught speeding by this type of device. As shown in Table 8, the New South Wales research shows a greater proportion of participants who knew someone that had been booked by a fixed digital speed camera were more likely to conclude that fixed digital speed cameras were primarily for revenue raising purposes.

²¹⁷ Department of Transport and Main Roads, *Annual Report 2008-09*, Queensland Government, Brisbane, vol. 1, September 2009. p. 120

²¹⁸ A Delaney, H Ward, M Cameron & A Williams, 'Controversies and speed cameras: Lessons learnt internationally', *Journal of Public Health Policy*, vol. 26, no. 4, 2005, p. 405.

²¹⁹ I Johnston, 'Reducing injury from speed related road crashes', *Injury Prevention*, vol. 10, 2004, p. 258; C Wilson, C Willis, J Hendrikz & N Bellamy, 'Speed enforcement detection devices for preventing road traffic injuries', *Cochrane Database of Systematic Reviews*, 2006, p. 3.

²²⁰ L Pack, *Submission No. 1*, 2010, p. 1.

²²¹ P Butler, *Submission No. 11*, 2010, p. 1; P Caldwell, *Submission No. 10*, 2010, p. 1; D Calvert, *Submission No. 27*, 2010, p. 1; R Gray, *Submission No. 1*, 2010, p. 1; C Harris, *Submission No. 49*, 2010, p. 1; C Hendry, *Submission No. 26*, 2010, p. 1; N Heywood, *Submission No. 12*, 2010, p. 1; T Kelly, *Submission No. 47*, 2010, p. 1; D Kennedy, *Submission No. 15*, 2010, p. 1; S Smerdon, *Submission No. 16*, 2010, p. 1; J Underwood, *Submission No. 8*, 2010, p. 1; B Warren, *Submission No. 6*, 2010, p. 1.

²²² D Pennay, *Community Attitudes to Road Safety: Community Attitudes Survey Wave 18*, Australian Transport Bureau, Melbourne, 2006, p. iii.

²²³ ARRB Consulting, *Evaluation of the Fixed Digital Speed Camera Program in NSW*, RC2416, Roads and Traffic Authority, Sydney, May 2005, pp. 38-39.

Table 8: Perceptions of the purpose of fixed speed cameras by individuals that knew someone that had been booked as a result of a fixed speed camera, New South Wales

Fixed digital speed camera booking primarily road safety or revenue raising random sample				
	Sept-00	Apr-01	Sept-01	Sept-02
Attribution	%	%	%	%
Revenue	38	38	36	%
Road safety	42	42	47	38
Both	9	9	8	47
Don't know	11	11	9	8
Total	100	100	100	7

Source: Road Traffic Authority, *Public perceptions of fixed digital speed cameras in New South Wales*, Paper presented at the Australasian Road Safety Research, Policing and Education Conference, Sydney, 2003, Australia, p 3.

158. In Queensland, 400 drivers were asked transport related questions in June 2009. Several of these questions related to the speed camera program. Of these participants, 71 per cent supported the use of fixed speed cameras in Queensland while 82 per cent supported the use of red light cameras at intersections that could also photograph vehicles that speed through the intersection. Eighty-six per cent supported the use of cameras or other technologies to detect dangerous road user behaviours other than speeding. The study was conducted by an independent market research company commissioned by the DTMR with the results reported in the department's annual report for 2008-09.²²⁴

Addressing public concerns relating to camera detected revenue

159. There are a number of strategies that can be used to address public concerns relating to camera detected revenue. This includes using revenue collected from enforcement to fund road safety improvements.²²⁵ This concept was supported by the Western Australian Minister for Police; Emergency Services; Road Safety, Mr Rob Johnson MLA, in his submission.²²⁶ The evidence provided at the hearing from CARRS-Q suggested that there is a need to better communicate to the public that speed camera revenue is not channelled into consolidated revenue in Queensland but is exclusively used to run the traffic camera program and fund other road safety initiatives.²²⁷
160. Speed cameras are more likely to be perceived as 'revenue raising' if the camera sites are not clearly marked and where the connection between speed and crash severity and frequency is unclear. Therefore, the public may be more easily reconciled to clearly signed fixed cameras.²²⁸

²²⁴ Department of Transport and Main Roads, *Annual Report 2008-09*, Queensland Government, Brisbane, vol. 1, September 2009, p. 120.

²²⁵ I Johnston, 'Reducing injury from speed related road crashes', *Injury Prevention*, vol. 10, 2004, p. 258.

²²⁶ R Johnson, *Submission No. 41*, 2010, pp. 3-4.

²²⁷ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 2.

²²⁸ R Johnson, *Submission No. 41*, 2010, p. 3.

161. One response to criticisms that cameras are located in areas where they generate the most revenue is to locate them only on roads with a history of road collisions.²²⁹

History of the expenditure of camera detected revenue in Queensland

162. Most Australian states do not have any policy or legislative requirements in place for the distribution of camera detected offence revenue or any other traffic fines.²³⁰ However, in Queensland, camera detected revenue is required by law to be used for road safety purposes. Camera detected revenue is not placed into consolidated revenue in Queensland.
163. In 1994, the Queensland Parliamentary Travelsafe Committee recommended that revenue from speed cameras be used for short-term, non-recurring road safety programs or projects. This recommendation was designed to reduce the perception that there were 'revenue targets' in order to fund long-term, recurring road safety programs.²³¹
164. The government response to the Travelsafe Committee's report, tabled 23 May 1995, stated:
- If speed cameras were to be introduced, this recommendation would need to be implemented. The first call on funds generated by speed cameras should be the establishment and operating costs of the speed camera program.*
- Any surplus revenue should not be tied to ongoing programs which will create pressure for speed cameras to generate an expected level of revenue. Allocation to a spectrum of road safety projects would avoid this problem.*²³²
165. The idea that speed cameras would be used to raise revenue for Treasury was canvassed by several members during the debate of the legislation that enabled their introduction into Queensland.²³³ A parliamentary committee, Estimates Committee B, concluded in 1996 that speed cameras were being introduced for revenue rather than road safety reasons.²³⁴
166. However, during the debate of the Transport Legislation Amendment Bill that introduced speed cameras into Queensland, the opposition moved an amendment that required all revenue collected from camera detected

²²⁹ P Pilkington, 'Speed cameras under attack in the United Kingdom', *Injury Prevention*, vol. 9, 2003, p. 293.

²³⁰ Queensland Government, *Submission no. 46*, 2010, p. 21.

²³¹ Travelsafe Committee, *Speed Cameras: Should they be used in Queensland?*, Report No. 15, Queensland Parliament, Brisbane, November 1994, p. 45.

²³² The Treasurer, The Minister for Transport and the Minister for Main Roads, Response to the Parliamentary Travelsafe Committee's Report No. 15, 'Speed cameras: should they be used in Queensland?', Queensland Government, Brisbane, 23 May 1995, p. 13.

²³³ T Barton, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4468; C Campbell, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4480; R Dollin, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4483; J Elder, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, pp. 4465-4467; D Hamill, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, pp. 4471-4474; P Lucas, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4498; G Nuttall, *Transport Legislation Amendment Bill – Second Reading Speech*, Queensland Parliament, Brisbane, 1996, p. 4480.

