SUBMISSION

TO

PARLIAMENTARY TRAVELSAFE COMMITTEE:

INQUIRY INTO AUTOMATIC NUMBER PLATE RECOGNITION TECHNOLOGY

Prepared by:

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Executive Summary

In this detailed submission the Royal Automobile Club of Queensland Limited (RACQ) provides its comments on the Queensland Parliamentary Travelsafe Committee's *Issues Paper No. 12: Inquiry Into Automatic Number Plate Recognition Technology*.

It is the RACQ's understanding that the Queensland Department of Main Roads (DMR) is using two types of Automatic Number Plate Recognition (ANPR) devices in Queensland at present. These are fixed ANPR devices (e.g., on the Brisbane Urban Corridor – used for enforcement of heavy vehicle restrictions) and portable ANPR devices (used for Origin Destination Surveys, for example).

ANPR technology is also currently being used for a variety of purposes in all other Australian states (New South Wales, Tasmania, Western Australia, Victoria and South Australia).

The United Kingdom (UK) seems to have been one of (if not the) most widespread users of ANPR technology.

For road safety applications, the UK experience with ANPR appears to indicate that it is effective in identifying offences such as those related to licences, insurances and disqualified driving for intercept teams that are looking for these types of offenders. This perspective is supported by the experience of using ANPR for intercept purposes in Western Australia.

The RACQ supports the use of mobile ANPR systems for vehicle intercept purposes in Queensland where a database 'hit' has indicated that a target vehicle is unregistered and has no Compulsory Third Party insurance, is stolen or may be being driven by a driver who does not currently hold a valid licence (e.g., it has been suspended, cancelled or disqualified).

The RACQ believes that mobile ANPR systems used for vehicle intercept purposes would allow Queensland Police Service ANPR intercept teams to identify unregistered vehicles/unlicensed drivers or stolen vehicles that may otherwise have gone undetected.

The RACQ also supports the use of ANPR in combination with weigh-in-motion sensor (WIMS) technology to help detect over-weight heavy vehicles on Queensland Roads.

The RACQ understands that the DMR already uses WIMS technology in Queensland and in the UK WIMS combined with ANPR has, in a pilot study, been shown to be an effective means for identifying vehicles of interest.

If further research into a wider roll-out of ANPR for road safety or other purposes is to be undertaken by the Queensland Government, the RACQ believes that an ANPR Steering Committee should be developed to give key stakeholder and community representatives a chance to provide input on how, where and why ANPR systems (either fixed or mobile-intercept) are implemented and to monitor the ongoing use of the technology.

The RACQ offers to represent Queensland motorists on such a Steering Committee and would see the Steering Committee as a forum for the development of policies

with regard to the use of ANPR technology, including privacy policies and guidelines/standards with regard to the accuracy of the ANPR process.

The Club, however, does not support the introduction of fixed ANPR camera networks in Queensland at this stage. This is broadly due to the following reasons:

- While fixed ANPR camera networks can provide a lot of data (especially if there are a lot of cameras in the network) they also require monitoring of (and appropriate action based on) the data recorded by the camera/s;
- Fixed ANPR camera networks are expensive to set up;
- There are concerns that unless people are doing something illegal, they should not have their trips 'recorded' by surveillance measures such as ANPR cameras; and
- Like all technologies they may become outdated and need to be replaced (at greater cost) with newer systems, which are continually being developed.

The RACQ also questions whether ANPR systems used in a point-to-point speed enforcement capacity would feasibly add value to addressing problem sites (based on road crash statistics) that the current mobile or fixed speed camera systems could not address.

The Club does not believe that it would be appropriate to introduce point-to-point camera systems across large sections of the Queensland road network, unless the whole section of road was a 'high risk section'. Further discussion (in which the RACQ would want to be involved) would need to be undertaken to define what a 'high risk section' of road is, based on recent crash data.

The RACQ recommends that if point-to-point speed enforcement is introduced in Queensland, drivers should not be penalised for more than one speeding offence on one trip along a monitored section of road, or penalised more than once for the same speeding offence (e.g., using different detection technologies).

The RACQ also wishes to raise the following additional issues for consideration by the Queensland Parliamentary Travelsafe Committee:

- There is an opportunity for the Queensland Government to introduce a front number plate or decal for motorbikes not only to help make them accountable to any ANPR technologies, but also to existing mobile and fixed speed camera enforcement. The RACQ believes that the Queensland Government should do this.
- The RACQ strongly believes that there is a need for an increased, high-visibility, on-road police patrol presence all-year-round, targeting high-risk days, times and locations. If ANPR intercept teams are introduced in Queensland, these teams should be additional (to current traffic police numbers) specialist teams to increase value to the Queensland community.
- Compulsory carriage of licence for all Queenslanders would be a major method for improving the ability of ANPR to help police enforce against unlicensed driving and other restrictions. The RACQ therefore wishes to take this opportunity to once again call on the Queensland Government to introduce a requirement for all drivers to carry a valid driver's licence and produce it on demand.

List of Recommendations

- The RACQ recommends that **mobile** ANPR systems used for intercept purposes be considered for introduction in Queensland, to help deter drivers from driving unregistered vehicles, stolen vehicles and driving unlicensed, and to help detect these offences when they are committed.

- The RACQ recommends that the **mobile** ANPR devices already used by DMR be evaluated to determine whether they will be suitable for vehicle intercept purposes.

- The RACQ recommends that **fixed** ANPR camera networks are not introduced into Queensland at this stage.

- The RACQ recommends that the Queensland Government actively monitor the development of ANPR and EVI technology.

- The RACQ recommends that point-to-point speed camera systems are not adopted unless the whole section of road monitored by the system/s is identified as being a 'high risk section'. The Club questions whether ANPR systems used in a point-to-point speed enforcement capacity would address problem sites (based on road crash data) that current mobile or fixed speed cameras could not address.

- The RACQ recommends that if point-to-point speed enforcement is introduced in Queensland, drivers should not be penalised for more than one speeding offence on one trip along a monitored section of road, or penalised more than once for the same speeding offence.

- The RACQ recommends that if point-to-point speed enforcement is introduced in Queensland, RACQ should be consulted with regard to the development of site selection criteria.

- The RACQ supports the use of ANPR in combination with weigh-in-motion-sensor (WIMS) technology to help detect over-weight heavy vehicles on Queensland Roads.

- The RACQ recommends that if further research into a wider roll-out of ANPR technology for road safety purposes is to be undertaken in Queensland, an ANPR Steering Committee should be established.

- The RACQ recommends that the ANPR Steering Committee should be a forum for the development of policies with regard to the use of ANPR technology and monitoring of the technology's ongoing use.

- The RACQ recommends that an RACQ representative be included in any ANPR Steering Committee.

- The RACQ recommends that the Queensland Government introduce a front number plate/decal for motorbikes.

- The RACQ recommends that the Queensland Government increase the number of police officers providing a high-visibility police patrol presence, all-year-round. The officers are to enforce a range of unsafe/illegal driving

practices, not just speeding and drink driving, and are to target high-risk days, times and locations.

- The RACQ recommends that if ANPR intercept teams are introduced in Queensland, these teams should be specialist ANPR officers and these ANPR officers should not be seconded from current traffic police numbers.

- The RACQ recommends that the Queensland Government introduce a compulsory requirement for drivers to carry a valid driver's licence and produce it on demand.

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1.0 Introduction

The purpose of this submission is to provide the RACQ's comments on the Queensland Parliamentary Travelsafe Committee's *Issues Paper No. 12: Inquiry Into Automatic Number Plate Recognition Technology* [the *Issues Paper*].

