# SENATE STANDING COMMITTEE ON RURAL AND REGIONAL AFFAIRS AND TRANSPORT

## INDEX OF TABLED DOCUMENTS

## INQUIRY INTO THE EFFECTIVENESS OF AIRSERVICES AUSTRALIA'S MANAGEMENT OF AIRCRAFT NOISE

## PERTH, WEDNESDAY 28 APRIL 2010

| Date | Lodged By | Title / Subject | No of Pages |
|---|---|---|---|
| 28/4/10 | Councillor John Daw | Letter from Civil Aviation Safety Authority to the Hon Judi Moylan MP regarding her FOI request for the Civil Aviation Safety Report. | 12 |
| 28/4/10 | Councillor John Daw | Number of Flights over Perth Suburbs before and after the implementation of flight path changes | 6 |
| 28/4/10 | Fairskies | Questions on Notice for Senate Hearing<br>Things that Need to be Done<br>Senate Estimate Questions<br>Webtrak Maps | 2<br>2<br>3<br>10 |
| 28/4/10 | Fairskies | Excerpt from Noise Management Strategy Committee Draft Minutes of 4 October 2006 | 1 |
| 28/4/10 | Fairskies | Flight Path Maps | 5 |
| 28/4/10 | Fairskies | Presentation entitled *Aircraft Noise and Heath, ICBEN 2008 and the DEC Community Survey,* January 2009 | 17 |
| 28/4/10 | Mr Graham Ellis | Opening Address<br>Submission to the Hon Melissa Park MP<br>Ambidji Report entitled *Utility of General Aviation Aerodrome Procedures to Australian Administered Airspace*<br>Jandakot Community Consultative Committee Meeting Minutes of 8 March 2010<br>CASA publication entitled *GAAP Changes*<br>S211 Jet Trainers for Sale at Jandakot | 1<br>10<br>3<br>2<br>9<br>11 |
| 28/4/10 | Airservices Australia | Communication and Consultation Protocol<br>West Australian Route Review Project, An Overview | 9<br>DVD |

Australian Government

Civil Aviation Safety Authority

Tabled by G Jackson
28 April 2010
Perth Runway Noise Inquiry



19 November 2009

Hon Judi Moylan MP
Member for Pearce
PO Box 1005
Midland WA 6936

Dear Ms Moylan,

**ACCESS TO DOCUMENTS UNDER THE FREEDOM OF INFORMATION ACT**

I refer to your letter dated 26 October 2009, being a request for access to documents pursuant to the *Freedom of Information Act 1982 (Cth)* (the Act). You are seeking access to a copy of a Civil Aviation Safety Report – Regulation Part 172 in relation to air traffic management for Perth, which resulted in changes to the air flight paths in Perth.

CASA has located a 10 page audit report, parts of which are relevant to your request. The identified report includes some audit findings which are not related to changes to air flight paths in Perth, and are therefore outside the scope of your request. I have decided to release the report to you with the outside the scope material deleted. The report is enclosed with this letter.

**Application for internal review of decision**

Section 54 of the Act gives you the right to apply for an internal review of my decision granting access to documents in accordance with your request. An application for internal review of my decision must be made in writing within 30 days of receipt of this letter and must be accompanied by an application fee of $40.00.

No particular form is required, but it is desirable to set out in the application the grounds on which you consider that the decision should be reviewed. An application for review should be addressed to the Freedom of Information Coordinator at the address below:

Freedom of Information Coordinator
Legal Services Division
Civil Aviation Safety Authority
GPO Box 2005
Canberra ACT 2601

**Complaints to the Commonwealth Ombudsman**

Section 57 of the Act provides that any person may complain to the Ombudsman concerning action taken by an agency in the exercise of powers or the performance of functions under the Act. A complaint to the Ombudsman may be made orally or in writing, and should be directed to the following address:

Commonwealth Ombudsman
PO Box 442
CANBERRA ACT 2601

The Ombudsman usually prefers applicants to seek internal review before complaining about a decision.

Please do not hesitate to contact the Freedom of Information Coordinator on (02) 6217 1131 or facsimile (02) 6217 1110 if you have any questions in relation to your request.

Yours sincerely

Peter Cromarty
Executive Manager
Airspace and Aerodrome Regulation

CIVIL AVIATION SAFETY AUTHORITY AUSTRALIA

# Audit Report

## Airservices Australia: Perth TCU

### AUDIT DETAILS:

| | |
|---|---|
| **Auditee Name:** | RUSSELL GREEN |
| **Auditee Position** | A/Executive Team Leader |
| **Functional Area:** | PERTH TCU |
| **Audit Location(s):** | PERTH |
| **Audit Number:** | 03-01 |
| **Audit Start Date:** | 17 June 2003 |
| **Audit End Date:** | 27 June 2003 |
| **Audit Scope:** | CASRs 172, 65 |

**CASA Office:**
Aviation Infrastructure & Sport
Aviation Branch
GPO Box 2005
CANBERRA ACT 2601

### AUDIT TEAM MEMBERS:

| | |
|---|---|
| **Lead Auditor:** | Greg Diprose |
| **Auditors:** | Kel Morton & Paul Taylor |

| **Lead Auditor:** | **Signature:** | **Date:** |
|---|---|---|
| Greg Diprose | ..... | 8 July 2003 |

# Audit Report

Airservices Australia: Perth TCU

## About an Audit Report

**Authority for the conduct of the audit**

The audit identified in this report was carried out by CASA in pursuance of its functions under section 9 of the Civil Aviation Act 1988.

**Confidentiality**

This audit report is a confidential document between the CASA and the operator/certificate holder. CASA will not disclose this report or any part of it to any third person except, in pursuance of its functions, with the express permission of the operator/certificate holder, or as required by law.

**Audit Methodology**

The audit is a sampling exercise and does not purport to be a total systems review. The sampling provides a snapshot of the system and any deficiencies detected could point to a systemic problem, requiring a total systems review by the operator. Deficiencies and problems identified in the audit findings must be addressed by the operator/certificate holder as outlined below.

**Audit Findings**

Audit findings may be in the form of RCAs (Requests for Corrective Action) (both Standard and Safety Alerts) or Observations.

## RCA (Request for Corrective Action)

RCAs detail deficiencies that involve non-compliance with legislation and must be addressed. The deficiency is described in the 'details of deficiency' and the regulatory basis for the assessment is stated in the 'criteria' section. For standard RCAs, the following actions must be taken to address the deficiency/deficiencies:

1. Remedial action(s) to remedy the immediate situation so that operations are brought within safe parameters;
2. Investigative action to investigate the deficiency/problem and determine the root cause;
3. Corrective action(s) to address the root cause of the problem

The certificate holder must record both the remedial and corrective action taken on the 'recipient's response' page of the RCA and return it to the address shown, by the due date. Where the corrective action is not able to be completed by the due date, the certificate holder must indicate the date by which the corrective action will be completed.

(As an example: the REMEDIAL ACTION to address an identified deficiency of "cabin crew not currently trained in emergency procedures" would be to conduct training for all affected staff. The CORRECTIVE ACTION would be to document and implement a system for training, recording, reporting and warning of pending expiry dates for all initial and recurrent training).

## SAFETY ALERTS

A SAFETY ALERT is a particular type of REQUEST FOR CORRECTIVE ACTION that must be addressed IMMEDIATELY. As the holder of the certificate, licence, CASA approval or authority, the certificate holder must take action to ensure that the deficiency is rectified carrying out RCA steps 2) and 3) above:
a) before the continued operation of the aircraft concerned; or

b) before continuing any activity carried out under the certificate or licence or approval or authority held by you that is the subject of the deficiency;

## AUDIT OBSERVATIONS

An AUDIT OBSERVATION is raised by an auditor to draw attention to latent conditions or minor deficiencies in a system that cannot be attributed to a current legislative requirement. The intention is to raise awareness with a view to avoiding problems in the future.
Response to OBSERVATIONS is not required. However, auditees would be well advised to take appropriate action as part of their continuous improvement processes. Actions taken may be covered in future surveillance.

## INDEX OF FINDINGS

| Audit Element: | Audit Findings: |
|---|---|
| DELETION | |
| CASR 172.065 MOS Chapter 10 | RCA 0301-02<br>Airspace limitations preclude pilot navigation or radar vectoring onto final approach for runway 03 ILS in accordance with any recognised standards. |
| DELETION | |
| CASR 172 MOS Chapter 11 | RCA 0301-04<br>Pilots are issued confusing information in relation to arrivals for runway 03 at Perth. |

DELETION

DELETION

DELETION

DELETION

DELETION

DELETION

## AUDIT ELEMENT SUMMARIES

| Audit Element:<br>Audit sub-element: | Analysis: |
|---|---|
| | |

DELETION DELETION

| | |
|---|---|
| **Standards for the provision of Air Traffic Services (MOS CH 10)** | Included in sampling were workplace observations of delivery of service from the four TCU ATS work positions including various traffic scenarios, staffing procedures and handover takeover processes.<br><br>Sampling indicated compliance with the MOS with the following exception:<br><br>**RCA 0301-02 CASR 172.065 MOS Chapter 10**<br>Airspace limitations preclude pilot navigation or radar vectoring onto final approach for runway 03 ILS in accordance with any recognised standards.<br><br>The following Observation made in CASA Audit 01-32, final report dated 20 September 2001 page 7 re airspace for Runway 03 is also pertinent.<br><br>Observation:<br>The recently introduced revised procedures for arriving international regarding visual approaches is impacting on operations at PH particularly due to the control zone size and lack of airspace to the south of the airport for Rwy 03 approaches to descend to comply with the 8nm final. |

DELETION DELETION

| | |
|---|---|
| | |

DELETION DELETION

| | |
|---|---|
| Enroute/Terminal Clearances | Included in sampling were comparisons of MOS, MATS and AIP versus local procedures in use.<br>Sampling indicated compliance with the applicable CASRs with the following exception:<br><br>**RCA 0301-04 CASR 172 MOS Chapter 11**<br>Pilots are issued confusing information in relation to arrivals for runway 03 at Perth.<br>Pilots are advised to "expect instrument procedure" for all STARs that terminate with both visual and instrument procedures at Perth. The only published instrument approach available from the STAR clearance is the RWY 03 VOR/DME approach.<br>On transfer to Perth TCU the pilot is then instructed to expect radar vectors for the 03 ILS, or when in VMC, a visual approach. |

DELETION

DELETION

DELETION

DELETION

DELETION

DELETION

DELETION

DELETION

DELETION

DELETION

28 April 2010 Ex John Davis
Perth aircraft noise inquiry

The following table lists the numbers of over flights of the named suburbs. The numbers were extracted from the Noise and Flight Path Monitoring System (NFPMS) and include jet, propeller or helicopter aircraft that operated their radar transponder equipment and flew over the suburbs listed between ground level and 10,000 feet altitude during the months listed. They could have operated at any airport or helipad in the Perth area.

| | October 2008 | October 2009 |
|---|---|---|
| Bickley | 613 | 1037 |
| Chidlow | 1928 | 2094 |
| Dalkeith | 580 | 523 |
| Glen Forrest | 251 | 459 |
| Paulls Valley | 771 | 1115 |
| Parkerville | 2889 | 2490 |
| Stoneville | 2470 | 2357 |
| Swan View | 2457 | 1982 |
| Wooroloo | 1923 | 1763 |
| | | |

The Noise and Flight Path Monitoring System is a radar-based system which records the tracks of aircraft in a nominated area from ground level to a height of 10,000 feet above mean sea level. Only those aircraft operating radar transponder equipment are depicted. Not all general aviation activity will be depicted as it is not mandatory for these operators to have their radar transponders switched on while operating in and around the secondary airport, Jandakot, or when operating outside controlled airspace.

File reference: HO_CB0-1505879

Date: 18 January 2010

Compiled by: Noise Enquiry Unit
Airservices Australia

The following table lists the numbers of over flights of the named suburbs. The numbers were extracted from the Noise and Flight Path Monitoring System (NFPMS) and include jet, propeller or helicopter aircraft that operated their radar transponder equipment and flew over the suburbs listed between ground level and 10,000 feet altitude during the months listed. They could have operated at any airport or helipad in the Perth area.

| | Chidlow | Glen Forrest | Stoneville |
|---|---|---|---|
| January 2008 | 965 | 388 | 2168 |
| February 2008 | 966 | 329 | 2106 |
| March 2008 | Previously provided | Previously provided | Previously provided |
| April 2008 | 830 | 260 | 1937 |
| May 2008 | 941 | 259 | 2511 |
| June 2008 | 887 | 246 | 2144 |
| July 2008 | 738 | 183 | 1995 |
| August 2008 | 923 | 238 | 2119 |
| September 2008 | 851 | 227 | 2382 |
| October 2008 | 928 | 251 | 2470 |
| November 2008 | 1307 | 246 | 2217 |
| December 2008 | 2299 | 308 | 2557 |
| January 2009 | 2149 | 392 | 2343 |
| February 2009 | 2013 | 610 | 2280 |
| March 2009 | 2199 | 499 | 2542 |
| April 2009 | 2139 | 654 | 2045 |
| | | | |

WARP

File reference: HO_CB0-1505856

Date: 15 January 2010

Compiled by: Noise Enquiry Unit
Airservices Australia

John Daw

Cr. Daw,

The reference number for this enquiry is 221194.

The following list of aircraft numbers has the three suburbs that you have asked about. The numbers were extracted from the Noise and Flight Path Monitoring System and include jet, propeller and helicopter aircraft that operated their radar transponder equipment and flew over the suburbs listed between ground level and 10,000 feet altitude. They could have operated at any airport or helipad in the Perth area. The numbers are less than those for the previous month and I expect that it is due to different runway usage in response to the weather conditions.

June 2009

| | |
|---|---|
| Chidlow | 2108 |
| Glen Forrest | 688 |
| Stoneville | 2872 |

I trust this information is of assistance and remain available to provide further detail on specific issues that you observe should you require. Please contact the Noise Enquiry Unit on 1800 802 584 should you wish to make further enquiries.

Regards,

Phil
Noise Enquiry Unit Operational Specialist
Safety & Environment
Airservices Australia

John Daw

Cr. Daw,

The reference number for this enquiry is 219743.

The following list of aircraft numbers has all the suburbs that you have asked about. The numbers were extracted from the Noise and Flight Path Monitoring System and include jet, propeller and helicopter aircraft that operated their radar transponder equipment and flew over the suburbs listed between ground level and 10,000 feet altitude. They could have operated at any airport or helipad in the Perth area. The figures for Bickley, Chidlow and Glen Forrest are greater than those compiled by my Team Leader and that I provided to you in the last few days. The original figures were the totals of aircraft that were defined in the tracking system as being either arrivals or departures. These figures would not have included some of the traffic that was defined as being "fly overs".

You'll note that some of the suburbs have fewer aircraft in May 2009 than in May 2008. This is not a transposition of the numbers, but reflects the flight path changes that have benefitted some suburbs.

| | May 2008 | May 2009 |
|---|---|---|
| Armadale | 999 | 1168 |
| Bickley | 573 | 1472 |
| Chidlow | 1112 | 2311 |
| Gidgegannup | 3038 | 1952 |
| Glen Forrest | 259 | 1105 |
| Kalamunda | 486 | 241 |
| Kelmscott | 553 | 506 |
| Mundaring | 691 | 678 |
| Parkerville | 3027 | 3179 |
| Paulls Valley | 637 | 1559 |
| Rockingham | 552 | 969 |
| Stoneville | 2511 | 3048 |

I trust this information is of assistance and remain available to provide further detail on specific issues that you observe should you require. Please contact the Noise Enquiry Unit on 1800 802 584 should you wish to make further enquiries.

Regards,

Phil
Noise Enquiry Unit Specialist
Safety & Environment
Airservices Australia

John Daw

Mr. Daw,

The reference number for your further request for aircraft movement numbers is 219359.

