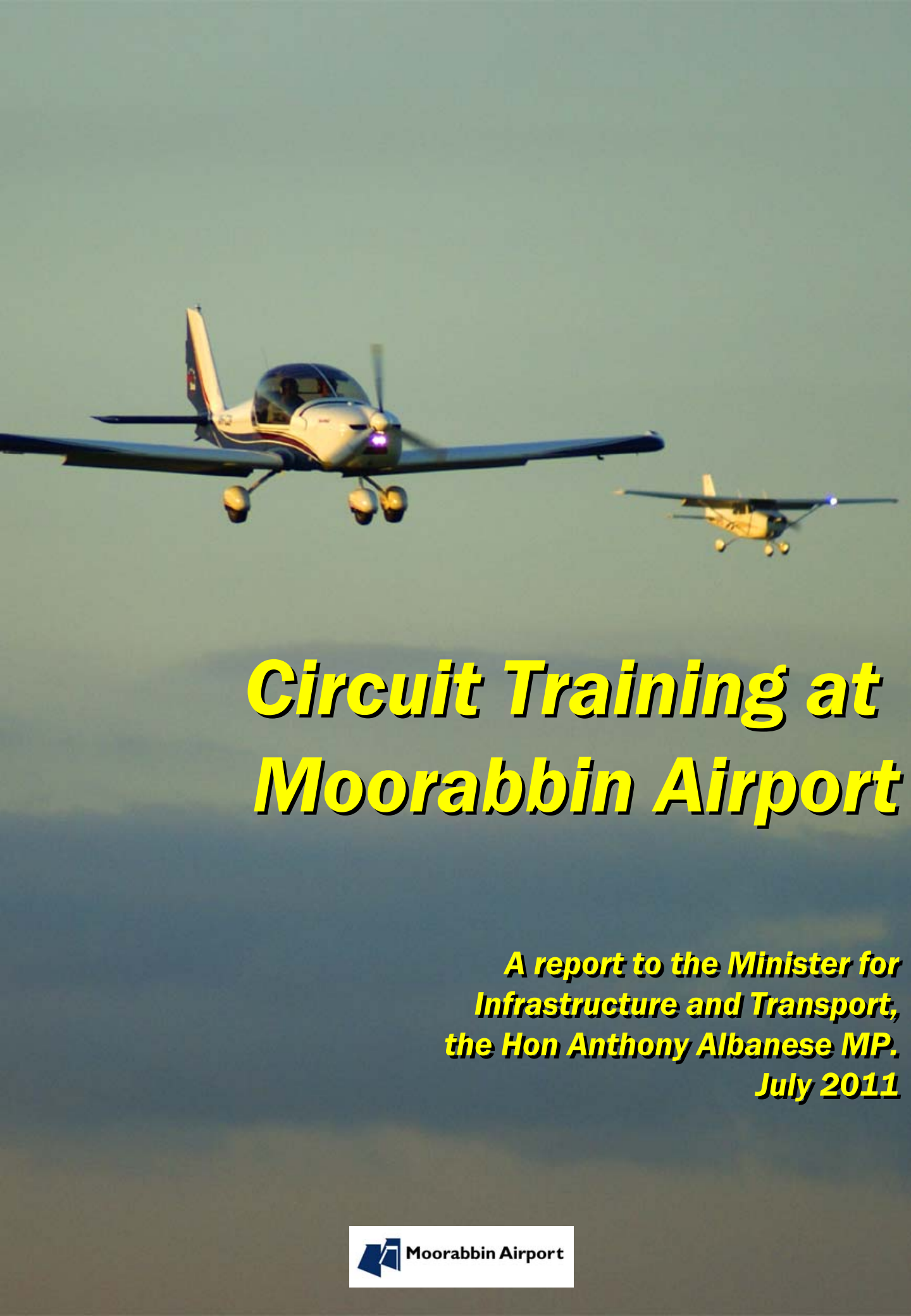

Circuit Training at Moorabbin Airport

A report to the Minister for Infrastructure and Transport, the Hon Anthony Albanese MP.
July 2011

Moorabbin Airport

Moorabbin Airport seen from the South West showing some of the 400 based aircraft

Cessna 172 aircraft of Oxford Aviation Academy, the largest flying school in Australia

CIRCUIT TRAINING AT MOORABBIN AIRPORT

A REPORT TO THE MINISTER FOR INFRASTRUCTURE AND TRANSPORT, THE HON ANTHONY ALBANESE MP.

JULY 2011

Moorabbin Airport – Circuit Training Report

Executive Summary

When approving the Master Plan for Moorabbin Airport in June 2010, the Federal Minister for Infrastructure and Transport, the Hon Anthony Albanese MP requested Moorabbin Airport Corporation (MAC) undertake an examination of the operation and location of training areas given the safety and noise impacts of growth forecasts in the Master Plan.

MAC established a Training Circuit Task Force consisting of officials from the Federal, State and Local Governments, Airservices Australia, the Civil Aviation Safety Authority (CASA), industry and the local community to help explore options for training circuit activity at Moorabbin Airport. While the Task Force focused on circuit training issues, discussions amongst members also touched on broader issues related to current and future airport operations.

The Task Force benefitted from receiving briefing advice from officials who are involved in safety regulation, airspace management, air traffic services, flying and training operations. It also received good input from community and Local Council representatives. This advice and interaction on airport-related issues is welcome and should continue to be provided through the Airport's Community Aviation Consultative Group.

In preparing this report aviation safety was given the highest priority. In this regard it is important to note that circuit training and aircraft departures and arrivals at the airport will, of operational necessity, fly over some residential areas.

The report reaffirms support for a number of initiatives already in place to reduce the impact of training circuit operations at Moorabbin Airport on the community. For example, the airport has a well-established "Fly Friendly Program" which sets out requirements that pilots and airport users are expected to follow, including specific hours for circuit training. These guidelines form part of MAC's conditions of use and specific Fly Friendly agreements are negotiated with individual flying schools based at the Airport.

Under this program, Moorabbin Airport expect aircraft pilots to undertake operations in a manner which is considerate of local residents, noting the safe operation of aircraft must be maintained at all times. The Fly Friendly Program includes a number of procedures aimed at minimizing the impact of aircraft noise on the local community.

MAC is committed to informing the community and industry about how the airport operates including circuit training and what efforts are being taken to ensure safe and environmentally responsible operations including the requirements of the Fly Friendly Program. Better education and awareness of the operations of the airport is part of MAC's ongoing initiatives to improve relationships between the airport and the community.

The report identifies nine recommendations that will help reduce the current impacts of circuit training operations and better inform the community.

The report also canvasses longer term options noting the challenges of ensuring compatible on and off airport development requires better planning and cooperation between different tiers of Government. These issues need to be considered in the context of an overall future strategy for the development of the aviation industry in Melbourne and regional Victoria, recognising that pilot training is an important part of the aviation industry and generates employment opportunities and export earnings for the local, state and national economy.

Recommendations (as found in the report)**:**

Recommendation 1: *Airservices Australia, in consultation with the helicopter industry, assess the value of standard flight paths being established for helicopters departing and arriving at Moorabbin Airport that would enhance safety and minimise noise impacts on the local community.*

Recommendation 2: *MAC continue to strongly promote the adoption of the Fly Friendly Program by all operators at Moorabbin Airport.*

Recommendation 3: *MAC establish clear procedures for the handling of complaints over possible breaches of Fly Friendly agreements and regularly report on compliance to the Moorabbin Airport Community Aviation Consultation Group.*

Recommendation 4: *MAC, with assistance from airport users and Government aviation agencies, continue to undertake an education and awareness program to better inform the local community on airport operations including circuit training.*

Recommendation 5: *The hours of fixed wing and helicopter circuit training at the airport published in the Airport's Fly Friendly Program be restricted to 0900 to 1800 or last light, whichever is sooner, on weekends, and Victorian public holidays.*

Recommendation 6: *MAC, in consultation with Airservices Australia, CASA, and industry, progress a proposal to reduce night hours of circuit training from Monday to Friday to match tower operating hours. The proposal would be subject to completing an assessment of the safety, environmental and economic costs and benefits.*

Recommendation 7: *The relevant Victorian Government agency, in consultation with the Federal Department of Infrastructure and Transport, undertake a review of the future aviation needs of Melbourne and regional Victoria, with particular emphasis on the pilot and helicopter training industries.*

Recommendation 8: *MAC approach the relevant Victorian Government planning agencies to examine alternative suitable sites for satellite helicopter training for operators based at Moorabbin Airport.*

Recommendation 9: *Airservices Australia provides the Moorabbin Airport Community Aviation Consultation Group with regular updates of progress with the implementation of the 18 recommendations made by the Aircraft Noise Ombudsman in relation to the better handling of noise complaints.*

Philip A McConnell
Airport General Manager
Moorabbin Airport
July 2011

Moorabbin Airport Final Master Plan 2010:
Training Circuits

Contents

An Alpha aircraft of the Royal Victorian Aero Club, operating a “Young Eagles” adventure flight

Moorabbin Airport Final Master Plan 2010
TRAINING CIRCUITS

1. INTRODUCTION

In his approval of the Final Master Plan for Moorabbin Airport on June 25th 2010 the Minister for Infrastructure and Transport, the Hon Anthony Albanese MP, requested that Moorabbin Airport Corporation establish a process to examine circuit training at Moorabbin Airport. In his media statement he said:

(That) the Airport will work with my Department, the Civil Aviation Safety Authority, Airservices, local instructors and the community to assess whether modifications to the existing training circuits would further reduce noise and improve safety over residential areas. I expect this work to take no longer than twelve months to complete. (Ministers media statement)

In his letter to MAC he further stated:

I believe there is a need for an examination over the next 12 months of the operation and location of training areas given the safety and noise impacts of growth forecasts in the Master Plan. I expect Moorabbin Airport Corporation to coordinate this examination in consultation with my Department drawing on expertise from aviation safety and air traffic management agencies and liaising with community and industry stakeholders.

In response to his request Moorabbin Airport Corporation (MAC) established a process to conduct a full review of circuit training at Moorabbin Airport. This resulted in the establishment of a "Task Force" made up of both community and industry stakeholders, including:

- The Department of Infrastructure and Transport, (Policy input from Federal level)
- The State Government of Victoria (Victorian Government transport policy)
- The City of Kingston (Community views)
- The Moorabbin Airport Residents Association (Community views)
- Dingley Village Community Association (Community views)
- Airservices Australia (Airspace and air traffic management)
- Civil Aviation Safety Authority (Safety and Regulatory affairs)
- The main flying schools of Moorabbin Airport. (The major users of circuit training)

Full details of the membership of this group are detailed in **Appendix 4** and The Terms of Reference for this group are included in **Appendix 5.**

MAC asked that the group examine two key elements involving circuit training at Moorabbin Airport which comprised:

- The pattern and times of circuit training at Moorabbin Airport.
- The volume of circuit training at Moorabbin Airport.

For each of these key elements a number of factors were isolated for specific review. The group met a total of four times. The initial meeting was designed to give group members and overview of what "circuit training" actually means, and the further meetings examined in detail all aspects of the operations.

This report looks at whether modifications to training circuits at Moorabbin Airport could further improve safety and residential amenity in the vicinity of the Airport.

It must be stressed that circuits at the airport are generally being undertaken by pilots who are learning to fly. To ensure they are undertaken in the safest manner, circuits are performed close to an airport so that in the unlikely event of an emergency, trainee pilots have the capacity to safely land in an airfield. Trainee pilots learn to takeoff, turn and land an aircraft during a circuit and the practical hands-on experience trainee pilots receive during a circuit is invaluable in their training.

This report deals with both fixed wing and rotary wing (helicopter) pilot training.

This report canvasses the viability of alterations to circuit training from the viewpoint of both pattern and volume of aircraft movement.

Longer term issues in relation to the possible permanent shifting of circuit training away from the airport are also covered acknowledging the significant economic issues that this would raise.

Moorabbin Airport has a well-supported Fly Friendly program in place for operators based at the Airport. The program outlines acceptable times for circuit training operations at the Airport and has been developed in consultation with the Moorabbin Airport Community Aviation Consultation Group and training operators at the Airport.

The Fly Friendly program is included at **Appendix 7** and is discussed throughout the report as a key mechanism in establishing and maintaining aircraft operations at Moorabbin and thereby seeking to ameliorate noise impacts on the community as far as is safe and practicable to do so.

MAC wishes to thank the active participation of all of the Training Circuit Task Force members. They provided submissions and provided comments for MAC's consideration (see **Section 9**).

A real strength of the taskforce process was the ability for airport, Departmental, CASA and Airservices Australia (Airservices) officials, and industry representatives that operate at the airport, to better inform community and Local and State government representatives of key safety, air traffic and operational aspects of aviation.

The Airport sees this important process continuing through ongoing meetings of the Moorabbin Airport Community Aviation Consultation Group.

2. MOORABBIN AIRPORT

Moorabbin Airport is one of the busiest airports in Australia. It is home to around 400 aircraft, 11 flying schools and a number of other aviation organizations. The primary aviation business of the airport is flying training and this accounts for well over 80% of both movements and commercial activity on the airport.

At any given time in excess of 800 persons are engaged in flying training, the majority are young people undergoing commercial training for a career in aviation. Supporting this are over 250 flying instructors but well over 1,500 personnel are primarily engaged in aviation activities at the airport, with over 5,000 regular users including recreational pilots. The airport is a major employment centre.

The airport is a Commonwealth site and responsibility for operations is developed as follows:

- **Moorabbin Airport Corporation (MAC)** is the Airport lessee company (ALC) and has primary responsibility for airport infrastructure.
- **Airport tenants** have sub-leases with MAC for either land or building with land leases.
- **Airservices Australia** is the airspace manager- aircraft in flight are under their control.
- **Civil Aviation Safety Authority** (CASA) is the industry regulator for both airports, aircraft operators and aircraft. It is concerned with safety.

Aircraft Movements.

Aircraft movements are described in **Appendix 3.**

In 2010 Moorabbin Airport recorded a total of 252,000 movements of which approximately 80% were circuit training, including 45,000 helicopter movements (11% of total movements and around 15% of training). However many days in 2010 were affected by poor weather and this resulted in reduced movements compared to previous years. For example in 2008 352,000 movements were recorded. The historic high was reached in 1989 at 399,000 movements.

The final Master Plan for Moorabbin Airport contains an approved long-range movement forecast of 500,000 by 2039.

3. CIRCUIT TRAINING

Circuit training is explained in detail in **Appendix 1.**
The typical patterns of circuit training are illustrated in **Appendix 2.**

Circuit training, the act of repetitive take-offs, approaches and landings, is an essential part of pilot training. The primary reason to undertake circuit training is to gain an appreciation and perception of the angle and attitude of approaching an airport to land. Whilst this can be taught in theory, and many people enjoy computer flight simulations of landing, it must be taught in practice by actually conducting a flight. This is usually almost the first task a student pilot will perform on his or her road to becoming a qualified pilot.

4. KEY ISSUES

Moorabbin Airport is an urban airport, surrounded by residential and commercial development. When the airport was originally designed, in 1949, it was some way removed from the urban metropolis of Melbourne but over the years, especially in the 1960's and 1970's, development has encroached upon the flight paths of the airport.

In particular, Dingley Village is directly underneath the eastern circuit of the airport and as this community has expanded, and the population demographic has changed, conflict between aviation and community amenity has intensified.

A sample of complaints from the community relating to aircraft noise is detailed in **Appendix 3:** Noise complaints received in 2010. This contains a breakdown of complaints received by Airservices Australia and also by MAC. The majority of complaints come from Dingley.

THE 2009-10 MASTER PLAN.

During the public consultation phase of the most recent Master Plan it was evident that community concern had increased and a large number of submissions, over 200, were lodged during this process. Most related to circuit training. As a result of this, the Minister, in his approval of the 2010 Master Plan, requested that MAC conduct an investigation into whether the pattern of circuit training could be changed to improve residential amenity.

THE VIEWS OF THE COMMUNITY.

The City of Kingston, and the City of Greater Dandenong in an identically worded submission, suggested that all training should cease by 2025 or 2030, and that helicopter training cease by 2015 unless a number of measures are adopted, including revising circuits to direct traffic away from residential areas, making greater utilization of simulators, prohibiting noisy aircraft and putting in place noise sharing arrangements.

Dingley Village Community Association (DVCA) supported by the Moorabbin Airport Residents Association (MARA) argued for a capacity "cap" to be introduced at 2009 levels and a plan be put in place to re-locate training flights away from Moorabbin Airport.

There was a diversity of view regarding the percentage of traffic allocated to the east or west circuits. Clearly, a community group with a membership base in Dingley would prefer less traffic and the same applies to a group with a membership base to the west of the airport.

No community organization presented a vision of how these desires would be achieved, or considered the economic impact on existing businesses. However during the group meetings a number of opportunities were canvassed.

THE VIEWS OF INDUSTRY.

A number of flying schools actively participated in the discussions. Their arguments can be summarized as:

- **CHANGES TO THE CIRCUIT PATTERN.**

  The essential requirement for flight training, by way of safety, is to train to a standard. Their view is that should this standard be changed to any extent it would have a negative impact on safety. There were no strong views held on whether it would be preferable to change the percentage of circuits operated east or west.

  However there was a view that a change to circuit training times at weekends and public holidays would be supportable.

- **CHANGES TO AIRPORT TRAFFIC CAPACITY - A CAPACITY CAP.**

The flying schools strongly made the point that they have considerable infrastructure invested in Moorabbin Airport, including buildings that they own on long leases. It is commercially impractical for them to move unless both a viable site for flight training is found and compensation paid.

THE VIEWS OF THE AIRSPACE MANAGER AND REGULATOR.

Airservices Australia and CASA both stressed that aviation safety standards must be maintained and that some of the changes contemplated, such as changing a circuit pattern drastically, could only be considered after a full safety case was undertaken.

THE VIEW OF THE AIRPORT OPERATOR.

From the point of view of Moorabbin Airport Corporation (MAC), MAC has a responsibility under the terms of both its lease and the Airports Act to give aviation access to Moorabbin Airport. Neither the Act nor the lease permits MAC to further define what elements of aviation may be permitted and what may not.

The submission and discussion from the Department of Infrastructure and Transport (DoIT) stated the policy of the federal government in supporting the role played by Moorabbin Airport as a capital city airport, including training.

MAC does consider that Moorabbin Airport, through the current operation of noise abatement procedures and the Fly Friendly program (**see Appendix 6**) places Moorabbin Airport at the forefront of similar airports in Australia in relation to industry consideration of community noise concerns. For instance, even before any change is considered the current circuit training times are the most restrictive of any urban general aviation airport.

MAC is however strongly opposed to the view put forward by some community groups and individuals that “Fly Friendly” procedures be made mandatory or subject to financial penalty if breached. MAC will, however, continue to work with industry to promote these programs.

Moorabbin Airport control tower

5. PATTERN AND TIMES OF CIRCUIT TRAINING

5.1 Pattern of circuit training.

The Moorabbin Airport circuit configuration consists of circuits to the eastern side with overflow to the western side mainly due to the arrival, departure and transiting traffic mix (**see Appendix 3**).

A safe airspace configuration results in the western circuit dealing with the majority of travel and transit flights allowing the eastern circuit to be used for training circuits.