In particular, the Club will address in this submission the four terms of reference for the Inquiry, which are detailed in *Issues Paper No. 12* at page 1. These are:

- "The efficacy of ANPR technology for road safety applications;
- Potential costs and benefits;
- Whether ANPR-enabled intercept teams should be used for traffic enforcement in Queensland, including examination of existing applications; and
- Other opportunities and considerations for its use by Queensland Government agencies to promote road safety" (Queensland Parliamentary Travelsafe Committee 2007, p1).

The RACQ, representing the motoring interests of some 1.1 million members, the majority of which are private motorists, will respond to this *Issues Paper* from the perspective of achieving the best outcome for the Club's members.

One of the RACQ's priorities for helping to advance road safety in Queensland has been to "Examine the application of technological options to monitor and improve road user compliance, especially for repeat offenders" (RACQ 2004, p65).

The RACQ believes that this Inquiry is an excellent opportunity for the club to help deliver on this goal, by assisting in the examination and discussion of Automatic Number Plate Recognition technology, from a road safety perspective.

2.0 ANPR – What is it?

Automatic Number Plate Recognition (ANPR) "works by using pattern recognition software to automatically detect and read the licence plates of vehicles that pass the system's cameras. Vehicles are observed by infra-red cameras that feed the data into a computer where they can be logged and/or matched against registration records on a database" (Queensland Parliamentary Travelsafe Committee 2007, p2).

As it has been stated in the *Issues Paper*: "Along with registration numbers, ANPR identifies the time and date of the scan and the GPS location. Photographs are taken of the number plate and vehicle occupants. ANPR units are available in either fixed position or mobile designs" (Queensland Parliamentary Travelsafe Committee 2007, p2).

The Queensland Department of Main Roads (DMR) has said that ANPR uses infra-red lighting "to allow an enforcement camera to take pictures at any time of the day or night" (Main Roads 2007).

From the research conducted, it is the RACQ's understanding that ANPR devices have been developed to operate on three main platforms (PA Consulting 2007, p35). These platforms are:

- Mobile – e.g., based in a vehicle;

- Purpose-built fixed sites; and
- Attached/linked to existing CCTV (closed-circuit television) systems (PA Consulting 2007, p35).

Further to this, it has also been suggested that ANPR/Licence Plate Recognition (LPR) systems could also be used for images provided by "speed enforcement radar camera systems" (Koch-Kukies and Chaabane 2006, p24).

Hand-held ANPR/ALPR units have also been developed, and are considered as a 'traditional' ANPR/ALPR product (Kennedy 2007, p90). They are operated similar to radar/LIDAR 'guns' (Kennedy 2007, p90).

A broad description of the possible uses of ANPR systems is provided by Wigan and Clarke (2006, p8) who state that:

> "ANPR data can be used to automatically generate and despatch notices of speed violations, and to charge vehicle-owners for road-usage. ANPR can also be used to compare passing registration-numbers against a 'blacklist', reflecting, for example, cars that have been reported as being stolen (and whose numbers have not yet been deleted from the database), or cars that are subject to an alert because they are recorded as having been used in the past by a person who is the subject of personal surveillance […] A 'hit' on the blacklist may be used merely to generate a record for future data-mining, or to trigger action by law enforcement agencies, e.g., to intercept the vehicle on the basis of the suspicion generated by the entry in the database" (Wigan and Clarke 2006, p8).

3.0 ANPR – Current Uses/Existing Applications

3.1 In Queensland

It is the RACQ's understanding that DMR has been using ANPR to "monitor the movement of heavy vehicles to ensure compliance with restrictions on heavy vehicles using the Brisbane Urban Corridor [BUC]" (Queensland Parliamentary Travelsafe Committee 2007, p1).

It is stated on the DMR website that:

> "Camera technology is in place to identify and fine trucks still using the Brisbane Urban Corridor illegally. The cameras, in place since 30 July 2007, use number plate recognition technology to identify trucks over 4.5 tonnes using the Brisbane Urban Corridor and part of the Ipswich Motorway between Goodna and Wishart as a through route. It is illegal for trucks over 4.5 tonnes to travel between Goodna and Wishart via Mt Gravatt-Capalaba, Kessels, Riawena, Granard Roads (the Brisbane Urban Corridor) and part of the Ipswich Motorway unless they have a local destination" (Main Roads 2007).

It is the RACQ's understanding that truck drivers who ignore the restrictions on the Brisbane Urban Corridor can be issued with infringement notices (Main Roads 2007). The penalties attached to the infringement notices are:

- A fine of $375 for corporations;

- A fine of $75 for individuals and three licence demerit points; and
- A maximum court penalty of $1500 (Main Roads 2007).

It is also the RACQ's understanding that DMR are using two types of ANPR devices at present. These are fixed ANPR devices (e.g., on the Brisbane Urban Corridor – used for enforcement of heavy vehicle restrictions) and portable ANPR devices (used for Origin Destination Surveys, for example).

With regard to the use of ANPR on the Brisbane Urban Corridor, it must be noted that it is the Club's understanding from discussions with DMR that it is the Queensland Police Service (QPS) that handles the 'booking' of infringing heavy vehicle drivers, enforcing what is captured by the ANPR system.

This somewhat differs from the information provided in *Issues Paper 12* (Queensland Parliamentary Travelsafe Committee (2007, p3) in that it was reported that QPS is not currently using ANPR as a traffic enforcement tool, while DMR is. QPS has, to the Club's understanding, involvement in the DMR use of ANPR as an enforcement tool.

From discussions with DMR, the RACQ understands that the portable ANPR devices used by DMR can cover two lanes of traffic (travelling in the same direction), but that accuracy degrades over more than one lane. Representatives from DMR have advised RACQ that in a 2006 study, the accuracy from their ANPR devices was around 90%.

While DMR's ANPR systems are similar to the SAFE-T-CAMS used in NSW, DMR's ANPR systems are believed to be more advanced, and they are not currently as compliance-focussed.

Interestingly however, it has been reported in the *Issues Paper No. 12* that a Queensland Transport, Department of Main Roads and Queensland Police Service trial of ANPR was undertaken back in 2003-2004, but the results of this study have not been published (Queensland Parliamentary Travelsafe Committee 2007, p3).

Queensland legislation, through the *Traffic Regulation 1962*, now approves of ANPR as a photographic detection device, and (starting from 1 July 2007) specifically allows for the use of ANPR to enforce heavy vehicle restrictions (Queensland Parliamentary Travelsafe Committee 2007, p3).

3.2 In the rest of Australia

As it has been mentioned by the Queensland Parliamentary Travelsafe Committee (2007, p3), development of road safety applications for ANPR was a priority action for Australia in the *National Road Safety Action Plan 2005 and 2006*.

ANPR is in use in New South Wales, including Safe-T-Cam (Queensland Parliamentary Travelsafe Committee 2007, p3). It is the RACQ's understanding that the CSIRO's Machine Vision group "has developed an automatic licence plate recognition (ALPR) system that is used at Safe-T-Cam sites in New South Wales, Australia. Based on tests on over 5000 images of vehicles moving on the state's highways a recognition rate of 70% was achieved over a wide variety of plate styles, plate positions and vehicle types. If 'poor' plates are eliminated from the study a rate approaching 80% is achieved" (CSIRO 2004).

This accuracy/recognition rate "approaching 80%" does seem to support the DMR's claims that with accuracy at "around 90%", DMR's ANPR technology may be more advanced than that used in NSW.

