

HIGHWAY ROBBERY

GOVERNMENT PUTTING REVENUE BEFORE SAFETY

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1. Introduction.....	1
2. Does speed kill?	2
Impact collision rather than speed kills.	3
Current speeding policy is not saving lives	4
A brief review of some recent studies and campaigns	4
Problems with lowering speed limits	5
Other factors influencing the focus on speed detection.....	6
3. Do our speed detection systems work?.....	8
a) Radar	8
Evidence of the inadequacies of radar	9
b) Lidar	13
c) Speed Cameras	16
d) Police Officers	19
4. Other examples of the road being used for revenue over safety	20
A justice system based on error and showing no justice?	21
5. What happens when you are not guilty of speeding but it has been alleged that you were speeding?	23
a) Infringing Officer	23
b) Infringing Police Officer's Station.....	24
c) Regional Police Commissioner	25
d) Director Infringement Processing	25
e) Police Headquarters.....	25
f) Legal Aid	25
g) NSW Ombudsman/ NSW Police FOI Section.....	25
h) NSW Police Minister.....	27
i) NSW Premier	27
j) Australian Prime Minister	27
k) Independent Commission Against Corruption (ICAC).....	27
l) Police Integrity Commission	28
m) Legal Representation	28
n) Court System.....	28
Extraordinary costs to the public of legal intervention and government bungling ...	29
o) Motoring Organisations.....	31
p) Australian Standards.....	31
q) National Measurement Act	31
5. What is starting to happen?.....	33
6. Conclusion	35

1. Introduction

This report examines the way the NSW Government's speeding policy is failing.

It examines

- The false premise that "Speeding Kills" which the government uses in order to justify taking hundreds of millions of dollars from the motoring public.
- The false and misleading propaganda used to back up this false premise.
- The unreliability of the speed measurement devices used to infringe motorists.
- How radar operators break police guidelines in order to infringe innocent motorists.
- The situation where many motorists whilst not breaking any law are subject to losing points, time, money, etc.
- The extraordinary lengths the government goes to, in order to prevent justice and maintain their cash cow.

It highlights the fact that many innocent motorists are losing their livelihoods, time and money, etc when they have not even broken the law, let alone done anything wrong.

This report aims to highlight the truth behind the NSW Government's failed speeding policy and offers suggestions to improve the current situation.

2. Does speed kill?

The current use of speed cameras (including radars and lidars) is generating hundreds of millions of dollars for State Governments at the expense of Australian lives.

The current NSW Government road safety policy uses a "speed kills" mentality with lower speed limits stringently policed by speed cameras, radar and lidar. Sadly, its justification is based on lies about how many lives speed cameras can save and that speeding above the limit is the major cause of road fatalities.

There is no government scientific data or study available that states how many lives are lost above the speed limit. The major studies and reports referred to by the Government, used to justify speed cameras, are grossly misleading—some would say fraudulent. The vast majority of the data presented is from crashes that occur below the speed limit.

The *NSW Speed Problem Definition and Countermeasure Summary* (August 2000) is a prime example of a government study used to justify the implementation and use of speed cameras. It claims, "speeding still accounts for around 40% of all fatal crashes in NSW". So far this statement is logical from their interpretation of the data, but then it states, "speeding can also involve travelling too fast for the prevailing conditions, despite travelling under the posted speed limit." (Study available at http://www.rta.nsw.gov.au/roadsafety/downloads/speedprobl_dl1.html)

Their definition of "speeding" therefore includes data from below as well as above the speed limit. Remember, this is a study used to justify the implementation of speed cameras that can only detect driving above the speed limit, not below it.

The same general definition of "speeding" and other statements such as "involved excessive speed", "caused by speed" etc. are the axes of the lie. The studies invariably avoid segmenting above the speed limit crashes from below the speed limit crashes while using definitions such as "speeding" and "non-speeding" in their place. Many statistics for accidents and fatalities grouped in the "speeding" category include circumstances in which the attending police officer without any forensic investigation makes the assumption that speed was a factor.

So what are the real above and below the speed limit road crash figures? And what is really the danger on our roads? Information is limited but RoadSense.com.au research shows that less than 2% of road deaths are caused by travel above the speed limit (refer figure 1). Importantly this 2% also includes police chases, criminal activity, suicides and more (http://www.roadsense.com.au/misleading_data.html).

This means that 98% of the 1600 road fatalities last year in Australia occurred below the speed limit. Yet not a single study that justifies the use of speed cameras recommends how to reduce the road toll where the vast majority of road crashes occur—below the speed limit. And speed cameras also do not deter speeding on corners where many young drivers come to grief.

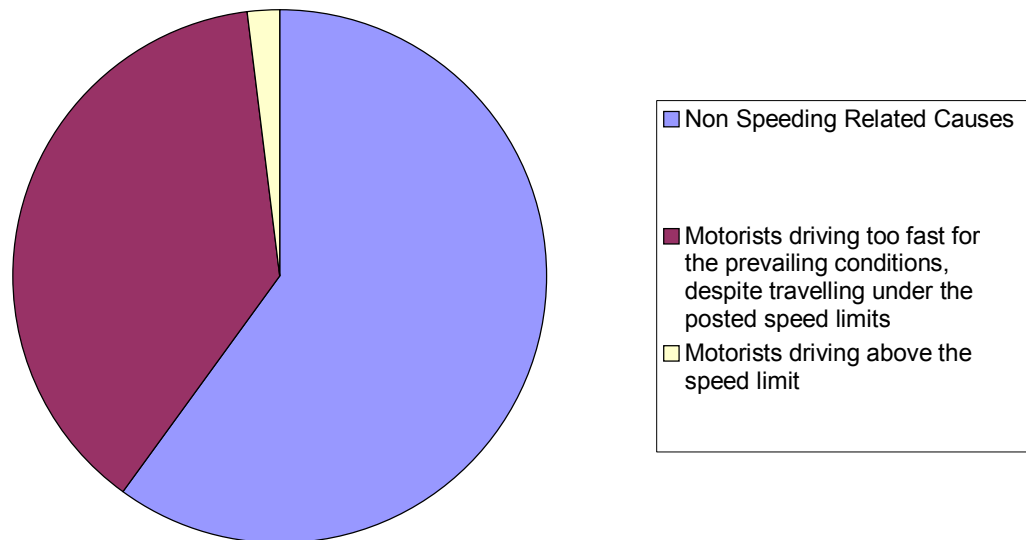


Figure1. Graph showing the break-up of the causes of deaths on our roads

Because speed cameras can only possibly reduce the road toll above the speed limit it means these devices can possibly save 32 lives in a year—that is if it were possible to stop everyone from ever exceeding the posted speed limits. Take away the police chases and others that do not involve the average road user then possibly 16 lives could be saved while over 1550 die below the speed limits. Remember this is Australia wide. In NSW it is possible that 4 lives could have been saved.

Compare this number to the 700 people who die in NSW from suicide each year (*NSW Health – Suicide Prevention 1999*). This massive loss of life due to suicide is attributed to factors such as depression and loss of self esteem. And therefore, it is interesting to note that, drivers who lose their licenses, especially when they were not speeding, can become both extremely depressed and lose self esteem. Unfortunately, there is no study to my knowledge that has examined this link.

Impact collision rather than speed kills.

Whilst impact collision kills people, even in driveways, speed is never the root cause. At best, it can be described as a factor. Yes. Speed is a factor – if two cars were stationary there would be no impact. This is basic physics. Newton's first law states that an object moves with constant velocity unless acted upon by a net external force (in this case impact).

People regularly travel at speeds above those in which car accidents take place. For example, each day millions of people routinely travel by air at speeds in excess of 700km/h and with substantially reduced risks of fatality. What we need to be focusing on is avoiding impact. This can only happen as a result of improving road users' ability to avoid collision. This can be achieved through a number of areas: improved roads with better cambers and more visibility, safer vehicles (better brakes, tyres, steering and safety mechanisms), better road awareness training for young children and more defensive driving training for inexperienced motorists with an emphasis on looking out for hazards.

Current speeding policy is not saving lives

The "speeding" lie would be easier to accept if it was saving lives but it is not. Prior to the introduction of speed cameras the road toll was declining steadily due to common sense policies, more visible police on the road, safer vehicles, improved roads, improved paramedic skills and more. Between 1980 and 1992 the road toll declined by around 40% (ATSB data at <http://www.atsb.gov.au/road/stats/current.cfm> & graph on RoadSense website.). And as more vehicles are fitted with air bags, electronic stability control and other safety features, we would expect that along with the NSW Government's justification for using speed cameras, the road toll would decline - it has not. It has halted the decline in deaths, abruptly.

According to RoadSense.com.au, based on Australian Transport Safety Bureau statistics, the road toll would have been less by 500 lives in 2004 had the previous beneficial trend been allowed to continue. (ATSB data at <http://www.atsb.gov.au/road/stats/current.cfm> & graph on RoadSense website.) Similar trends have been shown in New Zealand at www.fastsafe.org.au and on www.safespeed.org.uk in the United Kingdom.

The main reason for the failure of this 'speed kills' policy is that in urban areas driver focus has changed from getting safely to their destination to not getting caught by a speed camera. Speed cameras are a massive distraction. And in addition to this distraction, low speed limits lead to boredom, inattention and drowsiness. And obviously from the statistics, the NSW Government is focusing on the wrong 'culprit' of Australia's road deaths.

So the main reason speed cameras are not reducing the road toll, is simply that so few crashes occur because of travel above the speed limit. But while speed cameras exist, along with low speed limits, the average Australian is paying out millions of dollars in fines, while driving safely and to the conditions of the road, their experience and their vehicle.