Eleven flying schools currently operate at Moorabbin Airport causing most aircraft movements to be conducted in a circuit. Members of the Task Force were provided with extensive information about how the "circuit" works and were given the opportunity to take a flight to observe the process.

These circuits are conducted within close proximity to the Airport and as residential areas are close by, members of neighbouring communities and councils have expressed concern at the continued operation of circuit training. The two major concerns of the community are related to aircraft safety and aircraft noise.

Community and Council representatives raised the question of whether the circuit can be further changed to avoid residential housing wherever possible. It was noted that there were some minor circuit modifications instituted in late 1999 for noise abatement reasons.

5.2. Noise sharing circuits.

It is estimated around 70 percent of fixed wing circuit training occurs over the eastern side of the airport, generating relatively more aircraft noise for those living on this side of the airport.

Community groups on the eastern side of the airport such as the Dingley Village Residents Association (DVCA) suggested circuit training should be distributed more equally across runways, sharing aircraft noise with residents on the western side of the airport. The local Councils were also supportive of sharing circuit training noise over the east and west of the airport.

The Moorabbin Airport Residents Association (MARA) expressed concern at shifting more circuit training activity to the western side of the airport as this area is more populated than the east.

For the community noise sharing is a double-edged sword. Those who are impacted today may achieve some relief but those who are currently not impacted would object vociferously to any change in their amenity- and it would be a negative change.

Airservices Australia noted the current spread of circuit training across the airport's runways is attributable to the pattern of arriving and departing air traffic at the airport. Most air traffic arriving and departing the airport do so from the west, which is supported by four inbound access points.
The western airspace of the airport is infringed upon by aircraft transiting along the coast to the south-west of the airport. This configuration of access points and flight paths together with varied engine and pilot capabilities of general aviation and training aircraft means it is safer for the majority of circuit training activity to occur on the eastern side of the airport.

Airservices assessment of the pattern of air traffic control at Moorabbin Airport suggests shifting more circuit training activity to the west of the airport will increase risk and reduce safety by mixing more aircraft and pilots with varied capabilities; placing more trainee pilots within airspace used by transiting aircraft; and requiring aircraft accessing and departing Moorabbin Airport to overfly more circuit training activity.

Therefore the shifting of more circuit training activity to the west of the Airport is not supported by MAC.

5.3 Circuit Heights.

Standard fixed wing circuits at Moorabbin Airport are operated at a maximum height of 1,000 feet. Specifically, aircraft on an upwind leg maintains a straight line while achieving an altitude of 500 feet whereupon a crosswind turn is undertaken. On the crosswind leg aircraft achieve a height of 1,000 feet, whereupon a downwind turn is undertaken, maintaining a height of 1,000 feet. At a designated point aircraft make another crosswind turn and descend to 500 feet, whereupon the final turn is made for approach of the runway.

Community representatives raised the possibility of increasing the height achieved on all upwind legs to 800 feet, so that when aircraft turn for the crosswind leg (and fly over residential areas) they are 300 feet higher, resulting in less engine noise being experienced by communities below. Another suggestion raised was to increase the height achieved on the downwind leg to 1,500 feet.

CASA advised the Taskforce that circuit specifications are in place to enable a trainee pilot the greatest opportunity at returning to the Airport should an aircraft engine fail. Increasing the height to be achieved on upwind or crosswind legs of a training circuit will cause the pilot to be further away and reduce capacity for a safe landing at the Airport.

Safety is of paramount consideration in aircraft circuit training. MAC will not be pursuing with safety agencies changes in circuit height specifications that potentially reduce safety levels in circuit training.

5.4 Circuit Shape.

While it is technically feasible to change circuit pattern shape and design within aircraft performance capabilities, altering the shape of a standard circuit undertaken at Moorabbin Airport would provide greater complexity to circuit training activity.
The adoption of new non-standard and further variations to circuits at Moorabbin would raise a number of safety and operational issues. It should be noted that flying schools teach to a common standard as defined by Civil Aviation Regulation (CAR) 166 and (CAR) 167 which stems from requirements from the International Civil Aviation Organisation (ICAO) of which Australia is a signatory. **Appendix 1** provides fuller detail in regard to this.

A key function of the airport is the delivery of flying training through circuit training.

As the Civil Aviation Safety Authority (CASA) and Airservices Australia (Airservices) advised a key factor in Moorabbin moving to what is known as “Class D” airspace in June 2010 was to standardise operations at Moorabbin with other locations around Australia to enhance aviation safety.

"Class D" airspace is an International Civil Aviation Organization (ICAO) airspace classification and provides for clear and standardised airspace management with unambiguous procedures.

Changes to circuit patterns and non-standard circuit designs at Moorabbin would in essence introduce an additional safety risk to training operations and for other aviation users familiar with the use of "Class D" airspace procedures at similar capital city general aviation airports around Australia. Changes to aircraft training circuits are also likely to adversely impact on other airport users particularly helicopter operations.

There is also a key operational training factor that mitigates against changes to circuit patterns. Flying training is provided to both domestic and international students on the basis of preparing pilots to operate potentially domestically and internationally in accordance with international standards.

To introduce "special" types of circuits at Moorabbin is therefore not conducive to encouraging the development of internationally consistent training by schools based at the Airport, developing skills transferable anywhere in Australia and around the world.

CASA and flight training schools advised the Taskforce a circuit is designed to ensure the greatest level of safety is achieved. Pilots are asked to perform the least amount of turns possible, as this reduces complexity and provides pilots with greater visibility throughout their circuit. The shape of a circuit is also determined by a standard height.

Therefore MAC, noting this advice, does not support the adoption of further changes to the shape of training circuit patterns at the airport.

5.5 Helicopter Training and General Operations.

Similar issues to fixed wing training were also raised by community groups and local government in relation to helicopter training including the scope for all of their operations to be contained within the airport. While it was noted that generally helicopter training was confined within the airport boundary there were times when training does require flying beyond the boundaries of the airport.

Helicopter facilities are positioned in south central western and north western areas of the airport housing around 15 helicopters across two training schools. Helicopter training at Moorabbin Airport is performed either in a circuit pattern or undertaken on the grassed area in the south of the airfield.

As a separation of 300 feet is required between fixed wing aircraft and helicopters, trainee helicopter pilots must fly at a lower altitude than fixed wing circuit training aircraft.

Industry and Airservices advice confirmed the pattern of helicopter circuit training is adopted because, similar to fixed wing operations, the current shape and height of the training circuit helps reduce the levels of risk in helicopter pilot training. There is little scope given the nature and height of these circuits to change their operating patterns without impacting on safety and overall airport operations.

In addition to those used for training, there are around 50 privately owned helicopters based at Moorabbin Airport. There are no formal approach and departure flight paths determined for helicopters arriving at and leaving the airport.

As with fixed wing circuit operations, the community are concerned at the noise generated by helicopters at Moorabbin Airport. The Task Force saw merit in considering the adoption of standard flight paths for helicopters accessing and departing the Airport.

Industry operators advised that they generally follow the major road network and they are willing to work with Airservices Australia to establish designated flight paths for helicopters. These flight paths could be reflected in the Airport's Fly Friendly Program and be designed to minimise noise emissions over residential housing, noting their application is limited to the Moorabbin Air Traffic Control area.

Recommendation 1*: **Airservices Australia, in consultation with the helicopter industry, assess the value of standard flight paths being established for helicopters departing and arriving at Moorabbin Airport that would enhance safety and minimise noise impacts on the local community.***

5.6 Fly Friendly Program.

All taskforce members fully supported the MAC Fly Friendly program and expect that the industry makes every effort to ensure compliance with the program.

While noting that it is voluntary program there has been a strong take up rate by fixed wing training schools at the airport with nearly all agreeing to adopt the program. As with fixed wing circuit training operators it is appropriate for helicopter operators at Moorabbin to also adopt the Airport's Fly Friendly program.

An important part of establishing good relationships between the airport and the local community is the provision of information about, and awareness of, airport operations including circuit training.

Accordingly MAC will continue with its efforts to better communicate with local forums and Councils over current and future aviation activities including through the Moorabbin Airport Community Aviation Consultation Group (CACG). Airport users, Airservices, CASA and the Federal Department of Infrastructure and Transport can also assist where appropriate in the provision of better information for local communities impacted by airport operations.

A feature of recent meeting of the CACG and of discussion by some community members of the task force was the suggestion that MAC make compliance with Fly Friendly protocols mandatory. That is- non-compliance would variously result in a fine or other penalty. MAC cannot support this for a number of reasons, including the fact that any such penalty would be contestable in court and would thus require evidentiary data to be collected, which even if possible would be an expensive requirement and open to dispute. MAC cannot use the mechanism of an airport lease to enforce a Fly friendly policy.

Recommendation 2: ***MAC to continue to strongly promote the adoption of the Fly Friendly Program by all operators at Moorabbin Airport.***

Recommendation 3: ***MAC establish clear procedures for the handling of complaints over possible breaches of Fly Friendly agreements and regularly report on compliance to the Moorabbin Airport Community Aviation Consultation Group.***

Recommendation 4: ***MAC, with assistance from airport users and Government aviation agencies, continue to undertake an education and awareness program to better inform the local community on airport operations including circuit training.***

5.7 Times of Circuit Training.

"Circuit training times" refers to repetitive touch and go training. The following compares tower times with circuit training times.

Circuit Training:

Winter:	*Monday-Friday*	*0800- 2100*
	Weekends	*0800- 2000 or last light, whichever is sooner.*

Daylight savings: *Monday- Friday* *0800- 2200*

Tower Hours:

Winter:	*Monday- Friday*	*0800-2000S*
	Saturday-Sunday	*0800-1900*

Daylight savings:	*Monday, Thursday, Friday*	*0800-2100*
	Tuesday, Wednesday	*0800-2200*
	Saturday-Sunday	*0800-1900*

Christmas day only: Closed.

Weekend and Public Holiday Circuit Training.

Moorabbin Airport already has the most restrictive circuit training times of any capital city general aviation airport in Australia.

As outlined in the MAC Fly Friendly program, circuit training is undertaken on weekends from 8am to 8pm or last light (whichever is sooner) all year round.

Several Taskforce members suggested a further restriction to circuit training on weekends would be of benefit to the community, as circuit training activity particularly disrupts residents when they are undertaking outdoor recreation. Discussion with airport users has indicated that some adjustments could be made to circuit training hours at the weekend and on public holidays which provide for a further reduction in the noise impact of the airport on the local community.

This would see the hours of training restricted from 9am to 6pm (1800) or last light whichever is sooner, on weekends and Victorian public holidays. This provides a daily increase of two hours over the currently published circuit flying training free periods, and provides a fifteen hour period without circuit training on each day of the weekend and public holidays, known noise sensitive periods.

This change should be reflected in the Airport's Fly Friendly Program and Conditions of Use and published in relevant aeronautical advice to airport users.

Recommendation 5: ***The hours of fixed wing and helicopter circuit training at the airport published in the Airport's Fly Friendly Program be restricted to 0900 to 1800 or last light, whichever is sooner, on weekends, and Victorian public holidays.***

5.8 Night Circuit Training (Monday to Friday).

Circuit training hours at Moorabbin Airport are based on an agreement between MAC and flight training schools. The agreed hours of circuit operation are outlined in the Airport Fly Friendly Program.

Circuit training during the working week (Monday to Friday) raises issues in relation to noise from night time training.

While night training is a necessity for students to meet their full training requirements, MAC has examined Taskforce members' suggestions to determine whether there was scope to reduce night training hours during the working week, particularly to see whether night training could be fully aligned with air traffic control tower hours.

The Moorabbin air traffic control tower is open to 8pm in winter, and to 9pm three days a week and till 10pm two days a week in daylight savings months

Some flight training schools stated a decrease in night circuit availability might cause pilots to fly more during the day, causing greater congestion and pilots not being able to fly on busy days. This may have a negative economic impact on flight training schools at the Airport. In particular the need to undertake night training is a year-round activity and in high summer the hours of daylight and twilight extend late into the evening.

However, the degree of impact is likely to be tempered by the likelihood that there are little training movements during the last hour of the night during the week. MAC does not measure airport utilisation after hours although there is a current CASA study under way regarding this.

Therefore there does appear scope for greater alignment between night hours of operation and air traffic control hours from Monday to Friday. MAC proposes to work with Airservices, CASA and airport users to assess the safety, environmental and economic impacts of fully aligning training and tower hours.

If adopted this proposal could see an hour reduction in night circuit training hours in the winter period and a one hour reduction three days a week during daylight savings hours.

This change should also be reflected in the Airport's Fly Friendly Program and Conditions of Use and published in relevant aeronautical advice to airport users.

Recommendation 6: MAC, in conjunction with Airservices Australia and CASA, and in consultation with industry, progress a proposal to reduce night hours of circuit training from Monday to Friday to match current air traffic tower operating hours. The proposal would be subject to completing an assessment of the safety, environmental and economic costs and benefits.

6. VOLUME OF CIRCUIT TRAFFIC

6.1 Moving Flying Training Circuit Training.

In the course of the Taskforce's discussions Local Councils near Moorabbin Airport, the City of Kingston and City of Greater Dandenong, suggested all fixed wing circuit training cease by 2025 or 2030 and helicopter training cease by 2015.

There are 31 aerodromes and landing grounds within 45 nautical miles of Melbourne including many operated by other Local Councils. However many of these locations confront the same issues as Moorabbin in terms of nearby residential areas and many do not have sufficient standard facilities or services to provide for dedicated flying training activities.

MAC notes that currently individual aircraft, airline and training operators can determine from which airports they will operate. These decisions are based on a range of economic, business and operational factors. Aircraft operators must also meet relevant safety and operational standards pertaining to their specific type of operation whether it be for major regular passenger transport or for flying training.

Over time patterns of operations have developed in the Melbourne region whereby Tullamarine has become the major international and domestic airport, Avalon and Essendon have a mix of traffic including some domestic and intrastate passenger services, and airports such as Moorabbin have become important centres for flying training.

Proposals to shift training activity out of Moorabbin clearly raise fundamental economic and legal issues. Aircraft operators have existing contractual and sub-lease agreements with MAC.

Relocation of operations inevitably raises potentially significant cost and viability issues for the training industry. For example the introduction of a new flight training facility would require dedicated infrastructure, and the location would have to be able to attract and retain flying instructors and local and overseas students. Therefore any proposals to consider moving flying circuit training out of Moorabbin are likely to revolve around some form of broader, long term State planning approach whereby particular Victorian locations where developed as training airports preferably free or relatively free of impacts on surrounding communities, particularly residential areas.

In this context, responding to community and Local Council proposals, MAC suggests a longer term review at the future of aviation operations in Melbourne and regional Victoria, particularly related to the flying training industry. In this context measures to encourage rather than forcing flight training re-locations might be examined including establishing training airports based in less populated Melbourne or regional locations.

This approach is consistent with previously expressed views from the Victorian Government outlining their support of aviation training in Melbourne and surrounds and the need to manage aviation capacity in an integrated way across jurisdictions.

Recommendation 7: The relevant Victorian Government agency, in consultation with the Federal Department of Infrastructure and Transport, undertake a review of the future aviation needs of Melbourne and regional Victoria, with particular emphasis on the pilot and helicopter training industries.

6.2 Moving Helicopter Circuit Training.

As indicated above Local Councils near Moorabbin Airport, the City of Kingston and City of Greater Dandenong, suggested all helicopter training cease by 2015. In the interim local councils have suggested helicopter circuit training be relocated to an alternative site away from residential areas.

Helicopter training operators have in the past indicated a willingness to relocate some helicopter circuits to a 'satellite' training site at the Melbourne Water facility to the south-east of Moorabbin Airport. In 2003, Moorabbin Airport found the Melbourne Water site on Thompsons Road could be a suitable site for conducting some helicopter training, however at the time Melbourne Water was unwilling to allow access or use of the site.

As with fixed wing operators, proposals to shift helicopter training activity out of Moorabbin clearly raise fundamental economic and legal issues. Helicopter operators also have existing contractual and sub-lease agreements with MAC.

As with fixed wing operations the relocation of helicopter training inevitably raises potentially significant cost and viability issues for industry. By their very nature, helicopter training operations have some specific operational requirements and preferably are close to the airport.

Nevertheless it is worth pursuing with relevant Victorian planning agencies, that as part of the State's intended metropolitan planning strategy, an examination of possible suitable sites for satellite helicopter training for operators based at Moorabbin be undertaken. Should such a site or sites be identified, an environmental impact assessment of the relocation of relevant helicopter operations could then be completed.

Recommendation 8: ***MAC approach the relevant Victorian Government planning agencies to examine alternative suitable sites for satellite helicopter training for operators based at Moorabbin Airport.***

6.3 Airport Capacity Caps.

There are eleven separately operated flight training schools operating at Moorabbin Airport and no central circuit training schedule.

Circuit training is operated on a 'first come, first served' basis where air traffic control staff allows pilots access to circuits when a place becomes available, with the number of aircraft in the circuit subject to the tower's oversight. The number of aircraft in the circuit at any one time is therefore subject to a safety limit depending on operational conditions and what can be safely handled at any one time but not by an arbitrarily pre-determined figure.

Air traffic levels at Moorabbin Airport reached a peak of 399,000 movements in 1989. In more recent years air movement numbers have been relatively stable at around 250,000 movements per annum although there was a peak in 2008 with over 352,000 movements. 2010 recorded 250,000 movements. In recent years the variation in movements is due to a large extent to either benign or poor weather patterns.

The 2010 Moorabbin Airport Master Plan forecasts potentially 500,000 movements. However noting general aviation forecasts are subject to some volatility of the industry, the Master Plan notes that this movement capacity is not likely to be approached until 2039.

With increased movement rates, there would also come increased scrutiny by aviation safety agencies to ensure appropriate air traffic services and surveillance were in place.

If there was a change in the mix of traffic at the airport, this may also impact on total movement rates given strict separation requirements between Instrument Flight Rules (IFR) aircraft and Visual Flight Rules (VFR) aircraft such as training operations.

Noting long term forecasts community representatives of the Taskforce, supported by the Local Council, suggested a total movement cap be examined based on current traffic levels.

However MAC notes that the Aviation White Paper and broader policy statements by the Victorian Government indicate support for the continued operation of the airport. MAC also notes no other general aviation capital city airport is subject to such measures and the White Paper indicated no current intention to introduce additional airport curfews.

MAC also notes significant operational issues in establishing movement caps.

For example, given operations at the airport can be affected by a number of unscheduled factors, such as bad weather, a cap could lead to perverse outcomes whereby operations at the airport would effectively be stopped simply because a daily or yearly number had been reached despite previous days of inactivity. This would have serious economic and viability consequences for operations of businesses such as flying schools.

Moorabbin Airport from the Southwest

7. AIRCRAFT NOISE MEASURES

7.1 Noise Monitoring.

Airservices utilises Noise and Flight Path Monitoring Systems (NFPMS) to inform environmental management of aircraft operations and assist better airspace and runway planning. Moorabbin Airport does not have a noise monitoring system located nearby.

Community representatives suggested a noise monitoring system be installed within the vicinity of Moorabbin Airport to assist in regulating any reduced noise emission targets for aircraft operating at the Airport or to penalise aircraft operators who breach noise and safety regulations.

Airservices has indicated there are no immediate plans to introduce a permanent NFPMS at Moorabbin Airport although portable noise monitoring may be considered noting that NFPMS is used to inform airspace management and not to gather evidence for the prosecution of aircraft operators who breach flying procedures.

