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Author Traffic and Safety Department,
RACQ

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Executive Summary

In this submission the Royal Automobile Club of Queensland Limited (RACQ) addresses the issues for comment raised in the Queensland Parliamentary Economic Development Committee's *Issues Paper No. 2: Inquiry into the road safety benefits of fixed speed cameras*.

The RACQ, throughout the Club's 105 year history, has acknowledged motor vehicle speed as a key issue for road safety, and was an active participant in the Queensland Parliamentary Travelsafe Committee's 1994 inquiry into whether speed cameras should be used in Queensland.

The Club has been an active participant in the Queensland mobile speed camera program since its introduction, providing input in relation to site selection to the Traffic Advisory Committees and Speed Management Advisory Committees.

Since the introduction of fixed speed cameras in Queensland in 2007, the RACQ has provided limited input on fixed speed camera site selection issues.

The RACQ's recommendations in relation to this enquiry follow.

- The RACQ recommends that fixed speed cameras be used as a supplementary (not primary) form of speed enforcement, to support the existing and proven mobile speed camera program and the Queensland Police Service's (QPS) on-road police patrol presence.
- The RACQ recommends that the role of speed cameras (and all speed enforcement in Queensland) be to reduce the likelihood and severity of speed-related crashes.
- The RACQ recommends that fixed speed camera sites in Queensland continue to be signed.
- The RACQ recommends that the Queensland Government establish and maintain a website detailing the locations and types of fixed speed cameras used in Queensland which also provides statistics supporting the installation of fixed speed cameras at those sites.
- The RACQ recommends that Queensland conduct detailed research into the efficacy of the state's current fixed speed cameras to determine crash and casualty reductions, similar to the research conducted by Monash University Accident Research Centre (MUARC) with regard to Queensland's mobile speed camera program, as well as benefit cost ratios compared to other forms of speed enforcement in Queensland.
- The RACQ recommends that the minimum speed limit of 60km/h for a road on which any form of fixed or mobile speed camera may be installed in Queensland should be retained.
- The RACQ recommends the introduction of a requirement that combined speed and red light cameras must meet the requirements for both fixed speed cameras and red light cameras, rather than the requirements for one or the other.
- The RACQ recommends the introduction of more detailed criteria for point-to-point cameras, to include a Top 10 list of Equivalent Property Damage Only (EPDO)



zones for point-to-point cameras, based on a 'significant history' requirement of 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, over five years. If the trial of the technology is successful and there is to be further roll-out of the cameras in Queensland, these criteria should be adopted.

- The RACQ recommends the introduction of a requirement that sections of road monitored by point-to-point speed cameras are not to include active speed camera sites (fixed or mobile).
- The RACQ recommends that road authorities incorporate adequate enforcement bays and safe parking areas into plans for future new road projects, so that fixed speed cameras do not become the default enforcement option.
- The RACQ recommends that any roll-out of new speed detection technology follows appropriate trial periods.
- The RACQ recommends that any roll-out of new speed detection technology follows formal research into the efficacy of Queensland's current fixed speed cameras (as recommended in the response to Question 3) as well as similar research into the proposed technologies.
- The RACQ recommends that any roll-out of new speed detection technology adheres to strict site-selection criteria which have been agreed to by all relevant stakeholders (e.g., Department of Transport and Main Roads [DTMR], QPS, RACQ and Local Governments), and on which the public has been educated through appropriate media.
- The RACQ recommends that the Queensland Government make speed enforcement appear less excessive by continuing to focus on traditional, on-road police enforcement of all traffic offences in Queensland.
- The RACQ recommends that if point-to-point speed cameras using Automatic Number Plate Recognition (ANPR) technology are introduced in Queensland, then consideration be given to the introduction of mobile ANPR technology to enforce other, non-speeding offences e.g., stolen or unregistered vehicles.
- The RACQ recommends that the Queensland Government monitors the development of Intelligent Speed Advisory/Adaptation (ISA) devices and introduction into vehicles.
- The RACQ recommends that there be further discussion between the Queensland Government and appropriate stakeholders, including RACQ, about potential initiatives to improve public perceptions of serious speeding offences, and compliance with set speed limits across Queensland's road network.
- The RACQ recommends that all speed enforcement in Queensland continues to be conducted exclusively by appropriately trained QPS officers.



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Introduction

In this submission the Royal Automobile Club of Queensland Limited (RACQ) addresses the issues for comment raised in the Queensland Parliament Economic Development Committee's *Issues Paper No. 2: Inquiry into the road safety benefits of fixed speed cameras*. This document will be referred to throughout the rest of this submission as 'the *Issues Paper*'.

At page 1 of the *Issues Paper* (Economic Development Committee 2010), the terms of reference for the inquiry are stated as:

- "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; and
- The appropriate role of fixed speed cameras in the overall speed enforcement regime."

The RACQ, now representing some 1.2 million members, and having been an advocate for safer and more efficient road travel since the Club's formation in 1905, appreciates being given the opportunity to make a submission to this inquiry.