A brief review of some recent studies and campaigns

The University of Adelaide conducted a government-paid study supposedly to investigate the effects of speed and recommend a response. The study found that 68.2% of accidents were the result of a vehicle turning in front of another vehicle. This massive number of accidents would have been avoided had the driver been following the road rules. Speed

may or may not have contributed, but the main message here is about the driver not following the road rules. Questionably, the report suggested that speed cameras are the answer. But the report does not offer solutions for reducing this 68.2% of accidents, caused by driver error or the inability to follow road rules. See <http://raru.adelaide.edu.au/speed/index.html> and www.roadsense.com.au).

A recent Road Transport Authority (RTA) campaign based on a NSW Government sponsored study through Monash University examines two cars, one travelling at 60km/h and another at 65km/h. It shows that the car travelling at 60km/h hits at 5km/h and the other hits at 32km/h. What it does not show is that had the car travelling at 65km/h steered around and/or accelerated instead of braking, it would have completely missed the accident and the occupants would have remained uninjured. Hence, slowing down was the most dangerous action that the driver could have taken in the circumstances.

Another campaign showed a child running from between two cars. In this instance it would have made no difference if the driver was going at 40km/h or 60km/h. In neither case would the driver have seen the child and in both cases the driver would have hit the child at speed. The real issue here is education and supervision for children who are unable to determine when it is safe to be on the road.

In USA, the government commissioned CATO Institute Report "Speed Does not Kill" (<http://www.cato.org/pubs/pas/pa-346es.html>) found that accidents actually decreased when speed limits were raised. In Norway (reported in *Aftenposten* 27 Mar 2003), accidents have been decreased where speed limits have been increased. In Italy, on implementing increased speed limits the Roads Minister Pietro Lunardi commented on 9 Feb 2003 *"All psychologists and doctors say people who go faster, drive better and are more careful. Only 9% of fatal accidents were caused by speeding. Where it is safe to go faster, it is the right thing to do."*

The only non-government sponsored research about Australian roads shows that the actual percentage is closer to one tenth of these figures. The Safe Speed in the UK (www.safespeed.org.uk) has scientific estimates of 3.75% and RoadSense (www.roadsense.com.au) in Australia shows figures at about 2% of fatalities are related to people driving in excess of the speed limit. This means that even total compliance to the signed speed limits cannot hope to reduce the road toll by any more than a couple of percentage points.

Problems with lowering speed limits

There are many problems associated with lower speed limits. Lower speed limits mean more congestion, longer delays, higher transport costs, increased pollution, and greater driver fatigue. Motorists become frustrated and may take unnecessary risks, to get to their destination more efficiently. Furthermore, accidents are caused by the implementation of slow speed limits as drivers are distracted from the act of driving and are more concerned with watching their speedometer or watching for speed cameras.

Harsher penalties force motorists to watch their speedometers more, and motorists brake suddenly when approaching fixed radar and speed camera sites. This is backed up by research by British Sociologist, Dr Alan Buckingham. Sudden braking on approaches to speed cameras causes accidents and has been shown by Paul Smith at www.safespeed.co.uk.

Any form of defensive driving teaches drivers to watch out for potential accidents and plan to avoid them. When people watch their speedometers, they reduce their ability to do this. The average delay in terms of brake reaction time for a person watching their speedometer, according to a study conducted by Department of Psychology, Traffic Research Unit at the University of Helsinki was 2.1 seconds longer for you to react to brake lights on the car ahead. (*Accident Analysis and Prevention Vol 30, No. 4*). The same study found that more experienced drivers tended to watch further ahead. Safespeed (www.safespeed.org.uk) conducted a study that found that it takes 1.1 sec to check your speedometer before you are focused on the road again. It also found drivers take 3-5 speedometer checks to slow down before a speed camera.

Dr Buckingham's research further highlighted the following:

- Safest drivers speed. US research (CATO report, US Government commissioned) has established that those who speed moderately – 10-20km/h above the posted speed limit – tend to be the safest drivers. It is those who travel well *above* and *below* the posted speed limit who are the most risky drivers.
- 'The law bears down heavily on the safest drivers who are travelling at about the 85th percentile of the traffic speed but above the speed at which the cameras operate, whilst some of the most dangerous drivers, who drive slowly, who are drunk or careless, are not caught.'
- The onslaught against speeding motorists is likely to damage the relations between citizens and police.
- 'Millions of motorists are being convicted each year for a driving behaviour that is perfectly safe, whilst increasing numbers of criminals are not caught. It is likely that motorists will come to view the police's actions as cynical and unfair.'

Other factors influencing the focus on speed detection

There are incentives for police to work the system to infringe honest motorists. In NSW, police must show diligence in order to achieve promotions and further increases in salary. This is written into the Police Act (1990) Section 3. If they are highway patrol officers, they can only do this by increasing the number of infringements: somewhat of a surrogate for showing they are working hard. Only a short time ago, NSW police were under a quota system for issuing speeding fines (*Hansard* 19 October 1994).

Police pursue motorists to ensure that they appear diligent when it comes time for their promotion. In fact a number of serious accidents on NSW roads are caused by police chases. The *Sydney Morning Herald* on 6 November 2004 stated:

"Pursuits in this state have caused more than 1800 car accidents, injured hundreds of people and resulted in millions of dollars in compensation and

vehicle repairs over the past 10 years. But according to the NSW Police annual report, more than half of all pursuits last year were for traffic offences.”

This is a result of the system. Police officers are taught to believe that motorists exceeding the speed limit at even 10km/h are criminals. However, there are a myriad of circumstances where their instruments overestimate the speed by this amount and much more. Furthermore, the Australasian Centre for Police Researching paper - *Urgent duty driving by Australian police: Facts and recommendations Report Series No. 115 (1991)* explains that 80% of high speed pursuits in NSW were over traffic infringements.

Furthermore, when we look at the sort of excuses that some police officers are able to use and get away with, we immediately see a disparity. Apparently in Victoria (*A Current Affair* 11 August 2004), when some police officers were caught for speeding, they used excuses such as: “*I was following the traffic*”; “*I was on the hands free phone—maintaining traffic speed*”; “*I was late for an appointment*”; or “*the roads were clear, and the weather and visibility good*”. This was enough for them to avoid a fine. If most road users used these excuses, they would be laughed out of court.

In fact, in some instances, police pay no respect to the laws that they are enforcing. *The Chronicle* (Toowoomba) reported that one motorcycle police officer, after a license check of one man, took off at speeds at up to 9 times the posted speed limit. According to the article, about 50 witnesses watched as the policeman rode off at speeds estimated to be between 60 and 90km/h in an area marked 5km/h and 10km/h. It is understood that the officer has not yet lost his license or his livelihood.

July 2005 *Choice Money and Rights* reported that one in five drivers are booked (for speeding?) every two years. This means that the government deems one in 5 drivers a criminal in every two year period. Surely, there is something wrong here!

So we have a system that revolves around taking people’s eyes off the roads and spending more time watching their speedometers rather than dealing with avoiding dangerous situations. We have a system that means that more people stay on the road for longer leading to greater congestion, transport costs, fatigue and pollution. We have a system that rewards police for infringing people for driving above the speed limit rather than poor driving ability or dangerous driving. The government blindly enforces the system, causing more deaths and accidents than the original issue may have caused. Does our system make sense?

3. Do our speed detection systems work?

In NSW there are four main ways that NSW government can deem you as having been speeding.

- a. Radar (eg. A Silver Eagle Series radar)
- b. Lidar (eg. Kustom Pro Laser Series)
- c. Speed Camera using piezo triggers
- d. Visual assessment by a police officer

All of these systems have major problems and flaws. However, the NSW Government would have you believe that our system is perfect.

a) Radar

The radar is based on Doppler physics. That means that it is bound by the laws associated with the scientific principles involved.

According to the NSW Police Academy Silver Eagle Program – Radar Operation Manual *“By directing electromagnetic waves at a target and analysing the echo ... Measuring the length of time taken for a reflection to return allows calculation of range...”* Radar basically sends an electromagnetic wave out and it bounces back off any reflective surfaces. The time taken to bounce back is used to calculate the distance. Subsequent beams are sent out and the distance is again measured. The velocity (speed) is then calculated by subtracting one distance from the second distance and dividing the result by the time between the two signals. This is all well and good when there is a straight flat road with no reflective surfaces in the path of the radar except the target vehicle, and the police vehicle is stationary. Unfortunately, in reality this is rarely the case and the constraints of radar are not acknowledged in practice.

Even the NSW Police Academy *Silver Eagle Program—Radar Operation Manual* details a number of circumstances where the radar is not to be used because it cannot give accurate results.

Part 4.1 of the manual explains that *“...The radar operator must fully understand this subject so that action can be taken to avoid mistakes due to interference....”* Hence, the device relies on the police officer to use the device correctly. Furthermore part 4.2 explains that it is possible for a speed to be displayed in the absence of a target.

Moreover, part 4.3 explains that there are a number of issues that can cause interference and hence incorrect readings. *“Large trees, bushes and signs moved by the wind, heavy rain or snow, windblown dust, in fact any particulate matter in the air ... It has been found that heavy, driven rain falling non perpendicular to the roadway can add to or subtract from correct patrol speed depending upon the relative direction of the radar... Movement constant enough to produce a frequency change equal to or greater than the threshold could produce a speed reading... Man made interference is by far the most troublesome and constitutes the largest category. Large advertising signs if rotating or swinging may reflect the beam. Large broad bladed fans may also reflect sufficient energy to cause a speed reading. Electronic emissions from fluorescent lights, power transformers, x-ray and medical diathermy machines, high voltage transmission lines with*

leaky insulators, radio transmitters, mobile phones, automobile inverters, etc may in some circumstances cause a speed reading or a reduction in effective range. “ The document even concedes that it is possible for a bird flying in close proximity to the radar to cause a reading.

