Explore the use of innovative airborne policing methods to reduce death and serious injury on rural roads.

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Signed………………………      Dated…………………
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INTRODUCTION

As a member of the South Australia Police (SAPOL) with seventeen years experience I have witnessed all manner of driving behaviour, vehicle accidents, serious injuries and fatalities on South Australian Roads.

I have watched with sadness as the road toll consistently climbs above 100 deaths per year on South Australian roads, a toll that is even more tragic in that the death of so many people often fails to rate more than a mention in the media. A road toll that not only affects so many families, parents, brothers and sisters and sons and daughters but also costs the community hundreds of millions of dollars per year.

I have been privileged to conduct police helicopter operations within South Australia for 6 years. Whilst my role in helicopter operations involves an array of tasks including pursuits, surveillance, person and object searches and proactive patrolling, I have recognised that the role is expanding as improvements in technology and equipment increase the capabilities of helicopters. It seemed a natural progression that the expanding role and capability would be utilised to tackle the issue that affects so many within our State and indeed our Country.

It was with considerable pride and satisfaction that I was able to utilise my Churchill Fellowship to travel to some of the best and the biggest Police Aviation Units in the world, seeking the answers to tackle the problem of death and serious injury on our roads. I feel extremely humbled and proud to have been awarded a Churchill Fellowship and commit to utilising all that I have learned to assist in reducing the harm associated with road trauma.

I would like to take this opportunity to thank my Project Referee – Mr Andrew Daniels, in addition to Mr Ben Tuffnell and a former Churchill Fellow Mr Graeme Adcock for without their assistance, support, and belief in my ability to complete the task, I am confident that I would not have had this amazing opportunity.

The Churchill Fellowship would have been impossible had it not been for the fantastic police officers that I met as I travelled from one side of the world to the other, whether flying above London or attending lectures in New Orleans. A special thanks to Sergeant Rich Bookbinder of the California Highway Patrol who welcomed me like a brother into his family. I only hope that I can return the favour to at least some of the amazing people that I met in the event that they are lucky enough to visit Australia.
EXECUTIVE SUMMARY

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Project Title: Explore the use of innovative airborne policing methods to reduce death and serious injury on rural roads.

Highlights:
- Attending the New York Police Department Aviation Unit and flying over New York City
- Attending the 2011 Airborne Law Enforcement Association Conference in New Orleans
- Flying with Los Angeles Police Department, the busiest police aviation unit in the World
- Conducting airborne traffic enforcement with the California Highway Patrol

Innovation and opportunities in airborne law enforcement:
- Exploring a combined approach towards the utilisation of police aircraft in Australia to conduct airborne traffic enforcement in conjunction with existing initiatives to reduce death and serious injury on rural roads.
- Use of alternate aircraft and in particular light sport aircraft to conduct airborne traffic enforcement
- Utilisation of conferences such as the Airborne Law Enforcement Association Conference to share ideas and obtain valuable information relating to airborne traffic enforcement
- Use of an “Air K9” advisory channel to reduce response times and thereby risks associated with pursuits and vehicle related crime
- Use of Automated Number Plate Recognition (ANPR) on police aircraft to obtain intelligence and identify and apprehend traffic offenders
- Use of police aircraft to target speeding and reckless motorcyclists
- Production of a pamphlet detailing the dangers associated with speeding and reckless riding by motorcyclists, highlighting the fact that their behaviour may be observed by police aircraft.
- Use of integrated computer mapping solutions to enable a reduction in crewing aircraft from three persons to two persons, thereby reducing the impact of airborne policing operations.
- Utilising a model similar to California Highway Patrol – (Pilot + TFO/Paramedic in winch equipped single engine police helicopter) - to increase options available for the recovery of people injured in motor vehicle accidents

Implementation and Dissemination:
- To National Police Services through the Commissioner of Police
- To key stakeholders including the Motor Accident Commission, RAA and Department of Transport, Energy and Infrastructure
- To the National Road Safety Council (Commonwealth Transport Department)
- To the community through strategic use of media opportunities in conjunction with road safety initiatives
## Programme

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I have served as a police officer in South Australia Police (SAPOL) for 17 years working in a variety of areas including general patrols, criminal investigation and for the last six years as a member of the Special Tasks and Rescue Group. During that time I have lived predominantly in metropolitan Adelaide, however prior to that I was born and raised in rural South Australia until I was 18 years of age.

Learning to drive as a teenager in rural South Australia provided a variety of challenges both on and off the road. Dirt roads, peer pressure, under-age drinking and a lack of public transport and taxis were some of the many factors that confronted a teenager with a keen interest in being independent and impressing their friends.

Living in a rural community also meant being friends with a lot of people and knowing almost everyone within my own and neighbouring towns. So on the occasions that people were involved in vehicular accidents within the community, odds on they were someone you knew. And on the sad occasions that those vehicle accidents involved a fatality, it was the entire community who were affected.

It was only when I attended my first fatality as a 21 year old police officer that the gravity of death on the roads struck home. As a young police officer looking at a teenager who had made the mistake of drink driving and paid the ultimate price, I realised how very lucky I had been to survive my first three or four years as a driver on country roads.

It was approximately ten years later that I found myself flying above various locations of South Australia conducting airborne policing operations in a helicopter utilised by SAPOL. The opportunity to see the world from a different perspective was not new, after having commenced flying gliders and fixed wing aircraft as a teenager, but to now have the ability to influence and act on the behaviour of road users utilising my position as a police officer in the air, was a foreign but exciting challenge and one that I relished from that time onwards.

It was after five years of airborne policing that the opportunity of a lifetime presented itself, a Winston Churchill Fellowship to “explore the use of innovative airborne policing methods to reduce death and serious injury on rural roads”. My intention was to specifically target the world’s leaders in airborne law enforcement to conduct the research whilst examining relationships between the respective Airborne Police Units and other agencies who are tasked with reducing road trauma (i.e. Motor Accident Commission/RAA) with a view to developing new and innovative approaches to the task.

And it was with that in mind that I planned for and eventually completed one of the most memorable experiences of my life.
Road Trauma worldwide

- Nearly 1.3 million people are killed on the world’s roads each year.
- Up to 50 million people are injured, and many remain disabled for life.
- 90% of casualties from road deaths occur in developing countries.
- Annual road traffic deaths are forecast to rise to 1.9 million people by 2020.
- Road traffic injuries are the number one cause of death for young people worldwide.
- By 2015 road traffic injuries will be the leading health burden for children over the age of five years in developing countries.
- The economic cost to developing countries is at least $100 billion a year.
- Road traffic injuries place an immense burden on hospitals and health systems generally.

(www.anzpaa.org.au - Australia New Zealand Police Advisory Agency)

Road Trauma in Australia

According to the Australian Bureau of Statistics, road crashes are the biggest cause of non medically related death in the Australian community. In 2009, there were 1,509 fatalities in Australia, 119 of those occurred in South Australia. These deaths come at an enormous social and financial cost to the Australian community not to mention the devastating impact on the immediate families. The South Australian Department of Transport estimates that a single fatality costs the community $2.06 million. For 2009 that equates to a massive cost of over $245 million.