²³⁴ Estimates Committee B, *Department of Justice, Queensland Police Service and Office of Racing, and the Queensland Corrective Services Commission*, Department of Emergency Services and the Office of Sport and Recreation, Report No. 1, Queensland Parliament, Brisbane, October 1996, p. 7.

offences to be used for specific purposes, such as road safety education and awareness programs, road accident injury rehabilitation programs, and road funding to improve the safety of the sections of state-controlled roads where accidents most frequently happen. This amendment was agreed to with the support of both sides of the House.²³⁵

Camera detected revenue in Queensland

167. The revenue collected from speed cameras in Queensland must be used for specific, road-related purposes. Under the *Transport Operations (Road Use Management) Act 1995* (Qld), all money collected from penalties imposed for camera detected offences in excess of administrative costs of collection must be used for: road safety education and awareness programs; road accident injury rehabilitation programs; and road funding to improve the safety of the sections of state-controlled roads where crashes most frequently happen.²³⁶
168. The Queensland Government states that the operation of speed cameras in Queensland is not about raising revenue for the government but the implementation of an evidence-based road safety initiative.²³⁷ DTMR reports on the revenue and expenditure of the CDOP, which includes the revenue from fixed speed cameras, each year in its annual report.²³⁸
169. Queensland's speed camera revenue for the 2008-09 period was over \$61.5 million.²³⁹ As shown in Figure 4, this money was used to fund the administrative costs associated with the program, provide financial support to the Red Cross Blood Bank, improve state-controlled roads, and support digital camera technology. There was a small amount of money (\$34,000) remaining for expenditure in 2009-10.²⁴⁰
170. Ideally, camera detected revenue should fall as the speeding becomes less socially acceptable and occurs less frequently. Therefore, the committee believes that all revenue should be provided to individual, one-off projects and not used for recurrent funding. If a project requires recurrent funding for any reason, such as ongoing maintenance, this funding should be from an alternative source and not from the revenue generated by the CDOP.

Recommendation 10:

The committee recommends that the Queensland Government uses the revenue generated by the Camera Detected Offence Program, with the exception of the administration costs of the program, to fund one-off projects and that this revenue not be used as a source of recurrent funding.

Ministerial Responsibility: Minister for Transport

²³⁵ Queensland Parliament, *Transport Legislation Amendment Bill – Committee*, Queensland Parliament, Brisbane, 1996, pp. 4510-4512.

²³⁶ Queensland Parliament, *Transport Operations (Road Use Management) Act 1995* (Qld), s. 117, p. 321.

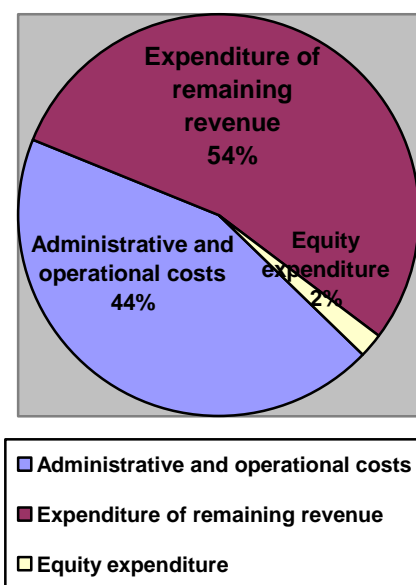
²³⁷ D Stewart, Director-General, Department of Transport and Main Roads, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 28; Queensland Government, *Submission No. 46*, 2010, p. 21.

²³⁸ Department of Transport and Main Roads, *Annual Report 2008-09*, Queensland Government, Brisbane, vol. 1, September 2009, pp. 120–122.

²³⁹ Department of Transport and Main Roads, *Annual Report 2008-09*, Queensland Government, Brisbane, vol. 1, September 2009, p. 120.

²⁴⁰ Department of Transport and Main Roads, *Annual Report 2008-09*, Queensland Government, Brisbane, vol. 1, September 2009, p. 120.

Figure 4: Camera detected offence program expenditure 2008-09 as at 30 June 2009, Queensland



REVENUE	\$'000
Department of Transport and Main Roads	47,978
Department of Justice and Attorney-General	13,609
Total Revenue	61,587
ADMINISTRATIVE AND OPERATIONAL COSTS	
Department of Transport and Main Roads	3,322
Queensland Police Service	20,677
Department of Justice and Attorney-General	2,820
Total administrative and operational costs	26,819
EXPENDITURE OF REMAINING REVENUE	
Road accident injury rehabilitation programs Queensland Health: support to Red Cross Blood Bank	4,500
Improvements to the safety of state-controlled roads Department of Transport and Main Roads	27,253
Digital platform and digital camera technology Queensland Police Service	1,265
Total expenditure of remaining revenue	33,018
EQUITY EXPENDITURE	
Queensland Police Service	1,716
Total equity expenditure	1,716
Balance of 2008-09 revenue to be expended in 2009-10	34

Source: Adapted from Department of Transport and Main Roads, Annual Report 2008-09, Queensland Government, Brisbane, vol. 1, September 2009, p. 120.

Revenue from fixed speed cameras on local government-controlled roads

171. LGAQ and IPWEAQD argue that if a speed camera is on a local government-controlled road, then the revenue should be directed toward local government road safety programs, rather than to the state government. One of the primary benefits of directing funds to road safety at a local government level is local government officers have the knowledge to understand the issues on the roads in their regions.²⁴¹ An amendment of the *Transport Operations (Road Use Management) Act 1995* would be required to allow local governments to have access to CDOP funds.²⁴²
172. LGAQ and IPWEAQD have suggested that revenue from speed offences on local government-controlled roads could be used in a number of ways, such as funding fixed speed cameras, developing and delivering behavioural campaigns aimed at improving road safety, delivering appropriate signage for fixed speed cameras, and upgrading and maintaining local roads.²⁴³

²⁴¹ J Deller, Institute of Public Works Engineering Australia Queensland Division, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 21.

²⁴² Local Government Association of Queensland, *Submission No. 34*, 2010, p. 2; Institute of Public Works Engineering Australia Queensland Division Inc., *Submission No. 48*, 2010, p. 1.

²⁴³ J Deller, Institute of Public Works Engineering Australia Queensland Division, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 24; G Hoffman, Director of Policy and Representation, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, pp. 24, 25; Local Government Association of Queensland, *Submission No. 34*, 2010, p. 2.

173. LGAQ suggests that the administration of this revenue to local government initiatives could be undertaken through the Queensland Road Safety Partnership Steering Committee with DTMR. This approach to allocating funds will assist in identifying areas for road safety improvement, including identifying the need for deploying fixed speed cameras, in a strategic manner.²⁴⁴
174. The committee concludes that it is appropriate to limit the expenditure of revenue collected as a result of fixed speed camera offence detections, in excess of administrative costs of collection, for the specific purposes outlined in the *Transport Operations (Road Use Management) Act 1995* (Qld).
175. However, the committee believes that it is appropriate, in addition to the existing purposes for which the camera detected revenue can be currently used, to allow the use of camera detected revenue to improve local government-controlled roads and conduct research that will improve road safety and improve road injury rehabilitation.

Recommendation 11:

The committee recommends that the Queensland Government amends the *Transport Operations (Road Use Management) Act 1995* to allow, in addition to the existing purposes for which camera detected revenue can be used, the use of camera detected revenue to improve the safety of local government-controlled roads and to conduct research for the purposes of improving road safety and road injury rehabilitation.