Airservices were however able to advise that the independent Aircraft Noise Ombudsman (ANO), established in September 2010, has made a series of recommendations to improve the handling of aircraft noise complaints through a more solution-driven approach. Airservices has committed to adopt all eighteen recommendations.

Given the clear interest of Taskforce members in relation to the ANO's report, MAC has requested that Airservices advise the Moorabbin Airport Community Aviation Consultation Group of progress in implementing the ANO's recommendations.

Recommendation 9: ***Airservices Australia provides the Moorabbin Airport Community Aviation Consultation Group with regular updates of progress with the implementation of the 18 recommendations made by the Aircraft Noise Ombudsman in relation to the better handling of noise complaints.***

7.2 Restricting Aircraft Types.

The aircraft currently operating at Moorabbin Airport are generally single or twin engine aircraft or helicopters. There are a very limited number of jet aircraft movements. The most common type of aircraft is the Piper Warrior/Arrow/Cherokee followed by the Cessna 172/182 range. The most common helicopter in use is the Robinson R22/44 series.

Community groups raised whether there was value in restricting noisier aircraft types from operating at Moorabbin Airport. The Australian Government legislates the noise standards of aircraft through the Air Navigation (Aircraft Noise) Regulations 1984. Aircraft not verified as complying with these regulations are not permitted to operate in Australia. MAC is required both under the *Airports Act 1996* and the airport lease to provide access to aviation for both inter-state and intra-state operations. There is no provision in these regulations or lease to discriminate access except that access can be refused if a debt is owed by an aircraft.

Helicopters and small aircraft must also meet CASA's requirements to be able to continue to operate as set out in Parts 133 and 135 of the Civil Aviation Safety Regulations.
These regulations are currently being reviewed and draft regulations released for comment by early next year.

As a general note, noise emitted by aircraft can be caused by a wide range of factors including airframe design and engine location, type or propeller, power of engine and placement of exhaust (muffler) where fitted.

Community group representatives have noted the above but have repeated their requests that the Commonwealth develop noise controls specifically for general aviation aircraft and liaise with aircraft and engine manufacturers to raise the standard regarding such noise emissions. This desire is noted but no actionable recommendations can be proposed from this group.

7.3 Use of Simulators.

Simulators are increasingly being used for training in the aviation industry. There is therefore the potential for some reduction in airborne hours needed for an airline cadet to graduate in the future. As an example the concept of Multi-crew Pilot licensing (MPL) significantly reduces flight training hours. MPL may be taught in Australia for a limited overseas airline market but is not approved for use by Australian airlines.

However some caution needs to be expressed in determining whether this will have a significant impact on the level of circuit training activity at the Airport. Flying training school representatives advised that while this may reduce some navigational or cross country flying there was still a significant core component of training that involved actual flying through circuit training.

Industry representatives also noted the significant cost of establishing simulator training capability and this was why the major passenger airlines, rather than flying training schools, have in the first instance been moving to increased simulator training.

Typical training helicopter

8. SUMMARY

The Australian Government's Aviation White Paper has clearly stated that aviation safety is the first and overriding priority in aviation. MAC fully supports this position and safety has been a primary consideration in the MAC's review of the operation of circuit training at the Airport.

While there has been a historical basis to the evolution of circuits and other airport operations at Moorabbin, any significant changes to circuit design now are not likely to be justified given their potential to add additional risk in circuit training and disrupt other airport operating patterns.

It is well recognised that Moorabbin Airport is located near residential development, some of which has regrettably been approved well after the airport was established. The airport and its users are accountable as a neighbour of nearby communities in ensuring that while their safety is not compromised, noise impacts are mitigated as far as is practical.

This report accordingly provides a number of recommendations to assist with the short and long term management of circuit training and other operations at Moorabbin Airport.

Student flight training

Piper Tomahawk 2 seat trainer on approach to runway 25R

A Piper Warrior taxis for take off.

9. CIRCUIT TRAINING DISCUSSION PAPER - SUMMARY OF WRITTEN RESPONSES.

9.1 Summary Statements.

Organisations were asked to comment on specific areas contained within the Discussion Paper.

However, some organizations have also included overall comments or summaries and these are described below.

Royal Victorian Aero Club (RVAC):
The Royal Victorian Aero Club would consider any proposal to relocate flying Training to another location given that financial assistance would be required to facilitate any such relocation. Any plan to relocate would be dependent on long term occupancy, suitable infrastructure, Distance from CBD and most importantly an undertaking from all governments that planning restrictions would guarantee that residential development would never impact on the proposed site or its operation including entry and departure tracks.

Melbourne Flight Training (MFT):
The flight training industry operates on extremely tight margins that would be unacceptable to most businesses outside of this sector. Any changes that reduce these already tight margins will result in a reduction in employment. There are many increases in costs that are providing many problems for our industry such as increased rentals, increasing fuel prices, strengthening of the Australian dollar, and damage to Australia's reputation as a destination for overseas students. We cannot afford to have any further financial burdens placed on us.

The sector is a highly specialised area providing training of Australian and overseas students for the projected growth in Airline operations in the future. By curbing this sector there will be significant redundancies and quite possibly the closure of a number of businesses.

Whilst I do appreciate that the local community has an interest in the restriction of airport operations leading to increased property values; this cannot be at the expense of employment and the small business sector. The flight training industries priority is safety and that is an area that we cannot and will not compromise. Any proposed changes will not increase safety and may in fact be detrimental to safety. They will also have a negative impact on the economic viability of flight training in Victoria.

Whilst I appreciate that any action to restrict airport operations would be a popular decision electorally to local residents, I am confident that the greater airport community also feels very strongly about this issue. The associated redundancies and closure of businesses would I feel have a significant electoral backlash, a large cost to the economy in terms of redundancies and their associated economic impact. Additionally the residual benefits from training overseas students would be lost to the Victorian economy.

Professional Helicopter Services:
PHS is the longest running Helicopter Flying School in Australia and has been conducting pilot training at Moorabbin for 30 years since 1981. During this period we have operated up to 7 helicopters exclusively on pilot training. Circuit training is a vital part of pilot training and essential for the basic skills of hovering and aircraft control. Whilst some elements of pilot training can be performed at remote sites there are others, such as auto-rotation manoeuvres, where it is essential that the helicopter is in a controlled environment.

It is interesting to note that in the late 1980's PHS had up to 5 helicopters engaged in circuit training at any given time compared to the maximum of three allowable today.
I apologize for the delay in responding to this due to considerable commitments with the Avalon air show.. It is very important and can/will impact on our business and I definitely will complete a detailed submission but have made a few points below that stand out to me.

Oxford Aviation Academy:
No summary provided. Comments made on individual points of the paper.

Peter Bini Advanced Flight Training:
Our business like others runs on very tight margins, and finds challenging the constant increases in rental, parking, landing charges, and Airservices charges. Further financial stress will see small businesses close taking away valuable knowledge and experience out of the aviation training industry. Despite the fact that the residential area has grown around the airport, we would consider a proposal to relocate with financial assistance to a location that wouldn't impact greatly on our clients. Unfortunately, existing airports in the east and southeast would not be suitable for us, so a new location would be required.

The core business of Peter Bini Advanced Flight Training is IFR training and multi-engine training with most training away from Moorabbin, so our circuit training is not extensive. Despite that, we do have abinitio students. We use both Leongatha and Tooradin for specific lessons, thus reducing the impact on the local noise. Abinitio circuits are conducted at Moorabbin. To use Leongatha or Tooradin for all our circuit training would increase our cost to our clients, and would make us uncompetitive in the Moorabbin market.

Tristar Aviation:
The impact to the local aviation business community by relocation would be significant. The impact on current employment, job creation and financial input into businesses off site would be extremely high. In addition to the financial effects of such an event, there are high levels of emotional trauma to business owners, staff and their associates as the relocation of an aerodrome would require in many instances the relocation of its operators, employees and their families, personal places of residences.

Consideration should be given to the loss of an aerodrome that should be looked at for heritage listing in its full operational status rather than closure. The significant participation in the local development of the surrounding community and the state of Victoria, both prior to and after its official opening in 1948 should play a quintessential component in any discussion regarding its future. Any decision to relocate to another site would include full financial cover for relocation both for the businesses and the employees of the businesses. It would include a perpetual and irrevocable federal and local government guarantee that no development, business, residential or individual action may impact negatively on the operational activities, including ALL inbound and outbound tracks from said aerodrome.

The restriction of trade on what are already highly regulated training procedures would play a detrimental impact on the industry and those industries it supports. Safety standards and impact on the local community should be considered in comparison to local road, transport, industrial and residential standards. This should show comparisons to injury and fatality within these areas.

Airservices Australia:
Two areas of consideration are included in this response:

1. *Operational impacts – that is how does the suggested change contained within the discussion paper impacts on local ATM procedures at Moorabbin; and*

2. *Environmental Impacts – that is what actions are required to be undertaken by Airservices Australia's in accordance with the organisations Environmental Management System.*

The Civil Aviation Safety Authority (CASA) as the regulator is the proponent of any change. Airservices Australia as the service provider will initiate any change after all safety and environmental aspects have been undertaken, identified and mitigated.

Department of Infrastructure and Transport:
The Australian Government's National Aviation Policy White Paper, Flight Path to the Future supports the important role played by secondary capital city airports such as Moorabbin including flying training. The White Paper acknowledges the environmental impact airports can have on surrounding communities, including those associated with circuit training. The White Paper recognises the economic importance of airports while supporting measures to achieve better management of the impacts of aircraft in the vicinity of airports and the need for better planning around airports including by State and local governments.

The Department congratulates Moorabbin Airport for producing the discussion paper and believes the paper presents some options that warrant further investigation, several with the assistance of other members of the Task Force. The Department looks forward to reviewing the comments of other members of the Task Force.

State Government of Victoria Consolidated response:
Comments from Victorian Government departments:

- *Department of Business and Innovation*
- *Department of Planning and Community Development*
- *Department of Transport*

Please note that these comments are provided by officer representatives on the Task Force and are for its discussion purposes only. The new Victorian Government Ministers have yet to be fully briefed on aviation matters. However, it is anticipated that the outcomes from the Task Force will be of considerable interest to Ministers across several portfolios.

City of Kingston:
The following points have previously been included in Council submissions relating to the operation of the Moorabbin Airport.

- *Airservices Australia identifies Moorabbin Airport as the third busiest airport for aircraft movements in Australia. The Master Plan for Moorabbin Airport identifies movements to increase.*
- *It is acknowledged that air traffic volumes may have remained relatively static over the last 12 years or so, yet the impacts of airport noise as reflected in the 2009 Australian Noise Exposure Forecast (ANEF) have increased. The Draft Master Plan for Moorabbin Airport plan confirms that 'pilot training is the major activity at Moorabbin Airport'.*
- *The areas identified in the 1999 ANEF for Moorabbin Airport as being subject to aircraft noise were generally located beyond the ends of the runways, industrial precincts, non-urban areas and residential areas to the south and west of the airport.*

- *The ANEF included in the 2009 Master Plan identified residential areas to the east of the airport that are now subject to aircraft noise. This change is attributable to pilot training circuit activity.*
- *The Master Plan seeks to consolidate and support commercial flying training and that many students are full time commercial trainees from overseas. 'Pilot training is the major activity at Moorabbin Airport'. The plan recognised that during April 2008 a record 40,000 movements were recorded mainly due to an increase in pilot training.*
- *Kingston Council has in previous responses to Airport Master Plans and Senate Enquiries raised concerns with the noise and safety aspect of 'circuit training' which requires aircraft to move directly over residential areas as identified in Section 7.5 of the Master Plan. By contrast aircraft travelling to and from the airport have significantly less impact on residential areas*
- *Given the increase in trainee activity, Council has consistently raised concerns on behalf of the Kingston community regarding the appropriateness of training being conducted over a densely populated urban area.*
- *In recent years there have been a number of incidents involving training aircraft including fatalities in the Cheltenham residential area and within the airport boundary.*
- *The City of Kingston does not believe it is appropriate that circuit training at Moorabbin continues to be encouraged, ahead of airfields located in regional areas within reasonable proximity to Melbourne where the exposure to risk and the impacts of aircraft noise are substantially less.*
- *Although there may be a clear economic benefit from international pilot training, Kingston does not believe this should be at the cost of increasing the exposure of more residents to aircraft noise as identified by the 2009 ANEF, and the ongoing and escalating public safety risk to people in their own homes.*
- *Supporting material for the 'Moorabbin Airport Australian Noise Exposure Forecasts (ANEF) November 2008 Revision' suggests that in 2007 approximately 43,400 or 14% of all movements, were helicopters. Anecdotally, based on community feedback, a greater tension is emerging between residential amenity and the operation of helicopters originating from Moorabbin.*
- *Council regularly receives complaints from residents in the Dingley, Mordialloc, Mentone and Cheltenham areas regarding the impact of aircraft noise.*
- *The level of complaints has increased as aircraft training has increased.*
- *Community members of the Moorabbin Airport Aviation Consultative Committee continue to raise concerns regarding aircraft noise. The issues raised have not been addressed to the satisfaction of the community members.*
- *Over time the residential communities that live in the vicinity of Moorabbin Airport are becoming less tolerant of aircraft noise and increasingly concerned with the level of safety associated with pilot training being conducted over residential areas. It is likely that future communities will be less tolerant of an airport in an established residential area. The Ministerial Taskforce provides Council with an opportunity to critically evaluate the role of the Moorabbin Airport and suggest both longer term and short term measures to improve residential amenity for those who reside in close proximity to aircraft flight paths*.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Dingley Village Community Association (DVCA):
No summary statement made. Submission comprised comments on individual areas.

Moorabbin Airport Residents Association (MARA):
No summary statement made. Submission comprised comments on individual areas.

9.2 The pattern and times of circuit training.

Both the Department of Infrastructure and Transport and the State Government of Victoria made overall comments on the entirety of Section 1: The Pattern and Times of Training Circuits:

Department of Infrastructure and Transport:
The Department is supportive, subject to maintenance of aviation safety standards, of further investigation by the airport operator, Airservices and flying training operators into a more balanced use of both training circuits; the hours in which circuit training operations occur; and the use of the Airport's Fly Friendly Agreement as a condition of use of the Airport. Of course, there will need to be appropriate consultation with the community on any proposed changes to the current pattern of training circuits. If a more balanced use of the available training circuits, subject to ensuring safe operations are maintained, is an option which should be investigated.

The Department strongly supports a review of the times in which circuit training is available. If the review indicates there would be low or minimal impacts on a small number of training operations during sensitive periods such as evenings on Friday, Saturday and Sunday, then a positive community amenity improvement may be achieved by limiting the hours in which training circuits are available for use on those nights.

It is acknowledged that night training is required, but if there are patterns of usage which indicate very few flights during particular evening periods, then it is clearly worth examining whether these flights could not take place during other evening periods.

State Government of Victoria:
This question is somewhat premature because there is really no standard or formula that can be applied to produce a clear answer in terms of percentages or even numbers of movements. In any event, there are a number of engagement and approval processes at both State and federal levels that would flow from and need to be addressed in an integrated way to effectively implement any particular chosen scenario.

9.2.1. 70-80% of circuit training is over Dingley. Can this be altered?

Most circuit training is performed on the Eastern circuit, partly for historical reasons. During the main expansion phase of the airport in the 1960's and 1970's the area to the East of the airport was least populated and Dingley was a small village. Is this relevant today and should consideration be given to moving more traffic to the Western circuit as a noise "respite" measure?

This concept is already in use in Sydney as "Noise sharing" and is relatively common at other airports around the world.

RVAC:
This Noise sharing between runways does not impact the flying school or its operations.

MFT:
Melbourne Flight Training has no issues with the suggestion of utilising both the Eastern and Western circuit patterns. In fact I feel that this may be desirable and have a positive safety impact. By utilising the Western Circuit that will minimise the need to cross an active runway and can only improve safety.

Oxford Aviation:
The sharing of circuit training between the Eastern and Western circuits is acceptable as a "noise sharing measure ". Due to inbound/outbound traffic that typically uses the Western runway and therefore circuit, the circuit volume could not be equal. Probably a 60% Eastern / 40% Western would work.

Peter Bini Advanced Flight Training:
We have no issue with sharing circuits between east and west runways. The reduction on the eastern side may also have a positive safety impact.

Tristar Aviation:
Noise sharing measure' by utilising the eastern and western airport sides is acceptable without the reduction of hours or operational movements within which circuit training is undertaken.

Airservices Australia:
The Moorabbin circuit configuration (i.e. circuits on the eastern side with overflow on the west) is mainly due to the arrival, departure and transiting traffic mix. Other major ex GAAP airports, Jandakot and Bankstown, actually dedicate one circuit to training all of the time.

The eastern circuit has two recommended inbound points Academy (ACE), Police Academy in Glen Waverley and GMH, the old GMH factory in Dandenong. The western circuit has four, Carrum (CARR) on the bay, SHOAL, in the bay to the southwest on the direct MB-KII track, Bay West (BAW), in the bay to the west, the inbound point on the NDB approach and Brighton (BTO) on the bay to the northwest. Additionally there is a VFR route adjacent to the western airspace and numerous transiting aircraft tracking along the bay coast which infringes the western airspace. These include lifesaver and police patrols.

The result of this airspace configuration is that the western circuit deals with the majority of travel and transit flights which allows the eastern circuit to be used for circuits. The only change that could be made to adjust the balance would be to nominate CARR as an arrival point for the eastern side when circuits are in the western side. This would have to be changed back when circuits are on the eastern side. This would be a high risk change to procedures as the likelihood of aircraft flying into the wrong airspace would be considered high. The only way to handle traffic from the other western inbound points would be to overfly them into the eastern circuit. This could result in numerous aircraft of different performance levels being pointed at one spot overhead the field, this would overload the western controller given they would already be controlling a circuit full of traffic and have transiting coastal traffic to deal with as well. This would also increase workload through the coordination required to process the traffic from the western to the eastern side.

Changes of this magnitude would require safety assessment through the Airservices Safety Management System. It would be difficult to mitigate against such a workload change. This type of change would also require environmental assessment.

Moorabbin Airport Corporation:
In an operational or economic sense the balance between circuits is irrelevant to MAC. However it is pointed out that the eastern runway sets (17L/35R and 13L/31R) are Code 3c runways and must be used for certain operations. Additionally at night these are the only lit runways and all operations are to the east.

The reality is that aircraft performing circuits at Moorabbin Airport, or arriving and departing, will of necessity fly over residential areas. Over the years Airport Managers pleaded with local authorities not to allow residential development to encroach but it has in fact done so. In recent years we have had a limited benefit in the Airport Environs Overlay (AEO) negotiated with the City of Kingston and we have been successful in ensuring some planning controls are applied to new developments such as Kingston Heath and Epsom racecourse, but the airport has not benefited in any meaningful form from proper buffer controls contained in planning provisions.

The government white paper has made a number of recommendations regarding future actions by State governments and local councils in ensuring that airports are effectively buffered for the future and we would call for this process to be expedited. However for Moorabbin for the most part it is too late.