The CSIRO (2005) states that at present there are 22 Safe-T-Cam sites in New South Wales, and that the Safe-T-Cams have been used by the RTA to monitor speeding, 'unusual' driving behaviour and vehicle registration.

ANPR is also in use in Tasmania (used by Transport Inspectors) and in Western Australia (Queensland Parliamentary Travelsafe Committee 2007, p3).

Western Australian Police are looking to expand the use of ANPR through the provision of additional units (Queensland Parliamentary Travelsafe Committee 2007, p3).

The reason that Western Australian Police are looking to expand the use of ANPR could be that, as it has been stated by the Western Australia Police (2006, p20): "These units are proving to be an effective tool for both traffic enforcement activities and targeting crime on our roads. Currently there are four Argus [ANPR] units being used for traffic and district operations. Results indicate that up to eight percent of traffic volume requires some form of police intervention".

The Western Australian use of ANPR for offence detection is "based on the video recording and Optical Character Recognition (OCR) of vehicle number plates, with results checked against an in-car laptop computer containing details of selected offence types. The offence types generally relate to stolen vehicles, outstanding warrants, persons and vehicles of interest and unlicensed vehicles and drivers" (Western Australia Police 2006, p20).

The Royal Automobile Club of Western Australia (RACWA) has advised the RACQ that it:

- Supports the use of ANPR as used by WA police in mobile operations (ARGUS technology) to deter and detect unlicensed drivers, the use of unregistered vehicles, and to improve the use of seat belts; and
- Supports trials of point-to-point enforcement technology to check speeds on long sections of risky rural and remote highways.

The Queensland Parliamentary Travelsafe Committee (2007, p3) indicates in the *Issues Paper* that Victoria Police has trialled and evaluated ANPR and is developing a project for implementation.

The Royal Automobile Club of Victoria (RACV) has advised the RACQ that ANPR is the basis of Victoria's point-to-point speed camera system operating in both directions on the Hume Freeway/Highway.

These point-to-point cameras (or 'time-over-distance speed cameras') record a passing vehicle's number plate details and register the vehicle's presence at each ANPR location (five locations in each direction). The system uses a 'time over distance' formula to detect offences, and has been operating since April 2007. Locations of the point-to-point cameras are available to members of the public, via the internet (http://www.justice.vic.gov.au/CA256902000FE154/Lookup/Road_Safety_PDFs/$file/SpeedCameraLocations_March07.pdf).

Humans adjudicate all Victorian point-to-point offences, checking the photos taken of allegedly offending vehicles to make sure that the Optical Character Recognition (OCR) technology has 'read' the numberplate correctly.

The Victorian point-to-point offence relates to section 78 of the Victorian *Road Safety Act 1986*. This section basically says that the average speed of the vehicle between two points is evidence (in the absence of evidence to the contrary) of the speed that the vehicle has travelled between those two points.

South Australia is trialling ANPR technology through Safe-T-Cam and their Police Force (Queensland Parliamentary Travelsafe Committee 2007, p3).

The Royal Automobile Association of South Australia (RAASA) has advised RACQ that:

- In South Australia there have been ongoing problems with the reliability of the ANPR's interpretation of vehicles' number plates;
- The South Australian police only use ANPR technology in two vehicle intercept operations, e.g., where one vehicle gets the ANPR 'hit' (for unregistered or uninsured vehicles or outstanding warrants) and the second vehicle intercepts the vehicle that generated the 'hit'; and
- That they support point-to-point speed detection on high-speed rural roads, and to their understanding this is being investigated.

The ACT is "Working with ACT Policing on this issue", and the Northern Territory is participating in national activities (Queensland Parliamentary Travelsafe Committee 2007, p3).

3.3 Overseas

3.3.1 New Zealand

It has been reported in the *Issues Paper* that: "A trial of ANPR to identify vehicles of interest to police in the New Zealand cities of Auckland, Wellington and Christchurch was announced in 2006. The outcomes of the pilot study are expected to determine the future use of ANPR in New Zealand" (Queensland Parliamentary Travelsafe Committee 2007, p3).

3.3.2 UK

The Queensland Parliamentary Travelsafe Committee (2007, p3) mentions in the *Issues Paper* that "The United Kingdom (UK) has used ANPR technology for at least ten years; however this use has dramatically increased during the past five years, with approximately 3,000 ANPR cameras in operation in 2006".

Indeed, the UK seems to have been one of (if not the) most widespread users of ANPR technology, with every police force in England and Wales having set up dedicated ANPR intercept teams, supported by the Home Office Police Standards Unit (PA Consulting 2007, p21).

At page 3 of the *Issues Paper* reference is made to an evaluation of a six-month pilot program of ANPR across nine police forces in the UK.

The RACQ however, is aware of a study, commissioned by the UK Home Office Police Standards Unit (PSU), providing an *Evaluation of Automatic Number Plate Recognition 2006/2007* dated April 2007, which the Club believes provides an excellent insight into the UK experience with ANPR.

Relevant conclusions from this report include:

- "Mobile, fixed and CCTV ANPR systems have provided a range of intelligence and vehicle interception capabilities. Further developments may improve integration of ANPR with other technology such as fingerprint readers. This will help improve the efficiency of ANPR users at the roadside" (PA Consulting 2007, p8).
- "There is some anecdotal evidence that some motorists have countermeasures to make it difficult for cameras to read their Vehicle Registration Mark (VRM) or will use cloned VRM plates to avoid detection. Whilst the full extent of this activity is unknown, it will impact the effectiveness of ANPR […] the use of Electronic Vehicle Identification EVI has the potential to overcome some countermeasures that are being used by criminals" (PA Consulting 2007, p9).
- "ANPR intercept teams continue to be an effective and efficient method of detecting and disrupting criminal activity […] In 2006/07, most arrests made by ANPR intercept teams were for drugs offences, vehicle crime and disqualified driving, […] ANPR teams have also been effective in seizing vehicles for document offences, helping to deny criminals the use of the road" (PA Consulting 2007, p9).
- "The number of vehicle hits far exceeds the resources available to respond to them. As a result, high priority vehicles are not always being intercepted (although information on the vehicle hit will be available for intelligence and investigation)" (PA Consulting 2007, p9). It is believed that with more infrastructure being introduced and activated, this issue will be exacerbated (PA Consulting 2007, p9).
- "The use of ANPR as an intercept tool relies on accurate databases containing vehicles of interest" (PA Consulting 2007, p9).
- "ANPR officers have consistently delivered two to three times more OBtJs [offences brought to justice] than the national target. In 2006/07, the majority of OBtJs were for drug offences. In addition to delivering OBtJs, ANPR officers have also contributed to an above average number of sanction detections and helped to deliver the national warrants enforcement target" (PA Consulting 2007, p9).
- "Disqualified driving offences, whilst one of the largest categories of arrests for ANPR officers, are not a recordable offence and do not count towards the OBtJ figure. Including disqualified driving offences within OBtJs would increase the number of OBtJs delivered by ANPR officers by around 24% to 3.75 times the national OBtJ target" (PA Consulting 2007, p9).

Relevant recommendations from the study included:

- "NPIA [National Policing Improvement Agency] should work with partners, such as DVLA [Driver and Vehicle Licensing Agency] and DfT [Department for Transport], to evaluate new vehicle identification technologies such as EVI [Electronic Vehicle Identification] and assess ways in which they can deliver performance benefits and be integrated with existing ANPR infrastructure" (PA Consulting 2007, p10).