Ministerial Responsibility: Minister for Transport

Establishment of a Road Safety Fund

176. Local councils and communities are well placed to contribute to local road safety programs as they understand local issues and are often well connected to particular groups that are most affected. A number of jurisdictions set aside a proportion of revenue, either raised from traffic offences or from other sources, to fund local road safety initiatives. These programs have specific criteria that a project must meet to be funded and are usually aligned with a jurisdiction's road safety strategy.
177. In Western Australia, a third of all money collected from speed and red light camera fines goes to the Road Safety Council's *Road Trauma Trust Fund* for the purpose of educating and training road users.²⁴⁵ The Victorian Transport Accident Commission operates a Community Road Safety Grants Program to provide opportunities for community groups, in conjunction with local authorities, to apply for funding for specific safety issues.²⁴⁶
178. The United Kingdom Department of Transport's Road Safety Partnership Grant Scheme operates alongside other government funding for road safety.²⁴⁷ The program was introduced to support local authorities in reducing

²⁴⁴ G Hoffman, Director of Policy and Representation, Local Government Association of Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 21.

²⁴⁵ Western Australia Parliament, *Road Safety Council Act 2002*, s.12, 2(a), p. 7.

²⁴⁶ Transport Accident Commission, *Community road safety grants*, nd, retrieved 1 October 2010 from <http://www.tacsafety.com.au/jsp/content/NavigationController.do?arealD=13&tierID=1&navID=3E45A1C87F00000100B12FEF5A2E58C5&navLink=null&pageID=1524>, p. 1.

²⁴⁷ United Kingdom Department of Transport, *Review of the road safety partnership grant scheme*, November 2009, retrieved 28 September 2010 from <http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/roadsafety/rspg/rspg.pdf>, p. 1.

crashes and encouraging partnerships between traditional road safety professionals and other service providers.

179. The committee believes it is appropriate that the Queensland Government establish a Road Safety Fund. The Road Safety Fund should receive a set percentage of the revenue from the CDOP, once administrative costs have been deducted.
180. The Road Safety Fund would be accessible to local councils, in partnership with community groups or other non-government organisations, on a grant basis for programs that address local road safety issues and the evaluation of these programs. DTMR should manage this grant program to ensure that all projects are aligned with Queensland's road safety objectives.

Recommendation 12:

The committee recommends that the Queensland Government sets aside a proportion of revenue from the Camera Detected Offence Program into a Road Safety Fund. The fund will be accessible to local councils in partnership with community groups or other non-government organisations, through the Queensland Government on a grant basis for programs that address local road safety issues and the evaluation of these programs.

Ministerial Responsibility: Minister for Transport

PART 7 – NEW TECHNOLOGY

181. The Queensland Government is committed to ongoing evaluation of its speed management policies and programs and to adopting new technologies to improve its approach to speed management.²⁴⁸ The need to adopt an innovative approach to speed enforcement is important given the need to develop an appropriate enforcement mix.²⁴⁹ In this way, the Queensland Government is trialling and evaluating new digital technologies to assist with speed enforcement, including 'spot' speed, combined red light and speed and point-to-point camera systems, as well as vehicle activated signs.

Digital technology

182. The speed camera technology used by the Queensland Government is in the process of being upgraded from traditional wet-film technology, which requires photo film processing, to digital camera technology.²⁵⁰ The emergence of this digital technology has enabled QPS to utilise digital imaging techniques to install and trial a wider range of fixed speed cameras, including 'spot' speed, combined red light and speed and point-to-point camera systems.²⁵¹

183. The new digital cameras reportedly require less maintenance, do not require the film to be changed or processed, and allow a more automated infringement processing system.²⁵² The digital technology trial, which began in November 2009 and is expected to be completed in late 2010, is occurring at the following sites:

- two combined red light and speed cameras at Waterworks Road and Jubilee Terrace, Ashgrove, and Beaudesert and Compton Roads, Calamvale
- two 'spot' fixed speed cameras on the Pacific Motorway at Loganholme and the Gateway Arterial Road at Nudgee
- one point-to-point speed camera system on the Bruce Highway between Caloundra Road and Wild Horse Mountain at Beerburrum.²⁵³

184. Following evaluation of the data from the trial, digital cameras will then be deployed throughout Queensland, replacing wet film cameras as they reach the end of their operational life.²⁵⁴

185. The accuracy of the digital technology has been shown to be highly reliable. This includes the triggers for the cameras, which vary between non-intrusive (radar based, laser or Automatic Number Plate Recognition [ANPR]) or inroad

²⁴⁸ Queensland Government, *Submission No. 46*, 2010, p. 19.

²⁴⁹ B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 2; J Wikman, Executive Manager Traffic and Safety, RACQ, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, pp. 11, 13.

²⁵⁰ Queensland Government, *Submission No. 46*, 2010, p. 19.

²⁵¹ Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010,, retrieved 15 September 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 1; Queensland Government, *Submission No. 46*, 2010, pp. 6, 7.

²⁵² Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010, retrieved 15 September 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 1.

²⁵³ Queensland Government, *Submission No. 46*, 2010, pp. 6, 7.

²⁵⁴ Queensland Government, *Submission No. 46*, 2010, pp. 6, 7.

sensors (loops, optical or piezo strips) in the road itself. Additionally, most of the speed camera vendors that provided a response to the open market tender of 2008 have approvals from Britain's Home Office or achieve Swedish standards.²⁵⁵

Point-to-point speed cameras

186. The purpose of point-to-point speed cameras is to be effective in reducing speed and road trauma along a longer stretch of road, or 'black' route, using overt fixed speed cameras.²⁵⁶ A point-to-point speed camera system uses a number of cameras that monitor and calculate average traffic speeds over a length of road to detect if speed infringements have occurred.²⁵⁷ The distance between cameras can vary from 300 metres to multiple kilometres. The average speed is determined by dividing the distance travelled by the time taken between camera points.²⁵⁸ Point-to-point speed cameras are also capable of identifying if a driver is speeding at a single camera site.²⁵⁹
187. A number of jurisdictions in Australia are beginning to trial or will shortly implement point-to-point speed cameras, such as Victoria, South Australia, Queensland and New South Wales.²⁶⁰ The Queensland Government is currently trialling its point-to-point speed camera over a 13 kilometre stretch of the Bruce Highway from Caloundra Road to Wild Horse Mountain at Beerburrum.²⁶¹ The Queensland Government expects that point-to-point speed cameras will be used to reduce speeds and, therefore, crash risk across greater lengths of the road network.²⁶²
188. Point-to-point speed camera systems are also currently in use in the United Kingdom, Austria, and the Netherlands.²⁶³ Evidence from the United Kingdom has shown that drivers perceive point-to-point cameras as being more fair than other types of speed cameras, as they take into account 'unintentional' and 'momentary' speeding.²⁶⁴
189. In preparation for the deployment of point-to-point camera systems, the Queensland *Transport Operations (Road Use Management) Act 1995* has been amended to include new evidentiary provisions that allow average

²⁵⁵ A Hales, Inspector, Officer in Charge, Traffic Camera Office, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 38.

²⁵⁶ M Cameron & A Delaney, *Development of strategies for best practice in speed enforcement in Western Australia: Final Report*, Monash University Accident Research Centre, Melbourne, September 2006, p. 30.

²⁵⁷ D Soole & B Watson, *Point-to-Point speed enforcement: A review of the literature*, Main Roads Queensland, Brisbane, April 2009, p. 1.

²⁵⁸ M Cameron, *Development of strategies for best practice in speed enforcement in Western Australia, Supplementary Report*, Monash University Accident Research Centre, Melbourne, May 2008, p. 3.

²⁵⁹ D Soole & B Watson, *Point-to-Point speed enforcement: A review of the literature*, Main Roads Queensland, Brisbane, April 2009, p. 1.

²⁶⁰ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, pp. 11-12; Commissioner of Police, Government of South Australia, *Submission No. 40*, 2010, p1.

²⁶¹ Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010, retrieved 15 September 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 1; Queensland Government, *Submission No. 46*, 2010, pp. 2-4.

²⁶² Queensland Government, *Submission No. 46*, 2010, p. 8.