South Australia’s Strategic Plan 2007 included a targeted reduction in fatalities to less than 90 per year and serious injuries to less than 1000 per year by 2010.

At the time of making application for the Churchill Fellowship:
- there had been 37 fatalities to date in 2010 (25% above the average over the last 3 years)
- 29 of the 37 fatalities had occurred in rural areas (93% above the average over the last 3 years)

By the end of 2010 64% of fatalities in South Australia had occurred on rural roads.

Although overall the trend is downward it is my position that innovative technology and methodologies are one of the many tactics required to enable this to continue.
Airborne traffic enforcement in Australia

Currently in Australia, New South Wales, Victoria and Western Australia utilise various models of a full time Air Support Unit whilst South Australia utilise a system where aircrew are drawn from a specialist section to conduct operations on a needs basis. Each of the Air Support Units operate a variety of helicopters and each State has an independent Air Wing which is responsible for fixed wing operations.

New South Wales Police Service utilise a fixed wing aircraft to conduct regular airborne traffic enforcement. NSWPOL utilise a Cessna 206 costing approximately $250 per hour and operating for about 300 hours per year. The aircraft is crewed by a pilot and a traffic patrol officer and issues about 450 infringement notices per year although that is restricted by limitations including a limited number of operating sites (lines strategically painted to assist in recording speed).

South Australia Police do not utilise fixed wing aircraft for traffic enforcement and generally only utilise a helicopter during combined road safety operations where high visibility is a requirement (i.e. long weekends on main roads). To this date the use of the helicopter to detect traffic offenders during targeted operations has proved ineffective. A combination of factors have contributed to the ineffectiveness of the helicopter including a lack of training, a lack of specific objectives and a lack of targeted areas of operation (no road markings).

Why travel to the United Kingdom, Canada and the United States?

Having attended each of the police services utilising helicopters for airborne law enforcement (NSWPOL, WAPOL and VICPOL) on a number of occasions, it was apparent that the use of police aircraft to conduct airborne traffic enforcement was an under utilised asset and one that could and should be explored further.

Prior to conducting the Churchill Fellowship I had had limited exposure to airborne law enforcement on an International basis, having learned that obtaining information via the internet and email (from police officers who did not know me) was generally difficult, particularly given the heightened level of security and awareness that exists post September 11 2001. This contributed to a general lack of awareness in relation to the many hundreds of police services throughout the world who successfully utilise airborne law enforcement on a daily basis.

With that in mind I decided to maximise my research opportunities by targeting:

- The busiest (Los Angeles Police Department);
- The oldest (New York Police Department); and
• The most technologically advanced (London Metropolitan Police & UK) with a view to ultimately gaining as much information as possible and consequently my initial itinerary was proposed and locked in.

It was some time after booking flights etc. that I obtained a copy of “Airbeat – March/April 2011” (The Official Journal of the Airborne Law Enforcement Association) which specifically discussed the use of fixed wing aircraft in public safety aviation (including traffic enforcement) and consequently a number of modifications to the itinerary were made to specifically attend units who had featured in the magazine (California Highway Patrol/ Royal Canadian Mounted Police).

It is my intention to profile a number of the units attended to highlight the differences in policing models, equipment, aircraft and levels of involvement in airborne traffic enforcement.

**Essex Police Air Support Unit**

Essex is a county of approximately 3700 sq kilometres located to the north east of London. Essex is relatively flat in comparison to South Australia, the highest point being approximately 480 feet.

Essex is comparable to South Australia in a number of figures (3300 police officers, road toll 117 in 2010, population of 1.6 million people). Essex Police ASU operate a Eurocopter EC135T2 flying approximately 1300 hours per year and conducting over 3000 taskings per year from a disused World War II Air Force Base.

The Essex Police Air Support Unit had joined my list of places to visit after they were shown on a “Beyond 2000” television story a number of years ago when technology such as ANPR (Automated Number Plate Recognition) was relatively new to police aviation.
Essentially ANPR utilises the aircraft camera to read a vehicle registration plate and then uses the computer onboard to check against a database of vehicles to analyse whether the vehicle is listed. The database can be modified according to the operation and can include anything from unregistered or stolen vehicles to terrorist targets.

Whilst ANPR was originally utilised in the helicopter to conduct airborne traffic enforcement, the installation of many hundreds of fixed and mobile ANPR cameras on major roads in the United Kingdom means it is now financially ineffective to conduct airborne traffic enforcement utilising ANPR.

It is however recognised as an invaluable tool for gathering intelligence where the obtaining of information (ie vehicle registrations) is not possible through other means. Considerations for use in Australia could include flying over areas that are not accessible to police (motorcycle gang compounds), or conducting ANPR flights on rural roads where the cost of installing fixed ANPR sites is not warranted.

ANPR is often limited by the capabilities of the camera. Some older cameras are incapable of reading vehicle registration plates whilst modern technology allows cameras to read registration plates from several thousand feet away.

Having examined the use of ANPR by Essex Air Support Unit, I am of the opinion that the most effective means of utilising helicopters for ANPR related operations include:

(a) as a means of obtaining intelligence where it is not possible through other means; or

(b) utilising the helicopter to assist in ground based ANPR operations (i.e. fleeing offenders)

(c) conducting ANPR flights on rural roads where the cost of installing fixed ANPR sites is not warranted and the remoteness of the location mean that the presence of police patrols is limited.

Factors to be taken into account prior to installation of an airborne ANPR system include (but are not limited to):

- cost of ANPR software + hardware
- ability to update database (stolen vehicles/vehicles of interest)
- capability of camera
- requirement for ANPR operations

The use of ANPR cameras within Australia is relatively new and therefore operational decisions are made according to a different set of factors. As technology (ANPR) continues to be introduced as a road safety strategy I would anticipate Australian airborne law enforcement units adapting to and embracing the technology to ensure that results are maximised.

Where Essex Police ASU previously conducted airborne traffic enforcement, their focus is now on traditional helicopter policing operations such as pursuits, surveillance and aerial photo-graphics due to budgetary and other operational requirements.
Whilst conducting a local flight we attended a hit run incident involving a car versus motorcycle. The benefits of utilising a helicopter for taskings of this nature were highlighted with a rapid scan of surrounding roads and car parks quickly locating the offending driver at a local hotel. He was apprehended shortly afterwards. Had it not been for the presence of the helicopter, the offender may well have not been found.

**Greater Manchester Police Air Support Unit**

From Essex it was onto the Greater Manchester Police Air Support Unit. Greater Manchester is a county approximately 300 kilometres north west of London. With a population of 2.6 million and an area of about 1277km the county encompasses the cities of Salford and Manchester.

Greater Manchester Police Air Support Unit is responsible for serving Greater Manchester which has about 7600 police. The Air Support Unit started in 1989 and has been operating on a 24 hour basis since 1995.

Greater Manchester utilise a McDonnell Douglas MD902 Explorer, call sign India 99 and complete 4500 jobs in 12 months, consisting of 1442 flights over about 1220 hours. Of the 420 vehicle pursuits that occurred in the last year the helicopter became involved in 200 of them. This highlights the benefits of providing a full time crew based at the airport with the helicopter as opposed to a part time model.