My Team Leader had previously extracted the figures for Chidlow and Glen Forrest for other research for the Perth area. He had also reviewed the suburb of Bickley and the figures are below. The numbers were extracted from the Noise and Flight Path Monitoring System and include jet and propeller aircraft that operated their radar transponder equipment and flew over the suburb listed between ground level and 10,000 feet altitude:

Bickley May 2008 446 aircraft and May 2009 1314 aircraft.

I won't be able to extract the data for Stoneville, Parkerville and Paulls Valley (I couldn't locate Pauls Gully) until next week due to existing work commitments.

I trust this information is of assistance and remain available to provide further detail on specific issues that you observe should you require. Please contact the Noise Enquiry Unit on 1800 802 584 should you wish to make further enquiries.

Regards,

Phil
Noise Enquiry Unit Specialist
Safety & Environment
Airservices Australia

---



---

Dear Phil,
Reference Number 219252. Thanks very much for your efficient response. Could you also give me the same details for Stoneville, Parkerville, Pauls Gully and Bickley for the same years/months.
Yours sincerely,
John Daw

Mr. Daw,

The reference number for your request for aircraft movement numbers is 219252.

The numbers were extracted from the Noise and Flight Path Monitoring System and include jet and propeller aircraft that operated their radar transponder equipment and flew over the suburbs listed between ground level and 10,000 feet altitude:

Chidlow May 2008 818 aircraft and May 2009 2023 aircraft.
Glen Forrest May 2008 87 aircraft and May 2009 954 aircraft.

I trust this information is of assistance and remain available to provide further detail on specific issues that you observe should you require. Please contact the Noise Enquiry Unit on 1800 802 584 should you wish to make further enquiries.

Regards,

Phil
Noise Enquiry Unit Specialist
Safety & Environment
Airservices Australia

---



---

mr Ian Davies
tabled 28/4 (p1 of 2)
Perth aircraft noise inquiry

# Air Services Australia – WARRP Overview DVD presentation Questions on Notice for Senate Hearing.

The following questions refer to the ASA DVD titled "West Australian Route Review Project – An Overview" a presentation of which was given by ASA at the Shire of Mundaring Public Information meeting on 3 Feb 2010.

1. The ASA "WARRP Overview" DVD presentation refers to changes in regional air routes. How does ASA define regional?

2. There is a departure route over Pearce airbase and north along Brand Highway, which contrary to the impression of air routes given by the DVD. Further, there are others to the West and South of Perth over other military airspace. Is the military air space as restricted as the video implies?

3. The video refers to the more equitable distribution of noise impact. How does ASA define equitable? What procedures does it follow to ensure an equitable distribution?

4. The DVD states that a new route over the Hills was necessary to separate fast jets from turboprop aircraft. Does ASA acknowledge that 3 new routes follow the same track in this area, namely JULIM Jet arrivals STAR, CONNI Non-Jet Arrivals STAR and WOORA STAR? How then does ASA account for the fact that jets and turboprops regularly share these routes, sometimes one after another when the stated aim was to separate them? Separation on this track between the different routes is sometimes vertical, could this not have been done on the previous routes?

5. The DVD presentation states a majority of flights have been moved over less populated areas. In response to this, can you inform us of the number of overflights per suburb in the Hills region?

   - What areas are receiving the majority of these flights?
   - Where does the Greater Metropolitan region end?

6. The DVD states that new more precise flight paths have reduced the overall number of people subject to direct overflights, but these flights are more frequent. Doesn't this mean aircraft noise is now more concentrated over certain areas?

7. A number of the maps used in the DVD presentation show previous routes that were deleted and routes that were unchanged but omit the new flight paths. Is there a reason these routes were excluded from the presentation?

8. When discussing arrivals from the North in the North-Eastern hills areas, the DVD states that there have been NO significant changes with new routes here in green well to the East and North-East. Why does ASA consider that these changes are not significant?

9. In the map showing Non-Jet Departures to the South Further to the East the DVD states that further to the East, the new flight paths in green follow closely previous tracks in this area. The Non-Jet route to the North-East over Chidlow was moved

approx 7.5kms (4nm) to the East along Gt Eastern Hwy. By what measure does ASA consider that this route follows closely the previous track?

10. Air Services has new procedures that allow aircraft to perform Continuous Descent Approaches on reduced thrust. People in the Hills say aircraft are not doing this, however. Can you explain why they wouldn't be following this procedure? Is this procedure enforceable?

## THINGS THAT NEED TO BE DONE

The Fairskies Group who represent a number of residents of the Perth Hills are of the opinion that the following changes are needed to alleviate an unfair environmental burden on residents both in Western Australia as a result of the West Australian Route Review Project (WARRP) and nationally at other airports or in the future.

### 1. REVIEW OF WARRP

We believe that a full safety and environmental review should be conducted urgently regarding the post-WARRP impact on Perth residents and such a review should include a full and proper public consultation process. The terms of this review should necessarily include minimising the unfair environmental burden placed on some Perth Residents.

### 2. MINISTERIAL OVERSIGHT

Greater Ministerial over-sight of Airspace and air route changes particularly with Airport Terminal Control Areas is required during any future airspace or air route change process.

### 3. LEGISLATED ENVIRONMENTAL PRINCIPLES

Robust procedures compliant with the requirements of the EPBC Act and similar to Airservices "Environmental Procedures for the Minimising the Impact of Aircraft Noise" should be enshrined in the appropriate Legislation. Notwithstanding the primacy of safety, such procedures should give full and due consideration to the impact on the environment and public amenity.

### 4. AIRCRAFT NOISE COMPLAINT PROCESS

The processing of public Aircraft Noise complaints by the Airservices Noise Enquiry Unit and Airport Community Consultation Forums should include mechanisms to enable positive action for outcome changes on behalf of the complainants.

### 5. NOISE IMPACTS FAR FROM THE AIRPORT BOUNDARY

Recognition is needed within the appropriate government agencies that aircraft noise can be a significant problem at locations beyond the limits of airport ANEF/ANEI corridors, particularly where elevated terrain to the East of Perth Airport makes the establishment of airport arrival and departure routes problematic. Operations of aircraft outside of normal route structures and descent profiles may also cause unexpected noise in places not usually subject to aircraft overflights.

### 6. ASA PUBLIC CONSULTATION MODEL

As has already been admitted by ASA, the consultation process was inadequate. The chief consultative body's (PANMCC) requests for further information was ignored and changes were put in place without the knowledge and/or assent of that body and, consequently the general community. There must be full and proper consultations with the community before such measures are put in place with the understanding that often consultation can result in a win-win situation. Allowance should be made for

the appointment of appropriate independent technical advisors during community forum briefings.

**7. SHORTCUT AIR TRAFFIC CLEARANCES**

A mechanism is needed within the controlling legislation to ensure that sufficient oversight is applied to the issuing of track direct to way-point clearances by Air Traffic Control Services within the Airport Terminal Area. We believe such increased oversight is needed to ensure that these "short cuts" are approved only in cases of genuine safety and operational need and that at all times prior to the issuing of clearance that full and proper consideration is given to the impact of noise and loss of amenity on the residents below the overflight area.

**8. CDA AND "NOT BELOW" ALTITUDES**

To encourage the use of Continuous Descent Approaches within the Perth Airport Control Area and thus further reduce noise impact and fuel consumption, consideration should be given to the application of "Not Below" altitudes on all arrival routes over the Perth Hills and other applicable areas or routes. Often aircraft are observed to be overflying areas at a much height less than expected if they adhered to an ideal 3 degree descent profile.

**9. RELOCATION OF PERTH AIRPORT**

Further consideration should be given to the relative benefits of relocating the Perth Airport. Calculations of the costs and benefits should naturally include the potential value by the subsequent sale of the existing airport land.

**10. FACILITY SHARING AT PEARCE AIR BASE**

Consideration should be given to using Pearce Air base to host Fly-In Fly-Out traffic and thus ease the congestion on peak hour aircraft routes within the Perth Airport Terminal Area. A number of Air bases around the country already carry out such traffic sharing.

**10. PERTH AIRPORT NOISE CURFEW**

A night-time curfew for Perth Airport as in place at other national airports should be reasonably considered. Such consideration should not only focus on the economic impact but should consider equally the effects on Environment and Public Amenity.

**11. FAIRSKIES MEMBER ON AIPORT COMMUNITY FORUM.**

As an organisation representing the view of a section of the community we would wish to have a voice on Perth Airport Community Consultative Committee.

# Senate Estimate Questions – Airservices Australia

1. Going forward, what specific model of community consultation does Airservices Australia propose to undertake?
    (a) In what circumstances will consultation occur?
    (b) Who will be consulted?
    (c) Will this information be of a technical or practical nature?
    (d) Will there be direct community consultation?
    (e) If there is community consultation:
        - in what manner will this be conducted;
        - what will be the model of advertising this consultation;
        - how will you determine which localities should be included in the consultation; and
        - will the community consultation include a process for community feedback to reported back to Airservices Australia for planning?

2. What are the different process/models of consultation used around Australia?
    During the meeting hosted by the Shire of Mundaring, it was said that Airservices Australia frequently attends public meetings
    (a) Are public meetings a standard process for community consultation at any airports in Australia?
    (b) Are there other forms of direct community consultation used at any airports in Australia?
    (c) Are there differences in constitution and terms of references between PANMCC and other similar bodies across Australia?
    (d) Does Airservices Australia foresee any reason why a consistent community consultation cannot be mandatory across Australia for different levels of airport? For example, is it possible that all major airports, or all airports with a specified traffic capacity have the same community consultation process?
    (e) If this is not possible please explain why different community consultation processes would be appropriate in different circumstances.

3. Notwithstanding the complexity of the Perth airspace, in the initial phase of the WARRP, were there any other routes considered?
    (a) If at any time during WARRP, alternative flight paths were considered:
        - can you provide a diagrammatic example of these paths;
        - what were the specific reasons that each of the potential paths were not pursued further; and

- was the range of potential flight paths made known to any airline prior to a final determination of flight paths being made?

(b) What is the reason (by reference to diagrams if necessary) that the flight paths could not be located more extensively over national and state parks in the Darling Range locality.

4. What consultation takes place between Airservices Australia and any airline during route reviews?
   (a) It is entirely reasonable there be some level of consultation between airlines, airports and Airservices Australia. In the process of a route review, what is the relative degree of importance given to feedback received from airlines, compared to all other considerations?
   (b) What is the level of disclosure during consultations with any airlines, what information is shared and what information do they have access to.
   (c) What was the nature the consultation between Airservices Australia and any airlines during the WARRP.

5. What action is taken by Airservices Australia upon receiving a specific complaint through the Noise Enquiry Unit detailing the height, time, direction, noise and airline or other information that can identify an aircraft flying outside the Airservices Australia guidelines?
   (a) Are there any repercussions for airlines whose aircraft fly in contravention on the WARRP guidelines?

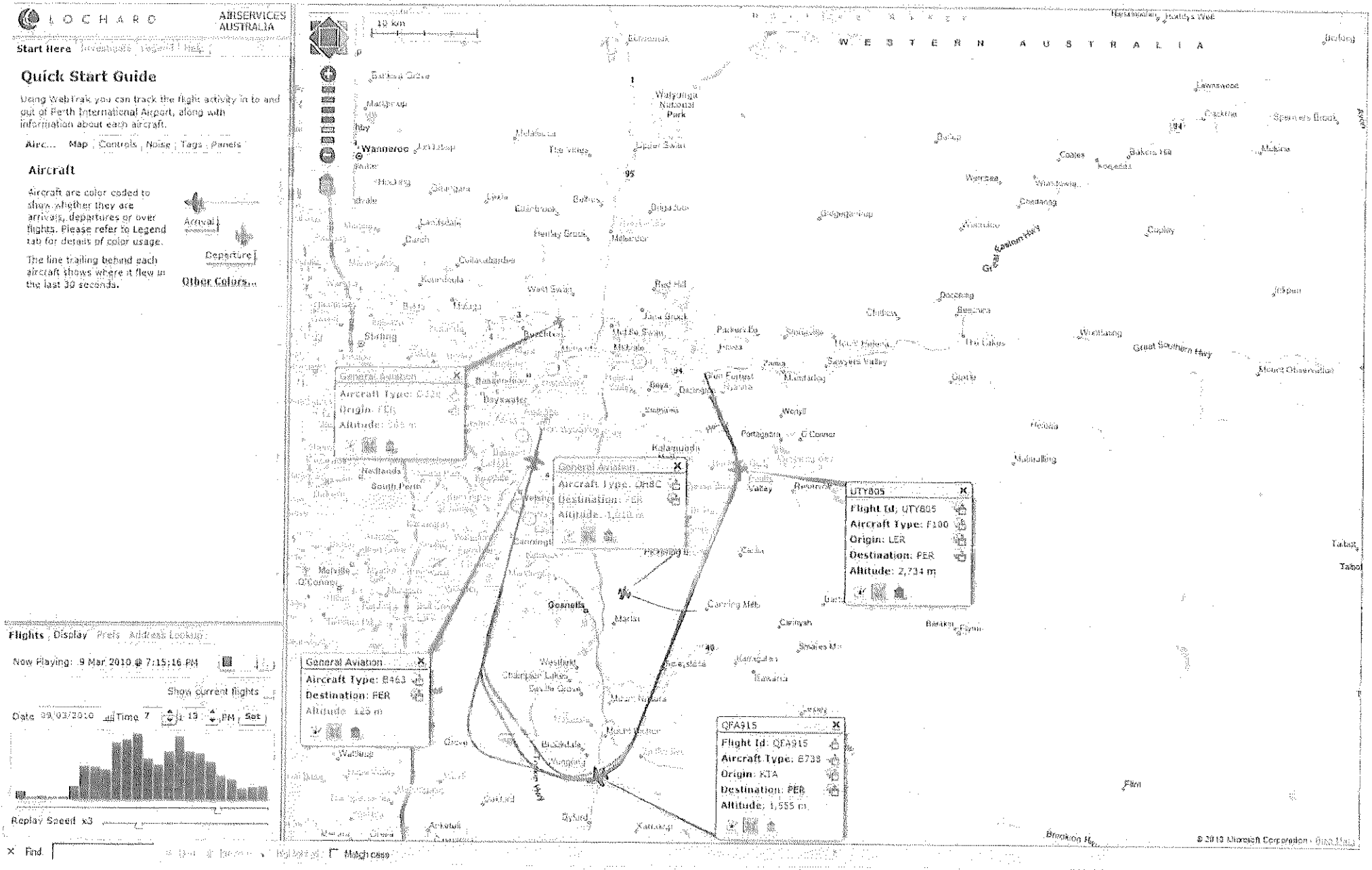
6. Was the WARRP instigated in response to the CASA audit report from 2002 or 2003?
   Within correspondence from Airservices Australia and on its website numerous references are made to a CASA audit from 2002, however when the Hon Judi Moylan MP made a Freedom of Information Request for the *relevant* CASA audit that prompted WARRP a copy of the CASA audit report number 03-01 completed on 27 June 2003 was provided.
   (a) If the relevant CASA Audit Report was number 03-01, please provide a reference point to the relevant safety concerns that led to the WARRP being undertaken, as these concerns are not apparent from the information provided under the FOI request.
   (b) If the relevant CASA Audit Report was not number 03-01, why was this report provided in response to the FOI request?