²⁶³ M Cameron, *Development of strategies for best practice in speed enforcement in Western Australia, Supplementary Report*, Monash University Accident Research Centre, Melbourne, May 2008, p. 3-5.

²⁶⁴ Queensland Government, *Submission No. 46*, 2010, p. 19; Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 2.

speed to be used as evidence of the actual speed of a vehicle. This will support the prosecution of offences detected by point-to-point speed cameras on Queensland roads.²⁶⁵

190. The selection of a site for point-to-point speed cameras in Queensland will be based on speed camera criteria, including crash history and crash risk. Further, as point-to-point speed camera systems are expensive, the selection of a route needs to identify a high volume road with a sufficient crash rate and with limited entries and exits, such as a freeway, to ensure it is operationally viable.²⁶⁶
191. RACQ believes that the Queensland Government should distribute more detailed criteria for point-to-point speed cameras, particularly enhancing the 'significant history' criterion to include at least five speed camera criteria crashes on a length of road over more than two kilometres, with an average of at least one speed camera criteria crash per kilometre. RACQ also believes that on a section of road monitored by point-to-point speed cameras, no other active fixed or mobile speed cameras should be in use.²⁶⁷
192. Given the vast distances covered by Queensland roads and many examples of long stretches of high volume roads, point-to-point speed cameras are able to provide a speed enforcement approach working in conjunction with other measures to offer greater road network coverage for speed enforcement.²⁶⁸
193. The evidence to the inquiry shows a greater degree of public support for point-to-point speed cameras. Point-to-point speed cameras focus on drivers who are speeding over an extended period of time, rather than drivers who might speed for only a short period. Point-to-point speed cameras also provide an opportunity for overt enforcement techniques across a larger section of the road network.

Evaluation of point-to-point speed cameras

194. Due to the relatively new use of point-to-point speed cameras, and taking into consideration the methodological quality of the studies examining their effectiveness, the consistency of the evidence from overseas data indicates an overall positive impact of point-to-point speed camera systems on vehicle speeds, crash rates and other road safety outcomes, such as traffic flow.²⁶⁹ A number of studies have identified reductions in both average speeds and 85th

²⁶⁵ Queensland Government, *Submission No. 46*, 2010, p. 19.

²⁶⁶ Queensland Government, *Submission No. 46*, 2010, p. 8.; M Cameron & A Delaney, *Development of strategies for best practice in speed enforcement in Western Australia: Final Report*, Monash University Accident Research Centre, Melbourne, September 2006, p. 30; Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 2.

²⁶⁷ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, p. 13

²⁶⁸ Queensland Government, *Submission No. 46*, 2010, p. 19; D Soole, Assistant Project Officer, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 3; B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 3; I Stewart, Deputy Commissioner, Specialist Operations, Queensland Police Service, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 31.

²⁶⁹ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, pp. 2, 25-26; B Watson, Director, Centre for Accident Research and Road Safety –Queensland, *Public Hearing Transcript*, Economic Development Committee, Brisbane, 6 August 2010, p. 2; M Cameron & A Delaney, *Development of strategies for best practice in speed enforcement in Western Australia: Final Report*, Monash University Accident Research Centre, Melbourne, September 2006, p. 19.

percentile speeds associated with point-to-point speed cameras, as well as increased compliance with posted speed limits.²⁷⁰

195. An evaluation of point-to-point speed cameras in the United Kingdom show a 20 per cent reduction in reported injury crashes at one site, as well as a smaller reduction in fatal and serious injury crashes.²⁷¹ In addition, the approach of point-to-point speed management has been found to be highly technologically reliable.²⁷²
196. The committee notes, however, that most point-to-point speed camera enforcement programs in Australia are operating on a trial basis only. Few evaluations of Australian examples have been published.²⁷³

Combined red light and speed cameras

197. Combined red light and speed cameras are capable of detecting both red light and speed violations at signalised intersections by using new digital photo technology. This technology is capable of detecting both violations simultaneously with the speed detection function able to operate when the light signal is green, yellow or red.²⁷⁴
198. The purpose of these cameras is to improve speed and red light compliance at intersections in order to reduce the number and severity of potentially fatal angle crashes and to improve overall road safety.²⁷⁵ Combined red light and speed cameras would be expected to reduce the number of casualty crashes to a greater extent than red light cameras alone.²⁷⁶ This type of camera already operates in Victoria, South Australia and the Australian Capital Territory.²⁷⁷
199. Speed is a significant factor when drivers decide to drive through an intersection that has traffic lights or to stop when the light is orange.²⁷⁸ One study identified that 50 per cent of red light intersection offences occurred at or above the posted speed limit. In 16 per cent of cases, these red light running offences occurred at more than 10 mph above the speed limit.²⁷⁹

²⁷⁰ D Soole & B Watson, *Point-to-Point speed enforcement: A review of the literature*, Queensland Department of Main Roads, Brisbane, April 2009, p. 22.

²⁷¹ M Cameron, *Development of strategies for best practice in speed enforcement in Western Australia, Supplementary Report*, Monash University Accident Research Centre, Melbourne, May 2008, p. 4.

²⁷² Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 25.

²⁷³ M Cameron & A Delaney, *Development of strategies for best practice in speed enforcement in Western Australia: Final Report*, Monash University Accident Research Centre, Melbourne, September 2006, p. 17; D Soole, & B Watson, *Point-to-Point speed enforcement: A review of the literature*, Queensland Department of Main Roads, Brisbane, April 2009, p. 20.

²⁷⁴ Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010, retrieved 22 February 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 2; Queensland Government, *Submission No. 46*, 2010, p. 19.

²⁷⁵ Queensland Government, *Submission No. 46*, 2010, pp. 8, 19.

²⁷⁶ C Kloeden, S Edwards & A McLean, *Evaluation of South Australian Red Light and Speed Cameras*, CASR011, Centre for Automotive Safety Research, Adelaide, February 2009, p. 37.

²⁷⁷ Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010, retrieved 15 September 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 2.

²⁷⁸ C Kloeden, S Edwards & A McLean, *Evaluation of South Australian Red Light and Speed Cameras*, CASR011, Centre for Automotive Safety Research, Adelaide, February 2009, p. 9.

²⁷⁹ S Fakhry & K Salaita, 'Aggressive driving: A preliminary analysis of a serious threat to motorists in a large metropolitan area', *The Journal of Trauma, Injury, Infection and Critical Care*, vol. 52, no. 2, 2002, p. 221.

200. Crashes at signalised intersections, which account for approximately one in three of all fatal and serious injury crashes in Queensland, are often the result of violations of red light and/or speeding compliance.²⁸⁰ These crashes are often more severe.²⁸¹
201. Following the completion of the trial of red light/speed cameras at Waterworks Road and Jubilee Terrace, Ashgrove and Beaudesert and Compton Roads, Calamvale, the Queensland Government expects that new combined, digital red light and speed cameras will be used both to replace existing wet-film red light cameras and at new sites identified in the future by the program.²⁸²
202. Intersections for combined red light and speed cameras will be selected on the basis of analysing intersections with red light or speed related crashes (proven risk) or where there is a strong potential crash risk (assessed risk). This analysis is undertaken by applying one or two sets of crash criteria: speed camera criteria crashes and red light camera criteria crashes.²⁸³ Once a site has been selected, an operational assessment is undertaken that considers site risk factors, technical feasibility and Australian standards requirements.²⁸⁴
203. RACQ recommends that combined speed and red light cameras meet the requirements for both fixed speed cameras and red light cameras, rather than the requirements for one or the other.²⁸⁵ The committee supports this recommendation.