City of Kingston:
In order to provide long term certainty Council considers that all training activities at the Moorabbin Airport should cease by a set date in 2025 or 2030 unless the measures set out below are adopted:

- *Revised circuits are adopted which redirect traffic way from residential areas;*
- *Aircraft training movements are capped by the greater utilisation of flight*
- *simulators;*
- *Measures are introduced to prohibit noisy aircraft, and*
- *Noise sharing arrangements are put in place.*

The idea of noise sharing is supported on the basis that the impact of airport noise should not be concentrated over the Dingley area.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Dingley Village Community Association:
Whilst the DVCA does not want to move the current problem onto another community, it is very difficult to respond to residents in a rational way when confronted by these statistics with no explanation other than the historical reasons.

We would welcome an examination of this partial solution and possible sharing options either by sharing the training traffic or using alternate days for Eastern and Western circuits. Once we start discussing this option it is difficult to support anything other than a 50/50 split.

MARA:
70-80% of training is over Dingley. In considering a change in circuit distribution it should be noted and understood that most circuits over Dingley are executed at 1,000 ft, given that the first and second legs are achieved over vacant, recreational and industrial developed land. Prior to reaching Dingley proper, the third leg- descending over Dingley- is executed on reduced power and noise, as the aircraft is in descent. The final leg is executed mainly over open or developed industrial land.

Departures to the west side are immediately adversely affecting residences, schools and ancillary care facilities. Depending on the type of aircraft it is estimated that aircraft turning west on a cross-wind leg do not attain a height of 1,000ft until Nepean highway, Parkdale or Warrigal Road, Cheltenham. The aircraft are at maximum power and noise output during this phase, adversely affecting 1,000's of occupants in densely occupied areas.

Should a change occur it is suggested that a formula be developed which accounts for population density, proximity, noise level at 500 ft and safety relative to all other air traffic.

Peter McKittrick:
(Mr McKittrick has sent in this comment following reading of Council's position in the local paper)

My concern relates to the Council's point about reducing impact on Dingley via "noise sharing". Obviously, this will create a greater impact on more densely populated areas and as such, the proposal would unfairly newly impact areas e.g. Cheltenham. Therefore, such sharing is not supported.

For the point to have any fairness at all, it should be linked inextricably to the point immediately above i.e. The "Long term Council Response" particularly in respect of redirecting traffic away from residential areas. The main issue here is that, with climbing sectors to the east (Dingley) are largely over unpopulated or industrial areas, whereas climbing sectors on the west side are over heavily populated areas. From my own experience, climbing over the north west quadrant takes place over dense housing, barely crossing Centre Dandenong Road before turning left, all of this ignoring existing Fly Friendly guidelines. An increase in traffic on this basis would be intolerable.

9.2.2. Can a non-standard circuit be introduced, with aircraft avoiding residential areas?

One of the most common questions raised is the question of whether the circuit can be changed or "customized" to avoid residential housing wherever possible. Moorabbin already has a non-standard Western circuit in that aircraft departing 17R are requested to delay their Right turn until after Woodland Golf Club. Similarly aircraft departing 31L are requested to delay turning Left until after Kingston Centre. Both were instituted in late 1999 for noise abatement reasons.

However since they were initiated there have been increasing complaints from residential areas beyond Woodlands Golf club that now receive more noise. In parallel with this measure MAC (in association with Kingston Council) was able to ensure an aircraft noise notification was including in title information for land on the Epsom racecourse development and the Kingston Heath and Baltusrol Estate developments. No such notification can be attached to existing residential housing however.

Members of the task force who attended the first meeting were provided with extensive information about how the "circuit" works and were given the opportunity to take a flight to observe the process.

Two suggestions for introducing a non-standard circuit have been received:

A. Suggestion from MARA.

To increase the height of the upwind leg as follows:

- Upwind: Climb to 800 feet before turn.
- Crosswind: Continue climb to 1,000ft
- Downwind 1000ft descending to 500ft at base leg turn.
- Base leg: 500 ft to final.

B. Suggestion from Rosemary West.

For the Eastern circuit, using 35R and 17L narrowing the circuit and making it longer. This would avoid entirely residential housing if the circuit was to operate as follows:

- 17L departure: Upwind turn after Woodlands Golf Club (as is the case now for 17R). Turn before Woodlands Drive and follow industrial estate gap between Boundary Road and the freeway reserve.

- 35R departure: Upwind turn after Capitol Golf Club and turn onto base at Boundary Road. Again, follow industrial estate gap between Boundary Road and the freeway reserve.

- 13 and 31 departures: It is conceded there is no way to avoid residential areas overflight when runways 13 and 31 are in use.

RVAC:
We can't see how extending the upwind leg will change anything in reducing the noise over Dingley. Aircraft will still follow the same flight path over the downwind leg as they are presently conducting. This procedure of conducting wide circuits is taught by some flying schools as part of their syllabus training and then forces others to follow. It is not a question of modifying existing circuits.

Circuits can quite easily be conducted remaining clear of Dingley Village. Extending the Upwind, base and final legs will not fix the problem. The problem lies with those aircraft which presently fly wide circuits causing others to follow. The importance of flying standard circuit patterns is to emphasize to students the importance of staying close to an airfield especially below 1000ft AGL should the engine fail. Adopting the three degree approach path is what is considered important for standardisation purposes.

MFT:
Melbourne Flight Training is opposed to this concept. Although there would be no negative cost impact I feel that there is a safety impact.

Pilots conduct their initial circuit training at Moorabbin Airport. The skills and procedures taught at this early stage of their training are the foundation for their future flying. It is important that pilots are accustomed to the standard circuit pattern using visual cues so that when they move to different airports later in their training they can conform to the standard circuit pattern.

Any move to non-standard circuit training would have a negative safety impact but minimal effect economically.

Oxford Aviation Academy:
Non-standard circuits are possible but do impact the efficiency of students learning how to fly the circuit pattern. In essence they would be learning the non-standard method first, prior to the standard method (performed at another airport later in their training). This is not the best for learning outcomes. Nevertheless, the preference would be to extend upwind on 17 and 35 to a greater height AGL rather than introduce an extremely tight circuit that follows the freeway reserve to avoid Dingley altogether.

Peter Bini Advanced Flight Training:
Adjusting the circuit pattern has an adverse impact to safety. Pilots are taught to remain within a gliding distance to the airport in the unlikely event of an engine failure. To move them further away may result in an aircraft impacting with buildings or cars, which is not in the best interests for anyone.

Having non-standard circuits does cause confusion when students are flying to other airports later in their training.

Tristar Aviation:
Circuit patterns are designed to increase safety by creating a consistent and more predictable environment for closer air traffic. Distances and altitudes for circuits have additionally been developed for the purpose of providing a flight pattern that allows aircraft flying within that area all reasonable opportunity to reach the aerodrome area without power, particularly in light aircraft.

Moorabbin Airport Corporation:
One of the most common requests or comments received from the general public when discussing circuit training is "Can't you just modify the circuit to avoid my house?" or "If you fly up the freeway reserve you will not cause any noise" Whilst there is always some ability to modify a circuit pattern (and we have done do with 17R/31L) the fact is that it is important to teach a standard as far as possible, but also that circuit paths are not concise with light aircraft. A glance at the illustrations of flight paths will quickly confirm this. It should be noted that the "Fly Friendly" initiative regarding delayed turns from 17R has in fact given rise to increasing complaints from those in the White Street area which has encountered increasing aircraft noise.

Airservices Australia:
The major issue with considering non-standard circuits is National standardisation. Part of CASA's reasoning for Moorabbin to move to Class D airspace was to standardise the operation here with other locations around Australia. Any change to circuit operations at Moorabbin would need to be taken up by any operator that visits Moorabbin; this would therefore entail national pilot education. It would also be high risk to be changing the circuit operation here as a one-off as one would never know if other arriving aircraft is aware of the differences.

The examples given would both have ramifications for the helicopter circuit.

City of Kingston:
If it is possible to modify circuits to reduce the impact on residential communities the concept of alternative circuits is supported.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Dingley Village Community Association:
As Dingley Village lies under the downwind legs of the Eastern circuits the DVCA feels that altering the circuits at each end, i.e. base or crosswind legs would not make too much difference. Having larger circuits may be a possibility, as may extending the upwind leg when taking off to the South on an Eastern circuit

A thorough review of all options would be supported by DVCA.

9.2.3. Can helicopters confine their circuits entirely within the airport boundary?

Moorabbin Airport is a major centre for both helicopter operations and helicopter training. Over 65 helicopters are based on the airport, the majority private or corporate, and there are two schools performing helicopter flight training. Most noise complaints from Dingley relate to helicopters training operations. Most noise complaints from other areas (Parkdale, Mordialloc, Cheltenham) relates to helicopters transiting into or out of Moorabbin Airport and not doing circuit training.

Helicopters fly circuits WITHIN the fixed wing circuit and at a slightly lower altitude for safety and separation reasons. Some training is entirely within the airfield and at low altitude. However a number of operations require essentially a rotary wing circuit.

The question is asked whether ALL helicopter operations can be confined WITHIN the airport boundary, or at best over Boundary Road and the industrial developments there.

Professional Helicopter Services:
Circuit training is a vital part of training a pilot and can be altered slightly. However the major issue that we must keep at the top of the list is safety. For safety reasons a circuit cannot be:

- *Made significantly narrower or changed from the standard configuration.*
- *Made higher unless the fixed wing circuit is also increased. A minimum of 300 feet separation must be maintained between helicopters and fixed wing.*

It is important to understand that most training operations are conducted entirely within the boundaries of the airport, and at low level. For instance hovering and mustering practice takes place within the confines of the airside restricted area. In recent months we have had the ability to conduct low-level training within the former golf course although this is a temporary use.

However, helicopters need to do "circuits" as well as fixed wing aircraft. Whilst they can hover, transiting to commence practice approaches involves a circuit mush as in the case of a fixed wing aircraft. We conduct our circuits within the boundary of the fixed wing circuit and at a slightly lower altitude for safety reasons. This normally takes us over Boundary Road to the East and we avoid overflight of residential housing where possible.

When runways 17/35 are in use we use the "Eastern Grass". However when runways 13/31 are in use we must operate our business to the West of the active runways. This requires us to perform as tight a circuit as possible to avoid overflight over residential housing, although this is not always achievable.

We are always willing to work with Airservices Australia to see if such circuit patterns can be further altered to maintain safety and amenity but as we are already conscious of community concern we consider that little further can practically be done in terms of altering headings or altitudes that would result in any measurable gain.

Airservices Australia:
No impact.

City of Kingston:
Helicopter training should not be conducted in the vicinity of an established residential area and an alternative venue away from the airport should be established. It is suggested that all helicopter training at the Moorabbin Airport should cease by 2015.
City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston

Dingley Village Community Association:
This is a key issue for the DVCA. Following Boundary Road would still be unacceptable. Even flying within the airport boundaries may not alleviate the noise to the levels required.

MARA:
Training circuit noise is a problem for Dingley residents. Extreme noise interference at the eastern edge : ie: Howard Rd.

9.2.4. Can helicopters departing Moorabbin Airport confine their departures to a set flight path?

Most noise complaints from other areas (Parkdale, Mordialloc, Cheltenham) relate to helicopters transiting into or out of Moorabbin Airport and not doing circuit training.
Helicopters arriving from then north and south generally track down Centre Dandenong Road or Lower Dandenong Road to access the Northern and Southern helipads respectively. However this is a general pattern not a designated flight path. It is not possible to depart from Moorabbin Airport to the CBD without overflight of residential housing.

Professional Helicopter Services:
Helicopters departing Moorabbin from the Southern helipad already do, for the most part, adopt the practice of following specific roads including Lower Dandenong Road. For the Northern helipad this includes Centre Dandenong Road in the immediate vicinity of the airport. We are constantly willing to work with Airservices Australia should this be a desired outcome. However we would point out that flight over a main road does not then do away with aircraft noise. Noise emits laterally and residences abutting this road, and at some distance from it, will continue to receive aircraft noise.

Airservices Australia:
If such a flight path was possible we would be willing to assess it with regards to other normal traffic operations.

City of Kingston:
A designated flight path for helicopters wishing to access the airport that minimizes low altitude flying over residential areas is supported

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston

Dingley Village Community Association:
Although the majority of noise caused by helicopters over Dingley Village is caused by training circuits, DVCA would support this move as a step towards reducing total noise.

MARA:
Suggest helicopters follow the major road network, not as now which appears to be the shorter route from A to B. Consider flight paths along Boundary Rd, Nepean Highway, freeways(eg: Eastlink) and Cheltenham Rd.

9.2.5. Can the circuit height be raised - and if so to what altitude?

The circuit altitude is 1,000 feet and this is a relatively standard altitude across the country. Aircraft gaining height are for the most part on full throttle and will only throttle back when such altitude is attained. The speed with which they attain this altitude is geared to their performance. A Cessna 182 will reach 1,000 feet much more quickly then a Cessna 152 basic trainer. Can the altitude be raised to, say, 1,500 feet?

The logic behind this is that aircraft make less noise at 1,500 feet especially when throttled back. However no evidence exists to support or disprove this contention.

RVAC:
Increasing the height of the circuit will only prolong the time taken to reach 1000ft and therefore increase noise issues. Practicing non-standard circuits' patterns is not conducive to flight training. Since Moorabbin is a primary training airfield it of utmost importance that training is standardised here first.

MFT:
As per item 1.2.2, there is no negative cost impact but I believe there is a safety impact. The skills taught via the standard circuit pattern provide important visual cues in the circuit that can be applied to an in-circuit emergency procedure. It is imperative that the circuit taught at Moorabbin be a standard circuit pattern that can be applied at all aerodromes.

Oxford Aviation Academy:
Raising the circuit height will create operational difficulties. With a higher circuit, days of lower cloud base will severely restrict the availability of circuit training. It also means that overflying aircraft will have to be 500ft higher again which may be unavailable due cloud. Climbing to and then descending from a higher circuit altitude, will add almost two minutes to a circuit pattern. This will reduce the number of circuits possible in a typical one hour lesson, making training less efficient and probably necessitating additional circuit lessons.

Peter Bini Advanced Flight Training:
Raising the circuit height will slow down the amount of circuits being conducted in each lesson, and thus impact on student progress.

Tristar Aviation:
Raising the circuit height will increase the amount of time an aircraft will be at full power on departure. It will increase the time an aircraft requires to undertake a circuit. It will decrease the amount of actual training on circuit flight and as such may increase the amount of circuit training time required for students to be appropriately educated in this area

Airservices Australia:
National standardisation is again the issue. Raising the height of the circuit would increase the conflict area for departing aircraft as aircraft are required to climb out above the circuit altitude as soon as possible. Circuit time may also be limited due to cloud that would not normally be an issue. Another consideration is the need to have overflying aircraft at 2000 feet which again would bring cloud issues into consideration.

City of Kingston:
An increase to the current altitude for circuits would only be supported if forecasting suggested that the overall level of noise associated with pilot training was reduced and the areas impacted by pilot training did not increase significantly

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Sunset arrival of a Decathlon aerobatic trainer

9.2.6. Can circuit training be confined to the operating hours of the tower?

Note that the airport is open 24 hours per day and returning aircraft will perform at least one half circuit to ascertain wind direction. "Circuit training times" refers to repetitive touch and go training. The following compares tower times with circuit training times.

Circuit Training:

Winter:	Monday-Friday	0800- 2100
	Weekends	0800- 2000 or last light, whichever is sooner.
Daylight savings:	Monday- Friday	0800- 2200
	Weekends	0800- 2000 or last light, -whichever is sooner.

Tower Hours:

Winter:	Monday- Friday	0800-2000
	Saturday-Sunday	0800-1900
Daylight savings:	Monday, Thursday, Friday	0800-2100
	Tuesday, Wednesday	0800-2200
	Saturday-Sunday	0800-1900

Christmas day only: Closed.

RVAC:
Reducing night training to tower operating hours will increase the number of aircraft in the circuit on those days when the tower is operational thereby restricting aircraft operations to a point to where some aircraft will not be able to get airborne at all. This has economic and financial impact on both schools and students where, schools are not able to conduct the necessary training and student are forced to prolong accommodation or Visas (international students) due to weather cancellations or booking restraints. In summer with daylight saving it is important to get airborne on last light to get an hour of circuit training in before the time reaches 2200.

MFT:
Any reduction in night circuit availability will have a negative impact on the financial viability of our operation. Already the somewhat limiting hours of operation have a significant cost burden. The CASA syllabus requires us to provide night circuit training. This involves having an instructor on the ground supervising the operation. The standard finishing time for instructional staff is 17.30. We pay our staff overtime to supervise the operation from the ground. Reduced availability would mean that training would have to be conducted over more nights with the associated costs of more overtime paid. As night circuit training is highly dependent on weather conditions any restriction will have a negative effect on the viability of flying schools.

Oxford Aviation Academy:
Although there is a genuine attempt to conduct most night circuit training in other times of the year than summer, there is still a need to conduct some night training during the daylight saving months. This therefore requires the 2200 finish which is one hour beyond the Tower hours, apart from Tue and Wed. However, most night circuit training is conducted on these Tue and Wed nights when the Tower is still open.

Tristar Aviation:
The restriction of trade implied by the alteration of operational hours designed to restrict aircraft operations would create a significant negative impact on both training and financial obligations of training organisations. The already confined time structure does not take into account limitations by weather and what is or is not defined as 'Night' for training purposes under the CASA syllabus and reasonable time frames for student training.

Moorabbin Airport Corporation:
*Moorabbin Airport **already has** the most restrictive circuit training times of any urban General Aviation airport in Australia:*

A comparison with similar airports in Australia:

- ***Bankstown, Sydney**: Circuits allowed 0600-2200 (winter) 2230(summer) Mon-Friday and 0600-last light at all other times. From March 2011 helicopter circuits will change from 0600-last light on weekends to 0900-last light.*

- ***Archerfield, Brisbane**: No restrictions on circuit times.*

- ***Parafield, Adelaide**: 0800-2300 Mon-Friday 0800-2100 Saturday and 0900-2100 Sunday.*

Moorabbin Airport Corporation does not measure airport utilization after hours although there is a current CASA study under way regarding this. However subjective evidence would suggest that after 2200 there is very low use of the airport for any purpose. Most circuit training at night is in the first 1-2 hours of darkness as opposed to later on in the evening.

Airservices Australia:
Operating hours of the tower is regulated by CASA. If circuit hours were adjusted we would assess whether the hours of coverage are suitable for the traffic. We would then submit an Airspace Change Proposal to CASA. If any changes were proposed I expect they would be minimal.

Department of Infrastructure and Transport:
The Department strongly supports a review of the times in which circuit training is available. If the review indicates there would be low or minimal impacts on a small number of training operations during sensitive periods such as evenings on Friday, Saturday and Sunday, then a positive community amenity improvement may be achieved by limiting the hours in which training circuits are available for use on those nights. It is acknowledged that night training is required, but if there are patterns of usage which indicate very few flights during particular evening periods, then it is clearly worth examining whether these flights could not take place during other evening periods
City of Kingston:
Council's view is that aircraft pilot training hours should be limited to weekdays between 0800 and 1800 and no training should be conducted on weekends, and public holidays

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

MARA:
Would like circuit training to be confined to the hours of operation of the control tower.

9.2.7. Can circuit training be restricted at weekends and public holidays?

Circuit training to be allowed from 0900 until 1800 as opposed to 0800 until 2000 at present. Note again that this applies to repetitive touch and go training.

RVAC:
Weekend circuit training can be reduced to 0900 to 1800 without too much of an economic impact. At the present time RVAC conducts very little night circuit training on the weekends. However private pilots may need to fly circuits at weekends in order to maintain their currency this would not involve many flights over the year.