However the Club points out that the Inquiry terms of reference, by focussing only on fixed speed cameras, limit our ability to address the questions raised in the *Issues Paper* sufficiently.

Detailed responses require consideration of Queensland's speed enforcement policy in general, including other enforcement methods used in Queensland which have predated the fixed speed camera program, e.g., hand-held devices, mobile speed cameras, mobile RADAR.

Background and RACQ's Involvement in Queensland's Speed Camera Program

The RACQ acknowledges the importance of motor vehicle speed to road safety, and has done so for over 100 years. In fact, in 1906 the Club lobbied the Police Commissioner for amendments to regulations to allow for motorised traffic, which resulted in new speed limits for Queensland's roads (*The Road Ahead* February/March 2005, p8).

More recently, the RACQ was an active participant in the Queensland Parliamentary Travelsafe Committee's 1994 inquiry into whether speed cameras should be used in Queensland.

The RACQ's comments to that Inquiry, in summary, were that our organisation would support the introduction of speed cameras in Queensland provided:

- the prime objective for the speed camera program was the reduction of accidents and casualties;
- the use of speed cameras was restricted to sites with a high crash incidence due to excessive speeding;
- prior to the introduction of speed cameras a thorough review and adjustment of speed limits was completed;
- the Queensland Police would be responsible for operating speed cameras;
- Queensland Police operators conformed not only to strict operating guidelines but understood and supported the objective;
- 'owner onus' protection was provided for legitimate reasons;
- a comprehensive public education campaign was mounted to inform drivers of the purposes, methods and consequences of speed camera operation;



- revenue generated by fines from speed cameras was applied in total to the elimination of the problems speed cameras were aimed at reducing; and
- a committee was established to designate suitable speed camera sites based on satisfactory criteria (RACQ 1994, p10).

The RACQ's comments were largely reflected in the resulting mobile speed camera system, which the Club believes resulted in a reasonably accountable and effective program.

The Club has remained an active participant in the Queensland speed camera program since its introduction, providing input in relation to site selection to the Traffic Advisory Committees and Speed Management Advisory Committees.

We have been disappointed in recent years, however, that the RACQ has not been consulted in relation to speed enforcement decisions to the level (both in frequency and detail) that it had been previously. Prime examples of this were the introduction of fixed speed cameras and their associated site selection criteria, and the decision to introduce some covert mobile speed cameras in Queensland.

To an extent the consultation process has changed from being 'inclusive' to an 'informing' relationship on behalf of the relevant Queensland Government Departments in that they no longer request input, but inform RACQ about decisions that have already been made, often, with little or no time for questions, comments, feedback or preparation before public announcement.

The RACQ supports in principle the use of fixed speed cameras to supplement other speed deterrence and enforcement measures, especially in areas where speed is a problem yet traffic conditions or road design make these other measures unsafe or impractical. However, we are disappointed that our organisation was not consulted in relation to the site selection criteria for the three "trial" fixed camera sites introduced in late 2007, i.e., the "Crash Risk Score", for assessing the sites most worthy of fixed cameras and extending the camera 'zones' from the traditional 1km diameter to a road section that is 2km in length.

Given that the RACQ has played a constructive role for the past decade, we would also have expected an opportunity to provide input into the design and placement of advance warning signs preceding the fixed speed cameras. However, the RACQ was first made aware of the new conditions at a briefing in late 2007.

Issues for comment

In this submission, the RACQ will answer each of the issues for comment raised in the *Issues Paper*, in the order that they have been raised.

1.0 What is the appropriate role for fixed speed cameras in enforcing speed limits in Queensland?

In the Club's 1994 submission we placed significant emphasis on the fact that the objective for the introduction of speed cameras in Queensland must be road safety improvement through a reduction in crash frequency and severity, and this position remains unchanged to date.

We also acknowledged in 1994, and continue to acknowledge now, that speed cameras are only one form of speed enforcement available to the Queensland Police Service (QPS), and that speeding is only one contributing factor (albeit an important one) to road crashes.



The RACQ believes that it is important that enforcement measures be balanced between:

- camera-detected and face-to-face interventions, particularly for speeding offences, to promote deterrence; and
- resources devoted to speeding offences and other risky driving behaviours.

When former Premier Peter Beattie, on 22 February 2006 addressed the Queensland Road Safety Summit, and announced that fixed speed cameras would be introduced (Hansard February 2006, p17), the RACQ was surprised and disappointed that we had not been directly consulted prior to the decision.

This resulted in the Club having to play 'catch-up' in relation to the predetermined site selection criteria for the devices, and their role in relation to other methods of speed enforcement, after they had already been introduced by the Queensland Government.

The Club learned of the actual site selection criteria for fixed speed cameras only a short time before the first device became operational in late 2007 – long after the introduction of the devices had been announced.