The Greater Manchester Police also utilise a fixed-wing Britten-Norman BN-2T-4S Defender. The current aircraft operate from City Airport Manchester, formerly Barton Aerodrome.

From 2012, the Greater Manchester Police Air Support Unit will be part of the National Police Air Service. The creation of the National Police Air Service is designed to save money and provide flexibility, as historically each police force was only permitted to operate its helicopter in its policing region. Further advantages of a National Police Air Service are documented later within this report.

The predominant involvement in traffic policing that the Air Support Unit have is in relation to the photography of accident scenes. Like the majority of airborne law enforcement units across the world, the aircrew carry a still camera to enable timely and accurate photography of accident and crime scenes. Carrying a camera onboard the aircraft reduces the need to conduct specific photographic flights to capture evidence at a later date, thereby reducing the impact on flying budgets.
Throughout my travels during the Churchill Fellowship, the Greater Manchester Police were the only unit that I saw utilising a “concertina” type screen guard to prevent screen glare. The guard was designed and built locally and increased the visibility during daylight operations significantly. This is an issue that affects airborne law enforcement operators throughout the world, and an avenue worth exploring in the continual pursuit of improvement within the cockpit.

London Metropolitan Police Air Support Unit

I chose to attend the London Metropolitan Police Air Support Unit specifically to examine the latest technology in airborne law enforcement and was not disappointed. Although London is considerably different to any of the Australian cities in relation to population density, larger cities such as Melbourne and Sydney present the same issues as far as buildings, road design, air traffic etc. Consequently, there was a lot to be gained by examining the Air Support Unit.

London is the capital city of England. With a population of over 7 million people contained within 1572 square kilometres, the city has a population density of over 1510 people per square kilometre. The density of the population and traffic contribute to the value of helicopters as a policing option.

The London Metropolitan Police Air Support Unit are located at Lippits Hill, Loughton, a short distance from the centre of the city. The unit is staffed by 18 Constables, and three Sergeants headed by an Inspector and employs other members of staff including pilots, engineers, Operations Room Staff and an Intelligence Officer.

Operating a fleet of 3 x Eurocopter EC145 helicopters and flying an average of 3300 hours per year, the “Met” are responsible for an area of only 250 square miles but with a population of approximately 10,000,000. The “Met” ASU are seen as a “risk reduction/management tool aimed at reducing risk, improving safety and increasing evidence and intelligence gained to maximise operational success”.

Equipped with a Wescam MX15 camera, Skyquest screens and Management Systems and Gigawave encrypted digital downlinking, the EC145 provides an ideal platform for aerial observations of one of the busiest cities in the world, and arguably a city at the top of the lists for terrorists from around the world.
In relation to airborne traffic enforcement, the “Met” are in a similar position to Essex Police and other units in the United Kingdom in that the presence of ground based ANPR units throughout the metropolitan area is a considerably more effective means of enforcing traffic given the cost and other requirements for helicopters within the London metropolitan area.

I was privileged however to observe the advantages of a helicopter whilst assisting with the escort of a political dignitary from the city to Heathrow Airport. During what would otherwise have been an uneventful mission, the main motorway was closed due to a fatality causing a traffic gridlock. The helicopter was called upon to provide assistance to the close protection team in negotiating an extended but faster route through back streets, simultaneously providing a high level of security to the dignitary.

Throughout the mission the vision of the escort was relayed to the control centre via microwave down link, maximising the ability to make command and control decisions as the situation unfolded. The task would have been made considerably more difficult (causing increased embarrassment and/or risk to the principle) had it not been for the presence of the helicopter.

North Wales Police Air Support Unit

Covering an area of 1.5 million hectares and a population of 629,000 the North Wales Police ASU are responsible for policing conditions that are not dis-similar to South Australia with hills on one side of the area and the ocean on the other and an annual road toll of approximately 20-30.
Flying between 800 and 1000 hours per year and handling between 1700 and 2200 taskings per year the North Wales Police ASU utilise an EC135 helicopter based at a discreet airfield. The ASU take an active role in road casualty reduction through:

- **Engineering** (aerial photographs of roads and accident scenes for provision to accident investigators)
- **Enforcement** (airborne traffic enforcement targeting speed etc.)
- **Education** (attending Bikesafe workshops, utilising media etc)

I was particularly interested when the topic of death and injury involving motorcyclists in the hills was discussed. The sheer beauty of the country side and surrounding waterways combined with the winding (and challenging) hills that lead from London are a magnet for the many hundreds of motorcyclists who make the trip each summer. The increase in traffic in particular motorcyclists saw an increase in fatalities and serious injuries involving motorcyclists and consequently **Operation Focus** was formed to target the problem.

By utilising a VASCAR (Vehicle Average Speed Computer and Recorder) system aircrew in the EC135 were able to proactively target motorcyclists as they travelled through the hills. The operation was conducted for approximately 20 hours per year and although the apprehension rate was not significantly high, it was combined with supplementary tactics including a media campaign to maximise publicity and awareness. **The campaign saw a reduction in death and injury involving motorcyclists in the hills on each occasion that it was conducted.**

Such campaigns have been replicated throughout the world. **The Ohio Police conducted Operation TRIAD** (Targetting Reckless Intimidating Aggressive Drivers) resulting in a reduction in fatalities on highways by 86%.

South Australia has recently seen an increase in motorcycle deaths with 19 having died to date in 2011 compared to an average of 15 at the same time for the previous 3 years.
The capital city of South Australia, Adelaide, is surrounded on the eastern side by the Mount Lofty Ranges. The ranges provide an array of narrow winding roads that continue to tempt motorcyclists seeking to challenge their abilities. The nature of the roads which are often single lane each direction with double barrier lines to prevent overtaking mean that detecting and apprehending offending motorcyclists is generally difficult.

The ability to detect and apprehend the offenders is increased by motorcyclists who chose to deliberately obscure their registration plates and in some cases utilise “lookouts” on stretches of public road that are utilised for measuring their distance/time.

Airborne traffic enforcement provides a worthy alternative to traditional methods. Motorcyclists are generally unaware that they are being observed and then find it extremely difficult to escape the aircraft upon being detected.

Operations such as “Focus” and “TRIAD” have proven that police aircraft have the ability to supplement road safety campaigns targeting offending drivers and are worthy of consideration during any planning process.

As a secondary aspect to any road safety campaign targeting motorcyclists, I believe that there is value in the distribution of educational pamphlets to each of the registered motorcycle holders in the targeted area. The pamphlets which highlight the dangers associated with speeding and reckless riding, and promoting the use of the helicopter for both detection and apprehension are aimed at multiplying the value of the campaign by causing the motorcyclists to think about their actions prior to riding thus reducing the incidence of offending.

The cost of printing sufficient pamphlets to distribute to the 16,000 registered motorcycle licence holders in South Australia is approximately $3000. Costs associated with conducting a campaign utilising police aircraft would obviously take into account other budgetary and resource considerations.