Recommendation 13:

The committee recommends that the Queensland Government ensures that the criteria used for selecting sites for combined red light and speed cameras meet the requirements for both red light and speed cameras, rather than one or the other.

Ministerial Responsibility: Minister for Transport

Evaluation of combined red light and speed cameras

204. Little research has been conducted into the effectiveness of combined red light and speed cameras because of their recent introduction. One study examined the effectiveness of three combined red light and speed cameras that were introduced in the Australian Capital Territory in 2001. The study considered their initial effectiveness and identified that the incidence of speeding at the three combined red light and speed camera sites had been

²⁸⁰ Queensland Government, *Submission No. 46*, 2010, p. 16.

²⁸¹ S Fakhry & K Salaita, 'Aggressive driving: A preliminary analysis of a serious threat to motorists in a large metropolitan area', *The Journal of Trauma, Injury, Infection and Critical Care*, vol. 52, no. 2, 2002, p. 221.

²⁸² Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010, retrieved 15 September 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 1; Queensland Government, *Submission No. 46*, 2010, p. 19.

²⁸³ Queensland Government, *Submission No. 46*, 2010, pp. 14, 16.

²⁸⁴ Queensland Department of Transport and Main Roads, *Digital speed and red light cameras*, Brisbane, March 2010, retrieved 15 September 2010 from http://www.tmr.qld.gov.au/~media/422479a8-b47e-40a2-ab85-814424fe22a7/pdf_digital_camera_fact_sheet_mar10.pdf, p. 1.

²⁸⁵ Royal Automobile Club of Queensland, *Submission No. 42*, 2010, p. 14.

reduced and that the impact on crashes was uncertain. However, the initial results indicated that there may be an increase in same direction crashes.²⁸⁶

205. The committee concludes that there is a likely benefit in the use of combined red light and speed cameras, although, further research is needed to validate this conclusion. The committee therefore supports the use of combined red light and speed cameras, subject to the completion of a comprehensive evaluation of their effectiveness in reducing different types of crashes for different types of road users.

Intelligent speed adaptation

206. The Queensland Government is currently investigating the benefits of the emerging technology of Intelligent Speed Adaptation (ISA) as an approach to speed enforcement to be used in conjunction with other measures.²⁸⁷ ISA is a system that determines the location of a vehicle, through the use of global positioning system technology, and vehicle speed from databases of digital road maps and speed zone data of speed limits, and provides feedback to the driver on their speed.²⁸⁸ The purpose of ISA is to manage speed through modifying driver behaviour and managing vehicle speeds, rather than enforcing speed limits through a deterrence and punishment approach.²⁸⁹
207. ISA systems differ based on how 'intervening' they are. Generally, there are three variants of ISA:
- advisory systems display the speed limit and remind the driver of changes to their speed limit
 - voluntary or supportive systems provide some degree of vehicle-initiated control of speed but allow the driver to enable or disable the control
 - mandatory or limiting systems have vehicle-initiated speed control that cannot be overridden.²⁹⁰
208. Accurate speed zone mapping data is required in order for ISA systems within vehicles to have knowledge of speed limits to feed back to the driver at a precise location on the road network. Western Australia and Victoria have mapped their public roads, while New South Wales has mapped approximately one third of its public roads. Other states, including Queensland, are in various stages of researching the mapping of their road networks.²⁹¹
209. The benefits of ISA technology include the ability to decrease the occurrences of speeding, particularly 'low range' speeding of up to 10 km/hr over the speed limit, which contributes to a significant proportion of preventable road trauma. Other speed enforcement measures alone have difficulty in reducing

²⁸⁶ T Brimson & R Anderson, 'Fixed red light and speed cameras in Canberra: Evaluating a new digital technology', paper presented to the Road Safety Research, Policing and Education Conference, Adelaide, 2001, p. 408.

²⁸⁷ Queensland Government, *Submission No. 46*, 2010, p. 20.

²⁸⁸ Queensland Government, *Submission No. 46*, 2010, p. 20; M Paine, 'Low Range Speeding and the Potential Benefits of Intelligent Speed Assistance', paper presented to the 2009 Australasian Road Safety Research, Policing and Education Conference, Sydney, 2009, p. 142; CARRS-Q, 2010, *Submission No. 43*, pp. 27, 28.

²⁸⁹ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 27.

²⁹⁰ OMJ Carsten & FN Tate, 'Intelligent speed adaptation: accident savings and cost-benefit analysis', *Elsevier*, 2004, p. 408; Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, pp. 27-28.

²⁹¹ Queensland Government, *Submission No. 46*, 2010, p. 20.

low range speeding, particularly for drivers who want to obey the speed limits but find it difficult to do so in modern cars.²⁹²

210. One study identifies this as being a primary reason for drivers installing an ISA system, as they can be used to avoid speeding inadvertently, as well as to avoid speeding fines and to save fuel.²⁹³ However, drivers who frequently commit driving violations were found to be less positive towards having an ISA system installed in their vehicle.²⁹⁴

Evaluation of Intelligent Speed Adaptation

211. Research indicates that ISA can be effective in reducing average speeds by 1-2 km/hr depending on the speed zone, as well as 85th percentile speeds, and therefore injury risk. Drivers are also less likely to drive at speeds well below the speed limit.²⁹⁵
212. However, the evidence suggests that the reduction in speed lasts only while the ISA is active, as average speeds generally increase again after the ISA is disengaged.²⁹⁶ In addition, despite the initial decrease in speed from the installation of an ISA system, long-term usage generally also leads to speeds increasing again over time.²⁹⁷
213. While implementation of ISA technology has been found to be cost-effective and associated with reductions in traffic crashes, the challenges for any government supporting its introduction include:
- overcoming the reluctance of vehicle manufacturers to install ISA technology because of the low public acceptability of intervening systems and the incongruent image of motor cars with in-built speed restrictions
 - the need to map speed limits and the ongoing maintenance of databases
 - the need to educate drivers in understanding the risks associated with driving above the speed limit.²⁹⁸

²⁹² M Paine, 'Low Range Speeding and the Potential Benefits of Intelligent Speed Assistance', paper presented to the 2009 Australasian Road Safety Research, Policing and Education Conference, Sydney, 2009, p. 142.

²⁹³ M Regan, K Stephan, E Mitsopoulos, K Young, T Triggs, N Tomasevic, P Tierney & D Healy, 'The effect on driver workload, attitudes and acceptability of in-vehicle Intelligent Transport Systems: Selected final results from the TAC SafeCar project', *Proceedings of the Road Safety Research, Policing and Education Conference*, Auckland, 2005, p. 7.

²⁹⁴ H Wallen Warner, T Ozkan & T Lajunen, 'Drivers' propensity to have different types of intelligent speed adaptation installed in their cars', *Transportation Research Part F*, vol. 13, 2010, p. 213.

²⁹⁵ Queensland Government, *Submission No. 46*, 2010, p. 20; M Paine, 'Low Range Speeding and the Potential Benefits of Intelligent Speed Assistance', paper presented to the 2009 Australasian Road Safety Research, Policing and Education Conference, Sydney, 2009, p. 142; OMJ Carsten & FN Tate, 'Intelligent speed adaptation: accident savings and cost-benefit analysis', Elsevier, 2004, p. 415; M Regan, K Young, T Triggs, N Tomasevic, E Mitsopoulos, P Tierney, D Healy, K Connelly & C Tingvall, 'Effects on driving performance of in-vehicle intelligent transport systems: Final results of the Australian TAC SafeCar project', *Proceedings of the Road Safety Research, Policing and Education Conference*, Auckland, 2005, p. 9; Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 27.