The RACQ, based on our limited involvement in the decision to introduce fixed speed cameras in Queensland and our policy that speed enforcement be balanced between camera and face-to-face methods, sees the role of fixed speed cameras as supplementary to other methods of speed enforcement (including mobile speed cameras, hand-held LIDAR and on-road police patrols) and not as the main means of enforcing speeding offences in Queensland.

In fact, the Club has generally been of the view that fixed speed cameras should be used only in locations in which mobile speed cameras (which as mentioned in the *Issues Paper* have been proven to be effective in reducing crashes and casualties at high-risk locations) or other enforcement methods are unable to be used, e.g., due to workplace health and safety or enforcement technology considerations.

Recommendations:

- The RACQ recommends that fixed speed cameras be used as a supplementary (not primary) form of speed enforcement, to support the existing and proven mobile speed camera program and QPS on-road police patrol presence.
- The RACQ recommends that the role of speed cameras (and all speed enforcement in Queensland) be to reduce the likelihood and severity of speed-related crashes.

2.0 Does prominent speed camera signage promote a safer road speed environment?

Since 1994 The RACQ has held the view that, as the prime objective of using speed cameras is to reduce crashes at high risk locations by slowing traffic, signing of speed camera sites assists in this goal.

In 1994 (p8), we suggested that the signs relating to speed cameras could take the following forms:

- general area signs warning of the use of speed cameras in the area or along a particular route;



- permanent signs repeating the message in the more immediate vicinity of the designated sites; and
- portable signs announcing a vehicle had just passed through a speed camera site”.

RACQ acknowledged then (1994, p8) that signing of speed cameras would reduce the number of drivers caught speeding by reducing travel speeds, but we also identified that if sites are signed the drivers who are detected speeding are likely to be:

- reckless and disregarding authority and road safety obligations; or
- not concentrating adequately on the driving task.

We were pleased that guidelines relating to the display of a sign located after the speed camera van (signifying that the motorist has passed a speed camera site) were adopted into QPS guidelines for mobile speed cameras. This has raised among our members an expectation that camera sites should be signed to some extent.

The RACQ is aware that the QPS has recently announced adoption of a policy that includes covert (unsigned) mobile speed cameras in Queensland. The RACQ was again disappointed not to be involved in this decision, and we would welcome any detailed research justifying this decision and any relevant links to the fixed speed camera program.

It appears to the RACQ that there is evidence (overseas and interstate) to support both covert and overt speed cameras; but, considering the lack of relevant local research directly comparing and displaying a clear benefit for either approach (in reduction of crash frequency and severity terms), the method most acceptable to the public should take precedence.

When former Premier Peter Beattie addressed the Queensland Road Safety Summit on 22 February 2006, he said:

“We got the message about fixed speed cameras out of the summit. Yes, fixed speed cameras will be well signed. Sites will be based on road crash statistics or where mobile vans cannot be located [...] The fixed speed cameras will be well signed so no-one will have any excuse. Everyone will be able to see them. We will publish on the internet—and Judy made this suggestion this morning—the areas where road accidents are occurring. We will try to get free media coverage of them and get people to publish them as widely as possible so that everyone will be aware of them. We will erect signage telling people that they are entering a speed camera zone. We will start with areas where there are the highest number of accidents and the greatest volume of traffic. The signs obviously will be phased in. The signs will be similar to those in New South Wales.”
(Hansard February 2006, p17).

Based on this commitment, there has been, since the introduction of fixed speed cameras in Queensland, an expectation that the sites would be appropriately signed.

The Club is pleased that the operational fixed speed camera sites to date have all been signed on approach and have painted road markings, with the exception of those in the Clem 7 tunnel.

The Clem 7 tunnel sites are a concern because physical conditions in the tunnel have caused signing of the speed cameras used in the tunnel to be inconsistent with the signs provided at other (outdoor) fixed speed camera sites.



As the RACQ advocates for fixed speed camera sites to continue to be signed, we also acknowledge that an additional, Queensland Government-maintained website detailing the locations and types of fixed speed cameras used in Queensland (including any combined red light-speed cameras), along with the statistics justifying their installation, could also be an additional tool for improving public acceptance of the speed camera program.

This website could include information similar to that provided by:

- the Thames Valley Safer Roads Partnership at <http://www.saferroads.org/media/pdfs/reports/TVSRPsiteList.pdf>, which features street names, suburbs/localities, the speed limit, the type of camera used and the map reference numbers of the locations; and/or
- the State of Victoria at <http://www.justice.vic.gov.au/camerascutcrashes/>, which features street names, suburbs/localities, the direction of travel, and an interactive map of locations for fixed cameras, along with additional information relating to camera types and maintenance.

Recommendations:

- The RACQ recommends that fixed speed camera sites in Queensland continue to be signed.
- The RACQ recommends that the Queensland Government establish and maintain a website detailing the locations and types of fixed speed cameras used in Queensland which also provides statistics supporting the installation of fixed speed cameras at those sites.