National Police Air Service

Whilst visiting the various Air Support Units in the United Kingdom I became aware of the plan to amalgamate the 30 Air Support Units into a National Police Helicopter Service, modifying borders and reducing the number of helicopters from 33 to 23. Whilst reducing the costs associated with operating helicopters by a reported 15 million pounds from the current cost of 66 million pounds the amalgamation
will serve to ensure that a consistent approach is made towards all aspects of their operations, training and administration, a by product of which should be increased safety and an opportunity to adopt best practice.

Whilst each of the Australian State and Territory Police Services conduct independent airborne policing operations (or none), and that the establishment of a National Police Air Service is not practical or needed due to the huge distances between capital cities, I believe that there may be benefit in a combined approach towards airborne traffic enforcement within Australia. A combined approach might range from discussing upgrades in technology and equipment, to sharing ideas about tactics and methodology.

South Australia Police for example have learned a considerable amount of information and consequently established procedures based on knowledge gained by attending at Air Support Units in Victoria, New South Wales and Western Australia. Conversely, SAPOL have been able to share information of benefit to other police services.

Rather than establish a “National Committee” chaired by police executives, an informal approach to the task by members of the respective Air Support Units might provide an easier, more cost effective and timely manner in which to share information and benefit from the combined approach.

In 2011 a number of ABLE officers from New South Wales, Victoria and South Australia police met informally at the Australian International Airshow and Aerospace and Defence Exhibition in Avalon Victoria. The airshow provided a valuable opportunity to foster relationships between interstate police services however whilst the members have continued to remain in contact on an ad-hoc basis, a lack of process has prevented the concept from continuing. Given the cost of conducting airborne law enforcement and in particular purchasing new equipment which can cost many millions of dollars, I firmly believe that the exploration of this concept would be of a financial benefit to any police service involved.

**United States Customs and Border Protection – Buffalo, New York**

The United States Customs and Border Protection (Buffalo) are responsible for protecting approximately 300 miles of the border between United States of America and Canada in weather ranging from heavy snow to clear skies. This task is best accomplished by utilising a combination of fixed wing and rotary wing aircraft in particular AS350 and EC120 helicopters and a Cessna 206. The visit to the Customs and Border Protection provided a valuable insight into the use of both rotary and fixed wing aircraft to conduct surveillance.

In particular was the modification to the door on the AS350(fig A) and the installation of the FLIR (fig B) and monitor system (fig C) in the Cessna 206, ideas that worthy of comparing with other installations across the world.
Royal Canadian Mounted Police (RCMP) – London, Ontario

In contrast to the high population density of London, the RCMP are faced with policing the vast area of 1.07 million square kilometres and 13 million people that make up Ontario. Vast distances, varying terrain and an array of taskings make their job that much more reliant on a combination of fixed and rotary wing and in this area it is completed with a Pilatus PC12, a Cessna 210 and an AS350B3 (ASTAR or Squirrel) helicopter. Conducting about 450 jobs per year and 1600 hours of flying they are responsible for national security, border enforcement, surveillance and drug operations locating up to 20,000 marijuana plants per year. Jobs are basically divided into high level (PC12), mid level (Cessna 210) and low level (AS350).

The RCMP are generally responsible for policing Federal Offences within Quebec and Ontario but in the remainder of Canada they police both Federal and State Offences. Throughout Canada the RCMP have approximately 40 aircraft deployed (31 fixed wing – 9 helicopters) over 19 bases and fly about 17000 hours per year. Although not being exposed to airborne traffic enforcement at London, Ontario I was provided with a valuable insight into the importance of fixed wing aircraft in police aviation, a topic that would be reinforced as I continued on my Churchill Fellowship.

The Ontario Provincial Police utilise their Cessna 206 in a coordinated approach towards targeting aggressive and speeding drivers. By combining their efforts with a media campaign, the public are more than aware that high risk roads are subject to aerial surveillance and by utilising a proactive and overt
approach are able to work with the public (those not offending) to reduce the road toll in those area. I am awaiting further information from the Ontario Provincial Police at the time of completing this report.

New York Police Department

Covering an area of 790km square and consisting of five boroughs, The Bronx, Brooklyn, Manhattan, Queens and Staten Island, New York has a population of over 8 million people. With nearly 50 million visitors per year to world renowned landmarks including The Empire State Building, World Trade Centre, Statue of Liberty and Central Park, New York presents challenges that many police services will never encounter.

The NYPD Air Unit represent a fraction of the 35,000 NYPD police officers however they are responsible for policing one of the most populous cities in the world. The task is completed utilising two Augusta Bell 412s (similar to helicopter utilised by South Australia) and four Augusta 119 “Koalas”.

The 412s are their “Air Sea Rescue” helicopter and are utilised for the 600-800 rescue missions per year. Sadly a high percentage of them are people who have taken their lives by jumping off bridges.

Where South Australia Police generally respond to a rescue mission with a crew consisting of a pilot/crewman/ambulance/police they fly each mission with two pilots/crewman and two rescue divers. The divers are fully equipped with scuba gear and essentially jump into the water at below 10ft and conduct scuba type rescues. They are one of only a few units in the world equipped to do this.

The Augusta 119s are utilised for the remainder of the duties including patrol work, counter terrorism and high profile policing. In relation to traffic enforcement however, the NYPD quite clearly have
a number of other priorities, none higher than protecting their amazing city from the terrorist attacks that are continually on the mind of most people in the city. Factors including population density, the height of buildings, alternate detection methods and traffic congestion essentially mean that conducting airborne traffic enforcement is neither cost effective nor a priority.

Las Vegas Metropolitan Police Department

Covering 8000 square miles and a population of 2 million people the Las Vegas Metropolitan Police Department (LVMPD) have approximately 3500 police officers. The Air Support Unit comprises approximately 20 full time staff and flies about 4000 hours per year utilising a combination of MD530, Bell407 and Bell HH1H helicopters to conduct a combination of patrol and rescue operations. Stationed in a near new hangar facility that would be the envy of units all over the world, the ASU are located centrally to the city and can respond within minutes to taskings as required.

The Air Support Unit are responsible for policing the renowned “Strip” and the city of Las Vegas which measures 340 km square and has a population of 500,000 people.

Whilst the Air Support Unit conducts airborne traffic enforcement and in particular detecting and apprehending drink drivers and reckless and speeding drivers, the number of hours attributed to proactive flying for traffic enforcement is nominal in comparison to their other duties.

Of particular interest at the LVMPD Air Support Unit was their Cessna 182 which had been modified to enable an increased view for the rear observer. Modifications such as this are an important consideration depending on the operational requirements of the aircraft. Having said that, the increasing use
of long range and powerful sensors will inevitably result in less “naked eye” observations whilst using fixed wing aircraft.

New Orleans (Airborne Law Enforcement Association Conference 2011)

Attending at the ABLE Conference was a highlight of the Churchill Fellowship. With about 1000 like minded (police aviation) individuals, a huge array of equipment and aircraft and the latest technology on display, the Conference provided a vast amount of information in relation to airborne law enforcement and particularly relating to the use of alternate aircraft to conduct operations.

Where helicopters have traditionally been utilised for the majority of airborne law enforcement operations, the impact of the Global Financial Crisis on operating budgets has meant that police services worldwide have had to adapt to the changing financial situation. This has often meant a reduction in flying hours and in some cases reducing staff or even closing Air Support Units. The ALEA Conference provided a number of valuable alternatives designed to enable the service to continue whilst reducing the “bottom line”.