²⁹⁶ M Regan, K Young, T Triggs, N Tomasevic, E Mitsopoulos, P Tierney, D Healy, K Connelly & C Tingvall, 'Effects on driving performance of in-vehicle intelligent transport systems: Final results of the Australian TAC SafeCar project', *Proceedings of the Road Safety Research, Policing and Education Conference*, Auckland, 2005, pp. 5-6.

²⁹⁷ A Varhelyi, M Hjalmdahl, C Hayden & M Draskoczy, 'Effects of an active accelerator pedal on driver behaviour and traffic safety after long-term use in urban areas', *Accident Analysis and Prevention*, vol. 36, 2004, p. 736.

²⁹⁸ M Paine, 'Low Range Speeding and the Potential Benefits of Intelligent Speed Assistance', paper presented to the 2009 Australasian Road Safety Research, Policing and Education Conference,

Vehicle or speed activated signs

214. Vehicle activated signs (VAS) or speed activated signs (SAS) are electronic signs that are used to display changeable and dynamic messages to drivers. VAS present messages to drivers triggered by their vehicles, typically via loops and detectors located underneath the road. SAS specifically provide speed-related safety messages, such as 'slow down', to drivers exceeding the speed limit.²⁹⁹ The potential for these systems to be effective results from their novelty, ability to catch the driver's attention and the immediacy of the feedback provided by the message.³⁰⁰
215. To increase the effectiveness of the messages, 'you' statements target offending drivers, particularly when there are no non-offending vehicles within reading proximity of the VAS.³⁰¹ A number of studies also show the benefits of identifying specific vehicles, generally with ANPR technology, to present speed-related safety messages in conjunction with number plate details. In addition, presenting actual vehicle speeds to drivers can also positively impact speed reductions.³⁰²
216. In Queensland, 18 SAS have been installed as a trial on state-controlled roads. Signs have been installed on sites with a crash history and where there is potential for reducing speed. The committee notes that the Queensland Government is still in the process of trialling SAS.³⁰³

Evaluation of vehicle or speed activated signs

217. Analysis of the collected data from SAS shows a decrease in both the 85th percentile and average speeds of vehicles approaching the signs, as well as the proportion of speeding vehicles. This indicates that regular drivers are becoming familiar with the signs and are changing their speeding behaviour. The data also indicates that there is a reduction in speed beyond the signs with drivers decelerating over longer distances.³⁰⁴
218. CARRS-Q state that, although evidence from VAS and SAS indicates reduction in speeds and the proportion of vehicles exceeding the speed limit, these effects gradually decreased over the course of the trial and shifted to pre-trial levels following the completion of the trial.³⁰⁵ Anecdotal evidence indicates that the combination of a fixed speed camera with speed activated signs has had a positive effect on the speeding behaviour of drivers on a section of road.³⁰⁶

Committee conclusions on new technologies

219. Given that little research on new speed enforcement technologies, such as point-to-point and combined red light and speed camera systems, and vehicle

Sydney, 2009, p. 149; Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 28.

²⁹⁹ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 26; Queensland Government, *Submission No. 46*, 2010, p. 19.

³⁰⁰ D Soole, S Smith, I Lewis & A Rakotonirainy, *Vehicle-Activated Signs (VAS) as a Method of Speed Management: A Literature Review and Recommendations*, Queensland Department of Mains Roads, Brisbane, 2009, p. 5.

³⁰¹ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 27.

³⁰² Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 27.

³⁰³ Queensland Government. 2010, *Submission No. 46*, p. 19.

³⁰⁴ Queensland Government. 2010, *Submission No. 46*, p. 20; CARRS-Q, 2010, *Submission No. 43*, p. 27.

³⁰⁵ Centre for Accident Research and Road Safety – Queensland, *Submission No. 43*, 2010, p. 27.

³⁰⁶ W Wendt, *Submission No. 14*, 2010, p. 1.

activated signs, has been undertaken in Australia, the committee recommends that the Queensland Government conduct a process and outcome evaluation of all new speed enforcement technologies.

220. As the committee has found limited amount of information available regarding these issues, it recommends that the Queensland Government table in the Queensland Parliament all evaluations recommended in this report, including the evaluation of the fixed speed camera program, within 12 months of their evaluation's completion date.

Recommendation 14:

The committee recommends that the Queensland Government undertakes a process and outcome evaluation of all new speed enforcement technologies that they trial.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

Recommendation 15:

The committee recommends that the Queensland Government tables in Queensland Parliament all evaluations recommended in this report within 12 months of the evaluation's completion date.

Ministerial Responsibility: Minister for Transport and Minister for Police, Corrective Services and Emergency Services

PART 8 – CONCLUSIONS

Speeding and speed enforcement

221. Excessive speed is a significant factor in road safety, as it not only increases the likelihood of a crash occurring but also contributes to the severity of injuries sustained in a crash. Speeding is recognised as a major cause of death and serious injury on Queensland roads and in other Australian states.
222. Significant numbers of Queensland motorists are driving above the posted speed limits. Figures from DTMR indicated that between 20 and 50 per cent of motorists are not complying with posted speed limits.
223. There is a need to utilise a variety of speed enforcement methods that are tailored to specific situations, as a single approach is unlikely to be fully effective. However, using only police enforcement to manage the speed at which people drive ignores the benefits of changing the social acceptability of speeding.
224. There may be value in rewarding drivers that are not caught driving above the posted speed limit by offering them a discount off their car registration. This may help create a more positive social environment that discourages speeding. Other strategies, such as ecodriving, which occurs when drivers save petrol and reduce vehicle emissions by changing their driving behaviour, could be used to help change community perceptions regarding speeding.
225. Vast differences between speed camera programs exist regarding issues, such as the amount of penalty, where the fine money is allocated, whether cameras are hidden or visible, presence of warning signs and how far above the speed limit a vehicle may travel before a penalty is imposed.
226. Speed cameras appear to reduce vehicle speeds and crash risk. Mobile speed cameras were introduced into Queensland prior to fixed speed cameras. An evaluation of Queensland's mobile speed camera program found evidence that this type of enforcement reduced crashes in Queensland.

Fixed speed cameras

227. Fixed speed cameras operate remotely from a permanent single location at the roadside. They can operate 24 hours a day, all year round. They are considered effective at reducing speed at or near the enforcement location and are therefore generally used in areas with a high intensity of speed-related problems.
228. Fixed speed cameras are one tool used by QPS to manage speed and enforce limits. They were introduced in Queensland in 2007. The introduction of digital technology on a trial basis in 2010 has resulted in the possibility of using a wider range of fixed speed cameras, including 'spot' speed, combined red light and speed as well as point-to-point camera systems.
229. While most research studies to date have focused on mobile speed camera programs, evaluations do suggest that fixed speed cameras reduce vehicle speeds, crashes and fatalities. While there are limited benefit cost assessments of existing fixed speed camera programs, the committee concludes that it would be reasonable to assume that an evaluation of fixed camera sites in Queensland would result in a positive economic benefit. The committee supports the continued use of fixed speed cameras in Queensland when this use is based on research evidence and best practice policy.