3.0 *How effective are the existing fixed speed cameras in decreasing crash risks and changing driver behaviour in Queensland?*

While Queensland's mobile speed camera program has been evaluated, we are not aware of any similar detailed evaluation relating to the fixed speed camera program.

Almost all studies relating to other jurisdictions' speed camera programs (mobile and fixed), while differing in details, provide positive results for the effectiveness of the programs in speed and crash reduction (SWOV 2009, p2 and Delaney et al. 2004, p1). Therefore it would not be surprising if the results of a study of Queensland's fixed speed cameras also returned positive results, based on the fact that they are supposed to be situated in locations where other types of enforcement are not available (see comments to site selection criteria in section 4.0).

Notwithstanding this, the RACQ believes that detailed research into the actual efficacy of Queensland's fixed speed cameras should be undertaken to determine:

- how effective they are in reducing speed-related crashes;
- how effective they are in reducing injuries and fatalities as a result of speed-related crashes; and
- the benefit cost ratio for Queensland's fixed speed cameras, compared with other forms of speed enforcement in Queensland.



Recommendation:

- The RACQ recommends that Queensland conduct detailed research into the efficacy of the state's current fixed speed cameras to determine crash and casualty reductions, similar to the research conducted by Monash University Accident Research Centre (MUARC) with regard to Queensland's mobile speed camera program, as well as benefit cost ratios compared to other forms of speed enforcement in Queensland.

4.0 What criteria should be used to select fixed speed camera sites?

While the RACQ was not consulted on appropriate selection criteria for fixed speed cameras prior to their introduction, we were involved with the mobile speed camera program's site selection criteria. In order that fixed camera criteria can be discussed, the mobile speed camera criteria need to be outlined first, because the RACQ believes that the fixed camera system should, to some extent, relate to the mobile camera system.

RACQ's original view (1994, p6-7) on speed camera site selection criteria included the following considerations:

- a record of crashes due to excessive speed;
- traditional methods for policing the site have been unsuitable or ineffective;
- the posted speed limit is assessed as realistic and adequately signed;
- actual camera sites are not too close to a posted speed change;
- cameras, when sited, comply with relevant Australian Standards; and
- the RACQ should be closely involved in the selection of suitable speed camera sites, which would be best achieved through a committee.

The resulting Queensland mobile speed camera program, which came into operation in 1997, largely reflected these suggested criteria.

The RACQ understands that the current selection criteria for mobile speed camera sites are as follows:

- the primary criterion for the selection of speed camera zones is a history of speed related crashes of all severities (we understand the general guideline is at least two), or serious casualty crashes that are non-intersection related, based on data that is no more than five years old;
- the secondary criteria for identifying proposed speed camera zones are related to locations where road works are being conducted, validated public complaints, or stakeholder concern and/or local knowledge of problem locations;
- all nominated roads must have had a speed limit review;
- sites must meet Australian Standards requirements for the operation of radar devices; and
- sites must meet QPS workplace health and safety requirements (QPS and Queensland Transport 2003,p2).

The minimum speed limit applying to roads on which both fixed and mobile speed cameras may be used in Queensland is 60km/h. The RACQ believes that this should be retained. With regard to fixed speed cameras, the RACQ has only recently been privy to the written documentation relating to site selection criteria, long after the first fixed speed camera was activated in late 2007.

The Department of Transport and Main Roads (DTMR) and QPS document entitled *Fixed*



speed and red light camera site selection guidelines April 2009 (p3) states that Queensland's fixed speed camera site selection is guided by the following principles:

- *“When a location is identified as requiring camera enforcement, mobile speed cameras should first be considered due to their proven ability to deliver general deterrence.*
- *Site selection will be evidence-based and targeted to maximise improvements in road safety.*
- *The selection of sites will contribute to the integrity and credibility of the CDOP [Camera Detected Offence Program].*
- *Sites will be identified by crash history (proven risk) or crash potential (assessed risk).*
- *Fixed cameras will be deployed where it is unsuitable to enforce by either mobile cameras or effectively by other means (such as handheld radar or police patrol) or where there is sustained crash risk that is not able to be resolved by other means.*
- *Fixed camera enforcement will support general deterrent strategies such as mobile speed cameras, police enforcement, education and engineering.”*

These principles reinforce the RACQ's view that the fixed speed camera program should be only part of the overall speed enforcement strategy, not the focus.

According to the aforementioned DTMR and QPS *Fixed speed and red light camera site selection guidelines* April 2009 (p3), proposed fixed speed camera locations are identified based on two criteria:

- crash history (proven risk); or
- crash potential (assessed risk).