(ALEA Conference – Alternate Aircraft)

One alternative that immediate appealed to me was the use of a variety of smaller and cheaper aircraft to conduct airborne law enforcement. A number of police services have researched and implemented the use of light aircraft as an alternative to helicopters, and New Orleans provided the perfect opportunity to talk with the police officers who were utilising the aircraft.

The Tomball Police Department in Texas (60 police officers) conducted their own research in relation to the purchase of a suitable light aircraft to utilise for policing operations. With a very small police force, and a similarly small budget, it was impossible to justify the purchase of a helicopter @ $3-4 million however with lateral thinking and a positive approach the German Built Auto-Gyro MTO was soon purchased at a cost of $76,000 (about 2% of the price of a helicopter).
The financial advantages are magnified when comparing the running cost ($45 per hour) to the cost of a helicopter ($700 per hour). With an airspeed of between 10 and 120 miles per hour, and an endurance of 3.5 – 4 hours the Tomball Police Department have successfully utilised the aircraft for an array of taskings including aggressive driver patrols and crime prevention patrols. Despite the obvious limitations the aircraft provides a realistic and very effective alternative for police services who are restricted by finance.

**The Flight Design CTLE**

An exciting example of Light Sport Aircraft (LSA) being introduced into law enforcement is the Flight Design “Composite Technology Law Enforcement” (CTLE) aircraft. Roger Crow has been a reserve deputy for the Tulsa County (Oklahoma) Sherriff’s Office (TCSO) for 29 years and during that time has spent time with the Tulsa PD Air Support Unit which included time flying a Cessna 182.

Approximately two years ago whilst Roger was attempting to assist Tulsa PD with finding funding to keep their Air Support Unit flying he discovered an alternate aircraft, the Flight Design CTLS. Working closely with engineers Roger was responsible for the creation of the CTLE version of the aircraft (pictured) which he now uses for patrol, search and rescue/recovery and surveillance. There are currently two CTLE aircraft in operation, one being utilised by Roger and another by the Tulare County (California) Sherriff’s Department with orders being submitted by other agencies.
The aircraft utilises a glass cockpit, and modified wings to enable the installation of a camera gimble. Roger describes the view from the CTLE as similar to a MD500 helicopter. A quick comparison of the costs + speeds of a CTLE versus a standard police helicopter quickly highlight the reasons for considering their use.

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Helicopter</th>
<th>CTLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Cost</td>
<td>$4 million</td>
<td>$150,000</td>
</tr>
<tr>
<td>Running cost</td>
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<td>$60</td>
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<tr>
<td>Endurance</td>
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<td>6 hours</td>
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CTLE SPECIFICATION

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>28 feet 2 inches</td>
</tr>
<tr>
<td>Length</td>
<td>21 feet 10 inches</td>
</tr>
<tr>
<td>Height</td>
<td>7 feet 8 inches</td>
</tr>
<tr>
<td>Cabin width</td>
<td>49 inches</td>
</tr>
<tr>
<td>Empty Weight</td>
<td>820 pounds</td>
</tr>
<tr>
<td>Gross Weight</td>
<td>1320 pounds in LSA category</td>
</tr>
<tr>
<td></td>
<td>1500 pounds in public use category</td>
</tr>
<tr>
<td>Fuel Capacity</td>
<td>34 gallons of 91OCT or 100LL</td>
</tr>
<tr>
<td>Fuel Economy</td>
<td>3.2 to 5.5 gallons/hour</td>
</tr>
<tr>
<td>Powerplant</td>
<td>Rotax 912S (100 HP) 2000 TBO</td>
</tr>
<tr>
<td>Speed</td>
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</tr>
<tr>
<td>Parachute Altitude</td>
<td>&gt;300 ft AGL needed for full canopy deployment and recovery</td>
</tr>
</tbody>
</table>

At face value I believe that the utilisation of light sport aircraft such as the CTLE as a supplement to existing aircraft in any Air Support Unit is an option worthy of exploring. Where once the cost of conducting airborne traffic enforcement utilising helicopters at $700-2000/hour might have been restrictive to some police services, the ability to conduct the same task at $60/hour might mean that it is now achievable.
The latest airborne law enforcement technology was on display, providing a valuable insight to the options available for equipping helicopters. Aircraft such as the Bell Helicopter on display at the conference epitomised the influence that technology has had on airborne law enforcement and reinforced the ability to utilise the aircraft as an airborne command and control platform rather than simply an “eye in the sky”.

Traditionally, police services have had to make a choice between utilising two aircrew (Pilot + Tactical Flight Officer) or three aircrew (Pilot + 2 x Tactical Flight Officers). In the 2 person configuration the TFO generally conducts observations and provides a commentary relating to the position of a vehicle whilst often not utilising the camera due to an inability to simultaneously use the camera and navigate. Until now the 3 person configuration has had the advantage of the pilot flying, one TFO navigating/commentating and the second TFO utilising the FLIR to record/search.

Computer mapping systems are now able to be linked to cameras with inbuilt “geo pointing” and other features enabling the aircrew to simply point at the target to determine its address on a map. This has enabled a shift towards two crew operations, thus reducing the impact that airborne law enforcement units have on staffing and budgets.
The latest in computer mapping technology is the ARS (Augmented Reality System) produced by Churchill Navigation in partnership with Paravion Technology Inc. The system overlays the maps (streets/suburbs) onto the FLIR image eliminating the need for split/separate image moving maps, and enabling a single operator to simultaneously follow a target, record the image and provide a commentary regarding the location of the target. The ARS system has been adapted to suit an array of current sensors on the market.

As far as innovation, this was as innovative as I had found in relation to mapping technology and is worthy of consideration for any units who are considering updating their technology. Again, it reduces the need for a 3 crew operation down to a 2 crew operation thereby reducing costs and staffing requirements.

(ALEA Conference – Other benefits)

In addition to aircraft and technology the 2011 ALEA Conference provided the opportunity to attend a variety of lectures, a number of which were specific to the Fellowship:

- **Fixed-wing patrol: Closing the gap with technology** (Officer John Neilson, California Highway Patrol)
- **Fixed-wing missions and equipment** (Sgt Dan Slauson and Officer John Goldschmidt, Portland Police Department)
- **Aircraft Positioning** (Officer Kevin Means, San Diego Police Department)
- **LSAs and Gyroplanes in Law Enforcement Applications** (Chief Robert Hauck, Tomball Police Department: Captain Dave Williams, Tulare County Sheriffs Office)
After three days of researching, watching and learning the ALEA Conference was finalised with an awards luncheon, a highlight of which was the ceremony to remember the officers who had paid the ultimate sacrifice whilst conducting airborne law enforcement over the 12 months prior. A very sobering reminder that although our job is exciting and challenging it is also very dangerous.

For me the ALEA Conference was a highlight of the Churchill Fellowship. I was lucky enough to meet some amazing police officers from around the world, officers who share the same enthusiasm and interest in the role, and with whom I intend maintaining contact into the future. It was clear to all of those who attended that the benefits of attending a conference such as this far outweigh the costs.