- "Forces should consider increasing their capability to respond to ANPR hits by making ANPR response a primary duty of roads policing units" (PA Consulting 2007, p10).
- "NPIA, ACPO [Association of Chief Police Officers] and partners within the Driver and Vehicle Licensing Authority (DVLA) and the motor insurance industry should consider an alternative approach for dealing with low priority ANPR hits. This could include consideration of the use of automated warning letters informing owners that their vehicle has been sighted on the road without insurance" (PA Consulting 2007, p102).

It must be noted however, that increasing road safety by removing unsafe vehicles and drivers from the roads is only a secondary aim of the UK's ACPO [Association of Chief Police Officers] ANPR strategy (PA Consulting 2007, p22).

In the UK, ANPR "is operated as a proactive tool, with the primary objective of targeting terrorism, serious and organised crime and volume crime (for example as part of the City of London's "ring of steel") and anti-social behaviour. ANPR can also detect vehicle documentation offences such as uninsured driving and road tax evasion. Many of those who are stopped for committing routine road traffic offences by the police are, in fact, likely to have been involved in more serious offending" (Home Office 2007).

4.0 Efficacy of ANPR technology for road safety applications

It has been reported by the Queensland Parliamentary Travelsafe Committee, in the *Issues Paper* (2007, p5) that: "The effectiveness of ANPR in deterring unlawful behaviour, such as driving unregistered or stolen vehicles, is unknown".

However, it is the RACQ's understanding that in the UK, the "performance impact of ANPR has been continuously evaluated, proving the police use of ANPR is an extremely effective and efficient way of arresting criminals using the roads and contributing to Offences Brought to Justice (OBtJs)" (PA Consulting 2007, p7).

It must also be noted, however, that: "There are also a number of other potential benefits linked to the use of ANPR that have not yet been evaluated. These include improvements in road safety through the targeting of dangerous drivers, public reassurance from the deployment of intercept teams and the reduction of disruption to innocent members of the public as vehicle stop checks are increasingly intelligence led" (PA Consulting 2007, p7).

It has been found that, in the UK:

- The number of arrests per 100 dedicated officer hours spent on ANPR enforcement varies by Police Forces from 0.6 to 8.0 (PA Consulting 2007, p45);
- 12% of arrests made by intercept teams during 2006/07 were for vehicle crime (PA Consulting 2007, p46);
- 14% were for disqualified driving (PA Consulting 2007, p46);
- "In 2006/07 the majority of ANPR arrests were for drugs offences, disqualified driving and vehicle crime" (PA Consulting 2007, p46);

The fact that disqualified driving was one of the most common ANPR arrests in the UK for 2006/07 seems to indicate that ANPR would be having a positive impact on

road safety. It appears to depend on whether these disqualified drivers are identified as "criminals" or as "dangerous drivers" as to whether the benefits have been evaluated.

This is especially the case since it has been stated that: "The overarching message for ANPR communication is that ANPR detects and prevents crime and vehicle related offending more effectively than traditional policing" (PA Consulting 2007, p89) and that: "The key outcome from the use of ANPR in the UK is the contribution it makes to the increase in OBtJ [Offences Brought to Justice]. A general reduction in crime and RTCs [Road Traffic Crashes] are also believed to be linked to the use of ANPR" (PA Consulting 2007, p17).

While ANPR-led arrests are viewed as a key performance outcome of ANPR enforcement in the UK, the initial 'Project Laser' pilot programmes primarily focussed on the use of ANPR to identify 'vehicle document offences' (PA Consulting 2007, p48).

'Document offences' include offences such as 'no licence' and 'no insurance', and they are believed to remain an important part of the role that the UK's ANPR intercept teams play (PA Consulting 2007, p48). In the UK in 2006/07:

- "ANPR intercept teams identified 52,037 document offences compared to 40,704 in 2005/06 – a 29% increase" (PA Consulting 2007, p48);
- 8% (n= 4,079) of the document offences were MoT offences (PA Consulting 2007, p48)
- 30% (n= 15,754) were licence offences (PA Consulting 2007, p48); and
- 62% (n= 32,304) were insurance offences (PA Consulting 2007, p48).

It should also be noted that: "The number of document offences identified per dedicated officer hour [of ANPR enforcement in the UK] has remained stable in 2006/07 compared to 2005/06 with 8.4 offences identified per 100 officer hours in both years" (PA Consulting 2007, p49). Interestingly, this rate is better than the arrest rate (0.6 – 8.0) for other offences policed using ANPR.

While ANPR is used to enforce a range of offences in the UK, it appears to be the case that some ANPR intercept teams focus on traditional road enforcement, while others focus more on non-road criminal offences such as drugs offences (PA Consulting 2007, p49).

For road safety applications, the UK experience with ANPR appears to indicate that it is effective in identifying offences such as those related to licences, insurances and disqualified driving for intercept teams that are looking for these types of offenders.

This perspective is supported by the experience of using ANPR for intercept purposes in Western Australia where: "Some 50 operations have been conducted with a total of 51,950 vehicles scanned, resulting in 3,936 requiring further investigation" (Western Australia Police 2006, p10).

> "As a result of these inquiries, 37 people have been charged with driving under suspension, 74 for driving under fines suspension, 84 had expired licences, 47 were driving unlicensed vehicles and 21 criminal infringements were issued for minor drug-related offences" (Western Australia Police 2006, p20).

These results show that in 50 ANPR ['Argus'] operations conducted in Western Australia, there were an average (per operation) of:

- 1,039 vehicles' number plates 'scanned';
- 78.72 vehicles that required further investigation;
- 0.74 drivers caught driving while suspended;
- 1.48 drivers caught driving while under 'fines suspension';
- 1.68 drivers caught driving with expired licences;
- 0.94 drivers caught driving 'unlicensed' vehicles; and
- 0.42 criminal minor drug-related infringements detected.

While the number of offences detected per Argus operation in Western Australia have not been particularly high considering the number of vehicles 'scanned' by the device, it must be remembered that these offences would most likely not been detected, had ANPR not been used in these situations.

It is unknown to the RACQ how many officers were involved in these operations, but ANPR offers the ability for every vehicle passing a site to be 'checked' against a database (e.g., identifying unlicensed drivers' vehicles or unregistered vehicles), while other forms of enforcement, e.g., licence checks would be very time and police resource intensive if trying to stop a similar number of vehicles to perform similar checks.

The Western Australia Police (2006, p20) have indicated that although the Argus (ANPR) program is still in 'early days', the units provide a means of optimising police resources by helping police to target particular motorists of interest.

The efficacy of ANPR can be negatively affected by countermeasures employed by some offenders to reduce the effectiveness of the technology in detecting their presence.

In the UK, three broad types of countermeasures to avoid ANPR detection have been identified. These include:

- misrepresenting plates, e.g., through non-reflective materials or with illegal fonts;
- plates disguised from cameras by using certain materials (known as 'magic' plates); and
- cloning another vehicle's (a vehicle of the same model and colour) plates (PA Consulting 2007, p37).

It is not known to what extent these behaviours are adopted in the UK (PA Consulting 2007, p37). This seems to be the case across other jurisdictions as well, for obvious reasons.

With regard to addressing these issues, in January 2007 a UK report "called for increased regulation of the number plate supply industry along with the introduction of a mandatory secure VRM [Vehicle Registration Mark] system such as the use of 'chipped' number plates" (PA Consulting 2007, p37).

Further to this, the UK experience with ANPR has identified that "as an intelligence-based system ANPR requires accurate data to support its exploitation. Out of date data on ANPR hotlists sometimes results in wasted police time and can cause unnecessary risks […] Forces have introduced policies where only vehicle

intelligence from recent months is downloaded onto hotlists ensuring that the information is relatively current" (PA Consulting 2007, p67).