The crash history criteria are defined at page 5-6 of the DTMR and QPS (2009) document as follows:

“In order to locate fixed speed cameras based on proven risk the Department of Transport and Main Roads will:

1. *Determine that at least five ‘speed camera criteria crashes’ have been identified in the zone in the preceding five years.*
2. *Calculate aggregate crash severity scores using the equivalent property damage only [EPDO] method and produce a list of the top 50 candidate fixed camera zones.*
3. *Map the top 50 zones to show their location, and those of existing fixed speed cameras which may be situated nearby.*
4. *Present the top 50 list and maps to QPS for operational assessment of sites.*
5. *Zones with the worst aggregate crash severity scores will be preferred except where operational considerations exclude it.*

Fixed speed cameras should be confined to major urban roads where there are no signalised intersections to install a combined red light/speed camera or there is a significant crash problem at a mid-block location. When it is necessary to install the camera at an intersection, a combined red light/speed camera should be installed.”

The crash potential criteria are defined in general terms at page 4-5 of the DTMR and QPS *guidelines* document (2009) as follows:



“Zones may also be identified for camera enforcement based on an assessment of their ‘potential’ for crashes where fixed camera enforcement would minimise the risk. Such zones may be characterised by:

- *Excessive high risk driver behaviour;*
- *High risk of speed camera criteria crashes;*
- *Inability to effectively enforce by means other than fixed cameras; and*
- *Enclosed or elevated road environment or other factors that are likely to increase the likelihood or severity of crashes.*

Tunnels and bridges are one such example that present a clear potential risk due to the inability of police to enforce using conventional methods, such as mobile speed cameras, which may result in poor driver behaviour compliance and increased crash risk. In addition, such roads present additional risk in the event of a crash due to the likelihood of fire and toxic gases and access difficulties for emergency vehicles and personnel.

Roads in the planning or construction phases may be selected for fixed camera enforcement provided they meet the above criteria. This proactive approach ensures that fixed cameras are able to be used to minimise the assessed crash risk from the time when such roads begin to carry traffic.”

These criteria appear to have noticeably been made quite broad, to allow fixed speed cameras to be placed on new roads. It is worth noting, however, that page 4 of the DTMR and QPS (2009) *guideline* document also specifies that:

“It is expected that the identification of zones for fixed camera enforcement on the basis of crash potential would be exceptional. The proposal may originate from risk assessments undertaken, according to the criteria (below), by the Department of Transport and Main Roads and QPS. If senior officers from the agencies agree that the crash potential warrants a specific fixed camera treatment, an operational assessment of the proposed site would then occur.”

It is the RACQ’s understanding that if the crash history/proven risk criteria is used, the Equivalent Property Damage Only (EPDO) method applies points to zones based on both the severity and frequency of the crashes – so that the sites with a higher frequency of severe crashes will achieve a higher ranking (DTMR and QPS 2009, p4). Zones are all ranked based on their EPDO scores, with the highest ranking zones considered for QPS operational assessment first.

The Club is concerned that sites justified using assessed risk can be subject to permanent fixed speed camera enforcement before the road/infrastructure becomes open to any traffic, let alone having a crash history. The Club believes that tunnels and bridges, due to difficult alternative access and confined risk factors, should be subject to assessed risk criteria, but that resources may be better utilised if, during the design stage, authorities ensure that new infrastructure can accommodate traditional enforcement methods (e.g., enforcement bays for mobile speed cameras, or providing pull-over areas to stop offenders and accommodate disabled vehicles or other incidents).

The Club understands that, as opposed to mobile speed camera zones, which are 1km in diameter in urban areas and 5km in diameter in rural areas, fixed speed cameras sites are based on a crash history for a section of road that is 2km in length.



The required crash history for fixed camera sites of differing types (according to DTMR and QPS 2009, p5-6) are detailed in Table 1:

Table 1: Current crash criteria by fixed camera type

Camera Type	Data Years	No of Crashes	No of EPDO zones
Red Light Camera	5 years	≥5 red light camera type crashes	Top 50
Fixed Speed Cameras	5 years	≥5 speed camera criteria crashes over a 2km length of road	Top 50
Point-to-point Speed Cameras	5 years	Length of road (more than 2km in length) with 'significant history' of speed camera criteria crashes	No requirement

In relation to these criteria, the RACQ believes that combined speed and red light cameras should ideally meet both sets of criteria (for red light cameras and fixed speed cameras), not one or the other.

The Club also believes that there should be more detailed criteria for point-to-point speed cameras if they are to be further rolled-out after the trial of the technology is complete, as 'significant history' does not appear to be defined by the QPS and DTMR. Further, priority locations for the technology should be determined based on an EPDO method, as with other fixed cameras.

The Club believes that once the trial is complete, a Top 10 list of EPDO zones for point-to-point cameras should be provided, and that zones should require (as their 'significant history') 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.