Given the considerable amount of information obtained, the ability to research “world’s best practice” and the ability to examine the latest in technology and equipment at a central venue I highly recommend aircrew capitalising on any opportunities available to attend the ALEA Conference of similar conferences in the future.

The small number of airborne policing units in Australia does not justify the conduct of a conference of the size and complexity of the ALEA conference, however there may be benefit in exploring the option of integrating a “Mini ABLE Conference” into the Australian International Airshow to be held in 2013 or at least encouraging the attendance of aircrew from throughout Australia to attend.

Los Angeles Police Department Air Support Division

With a population of nearly four million, the city of Los Angeles covers an area of 1200 km square and forms the centre of the greater Los Angeles, Long Beach, Santa Anna area which has a population of over 12 million.

Arguably the busiest airborne law enforcement unit in the world flying 19 helicopters about 18,000 hours per year the LAPD Air Support Division is over 55 years old and consists of nearly 90 police officers.

The LAPD ASD provide an impressive response time of under 90 seconds to any tasking, meaning that they are often the first police on scene. With a minimum of two helicopters airborne nearly 24 hours a day the LAPD are the envy of many ABLE units.

Visiting the LAPD Air Support Unit which is located on the non-descript building the “Hooper Memorial Heliport” was something I could have only dreamed of as a teenager watching “Blue Thunder”. As I said to my family and friends, “this is what dreams are for”.

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I was fortunate enough to experience a number of day and night flights with the LAPD and was exposed to a number of different methods and tactics that I had not experienced prior. The rapid response time, and being first on scene at a lot of taskings meant that the LAPD take considerably more command and control than some other units and often fly lower and closer to the incident to assist in the coordination of initial police attendance. This tactic was an excellent example of the value of helicopters in the policing environment and is one of the reasons that LAPD is so highly regarded throughout the world.

Visiting the LAPD provided the opportunity to compare the merits and indeed some of the limitations of conducting operations predominantly with the naked eye in comparison to utilising high powered cameras. Whilst utilising the naked eye has benefits including providing a greater awareness of the overall situation, it prevents the recording of evidence and generally requires flying at a lower level than those units who operate high powered sensor cameras.

The highways in Los Angeles handle a huge volume of traffic on a daily basis. It is estimated that the 405 highway handles approximately 1,000,000 vehicles per day. Consequently the ability to monitor the traffic from the air is crucial to assist in ensuring free flowing traffic and dealing with accidents and incidents as they occur.

The benefits of an “eye in the sky” are demonstrated by the many news helicopters that choose to provide live information relating to traffic flow from the air. Although predominantly the role of the California Highway Patrol, the LAPD are regularly involved in pursuits on the highways.
The LAPD utilise an “Air K9” channel, a priority channel for helicopters and dog handlers to monitor on which all high priority taskings, pursuits and stolen vehicles are broadcast. The Air K9 channel allows the crews to monitor one channel and receive and act on information in a timely manner rather than having to scan various channels to gather information relating to taskings.

The system is currently being utilised with a high degree of success by Victoria Police in Australia, and having the opportunity to see it in action confirmed the benefits of having such a system. Decreased response times often reduce the risks associated with high speed pursuits and vehicle related crime, thereby reducing the risk of death and injury on the road.

Whilst I did not attain information directly relating to law enforcement on rural roads, I gained a considerable amount of information relating to tactics and methodology, which can be utilised by ABLE operators to improve their operational effectiveness. This will be distributed in an independent report.

Los Angeles County Sheriffs Department Aero Bureau

Covering the wider area of 12,000 square kilometres that is Los Angeles, the LA County Sheriffs Department have about 9000 police officers responsible for policing 2.8 million people.

The LA County Sheriffs Department Aero Bureau operates a fleet of 15 helicopters and 3 fixed wing aeroplanes from the Long Beach airport.

The Aero Bureau utilise a Cessna 210 equipped with a Cineflex camera to conduct surveillance missions for up to 6 hours at a time. The aircraft is faster than smaller Cessnas and the high wing position
allows for excellent observations whilst conducting lower level missions. The ability to look at aircraft such as this in comparison to other versions and setups provided an excellent opportunity to determine the most efficient set up and provide recommendations at a later time.

Having observed the LA County Sheriff Helicopters at the ALEA Conference in New Orleans it was fantastic to have the opportunity to fly in them over Los Angeles. The aircraft are the perfect representation of how the latest technology can be installed to make the job safer and more efficient. A full “glass cockpit” means goodbye to the traditional instruments and welcome to glass computer screens displaying all of the information that you need and more.

Computer mapping linked to the infra-red camera highlighted the ability to conduct police operations utilising one pilot and one tactical flight officer, an investment that would pay itself off in a short time given the cost of providing a police officer 24/7 365 days per year. Ideally reductions in staffing costs can mean use of the funds for alternatives, such as increased flying to conduct airborne traffic enforcement. This concept is worthy of exploration for any ABLE unit seeking to reduce the impact of staffing that a 3 crew helicopter causes.

Pasadena Police Department Air Operations Section

Having visited some of the busiest units in the world in Los Angeles it was a vastly different story at the Pasadena Police Air Operations Section.
Pasadena Police Department consist of only 240 police officers servicing an area of 60km square and a population of just over 130,000 people. The Air Operations Section is a small unit operating a couple of older helicopters including a Bell 206, however the Pasadena Police did not let their size influence their desire to be the best at what they did.

The level of motivation and enthusiasm was evident from the moment that I attended the small airfield with a semi transportable building located on the outskirts of Los Angeles and was epitomised by a plaque on the wall of the building which read,

“When a team of dedicated individuals make a commitment to act as one… The sky is the limit”

Utilising their B206 in a typical pilot + TFO configuration, a ride in the aircraft provided my first exposure to the ARS system that I had earlier observed at the ALEA Conference and again highlighted the ability to save costs by conducting airborne policing utilising two members rather than three.

San Diego Police Department Air Support Unit

Officer Kevin Means is recognised as an expert in airborne law enforcement and in particular infrared camera systems, regularly attending units throughout the world to lecture on tactics and technology. The author of a book on the topic “Tactical Helicopter Missions: How to fly safe, effective airborne law enforcement missions” Means was top of my list of people to meet and consequently it was down to San Diego to see him and visit the Air Support Unit.

2100 San Diego Police Department Officers are responsible for policing the city of San Diego and its 1.4 million residents. The Air Support Unit consisting of 16 members, operates 4 helicopters and two fixed wing aircraft from Montgomery Field in San Diego. Operating between 0800 and 0230 the unit fly approximately 10 hours per day, responding to over 8000 calls per year and being first on scene to approximately 50% of the taskings.
“In one year, the helicopter was involved in the arrest of 2,100 suspects. 600 of the 2,100 suspects were captured solely because the helicopter was overhead. If not for the rapid response of the helicopter, and their high tech equipment, these suspects would most likely have eluded capture”. (Official police website)

San Diego Police utilise an identical FLIR system to South Australia Police and I readily accepted the chance for a quick lesson on how the “experts” use their FLIR. The lesson was invaluable and highlighted the need to be aware of and to utilise the full capabilities of the equipment in police aircraft to maximise efficiency and results. During my fellowship there were a number of occasions that I witnessed operators who were unfamiliar with the advanced capabilities of their equipment, often meaning that the money invested in equipment and flying hours was not receiving the maximum return.