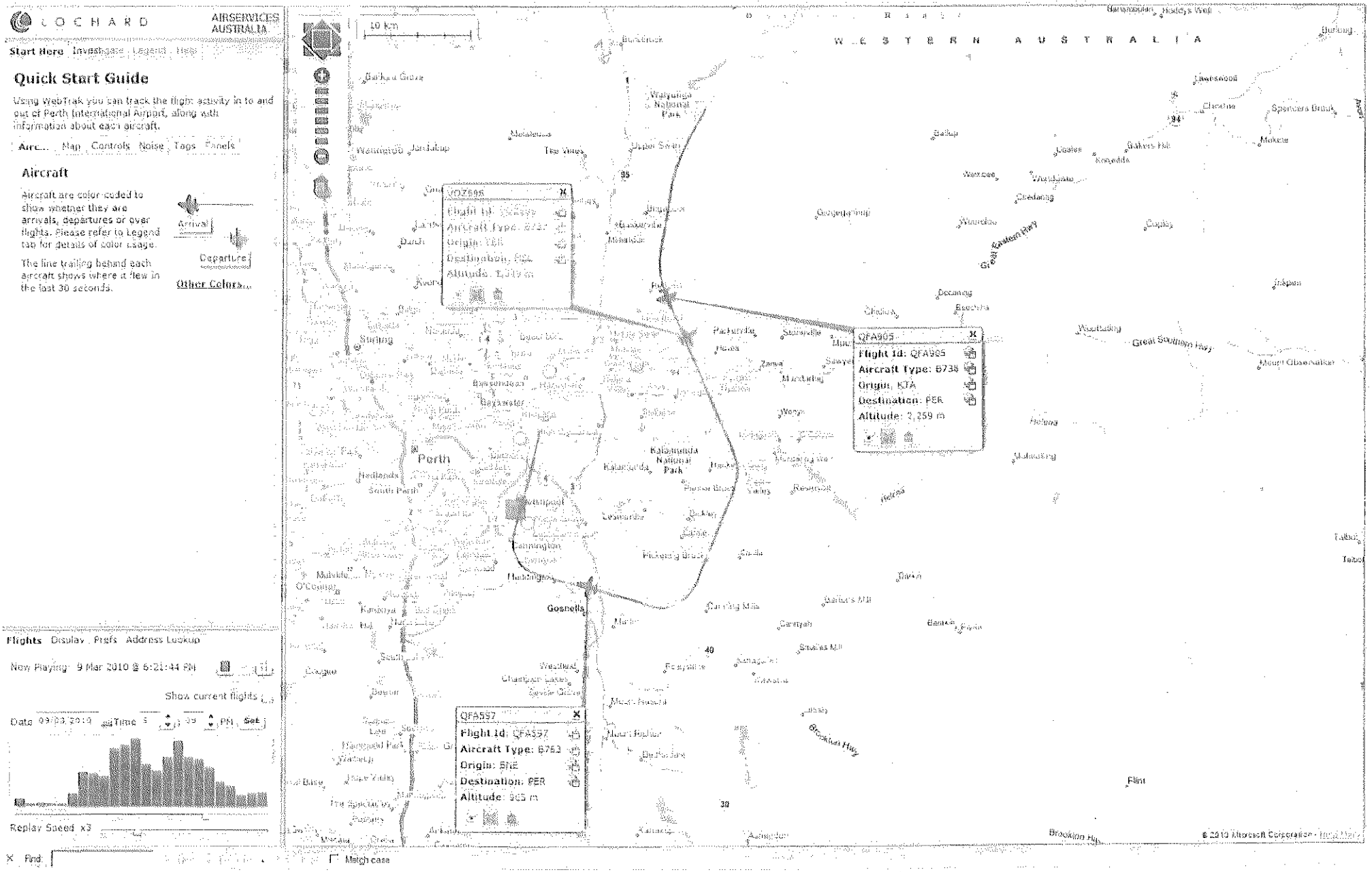
7. Does Airservices Australia have any control over the frequency of flights?
   It was stated at the public meeting hosted by the Shire of Mundaring that the frequency of flights is decided by airlines and not by Airservices Australia. However, new lateral separation minima was introduced as a part of WARRP that allowed GPS certified aircraft to be separated laterally by 7+7+1 nautical miles, i.e. 15 nautical miles. Prior to WARRP this it was 29 nautical miles.

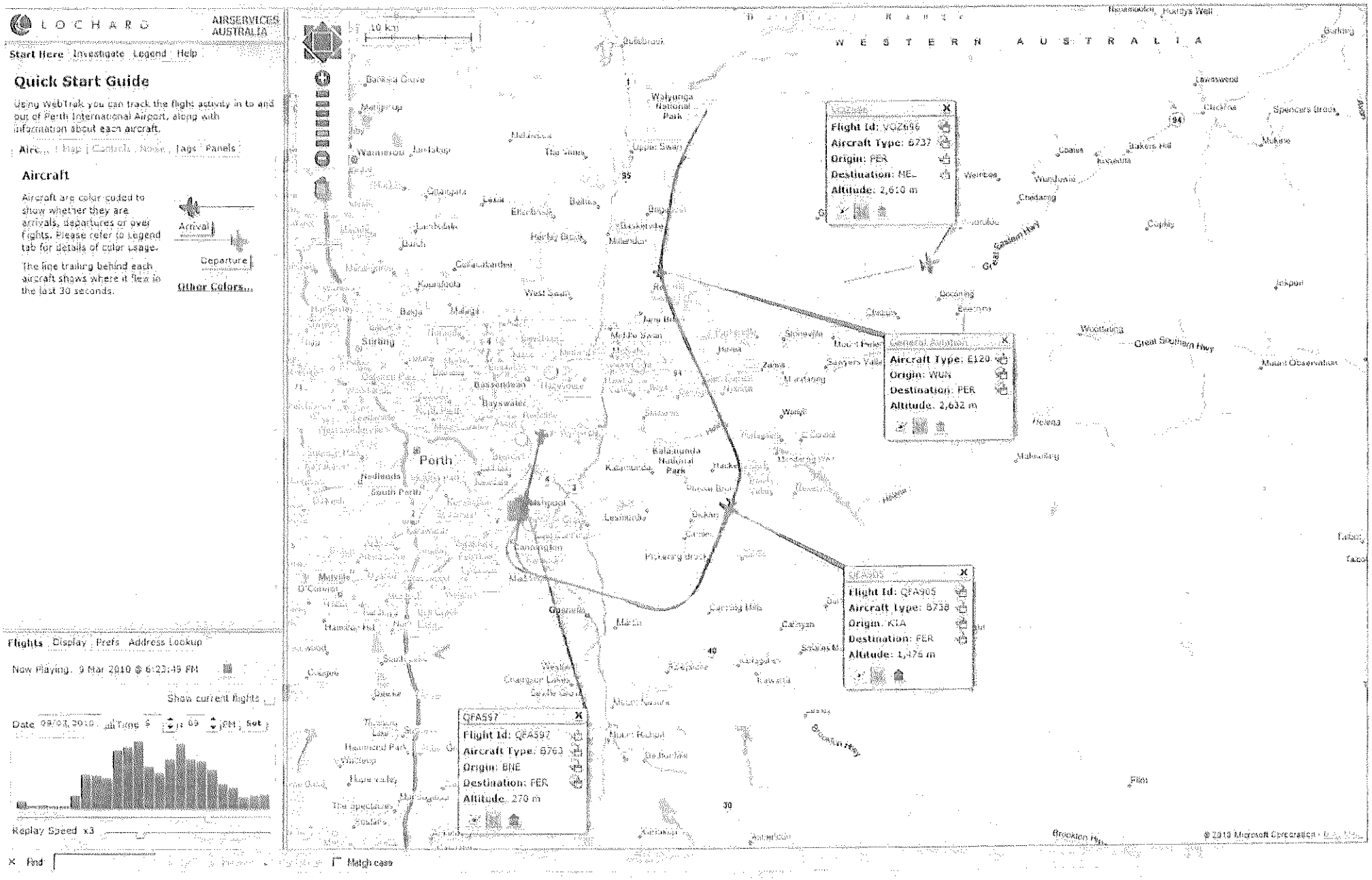
   When aircraft are flying in the Perth Control area, they are generally limited to a max speed of 250 knots. At his speed, a 15 nautical mile separation equates to 3.5 minutes.

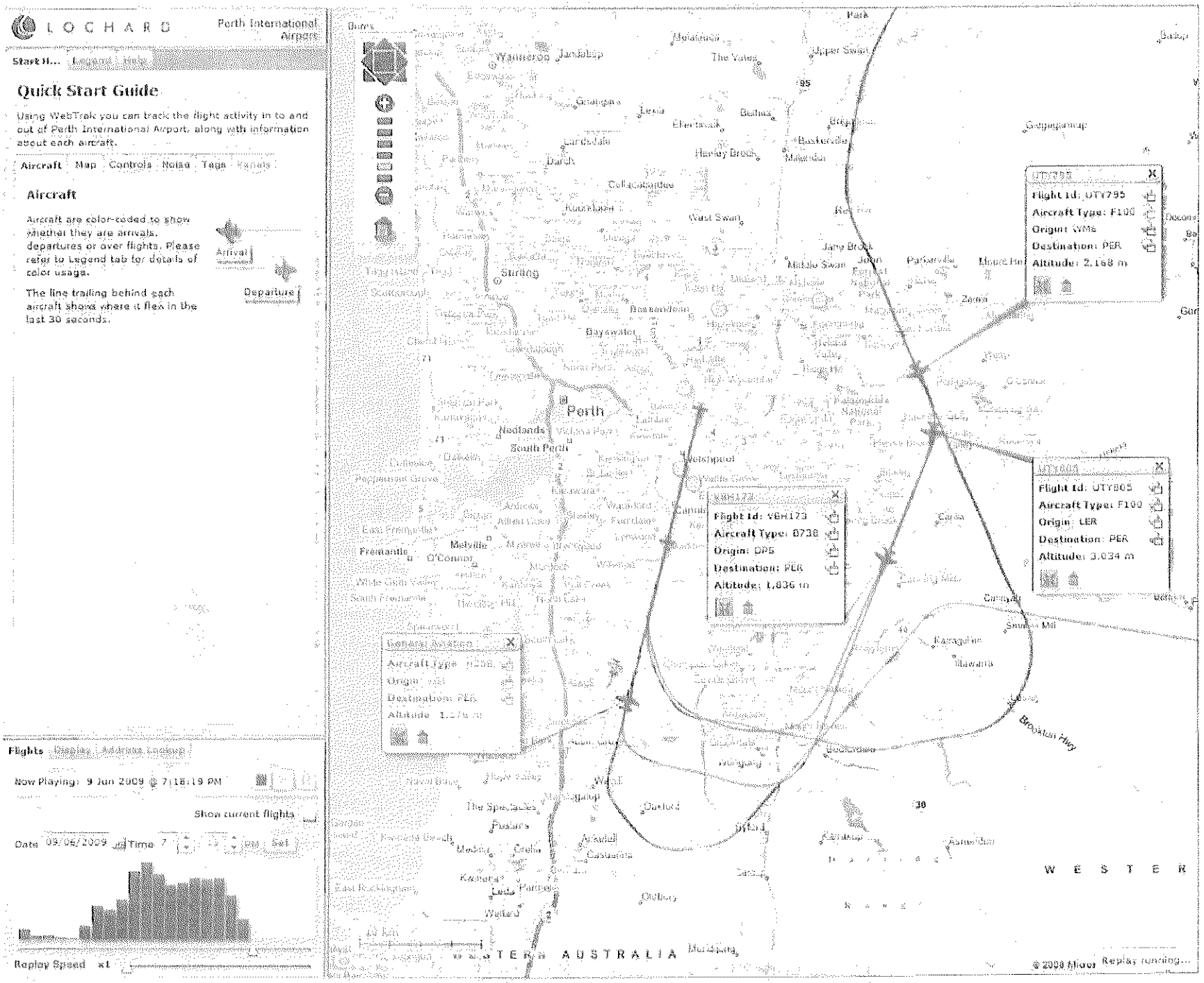
(a) Does the lateral separation minima dictate to the airlines what the maximum frequency of flights is, as residence in the Darling Range locality have frequently reported that planes often fly overhead in intervals of 3.5 minutes?

8. Under the new flight paths for Perth Airport is there any circumstances in which jet and non-jet aircraft may share the flight track albeit with some vertical separation?


LOCHARD
AIRSERVICES AUSTRALIA
Start Here
Quick Start Guide
Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Aircraft
Aircraft are color coded to show whether they are arriving, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights
Display
Prefs
Address Lookup
Now Playing: 9 Mar 2010 @ 7:15:16 PM
Show current flights
Date 09/03/2010
Time 7
19
PM
Set
Replay Speed x3
Find
Match case
WESTERN AUSTRALIA
General Aviation
Aircraft Type: C525
Origin: FER
Altitude: 265 m
General Aviation
Aircraft Type: GA8C
Destination: FER
Altitude: 1,219 m
General Aviation
Aircraft Type: B463
Destination: PER
Altitude: 125 m
UTY805
Flight Id: UTY805
Aircraft Type: F100
Origin: LER
Destination: PER
Altitude: 2,734 m
QFA915
Flight Id: QFA915
Aircraft Type: B738
Origin: KTA
Destination: PER
Altitude: 1,555 m
Great Eastern Hwy
Great Southern Hwy
Mount Observation
Tutanning
Taboo
Flinn
© 2010 Microsoft Corporation


LOCHARD
AIRSERVICES AUSTRALIA
Start Here Investigate Legend Help
Quick Start Guide
Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Aire... Map Controls Noise Tags Panels
Aircraft
Aircraft are color coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights Display Prefs Address Lookup
Now Playing: 9 Mar 2010 @ 6:21:44 PM
Show current flights
Date 09/03/2010 Time 6 35 PM Set
Replay Speed x3
Find:
Match case
10 km
WESTERN AUSTRALIA
Perth
Fremantle
Joondalup
Mandurah
Armadale
Gosnells
Kalamunda National Park
Walyunga National Park
Great Eastern Hwy
Great Southern Hwy
Brookton Hwy
VOZ505
Flight Id: [redacted]
Aircraft Type: A320
Origin: PER
Destination: [redacted]
Altitude: [redacted] m
QFA905
Flight Id: QFA905
Aircraft Type: B738
Origin: KTA
Destination: PER
Altitude: 3,359 m
QFA557
Flight Id: QFA557
Aircraft Type: B763
Origin: BNE
Destination: PER
Altitude: 905 m
© 2010 Airservices Corporation


LOCHARD
AIRSERVICES AUSTRALIA
Start Here | Investigate | Legend | Help
Quick Start Guide
Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Aircraft
Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights | Display | Prefs | Address Lookup
Now Playing: 9 Mar 2010 @ 6:23:49 PM
Show current flights
Date: 09/03/2010 at Time: 9 : 09 PM Set
Replay Speed x3
Find
Match case
WESTERN AUSTRALIA
Perth
Flight Id: VOZ696
Aircraft Type: B737
Origin: PER
Destination: MEL
Altitude: 2,610 m
Aircraft Type: E120
Origin: WUN
Destination: PER
Altitude: 2,632 m
Flight Id: QFA905
Aircraft Type: B738
Origin: KTA
Destination: PER
Altitude: 1,475 m
QFA597
Flight Id: QFA597
Aircraft Type: B763
Origin: BNE
Destination: PER
Altitude: 270 m
© 2010 Microsoft Corporation



Quick Start Guide

Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.

Aircraft

Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.

The line trailing behind each aircraft shows where it flew in the last 30 seconds.