MFT:
As per item 1.6

Oxford Aviation Academy:
As a compromise, circuit training times on a weekend can be reduced to a time period 0900 – 1800. This should not adversely impact training programs. OAA operates seven days a week, twelve months a year, apart from the main New Year, Easter and Christmas public holidays. Instructing staff operate a normal schedule on other public holidays. This is essential to satisfactorily progress the numerous courses. Restricting circuit training on these days is not feasible.

Tristar Aviation:
The aviation industry is a 7 days per week, 24 hours a day industry. As per item 1.6 further restrictions to trade and training are not reasonable.

Airservices Australia:
The changes proposed would have little effect as there are currently not many training circuits conducted during the times quoted.

City of Kingston:
Council's view is that aircraft pilot training hours should be limited to weekdays between 0800 and 1800 and no training should be conducted on weekends, and public holidays

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Dingley Village Community Association:
DVCA would definitely support this as much of the noise would be considered a nuisance only during recreation time when residents are outside

MARA:
Would like circuit training to be confined to the hours of 0900-1800 at weekends.

9.2.8 <u>Can helicopter circuit training be restricted or prohibited at weekends and public holidays?</u>

Some airports are moving to restrict helicopter training at weekends. DVCA would like all helicopter training relocated. It is important to note that a large amount of helicopter activity at weekends relates to helicopters transiting into or out of Moorabbin Airport. Whilst they may be doing training they are not doing circuit training.

If this was to be put in place in-field circuit training allowed either:

a) 0900-1800 weekends or
b) Prohibited entirely

Professional Helicopter Services:
Any major changes the times available for circuit training would significantly impact on our business.

We operate 7 days a week and have fixed times for student flights through the day. The first flight is 0800 which would normally depart between 0815 and 0830. The flights are then booked throughout the day 1000, 1200, 1400 and 1600. We very rarely operate at night, doing 3 or 4 night ratings a year.

A change to the start time on Sunday to 0900 would not impact on our business and could be implemented immediately.

We would object strongly to a full restriction on training on the weekend as this would impact significantly to our income as we have many students who work full time and only fly on weekends.

Airservices Australia:
There are enforcement issues with any changes that are not legislated by some head of power.

MARA:
Would like to prohibit entire helicopter training at weekends.

9.3. The volume of circuit traffic at Moorabbin Airport.

9.3.1. Can flying schools be encouraged to move some of their flight training to other airports?

A major question that has been continually raised is the possibility of more flight training being accomplished in regional or country airports. A move to encourage flight training in regional or rural locations needs to be considered carefully however. Almost all airports in close proximity to Melbourne currently also have local community issues regarding noise and safety.

In the long term the introduction of new flight training requires dedicated infrastructure at regional airports, and the ability of the school to attract and retain high quality flying instructors as well as ensure a good quality of life for the students.

However to seek to MOVE current flight training from Moorabbin requires more attention. All current schools have long term leases on Moorabbin Airport which may not be voluntarily broken. In addition for the most part they physically own their own buildings that cannot be moved. In addition they find Moorabbin attractive as a training environment precisely because they can attract and retain good instructors as the airport is close to a city. Similarly access to good low cost accommodation is relatively easy. Schools would have to be given a considerable capital incentive to move and the airport they move to would need to be properly licensed and equipped, and importantly have planning buffers inserted around it to prevent the encroachment of residential housing into flight training areas. More likely is the possibility of encouraging the transfer of some flying training to other airports.

Airports or sites close to Moorabbin, or viable for some flight training, would be:

Tyabb, Mornington Peninsula - One tarmac runway and around 100 based aircraft. Already the subject of a number of community groups complaining about aircraft noise. 20 minutes flying time from Moorabbin.

Tooradin, Westernport Bay - Small coastal airport with tarmac runway. Close to the Tooradin township. 20 minutes flying time from Moorabbin.

Lilydale and Coldstream - Small airports in the rural Yarra Valley but with considerable dispersed residential areas nearby. Coldstream is already used to an extent by RVAC. 15 minutes flying time from Moorabbin.

Lethbridge, Melton, Bacchus Marsh -Airports west of Melbourne but a considerably longer flying time.

Mangalore. -Extensive infrastructure to the North of Melbourne. Posible satellite site but distance is considerable.

Bayles.-Former WW2 aerodrome covered with grass near Koo-We-Rup. Privately owned land but no residential housing nearby.

In recent years only two studies have been undertaken into the airspace requirements of the Port Phillip Bay area:

In 1991 a **Port Phillip Airport and Airspace study** was undertaken as a joint initiative by the Commonwealth and Victorian State Governments. *(ISBN 0642 16614 5)* It considered all airports in the region (including Tullamarine) and calculated capacity requirements and options to meet demand.
In 2000 the Ambidji Group was commissioned to produce a study for the Victorian State Government into **Aviation Capacities in the Port Phillip Region** (*ISBN 0 9578322 1 4)* with an emphasis on the possible closure of Essendon airport.

RVAC:
Moving flying training to other airfields would not be financially viable or cost effective for either flying school or students for the following reasons;

- *Travelling time and cost for students and instructors by road.*
- *Increased aircraft hire cost to relocate aircraft to other locations.*
- *Building infrastructure at other airfields*
- *Relocating the present flying training facilities will only reproduce the present impact on local environment thereby creating a similar situation we are presently trying to solve at Dingley.*
- *Lack of ground supervision and delayed emergency response thereby having an impact on Safety.*

MFT:
With regard to moving flight training away from Moorabbin Airport, obviously Melbourne Flight Training is strongly opposed to this. The training of overseas pilots is worth in excess of $1.5 million dollars per annum to our organisation alone. It is directly responsible for the employment of 10 flight instructors in our company. I would suggest that the combined flying schools at Moorabbin Airport would be responsible for over $10 million dollars of pilot training. This has significant benefits for the local community from rental accommodation and retail purchases.

A strong appeal of pilot training at Moorabbin Airport is the access to services. I am certain that a move away from Moorabbin to a more rural area would result in a dramatic reduction in pilot training for overseas students. If this were to happen our organisation would be forced to cease trading.

As you are aware the margins in flight training are very small and the economic impact would definitely result in the closure of my business. Already I have ceased any further investment in my business due to the uncertain outlook.

A move to shift some training to other aerodromes would have a similar effect. Presently students can commence their training almost immediately due to the access to circuits and the adjacent training area. The strong Australian dollar and high costs associated with flight training in Australia make it difficult for us to compete with other countries and particularly the US. The training of overseas student is important for the flight training organisations and the Victorian economy as a whole. The transit times to even Tyabb or Tooradin (being the closest airports), would effectively double the cost of training for the first pilot licence being the GFPT.

This is a conservative estimate and in fact it could be substantially more. This would increase the cost of obtaining the GFPT by up to 100 per cent, the Private Pilot Licence by 25 per cent

and the Commercial Pilot Licence by 10 per cent. The Commercial Pilot Licence is the major component of our business for overseas students. A 10 per cent increase in the cost of this product would have a dramatic effect on our business training overseas pilots.
The training of overseas students makes up 50 per cent of our business. Should this discontinue it would result in redundancies for 50% of our employees. That is effectively 10 flight instructors and one office staff member.

Oxford Aviation Academy:
A possible solution is to transfer some circuit training to Tooradin. This airport is relatively close and circuits are conducted away from the town. All other options in the Melbourne region are problematic due to existing noise issues and distance from Moorabbin. Moorabbin Airport is the prime airport for OAA's training. Significant investment and infrastructure has been committed over many decades, with more planned. Over 60 staff are employed by OAA at Moorabbin and the strategy is that this airport will continue to be the main base.

A relocation of some flying training activities to a regional centre would require substantial Government incentive funding to make it possible.

Peter Bini Advanced Flight Training:
We would consider a proposal to relocate with financial assistance to a location that wouldn't impact greatly on our clients. Unfortunately, existing airports in the east and southeast would not be suitable for us, so a new location would be required.

The core business of Peter Bini Advanced Flight Training is IFR training and multi-engine training with most training away from Moorabbin, so our circuit training is not extensive. Despite that, we do have abinitio students. We use both Leongatha and Tooradin for specific lessons, thus reducing the impact on the local noise. Abinitio circuits are conducted at Moorabbin. To use Leongatha or Tooradin for all our circuit training would increase our cost to our clients, and would make us uncompetitive in the Moorabbin market.

Tristar Aviation:
Define "Encourage". Would government including the local council be funding the significant cost increase for additional aircraft time, staffing and possible necessary infrastructure for each school?

Moorabbin Airport Corporation:
MAC considers that the concept of "satellite" training airfield has merit. That is, a bare bones infrastructure placed in a rural setting with basic facilities to allow circuit training.

This would need to fulfill a number of criteria however including:

- *A short transit time from Moorabbin: No more than 20 minutes*
- *Basic runway and taxiway structure to allow a touch and go, full stop, and change of student activity.*
- *Establishment of at least a CTAF(R)*
- *Adequate buffering by State or local government to preclude residential development both in the immediate vicinity and on land affected by noise from circuit training.*

However this is probably a utopian view. As an example just consider the latter point of adequate buffering. Even in a rural environment there would be a number of landowners who would be affected. Some in farming would object to this development as an intrusion on their main business and those in the dairy or horse industries could well object animal disturbance grounds. Other landowners might have, as a future use, the idea that if an airport is developed there may be a need for residential housing and would object to the buffering, but not the airport, on grounds they would have their future amenity and land use compromised. In a nutshell to set up on a formal basis any properly protected satellite airfield will be an extensive, prolonged and expensive exercise. This then can only be achieved if it is an instrument of state policy. Until it is the only practical alternative is the limited use of other airfields at present and the continued use of Moorabbin in this role.

In terms of loss of income, MAC does not charge by aircraft movement and so would suffer no loss of income if some operations were switched to satellite fields, so long as the aircraft continued to be based at Moorabbin and the essential infrastructure for flight operations and aircraft maintenance was maintained at Moorabbin.

Department of Infrastructure and Transport *(Overall comment on traffic volumes):*
The Department can confirm that movement restrictions such as a 'movement caps" are not in place at other secondary capital city airports and any such caps would likely require legislation. Curfew arrangements are in place at Sydney, Adelaide, Coolangatta, and Essendon airports and the Aviation White Paper indicated there was no current intention to introduce additional airport curfews. Circuit operations must be consistent with safety standards set by CASA and in compliance with air traffic control services provided by Airservices Australia.

State Government of Victoria:

- Do you have a policy on this and would you be willing to develop or support infrastructure for satellite airfields?

The Baillieu Government recognises the significance of and supports development of aviation training facilities in both Melbourne and regional centres.

- What value would you place on such a transition and how could you financially assist the Moorabbin schools if they have additional costs?

These matters are considered on a case by case basis having regard to factors including demonstrated demand, collaborative arrangements between airports and flying schools as well as approvals of relevant authorities.

- Are you willing to fund a new airspace study for Melbourne and the Port Phillip Bay?

*The **Port Phillip Region Airport and Airspace Study** was a joint initiative of the Commonwealth and Victorian Governments undertaken from 1989-1991. The final study report in 1991 made a number of recommendations regarding airport development and airspace arrangements over a planning period of 20 years (i.e. up to 2010).*

The Baillieu Government has no commitment to revisit this study. However, the study does provide a historic benchmark for the issues currently of interest to the taskforce and being addressed at a national level by the Commonwealth and States around managing the interfaces between airports and their surrounding communities. As with any transport network, the need to manage airspace operations/capacity and urban development in an integrated way is a very strong emerging theme.

• Consideration would need to be given to buffering of satellite airports and noise impacts of aircraft transiting to such airports.

Victoria has long recognised that airports are important community infrastructure facilities for both Melbourne and regional areas and, as such, require protection from encroachment from sensitive land uses in the planning system and Victoria Planning Provisions (VPP). The Baillieu Government's aviation policy reinforces this policy setting.

The State Planning Policy Framework includes provisions for planning in the vicinity of airports and the Airport Environs Overlay is currently applied in areas affected by aircraft noise for airports in 26 planning schemes across Victoria, including the Kingston Planning Scheme. Many municipalities, including Kingston, also have strong policy support for their airports as part of their Local Planning Policy Frameworks.

The planning tools available in the VPPs for protection of airports are acknowledged in the National Aviation Strategy.

This framework is complemented by Commonwealth requirements that independently chaired Community Aviation Consultation Groups be established at all leased federal airports. These Groups are expected to address day-to-day concerns relating to airport operations, including noise abatement and other matters raised by the community

Airservices Australia:
CASA as the regulator is the appropriate area to address this question.

City of Kingston:
There is a need to focus on the long term. If existing trends continue our communities will not tolerate the safety and noise issues associated with pilot training on an ongoing basis. Relevant government agencies should investigate the establishment of a training facility located away from built up urban areas.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

MARA:
Mangalore, Bayles or Hastings (Tyabb) would be suitable sites.

9.3.2. Can helicopter companies be encouraged to move some or all of their circuit or hover training to an alternate site?

Similar issues apply to helicopter operations, although as helicopters cost much more to operate the willingness of operators to conduct training away from Moorabbin is more limited. A short transit time becomes more important.
Some companies already conduct some training at remote sites. In 2003 the MAACC conducted an investigation together with a major helicopter operator and found that the Melbourne Water site at Thompsons Road would be suitable for a limited transfer of some training operations, if a suitable landing site within the complex could be identified and an access road installed in case of emergency need. This did not proceed because Melbourne Water was unwilling to allow access or use of the site.

Can a viable site be found? The most likely site is Melbourne Water at Thompsons Road.

Professional Helicopter Services:
We are happy to pursue the possibility of using the Melbourne Water site, and in fact in around 2005 we did work closely with MAACC in trying to identify such a potential "satellite" training site. However, looking at the housing around that area now I feel that the objections will be strong. Especially since these people bought a house without circuit training above them, unlike all the residence of Dingley who purchased their properties under the flight path of the airport.

Our basic economics are that we have our infrastructure, facilities and jobs at Moorabbin Airport. We lease the land from MAC but we own our own facilities and we cannot move. Those who say "Move them elsewhere" ignore the realities of life. If restrictions on circuit training or operations in general were to be placed on us we would go out of business without substantial financial support. Regarding "satellite" training sites we can and would support a site such as Melbourne Water as it is a relatively short transit time from Moorabbin. However this would not be suitable for all our operations, only some of them. There should be no false hopes that such a site would transfer helicopter operations away from Moorabbin.

Airservices Australia:
This proposal would increase arriving and departing helicopter operations but operationally would be manageable.

Airservices Environment Management System would require an environmental assessment to be undertaken to determine impacts on this proposal if progressed.

State Government of Victoria:
The Baillieu Government proposes to prepare a new outcomes-based metropolitan planning strategy for Melbourne that is based on meaningful community and industry dialogue and takes into account the provision of services and infrastructure. The new metropolitan planning strategy will aim to give certainty to all stakeholders through clearly identified areas for development and urban change and clearly identified areas of urban preservation.

Rather than nominating any particular future alternate site at this time, a better long term outcome may be for the aviation industry, as a key stakeholder, to make submissions to the metropolitan planning process to identify the need for areas where aviation training activities and investments associated with metropolitan airports can occur

City of Kingston:
Helicopter training should not be conducted in the vicinity of an established residential area and an alternative venue away from the airport should be established. It is suggested that all helicopter training at the Moorabbin Airport should cease by 2015

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston

MARA:
The Melbourne Water site at Thompsons Road would be a suitable site.

9.3.3. Can capacity caps be introduced to limit the number of aircraft in a circuit at any one time?

Airports can and do operate to capacity caps at certain times. For instance at night there is a maximum number of aircraft allowed in the circuit, although this is not policed. Shortly after the 2008 mid-air collision CASA introduced a temporary cap on movements but this was largely driven by available staff in the tower. A capacity cap that limits maximum numbers of aircraft in the circuit at any one time is a more binding commitment. This measure is the one most likely to have severe economic consequences on the flying school operators at Moorabbin Airport.

There are many practical considerations to this. Flying training at Moorabbin is very weather dependent. On a bad day virtually no flying training takes place and a capacity cap is meaningless. Conversely after a period of poor weather all schools have a backlog of training to complete so on a benign day there is considerable demand to use the airport facilities.

Another question would be how would such a capacity cap be managed? A booking system for instance? Issues to consider here are that with 12 flying schools all competing for capacity the potential for aggravation and discord is considerable. Another concept would be an allocation of available flights to schools- but this would not work in the case of the poor weather/fine weather scenario detailed above.

Who would manage this system? MAC has a legal requirement under the Airports Act 1996 to allow access and would be in breach of its lease were it to attempt without legislation to limit access. Would Airservices Australia have the ability or resources to undertake such a system?

In context, no airport in Australia has a capacity cap in place for General Aviation aircraft and the only current capacity "cap" is at Sydney airport for movements of jet RPT aircraft. Putting in place such a system would set a precedent for all other training airports in the country and almost certainly would require federal legislation.

RVAC:
It is impossible to forecast how many aircraft are going to want to conduct circuit training at any given time. Restricting operations in the circuit would certainly be placing schools at an economic disadvantage for the following reasons;

- *Limiting financial returns on aircraft due to reduced income brought about by restrictive movements.*
- *Safety impact due to increase rush of aircraft to obtain a slot at any given time,*

This has economic and financial impact on both schools and students where, schools are not able to conduct the necessary training and student are forced to prolong accommodation or Visas (international students) due to weather cancellations or booking restraints.

MFT:
The concept of caps is not practical due to the very nature of flight training. This industry is very dependent on weather. It is almost impossible to schedule flight training with any accuracy until the daily weather has been obtained. A cap would make flight training at Moorabbin Airport financially not viable.

Oxford Aviation Academy:
It is the role of the Tower to manage the safety of aircraft in the circuit and to therefore regulate the number of aircraft. This system of "booking" circuit training by radio when needed is the fairest on all operators. To artificially set a capacity limit disadvantages Moorabbin as a training airport and will have a flow on effect into the ability to complete courses on schedule and to promote courses in the first place.

Tristar Aviation:
Once again this is a restriction of trade issue. The circuit is already controlled by tower operators who are responsible for maintaining a safe separation of aircraft. Further regulation is in no way warranted

Moorabbin Airport Corporation:
Relevant comments are contained in the background information above. MAC may not discriminate to a user requiring airport access except if the aircraft is beyond the technical capacity of the airport to handle or the user owes MAC money. In this latter case, MAC must firstly give 28 days notice before "refusing access" to the operator.

State Government of Victoria:
As with any transport network, limiting the number of movements operating in a circuit may be problematic and probably needs to be understood in the context of the current operating capacity and constraints/opportunities elsewhere in the regional airspace network.

City of Kingston:
The number of plane movements in a single circuit over the same area be capped to minimize nuisance noise over residential areas.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Dingley Village Community Association:
What cap would be acceptable is difficult to answer as even three aircraft in the circuit means an aircraft overhead every two minutes. As presented in our original submission, on average, we experience an aircraft every 2 ½ minutes now.

MARA:
Would support a cap but would need more information from Airservices and CASA.

9.3.4. Can capacity caps be introduced to limit the total number of aircraft movements at Moorabbin Airport in total?

Moorabbin Airport does not have a capacity cap. It has a movement forecast which is currently 500,000 movements by the year 2039. In 2009 the number of movements was 310,000 and the 500,000 capacity would be reached with an incremental growth of 1.5% pa. DVCA want a capacity cap of 310,000 and a progressive reduction by 10% per year.