It is the RACQ's understanding that from the UK experience with ANPR, most problems associated with ANPR 'false positive' hits relate to problems with the database itself, not the ANPR numberplate 'reader' being inaccurate.

5.0 Potential benefits and costs

5.1 Potential benefits

The RACQ is aware, from the information provided in *Issues Paper No. 12* (Queensland Parliamentary Travelsafe Committee 2007, p2) that, in terms of road safety ANPR has a number of potential beneficial uses such as:

- Point-to-point speed enforcement;
- Identifying unregistered vehicles and those with unlicensed registered owners;
- Tracking the movements of drivers and vehicles subject to traffic curfews e.g., heavy vehicles and young drivers;
- Detecting heavy vehicle fatigue infringements; and
- Identifying and tracking stolen vehicles.

It is believed that ANPR technology could also be used to assist with Heavy Vehicle mass and dimension compliance enforcement. ANPR could be teamed with weigh-in-motion (WIMS) sensors – which the RACQ understands are already used in Australia (Austroads 2000, pi) and in Queensland (DMR 2007) – to help identify heavy vehicles with overweight axles.

The RACQ acknowledges that ANPR can be used for other generally non-road safety purposes e.g., congestion charges and automatic toll collection (Queensland Parliamentary Travelsafe Committee 2007, p2), monitoring of illegal use of specific purpose lanes and busways and real-time traffic information. However, as the Inquiry terms of reference relate to the use of ANPR for road safety purposes, the Club will, in this submission, focus on this.

PA Consulting (2007, p18-19) provides a 'Benefits Map of ANPR'. This 'Benefits Map' identifies, with regard to road safety, that while the benefits of ANPR as a means of seizing more vehicles have been quantified, its flow-on effects of having less dangerous vehicles and road users on the road and therefore fewer road traffic crashes have not yet been evaluated.

As an enforcement tool, research from the UK indicates that over the last three years ANPR intercept teams have consistently delivered a number of 'Offences Brought to Justice' (OBtJ) between two and three times greater than the target number of OBtJs per officer (PA Consulting 2007, p71). An 'Offence Brought to Justice' describes the process from arrest through to being sentenced at court (Home Office 2007).

While disqualified driving is not a recordable offence in the UK and therefore does not count towards the number of OBtJs delivered by ANPR teams, if it was counted the number of OBtJs achieved would increase by 24% (PA Consulting 2007, p73).

This would have increased the number of OBtJs to 3.75 times the national target, rather than three times (PA Consulting 2007, p73).

It should also be noted that "ANPR intercept teams identified and recovered 2,022 stolen motor vehicles in 2006/07" (PA Consulting 2007, p95). These vehicles may not have otherwise been recovered.

So from this information we can surmise that research from the UK appears to indicate that:

- ANPR used for interception purposes has benefits in terms of an increased rate of 'Offences Brought to Justice', compared to 'Full Time Equivalent' officer expectations;
- ANPR used for interception purposes has benefits in terms of detecting disqualified drivers; and
- ANPR intercept teams can assist in identifying and recovering stolen vehicles.

It is also suggested that: "there is an increased chance of a successful prosecution when ANPR is involved as a trigger for the process" (PA Consulting 2007, p70).

While the intelligence and investigation benefits of ANPR do not seem to have been proven to the same extent as ANPR's interception benefits (PA Consulting 2007, p17), in the UK ANPR resources are being used on major investigations for intelligence gathering and witness and suspect movement monitoring purposes (PA Consulting 2007, p97).

It is believed that "As an intelligence and investigative tool, the use of ANPR is starting to deliver benefits" (PA Consulting 2007, p101).

Therefore, ANPR can also be viewed as (based on UK research) delivering benefits with regard to:

- Increasing the chance of successful prosecution; and
- Assisting as an intelligence and investigative tool (although these benefits have not been proven to the same extent as interception benefits).

5.2 Potential costs

With regard to the potential costs of ANPR technology, it has been stated in the *Issues Paper* that: "The final cost of ANPR would likely include:

- Purchase, maintenance and replacement costs of ANPR units, which consist of an infra-red camera, image processing software and a control computer;
- Staff costs, including intercept and non-intercept time e.g., travel between sites and transportation of offenders (for traffic enforcement applications); and
- Administration costs" (Queensland Parliamentary Travelsafe Committee 2007, p5).

It is also acknowledged by the Queensland Parliamentary Travelsafe Committee (2007, p5) that there may also be an impact on the criminal justice system (and associated costs) arising from increased detection of traffic offences.

However, there are also likely to be costs associated with the transportation and storage of stolen and unregistered vehicles or vehicles driven by unlicensed drivers, that are stopped by Police officers using ANPR. While it may be possible to recover some of these costs from offenders, this may not always be the case.

It is the RACQ's understanding from discussions with DMR representatives, that the portable ANPR devices currently in use in Queensland cost approximately $28,000 each, while the fixed ANPR devices cost $15,000 to $20,000 each.

Although portable ANPR devices themselves are more costly than fixed ANPR devices, it must also be acknowledged that major additional costs associated with the use of fixed ANPR devices are the installation and provision of electricity and necessary cabling to the sites. Fixed ANPR devices (once set up) are therefore expected to be more expensive than portable ANPR devices.

In the UK, since the ANPR pilot 'Project Laser' in 2002, the UK Home Office Police Standards Unit has provided more than £32 million of capital investment to develop the use of ANPR at a local, regional and national level (PA Consulting 2007, p13-14).

Interestingly, "Despite the delays experienced with ANPR infrastructure projects [in the UK], few Forces overspent on their project budget. This is mainly because ANPR projects are scaleable – the number of cameras or lane readers can be reduced or increased in line with the budget" (PA Consulting 2007, p30).

This is important to note because for Queensland, it means that any future introduction of ANPR for road safety purposes can start-out small, if appropriate and expand, should it be found to be more cost effective than alternative processes.

Queensland should also note from the UK experience that: "As an intelligence –led system, the effectiveness of the police use of ANPR relies on the accuracy of the information contained in hotlists" (PA Consulting 2007, p63).

Consideration should be given to the cost associated in the creation and ongoing maintenance of ANPR hotlists.

The costs of the creation and maintenance of hotlists may be quite high because "Vehicle intelligence is constantly changing as vehicles are sold, found, no longer used by a criminal or criminal activity changes" (PA Consulting 2007, p64), making the establishment and up-to-date maintenance of vehicle hotlists essential.

To highlight this point, it should be noted that across four different hotlists, a UK trial of ANPR technology identified that the proportion of correct hits ranged from 84% down to 42%, depending on which hotlist was the basis of the 'hit' (PA Consulting 2007, p64).

Queensland, if considering the introduction of ANPR for road safety purposes, should therefore be considering the establishment of a single hotlist, which would have to be maintained with up-to-the minute information. There would be a cost associated with this, which must be considered.

Also, from the UK experience, it has been found that if fixed ANPR sites are introduced there needs to be a clear policy developed by police on how and when they act on ANPR 'hits' (PA Consulting 2007, p44). It has been identified that while fixed ANPR devices deliver a lot of 'hits', responding to 'hits' can be time and

resource intensive, and can therefore be costly. There is also a need to, in some cases, prioritise which 'hits' are responded to.

There may therefore also be a case for arguing that there would need to be an increased number of police officers (at additional cost) to respond to fixed-site ANPR 'hits'.