Now Playing: 9 Jun 2009 @ 7:18:19 PM

Show current flights

Date 09/06/2009 Time 7 : [illegible] PM Set

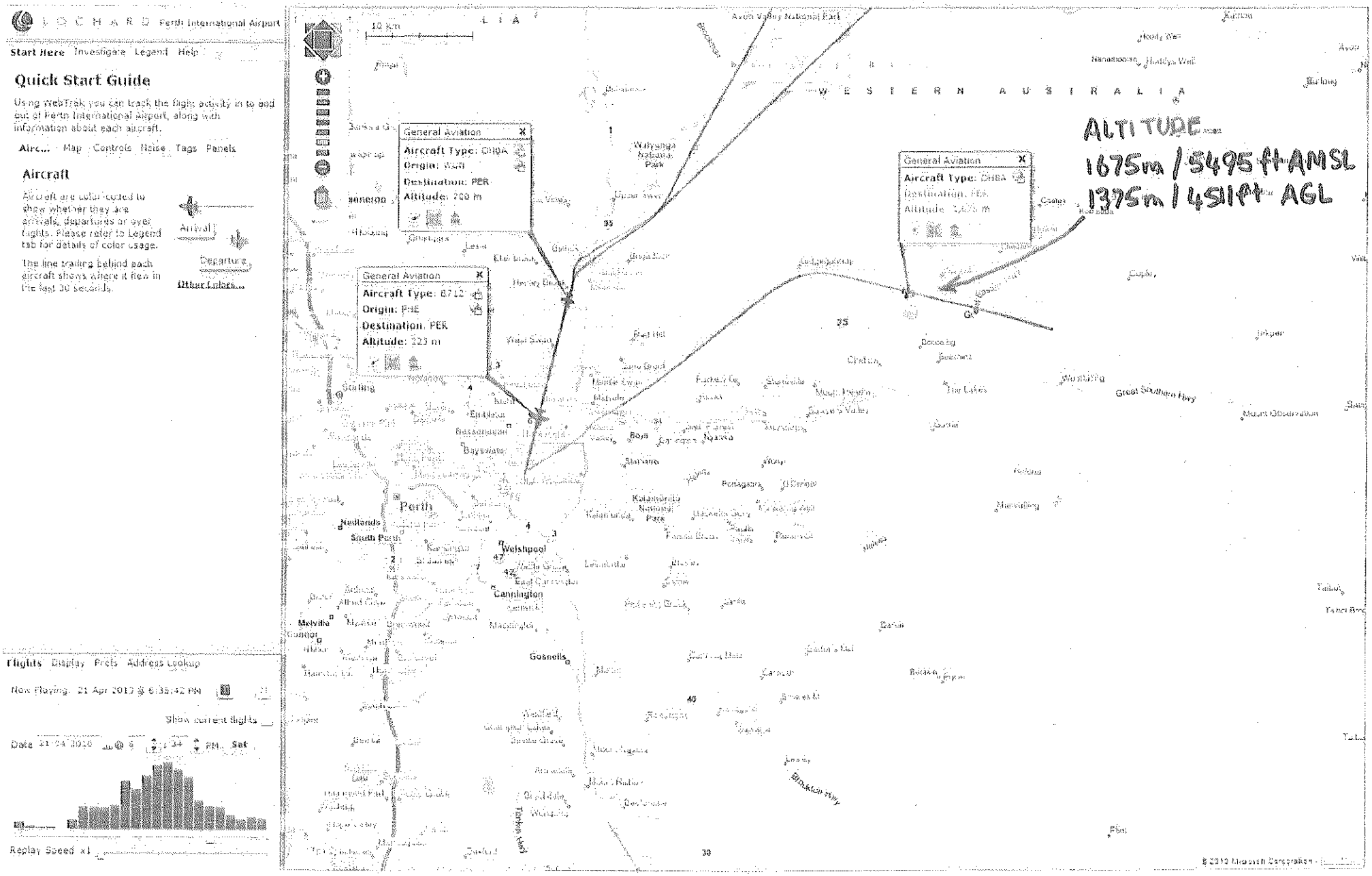
Replay Speed x1

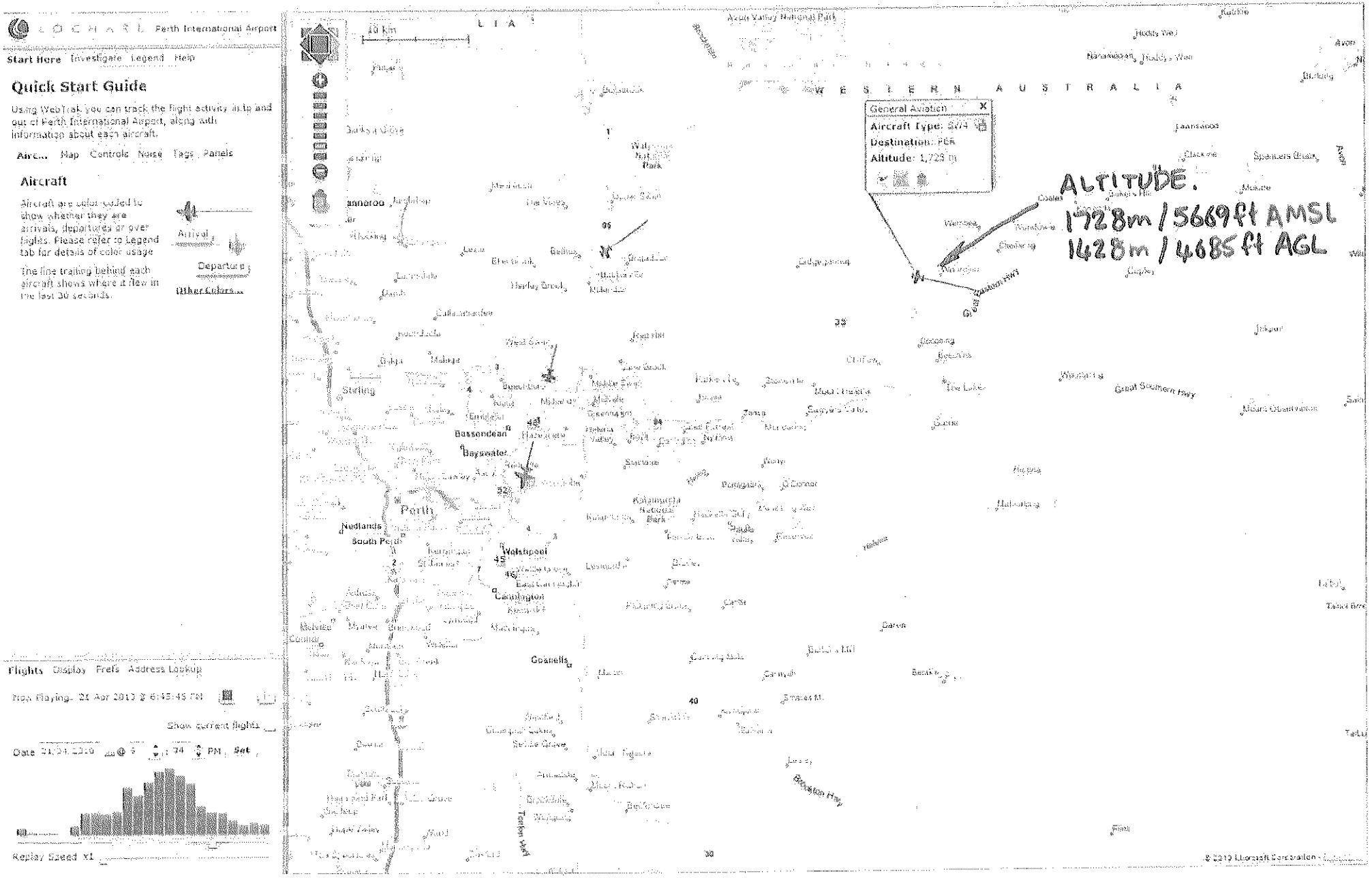
General Aviation
Aircraft Type: [illegible]
Origin: [illegible]
Destination: PER
Altitude: [illegible]

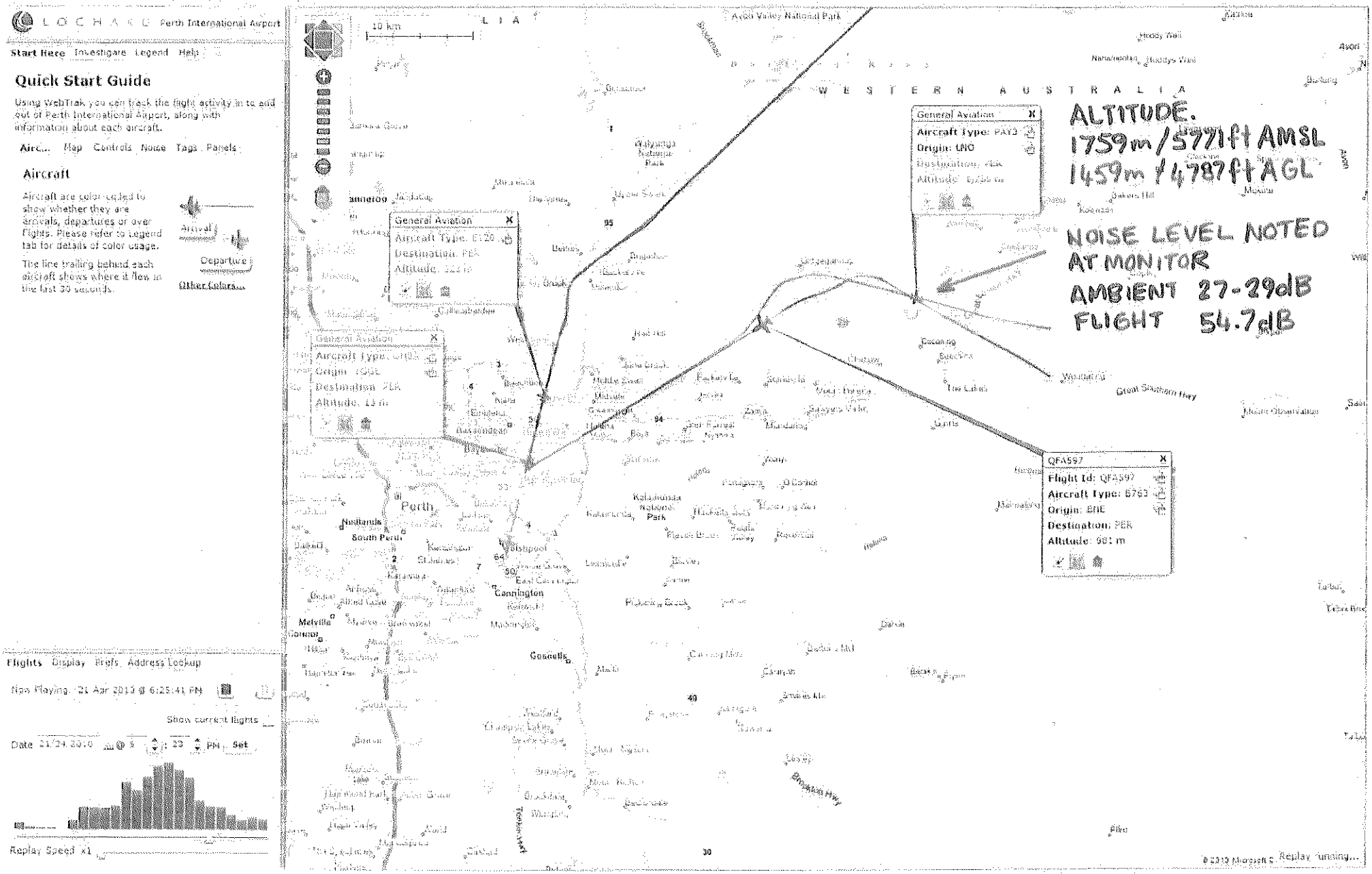
VBH173
Flight Id: VBH173
Aircraft Type: B738
Origin: DPS
Destination: PER
Altitude: 1,836 m

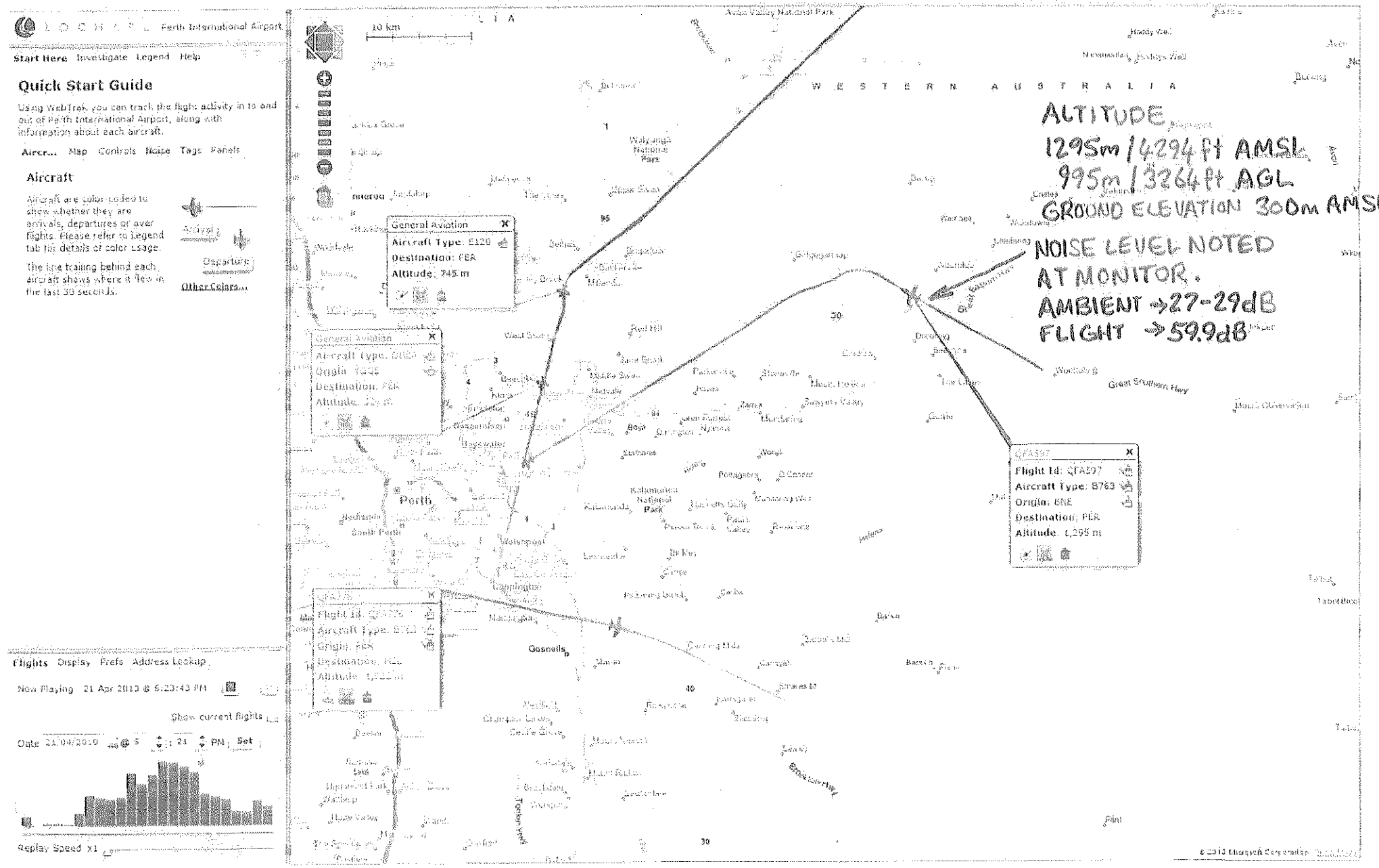
UTY795
Flight Id: UTY795
Aircraft Type: F100
Origin: WMS
Destination: PER
Altitude: 2,168 m