RVAC:

Present day economics has an enormous impact on the current training regime and therefore it is almost impossible to predict hours necessary to cover the training hours required to teach the unknown number of students each school may have enrolled in the future. Flying training is a multibillion dollar industry. Aviation relies and has a huge international market in flight training and it is in the best interest of the Federal and local governments as well as the local community to support the present infrastructure at Moorabbin Airport and what it stands for.

Flying training for the purpose of conducting circuits is governed by the relevant training syllabuses issued by CASA.

Oxford Aviation Academy:

Setting a cap arbitrarily at 2009 levels and then reducing per annum is not acceptable from a business perspective. It sets up the airport for a slow death and would force flying schools to move. A quota system would be cumbersome and difficult to administer. If it had to be introduced, a monthly quota would be the most viable option to allow for weather conditions and training patterns.

Tristar Aviation:

No. Once again a restriction of trade issue. Merely an opportunity to reduce the viability of flying schools who should in no way be restricted from the opportunity of business growth, job creation and business security.

Moorabbin Airport Corporation:

MAC is not an airspace manager and does not have facilities or ability to operate such a cap. The ludicrous idea comes to mind that if a total movement cap of, say, 300,000 was put in place what would happen on a day in May when the 300,001st aircraft wished to land? Would the airport simply shut for two months?

The Commonwealth has the ability, contained in the Airports Act 1996, to require the airport to prepare a new ANEF if it (the airport) has reason to suspect that the forecast may be exceeded. Under section 78 (2A) of the Airports Act 1996 this would then trigger the establishment of a new Master Plan with associated public consultation requirements.

Airservices Australia:

Capacity caps would require regulation. A booking system has been tried before and failed as slots are booked and not filled due to changing circumstances such as changes to the weather, aircraft serviceability, etc.

Airservices does not have the capability to manage such a proposed slot system.

Dingley Village Community Association:
DVCA introduced the idea of a total capacity cap in the original submission mainly as a way of measuring the effectiveness of other strategies rather than as an objective in itself. However, if the best way forward is to set a cap first then work toward achieving it through a variety of means, we would support it.

As an outcome from the task force we would like total movements capped at the 2009 levels, ie 310,550. Of this number we would like helicopter movements to only consist of arrivals and departures – ie no circuit training.

As a second stage, we would want a plan in place that relocates fixed wing training flights to other locations to ensure a reduction in these movements by 10% a year

MARA:
MARA supports the DVCA proposal. If aircraft were upgraded to 2011 mechanical and environmental standards, as is mandatory for other industries, a higher number could be considered.

City of Kingston:
Council supports a cap on the total number of movements at Moorabbin Airport being established at 350,000, based on the total number of movements recorded in 2008.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

9.4 Can simulator hours be increased on flying school curriculums to take the place of additional flight hours?

Much has been made recently of new advances in flight training that can increase simulator time and decrease actual flight time for commercial flight training students. There is currently a Senate Inquiry under way into this very issue.

Pilot training and airline safety including consideration of the Transport Safety Investigation Amendment (Incident Reports) Bill 2010.

Website: **http://www.aph.gov.au/senate/committee/rat_ctte/pilots_2010/index.htm**

RVAC:
A transfer of some flight training to an approved flight simulator could reduce some flying time but this would primarily relate to navigational or cross country flying. Circuit training may be reduced but only very marginally if at all.

MFT:
Moving to flight simulator training is not an option. A simulator is acceptable for only a minor component of the training. The simulator training is suitable for the Airline Pilot training programs for a very limited number of organisations. It is generally not suitable for both domestic and overseas pilots training outside of an Airline Cadet Program.

Oxford Aviation Academy:
OAA has made substantial investments into a simulator centre and latest technology simulators. The aim is to use this equipment as much as possible for both basic and advanced training. OAA is a world leader in Multi Pilot Licence initiatives and training. MPL training is anticipated at Moorabbin and this will greatly reduce the airborne hours needed for an airline cadet to graduate successfully. Naturally this has highly beneficial environmental, noise and congestion impacts

Tristar Aviation:
The simulator to actual flight hours ratio is set by CASA. The increase in simulator hours would only be relevant to cross country flying in the most part. The reduction of real world training in regards to circuits may impact negatively on the safety of aircraft training and operations

MARA:
MARA supports the greater use of simulators if this will reduce flying time at Moorabbin.

9.5. Aircraft noise emissions. Can aircraft be fitted with more effective silencers?

A common question, and one raised specifically by MARA, is whether aircraft can be fitted with more effective silencers.

RVAC:
Aircraft are required to be maintained in accordance with the original design rules or in accordance with the manufacturer's direction. Aircraft owners may not modify an existing Aircraft without approval .The only exception is Experimental aircraft which are mainly home built or antique aircraft. These aircraft types are not used for flight training.

Tristar Aviation:
As aircraft are maintained as per CASA requirements this would be an issue for CASA. However Tristar Aviation has always been willing to participate in innovative and resourceful projects, provided full government, local council funding and CASA support was provided we would be prepared to participate in the development and assessment of any retrofitting initiative

MARA:
Yes, we see this as a noise reduction opportunity. Technology exists and there are new innovative propellers.

Can older, noisier aircraft be phased out just as older jet aircraft are phased out?

Another common question, again raised by MARA, is whether older, noisier aircraft can be phased out. Whilst the origin of this question relates to current government policy regarding the future operation of older non-compliant jet aircraft it has not to date been a consideration regarding General Aviation aircraft.

Moorabbin probably has one of the more modern fleets of GA aircraft in the country with all the leading flying schools operating modern glass-cockpit equipped aircraft. Nevertheless a large number of airframes on the airports are 30 years old or older.

RVAC:
Replacing the existing aircraft fleet would have little or no impact on noise emissions because the two main manufacturers of this type of aircraft, Cessna and Piper basically build the same aircraft today as they did in the 1960s in Pipers case the engine is exactly the same as is the exhaust system.

Department of Infrastructure and Transport:
(Overall comment on aircraft noise emissions)
The Air Navigation (Aircraft Noise) Regulations 1984 (Regulations) require all aircraft operating in Australian airspace to comply with noise standards and recommended practices introduced under the Convention on Civil Aviation. These standards are set out in the International Civil Aviation Organization's (ICAO) document Annex 16, Environmental Protection - Volume I and are applied by Chapter according to method of propulsion, weight and the date the type certificate was issued for the aircraft type. Aircraft verified as complying with the ICAO standards are issued with a noise certificate. Under the Regulations aircraft without a noise certificate, and those that have been noise certificated at Annex 16 Chapter 2 noise standards, are not permitted to operate in Australia.

In certain circumstances conditional permission to operate without a noise certificate may be granted by the Secretary of the Department, for an aircraft that does not meet ICAO Annex 16 noise standards. These are:

(a) the aircraft is not a subsonic jet aircraft and the extent to which the aircraft exceeds the standards is not significant; or

(b) the historical significance of the aircraft justifies giving the permission; or

(c) the aircraft is to be used solely for a purpose that is in the public interest; or

(d) the aircraft is to be used for either or both of the following purposes and for no other purpose:

(i) an air display approved by the Civil Aviation Safety Authority;

(ii) an adventure flight.

If a list of aircraft types to be captured by this review can be provided to the Department we will endeavour to advise if the aircraft type has been noise certificated.

The Regulations were amended in July 2010 to prohibit older, noisy jet aircraft from flying at specified airports in Australia. The new regulations affect large (over 34,000 kg), marginally compliant Chapter 3 aircraft. Most of the aircraft affected weigh in excess of 60,000 kg. The regulations do not typically affect general aviation aircraft.

There are no plans to introduce similar restrictions on smaller general aviation aircraft and the Department is not aware of any existing international methodology to do so.

MARA:
The federal government is only tinkering with us. It can be done by regulating a phase-out deadline and implementing Australian Standards more stringently than currently accepted internationally. It would be an opportunity for local manufacturers.

9.6. Is it possible to introduce noise monitoring at Moorabbin the way it is done at other airports such as Sydney and Melbourne?

There are limited noise monitoring systems installed around major capital city airports to monitor jet aircraft noise emissions. This information is accessible to the public through the webtrak system.

Airservices Australia:
Data gathered by the Noise and Flight Path Monitoring System (NFPMS) assists in the environmental management of aircraft operations in the vicinity of airports. Data from the system benefits air traffic control planning and traffic analysis and enhances planning for the use of airspace and runways.

At this current time Airservices has no plans to include Moorabbin in the NFPMS.
Costs are determined by hardware as well as associated costs determined by site location, power availability, security and licensing. As equipment and software is provided by a third party actual costs would need to be determined.

MARA:
This will only benefit the community if regulation requires reduced emissions and penalties for non-observance. Noisy aircraft can be identified on the ground and particularly at take-off.

City of Kingston:
Council's preference would reduce training circuits in the evening periods, weekends and public holidays. Council would not contribute to the cost of acquiring or manufacturing a noise monitoring system for Moorabbin Airport.

City of Greater Dandenong:
The City of Greater Dandenong made an identical submission to the City of Kingston.

Appendices

1. **Definition of Circuit Training**
2. **Circuit training flight patterns**
3. **Aircraft movements**
4. **Noise complaints received in 2010**
5. **Membership of Task Force**
6. **Terms of Reference**
7. **Fly Friendly Guidelines**
8. **Acronyms Used**

Appendix 1: Definition of Circuit Training

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CIRCUIT TRAINING

Circuit training, the act of repetitive take-offs, approaches and landings, is an essential part of pilot training. The primary reason to undertake circuit training is to gain an appreciation and perception of the angle and attitude of approaching an airport to land. Whilst this can be taught in theory, and many people enjoy computer flight simulations of landing, it must be taught in practice by actually conducting a flight. This is usually almost the first task a student pilot will perform on his or her road to becoming a qualified pilot.

Circuit training is utilised at many other stages of pilot training and during the ongoing career of a pilot, including:

- **Crosswind landing**: landing when wind direction is not optimum. During their career pilots will at many times be required to land is a crosswind or gusting wind.
- **Night landings**. To obtain any licence a pilot must have experience of landing at night.
- **Instrument approach:** Whilst not strictly circuit training it is essential for a pilot to learn how to land in instrument flight conditions.
- **Glide approaches**: Simulating an engine failure, a pilot needs to learn the technique of landing with a failed engine.
- **Assymetric landings**: Simulating an engine failure, a pilot needs to learn the technique of landing with a failed engine in a twin engine aircraft.
- **Short field take-offs and landings:** Learning the procedure for arriving and departing from small fields.
- **Type qualification**. Transitioning on to a new aircraft type.
- **Flight currency**. A pilot is required to maintain a minimum level of currency
- **Helicopter landings**: Learning the correct technique to land a helicopter in weather and wind conditions.
- **Helicopter auto-rotation landings.** Simulating an engine failure, a pilot needs to learn the correct technique to land a helicopter.

What the regulations say:

Civil Aviation Regulation (CAR) 166

(2)(g) before landing, descend in a straight line starting at least 500 metres from the threshold of the landing runway and at a distance common to the ordinary course of navigation for the aircraft type; and

(h) after take-off, maintain the same track from the take-off until the aircraft is 500 feet above the terrain unless a change to the track is necessary for terrain avoidance.

CAR 167

(1)(d) unless otherwise instructed by air traffic control:

(i) to the extent practical, land and take off into the wind; and

(ii) before landing, descend in a straight line starting at least 500 metres from the threshold of the landing runway and at a distance common to the ordinary course of navigation for the aircraft type; and

(iii) after take-off, maintain the same track from the take-off until the aircraft is 500 feet above the terrain unless a change to the track is necessary for terrain avoidance; and

(iv) make all turns to the left when approaching for a landing or after take-off.

The circuit altitudes are discussed in AIP and the relevant section is;

Aeronautical Information Publication (AIP), Enroute (ENR) - Section 40.3.

In short this section states that High performance aircraft should be at a height of 1500' Above Ground Level (AGL), medium performance aircraft should be at 1000' AGL and low performance aircraft be at an altitude of 500' AGL. It also states that these heights can be varied at aerodromes that have specific requirements.

Appendix 2: Circuit training patterns

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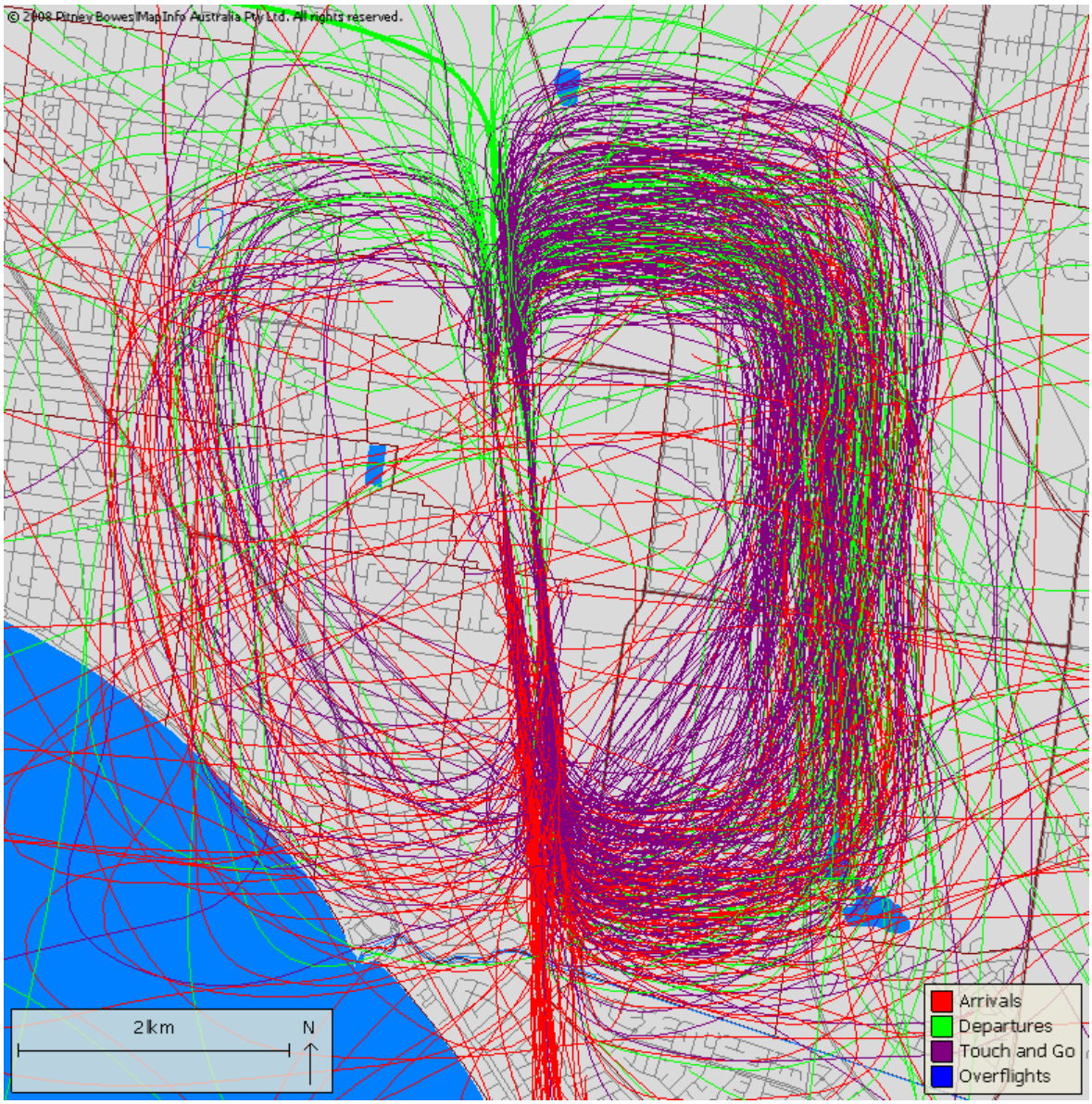
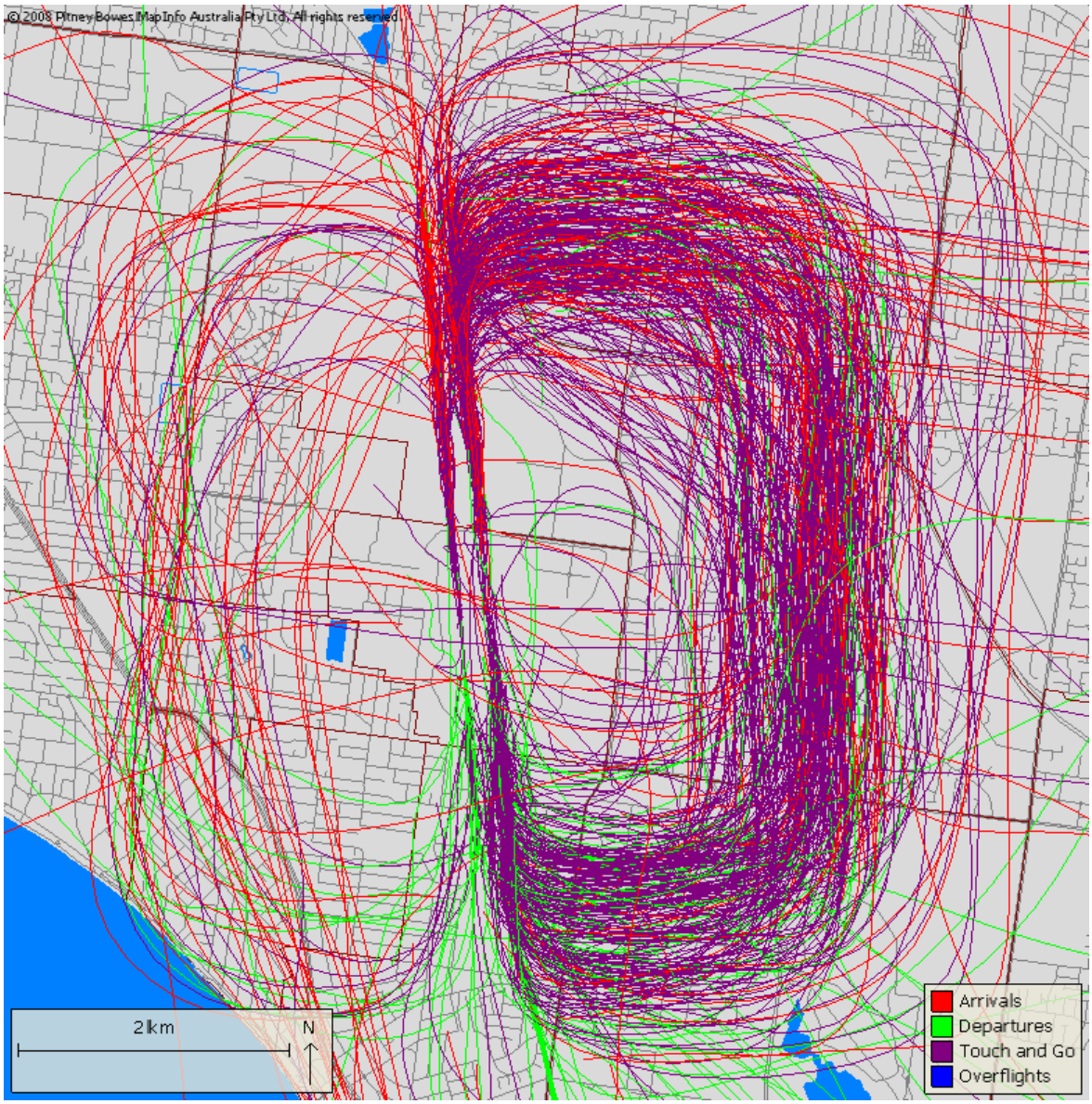
CIRCUIT TRAINING PATTERNS

Airservices Australia has kindly provided examples of typical traffic volumes for the operation of each runway.