After a lesson on the ground I was fortunate enough to go flying in their ASTAR B3. It was quickly evident that by utilising manual adjustments rather than relying on “auto” settings the picture quality and capability of the camera as a searching tool were markedly improved.

I was privy to a number of discussions at both the ALEA conference and at other Air Support Units relating to whether helicopters should conduct orbits on the same or opposite side to the target. Means argues strongly for left hand orbits (pilot seated on right), particularly for the increased safety associated with the pilot being able to scan his instrument panel whilst watching over the shoulder of the TFO who has the target on their left. The pilot is taught to fly the aircraft according to the FLIR symbology, allowing the TFO to watch the target with the naked eye or the camera without having to provide any input to the pilot.

Having observed this tactic first hand, and then being able to compare it to other units who fly with a pilot plus two TFOs, I believe that Means argument has a lot of merit, and is worth considering for any units who are flying with only two crew.

The flight over San Diego was initially a quiet flight until a pursuit commenced a short distance away. After taking a position above the pursuit I witnessed the helicopter provide a commentary relating to the stolen vehicle for approximately fifteen minutes until it collided with built up traffic at the Mexican Border. At one point I saw 18 police vehicles in a convoy directly behind the stolen car. The pursuit demonstrated to me that despite being on the other side of the world, the same problems and issues exist, all of which highlight the danger to the police and the public when pursuits occur.
California Highway Patrol (CHP) – Valley Division

Each year the Airborne Law Enforcement Association issues a number of awards including the “Fixed-wing Operator of the Year Award” and in 2011 it was awarded to Officer/Pilot Jeff Barbao and Officer/Flight Officer Jonathon Pierce of the California Highway Patrol.

Boasting statistics that would be the envy of many, in 2010 Barbao and Pierce utilised a Cessna 206 and approximately 600 hours (at a Direct Operating Cost of $130 USD per hour) of flying to achieve:

- 148 arrests
- 1852 patrol assists
- 995 enforcements
- 15 pursuits
- Seven DUI arrests; and
- 237 allied agency assists

(Air Beat September/October 2011)

Those statistics are even more impressive when coupled with the statistics achieved by the entire CHP Air Operations Program in 2009. During 2009 the CHP AOP:

- Flew 23185 hours
  - 12641 fixed wing hours
  - 10544 helicopter hours
- Conducted 16,109 enforcement actions
- Assisted 48,896 CHP units
- 5,150 search and rescue missions
- 408 Emergency medical missions
- Assisted 11,675 motorists
- Participated in 1,381 felony and misdemeanour arrests
- Saved 55 lives

It was fitting that I would conclude my Churchill Fellowship by spending time with the CHP and in particular their Chief Pilot (fixed wing) Sergeant Rich Bookbinder from the Valley Division in Sacramento.
Valley Division has conditions that replicate Australia in many ways. Built up cities, rural areas, mountainous terrain and the coast, population densities that are similar and a lot of the same problems facing the police services in particular vehicle related offences and crime.

I have chosen to expand on aspects relating to the manner in which the CHP conduct business because of the similarities and also for the fact that throughout my travels across the world, the model utilised by the CHP was in my opinion the most effective and applicable to Australian Police Services and in particular South Australia.

According to the CHP Strategic Plan 2011-15 the CHP performs its primary traffic management function on all state highways constructed as freeways and currently patrols 105,000 miles of roadway throughout California.

Traditionally, the overall success of traffic safety programs is measured by the improvement in the mileage death rate (MDR). The MDR is the number of persons fatally injured as a result of traffic collisions per 100 million vehicle miles of travel. Historically, California achieves one of the lowest MDRs in the nation. This is especially noteworthy considering the size and complexity of the traffic safety challenges faced by the state. The MDR trend is now declining from 1.31 in 2005 to 0.95 in 2009 (the lowest in history) however it still means over 3074 people lost their lives on California roads in 2009.

The CHP Air Operations Program (AOP) began in the late 1960’s and consists of 8 Divisions – Redding, Napa, Auburn, Paso Robles, Fresno, Apple Valley, Fullerton and Thermal. The Valley Division in particular is approximately 160 miles long and 130 miles wide and includes the cities of Sacramento and Stockton as well as areas in the Sierra Nevada Mountains near South Lake Tahoe.

The CHP utilise 30 aircraft, 84 pilots and 61 flight officers, the majority of the fixed wing aircraft being Cessna T206H (150 mph cruise), whilst the majority of the helicopters are either AS350B3s or AS350B2s. The Valley Division itself is staffed with 5 fixed wing pilots, 7 helicopter pilots, 5 airplane flight officers and 6 paramedics.

The CHP deploy their aircraft on a priority basis:

1. Emergency Response
   - Patient retrieval/officer assistance/pursuits/civil disturbance/search and rescue/blood and organ transport
2. Homeland Security
3. Patrol rural roadways
- Report adverse road conditions/locate disabled motorists in remote areas/searches/surveillance/photos
4) Enforcement other than speed
5) Speed enforcement
6) Special events
7) Transport: personnel and equipment

(CHP – Fixed Wing Operations)

The CHP operate predominantly Cessna 206 fixed wing aircraft and according to the CHP focus on enhancing patrol coverage of metropolitan and rural highways by:

- Providing coverage to ground units
- Managing pursuits
- Searching for suspects
- Providing motorist services
- Photo reconnaissance
- Surveillance
- Transportation
- Acting as airborne incident command and communication platforms

The majority of the electronic equipment is located within the rear passenger area of the aircraft whilst the Wescam MX15 is positioned on the rear side of the aircraft. The Flight Officer sits front left with a monitor directly in front and the Pilot in the front right. Vision from the Wescam MX15 can be down linked via microwave, to any of the Department’s 9 Rapid Response Vehicles (RRVs) or to one of the four Traffic Management Centres (TMCs).

This is the first configuration utilised with the Wescam MX15 and presents a number of issues, in particular increased drag (and stress) over the tail, and reduced vision of instruments for both aircrew. CHP are examining alternate methods to configure the aircraft, however the success of the concept of utilising fixed wing aircraft speaks for itself and looks to be continued indefinitely.

The capability of the camera (and indeed most modern IR cameras) means that the aircraft can conduct covert operations from 6-7000 feet, often loitering on patrol with an ability to point the camera directly at an address the instant that the crew are notified of a tasking. The majority of the taskings can be conducted as effectively from high altitude as they can from an overt altitude.
An excellent example occurred in 2010 when CHP attended a shooting that had just occurred. The aircraft (call sign Air 21) was on scene almost immediately and followed the shooting suspects as they fled from police. The ground units lost sight of the suspects who were easily tracked by the aircraft as they hid in a rubbish dumpster and were apprehended shortly afterward. For the entirety of the tasking the offenders were unaware of the presence of the aircraft which also recorded them as they threw a bag containing guns away as they ran.