The main circumstances where the radar is being used, against guidelines and therefore, deeming law abiding motorists as criminals, are:

1. Police car coming around a corner whilst taking a reading
2. Large vehicle in between police radar and target vehicle
3. Other vehicles on the road at detection time
4. Other reflective surfaces (including signposts, other vehicles, billboards, etc)
5. Electrical equipment giving off electro-magnetic radiation

The manual also explains the requirements for a valid speed check.

1. Visual observation and estimation of the target's speed
2. Observe the numerals in the patrol and target displays
3. Clear, constant (if appropriate) tone
4. Correlation between patrol speed and checked speedometer
5. Duration of the check (steps 2,3 and 4) must not be less than 3 seconds
6. Minimum of 200 metres between targets of similar size.

Evidence of the inadequacies of radar

The *Herald Sun* on 4 August 2005 explained that the Victorian Police rule book shows that specific restrictions are placed on the mobile speed cameras to address problems with reflective objects corrupting speed readings. According to the article, the rule book states cameras should not be setup near an overpass, or facing an elevated adjacent road that may carry traffic past the extended speed camera radar beam. Other sources of reflection are pole-mounted electricity supply transformers, metal signs such as for-sale or auction signs and Armco road barriers. Metal bus stop shelters, public telephone booths, Australia Post letter boxes, sheet metal garage doors, fences, factory walls and closely spaced iron picket fences are all listed as possible reflectors capable of distorting speed readings.

The *Western Australian* on 8 June 2001 reported “*Queensland Police have stopped using the Kustom Silver Eagle mobile radar because mobile telephones interfere with it. About 50 Queensland traffic police cars were fitted with the Kustom Radar*”.

The *Herald Sun* 7 June 2001 explained that Senior Police had told them that an electronic glitch caused by mobile phones and possibly mobile phone towers may cause the Silver Eagle radars to give inflated speed readings. The article explained that the devices were not designed to be used with the telephone networks used in Australia. It explained that QLD had withdrawn the Silver Eagle from service for this reason. *A Current Affair* 18 July 2005 also reported that QLD and WA had both stopped using the Silver Eagle Series Radar. But NSW Police still use Kustom Silver Eagle radars.

On *Today Tonight* 18 November, 2003 mobile radar operator Jeff Bowtell blew the whistle on mobile radar stating “*his camera would go off even there wasn't even a car in*

sight.” In the same article radar expert Dr Wolf Garwoli says “*the manual instructs operators to avoid metal signs, mail boxes, real estate signs, trains, trams, electricity transformers and even garage doors, which can cause wrong readings*”

In another interview (Today Tonight 19 November 2002), Dr Garwoli stated “*it has been proven in court that 128 different factors can affect a speed camera or radar's accuracy, not to mention a car speedometer's accuracy.*” Dr Garwoli believes that people are being wrongly booked. “*I have no question about it*” he said.

The *Herald Sun* on 4 August 2005 explained that Graeme Marr a defence witness and former camera operator, stated that drivers had been banned from the road because of wrongly issued speeding fines and that driving licenses had been suspended and cancelled as a result of the incorrect tickets. He said problems caused by reflected radar beams were rife in camera operations. Radar beams reflected off metal objects can corrupt speed readings and lead to an incorrect ticket being issued. Mr Marr stated that camera operators routinely set up in areas that breached the provisions of the manual, by having reflective surfaces in the path of the radar beam.

The *Herald Sun* on 17 April 2005 explained how Thomas Mulcare, a radar expert hired by the Victorian Government to test and assess the accuracy of radar had told a QLD court that motorists were being fined when police were using radars contrary to the Traffic Camera Office Manual and the Manufacturers manuals. It explains that “*The manuals states that reflections from metal objects may distort the target vehicle's speed, therefore such images are not suitable for prosecution.*”

On *A Current Affair* on 18 July 2005, video evidence provided by Radar expert Roy Zegers was shown, demonstrating police officers breaking the law to infringe innocent motorists. The officers in question were using radar in ways that it was not designed for and thus producing inaccurate results. He stated that the number of people who should be challenging readings was as high as 60%. He also explained how police would routinely lower their radar antenna in order to infringe motorists illegally. Furthermore, in the same interview, Police Superintendent, John Lipman (who also prepared material for the NSW Police Academy *Silver Eagle Program—Radar Operation Manual*), explained that if officers followed guidelines that the Silver Eagle Radar was accurate. However, he was unable to confirm their accuracy if guidelines were not followed. Furthermore, he explained that the guidelines required that the radar only be used in rural areas. However, he conceded that police were using the devices to infringe motorists in built up areas, contrary to guidelines.

Harry Berelsford, in his book *Under the Radar* explains how he received a ticket and was found guilty even though he was not speeding due, probably to the high tension wires overhead. The police guidelines explain that radar is not to be used in these circumstances and yet he was found guilty of a crime he did not commit.

Phil Jones (*Police v Phillip Jones 15 September 2004 at Nowra Local Court*) was found guilty of speeding even though he proved he was not speeding. In his case, the police

officer was using a radar in circumstances where it was not allowed to be used and had recorded a speed well above what Phil was actually travelling. Phil successfully proved his case. However, because the magistrate held the *Silver Eagle Program – Radar Operation Manual* and the mathematic calculations to be “guidelines only”, Phil was found guilty of speeding, even though he wasn’t.

Even the NSW Ombudsman report *Speedometers and speeding fines April 2003* concedes that people are likely to receive speeding fines when they are not speeding. In fact in 1999, the NSW Ombudsman conducted an audit of 3 Subarus used in Operation Siblu that resulted in 530 fines being refunded where the speedometers were not accurate enough. (NSW Ombudsman publication *Speedometers and speeding fines: A review of police practice June 2002*).

The *Sunday Courier Mail* on 7 August 2005 reported that police would temporarily withdraw 180 mobile speed cameras from use in Queensland after they were found to be “too sensitive” to vehicle movement. The car mounted radars were picking up readings from oncoming cars that the operator could not see.

In many cases, the issue of a speeding infringement comes down to the word of a police officer who has an incentive to infringe motorists. Their word is held in high esteem in the court system. It is no longer possible to sue them for damages for their false allegations. The *Police Legislation Amendment (Civil Liability) Bill* changed this on 13/11/2003 making it easy for corrupt police to easily get away with false allegations and wrongful infringements without being held accountable.

Australian Standard AS 2898.2—2003 details the following which need to be taken into account to comply with the standard which has the status of law in Australia.

2.4.2 Electromagnetic interference (EMI)

The operator shall ensure that the effects of electromagnetic interference are minimized by careful site selection.

2.4.3 Reflections from stationary objects

The operator shall ensure that the radar beam is not being reflected away from the direction in which it is being aimed by stationary objects as this may lead to incorrect target identification.

NOTE: Typical stationary reflective objects are advertising hoardings, traffic signs, parked vehicles, metallic fences, sheds and phone boxes.

2.4.4 Detection area

The operator shall take into account the full detection area and the fact that the speed of any moving object within the detection area could be being measured at any given time.

NOTE: The detection area varies with different makes of radar devices.

2.4.5 Traffic density

The operator shall take into account the traffic density at the site at the time of measurement to ensure that targets can be clearly identified.

2.4.6 Extraneous moving objects

The operator shall take into account the fact that moving objects which are not on the roadway being monitored can be within the detection area.

NOTE: Such objects can be on adjacent service roads or highways, on the other side of divided roads, on properties bordering the roadway, or there may be trains on adjacent railways.

2.4.7 Alignment

The operator shall ensure the beam of the radar device is related to the flow of traffic as follows:

(a) For slant radar devices, as near as possible to being parallel to the plane of the roadway and at the angle specified by the manufacturer, within the manufacturer’s specified tolerances.

NOTE: The operator should be aware of the fact that if a slant radar antenna is not aligned in accordance with the manufacturer's specification, the speed measured by the radar device will be greater or less than the true speed of the target according to whether the angle to the flow of traffic is smaller or larger than specified.

(b) For direct radar devices, as close as possible to being directly in line with the direction of travel of the target.

NOTE: The operator should be aware of the fact that if a direct radar antenna is not aligned with the direction of travel of the target the speed measured by the radar device can be less than the true speed of the target. This is referred to as the 'cosine angle effect' because the measured speed is equal to the true speed multiplied by the cosine of the angle between the antenna and the direction of travel of the target and hence cannot be higher than the true speed.

Unfortunately, as we have seen from Roy Zegers video evidence, police officers do not always comply with the law.

The *Sydney Morning Herald* 5 November 2005 reported that in Goulburn Court 27th October 2005, Jerry Simotas proved that the Silver Eagle should not be used at all and that the radars could not be proved to be accurate. Jerry Simotas stated "In terms of accuracy, our expert, who is an electronics engineer, showed that police had only ever done half of the tests required by the manufacturer." As a result, an internal memo was sent to area commanders in NSW to withdraw the use of the Silver Eagle radar at once.

b) Lidar

The lidar works based on Doppler physics. That means that it is bound by the laws associated with the scientific principles involved.

A lidar works similarly to radar. Even the NSW Police Academy *Pro Laser II Training Manual* shows a number of circumstances in which the lidar is not to be used because it cannot give accurate results. Whilst the lidar is relatively accurate, there are circumstances in which it does not work, mainly because the person shooting is only human and not even an Olympic marksman. Shooting a LIDAR gun is like trying to shoot a bullseye at the range of the vehicle. If you miss you could be hitting another vehicle. A person who sneezes, attempts to shoot at too greater range, shoots across lanes of traffic, etc. Because the LIDAR uses a wavelength close to that of visible light, it means that even headlights can cause problems with range.