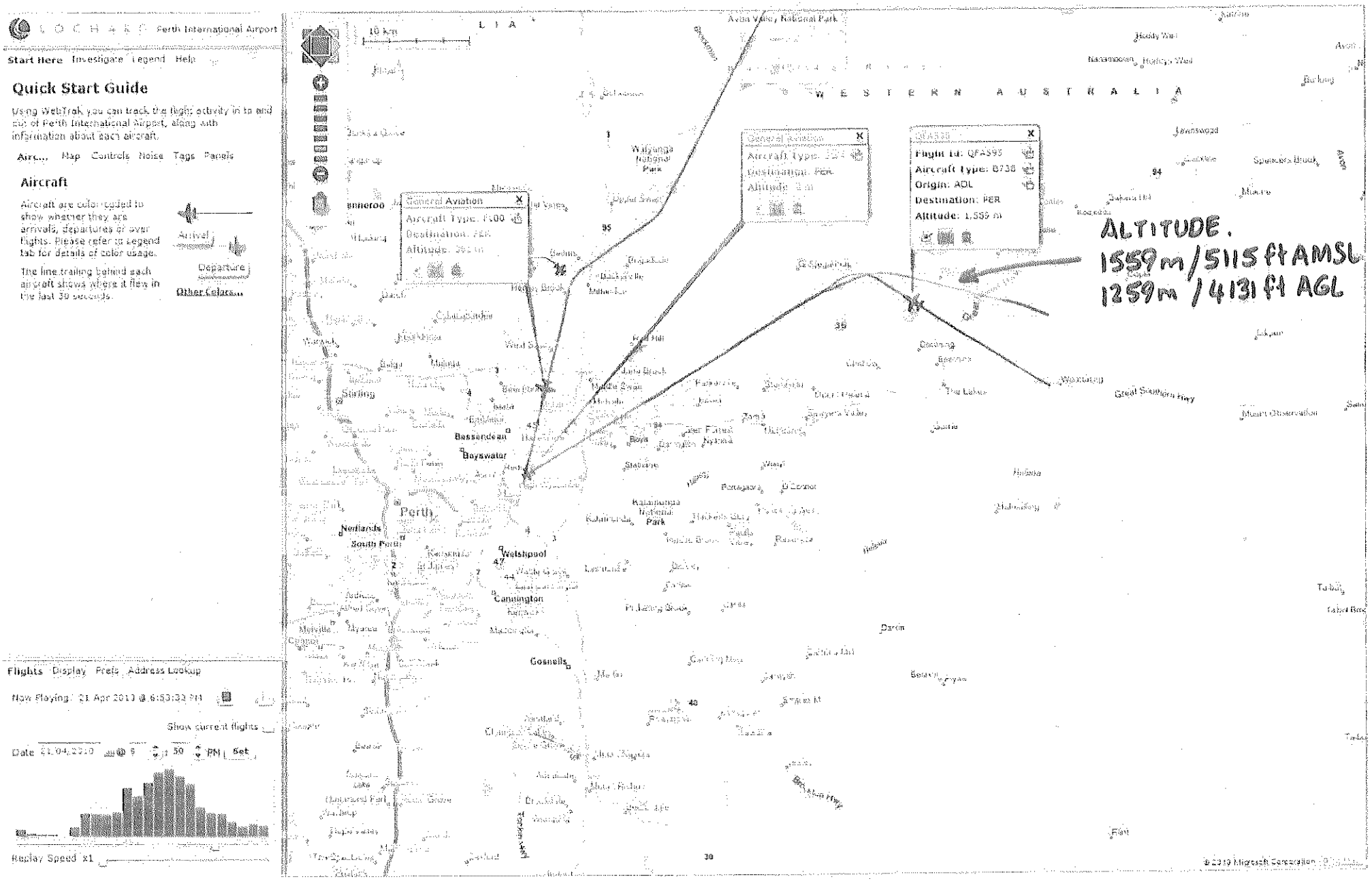
UTY805
Flight Id: UTY805
Aircraft Type: F100
Origin: LER
Destination: PER
Altitude: 3,034 m

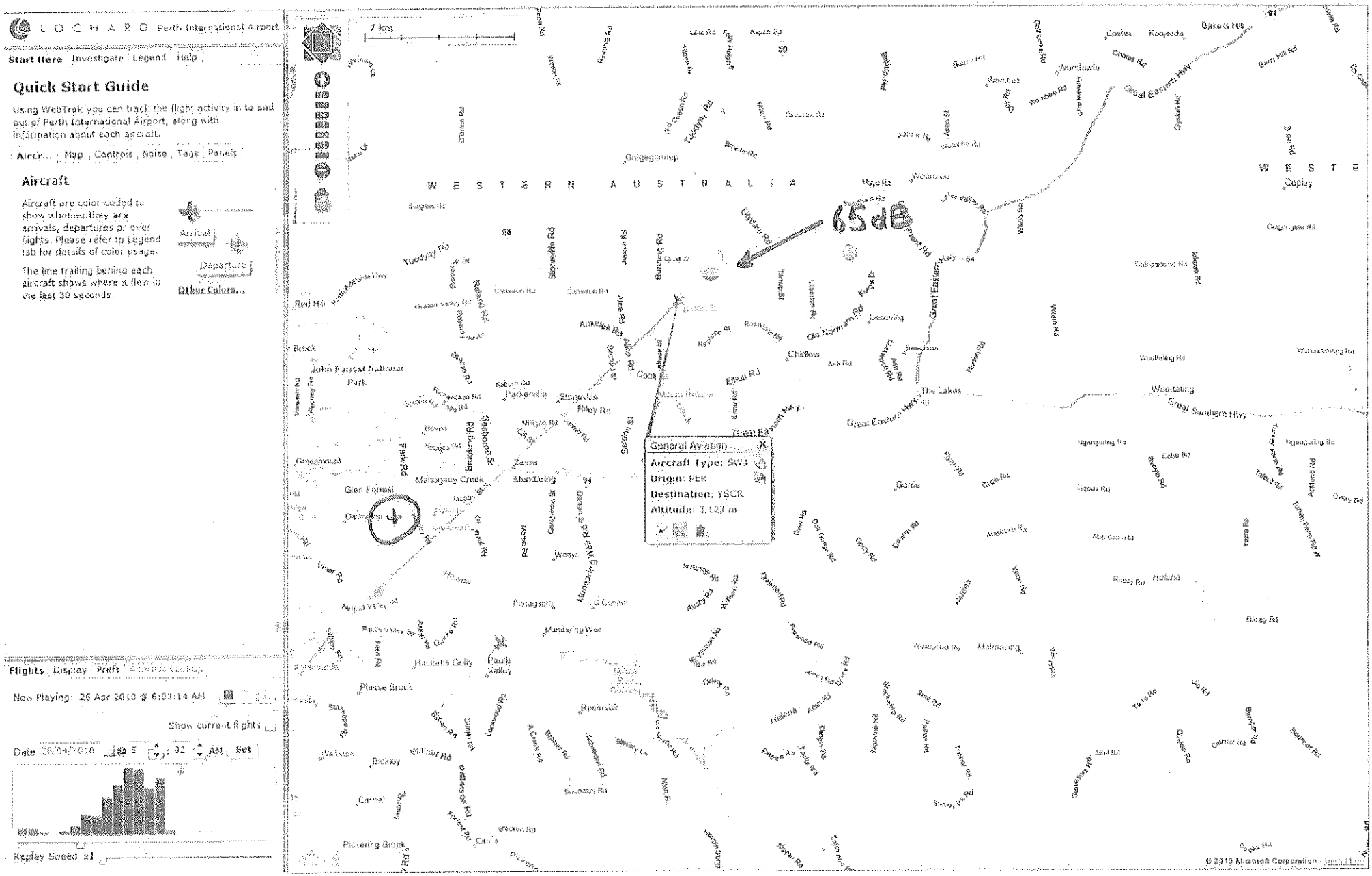

I S C H A R D Perth International Airport
Start Here Investigate Legend Help
Quick Start Guide
Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Airc... Map Controls Noise Tags Panels
Aircraft
Aircraft are color coded to show whether they are arrivals, departures or overflights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Links...
10 Km
W E S T E R N A U S T R A L I A
General Aviation
Aircraft Type: DH8A
Origin: WUN
Destination: PER
Altitude: 700 m
General Aviation
Aircraft Type: B712
Origin: PHE
Destination: PER
Altitude: 323 m
General Aviation
Destination: PER
Altitude: 1,675 m
ALTITUDE
1675m / 5495 ft AMSL
1375m / 4511ft AGL
Perth
Fremantle
South Perth
Welshpool
Cannington
Melville
Cockburn
Gosnells
Kalamunda National Park
Great Southern Hwy
Flights Display Prefs Address Lookup
Now Playing: 21 Apr 2013 @ 6:35:42 PM
Show current flights
Date 21-04-2013 @ 6 : 34 PM Sat
Replay Speed x1


LOCHARD Perth International Airport
Start Here Investigate Legend Help
Quick Start Guide
Using WebTrak you can track the flight activity in, to and out of Perth International Airport, along with information about each aircraft.
Aire... Map Controls Noise Tags Panels
Aircraft
Aircraft are color coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights Display Prefs Address Lookup
Now Playing: 21 Apr 2013 @ 6:45:45 PM
Show current flights
Date 21/04/2013 @ 6 : 74 PM Set
Replay Speed x1
10 km
WESTERN AUSTRALIA
General Aviation
Aircraft Type: S/A
Destination: PER
Altitude: 1,728 m
ALTITUDE.
1728m / 5669ft AMSL
1428m / 4685ft AGL
Perth
Fremantle
Bassendean
Bayswater
Joondalup
Wanneroo
Rockingham
Mandurah
Armadale
Kalamunda
Midland
Swan Valley
Great Eastern Hwy
Great Northern Hwy
Brand Hwy
Tonkin Hwy
Kwinana Fwy
Mitchell Fwy
Canning Hwy
Stirling
Nedlands
South Perth
Welshpool
Cannington
Cockburn
Darling Range
Avon Valley National Park
© 2013 Lochard Corporation


LOCHARD Perth International Airport
Start Here Investigate Legend Help
Quick Start Guide
Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Airc... Map Controls Noise Tags Panels
Aircraft
Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights Display Prefs Address Lookup
Now Playing: 21 Apr 2013 @ 6:25:41 PM
Show current flights
Date 21/04/2013 @ 6 : 25 PM Set
Replay Speed x1
10 km
WESTERN AUSTRALIA
General Aviation
Aircraft Type: B120
Destination: PER
Altitude: 2210 ft
General Aviation
Aircraft Type: PA32
Origin: LNO
Destination: YPK
Altitude: 6250 ft
QFA597
Flight Id: QFA597
Aircraft Type: B763
Origin: BNE
Destination: PER
Altitude: 681 m
ALTITUDE.
1759m/5771ft AMSL
1459m/4787ft AGL
NOISE LEVEL NOTED
AT MONITOR
AMBIENT 27-29dB
FLIGHT 54.7dB
Perth
Fremantle
South Perth
Cannington
Armadale
Kalamunda National Park
Avon Valley National Park
Great Southern Hwy
Brookton Hwy
Replay running...


Perth International Airport
Start Here Investigate Legend Help
Quick Start Guide
Using WebTrak, you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Aircr... Map Controls Noise Tags Panels
Aircraft
Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights Display Prefs Address Lookup
Now Playing 21 Apr 2010 @ 6:23:43 PM
Show current flights
Date 22/04/2010 @ 5 : 24 PM Set
Replay Speed x1
10 km
WESTERN AUSTRALIA
General Aviation
Aircraft Type: E120
Destination: PER
Altitude: 745 m
Flight Id: QFA597
Aircraft Type: B763
Origin: SYD
Destination: PER
Altitude: 1,295 m
Perth
Fremantle
Joondalup
Mandurah
Gosnells
Great Southern Hwy
Brand Hwy
ALTITUDE
1295m / 4294 ft AMSL
995m / 3264 ft AGL
GROUND ELEVATION 300m AMSL
NOISE LEVEL NOTED AT MONITOR.
AMBIENT → 27-29dB
FLIGHT → 59.9dB


LOCHARD Perth International Airport
Start Here Investigate Legend Help
Quick Start Guide
Using WebTrak, you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Airc... Map Controls Noise Tags Panels
Aircraft
Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights Display Prefs Address Lookup
Now Playing: 21 Apr 2013 @ 6:53:33 PM
Show current flights
Date 21.04.2013 @ 9 : 50 PM Set
Replay Speed x1
10 km
L I A
W E S T E R N A U S T R A L I A
Avon Valley National Park
General Aviation
Aircraft Type: P100
Destination: PER
Altitude: 3500 ft
Flight Id: QFA595
Aircraft Type: B738
Origin: ADL
Destination: PER
Altitude: 1,559 m
ALTITUDE.
1559m/5115ft AMSL
1259m/4131ft AGL
Bassendean
Bayswater
Perth
Nedlands
South Perth
Welshpool
Cannington
Cosnells
Darch
Great Southern Hwy
Mount Observation
Tabl
Talbot Brook
Fitzgerald River National Park
© 2013 Microsoft Corporation


LOCHARD Perth International Airport
Start Here | Investigate | Legend | Help
Quick Start Guide
Using WebTrak you can track the flight activity in to and out of Perth International Airport, along with information about each aircraft.
Aircr... | Map | Controls | Noise | Tags | Panels
Aircraft
Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.
The line trailing behind each aircraft shows where it flew in the last 30 seconds.
Arrival
Departure
Other Colors...
Flights | Display | Prefs | Address Lookup
Now Playing: 26 Apr 2010 @ 6:03:14 AM
Show current flights
Date 26/04/2010 @ 5 : 02 AM Set
Replay Speed x1
7 km
WESTERN AUSTRALIA
65dB
General Aviation
Aircraft Type: SW4
Origin: PER
Destination: YSCR
Altitude: 3,123 m
Great Eastern Hwy
Great Southern Hwy
Bakers Hill
Coppley
Wooroloo
Chidlow
The Lakes
Woottating
Gidgegannup
Mahogany Creek
Glen Forrest
Darlington
Hovea
Parkerville
Stoneville
Riley Rd
Elliott Rd
Old Northam Rd
Abernethy Rd
Red Rd
Brook
John Forrest National Park
Hacketts Gully
Paulls Valley
Please Brook
Pickering Brook
Carmel
Jackley
Reservoir
Mundaring Weir
Mundaring
Helena
Holmes
Gaines
Abercrombi Rd
Ridley Rd
Yarra Rd
Ellis Rd
Great Eastern Hwy
Great Southern Hwy
© 2010 Microsoft Corporation

Ms Sharon Davies
28 Apr 10 (p1 of 2)
Perth aircraft noise inquiry



Action Required

- WAC's organizational structure is currently being revamped.
- WAC is in a strong financial position and is undertaking refinancing to fund the expected capital infrastructure programme.

2. MINUTES OF PREVIOUS MEETING – 28 JUNE 2006

2.1 The minutes were accepted as a true and correct record of the meeting.

3. MATTERS ARISING FROM THE MINUTES

3.1 All matters arising were agenda items. (see below)

4. CORRESPONDENCE

4.1 There were no comments regarding correspondence.

5. PRESENTATION – AIRSERVICES AUSTRALIA – WA ROUTE REVIEW

5.1 Presented by Lance Dale with assistance from Iain Millward, Darren Bennett. Refer to information posted at www.airservicesaustralia.com/wa/future/review.asp

5.2 Responding to a question by Mr Collins, Mr Dale and Mr Miller explained the aircraft distribution to the 40 superseded tracks over the Swan River and the tracks further south.

5.3 Mr Bennett explained that Airservices have a process of environmental assessment for proposed changes to flight tracks. Every effort is made to locate a proposed track so as environmentally acceptable assessment is significant. Airservices refer the proposal to the Department of Environment and Heritage for assessment. The DEH decide what level of environmental assessment is required prior to making a decision.

5.4 Environmental assessment includes noise levels, population numbers affected and engine emissions.

Mr Reynish requested that the environmental assessment reports be made available to committee members. In the interests of time prior to track changes being enacted.

Although not normally public documents, Airservices may release them to committee members if the committee formally request them. WAC will write to Airservices.