Table 2: Suggested crash criteria by fixed camera type

Camera Type	Data Years	No of Crashes	No of EPDO zones
Red Light Camera	5 years	≥5 red light camera type crashes	Top 50
Fixed Speed Cameras	5 years	≥5 speed camera criteria crashes over a 2km length of road	Top 50
Speed and Red Light Cameras	5 years	≥5 red light camera type crashes and ≥5 speed camera criteria crashes over a 2km length of road	Top 50
Point-to-point Speed Cameras	5 years	Length of road (more than 2km in length) with ≥5 speed camera criteria crashes, with average of ≥1 speed camera criteria crashes per kilometre.	Top 10

Based on these criteria, point-to-point installations will obviously be most suitable for sections of a particular road that meet the criteria for multiple fixed speed camera sites adjacent (or close to) each other, but offer an expected less costly solution to multiple fixed cameras.

For best effect the section of road monitored by point-to-point speed cameras should have limited entry/exit points (intersections) and, in the interests of public acceptance, point-to-point speed cameras monitoring a section of road should include no other active speed camera sites (fixed or mobile) within the monitored section of road.



Recommendations:

- The RACQ recommends that the minimum speed limit of 60km/h for a road on which any form of fixed or mobile speed camera may be installed in Queensland should be retained.
- The RACQ recommends the introduction of a requirement that combined speed and red light cameras must meet the requirements for both fixed speed cameras and red light cameras, rather than the requirements for one or the other.
- The RACQ recommends the introduction of more detailed criteria for point-to-point cameras, to include a Top 10 list EPDO zones for point-to-point cameras, based on a 'significant history' requirement of 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, over five years. If the trial of the technology is successful and there is to be further roll-out of the cameras in Queensland, these criteria should be adopted.
- The RACQ recommends the introduction of a requirement that sections of road monitored by point-to-point speed cameras are not to include active speed camera sites (fixed or mobile).

5.0 Are fixed speed cameras more suited to specific road environments?

The RACQ believes that fixed speed cameras are more suited to specific road environments.

As stated by the DTMR and QPS guidelines (and mentioned previously in this submission), they are more suited to locations at which the proven mobile speed cameras may not be used.

Furthermore, fixed speed cameras are best suited to locations that meet the relevant Australian Standards requirements relating to speed detection devices (e.g., RADAR and LIDAR), and locations which suit the technical requirements of the device (e.g., power, alignment, etc).

An issue of concern to the RACQ is the fact that by building new road infrastructure (or upgrading old infrastructure) without adequate places for police to conduct enforcement, e.g., enforcement bays for police vehicles to be parked for LIDAR or mobile speed camera use, fixed speed cameras can become the only option for speed enforcement on that section of road.

Bearing in mind the Club's view that fixed speed cameras should supplement and not replace the proven mobile speed camera program and traditional face-to-face speed enforcement methods, the RACQ believes that there is a need for adequate enforcement bays and safe parking areas to be incorporated into plans for future new road projects.



Recommendation:

- The RACQ recommends that road authorities incorporate adequate enforcement bays and safe parking areas into plans for future new road projects, so that fixed speed cameras do not become the default enforcement option.

6.0 Will the roll-out of new speed detection technology lead to excessive monitoring of Queensland drivers' speed?

The RACQ does not see a roll-out of new speed detection technology as being excessive monitoring of Queensland drivers' speed provided that:

- any roll-out of new speed detection technology follows appropriate trial periods;
- any roll-out of new speed detection technology follows formal research into the efficacy of Queensland's current fixed speed cameras (as recommended in the response to Question 3) and research to verify efficacy of the new technologies; and
- any roll-out of new speed detection technology adheres to strict site-selection criteria which have been agreed to by all relevant stakeholders (e.g., DTMR, QPS, RACQ and Local Governments), and about which the public has been about through appropriate media.

Based on the fact that RACQ member research (Market and Communications Research [MCR] 2008 cited in RACQ 2009[1], p1) shows that 70% of members support more fixed speed cameras in Queensland, 66% agree with the installation of point-to-point/average speed cameras in rural areas and 68% believe that combined speed and red light cameras should be introduced in Queensland, the RACQ believes that the majority of members would not be against such a roll-out.

Our research also shows 86% of RACQ members support more visible police enforcement of all road rules in Queensland, and 71% believe that there should be more unmarked police enforcement of all road rules in Queensland (MCR cited in RACQ 2009[2], p1). Enforcement of all road rules and not just speeding is, therefore, a concern to a large percentage of RACQ's 1.2 million members and should be considered in conjunction with any speed enforcement decisions.

Accordingly, the key to introducing any new speed enforcement technology, with a view to making it appear less excessive, will be a continued focus on traditional, on-road police enforcement of all other traffic offences in Queensland.

Recommendations:

- The RACQ recommends that any roll-out of new speed detection technology follows appropriate trial periods.
- The RACQ recommends that any roll-out of new speed detection technology follows formal research into the efficacy of Queensland's current fixed speed cameras (as recommended in the response to Question 3) as well as similar research into the proposed technologies.
- The RACQ recommends that any roll-out of new speed detection technology adheres to strict site-selection criteria which have been agreed to by all relevant stakeholders (e.g., DTMR, QPS, RACQ and Local Governments), and on which the public has been educated through appropriate media.