Australian Standard AS4691.2-2003 explains that

“the operator shall take into account the detection area and the fact that the speed of any moving object within the detection area could be being measured at any given time... The operator shall take into account the traffic density at the site at the time of measurement to ensure that targets can be clearly identified... For speed measurements, the operator should ensure that the beam of the laser-based device is as close as practical to being directly in line with the direction of travel of the target to minimize the cosine angle effect... A valid speed measurement shall only be taken when the target vehicle is clearly identifiable by direct observation or by means of an image capture system... The operator shall visually monitor the object under investigation for sufficient time to identify it as the target. If the operator has any doubt that the speed measured by the device is not that of the object under investigation, that the speed measurement shall be considered invalid. Mirrors shall not be used to observe the object under investigation... The operator shall monitor the audible tones of the laser device to identify when the target is in aim and when a valid speed measurement has been taken.”

It further explains that the operator shall be trained to understand the cosine angle effect and the causes of interference and limitations of laser eg. Sweeping and panning.

The NSW Police Academy, Radar Engineering Unit, Pro Laser II Training Program Manual explains that as an optional test, an officer may have another officer drive a patrol vehicle at a known speed and verify the Pro Laser II's speed against the patrol vehicle's reading. This is interesting as the patrol vehicle's speedometer may only be accurate to $\pm 10\%$ as required by 'Australian Design Rule 18' (the vehicle's speedometer must indicate the actual vehicle speed, for all speeds above 40 km/h, to an accuracy of $\pm 10\%$.) even though the Kustom Pro Laser II claims accuracy of $\pm 2/-3$ km/h. The document further highlights that weather conditions affect the Lidar unit including:

“any weather affecting visual sight will affect the laser's ability to detect a target at greater distances. Rain, fog, snow blowing and dust affect the laser's range.” It explains “having a clear line of sight to the target vehicle is mandatory. Items

such as power pole guy wires, radio antennas on passing vehicles, fences, tree branches and other objects will interfere with the ProLaser II. Weather conditions play a major role in the maximum target acquisition distance. Fog, snow, rain and blowing dust can all interfere with the ability of the ProLaser II to obtain a speed reading on a target vehicle... the range of the target will be reduced.

This can mean higher than true speed measurements being calculated on the Lidar. The manual states

“Of all the external effects on the ProLaser II, operator motion or jitter while targeting a vehicle will have the most effect...[such as] any additional motion by the operator such as hand motion, motion caused by wind or motion caused when the operator is attempting to track a target vehicle”.

The manual explain that if the operator's sweep causes the Lidar to move from the target vehicle's grille to its windscreen, this will cause higher readings than what the target vehicle was actually travelling at. It notes *“The range of the ProLaser II may be affected by Halogen high beams. This is a white hot light source that contains some IR which may interfere with the laser's ability to detect the reflected laser pulse.*

The manual's operational guidelines explain the following:

1. Lidar to be tested as per instructions
2. The minimum detection time is three seconds for a valid lidar speed check
3. At all times the trigger is not to be engaged until the target is visually observed
4. Ensure that a clear audio tone is heard throughout the period of the check
5. The lidar system is not to be used without a clear line of sight
6. Lidar instruments are to be used on relatively straight portions of roadway.
7. Lidar is not to be used through the windshield or glass windows of a motor vehicle
8. Do not sweep the lidar laser beam across the intended target. Maintain a consistent aiming point on the target.
9. Accuracy of the ProLaser II Infrared Lidar system is plus or minus 2km/h in speed mode and plus or minus 30cm in range mode. The accuracy in speed mode should be borne in mind when completing traffic infringement notices.
10. Never attempt any repairs or allow any person to perform any repairs to the lidar system. In case of faulty equipment, or if the seals are broken, cease operation and forward the device to the Leader, Radar Engineering Unit, 81-95 Portman Street, Zetland.
11. Each instrument will bear a label with the next service is due printed thereon. All instruments must be sent to the Radar Engineering Unit for periodic calibration testing at intervals not exceeding 6 months.
12. Retesting of the Lidar at the completion of shift must be done.
13. The Lidar operator at the time of the offence shall be responsible for notifying the Radar Engineering Unit when a Lidar is required at court.

Under the Responsibilities section it explains the following:

1. Lidar is not to be used on the approaches to towns in deceleration areas before reaching the township proper. (Does not apply to a complaint area or an area where a school is situated).
2. Stationary Lidar shall not be used:
 - a) on a bend in the road;
 - b) at the bottom of hills;
 - c) on an unsuitable gradient or hill; and
 - d) within 50m of a speed restriction or de-restriction sign creating a change to the speed zone being enforced.

Unsuitable gradient or hill is defined as a slope that causes a vehicle in top gear (or drive) to increase indicated speed against maximum deceleration (no brake or acceleration) from a commencement speed at the top of the slope at the posted limit.

This restriction does not apply to speed camera enforcement of the ascending traffic flow.
3. Lidar is not to be used on the departure side of towns and settled areas where settlement is sparse, except where speed is excessive
4. Lidar should not be used where motorists are stopped close to a sign indicating higher speed limit unless the location is the subject of complaint, has high accident potential or is subject to excessive speed (eg. 20kph in excess of the zoned speed limit).
5. Lidar must not be used at any location which would engender legitimate adverse criticism or give rise to the complaint that Lidar is a means of raising Government revenue.
6. Lidar must not be used in inclement weather.

The *Sunday Tribune* 17 August 2002 stated that in Cape Town, South Africa, evidence was presented in court by the Director of Traffic Management that the Kustom Prolaser series of Lidar similar to those used in NSW could be easily manipulated. Evidence showed that “a stationery car can be “trapped” doing 130km/h and a jogger can be measured at an incredible 109km/h.”

On Today Tonight 20 September 2003, Scott Cooper won a case where it was alleged that he had been speeding because Dr Wolfgang Garwoli, radar expert stated that the “*cop pinged [Scott] from 250m away... He says it is unlikely the gun could be accurate from such a distance. The gun will certainly be accurate well over that range but the policeman would not.*”

Peter Conridge received a fine from a policeman using the Kustom Pro Series 2. The infringement was issued in a 100 km/h zone with 1.46 km winding down grade, multi lane highway, only 410 metres of visibility, distance on Lidar of 246 metres aiming through tree branches, 30 metres from overhead high tension electric power lines. This is contrary to Lidar guidelines.

c) Speed Cameras

Governments in Victoria and NSW are issuing refunds due to these ‘infallible’ cameras being fallible. Electro-magnetic (EM) radiation can affect any electronic devices. Why are we asked not to switch telephones or laptops on while in an aeroplane during takeoff or landing? Why are there signs at petrol pumps asking not to use mobile phones? The reason is that EM radiation can interfere with any electrical equipment. Also, the speed camera loop devices generally measure vibrations through piezo pressure sensors in the road and if there are other vibrations around these can distort the readings.

In Victoria, the Western Ring Road speed camera fiasco meant many innocent motorists lost licenses, jobs, relationships, income, etc. as a result of faulty speed cameras. Even though it was impossible for the vehicles to have travelled at the speeds claimed, the government maintained for quite some time that the speed cameras were giving correct readings. The *Herald Sun* on November 14, 2003 revealed that a speed camera expert had identified the following possible reasons why the speed cameras did not work:

Old cars with suspension that ‘bounces’ can trick the cameras into bizarre readings. Water may have seeped into roadside boxes that alert cameras to speeding motorist, wires may have been broken or dislodged, leading to bad readings. Bitumen covering the road may have shifted leading to warped readings.

It showed how one person had been fined for driving her car at a speed that the car was incapable of travelling. The penalty for this innocent driver was one year suspension of license. *The Age* June 16, 2004 reported that in the Western Ring Road fiasco alone, 456 motorists lost their licenses when they were not speeding. In many cases, they also lost employment, relationships suffered, social lives and fitness activities were disrupted etc. even though they were not guilty of anything more than being in the wrong spot at the wrong time.

The Age revealed on December 2, 2004 that it was actually safer to travel when there were no speed cameras in operation. The police figures showed that injuries were 70 and 91 for the years of speed camera operation and 60 once it was shut down. This trend is backed up by scientific based studies in New Zealand by www.fastandsafe.org.nz and in UK by www.safespeed.org.uk.

In NSW, speed cameras have been shown not to work at, at least 5 locations in NSW. These are namely M5 East Tunnel, Spit Hill, James Ruse Drive, Parramatta, Newcastle Rd, Jesmond and Balgownie Rd Wollongong. The *Daily Telegraph* 10 August 2005 reported that Dennis Miralis had proven in a court of law that the RTA could not even prove that speed camera photos in NSW are not doctored.

The *Daily Telegraph* 12 August 2005 reported that a speed camera in the M5 tunnel infringed a truck driver for travelling at 93km/h in an 80km/h zone in gridlock traffic in peak hour clearly showing that all the traffic had their brakes on. Apparently, Mr Symons

is challenging 15 fines where 15 different trucks were all allegedly travelling at exactly the same speed of 93km/h in the same 80km/h zone.

In the case of Spit Hill it took STA Bus drivers who had received fines for speeding when they were not speeding (and the buses could not have reached the speeds indicated) threatening to strike before the Government decided to investigate and then reversed the infringements for the bus drivers. In *The Mosman Daily* on 5 May 2005, Mr Kosta stated “*They were speeding and that’s clearly the issue ... If you weren’t speeding you wouldn’t have been picked up by the speed cameras*”. On 10 March 2005 *The Mosman Daily* reported that the RTA had admitted that the camera was issuing infringements for drivers not speeding. It stated “*Tests have shown that the weight of the vehicles, combined with the uphill slope of the road, triggered inaccurate readings...*”

Even the manufacturer’s manual (DCD *Systems Technical Manual for Robot Smartcam* June 2001) makes note that it cuts down road noise (10:1 ratio) due to road bending, adjacent lanes and bow waves of approaching vehicles. It does not totally eliminate road noise. Hence, not only can the drivers of large vehicles such as Spit Road buses make enough road noise to be wrongfully issued with infringement notices but other vehicles in close proximity can also receive infringements for speeds at which they were not travelling.