Mr Peterson

6. FUTURE ROLE OF NOISE MANAGEMENT STRATEGY COMMITTEE

6.1 The draft Terms of Reference and the new name of Aircraft Noise Management Consultative Committee were accepted by the committee.

6.2 The working group will now develop strategies and action plans.

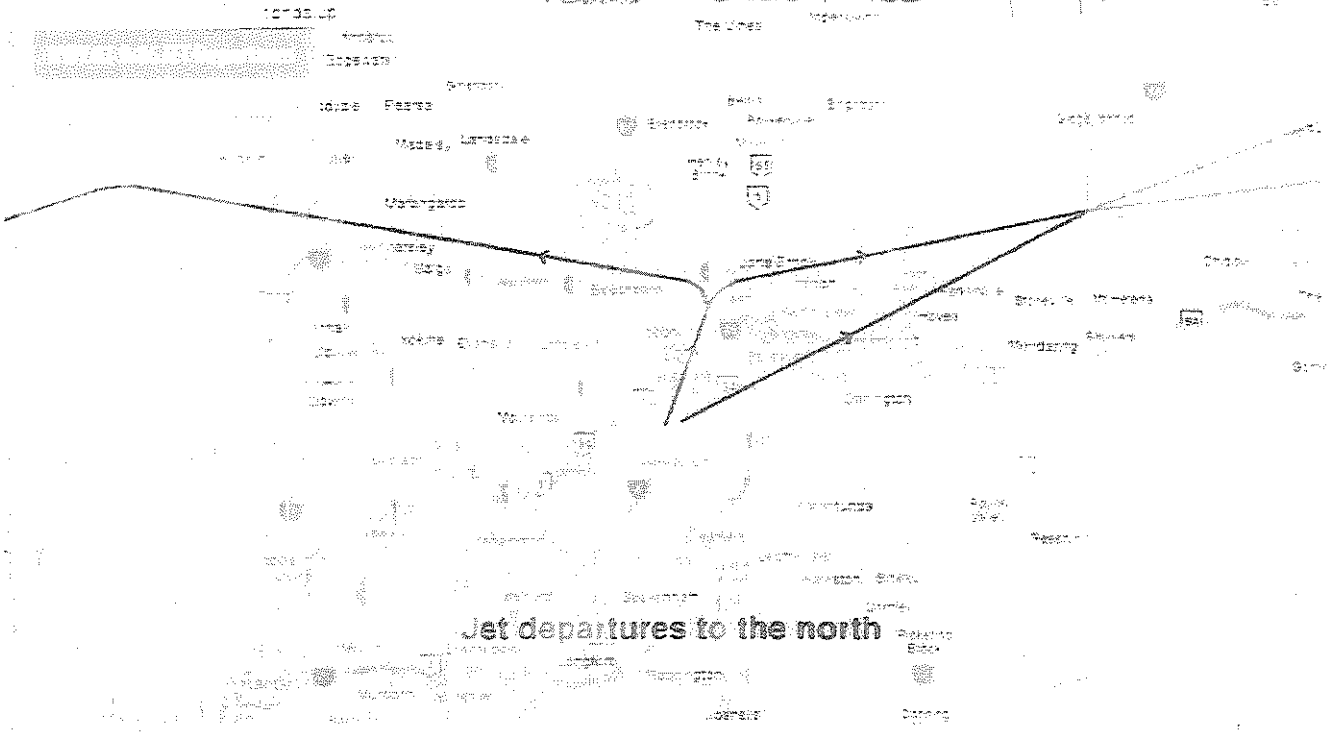
Mr Petersen

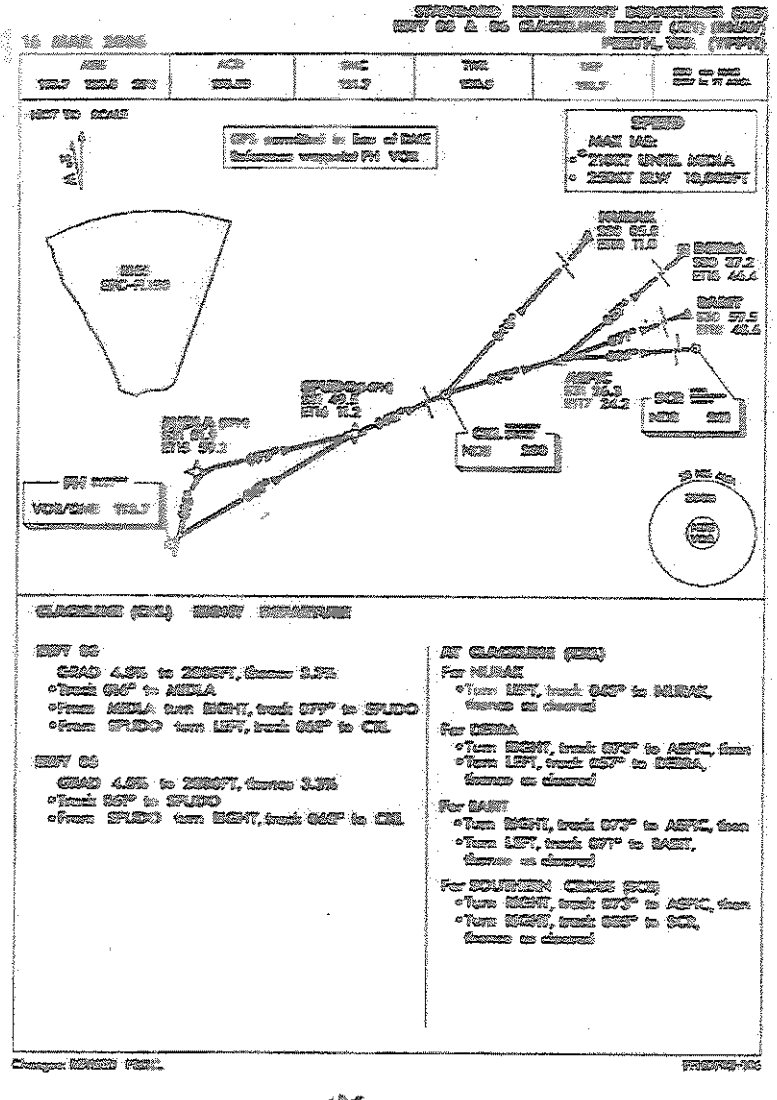
7. POPULATION ANALYSIS, APPROACHES FROM THE WEST TO RUNWAY 03

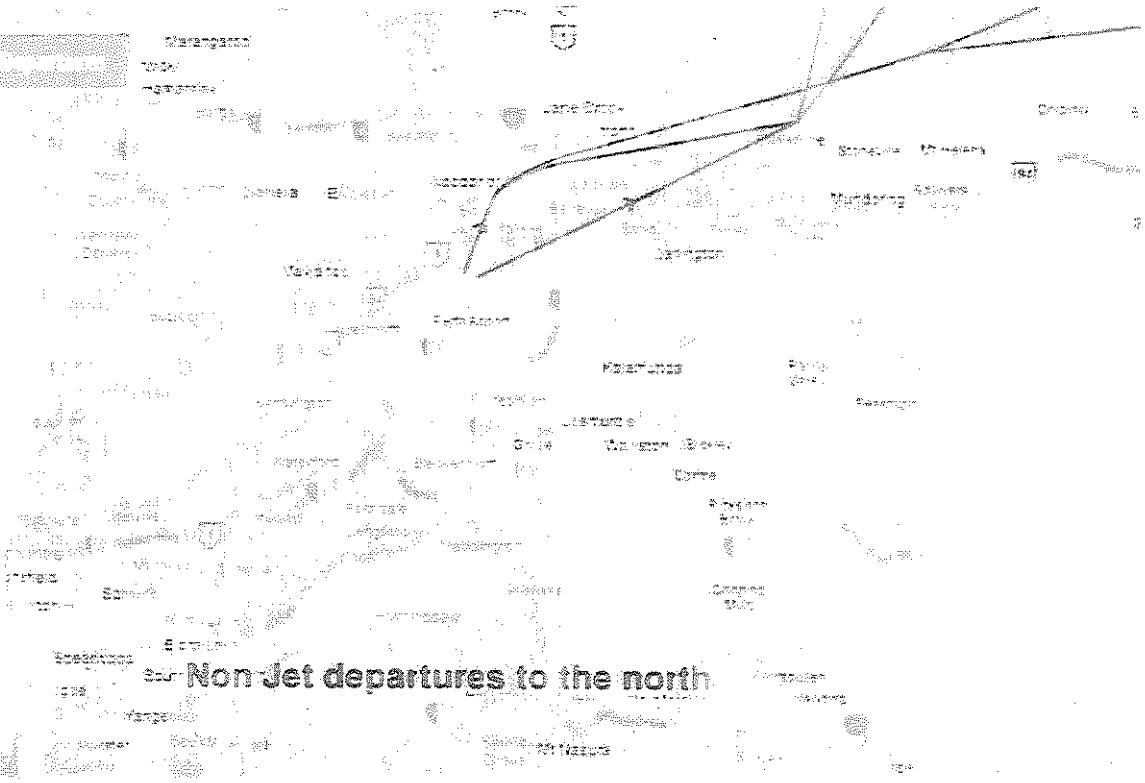
7.1 This set up of various tracks and numbers of people affected (refer to minutes dated 27 October 2004 for details) has been superseded by the current WA Route Review, Item 5 above.

PMB Doc # 4-6

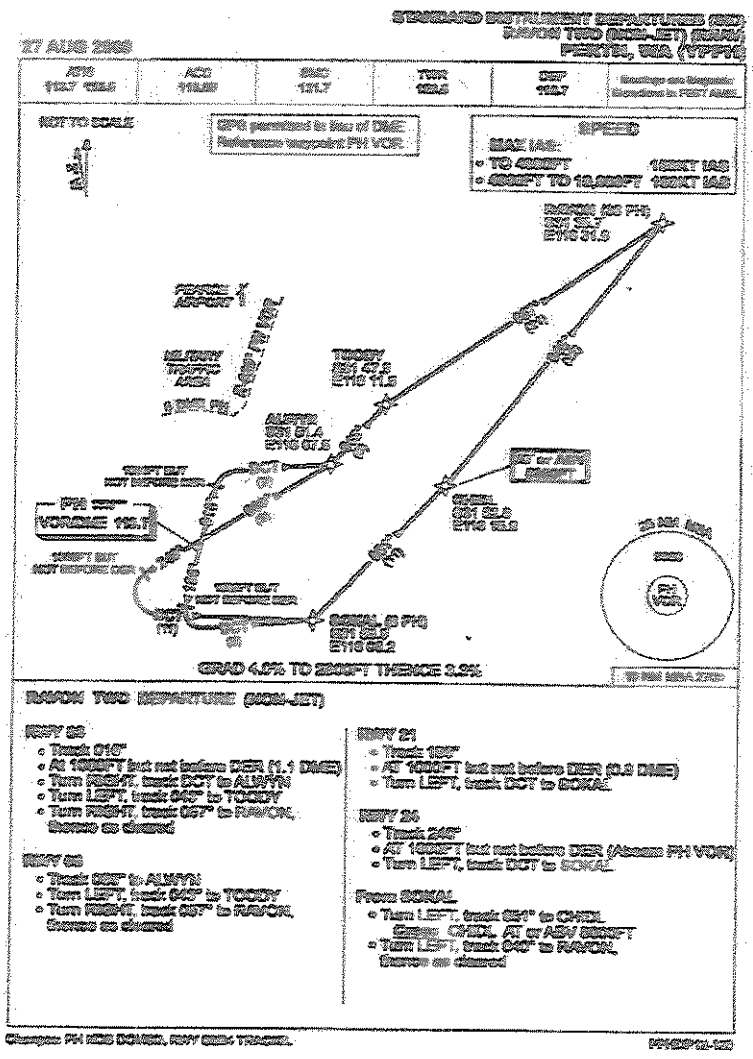
Tabled 28/4/10 by Fair Skies.
Perth Aircraft Noise Inquiry.



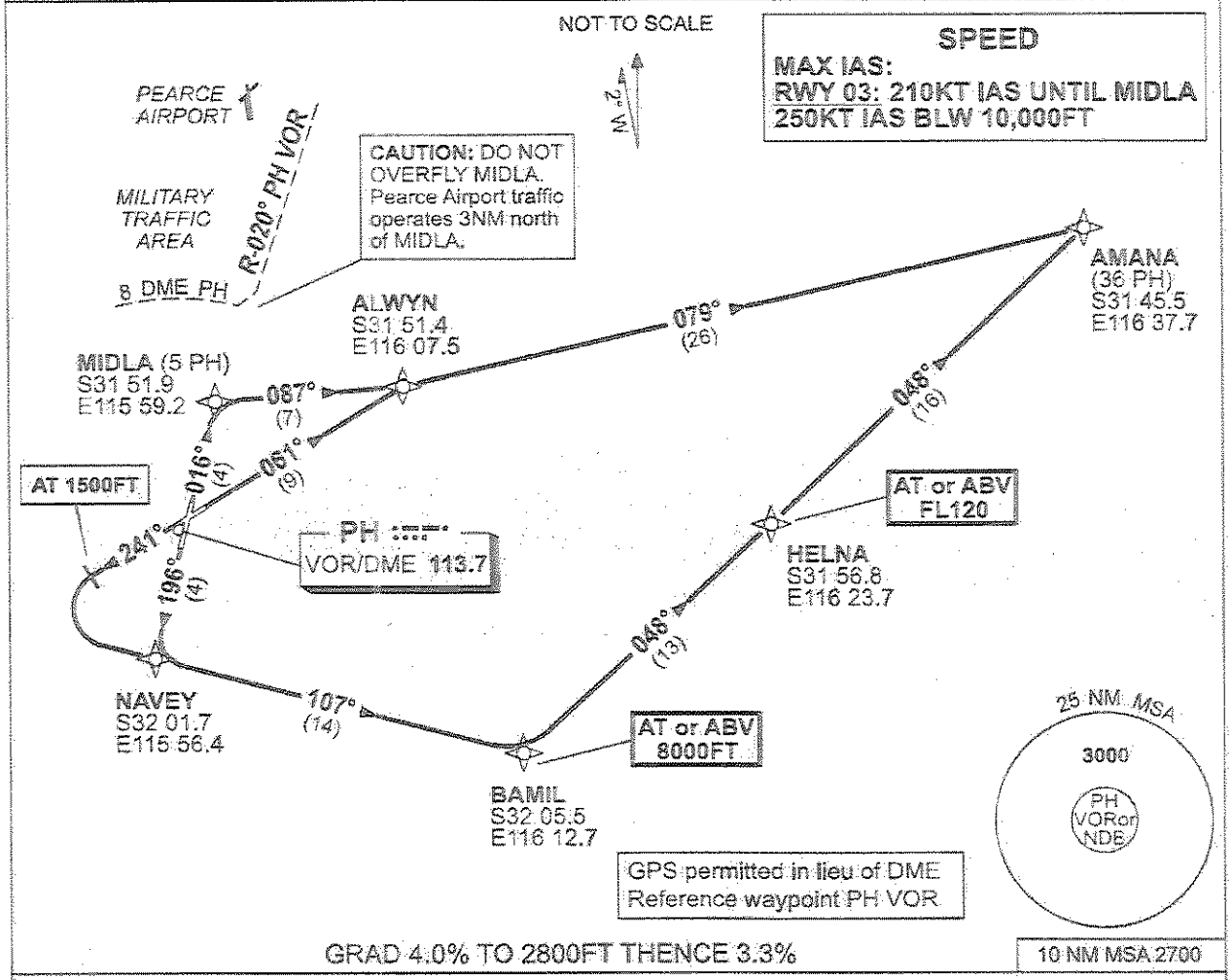





## Non Jet departures to the north



| ATIS | ACD | SMC | TWR | DEP | Bearings are Magnetic<br>Elevations in FEET AMSL |
|---|---|---|---|---|---|
| 113.7 123.8 | 118.55 | 121.7 | 120.5 | 118.7 | |