- The RACQ recommends that the Queensland Government make speed enforcement appear less excessive by continuing to focus on traditional, on-road police enforcement of all traffic offences in Queensland.

7.0 Are there other technologies that would be more appropriate for reducing crash risk associated with excessive speed?

It is the RACQ's understanding that point-to-point speed cameras are currently being trialled in Queensland. According to overseas research (European Transport Safety Council [ETSC] 2009) point-to-point/average speed/section control cameras have resulted in a reduction in crashes and casualties, as well as congestion, air pollution and noise on monitored roads.

Community support and acceptance is also positive, with the enforcement being viewed as fairer than site-specific speed cameras (ETSC 2009).

This perspective is supported by SWOV (2008, p1) who state that:

“It is to be expected that average speed checks over longer distances are more credible than controls at fixed locations, because a fine for a longer lasting offence is often seen as more just than a fine for a brief one.”

As point-to-point speed cameras often operate using Automatic Number Plate Recognition (ANPR) technology, the RACQ views the trial of this technology in speed enforcement as a potential precursor to the introduction of ANPR for enforcement of other, non-speeding offences. For example, mobile ANPR devices could perhaps be a better use for this enforcement technology to detect offences that have traditionally been more difficult to enforce against, e.g., stolen or unregistered vehicles.

Intelligent Speed Advisory/Adaptation (ISA) devices for vehicles are also being developed and made available to certain extents in a range of jurisdictions. ISA generally operates at two levels – the first being an advisory level that warns the driver of the speed limit for the road they are travelling on, and the second where the vehicle may adapt its speed to the relevant speed limit, despite the driver's inputs.

The RACQ believes that these technologies should be monitored further by the Queensland Government.

Recommendations:

- The RACQ recommends that if point-to-point speed cameras using ANPR technology are introduced in Queensland, then consideration be given to the introduction of mobile ANPR technology to enforce other, non-speeding offences e.g., stolen or unregistered vehicles.
- The RACQ recommends that the Queensland Government monitors the development of ISA devices and introduction into vehicles.



8.0 Are there other issues regarding the use of fixed speed cameras to reduce road-related risks in Queensland?

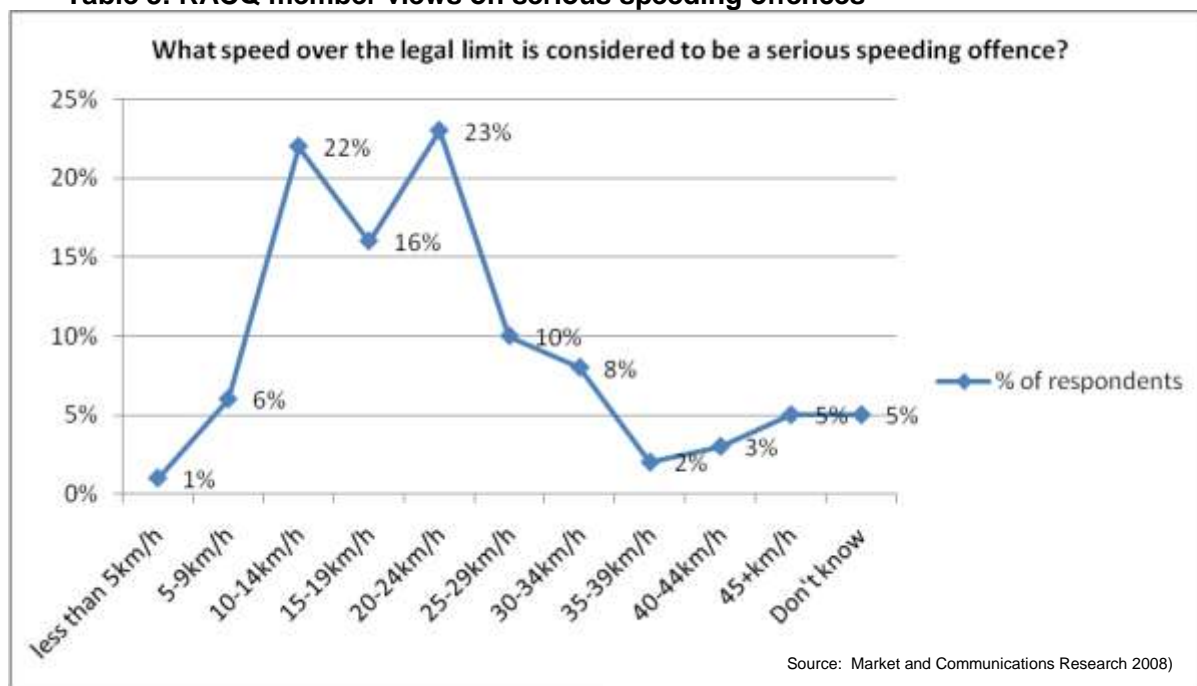
Research shows that if average travel speed can be reduced, it is expected that the number of people killed and seriously injured in crashes can be reduced also (RACQ 2009[1], p1). In the Club's *Road Safety Priorities* fact sheet relating to *Speeding* (RACQ 2009[1], p1) we state that:

"A number of studies into the link between speed and crashes have been undertaken, and common findings are:

- *Small changes in mean average speeds can be expected to result in significant crash outcome changes; and*
- *Serious injury and fatal crashes are more sensitive to speed changes than crashes generally (ETSC 2008, p6)."*

RACQ member research shows only 7% of motorists see speeds under 10km/h over the speed limit as serious speeding offences (MCR 2008) as shown in Table 3.