ABC Online reported on 2 October 2004 that 123 fines were refunded at James Ruse Drive because of a faulty speed camera. The article explains that the fault was found in one of the loop detectors. The *Daily Telegraph* 11 January 2005 reported that a fault had been detected at Carlingford Rd, Epping but the fines had not been reversed.

The *Newcastle Herald* 30 April 2005 highlighted how a number of people had been given fines for allegedly speeding at speeds 15–20 km/h above the speed that they were actually travelling. The article explained that 4 people had written to the paper in the preceding month, all believing that they have been wrongly booked at 87km/h or 88km/h.

The *Sydney Morning Herald* on 15 November 2004 described how many motorists had received fines at Balgownie Rd Speed Camera, including a lollipop lady whose car was parked at the time the speed camera went off and how several construction workers had seen the camera flashing when nobody was there.

In terms of safety, the chairman of StaySafe stated: “We rely too much on speed cameras” and “There is no doubt they are a revenue maker?” (reported *Hansard* 9/11/2004). Furthermore, it was revealed by Paul Gibson (*Hansard* 16/11/2004) that:

Staysafe ... is concerned about the big revenue-generating cameras. ... At the bottom end of the scale 25 per cent of fixed cameras produce about 12 fines a week, whereas at the top end of the scale fixed cameras produce a large amount of money. The view of my committee is that if the fixed camera at St Patrick's, Kogarah, produces \$6.5 million year in and year out something is wrong. Nobody in his or her right mind is fined or loses demerit points on purpose. Commonsense dictates that it is time to have a look at the road environment in that area.

On *Today Tonight* on 19 April 2004, it was reported that this camera rakes in \$127 per minute on school days. It was also revealed that a speed camera at Kogarah fines \$25,223 per day, one at Parramatta \$13 552 per day, one at Mosman \$7 493 per day and one at Edgecliff \$7 288. That means that these 4 cameras alone are deeming 100 000 people criminals each year. All these people's money is flowing to the government and the speed cameras do not save lives according to Dr Alan Buckingham.

Dr Alan Buckingham, a senior lecturer at Bath Spa University, explained in *Policy Spring* 2003, "*The whole point of speed cameras was to increase the rate of reduction in the number of serious and fatal accidents, but the data show the reverse. Since 1997 the rate of road deaths has slowed from an annual average of 2.7percent to just 0.7percent.*" Dr Buckingham said. "*Speed was not a major factor in road fatalities*" He states "*The statistics used by Australian governments which show speeding is involved in 30 percent of road accidents are flawed, for they include factors such as 'fatigue' and 'alcohol' which are not speed related.*"

According to a media release by the Honourable Don Page MP (5 January 2004), 82 out of 111 cameras reported a fault in a six month period. This means that only 26% of cameras are working correctly in a six month period.

Furthermore, if a recent study by the UK Government *Transport Research Laboratory (TRL) Report 595* is anything to go on, speed cameras actually increase the chances of personal injury by 55% in a construction zone and 31% outside of a construction zone. So they are actually making our roads a great deal more dangerous.

The *Sydney Morning Herald* 22 August 2005 highlighted that the Cross City Tunnel had speed cameras that would be switched on as soon as the tunnel opens. This is extremely bad planning as it effectively deems the tunnel a black spot, even before commencement, which is extremely poor design. Even the RTA's own website at the time stated that sites in urban areas were only selected where the accident rate exceeded 80 accidents (per hundred million vehicle kilometres) and the injury rate exceeded 0.5 injury accidents (per kilometre per year).

d) Police Officers

Police Officers are human. This means that they are fallible. They also have different agendas as has been shown above. Video evidence showed that they do not use their radar in accordance with guidelines on *A Current Affair* on 18 July 2005.

Furthermore, according to *4 Corners* 22 July 2002, NSW Police Commissioner Ryan commented that “*the service is driven by fear which causes officers to lie and cheat and perjure themselves rather than admit simple mistakes*”. It is this fear that is causing them to issue fines once they have pulled over a motorist and not to reverse the fines once issued even when they know or ought to know that they should never have issued them.

Moreover, it was revealed by *Sydney Morning Herald* 5 October 2005 that internal police service documents showed that NSW highway patrolmen, when involved in high-speed car pursuits have lied, ignored commands to stop and switched radio frequencies to dodge official supervision. The Herald explained that police in the field were providing information so inaccurate or false that it was fraudulent according to Internal Affairs Detective Alan Champion.

The Times 26 August 2005 reported that police in the UK are to be given new guidelines on using mobile speed cameras because of concerns that they are breaking the law by trapping motorists at distance greater than that allowed by law who may or may not be speeding.

In Australia, there is a growing rift between the police and the community. What is thought of as ‘old school policing’, where the police work with the community and the community works with the police, is no longer in existence. The police are now, rightfully (from the evidence), seen as working only to raise revenue. This is causing many of the better police officers who used to work with the community to leave the force.

On 23 May 2005 ‘PM’ on *ABC Radio* reported that last year almost 200 officers left the force after being found medically unfit due to a psychological disorder. It is understood from a number of old school ex police officers that a large proportion of these police officers were unhappy with the current revenue focused police force ethos.

4. Other examples of the road being used for revenue over safety

There are a number of other instances that highlight that the NSW Government uses road management policy to generate revenue rather than protect the interests of road users.

In Sydney, speed limit signs are commonly concealed so that motorists travel at speeds exceeding the posted (but hidden) speed limit. If the speed limits were there in the interest of safety, then it would be prudent to have them exhibited openly and not hidden. Examples of this can be found at North Sydney, on the Pacific Highway, and on President Ave at Kogarah, where school zone signs are obscured, hidden and concealed preventing motorists who do not normally travel the routes from seeing them and hence, complying with the law. In the case at Kogarah, the sign is visible for about 15 metres, whereas the RTA site explains that it takes 29 metres to slow from 60km/h (the speed limit prior to the school zone) to 42km/h (the school zone speed limit is 40km/h) (see figure 2). Hence, it is impossible to comply even if the driver managed to see the sign in the split second afforded them. This may explain part of the reason why this speed camera is taking the millions of dollars per year as shown above. If proper signage had been placed there, the revenue raised would be lessened and safety may be improved as drivers become aware of the up-coming school zone with enough notice to modify their speed.



Figure 2: Photos from Kogarah show a 60km/h sign (photo on left) and a 40km/h school zone sign hidden (photo on right), only a few hundred metres up the same stretch of road. The speed camera patrolling this section of road draws in \$127 per minute during school zones. According to a magistrate at Sutherland court and another at Sydney District court, a motorist should be able to comply with the 40km/h speed limit even though the speed limit sign is hidden behind the tree.

In May/June 2004 *Open Road* (NRMA's magazine); the NRMA stated that their surveys found that 77% of motorists said that they are unsure of the speed limit on city roads while 60% were unsure of the speed limits on country roads. They also noted that support for 40km/h zones on highways and main roads was low (12% and 29%, 2 surveys).

In the October 2003 edition of *Crash Index* (AAMI's magazine); AAMI noted that 58% of drivers said that they believe speeding fines are a source of revenue rather than a way

to reduce the speed of motorists. Forty-eight percent believed that it is unfair to penalise motorists who drive a few kilometres above the speed limit. Eighty-eight percent of motorists said that they exceed the speed limit at least some of the time and 70% said they do so without realising. If 88% of people are breaking a law, surely there is something wrong with the law itself.

The Mosman Daily on 16 December 2004 showed how even when the schools were closed for students, the very reason for the 40km/h zones, motorists were being forced to pay fines when they were driving past the 40km/h school zones.

A Current Affair reported on 11 May 2004,

“A few years ago, ACA revealed how one speed camera at Sydney’s Spit Bridge was the biggest money-maker in Australia. Every day, it was raking in \$20,000 worth of fines, filling government coffers with more than \$7 million a year. In fact, the speed camera was so effective; authorities installed another one just 300 metres up the hill, fining speeding motorists twice on the same stretch.”

Prior to the ACA story, where Barrister Jauncey and Solicitor Rosenove fought the system, the government was taking money twice for the same offence in order to maximise revenue.

A justice system based on error and showing no justice?

The *Sydney Morning Herald* 23 December 2004 reported that “A roadside drug-testing trial will go ahead in NSW despite problems with the system in Victoria”. In Victoria, in the first nine days of testing 283 drivers provided saliva samples and only three indicated a positive result. At least one of these people, John De Jong was innocent and proved this firstly by hiring his own testers and then through the Police testing. De Jong is now suing for defamation (*ABC Online* 1 June 2005). Surely, any test that provides an error of at least 33% should be scrapped immediately and not considered for implementation by a responsible government, especially when penalties involve loss of livelihood.

The *Daily Telegraph* 22 April 2005, showed how unfair the system is. It compared two people charged with the same traffic offence. One of the defendants, a truck driver loses his livelihood and has difficulty supporting his family, the other NSW Government Minister Craig Knowles, instead of driving, takes his chauffeur driven car at the expense of the taxpayer. Why does the Minister not also lose his livelihood? Or alternately, is the penalty too harsh for the truck driver?