It should be noted that, with regard to the cost of ANPR technology: "There appears to have been less enthusiasm [in the take-up of ANPR] within the private sector, e.g., for car park management, arguably because traditional disposable ticket and proximity card solutions are perceived as more cost effective" (Arnold 2007).

With regard to the costs and benefits of each ANPR application, the RACQ believes that they should be monitored in terms of:

- Reduction in business process costs;
- Benefits through enhanced cover and quality of transport compliance services;
- Productivity benefits for police; and
- Benefits to road users from improved road safety.

6.0 Whether ANPR-enabled intercept teams should be used for traffic enforcement in Queensland

The RACQ understands that the idea for using ANPR systems within police vehicles and for vehicle intercept purposes was developed initially in the UK with 'Project Laser' (PA Consulting 2007, p35).

Originally vehicle intercepts were carried-out with intercept vehicles separate to the ANPR vans (PA Consulting 2007, p35).

However, mobile ANPR systems can now be fitted to intercepting vehicles, and in the UK many 'roads policing' vehicles are now fitted with ANPR (PA Consulting 2007, p35).

It is understood that the general process used for ANPR interceptions in the UK is as follows:

> Vehicles drive past the ANPR device:
> → ANPR device reads vehicles' number plates;
> → ANPR detects a hot list 'hit'; and
> → Officers intercept the vehicle that generated the 'hit'.

In the UK it is believed that: "The interception of vehicles following an ANPR hit remains the primary method of delivering a direct performance outcome from the use of ANPR" (PA Consulting 2007, p41).

This is supported by Haines (2007, p2) who states that:

> "Previous research shows that the technology is most useful when it is used to respond to criminality in real time through ANPR's intercept capability. These indicate that the use of ANPR can be a cost effective and efficient way

> of achieving operational results, ranging from increased arrests to increased number of offences brought to justice" (Haines 2007, p2).

The fact that the use of ANPR as an intercept tool is believed to be its most effective function can (at least in part) be attributed to the idea that, as it is argued by Wigan and Clarke (2006, p5):

> "Surveillance by itself cannot prevent acts. It may be an element within a conglomerate of measures, which combine to prevent an act being performed. This depends upon the existence and maintenance of the relevant resources, effective linkage between the surveillance measures and the active components, and the ability of the active components to mobilise sufficiently quickly to prevent or intercept the act" (Wigan and Clarke 2006, p5).

With this in mind, the ANPR device would be the 'surveillance measure' and the 'active components' would be the police intercept teams. By combining, not just linking the 'surveillance measure' and 'active components' in the one vehicle, it would be difficult to have a situation where quicker mobilisation of these resources would be possible.

Mobile vehicle-based ANPR systems also provide police with the flexibility to deploy ANPR to problem areas or target locations (PA Consulting 2007, p35).

From the UK experience with ANPR intercept capabilities, it has been stated that: "The current quantitative evaluation system for ANPR intercept team performance has provided a valuable body of evidence to support the use of ANPR" (PA Consulting 2007, p18). Therefore, the UK opinion of the use of ANPR in intercept teams appears to be favourable.

Based on this, the RACQ supports the use of mobile ANPR systems for vehicle intercept purposes where a 'hit' has indicated that a target vehicle:

- Is unregistered and has no Compulsory Third Party Insurance;
- Is stolen; or
- May be being driven by a driver whose licence is suspended/cancelled/disqualified or is otherwise unlicensed.

The RACQ believes that mobile ANPR systems used for vehicle intercept purposes would allow Queensland Police Service ANPR intercept teams to identify unregistered vehicles/unlicensed drivers or stolen vehicles that may otherwise have gone undetected.

The Club believes that the ANPR technology, if used in this manner, would be an additional tool for the Queensland Police Service to help address the road safety issue of unlicensed drivers and unregistered vehicles on Queensland roads, which has traditionally been difficult to detect.

The technology may also assist with the recovery of stolen vehicles and the reduction of vehicle theft costs.

It is believed that mobile ANPR technology used for vehicle intercept purposes could also deter offenders. As it has been stated by Wigan and Clarke (2006, p5): "Covert surveillance is unlikely to have much deterrent effect. On the other hand, if surveillance is known, or at least perceived, to be conducted, but the locations are

unknown, then there may be a broad chilling effect on behaviour, at least of some categories of individual, or of some categories of behaviour".

Mobile ANPR technology used for vehicle intercept purposes by vehicle intercept teams would hopefully produce this 'chilling effect' on the behaviours of drivers who would drive while unlicensed or who would drive unregistered or stolen vehicles on Queensland Roads, while also providing police with an 'anytime anywhere' means for detecting these offenders.

The RACQ understands that there have been concerns expressed by Civil Liberties advocates relating to the use of ANPR cameras. As reported in *The Courier Mail* on 1 November 2007 (p18), Michael Cope from the Queensland Council of Civil Liberties is quoted saying "To set up a whole network of cameras and to collect data in this way seems to be intrusive and excessive" (Barrett 2007, p18).

Similarly, the RACQ is aware that: "The privacy impacts of these measures [transport-related surveillance such as ANPR] are potentially quite extreme, because they create intensive trails which create the scope for location and tracking, and hence they create the scope for many additional applications for many additional purposes" (Wigan and Clarke 2006, p6).

If large networks of ANPR surveillance cameras were to be set up around Queensland, the Club would understand these concerns.

However, if the ANPR devices are used only to obtain numberplate readings from passing vehicles, cross-check them against a 'hotlist' and signal relevant 'hits' to intercepting officers, there are no concerns from the Club about this being an invasion of privacy.

Drivers who choose to drive an unregistered/uninsured/stolen vehicle, and/or drive while unlicensed should not be able to do this 'in private' or in relative privacy (that failure to adopt ANPR intercept teams would allow).

The RACQ believes that this view would be supported by a significant majority of the Club's one million plus members.

In RACQ's 2006 *Road Safety Online Survey*, 80.7% of respondents (the number of which totalled approximately 10,000) agreed (46.0% strongly agreed) that 'Increasing random licence and registration checks' would be an effective initiative for helping to reduce Queensland's road toll.

Mobile ANPR intercept teams could be viewed as a more targeted means for helping to deliver this, in that the vehicles driving past the ANPR device would be random, but all of which would be checked for relevant driver licensing/registration data, with vehicles providing 'hits' hopefully being intercepted.

It is RACQ policy that the use of police resources and enforcement efforts need to be enhanced, using both conventional and automated methods, to target high-risk groups and problem locations while achieving a more widespread coverage of Queensland's vast road network (RACQ 2004, p65). Mobile ANPR used in an intercept capacity can be a means of helping to address high-risk groups such as unlicensed drivers, targeting problem locations, across more of Queensland's vast road network.

With regard to the ANPR technology/devices that could be used, it is the RACQ's understanding that DMR already use PIPS Technology P372 "Spike" Integrated ALPR Camera Processors. The Club understands that these particular ANPR (or ALPR) units can be used either in stationary or mobile situations. The Club believes that further evaluation should be undertaken to determine whether these devices are the most effective for mobile ANPR vehicle intercept purposes.

Recommendation: ***The RACQ recommends that mobile ANPR systems used for intercept purposes be considered for introduction in Queensland, to help deter drivers from driving unregistered vehicles, stolen vehicles and driving unlicensed, and to help detect these offences when they are committed.***

Recommendation: ***The RACQ recommends that the mobile ANPR devices already used by DMR be evaluated to determine whether they will be suitable for vehicle intercept purposes.***

7.0 Other opportunities and considerations for use of ANPR by Queensland Government Agencies to promote road safety.

7.1 Fixed ANPR Camera Network

It is noted that, with regard to fixed ANPR cameras (e.g., on bridges, gantries etc.), they are "sometimes complex and costly to implement, but provide continuous intelligence gathering capability along with the opportunity to run intercept operations from the live data it [they] provides [provide]. Fixed site systems however, significantly increase the number of vehicle hits and therefore the demand on command and control and vehicle intercept resources" (PA Consulting 2007, p36).