Elements of a fixed speed camera program

230. The approaches to a fixed camera program can be signed. In Queensland, drivers should pass two signs with at least one of these signs alerting them to the presence of fixed speed cameras. The Queensland Government also places general signage, particularly at state borders, to alert motorists that speed and red light cameras operate in Queensland. The committee supports the use of signs to advise motorists of the presence of fixed speed cameras.
231. There are a number of different types of cameras that can be used to detect speed at a particular location. Queensland is currently trialling a number of camera types for different situations. The committee believes it is important to consider a range of factors when selecting the most appropriate fixed speed camera, including initial purchase cost, costs associated with altering the road environment to ensure the most effective operation of the camera, recurring maintenance costs, ease of transmission of data to QPS, reliability of the camera and the way that the data from the camera fits with the Queensland Government processing systems.
232. In Queensland, the penalty for being detected speeding by a camera varies by the amount over the speed limit that the driver is detected. The monetary penalty for an organisation is significantly higher than that for individuals. This provides an incentive for organisations to identify the driver of the vehicle.
233. It is important, when introducing speed camera programs, that governments communicate the dangers of high speeds in terms of increased injury risk and increased crash risk, articulate the rationale for speed cameras, advise how they are being used, as well as the likelihood of detection and associated penalties. The committee believes that one way to achieve this is to establish a website.

Local government-controlled roads

234. Road safety is an important issue for local governments, as they control a significant proportion of Queensland's road network. Fixed speed cameras are installed on both local government- and state-controlled roads.
235. The committee notes the concerns from a number of groups regarding the level of consultation on the selection of camera sites for fixed speed cameras. The committee concludes that the Queensland Government needs to provide clearer information to local governments, the LGAQ and local road safety advisory committees regarding the criteria for selecting fixed speed camera sites and undertake more consultation during the site selection process to ensure local knowledge, as well as evidence-based data, is used to inform decisions on site selection.
236. Currently, fixed speed cameras are only deployed on roads with speed limits of 60 km/hr or more. However, an evaluation of 10 fixed digital speed cameras in 40 km/hr speed zones in New South Wales indicated that the cameras had an immediate and sustained impact on reducing speeds in school zones. Given the significant risk of injury to vulnerable road users, such as pedestrians, cyclists and school children in a road crash, the committee considers the use of fixed speed cameras on roads with speed limits of less than 60 km/hr is appropriate, particularly outside schools and kindergartens.

Revenue and processing of infringement notices

237. The current processing time for infringement notices varies between seven and ten days from the time of detection to when the notice is sent. QPS is currently considering ways to improve processing times.

238. As part of the inquiry, the committee considered the benefits and costs of outsourcing the CDOP. Evidence presented to the committee suggested that it should continue to be conducted exclusively by appropriately trained non-sworn QPS officers. Although the committee noted the differing requirements regarding the staffing of fixed and mobile speed cameras, the committee concluded that the public perception of speed camera enforcement could be improved if non-sworn officers were to operate speed cameras, allowing police officers to undertake other policing activities in the community.
239. As part of the inquiry, the committee considered privacy issues with some submitters raising concerns about the recording of information through speed cameras. The committee concludes that the public is entitled to know how data from the speed camera program is collected, for what purposes, for whom and for how long the information is held. This information could be made public on a website regarding Queensland's speed camera program.
240. Traffic cameras, including fixed speed cameras, generate significant amounts of revenue. This can lead to claims of revenue raising by governments. In Queensland, the revenue from speed cameras, in excess of administrative costs, must be used for road safety education and awareness programs, road accident injury rehabilitation programs and road funding to improve the safety of state-controlled roads. However, local governments are well placed to contribute to local road safety programs as they understand local issues and are often well connected to the particular groups most affected by road trauma.
241. The committee concludes that it is appropriate to limit the expenditure of revenue collected as a result of fixed speed camera offence detections in excess of the administrative costs of detection. However, the committee believes that, in addition to the existing purposes that the revenue can be used for, this revenue could also be used to improve local government-controlled roads and conduct research that will improve road safety and improve road injury rehabilitation. Additionally, a proportion of the revenue should be placed into a Road Safety Fund. The fund will be accessible to local governments in partnership with community groups and other non-government organisations, through the Queensland Government on a grant basis to address local road safety issues. All revenue should be provided to individual, one-off projects and not used for recurrent funding.
242. The committee concludes that there is a low level of public awareness of the restrictions placed upon monies collected from camera detected offences and the road safety benefits of speed cameras. The committee has recommended to the Queensland Government that a website be established informing motorists of how speed camera revenue is spent, the evaluation of speed camera effectiveness and how speed camera sites are chosen.

New technology

243. The Queensland Government is in the process of upgrading its traditional wet-film camera technology to digital camera technology. Digital technology will allow QPS to install and trial a wider range of fixed speed cameras, including 'spot' speed, combined red light and speed as well as point-to-point camera systems.
244. Combined red light and speed cameras are capable of detecting both red light and speed violations simultaneously at signalised intersections. The purpose of these cameras is to improve speed and red light compliance at intersections in order to reduce the number and severity of crashes.

245. The purpose of point-to-point speed cameras is to reduce speed and road trauma over a longer stretch of road. This type of system uses a number of cameras that monitor and calculate average traffic speeds over a length of road to detect if speed infringements have occurred. The Queensland Government is currently trialling its point-to-point speed camera over a 13 kilometre stretch of the Bruce Highway from Caloundra Road to Wild Horse Mountain at Beerburrum.
246. ISA systems aim to manage speed through modifying driver behaviour and managing vehicle speeds, rather than enforcing speed limits by punishment. The level of intervention provided by the ISA system varies by system. The benefits of this technology include the ability to decrease the occurrences of speeding, particularly 'low range' speeding of up to 10 km/hr over the speed limit.
247. VAS or SAS are electronic signs that are used to display changeable and dynamic messages to drivers. The potential for these systems to be effective results from their novelty, ability to catch the driver's attention and the immediacy of the feedback provided by the message. In Queensland, 18 SAS have been installed as a trial on state-controlled roads.
248. The committee notes that there is a limited amount of evaluation information regarding the use of new speed enforcement technologies, such as point-to-point and combined red light and speed camera systems, as well as vehicle activated signs. Therefore, the committee believes that the Queensland Government should undertake a comprehensive evaluation of all new speed enforcement technologies that they are trialling.

APPENDIX A – ADVERTISEMENT CALLING FOR SUBMISSIONS



**ECONOMIC DEVELOPMENT COMMITTEE
CALL FOR SUBMISSIONS**

INQUIRY INTO FIXED SPEEDING CAMERAS

The Economic Development Committee, an all-party committee of the Queensland Parliament, is calling for submissions to its inquiry into the road safety benefits of fixed speed cameras.

Further information is available in the committee's issues paper available from www.parliament.qld.gov.au/edc or 1800 504 022.

Please send your submissions by **30 April 2010** to:
The Research Director, Economic Development Committee
Parliament House, George Street
Brisbane Qld 4000

Evan Moorhead MP
Chair

CM 130310

APPENDIX B – LIST OF SUBMITTERS

- Submission 1: Mr Lionell Pack
Submission 2: Mr Trevor Hart
Submission 3: Mr Robin Gray
Submission 4: Withdrawn
Submission 5: Mr Tony McRae
Submission 6: Mr Brett Warren
Submission 7: Josh
Submission 8: Mr James Underwood
Submission 9: Withdrawn
Submission 10: Mr Phil Caldwell
Submission 11: Mr Peter Butler
Submission 12: Mr Nick Heywood
Submission 13: Mr Chris Sinclair
Submission 14: Mr Wayne Wendt MP
Submission 15: Mr David Kennedy
Submission 16: Mr Sam Smerdon
Submission 17: Mr Scott Durston
Submission 18: Mr Trevor Bryce
Submission 19: Mr Geoff Lewis
Submission 20: Mr John Evans
Submission 21: Professor Rod McClure, Monash University Accident Research Centre
Submission 22: Mr Dan Svantesson, Australian Privacy Foundation
Submission 23: Mr Daniel Perowne
Submission 24: Mr Colin Harris
Submission 25: Mr Paul Colmer
Submission 26: Mr Scott Hendry
Submission 27: Mr Daniel Calvert
Submission 28: Mr Nathan Thorne
Submission 29: Dr Soames Job, New South Wales Centre for Road Safety, Roads and Traffic Authority
Submission 30: Mr Graeme Ransley, Road Accident Action Group (RAAG)
Submission 31: Mr Trevor Natt, Fly'n'Eye
Submission 32: Mr Gavin Goeldner, National Motorists Association Australia
Submission 33: Mr Harry Brelsford, Roadsense.com.au