On *A Current Affair* on 17 June 2005, Craig Hillyard described how he had had to go to court and win three times before the NSW government ran out of options. In Craig’s case, he had proven that he could not have possibly been in the state at the time the alleged offence took place. The fact that he had to take the matter to court in the first place highlights the revenue raising nature of the beast. It should have been cleared up prior to forcing an innocent person to court. Norman Hibble is another example of a person who was not driving at the time the alleged offence took place. He has a stamp in his passport to prove he was out of the country at the time.

In a press release from NSW Treasury on 28 August 2003, it was revealed that the Infringement Processing Bureau was being moved from the Police Ministry department to the Treasury department. This is indicative of a move from policing to revenue collection.

The *Herald Sun* on 4 August 2005 revealed that it had received a copy of the *Victorian Police Manual* which showed that the locations of fixed speed cameras are chosen to maximise the number of people who can be caught for speeding. Should not it be to reduce the number of accidents? Are not we being told that the devices are used for safety and are not used for revenue raising?

The *Daily Telegraph* 12 August 2005 highlighted “*a new standard in shameless revenue raising, blocking a crucial free route North*” in order to charge an estimated 25000 motorists an extra \$1.63 per day to travel less than 1km.

5. What happens when you are not guilty of speeding but it has been alleged that you were speeding?

So far this report has shown that not only is the policy that 'speeding kills' flawed but that the devices used to measure speed are faulty and infringing many innocent motorists. We have even shown that police are breaking their own guidelines (and Australian Standards) in order to infringe innocent motorists who should not be receiving infringements.

So where do you go to get it set right?

The following section outlines the authors experiences and that of other motorists in the situation of fighting an incorrect infringement notice:

A motorist who is accused of speeding could approach any of the following, seeking assistance. The paragraphs below examine the results from contacting these people or departments:

Can any of the following assist?

- Infringing officer
- Infringing officer's police station
- Regional Police Commissioner
- Director Infringement Processing
- Police Headquarters
- Legal Aid
- NSW Ombudsman
- NSW Police - Freedom of Information
- NSW Police Minister
- Premier
- Prime Minister
- Police Integrity Commission
- ICAC
- Legal Representation
- Court System
- Motoring Organisations

a) Infringing Officer

Just imagine: the arresting officer has pulled you over incorrectly. He may know this or he may not have been trained sufficiently to know that he has pulled you over when the reading on his device was not measuring your speed accurately. He does not want to admit that he has pulled you over when he should not have. He may have already called in your vehicle to report that he is pulling you over and would look bad at his station.

This is a situation that happens every day. In my situation, ignoring the police harassment I received (threats and verbal abuse by police officers), I said to the officer "I was

travelling at 60km/h. My speedo said 60km/h. How is it possible that your radar showed 80km/h?”. The police officer stated: “Your speedo must have been wrong”.

If he was indeed trained on radar then he should have known better than that. According to the manager of Tweed Instruments whom I called shortly after, advised me that it is not possible for a speedometer to be out by 20 km/h unless the gearbox or tyres have been modified. Neither my gearbox nor tyres had ever been modified. And if my speedometer had been out by 20km/h I would have received fines every day of the year!

Also, an experienced officer would have known that the speedometer could not have been out by 20km/h and had he been honest, would have admitted to it and talked about the reasons that could have caused the difference. Had he thought about what he had done he would have known that he had not issued the infringement in line with NSW Police guidelines and he would have known that he had broken the law.

In my instance, I was travelling at 60km/h near Karuah and was pulled over and told that I was travelling at 80km/h. The reading was taken while the police car was rounding a bend, and while there was a semi-trailer between me and the police car. On top of these factors, the radar was used, in this case, in a built up area where there was a large amount of reflective material and bends and undulations in the road. The NSW Police Academy *Silver Eagle Program—Radar Operation Manual* explains that the radar should not be used in any of these circumstances, as covered in section 3a). The event took place at 1:30am on 1 January 2004. According to the NSW Police Academy *Silver Eagle Program—Radar Operation Manual*, in order to make a valid speed check, the police officer had a responsibility to take a visual estimation, which he would have had to have done at 1:30am on a dark morning within 3–4 seconds at a distance of approximately one kilometre whilst rounding a bend from the other side of a semi-trailer. The officer had clearly breached his responsibilities yet he was allowed to continue with his false allegations.

b) Infringing Police Officer's Station

I requested a copy of the incident report for the wrongful infringement at the police officer's station. I was told that there was no incident report and nothing was recorded except for an entry in the computer. This proved to be a lie. After a long fight through NSW Police Freedom of Information (FOI) section, I eventually received a police officer's statement which was full of lies including having me speaking in gutter language as a member of the mob may speak (I am educated to Post Grad level and do not swear or speak gutter language).

The report also seemed to have been written up well after the fact, claiming that I had said that I had seen on television that these devices do not work. This is even though I had not learnt of the television program until I started speaking to people the day after the wrongful infringement. The police statement was a complete fabrication probably attempting to protect the two police officers from further action.

c) Regional Police Commissioner

I had asked the two police officers to whom they reported. When I did, they had basically laughed at me when I explained that I would be reporting them. One would rightly expect when a government employee has exhibited gross misconduct that he should be reprimanded. The police officer reported to the Police Commissioner of the Hunter Region. I wrote my letter of complaint. Initially the Police Commissioner's response was that he would not investigate the matter. It was not until the NSW Ombudsman applied pressure, that there was an alleged investigation. Any legitimate investigation should have uncovered that the infringement should not have been issued and that hence there was no reason for any part of my statements to be untrue as they were deemed. The police officers would then have been reprimanded in a just world and the infringement reversed.

d) Director Infringement Processing

The Director of Infringement Processing is issuing form letters at best by entering an infringement number into a computer system. The letters do not answer the questions I asked in my letters. While I understand that the office is probably trying to deal with a huge sum of letters regarding incorrectly issued fines, all correspondence should be treated with respect and appropriate responses and investigations should take place. Any proper investigation would have uncovered the fact that the infringement should never have been issued in the first place. It should have then been reversed.

In a letter to me dated 20 April 2004, the NSW Ombudsman stated "Your experience certainly points to a deficiency in the IPB's communication system."

e) Police Headquarters

I rang to find out about the type of radar used by NSW Police so that I could start to work out the reason that the device had not worked in the situation it was used. When I called 13 1444, the person on the other end explained that the Radar used was a direct radar and not a slant radar as advertised at the time on the NSW Police website. I was told that the Police Radar does not work the same as normal radar and that it was a waste of time trying to find out the rate at which the signal is transmitted. In fact, I found this also to be untrue. The police radar works exactly like any other radar, sending a signal and using the echo to calculate range. It also works in a straight line, line of sight only.

f) Legal Aid

I was told that Legal Aid does not assist in traffic infringement matters when I spoke with them. Many people on the Roadsense forum have been told the same as well.

g) NSW Ombudsman/ NSW Police FOI Section

I was told by the NSW Ombudsman that they were not allowed to investigate traffic infringement matters due to some agreement between them and the NSW Police. I would have expected this sort of agreement to have been illegal as it contravenes the very roots of the mission of the Ombudsman. The primary role of the Ombudsman is to be an independent review body. They also explained that bodies such as NRMA should be responsible for testing the radar equipment to ensure that motorists are not victimised.

The NSW Ombudsman did however provide some assistance in securing one of many manuals requested as part of a FOI request.

On 19 January 2004, I requested “all manuals” related to the radar used on 1 January 2004 as part of an FOI request. Initially, the NSW Police did not reply in the statutory time frame, hence breaking the law. I paid \$30 for the application which NSW Police banked.

I then requested an internal review of the application, paying another \$40. After again breaking the law again with regard to the statutory time frame for responding to the review, they sent one of the manuals and explained that I was not allowed access to another manual. This other manual formed an integral part of my legal case, proving that the radar does not work in the situation involved. The manual links the scientific Doppler principle to the device and the NSW Police manual. I now understand from the NSW Ombudsman that the manual is called “Eagle Series Traffic Safety Radar Maintenance Manual” compiled by Britax Automotive Equipment Pty Ltd.

As a result of making the FOI breaches of law public on *A Current Affair* on 3 June 2004, the form was changed to add the words “*The results of a search made in response to an application under the Act is intended for your personal use only and is not intended for court, or any official purpose whatsoever.*” The effect of these words is to discourage people from using information gained under FOI legislation in court. The whole point of the FOI act is to encourage transparency between government and the community. The addition of these words substantially reduces the transparency between the public and the government. It goes against the grain of the intent of the FOI Act.

I requested an external review by NSW Ombudsman. I also pointed out to the NSW Ombudsman that there must be other manuals including the *NSW Police Operations Manual—Radar section*. I later advised them first by phone and later by fax, that this document was also called the *NSW Police Services Handbook—Radar section* after finding out the document name from the Supreme Court Librarian. When I received the NSW Ombudsman report back it explained that the Ombudsman had spoken to a senior policeman regarding this manual and that he had said that the senior policeman was unaware of it. This is interesting in light of the fact that the Supreme Court Librarian, The State Library Librarian and the Bar Association Librarian all knew what I was talking about. I have a letter from the State Library proving its existence. It is also written into NSW Government *Hansard*. The document should show exactly what is expected of NSW Police when taking radar readings. I expect that the police also broke other guidelines and laws in the issuing of the infringement.

The Ombudsman report also highlighted a number of other manuals that had been withheld and had not even been advised in the NSW Police internal review of my FOI application. These manuals are:

- Laboratory Quality Manual Radar Engineering Unit
- Radar Calibration and Maintenance Manual Radar Engineering Unit

h) NSW Police Minister

I wrote to the NSW Police Minister John Watkins to investigate what was going on. The matter had been placed on hold by the Director of Infringement Processing, while being dealt with by the NSW Police Minister. While he was aware that the documents I had requested to take the matter to court were still a matter of an external review by the NSW Ombudsman, the Police Minister sent the matter to State Debt Recovery.