## AMANA ONE DEPARTURE (JET)

**RWY 03**
- Track 016° to MIDLA,
- Turn RIGHT, track 087° to ALWYN,
- Turn LEFT, track 079° to AMANA, thence as cleared

**RWY 06**
- Track 061° to ALWYN,
- Turn RIGHT, track 079° to AMANA, thence as cleared

**RWY 21**
- Track 196° to NAVEY

**RWY 24**
- Track 241°
- At 1500FT turn LEFT,
- Track DCT to NAVEY

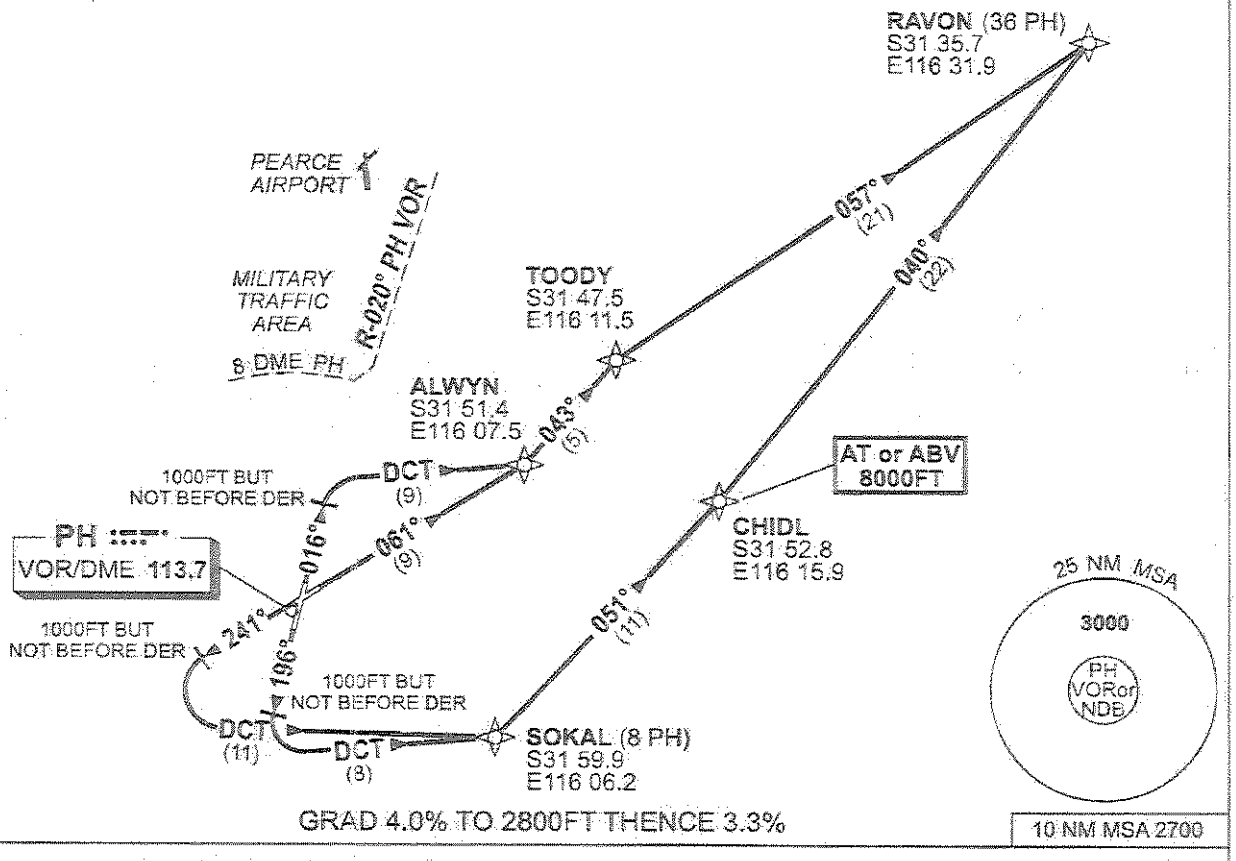
**From NAVEY**
- Track 107° to BAMIL
  **Cross** BAMIL AT or ABV 8000FT
- Turn LEFT, track 048° to HELNA,
  **Cross** HELNA AT or ABV FL120,
- Track 048° to AMANA, thence as cleared

| ATIS | ACD | SMC | TWR | DEP | Bearings are Magnetic<br>Elevations in FEET AMSL |
|---|---|---|---|---|---|
| 113.7 123.8 | 118.55 | 121.7 | 120.5 | 118.7 | |

NOT TO SCALE

GPS permitted in lieu of DME
Reference waypoint PH VOR

**SPEED**
**MAX IAS:**
- TO 4000FT 150KT IAS
- 4000FT TO 10,000FT 180KT IAS




## RAVON ONE DEPARTURE (NON-JET)

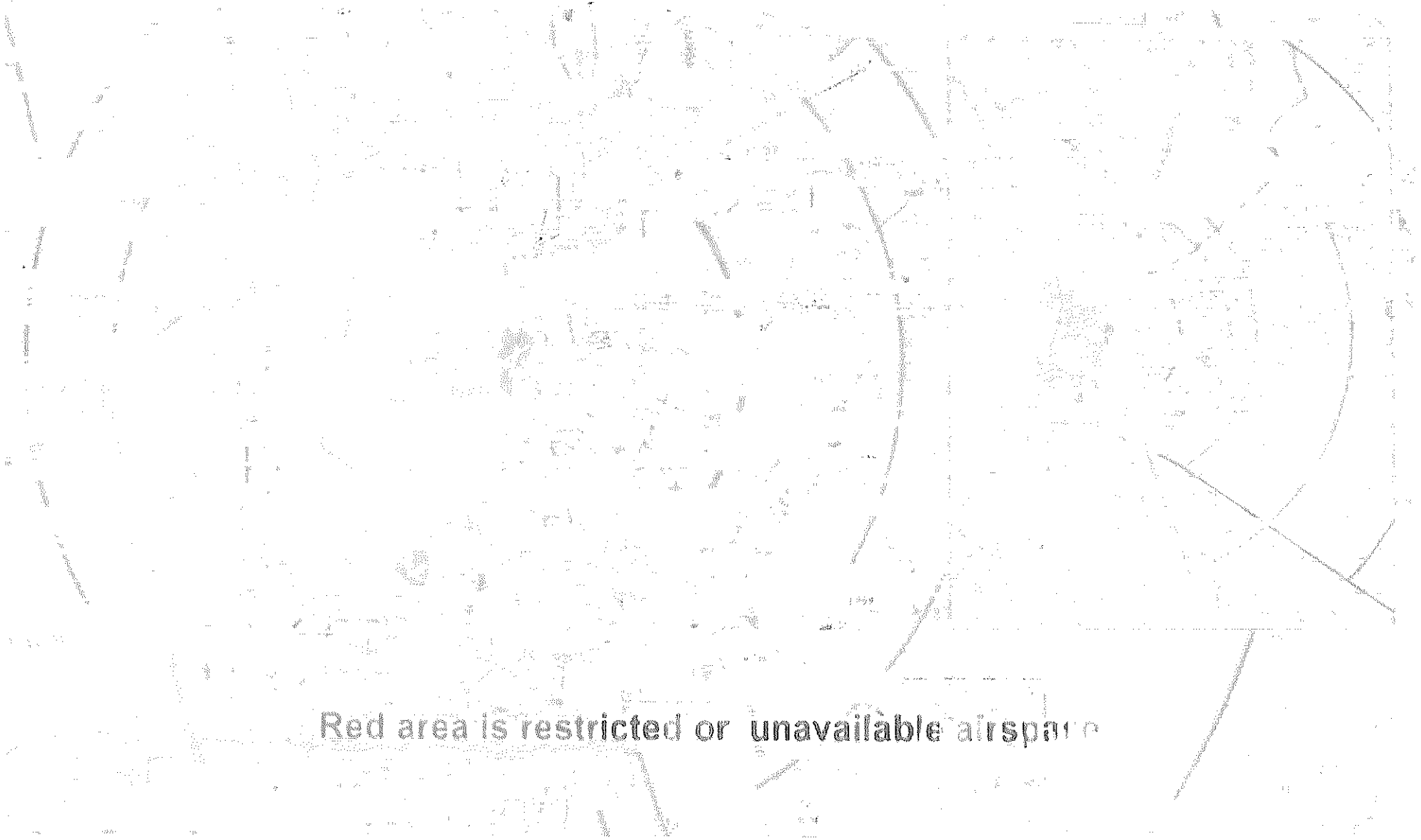
### RWY 03
- Track 016°
- At 1000FT but not before DER (1.1 DME)
- Turn RIGHT, track DCT to ALWYN
- Turn LEFT, track 043° to TOODY
- Turn RIGHT, track 057° to RAVON, thence as cleared

### RWY 06
- Track 061° to ALWYN
- Turn LEFT, track 043° to TOODY
- Turn RIGHT, track 057° to RAVON, thence as cleared

### RWY 21
- Track 196°
- AT 1000FT but not before DER (0.8 DME)
- Turn LEFT, track DCT to SOKAL

### RWY 24
- Track 241°
- AT 1000FT but not before DER (Abeam PH VOR)
- Turn LEFT, track DCT to SOKAL

### From SOKAL
- Turn LEFT, track 051° to CHIDL
  **Cross** CHIDL AT or ABV 8000FT
- Turn LEFT, track 040° to RAVON, thence as cleared


Red area is restricted or unavailable airspace

Fairbrics 08/4/10
Perth aircraft noise Inquiry

Department of
Environment and Conservation
GOVERNMENT OF WESTERN AUSTRALIA

*Aircraft Noise and Health*

# ICBEN 2008 and the DEC Community Survey

## A SUMMARY

John Macpherson
Principal Environmental Noise Officer
Environmental Regulation Division

January 2009

## *How do people react to noise?*

Individual hormonal response –

- Fight/flight or defeat
- Cognitive system can override autonomic response
- Sleep disturbance
- Long term stress disorders, cardiovascular disease

Communities react –

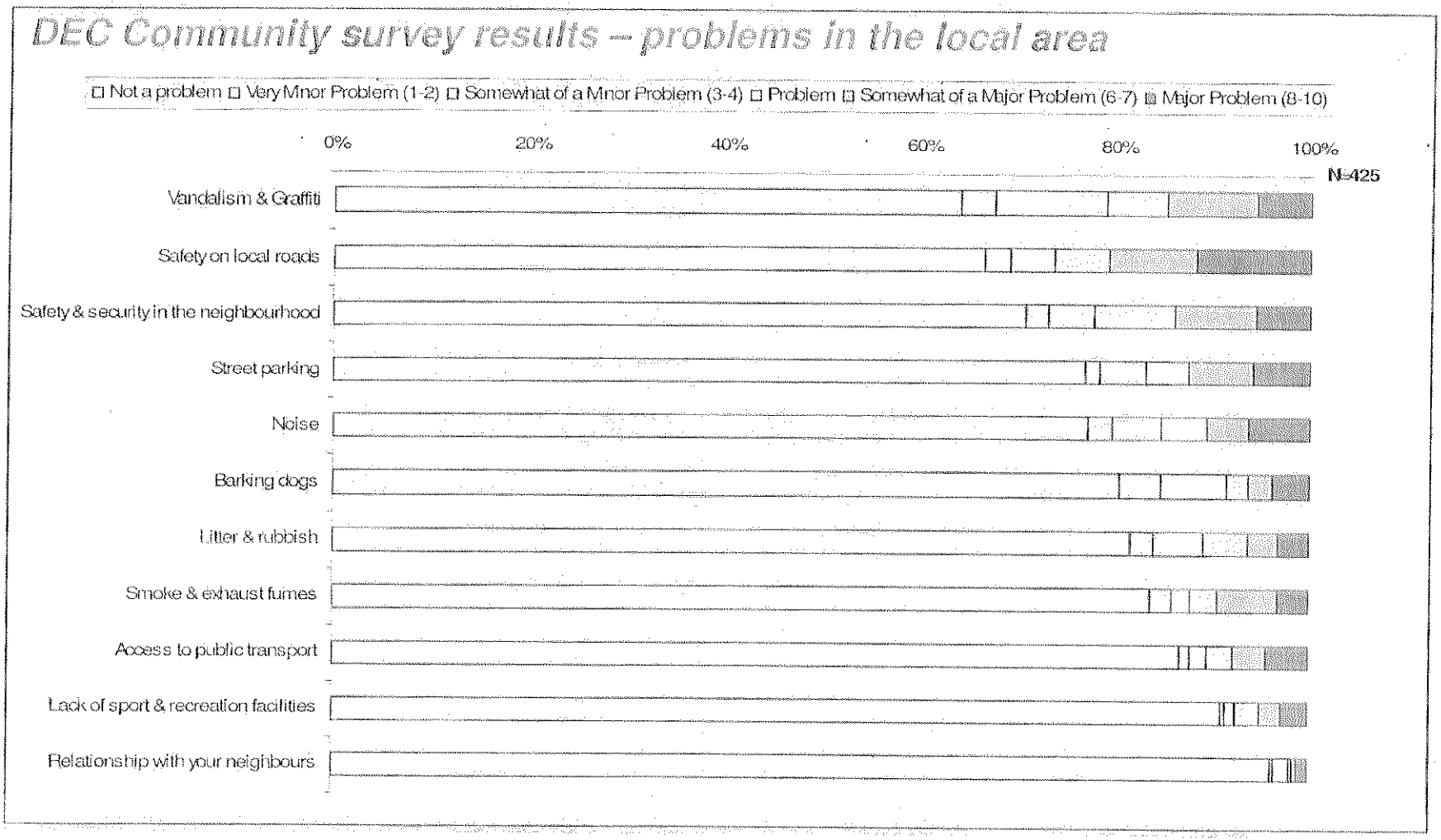
- DFC community survey

Department of Environment and Conservation

GOVERNMENT OF WESTERN AUSTRALIA

# Aircraft Noise and Health – ICBEN 2008

## DEC Community survey results – problems in the local area



Department of
Environment and Conservation

GOVERNMENT OF WESTERN AUSTRALIA



## *DEC SURVEY RESULTS*

***Percent of all respondents who rated a given type of noise from "a little annoying" to "extremely annoying"***

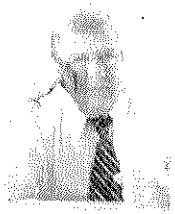
| Noise Source | % |
|---|---|
| Traffic (inc noisy vehicles) | 39 |
| Loud music and parties | 27 |
| Dogs barking | 26 |
| Construction work | 19 |
| Alarms and beepers | 17 |
| Aircraft | 15 |

## *DEC SURVEY RESULTS*

### *Degree of annoyance caused by aircraft noise*

| How annoyed | % | Est population |
|---|---|---|
| "A little annoyed" or more | 15 | 213,000 |
| "Moderately annoyed" or more | 5 | 75,000 |
| "Very" or "extremely annoyed" | 1 | 15,000 |

# *Aircraft Noise and Health – ICBEN 2008*



Assertive but tolerant, know who to complain to (29%)

Uninformed, younger or family, least aware (21%)

Tolerant, aware of rights but accept noise (29%)

Affected, no use complaining, implicated, may be older (21%)

## *ICBEN – INTERNATIONAL CONGRESS ON NOISE AS A PUBLIC HEALTH PROBLEM*

Team 1 - Noise-induced hearing loss
Team 2 - Noise and communication
Team 3 - Non-auditory physiological effects induced by noise
Team 4 - Influence of noise on performance and behaviour
Team 5 - Effects of noise on sleep
Team 6 - Community responses to noise
Team 7 - Noise and animals
Team 8 - Effects of noise combined with other agents
Team 9 - Regulations and standards