- Submission 34: Ms Simone Talbot, Local Government Association of Queensland
- Submission 35: Professor Tim Prenzler, Australian Research Council Centre of Excellence in Policing and Security, Griffith University
- Submission 36: Mr Nick Wall
- Submission 37: Mr Greg Underwood, Redland City Council
- Submission 38: Ms Carole Single, Mackay Road Accident Action Group, Single Transport Services
- Submission 39: Mr Nathan Thorne
- Submission 40: Hon Michael Wright MP, Minister for Police, South Australia
- Submission 41: Hon Rob Johnson MLA, Minister for Police; Emergency Services; Road Safety, Western Australia
- Submission 42: Royal Automobile Club of Queensland
- Submission 43: Centre for Accident Research and Road Safety – Queensland
- Submission 44: Mr Jason Deller
- Submission 45: Ms Michelle Fyfe, Commander, Specialist Enforcement and Operations Portfolio, Western Australia Police
- Submission 46: Queensland Government
- Submission 47: Mr Terry Kelly
- Submission 48: Mr Jason Deller, Institute of Public Works Engineering Australia Queensland Division
- Submission 49: Mr Colin Harris

APPENDIX C – LIST OF ORGANISATIONS MET DURING COMMITTEE’S STUDY TOUR

ORGANISATION	INDIVIDUALS
Road Safety Committee, Parliament of Victoria	Mr John Eren MP (Chair) Mr Craig Langdon MP (Member) Ms Alexandra Douglas (Executive Officer)
Economic Development and Infrastructure Committee, Parliament of Victoria	Hon Christine Campbell MP (Chair) Dr Vaughn Koops (Executive Officer)
Monash University Accident Research Centre (MUARC)	Dr Stuart Newstead
Traffic Camera Office, Victoria Police	Superintendent Neil Paterson Senior Sergeant Ron Ritchie
National Transport Commission	Dr Jeff Potter (Senior Manager, Safety) Ms Lynne Habner (General Manager, Corporate)
Victorian Department of Justice	Dr Robyn White (Director, Infringement Management and Enforcement Services) Mr Paul McKenzie (Manager, Camera Operations) Mr Brendan Facey (Director, Policy and Strategic Service)

APPENDIX D – PUBLIC HEARING WITNESSES

<p>Prof Barry Watson Director Centre for Accident Research and Road Safety - Queensland</p>	<p>Mr David Soole Assistant Project Officer Centre for Accident Research and Road Safety - Queensland</p>
<p>Dr Judy Fleiter Senior Research Officer Centre for Accident Research and Road Safety - Queensland</p>	<p>Mr John Wikman Executive Manager Traffic and Safety Royal Automobile Club of Queensland</p>
<p>Mr Joel Tucker Senior Road Safety Advisor Royal Automobile Club of Queensland</p>	<p>Mr Michael Bates President National Motorists Association of Australia</p>
<p>Mr Gavin Goeldner Vice-President National Motorists Association of Australia</p>	<p>Mr Greg Hoffman General Manager Advocate, Local Government Association of Queensland</p>
<p>Ms Rebecca Michael Principal Advisor Local Government Association of Queensland</p>	<p>Mr Jason Deller Institute of Public Works Engineering Australia Queensland Division</p>
<p>Ms Suzanna Barnes-Gillard CEO Institute of Public Works Engineering Australia Queensland Division</p>	<p>Mr David Stewart Director-General Department of Transport and Main Roads</p>
<p>Mr Mike Stapleton Executive Director (Road Safety) Department of Transport and Main Roads</p>	<p>Acting Chief Superintendent Col Campbell Manager State Traffic Support Branch, Queensland Police Service</p>
<p>Inspector Allan Hales Officer in Charge, Traffic Camera Office Queensland Police Service</p>	<p>Mr Ian Stewart Deputy Commissioner (Specialist Operations) Queensland Police Service</p>
<p>Mr Scott Hendry Private capacity</p>	<p>Mr Trevor Bryce Private capacity</p>

APPENDIX E – ADVERTISEMENT FOR PUBLIC HEARING



ECONOMIC DEVELOPMENT COMMITTEE

NOTICE OF PUBLIC HEARING

The Queensland Parliament's Economic Development Committee invites the public to observe the proceedings at a hearing for its inquiry into the road safety benefits of fixed speed cameras at:

Time 8.30am to 3.30pm
Date Friday, 6 August 2010
Place Parliamentary Annexe,
Dandair Room, Alice St.

RSVP by 2 August on (07) 3406 7486

CM 310710

APPENDIX F – S.107 OF THE PARLIAMENT OF QUEENSLAND ACT

s. 107 Ministerial response to committee report

- (1) This section applies if—
- (a) a report of a committee, other than the Scrutiny of Legislation Committee, recommends the Government or a Minister should take particular action, or not take particular action, about an issue; or
 - (b) a report of the Members' Ethics and Parliamentary Privileges Committee recommends a motion be moved in the Assembly to implement a recommendation of the committee.
- (2) The following Minister must provide the Assembly with a response—
- (a) for a report mentioned in subsection (1)(a)—the Minister who is responsible for the issue that is the subject of the report;
 - (b) for a report mentioned in subsection (1)(b)—the Premier or a Minister nominated by the Premier.
- (3) The response must set out—
- (a) any recommendations to be adopted, and the way and time within which they will be carried out; and
 - (b) any recommendations not to be adopted and the reasons for not adopting them.
- (4) The Minister must table the response within 3 months after the report is tabled.
- (5) If a Minister can not comply with subsection (4), the Minister must—
- (a) within 3 months after the report is tabled, table an interim response and the Minister's reasons for not complying within 3 months; and
 - (b) within 6 months after the report is tabled, table the response.
- (6) If the Assembly is not sitting, the Minister must give the response, or interim response and reasons, to the Clerk.
- (7) The response, or interim response and reasons, is taken to have been tabled on the day they are received by the Clerk.
- (8) The receipt of the response, or interim response and reasons, by the Clerk, and the day of the receipt, must be recorded in the Assembly's Votes and Proceedings for the next sitting day after the day of receipt.
- (9) The response, or interim response and reasons, is a response, or interim response and reasons, tabled in the Assembly.
- (10) Subsection (1) does not prevent a Minister providing a response to a recommendation in a report of the Scrutiny of Legislation Committee if it is practicable for the Minister to provide the response having regard to the nature of the recommendation and the time when the report is made.
- Example—*
- If the committee recommends that a Bill be amended because, in the committee's opinion, it does not have sufficient regard to fundamental legislative principles and the Bill has not been passed by the Assembly, it may be practicable for the Minister to provide a response.
- (11) Subsection (6) does not limit the Assembly's power by resolution or order to provide for the tabling of a response, or interim response and reasons, when the Assembly is not sitting.
- (12) This section does not apply to an annual report of a committee.

APPENDIX G – REFERENCES REFERRED TO IN TABLES 1 AND 4

Table 1: Characteristics associated with increased propensity to speed and speed-related crash involvement (page 5)

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Table 4: Key study summaries: effectiveness of fixed speed cameras (page 24)

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