This made it very difficult for me to take the matter to court. I could have taken the matter to court without the documentation—but that would have meant an additional \$10,000 in expert witness and legal representation costs that regardless of if I won or lost, I may not receive back. The Police Minister knew that I was waiting for the NSW Police to hand over the documentation that they were withholding and he knew that it was a matter of external review by NSW Ombudsman. He also knew that I had proven that the infringement had not been issued lawfully on National television.

i) NSW Premier

I wrote to NSW Premier Bob Carr asking for an apology and reversal of the incorrectly issued/unlawfully issued infringement. His response was to forward my letter to the Police Minister for attention, of which it received none.

I later wrote a letter regarding the unconscionable conduct of the NSW Police Minister which he again forwarded to the NSW Police Minister rather than investigating or taking responsibility.

j) Australian Prime Minister

I wrote to the Prime Minister, John Howard, whose response was that it was a matter for the states and that there was nothing he could do.

k) Independent Commission Against Corruption (ICAC)

I wrote to ICAC to investigate the corruption that was taking place.

- Police Officers' threatening behaviour, lying, and abuse etc
- The Director of Infringement Processing not reading letters/not investigating serious allegations I had made
- The Police Commissioner not investigating the allegations
- The Police Service breaking the law with regard to the FOI Act (multiple times)
- The Police Minister sending the matter to State Debt Recovery/not investigating, seemingly to avoid the court case
- The NSW Ombudsman not investigating the matter brought to his attention, not being able to find Police Services Handbook, even though it is written in Hansard

They explained that it was a matter for the NSW Police. This is so even though the NSW Police cannot investigate the NSW Police Minister and the Director of Infringement Processing is now part of State Treasury (moved from Police Ministry to Office of State Revenue 1 October 2003) moving the emphasis from one of policing to one of money collection.

l) Police Integrity Commission

Police Integrity Commission has explained that they will not be investigating. They sent me a form to fill out to enable them to forward my complaint on to the NSW Police. I have done so in October 2004 and have not heard anything since.

m) Legal Representation

As a result of receiving an infringement, many innocent motorists face the need to find suitable legal representation, should they decide to take the matter to court. However, the first response from most legal practitioners is that it is not worth taking the matter to court because the chances of winning are extremely low—even when you are innocent. In fact, after appearing on *A Current Affair*, I received a phone call from a barrister who explained that he had taken a matter to court and that even though he had subpoenaed the document that I showed on *A Current Affair*, it was not handed over in court.

Also, the cost of legal representation is extremely high and is a cost that should not have to be borne by innocent motorists. Furthermore, because the average innocent motorist confronted with a speeding infringement is not a criminal and in many instances has had nothing to do with the justice (or lack of justice) system, he will not be used to finding the right legal representation nor what is expected in a court of law. Justice Kirby in a speech to QUT law students in September 2004 stated: “without legal representation, our system of law is a minefield for the untrained; whatever may be the objective merits of their cases”.

n) Court System

The court system is controlled by the NSW Government. Magistrates are paid by the NSW Government; have lunch with the police prosecutors and; are not accountable (records are not made public and tapes are erased). Recording devices are not allowed within the courts themselves. Records are generally not available for the public to access. Magistrates accept radar as a scientific instrument (even though under certain circumstances waving a ruler at traffic will give a more accurate result) and cannot alter the number of points deducted for an offence or the suspension period.

The NSW Ombudsman, in his report, advised that I was not permitted to have access to the *Eagle Series Traffic Safety Radar Maintenance Manual* by Britax, because the NSW Police had “very recently signed a confidentiality agreement”. Surely, NSW Police should not be allowed to sign contracts that prevent honest innocent citizens from defending themselves. Radar experts Garwoli and Mulcare have both highlighted that police are using radars contrary to the manufacturer’s radar manuals. Even the *Queensland Traffic Manual* part 6.5.3 (vi) states that officers using the radar should “comply with any instructions outlined by the manufacturer of the particular speed detection devices”. So even though radar experts and the *QLD Traffic Manual* both explain that the police are not using the devices in line with the manufacturer’s requirements or advice, I am unable to obtain a copy of the manual.

The NSW Ombudsman explained that I had the option to take the matter to court as a satisfactory means of redress. However, the only manual that I was allowed access to which highlights the “*requirements for a valid speed check*” has been treated as a guideline only by some local courts. This is despite the fact that the reasons the guidelines are there is to prevent error readings and false infringements being issued (transcript from *Police v Phillip Jones*, 15 September 2004, Nowra Local Court). Hence, this is not even close to a satisfactory means of redress.

Members of Roadsense forum report that magistrates regularly do not accept the Police manuals into evidence. This prevents justice from taking effect. When compounded with not being able to access the document that translates the scientific principles to the radar unit itself this means that the average innocent motorist has no chance of proving innocence, let alone a police officer’s failure in their responsibilities.

Extraordinary costs to the public of legal intervention and government bungling

Furthermore, it is common practice in NSW Courts to favour those who are guilty of a traffic offence in terms of a speedy hearing. Those who plead guilty are able to have their matter heard on the first day they attend court. Those who are innocent on the other hand, must come a second day. However, the injustice does not stop there. It is common practice for police prosecutors to ask for and receive an adjournment to a future date because they have to prepare a case against the accused. This means that not only must the innocent party must come to court on three occasions before they even have their case heard but that the normally very experienced police prosecutor does not have sufficient case against them at this stage. It is a stalling tactic used to coerce innocent people into giving up their challenge due to increased cost of money and time.

Also, with such a close-knit system of politicians, police and magistrates working so intimately together, both formally and informally, it makes a farce of the ‘separation of powers principle’ on which our law is based. The principle of ‘onus operator’ the way that traffic infringements are processed, and the high cost of defending them, overrides the presumption of innocence awarded to society by King John’s signing of the Magna Carta (in 1215). Prime Minister Howard regularly tells us that every Australian deserves the presumption of innocence. Unfortunately, we do not receive it.

There is also the problem with recouping monies and time expended in the court system. To win a case involving speed measuring devices, one may need to engage an expert witness. This can easily run into thousands of dollars per day. Add to this, legal support, and costs can easily run at \$5000–\$10 000 per day, on top of lost earnings. On the flip-side, police officers making false allegations not only receive free and experienced legal representation; they are paid their normal salary to appear in court. With governments so keen to protect their cash cows (now noted in their budgets) they have the best legal minds prosecuting. This means that to win the case, expensive legal assistance is required and the case may need to be escalated and run over many days. Furthermore, in many cases it is necessary to take the matter all the way to the Supreme Court in order to secure a win. This is where the decision is made by members of the public rather than government employees.

On *A Current Affair* on 17 June 2005, it was shown that even if I had committed to spending a budget of \$50,000 (required to ensure a win), for taking the matter through the court system, that I would not receive my points back, the very reason for going to court and spending the money. Also, the judge can make a decision as to how much of the \$50,000 I receive back.

In addition it is the word of a police officer who has an incentive to lie, there are onus operator offences where rather than the government having to prove guilt, you are deemed guilty and have to prove innocence when at times this is just not possible. There are cases where people who have proved they were out of the country at the time, cannot prove their innocence. Others are forced to prove that they can't see through solid objects to see hidden and concealed speed limit signs. Others prove their case only to be found guilty anyway due to rules of evidence or a minor lack of knowledge of the legal system.

Furthermore, there are difficulties in obtaining documentation and the admissibility of evidence. NSW Police commonly withhold documentation. I submitted a request for "all manual relating to the radar used" and received one, only after much delay and after reviews by two higher authorities. At least 4 manuals were not handed over. One because, even though it appeared in *Hansard* and I had a fax from the State Library confirming its existence and both The Australian Law Society and Australian Bar Association had a copy, I was told it did not exist.

In the case of Peter Conridge, he requested the manuals relating to a Lidar. He received an Occupational Health and Safety manual. In his next request, he received a revised copy of the Lidar manual that did not have the precautions and warning section. It was not until a third attempt that he was able to obtain the manual. And it proved that the police had broken their own guidelines, ie. guidelines that ensure the reliability of the instrument's reading.

Even in rare instances when innocent motorists do win their cases, the RTA pursues them to the Supreme Court. The *Daily Telegraph* 12 August 2005 reported how even though Peter Nicholls had won his case against a faulty Hunter Valley speed camera, he had been summonsed to appear in the Supreme Court. Furthermore, the newspaper states "*The RTA is spending thousands of dollars fighting other borderline speeding fines knowing that motorists will just give up the fight in the face of mounting costs and time.*"

The cost here is to the whole community, for example, in time off work, obtaining legal support and expert witnesses, and time writing correspondence. I estimate that it has cost me thousands of hours of my time only to be stonewalled by the NSW Government at every point. My business would have suffered \$100,000 in lost earnings due to my investing energy in this cause. It is money that is lost to both me and the whole community. For some people, the luxury of taking time off to attend court is just not possible. By closing my business down to attend unnecessary court sessions, my business suffers immeasurable loss of goodwill that should not be taken lightly.

Furthermore, it is not possible to have the matter heard by non-government paid personnel until relief by Section 80 of the Australian Constitution is availed when the possible jail term is 5 years or more.