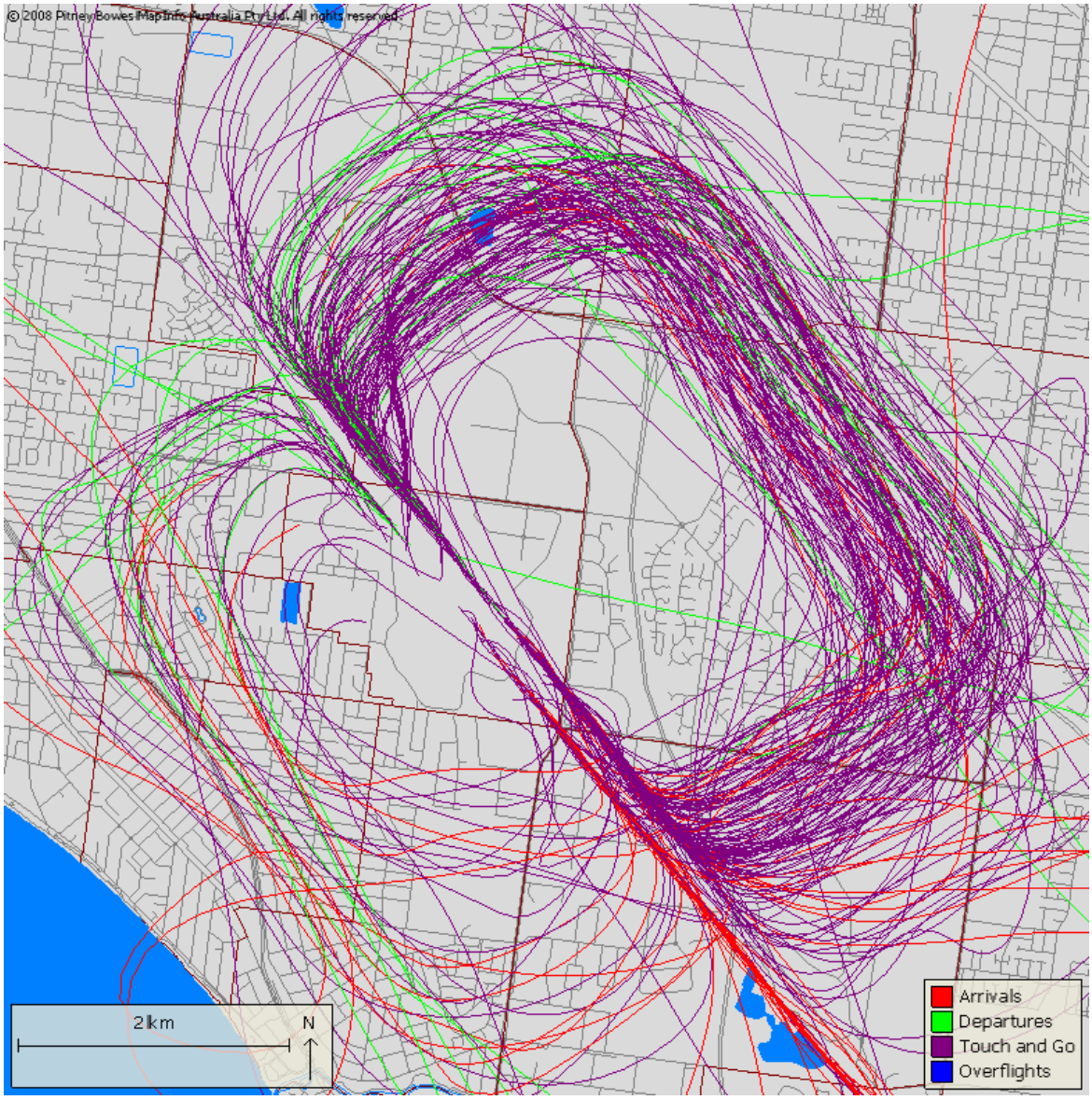
Typical operations from Runway 17 (8th September 2010).
This is the North-South runway and take-offs are heading North.



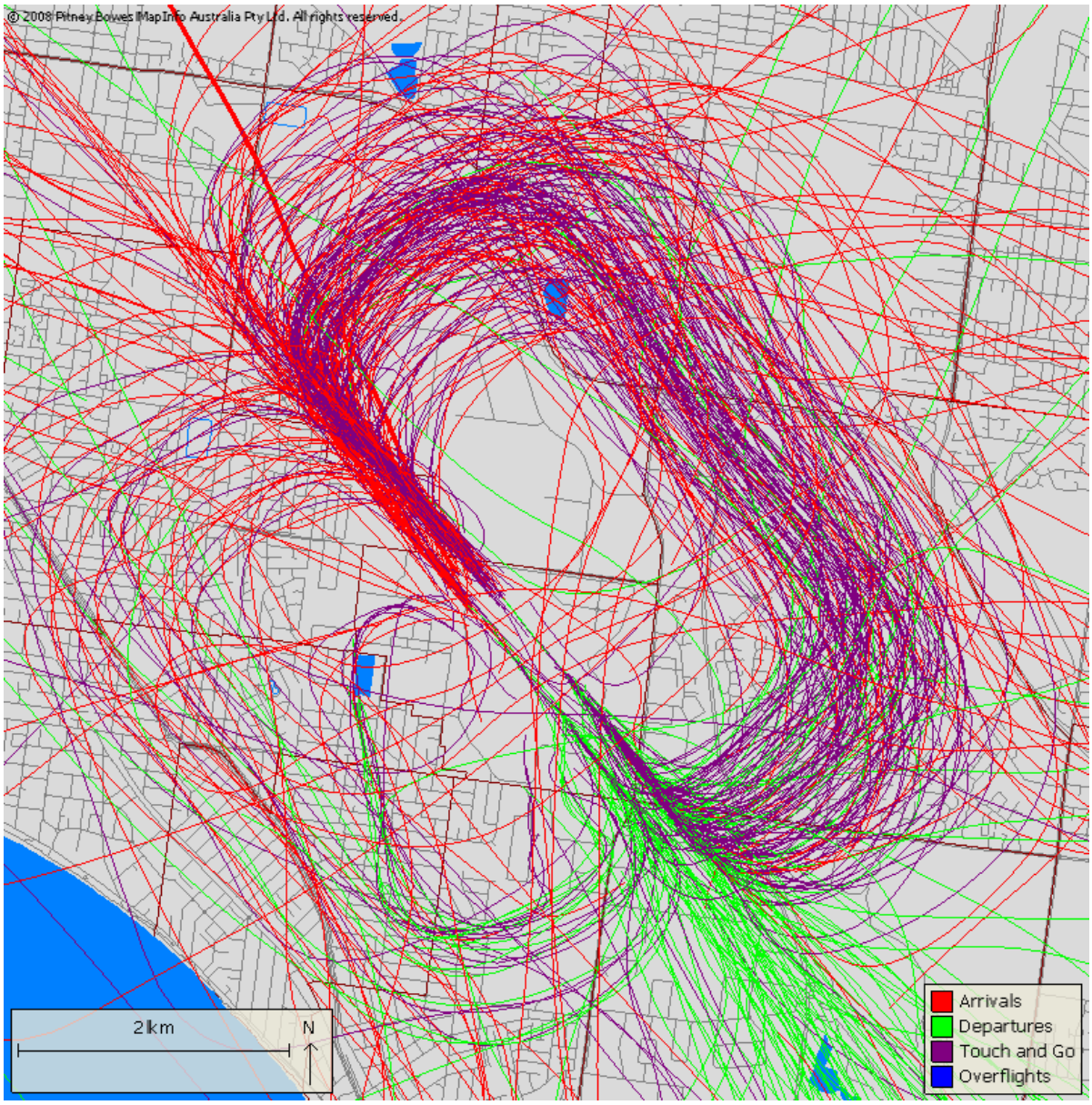
Typical Operations from Runway 35 (2nd September 2010).
This is the North-South runway and take-offs are heading South.



Typical Operations from Runway 31 (6th September 2010).
This is the North West - South East runway and take-offs are heading North.



Typical Operations from Runway 13 (5th November 2010). This is the North-South runway and take-offs are heading South. This is the least used runway pattern.



Appendix 3: Aircraft Movements

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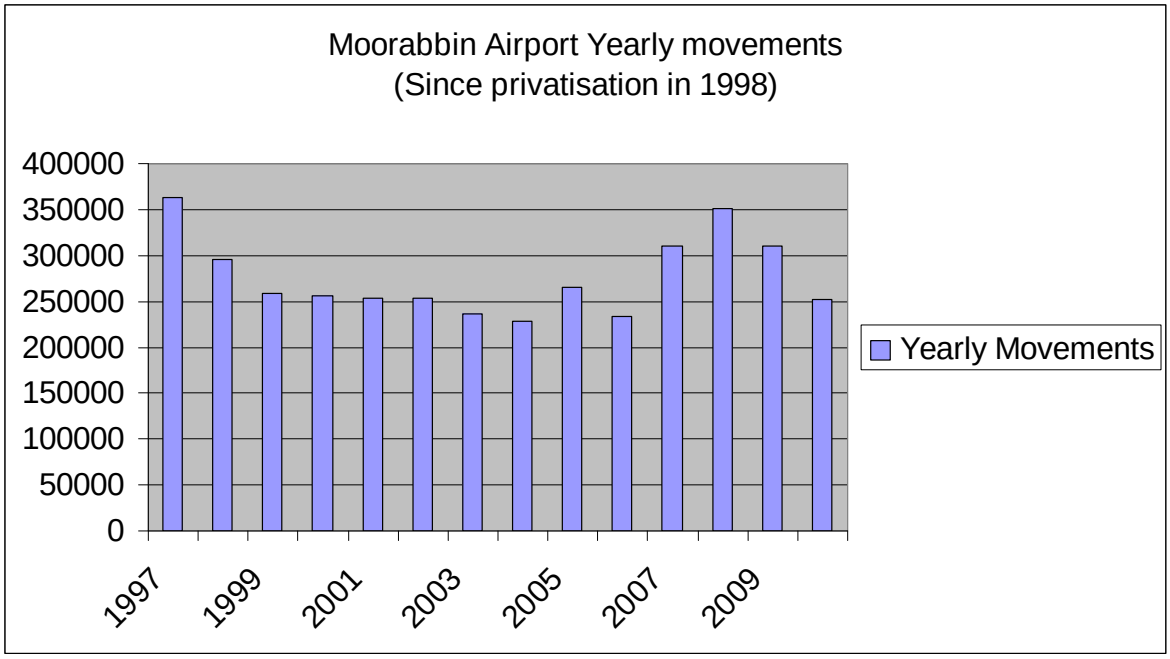
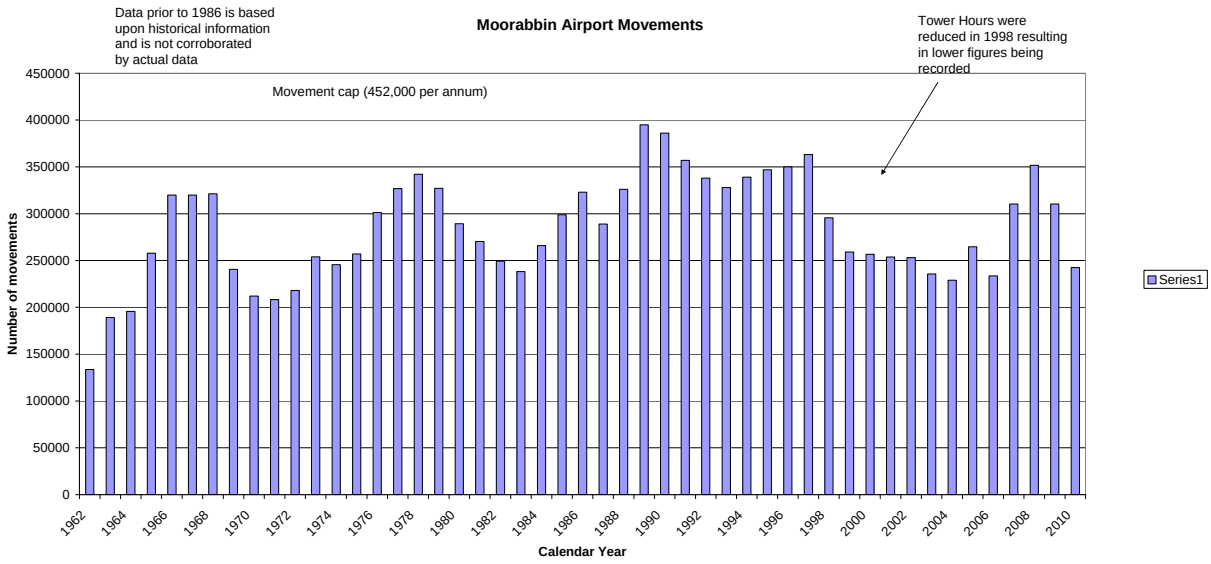


Yearly movements since privatisation show a gradual decline until 2007, with an increase caused by the rise in commercial flight training. The peak year in this period was 2008, with some 352,000 movements. This was a very benign year (in weather) and there was a spike in training caused by additional Qantas pilots being converted to Qantaslink.



Historical data shows a gradual growth until the early 1990's. Until this time there was a more equal division of movements between flying training and leisure flying.

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Appendix 4: Noise Complaints received in 2010

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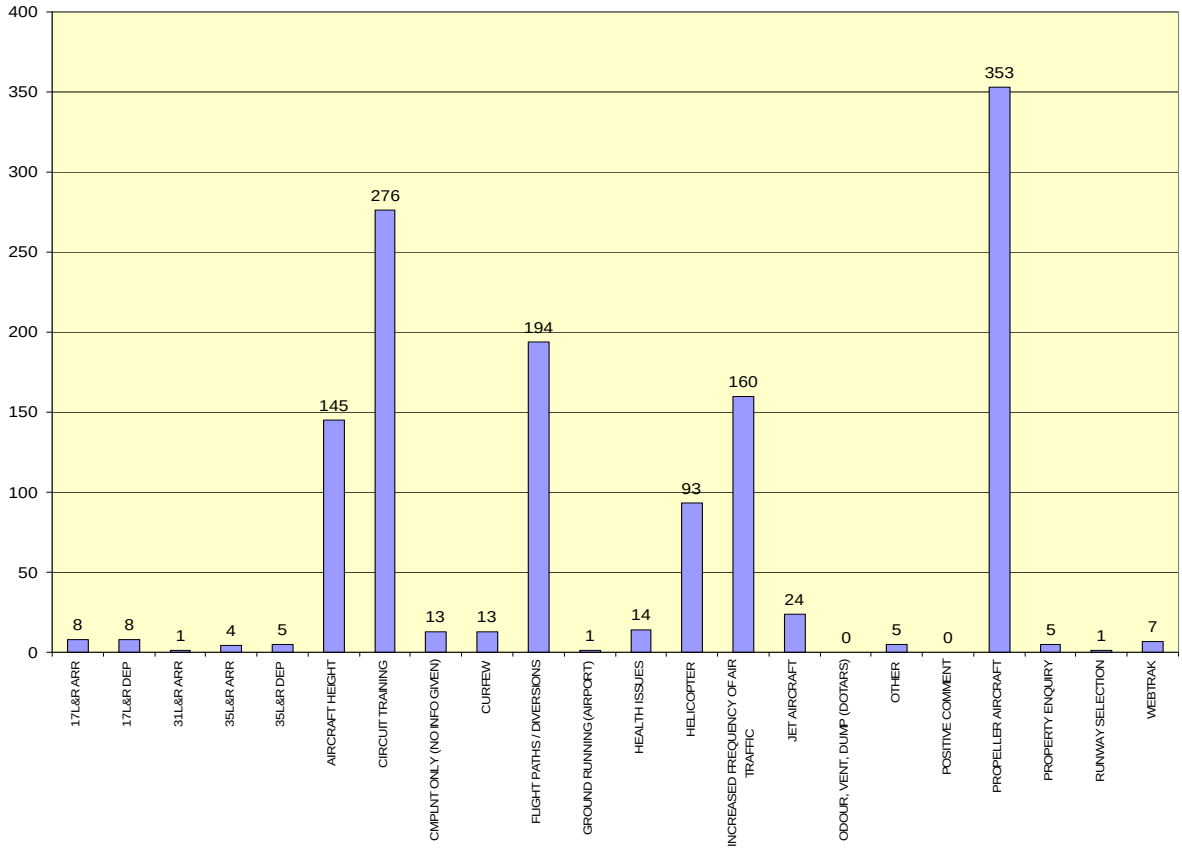
MOORABBIN AIRPORT

Recorded Complaints v's Complainants; by Suburb
1st January to 31st December 2010

SUBURB	COMPLAINTS	COMPLAINANTS
Not Specified	8	5
Aspendale	6	4
Balaclava	4	2
Bentleigh	2	1
Bentleigh East	2	2
Brighton	1	1
Brighton East	1	1
Carnegie	3	3
Carrum Downs	1	1
Caulfield	2	1
Chelsea	1	1
Cheltenham	10	7
Clarinda	2	2
Cranbourne	2	2
Dandenong	1	1
Dingley Village	338	92
Edithvale	2	1
Elwood	1	1
Frankston	3	3
Frankston North	1	1
Gardenvale	1	1
Heatherton	10	4
Hughesdale	20	2
Mckinnon	6	1
Mentone	13	4
Menzies Creek	2	1
Moorabbin	1	1
Mordialloc	53	12
Mount Eliza	1	1
Mulgrave	1	1
Narre Warren	1	1
Notting Hill	1	1
Parkdale	41	2
Point Cook	5	1
Port Melbourne	2	1
Prahran	1	1
Richmond	2	2
Sandhurst East	1	1
Seaford	7	7
South Melbourne	1	1
South Yarra	1	1
Springvale	1	1
Springvale South	1	1
St Kilda	2	1
Vermont South	1	1
Williamstown	2	1
TOTAL	**569**	**184**