So, while fixed ANPR camera networks can provide a lot of data (especially if there are a lot of cameras in the network) they also require:

- Monitoring of (and appropriate action based on) the data recorded by the camera; and
- A lot of money to set up.

There are also concerns that unless people are doing something illegal, they should not have their trips 'recorded' by surveillance measures such as ANPR cameras.

Further to this, it has been suggested that, like all technologies: "There will be further developments in ANPR technology as well as the emergence of alternative vehicle recognition systems such as Electronic Vehicle Identification (EVI)" (PA Consulting 2007, p39).

In the UK, the Department for Transport "has been considering the introduction of EVI for a number of years. EVI could be provided through a microchip in the number plate or windscreen and would allow roadside detection devices to identify the vehicle" (PA Consulting 2007, p39).

With a move towards EVI in jurisdictions such as the UK (who, as this submission has already shown have had quite a lot of experience with ANPR) being considered, it may not be a good use of resources to invest heavily in large networks of fixed ANPR cameras in Queensland, at this time.

This is especially the case considering that with various toll roads due for completion within a matter of years relying on electronic means for identifying and charging users of that infrastructure for access, there will be a need and market for this type of electronic identification for many vehicles in Queensland. The RACQ understands that Queensland Motorways Limited already has 300,000 electronic tolling transponders in use and expects continued rapid take-up of the technology in Brisbane prior to full e-tolling on the Gateway Bridge.

The RACQ believes that, at this stage, fixed ANPR camera networks should not be introduced into Queensland. The Club also recommends that the Queensland Government actively monitor the development of ANPR and EVI technology, with regard to possible future uses.

Recommendation: ***The RACQ recommends that fixed ANPR camera networks are not introduced into Queensland at this stage.***

Recommendation: ***The RACQ recommends that the Queensland Government actively monitor the development of ANPR and EVI technology*****.**

7.2 Fixed ANPR-based time-over-distance/point-to-point speed cameras

As it has been previously mentioned in this submission, the RACQ is aware that point-to-point speed enforcement is conducted on the Hume Highway/Freeway in Victoria, and that ANPR-style technology forms the basis of this system.

Also, as it has been previously mentioned, the RACQ is aware that the RACWA supports trials of point-to-point enforcement technology to check speeds on long sections of risky rural and remote highways.

The RAASA is of a similar view. They have advised the RACQ that they support point-to-point speed detection on high-speed rural roads.

The common theme to the policies adopted by these other motoring Clubs is that point-to-point speed enforcement technology is supported (at least in a trial capacity), provided that the technology is employed only on higher-speed rural/remote roads.

The RACQ believes it is important to point-out that the RACWA includes a condition that the rural/remote roads in question must be identified as ‘risky’.

In Queensland, the current mobile speed camera program primarily identifies speed camera zones by a history of speed related crashes of all severities, or serious casualty crashes that are not intersection related (QPS 2003, p2). Queensland Transport uses road crash data no more than five years old to identify proposed speed camera zones (QPS 2003, p2).

Zones can also be identified using secondary criteria such as:

- Locations where roadworks are being undertaken;
- Locations that are subject of validated public complaints;
- Locations that are subject of validated stakeholder concern; or
- Locations that are identified through local knowledge of problem areas (QPS 2003, p2).

Urban speed camera zones are one kilometre in diameter, while rural zones are five kilometres in diameter. Sites for speed cameras within the proposed zones are nominated by appropriately qualified QPS officers, who then forward them to Traffic Advisory Committees (TACs) for approval (QPS 2003, p2). TACs are made-up of representatives from the QPS, QT, DMR, RACQ and local government (QPS 2003, p2).

The RACQ understands that the current mobile speed camera site selection process and criteria represents a transparent and accountable system in Queensland.

The Club also understands that the new fixed speed camera system currently being 'trialled' (or in a 'staged roll-out' as the RACQ prefers to call it) in Queensland also identifies speed camera sites based on crash statistics and based on similar criteria to the mobile camera system, but is concerned with two kilometre road sections, not circular 'zones'.

The fixed speed camera system was introduced in Queensland to 'plug the gaps' that the mobile speed camera system could not address due to issues with zone/site selection criteria, or operational issues (such as workplace health and safety issues).

This raises a question from the RACQ as to whether ANPR systems used in a point-to-point speed enforcement capacity would feasibly add value to addressing problem sites (based on road crash statistics) that the current mobile or fixed speed camera systems could not address.

The Club does not believe that it would be appropriate to introduce point-to-point camera systems across large sections of the Queensland road network, unless the whole section of road was a 'high risk section'. Further discussion would need to be undertaken to define what a 'high risk section' of road is, based on recent crash data, but in any event it is likely that these 'high risk sections' would meet the current criteria for either mobile or fixed speed camera enforcement.

In Victoria, the RACV has advised the RACQ that they are of the view that drivers should not be able to be 'booked' for an average speed offence (from point-to-point cameras) more than once for one trip along a section of road. The RACQ agrees with this policy.

Further to this, the RACQ believes that drivers should not be able to be 'booked' more than once for the same speeding offence, detected by different technologies (e.g., by both point-to-point and mobile speed camera).

The RACQ seeks involvement in any discussions on the development of site selection criteria for point-to-point cameras, if they are considered further for introduction in Queensland.

Recommendation: ***The RACQ recommends that point-to-point speed camera systems are not adopted unless the whole section of road monitored by the system/s is identified as being a 'high risk section'. The Club questions whether ANPR systems used in a point-to-point speed enforcement capacity would address problem sites (based on road crash data) that current mobile or fixed speed cameras could not address.***

Recommendation: ***The RACQ recommends that if point-to-point speed enforcement is introduced in Queensland, drivers should not be penalised for***

more than one speeding offence on one trip along a monitored section of road, or penalised more than once for the same speeding offence.

Recommendation: ***The RACQ recommends that if point-to-point speed enforcement is introduced in Queensland, RACQ should be consulted with regard to the development of site selection criteria.***

7.3 Weigh-In-Motion Technology

As it has been previously mentioned in this submission, ANPR technology can be used to assist with heavy vehicle mass and dimension compliance enforcement.

The RACQ understands that ANPR can be teamed with weigh-in-motion (WIMS) sensors – which the RACQ understands are already used in Australia (Austroads 2000, pi) and in Queensland (DMR 2007) – to help identify heavy vehicles with overweight axles.

In Queensland, QT and DMR have developed a 'heavy vehicle management system' on the Pacific Motorway, which incorporates piezo-electric WIMS, changeable electronic message signs, closed-circuit TV cameras and transport inspectors' on-site control centres (DMR 2007). This system is also linked to the Gold Coast Traffic Management Centre.

DMR (2007) advises that WIMS makes it possible to target mass compliance activities on a high-speed access road, and that while 'stage one' of the project has been installed, 'stage two' and 'stage three' are planned to include enforcement-grade digital cameras, real-time upload of data and images and full automation including 'high speed WIM detectors'.