Table 3: RACQ member views on serious speeding offences



While research (MCR 2008) suggests that most RACQ members support speeds around the current defaults for residential streets and rural highways (indicating that speed limits are generally accepted), there appears to be a disconnect between their perception of appropriate speed limits and what constitutes serious speeding behaviour.

Queensland has the task, therefore, of lowering perceptions of what serious speeding offences are, and RACQ would be pleased to discuss possible options to work towards this objective.

Further to this, the RACQ takes this opportunity to restate our belief that all speed enforcement in Queensland should continue to be conducted exclusively by appropriately trained QPS officers.



The RACQ believes 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 systems.

Recommendations:

- The RACQ recommends that there be further discussion between the Queensland Government and appropriate stakeholders, including RACQ, about potential initiatives to improve public perceptions of serious speeding offences, and compliance with set speed limits across Queensland's road network.
- The RACQ recommends that all speed enforcement in Queensland continues to be conducted exclusively by appropriately trained QPS officers.



List of References

- Delaney, Amanda, Ward, Heather, Cameron, Max and Williams, Allan F. December 2004, *Controversies and Speed Cameras: Lessons Learnt Internationally*, Insurance Institute for Highway Safety, Arlington, Virginia, USA.
- Department of Transport and Main Roads (DTMR) and Queensland Police Service (QPS) April 2009, *Fixed speed and red light camera site selection guidelines*, Department of Transport and Main Roads, Fortitude Valley, QLD.
- European Transport Safety Council (ETSC) September 2009, *Speed Fact Sheet Number 05: Section Control: towards a more efficient and better accepted enforcement of speed limits?*, European Transport Safety Council, Brussels, Belgium.
- Hansard 2006, *2006 Queensland Road Safety Summit: Transcript of proceedings: Wednesday 22 February 2006*, Department of Transport and Main Roads Website, Accessed 19/04/10 at:
http://www.transport.qld.gov.au/resources/file/eba1be06ba9d608/Hansard_2_RSS_Feb_06.pdf
- Market and Communications Research (MCR) December 2008, *RACQ Safety Policy Survey: Quantitative Research Report*, Market and Communications Research, Spring Hill, Queensland, Australia.
- Queensland Parliament Economic Development Committee March 2010, *Issues Paper No. 2: Inquiry into the road safety benefits of fixed speed cameras*, Queensland Parliament, Brisbane, QLD.
- Queensland Police Service (QPS) and Queensland Transport October 2003, *Queensland's Speed Camera Program: Site Selection Guidelines*, Queensland Police Service and Queensland Transport, Brisbane, QLD.
- RACQ August 1994, *Submission to Travelsafe Committee from The Royal Automobile Club of Queensland: Speed Cameras: Should they be used in Queensland?*, RACQ, Brisbane, QLD
- RACQ 2005, *Milestones... RACQ milestones 1905-1920 from The Road Ahead Magazine* Feb/March 2005 Edition, The Road Ahead Publishing Co, Springwood QLD.
- RACQ 2009[1], *Road Safety Priorities Fact Sheet 11: Safer Road Users: Speeding*, RACQ, http://www.racq.com.au/__data/assets/pdf_file/0004/45589/Fact_Sheet_11_Safer_Road_Users_-_Speeding.pdf
- RACQ 2009[2], *Road Safety Priorities Fact Sheet 23: Safer Road Users: Legislation, enforcement and penalties*, RACQ, http://www.racq.com.au/__data/assets/pdf_file/0016/45601/Fact_Sheet_23_Safer_Road_Users_-_Legislation,_enforcement_and_penalties.pdf
- State of Victoria 2010, *Cameras cut crashes*, State of Victoria, Australia:
<http://www.justice.vic.gov.au/camerascutcrashes/>
- SWOV Institute for Road Safety Research June 2008, *SWOV Fact Sheet: Police enforcement and driving speed*, SWOV, Leidschendam, The Netherlands.



SWOV Institute for Road Safety Research November 2009, *SWOV Fact Sheet: Speed cameras: how they work and what effect they have*, SWOV, Leidschendam, The Netherlands.

Thames Valley Safer Roads Partnership 2009, *Thames Valley camera site list*, Thames Valley Police, United Kingdom:
<http://www.saferroads.org/media/pdfs/reports/TVSRPsiteList.pdf>