Moreover, as more and more people are being found guilty where in fact they are not guilty, it means that these people are subject to unnecessary administration in completing forms eg. completing forms such as passport and visa applications, employment applications, insurance applications, and other licenses such as pilot's licenses. Motor insurance premiums for that person may also increase. Where there is so little assurance that the person was actually breaking any law, this is just pure administration overhead as it provides no useful information to the authorities checking the character of the individual and is stressful for the innocent motorists.

o) Motoring Organisations

I spoke to Alan Finlay (Strategy Manager) at the NRMA over a number of phone calls in early 2004. However, he advised me that when he spoke to his contact at the Police, he was told that it was not possible for me to have received an infringement for speeding when I was not speeding, and hence the NRMA was unable to assist. He further advised me that the tests that the NSW Ombudsman said should probably be carried out by a motoring organisation to confirm that the radars did not work in the situations I suggested were too expensive. It is interesting to note that NRMA Insurance requires speeding fines to be disclosed in order to calculate premiums.

p) Australian Standards

Even the Australian Standards are being changed to maximise revenue by preventing innocent motorists a chance to defend themselves. Previously the Australian Standards ensured that the minimum detection time was 3 seconds. This is extremely important when a vehicle is moving around a corner to ensure accuracy. Without a 3 second minimum, many more innocent motorists will receive undeserved speeding fines. Also, the recommendation not to use radar in built up areas was omitted. The reason for having it there in the first place, was to ensure that the likelihood of error was reduced, as in built up areas there is a great deal of reflective material and EM radiation.

q) National Measurement Act

Ken Harris, an inventor of a measurement device himself, proved in Victorian County Court 27 February 2002 that no speed measurement devices currently being used by State Governments complied with the National Measurement Act and hence readings from them could not be used as evidence in a court of law. Likewise, any police officer making estimates of the speed could not do so in a court of law. This also means that any policeman using the speed measurement devices or estimated speed since that point in time was breaking the law and should have been issued with a \$6,000 fine; any state government should have been issued with a fine of \$30,000 for each time a speed measurement device was used.

The *Star of South Morang* 28 June 2005 demonstrated how Harris had discovered that Speed Cameras do not comply with strict federal laws. Harris stated "*Police are using*

unfair, illegal and inaccurate measurement devices to collect revenue and convict innocent motorists for allegedly speeding.” State governments are well aware that they are breaking the law, yet they continue to do so.

The devices are not pattern approved by the National Measurement Institute as required by the National Measurement Act, a Federal Act, overriding any State Act. They cannot be pattern approved as they are not reliable to any reasonable certainty in the situations in which they can be used.

5. What is starting to happen?

Responsible governments are turning away from the use of radars, lidars and speed cameras.

USA

Auto Express Magazine reported 8 June 2005 that the state of Ohio, USA is planning to ban speed cameras. Ohio will only allow tickets to be issued if a traffic police officer is present. Republican representative Jim Raussen introduced the bill saying speed cameras had “questionable results at best”.

UK

BBC News 30 March 2005 reported that Bromley Council was told to erect 18 speed cameras by the British equivalent of NSW RTA. The proposal was blocked by the Bromley Council.

In the UK, *Transport Research Laboratory (TRL) Report 548* prepared for Road Safety Division, Department of Transport, and published in 2002, shows that vehicle-activated signage is far more effective in gaining compliance than speed cameras. It also shows that 95% of accidents are attributable to driver error.

According to the *UK Times* 26 August 2005, police are to be given new guidelines on using mobile speed cameras because of concerns that they are breaking the law by trapping motorists at too great a distance. The UK law states that a camera operator must be able to form a “prior opinion” that a vehicle is breaking the limit before using a camera to record its speed. The Association of Chief Police Officers (ACPO) is concerned that officers may be ignoring the law and firing their lasers at random. The article explains that police video confirms that the officers are actually breaking the law.

NZ

In New Zealand, the *New Zealand Herald* reported the Nationals as saying that “Police should be more flexible when issuing speeding tickets”. National Leader Don Brash has repeatedly criticized the number of speeding tickets issued and Law and Order spokesperson Tony Ryall stated “People driving at 111km/h may be no more risky than at 110km/h and we don’t think that the quota ticketing – that you must issue a ticket - should carry on.”

The Netherlands

Beyond Tomorrow 31 August 2005 showed how Drachten in Holland has been transformed by roads a Dutch engineer Monderman from an accident ridden township by removing traffic lights, warning signs, road markings, even the footpath! Anything that might distract a driver and cause an accident. The results speak for themselves. According to *The New York Times* 22 January 2005, there has never been a fatal accident on any of the engineer’s roads.

Australia

The *Mosman Daily* 17 November 2004 quoted NSW opposition Police Spokesman Peter Debnam as stating speed cameras were delivering about \$1 million per week to the government and that with extra cameras and fewer highway patrols, it is no wonder that the death toll isn't coming down.

In The *Courier Mail* 14 July 2005, the Australian Democrats called for a moratorium on speeding fines for motorists caught put by reduced speed limit signs saying “*These fines are an example of blatant revenue raising and are precisely why the public has such a jaded opinion of the road safety message used to defend the prevalence of speed cameras on our roads.*”

The Daily Telegraph 11 August 2005 reported that the StaySafe parliamentary committee said it would investigate the use of speed cameras. StaySafe chairman and Labor MP, Paul Gibson, said a “long hard look” was needed at NSW's 100 cameras, most of which have been operating since the late 1990s. “There have been problems with fixed-site speed cameras since the program began”, he said. It is good that the government is starting to concede that there are problems with the devices.

6. Conclusion

The document shows conclusively that the speed measuring devices are used in NSW primarily, if not only, for the purpose of raising revenue. They are responsible for more deaths on our roads than motorists speeding.

The current system creates criminals from 20% of our motoring community every two years and in some circumstances takes away their livelihoods. This is even though the devices do not work in many situations in which they are being used. We are told that radars used in NSW (and that have been banned in QLD and WA) should be challenged in 50% to 60% of cases. We are also shown that at least 5% of speed cameras in NSW have issued infringements to motorists who were not speeding and only 26% of speed cameras work without fault in a six month period. Whilst the extent has not been shown, it has been demonstrated that lidars are infringing innocent drivers and police are making false allegations. It is estimated that hundreds of thousands of speeding infringements are issued in NSW to innocent motorists due to overzealous enforcement policy.

From the time the innocent motorist receives a false allegation by way of an infringement notice, they are treated as a criminal with very little access to adequate and satisfactory redress. In many instances they must shut down their businesses, find legal representation (that usually provide the advice that nobody ever wins speeding fine cases) and then go to court and even if they do all this, there is no 100% guarantee that the innocent person will be found innocent let alone get their points back. In fact, many innocent motorists gain criminal records for doing so.

INNOCENT MOTORISTS SHOULD NOT BE TREATED LIKE CRIMINALS IN A SUPPOSEDLY DEVELOPED NATION JUST BECAUSE THEY USE THE ROAD.

As part of trying to find out why I received a speeding fine whilst not speeding, I have uncovered NSW Government representatives:

- breaches of the Police Code of conduct,
- breaches of the National Measurement Act,
- breaches of responsibilities of radar operators outlined in the NSW police radar manuals,
- breaches of Australian Standards,
- breaches of the FOI Act,
- fraud and/or misleading and deceptive conduct
- and even one count of attempting to pervert the course of justice.

All this has taken place over a speeding fine that should not have been issued in the first place. This is an absolute disgrace on behalf of NSW government.

The current extensive cover-up operation has far reaching consequences for our community. We are moving our system of justice to pre-medieval times to times before the Magna Carta when there was no presumption of innocence and no separation of powers. Our current government is using the “speeding kills” catchcry to pull on the heart

strings of unaware members of the community and to illegally take money from motorists at the expense of not only safety but common decency and at great cost, both financially and ethically to the community.

The following are a few suggestions for improvements:

1. Scrap all current speed measurement devices immediately. Withdraw them from service. They are illegal (Do not comply with the National Measurement Act) and are being used in situations in which they do not work, to create criminals from innocent law abiding motorists. Reverse all fines where there is dispute.
2. All speed limit signage must be clearly visible. It is the government's responsibility to clearly advise speed limits, not the motorist's responsibility to guess the speed limit posted behind a tree. If it is not clearly visible, prosecution should not be possible. If any signage is obscured by trees, other signage, etc, a prosecution should not be possible.
4. Speed limits all reviewed back upwards to 60km/h, 80km/h, 100km/h and 110km/h and the number of changes of speed limit on any stretch reviewed so that there are a maximum of 2 speed changes in any 10 kilometre stretch. Motorists should be encouraged to watch out for potential hazards rather than watch their speedometers.
5. Penalties to be in the form of additional defensive driver training, rather than fines and loss of license. If somebody is driving dangerously then it is better to encourage the person to drive better – not take away his livelihood.
6. Increased level of training including defensive driving for people learning to drive, similar to the one implemented in Germany that led to a significant drop in road deaths.
7. Increase training of school children to ensure that they cross safely including talks by police and employment of crossing assistants (lollipop ladies/gents) who can both direct children back to crossings and stop cars where necessary. This way the children are better prepared to avoid accidents, where at times it is not possible for the driver to see them (eg. darting between parked cars).
8. All traffic controlled school speed zones to be identified with flashing lights. Prosecution is not possible if these are not in operation.
9. Overhead bridges to be placed across major arterial roads and highways close to school zones to ensure that there is still reasonable flow of traffic. Where there is an overhead pedestrian bridge, no school zone to be in effect.
10. School zones to be removed where the only school is a secondary school. Secondary school students should already know how to cross the road.
11. All "Speed Kills" campaigns to be stopped immediately and where appropriate replaced with "Be aware, drive with care."
12. Setup a system of appeal outside the court system so that motorists do not have to take time out of work or shut their businesses down.
13. Setup a proper reprimand system for police breaching any police guidelines or law so that the public can start to rebuild faith in their police service by ensuring that the police are accountable for their actions.

14. Where police are speeding (without good cause), they should receive a reprimand as well as demerit points in the same way as ordinary motorists. They should lead by example.