This concept would be ideal in smaller cities (such as Adelaide, South Australia) where transit from the centre of the city to the outer fringes can be accomplished in minimal time and allows for a low cost alternative to deploying helicopters.

The Cessna 206 is regularly utilised for airborne traffic enforcement on major highways. Marker lines are painted at ¼ mile intervals and for the aircraft it is simply a matter of utilising a calibrated stopwatch to conduct distance/time observations, recording the average speed of vehicles between point to point and coordinating interception. Observations can be conducted on a number of vehicles at once and apprehensions can range from 10-20 per hour.

(CHP – Helicopter Operations)

The CHP operate 15 helicopters including:

- 11 Eurocopter AS350B3s with hoist and ALS capability
- 1 Eurocopter AS 350B2 assigned to headquarters
- 2 Bell L-4s and 1OH58 assigned to Fullerton in support of metropolitan missions

Whilst the CHP utilise a configuration that is similar to the majority of ABLE units in the United States, that being 1 x pilot + 1 x TFO, they are also unique in that the crew member is a trained paramedic. The ability to have a paramedic onboard the helicopter which is also equipped with a winch means that the aircraft can be conducting standard police operations (proactive patrolling etc) and without having to make any modifications other than to remove two seats can be changed to a rescue machine and conduct winch rescues.
This provides amazing capability in comparison to the majority of configurations throughout the world where a specific rescue machine must be tasked to conduct winch rescues involving injured patients and although not directly related to aerial traffic enforcement, directly impacts on the ability to rapidly retrieve injured persons including those injured in vehicular accidents. (Refer recommendation 9)

It was only hours after first seeing this particular concept for the first time that I was exposed to it in a real life rescue.

We were requested to attend a quad biker who had fallen from his motorbike and injured himself. After following a forestry vehicle for approximately 6 miles we located the male and landed nearby to configure the aircraft for a winch.
The male was winched from the scene and then lowered to the ground nearby to enable transferring into a private medical helicopter. The rapid response and rescue was only possible due to the configuration utilised by the CHP in their helicopters.

(CHP – Summary)

For me the California Highway Patrol, Air Operations Unit was exactly what I had been searching for. A highly motivated, highly flexible group of police officers, utilising an array of machines to successfully conduct a considerable number of taskings and apprehensions.

The similarities to Australia and in particular South Australia, enabled me to draw a considerable amount of information to assist in the compilation of this report whilst finding the perfect way to finish the trip.

It would be remiss of me if I did not thank the Chief Pilot (fixed wing) Sergeant Rich Bookbinder who provided me with such an amazing experience. His hospitality, motivation, interest and knowledge were exemplary and I urge any police officer with an interest in achieving airborne missions by “thinking outside of the square” to contact Rich.
CONCLUSION

The Winston Churchill Fellowship was the pinnacle of my police career to date. To be provided with the opportunity to travel the world, researching a topic that I am so very passionate about was something that I would never have imagined occurring.

I am privileged, honoured and indeed indebted to the Winston Churchill Memorial Trust and the many Churchill Fellows who continue to support both the cause and the new Fellows who for most it is a daunting experience.

During my journey I was fortunate enough to fly with the majority of the 14 airborne law enforcement units that I visited. Being able to fly and experience their operations first hand was the icing on a cake that included meeting dozens of wonderful and motivated police officers, each with a genuine interest in airborne law enforcement, and each of whom I hope to maintain contact with for many years to come.

I conducted my Fellowship at a time when the global economy is suffering. Police aviation is also being impacted. Budgets are being cut, aircraft are being sold and aircrew are being transferred to other duties. My initial concerns that the economic situation would negatively impact my research were unfounded, in fact it was quite the opposite. The impact of the global financial crisis has forced police services to search for more efficient techniques, different technology and in some cases alternate aircraft in an effort to continue with business whilst reducing costs. For me, this was the innovation I was searching for, and the target of my research.

I have learned that if police services are to conduct airborne traffic enforcement then they must adapt to the current financial situation, embrace change, and be proactive in their efforts towards doing more with less. Not only is airborne traffic enforcement about detection and apprehension, it is about deterrence. The deterrence factor can be multiplied many times over utilising media, advertising and education.

Whilst a static speed camera might generate a considerable rate of apprehensions, the deterrence factor might be limited. Conversely, a fixed wing aircraft might only detect and apprehend ten drivers per hour, but coupled with an educational and advertising campaign, the reduction in overall speeding and dangerous driving might be considerably higher.

It is my desire to circulate this report and the attached recommendations to Police Services, the Government and key stakeholders throughout Australia and to police contacts throughout the world.

I hope that in the event of at least some of the recommendations being implemented by Police Services and Governments across Australia, the Churchill Fellowship that I conducted will have directly contributed to a reduction in death and injury on our roads and in particular rural roads.

After travelling 46,400 km by air, 2,383 km by above ground train and spending 40 nights in 14 different hotels my journey has not finished. In fact, I believe it has only just begun.

I would like to conclude this report by thanking my amazing wife Nat, my beautiful kids Max and Lara and my family and friends whose support throughout the Fellowship was sincerely appreciated.
Innovation and opportunities in Airborne Law Enforcement

• Exploring a combined approach towards the utilisation of police aircraft in Australia to conduct airborne traffic enforcement in conjunction with existing initiatives to reduce death and serious injury on rural roads.

• Use of alternate aircraft and in particular light sport aircraft to conduct airborne traffic enforcement

• Utilisation of conferences such as the Airborne Law Enforcement Association Conference to share ideas and obtain valuable information relating to airborne traffic enforcement

• Use of an “Air K9” advisory channel to reduce response times and thereby risks associated with pursuits and vehicle related crime

• Use of Automated Number Plate Recognition (ANPR) on police aircraft to obtain intelligence and identify and apprehend traffic offenders

• Use of police aircraft to target speeding and reckless motorcyclists

• Production of a pamphlet detailing the dangers associated with speeding and reckless riding by motorcyclists, highlighting the fact that their behaviour may be observed by police aircraft.

• Use of integrated computer mapping solutions to enable a reduction in crewing aircraft from three persons to two persons, thereby reducing the impact of airborne policing operations.

• Utilising a model similar to California Highway Patrol – (Pilot + TFO/Paramedic in winch equipped single engine police helicopter) - to increase options available for the recovery of people injured in motor vehicle accidents
REFERENCES

(www.anzpaa.org.au - Australia New Zealand Police Advisory Agency)

South Australia Strategic Plan 2007, South Australia Government

South Australia Police, Traffic Intelligence Section

“Airbeat – March/April 2011”, Airborne Law Enforcement Association

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“The helicopter was my office. It was a place where I experienced many emotions and learned many lessons. It was a place of work but also a keeper of dreams. It was a place of deadly serious encounters, yet there I discovered much about life.

I learned about joy and sorrow, pride and humility, fear and overcoming fear. I saw much from that office that most people would never see. At times it terrified me yet I could always feel at home there.

It was my place at that time in space, and the helicopter was mine for those moments. Though it was a place where I could quickly die, the helicopter was a place where I truly lived....”

(Poster in LAPD ASD Office)