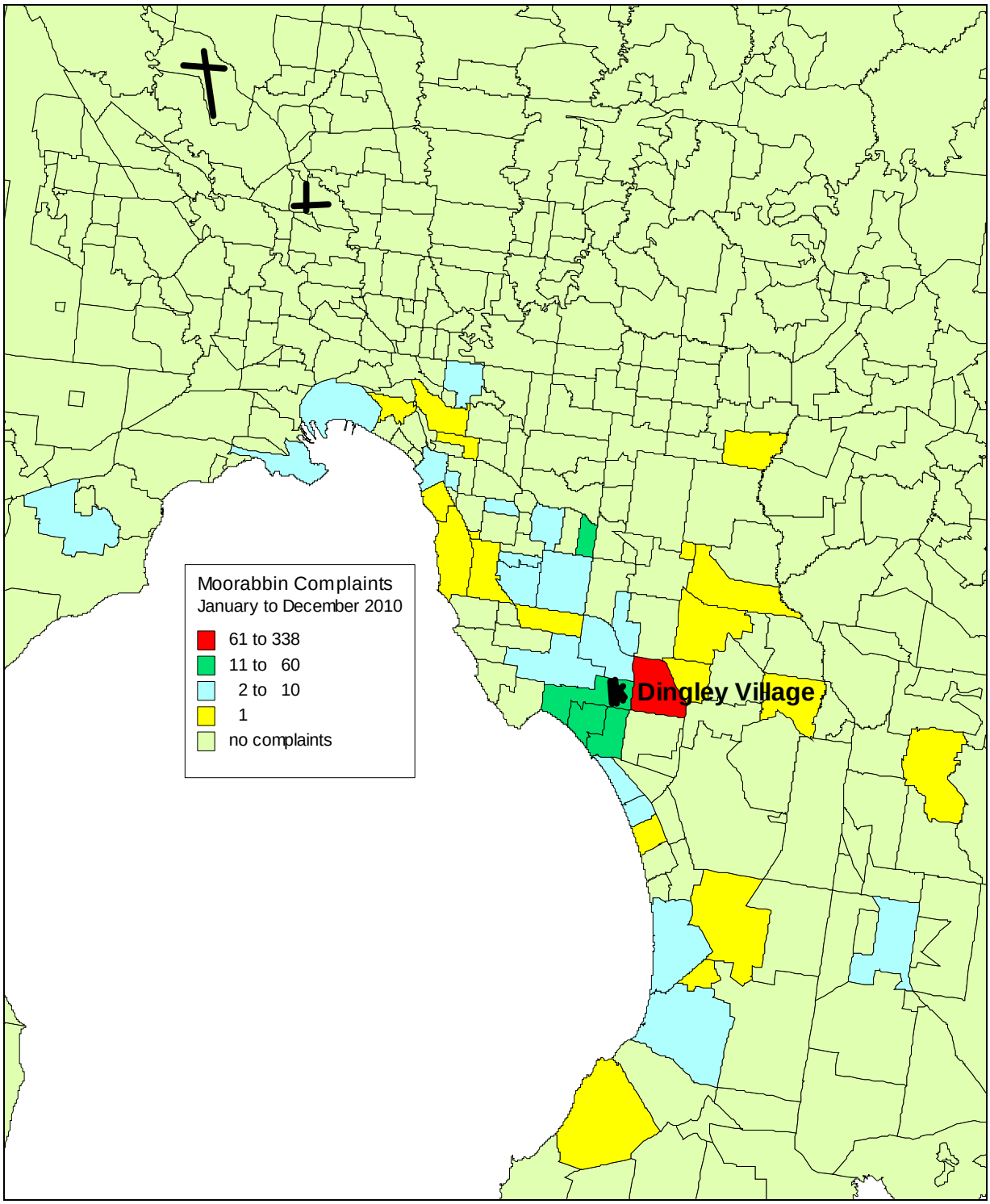
Complaints By Issue – 1st January 2010 to 31st December 2010

(Note that any single complaint may indicate more than 1 issue)



Complaint Density by Suburb

1st January to 31st December 2010



NOISE COMPLAINTS RECEIVED BY MOORABBIN AIRPORT IN 2010

- **Complaints referred from elected representatives**:

Office of Simon Crean MP: 1 letter, 5 emails, 6 phone calls.
Office of Janice Munt MP: 1 letter.
City of Kingston 1 email.

- **Written complaints from members of the public:** 2

- **Emails:** 12

All emails requesting a response were replied to. In addition 5 letters were written to members of the public or elected representatives.

- **Telephone complaints**:

Referred to Airservices Noise Inquiry line	5
Answered by Airport GM	51 (including some from answer phone)
Answered by Airport Operations Manager	6
Abusive/swearing: disconnected	8
Answerphone	32
Answerphone abusive/swearing/drunken	26

Content: Most written or email complaints referred to traffic volumes or circuit training. Telephone calls during the week referred mostly to specific events. Telephone calls at weekends referred largely to aircraft volumes causing noise disturbance or specific events.

- **Some specific events referred to during the year were:**

  - Aircraft circling over Mt Waverly for 5 hours Midnight – 5am on a Monday morning. This turned out to be an AFP surveillance aircraft based at Essendon.

  - Large aircraft flying repeated tracks over bayside. This was an Australian government Dash8 undertaking an aerial survey.

  - "Near miss" between aircraft near Mt Waverley. Referred to Airservices but webtrack showed that they were widely separated by height and horizontal distance.

  - "Near miss" over Parkdale. Tower had no record of any problem.

  - Noisy Stunt plane over Seaford. This was a Red Bull aircraft doing customer flights. He was contacted and he moved further out over the bay.

  - Noisy stunt plane over Black rock. Aircraft was doing aerobatics over the sea, which it was approved to do.

  - Some noisy helicopter calls- mostly media helicopters of the Essendon based traffic helicopter.

  - RVAC "Dawn Patrol" gave rise to 3 complaints on the answerphone.

Appendix 5: Group membership

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TASK FORCE MEMBERSHIP

- **Moorabbin Airport Corporation**
  - Phil McConnell Airport General Manager
  - Tony Aiezza Operations Manager
  - Sue Long (Secretariat)
- **The Department of Infrastructure and Transport, (Policy input from Federal level)**
  - Jim Wolfe, General Manager Air Policy Branch
  - Katie Conn. South East Section, Airports Branch
- **The State Government of Victoria (Victorian Government transport policy)**
  - Marianne Richards, Dept of Transport (Proxy: Tom Gunner)
  - Tony Viney DIIRD (no meetings attended)
  - Joanna Kormas DPCD
  - Con Tsotsoros DPCD
- **The City of Kingston (Community views)**
  - Tony Rijs
  - Cr Rosemary West (after Meeting 1)
- **The Moorabbin Airport Residents Association (Community views)**
  - Tom Uren, president
- **Dingley Village Community Association (Community views)**
  - Paul Phillips
- **Office of Mark Dreyfus MP**
  - Monica Bladier
- **Office of the Hon Simon Crean MP**
  - Noel Pullen
- **Airservices Australia (Airspace and air traffic management)**
  - Kevin Storan, SATC Moorabbin
  - Darren Olsson, Manager Community relations
  - Mark Cenin Community relations
- **Civil Aviation Safety Authority (Safety and Regulatory affairs)**
  - Peter Finch
- **Royal Victorian Aero Club**
  - Stuart Rushton, President
- **Oxford Aviation Academy**
  - Janet Martin.
  - Mark Emerson
- **Professional Helicopter services**
  - Brett Newman (Meeting 4)
- **Moorabbin Flying Services**
  - Gary Smythe
- **Peter Bini Advanced Flight Training**
  - Tony Gangemi (Meeting 3)
- **Melbourne Flight Training**
  - Steve Galjar (Meeting 3)

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Appendix 6: Task Force Terms of Reference and Meeting Dates

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MOORABBIN AIRPORT TASK FORCE
CIRCUIT TRAINING

Terms of Reference

September 2010

1. The Task Force is to act as a forum so that key participants in the operation of Moorabbin Airport and representatives of communities surrounding Moorabbin Airport can explore whether modifications to training circuits at Moorabbin Airport could further improve safety and residential amenity in the vicinity of Moorabbin Airport

2. Membership of the Committee will be:

    a. **Key participants**: Moorabbin Airport Corporation, the Civil Aviation Safety Authority, Airservices Australia, tenants of Moorabbin Airport.
    b. **The Community:** State Government of Victoria, The City of Kingston, Moorabbin Airport Residents Association, Dingley Village Community Association
    c. **The Commonwealth:** Department of Infrastructure, Transport, Regional Development and Local Government.

3. Areas for discussion will include but will not be limited to:

    a. The possibility of modifications to existing circuit training operations for fixed wing aircraft
    b. The times circuit training is accepted at Moorabbin Airport.
    c. Alternate possibilities for circuit training including the establishment of satellite airfields
    d. Current operations of helicopters in training at Moorabbin Airport
    e. Alternate possibilities for helicopter training including the establishment of satellite sites.

4. The following areas will be considered:

    a. The safety implications for any change both at Moorabbin Airport and at any satellite location.
    b. The impact on amenity for local communities surrounding Moorabbin Airport and of any communities that might be affected by the establishment of satellite sites.
    c. The economic impact on companies and individuals involved with circuit training.
    d. The potential infrastructure requirements for any change, and responsibility for funding this infrastructure.

5. Meetings: The intent is that there will be four meetings. Details and schedule are attached.

6. Deliverables: Moorabbin Airport Corporation will, as requested by the Minister of Infrastructure, Transport Regional Development and Local Government, prepare a report to be presented to the Minister that will contain recommendations for action, if any, the body or authority responsible for action and the time frame suggested for completion.

GENERAL INFORMATION

- The Committee will be chaired by the Airport Manager, Moorabbin Airport Corporation. A facilitator may be employed to ensure a balanced appraisal of all viewpoints.
- Secretariat services will be provided by Moorabbin Airport Corporation.
- Meetings are not open to the public.

THE TIMETABLE

Meeting One: Friday 19th November. Education.

The intent of this meeting is to provide a comprehensive description of current circuit training operations at Moorabbin. This will include an invitation to all participants to conduct an actual circuit training flight in an aircraft typically used at Moorabbin.(*) In addition a visit to the Airservices Australia Tower will be arranged to understand the responsibilities and requirement of the controllers.

This first meeting will take place during the caretaker management period for the Victorian State Government. However it is emphasized that no policy will be discussed at this meeting- it is purely to educate those taking part.

(*)In case of adverse weather the nearest suitable date to this date will be used for the flying element of this procedure.

Meeting Two: Tuesday 14th December. Discussion.

- Statements of interest and desired outcome from participating organizations.
- Examination of possible outcomes.
- Assessment of Requirements for further research or information for each participant.

Meeting Three: Thursday 17th March 2011. Report Back.

- Consideration of Possible measures and safety, operational and economic impacts associated with these measures.
- Additional meetings may be scheduled beyond this point should circumstances require further consideration

Meeting Four: Friday 6th May 2011.

- Formalisation of findings and preparation of report to Minister.

Appendix 7: Fly Friendly Guidelines

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Moorabbin Airport Fly Friendly Program

Fly Friendly- be a good neighbour

Moorabbin Airport is committed to undertaking operations in a Fly Friendly manner. We expect aircraft pilots operating into and from Moorabbin Airport to undertake operations in a manner which is considerate of local residents. The safe operation of an aircraft must be maintained at all times. Air traffic procedures, weather and safe separation requirements may preclude at times your compliance with this program but you are expected to make your best efforts to ensure your compliance with the spirit of this program.

1. CIRCUIT TRAINING

Circuit training- repetitive touch and go operations, is a vital part of flight training and is required for day and night operations. However such operations are limited to the times published in ERSA which are:

Winter:	Monday-Friday 0800-2100 Weekends 0800- 2000 or last light, whichever is sooner.
Daylight savings:	Monday- Friday 0800-2200 Weekends 0800-2000 or last light, -whichever is sooner.

Moorabbin Airport is open 24 hours per day, 365 days per year. Aircraft departing or returning to Moorabbin are not subject to these limits and it is understood that an aircraft returning after the above agreed hours may be required to perform a circuit of the airport to enter into the landing pattern.

2. ALTITUDE

It is good airmanship, and also the law, to maintain a safe altitude at all times and to ensure that when flying over residential areas this is maintained.

Except when in the act of landing or taking off the minimum height fixed wing aircraft will fly is 1,000ft over inhabited areas of 500ft over uninhabited areas or the sea. They must be a minimum of 600metres radius from any building.

Whilst operations in the Moorabbin circuit are defined as being in the act of taking off or landing, as soon as practical aircraft should reach and maintain the 1,000ft circuit altitude.

Helicopters operate at a different altitude (700 ft) to maintain safety separation from fixed wing aircraft.

CASA may issue an exemption for training purposes.

3. DELAYED TURNS FOR NOISE ABATEMENT

Moorabbin Airport has intensive residential housing surrounding most boundaries of the airport. The following is thus in place for noise abatement purposes:

Aircraft departing from runway 17Right should delay any turn until they have flown past Woodlands Golf Club, to minimize noise intrusion over residential areas of Parkdale.

Aircraft departing from runway 35L should delay any turn until over Kingston Centre to minimize noise intrusion to residential property immediately to the North West of the airport.

Air traffic control procedures, weather or safe separation requirements may preclude pilots from adhering to these procedures. However they should at all times attempt to comply with the spirit of these procedures.

4. RUNWAY IN USE

Aircraft land and take off into the prevailing wind. The main North/South runways (17 and 35) are used for 80% of the time. Current wind and weather information is available from an automatic advice services on (03) 9580 9637. The Runway in Use is determined by Airservices Australia when the tower is in operation.

a) Outside of tower hours pilots should use runways which are the least noise-sensitive. Where there is a choice based upon wind the runway in use is chosen in the following order:
    - Runways 35 (at night 35R)
    - Runways 17
    - Runways 13 (at night 13L) and 31
b) After 2200 local all departures must maintain runway heading until at 1,000ft.
c) Runway 04/22 is available ONLY when operationally required.
d) Runway 04/22 IS NOT available for circuit training at any time.

5. OPERATIONS FROM RUNWAYS

Aircraft noise can be mitigated by operating some aircraft from designated runways only. In particular runway 17R (facing South) and 31L (facing north-west) have the biggest impact on residential areas. We thus agree:

a) Jet aircraft: Jet aircraft will not use Runway 17R for departures.
b) Certain types of aircraft will not use runway 17R or 31L for departure unless no other runway is available. Aircraft include:
    - Cessna 180C185, C206, C210, C336/C337 Skymaster
    - Beech BE35/36 with two bladed prop.
    - "Warbird" aircraft fitted with constant speed props.

c) Practice landings with feathered propellers will not be permitted.
d) Simulated engine failure in single engine aircraft after take-off will not be permitted.
e) Simulated asymmetric operations after take-off will not be permitted from runway 17R.

6. MOORABBIN AIRPORT TRAINING AREA

Much airwork training takes place to the South East of Moorabbin Airport. The requirements of the Airservices Australia Fly Neighbourly Advice (FN5) contained in ERSA GEN-SP apply as follows:

a) Designated areas AM/D314 and AM/D 315 are commonly referred to as the "Moorabbin Training Area" This is approximately bounded by a line from Moorabbin Airport to Pearcedale, then coastal to Koo-wee-rup, then Pakenham to Moorabbin Airport.

b) Pilots are requested to avoid the following urban areas: Hampton Park, Lyndhurst, Cranbourne and within circles of 1Nautical Mile of Cardinia and Fiveways joined tangentially. If not possible to avoid these areas pilots should traverse at an altitude not below 2,000ft.

c) An aerobatic area is established east of the Berwick-Cranbourne Rd and north of Ballarto Rd. In this area pilots are requested to minimize aerobatic maneuvers below 3,000ft.

d) Farm and other buildings should not be used as reference points for training maneuvers.

7. GROUND RUNNING OF ENGINES

Ground running of engines can cause noise concerns from well beyond the boundary of the airport.

a) A purpose built engine test cell allows extended running of aircraft engines for maintenance and test purposes; with noise being channeled across non-residential areas. All vehicle-mounted engines on test will use this cell.

b) Ground running of aircraft engines on airframes will be limited to run-ups on the Northern or Southern run up bay between the hours of 0800-1800 daily. Jet aircraft may additionally use the southern end of taxiway Echo which is furthest from residential housing.

c) Run-up of aircraft engines prior to flight will be accomplished in accordance with the operational procedures prescribed for the aircraft type. Extended run-ups will not be undertaken except if required to ensure the safety of flight.

d) Please be mindful of the fact that when there is low cloud the sound from engine run-ups may carry some considerable distance from the airport.

8. HELICOPTER OPERATIONS

This Fly Friendly program applies to both fixed and rotary wing aircraft. Helicopters can potentially cause considerable noise irritation and thus must conform to the same standard of behaviour as fixed wing operations. However, for safety separation reasons, helicopters will operate at different altitudes to fixed wing aircraft.

9. GOOD MANNERS FOR PILOTS

Good manners for pilots includes:

- Be aware of noise sensitive areas. Moorabbin Airport is in an urban area.
- Avoid prolonged run-ups. Not only do they produce noise but they cost money.
- Avoid flying low at any time and especially over populated areas.
- Keep circuits as compact as possible.
- Climb to height as soon as possible (based upon aircraft performance) and then reduce power to cruise settings.
- Ensure that throttle settings are applied commensurate with minimum emissions of noise, subject at all times to the maintenance of aircraft safety.
- When navigating across country look ahead and select the least noise sensitive route. If you can avoid flying over a residential area then do so.
- For helicopter pilots, avoid rotor "slap" where possible.

These guidelines form part of the ***Moorabbin Airport Conditions of Use 2011*** and a specific **Fly Friendly Agreement** is negotiated with individual flying schools based on Moorabbin Airport.

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January 2011

Appendix 8: Acronyms used

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ACRONYMS USED

ACE	Academy. Police Academy inbound reporting point for Moorabbin Airport
AEO	Airport Environmental Overlay
AGL	Above Ground Level
ANEF	Australian Noise Exposure Forecast
ASA	Airservices Australia
ATM	Air Traffic Manager
ATPL	Airline Transport Pilots Licence
ATS	Air Traffic Services
BAW	Baywest. Inbound reporting point for Moorabbin Airport
BTO	Brighton Marina. Inbound reporting point for Moorabbin Airport
CARR	Carrum River Mouth. Inbound reporting point for Moorabbin Airport
CASA	Civil Aviation Safety Authority.
CBD	Central Business District
CPL	Commercial Pilots Licence
CTAF (R)	Common Traffic Advisory Frequency (Required)
CTR	Control Zone around airports.
DoIT	Department of Infrastructure and Transport.
DVCA	Dingley Village Community Association.
ERSA	En-Route Supplement Australia. Aeronautical manual for pilots.
GAAP	General Aviation Aerodrome Procedures. A set of aeronautical procedures. for Moorabbin which is now superseded by Class D procedures.
GFPT	General Flying Progress Test.
GMH	General Motors Holden. Inbound reporting point for Moorabbin Airport.
ICAO	International Civil Aviation Organisation.
IFR	Instrument Flight Rules.
MAACC	Moorabbin Airport Aviation Consultative Committee. Now renamed Moorabbin Airport Community Aviation Consultative Group (CACG).
MAC	Moorabbin Airport Corporation Pty Ltd.
MARA	Moorabbin Airport Residents Association.
MFT	Moorabbin Flight Training Pty Ltd.
MPL	Multi-crew Pilot Licence.
NDB	Non-Directional Beacon.
NFPMS	Noise and Flightpath Monitoring Service.
OAA	Oxford Aviation Academy Pty Ltd.
PBAFT	Peter Bini Advanced Flight Training Pty Ltd.
PHS	Professional Helicopter Services Pty Ltd.
PPL	Private Pilot's Licence.
RAA	Recreational Aircraft Association (of Australia).
RAMSAR	Convention on Wetlands *(Ramsar, Iran 1971).*
RPT	Regular Public Transport.
RVAC	Royal Victorian Aero Club.
SHOAL	Inbound reporting point for Moorabbin Airport.
VFR	Visual Flight Rules.
VPP	Victorian Planning Provisions.