The RACQ understands that in the UK WIMS combined with ANPR has, in a pilot study, been shown to be an effective means for identifying vehicles of interest. As it is stated by PA Consulting (2007, p39):

> "The Vehicle and Operator Services Agency (VOSA) have started to exploit WIMS [Weigh-In-Motion-Sensors] in combination with ANPR to identify overweight axles/vehicles on the road network. A pilot in the West Midlands showed that WIMS/ANPR was an extremely effective means for identifying vehicles of interest to Vehicle and Traffic Examiners for vehicle, driver and road safety purposes. While weight was the primary trigger for stopping vehicles (with a 700% improvement in identifying and prohibiting overweight vehicles compared to traditional means), other non-compliance matters were identified as a result of the checks (for example the pilot achieved a 66% improvement in identifying and prohibiting driver hour violators)" (PA Consulting 2007, p39).

Based on this information, and the fact that WIMS is already being used by DMR in Queensland, the RACQ supports the use of ANPR in combination with WIMS to help detect over-weight heavy vehicles on Queensland roads.

Recommendation: ***The RACQ supports the use of ANPR in combination with weigh-in-motion sensor (WIMS) technology to help detect over-weight heavy vehicles on Queensland Roads.***

8.0 Other issues for consideration

Further to addressing the terms of reference outlined in the *Issues Paper*, the RACQ would like to take this opportunity to raise the following issues for consideration by the Queensland Parliamentary Travelsafe Committee.

These issues relate to ANPR and road safety enforcement in Queensland in general, and have arisen during RACQ's research into ANPR, and work on this submission.

8.1 ANPR Steering Committee

The RACQ believes that if further research into a wider roll-out of ANPR for road safety or other purposes is to be undertaken by the Queensland Government, an ANPR Steering Committee should be developed to give key stakeholder and community representatives a chance to provide input on how, where and why ANPR systems (either fixed or mobile-intercept) are implemented and to monitor the ongoing use of the technology.

The RACQ would also see the Steering Committee as a forum for the development of policies with regard to the use of ANPR technology, including privacy policies and policies with regard to the accuracy of the ANPR process.

In the UK: "ANPR cameras must meet national standards regarding read rates and accuracy. Forces need to monitor the level of read accuracy in the operational environment to ensure that the integrity of ANPR as a source of evidence is maintained" (PA Consulting 2007, p80).

The RACQ supports this notion with regard to any increased use of ANPR technology in Queensland. ANPR technology's accuracy in correctly 'reading' number plates should be continually monitored to ensure that the system is operating at an acceptable level e.g., monitoring of the percentages of 'false positive' 'hits' generated due to problems either with the ANPR device itself or the information on the database/'hotlist' and taking appropriate corrective action.

The RACQ believes that a Club representative should be included in any ANPR Steering Committee, to ensure that the interests of Queensland motorists are represented.

Recommendation: ***The RACQ recommends that if further research into a wider roll-out of ANPR technology for road safety purposes is to be undertaken in Queensland, an ANPR Steering Committee should be established.***

Recommendation: ***The RACQ recommends that the ANPR Steering Committee should be a forum for the development of policies with regard to the use of ANPR technology and monitoring of the technology's ongoing use.***

Recommendation: ***The RACQ recommends that an RACQ representative be included in any ANPR Steering Committee.***

8.2 Motorbike Front Number Plates/Decals

At present, the DMR have advised the RACQ that ANPR is only used for front-on shots of vehicles (targeting the front number plate).

This means that motorbikes are unable to currently be monitored by DMR's ANPR technology. DMR believes that this is an acceptable trade-off because they can monitor prime movers (instead of just heavy vehicles' trailers).

There is an opportunity for the Queensland Government to introduce a front number plate or decal for motorbikes, to not only help make them accountable to ANPR, but also to existing mobile and fixed speed camera enforcement.

It is a commonly raised concern of road safety authorities that motorbike riders cannot currently be identified front-on for camera-detected offences in Queensland because there is no provision or requirement to display a front number plate on a motorcycle (RACQ 2004, p70).

It has long been a matter of priority for the RACQ that front number plates or decals be introduced for motorcycles in Queensland, and the RACQ would like to take this opportunity to call on the Queensland Government to do this.

Recommendation: ***The RACQ recommends that the Queensland Government introduce a front number plate/decal for motorbikes.***

8.3 Need to have more on-road police presence

Previous RACQ member surveys have shown 90% support for "increasing on-road police patrols" as an effective countermeasure (RACQ 2004, p64).

In RACQ's 2006 *Road Safety Online Survey*, 91.9% of respondents agreed (with 63.9% strongly agreeing) that 'Increasing on-road police patrols to more actively deter, detect and enforce against all unsafe/illegal driving practices – not just speeding and drink driving' would be an effective initiative for helping to reduce Queensland's road toll.

The RACQ acknowledges that: "Deterrence-based enforcement by conventional means can be very effective in achieving behavioural change. However Queensland's vast road network poses problems for an effective police presence, especially in rural and remote areas" (RACQ 2004, p64).

The RACQ strongly believes that there needs to be an increased, high-visibility, on-road police patrol presence all-year-round, targeting high-risk days, times and locations (RACQ 2004, p65).

With any increased use of ANPR technology in Queensland for road safety purposes, there will be a need to have more police officers on-road to help respond to ANPR 'hits'.

The RACQ strongly believes that if ANPR intercept teams are introduced in Queensland, these teams should be specialist teams to increase value to the Queensland community. These specialist teams should also be additional to (not subtracted from) the current number of traffic police in Queensland.

In other words, the RACQ wants to see more traffic police on Queensland's roads, as well as specialist ANPR intercept teams. If current traffic police become specialist ANPR officers, new traffic police should be employed/transferred to replace them.

Recommendation: ***The RACQ recommends that the Queensland Government increase the number of police officers providing a high-visibility police patrol presence, all-year-round. The officers are to enforce a range of unsafe/illegal driving practices, not just speeding and drink driving, and are to target high-risk days, times and locations.***

Recommendation: ***The RACQ recommends that if ANPR intercept teams are introduced in Queensland, these teams should be specialist ANPR officers and these ANPR officers should not be seconded from current traffic police numbers.***

8.4 Compulsory carriage of licence

Compulsory carriage of licence for all Queenslanders would be a major method for improving the ability of ANPR to help police enforce against unlicensed driving and other restrictions.

While ANPR provides a capability to identify a vehicle of interest, it is unable to provide information on the person driving the vehicle (PA Consulting 2007, p37). It has been identified that because of this, in the UK "ANPR intercept teams often have to spend time taking individuals to custody in order to establish their identity" (PA Consulting 2007, p37). Obviously, compulsory carriage of licence would assist with this.

Currently in Queensland if ANPR officers were introduced and they were to receive an ANPR 'hit' from a vehicle that is, for example registered to a driver with a suspended licence, intercepting officers would need to be able to identify the driver of the vehicle. By requiring the driver to carry their licence whenever they drive a vehicle, identifying the driver would be an easier process.

In RACQ's 2006 *Road Safety Online Survey*, 70.9% of respondents agreed (with 44.5% strongly agreeing) that 'Introducing compulsory carriage of licence for all open licence holders' would be an effective initiative for helping to reduce the road toll in Queensland.

It has long been a matter of priority for RACQ that in Queensland, it be made compulsory for all drivers to carry a valid driver's licence and produce it on demand to curb unlicensed driving, e.g., a smart licence to display current status (RACQ 2004, p65).

The RACQ therefore wishes to take this opportunity to once again call on the Queensland Government to introduce a requirement for all drivers to carry a valid driver's licence and produce it on demand.

Recommendation: ***The RACQ recommends that the Queensland Government introduce a compulsory requirement for drivers to carry a valid driver's licence and produce it on demand*.**

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