## *ISSUES RELATED TO AIRCRAFT NOISE*

Issues currently being studied as responses to noise

- Annoyance
- Impairment of performance (schools)
- Sleep disturbance
- Low birth weight in babies
- Mental health (depression)
- Blood pressure and heart disease

→ Social

→ Health

## *Physiological effects – environmental noise*

Davies: "The last five years has seen a number of high quality studies that … have largely supported the hypothesis that noise and mediating factors such as noise sensitivity are causally associated with cardiovascular diseases…"

- Stress hormones
  - Changes may be related to disease
  - Research on salivary sampling, new hormone markers
- Blood pressure
  - Increased BP known to be linked to heart disease
  - Some good new studies
- Heart Diseases
  - Babisch study showed increased risk of heart disease in males, but not females

## *Aircraft noise and blood pressure*

Key point: 10 years ago researchers hypothesised a link – now moved to defining dose-response relationships

- Eriksson
  - Studied 2,037 males near Arlanda Airport, Stockholm
  - Relative Risk of BP diagnosis: 1.2 per 6dB above 50dB $L_{Aeq,24h}$
- RANCH Study
  - Studied 853 children 9-10y.o. around Heathrow (UK) and Schipol (NL) Airports
  - Outdoor results positive for home and school exposure: 0.13-0.32mmHg per dB(A) incr
- Greiser
  - Studied prescription data for 800,000 subjects around Cologne-Bonn Airport
  - Found increased use of drugs for BP and CV disease with iher night aircraft noise

***Aircraft noise and blood pressure – Babisch – HYENA Study***.

Key point: Defines BP risk within susceptible groups

Large, well-controlled study, 4551 subjects over 6 Euro countries

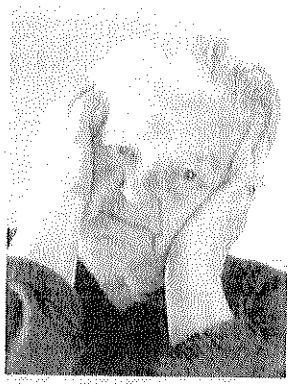
Aircraft and road noise predicted, data from interviews, records

Effect modifiers assessed: noise sensitivity, coping style, belief in authorities and attitude towards the airport

Findings – increased risk of BP diagnosis for 10dB(A) increase

- Night aircraft noise: Odds Ratio OR 1.14
- Annoyed by aircraft noise: OR 1.24
- Negative attitude to airport: OR 1.22 (cf 1.07 if positive)
- Road noise: BP effects for opening windows, belief in authorities

## *Noise and mental health*



*van Kamp* – "Long term noise exposure is associated with mental health problems such as anxiety and depression without seriously affecting psychological functioning in the sense of clinically-defined psychiatric disorders."

*Studies*

- Some studies show significant effects of noise on mental health, others not;
- Hardoy (2005) showed higher "generalised anxiety disorder" in relation to aircraft noise – one of the first studies to show an association between aircraft noise and psychiatric diagnoses rather than symptoms;
- Sydney airport study in 2005 showed effects only in extreme noise exposures;
- RANCH study confirmed an effect of noise on hyperactive behaviour in children

*Noise sensitivity* – found to be associated with mental health

*Soundscapes* – restorative effect of "quiet areas" important

## *Sleep disturbance*

2007: Major advance –
WHO Night Noise Guidelines Europe

| Outdoor noise $L_{night}$ | Effect on sleep |
|---|---|
| <30dB(A) | No substantial biological effects |
| 30 – 40dB(A) | Primary effects emerge,<br>adverse effects for vulnerable groups |
| 40-55dB(A) | Sharp increase adverse effects,<br>vulnerable groups severely affected |
| >55dB(A) | Frequent adverse health effects |

## *Sleep disturbance*

Nature of sleep

Memory consolidation, "normal" sleep changes, daytime function

Noise and sleep studies

- 3 main field studies before ICBEN 2003, variable methods
- 2003, aircraft noise main topic (6 of 11 transport noise/sleep studies)

DLR major study (Samel and Basner, 2005)

2,240 subject nights, clear results in changes in sleep structure, dose-response relationship, concept of 'noise protection zones'

Griefahn

"Recovery sleep", best period 3-7am

Issues

Measurement methodologies, no causal link between noise-sleep-illness, vulnerable groups, e.g shift workers, elderly, young

## *Noise and performance*

Effects on children's cognition now generally accepted

Over 20 robust studies showing effects on memory and reading

RANCH study (2005), largest to date

- 2,000 children, 89 schools near airports, 3 countries,
- Linear dose-response: aircraft noise vs impaired reading and memory
- 5dB$L_{Aeq}$ increase = 2 month reading delay (UK), 1 month (NL)
- Mechanisms: direct effect, frustration, learned helplessness, attention?

Noise interference has been studied

Classroom acoustics and speech intelligibility

High max noise outside affected performance

Issues

How memory works and is affected by noise

Need for studies on adult performance

Department of
Environment and Conservation
GOVERNMENT OF WESTERN AUSTRALIA

# Aircraft Noise and Health – ICBEN 2008

## Noise and community response

### New Asian studies

- Generally confirming results from Euro studies for annoyance vs noise
- Aircraft noise still more annoying than road and rail traffic

### New metrics

- Looking at new metrics other than $L_{Aeq}$, e.g internal $L_{Amax}$
- Looking at microstructure of noise exposure, e.g. clustering of events

### Annoyance and Health

- WHO now including noise annoyance in their "Burden of Disease"

### Soundscapes

- Importance of access to a "quiet side" of a house, planning implications

## *Implications for WA*

Evidence of health impacts from noise

- Generally becoming stronger; dose-response
- WHO taking stronger position on noise

WA noise levels

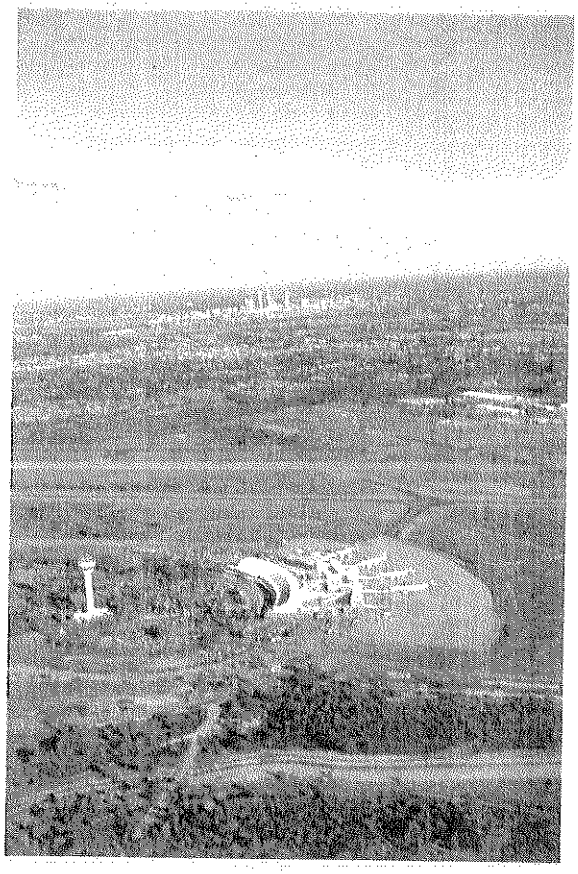
- Limited population in high noise: >30ANEF
- Significant night noise: $L_{Aeq}$ ~ 55-60dB(A)

Annoyance

- DEC survey: ~15,000 very/extremely annoyed

Planning

- Importance of controlling noise-sensitive devt
- Awareness of impacts on school children



Mr Graham Ellis
28 Apr 10 Perth Aircraft
Noise Inquiry

Matters for discussion at Senate Inquiry into Airsevices Australia's Management of Aircraft Noise Perth 28/4/2010

Senators, thank you for the opportunity to address this inquiry on the substantial matter of aircraft noise noise impact on the community around Jandakot which is welcomed as long overdue this is a start.

We live in a War Zone and on occasional weekends some residents Simply have had to get in a car and go somewhere for a couple of hours until the crescendo stops

In support of my submission I would like to offer to the committee the following Papers:

Copy of Submission to the Hon Melissa Parke dated 1st Oct 2008 generated as a result of a meeting with the Hon Anthony Albanese During the community Parliamentary meeting in Canning vale during January 2008 and the subsequent meeting with the Hon Gary Gray to support the point that light aircraft noise requires equal representation with environmental issues In Assessment of the DPMD.

Runway 24R/06L from 5700 kg to 22000 kg, scandal, Boeing 737 landed at Jandakot Saturday 24th April at 7.00 am – CEPA Monica Mcdonald Mike Lennon advised resurfacing of runway not upgrade

Copy of AMBIGI report for office of Air Space Regulation 30-06-2009 This needs to be read in its entirety to gain an understanding of the Background to General Aviation changes from GAAP to class D contains nothing about aircraft noise impacts on community stakeholders

CASA GAAP changes document take note of fact 6

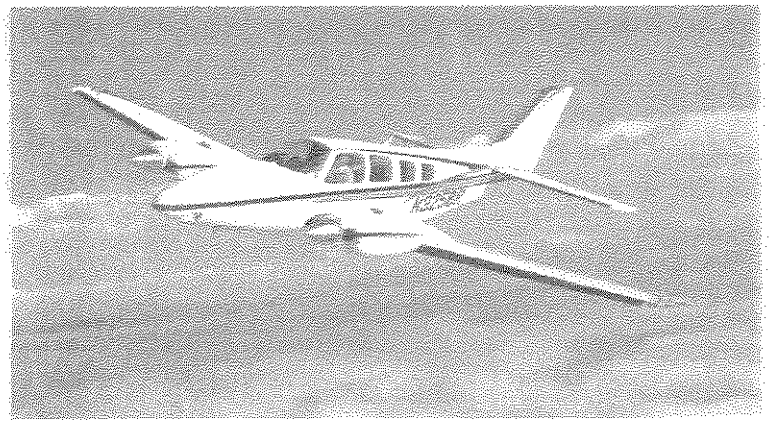
Copy of last Jandakot Airport Consultative Committee meeting Minutes dated 8TH March that does not reflect any community consultation on the impending introduction of class D airspace at Jandakot and the unknown consequences

Copy of S 211 ex Singapore airforce trainers for sale at Jandakot

Frank Leonardi - Aerodrome Engineer CASA

Aircraft noise impact study Dick Langford W.A EPA

**The Hon Melissa Parke MP**
**Federal Member for Fremantle**
62 Wray Ave Fremantle



# Submission on Noise Impact on the Population of the Cities of Cockburn Melville and Canning from Aircraft Flight Paths and Circuit Training Associated with the Type, Age and Volume of Air Traffic Movements Using Jandakot Airport

Copies of this document provided in this format to:

City of Melville
City of Cockburn
City of Canning
Hon Donna Faragher MLC
Hon Nigel Hallett MLC
Hon Lynn MacLaren MLC
Hon Russell Aubrey Mayor-Melville
Hon Joe Delle Donne JP Mayor-Canning
Hon Logan Howlett JP Mayor-Cockburn
Hon Nick Goiran MLC

**Created on October 1, 2008**

**The Hon Melissa Parke MP**
**Federal Member for Fremantle**
**62 Wray ave**
**Fremantle**

**01 / 10 / 2008**

| | | |
|---|---|---|
| City of Cockburn | City of Melville | City of Canning |
| 9 Coleville cres | 10 Almondbury rd | 1317 Albany Hwy |
| Spearwood 6965 | Booragoon 6154 | Cannington 6107 |

**Submission on Noise Impact on the Population of the Cities of Cockburn, Melville and Canning from Aircraft Flight Paths and Circuit Training Associated with the Type, Age and Volume of Air Traffic Movements using Jandakot Airport.**

**Please recognise that this document is written based on experience and community involvement using extracts from readily available information in terms to address the vital noise impact reduction required by the residents of the Cities of Cockburn, Melville and Canning and is supported by the attached Resources CD**

**History**

Significant aircraft noise became an issue under the **Federal Airports Corporation** management practices at Jandakot Airport through offshore marketing of airspace and ground facilities, and over time, in the transition from **Federal Airports Corp** to **Jandakot Airport Holdings in 1998** the noise impact issue has not been resolved to a level that the community expects to this day.

As a result of the acquisition of the lease by Jandakot Airport Holdings and the requirement to generate a master plan combined with political pressure from the community impacted by noise, this created the initiative by the WA Dept of Planning and infrastructure to undertake the **Flight Paths and Procedures Review** (FPPR), and the recommendations contained therein arrived at through ongoing consultative process with all stake holders, resulted in the final document of recommendations released in December 1999 ( Copy Attached ).

The Jandakot Airport Consultative Committee (JACC) was created by the FAC in the early 1990's due to community reaction to aircraft noise and inclusive of all stakeholders involved in aircraft noise impact and carried forward by JAH to be the main mechanism to manage and implement the FPPR and the **Voluntary Fly Neighbourly Approach** contained therein.

This review the FPPR held so much promise of reform into the management of aircraft movements and noise through the JACC and was a **failure** by enlarge as recommendation after recommendation was abandoned resulting in the final damming report on the review outcomes contained in Ross Jones report of March 2004 (copy attached).

**JACC and FPPR outcomes on noise impact**

Significant aircraft noise impact within the 3nm radius of Jandakot Airport continues to drive the population of Cockburn, Melville, and Canning to distraction during the 8 month long ideal flying season as the prevailing winds change the duty runway/s

A proportion of Aviators using Jandakot display by their actions and flying practices a high degree of indifference and arrogance to the impact of noise on surrounding communities, openly displaying their disregard to the voluntary fly neighborly approach.

The fly neighborly approach per the FPPR has to be considered nothing more than a confidence trick, an illusion designed to support the wording in the Master Plan, the actions of aviators are not addressed or actioned by any responsible authority least of all through the JACC in a manner that has outcomes for those concerned on the ground, the JACC has become an illusion on outcomes, a game of smoke and mirrors and the communities continue to be noise impacted.

The JACC was founded solely on the basis of creating dialogue with the community towards reducing aircraft noise impact, it must be concluded that the management of noise through the consultative process as mentioned in a significant number of major documents, master plans and web sites as being the method best employed and most effective in achieving positive outcomes for the community from fly neighborly and the FPPR, is a **total failure**, compounded by the complete disregard to the fly neighborly approach of noise mitigation by the aviators who use Jandakot.

The gathering and presenting of statistical noise data through the noise complaint line as some sort of bench mark is a pointless exercise, the population want positive outcomes not platitudes, they do not want documents and papers on noise education that appears to prevail as an argument to hide behind without actually dealing with the problem, airport operators cannot present themselves as ground managers only and purport to have no control over flight operations

It is implausible to earn income from air traffic movements and not take responsibility for the noise impact problem. Airport operators must become more proactive in conjunction with ASA and CASA where applicable in noise management, considering the volume of air movements at Jandakot, a complete review of aircraft flight paths and noise impact with the required positive outcomes for residents in Cockburn Melville and Canning is urgently required prior to the next MP / MDP approval.

**ANEF and noise impact**

The ANEF system was developed as a Town Planning tool for property development in proximity to airports, the implementation was too late for application around Jandakot and has serious short comings that are clearly evident and recognised by all concerned, it

has become a refuge of denial and is too narrow in focus, further, the application of memorials on titles is pointless, and an act of desperation and must be regarded with extreme cynicism where clearly action should be taken to minimise noise, another misguided attempt to restrict noise complaints and adopt the do nothing approach that has prevailed for too long

This is clear when reading the various submissions in Towards an Aviation Policy Statement-Issues Paper, Dept of Infrastructure, Transport, Regional Development and local Govt, (see CD) it is remarkable that in the submissions from Jandakot Airport Holdings and the Royal Aero Club of W.A, one of the largest users of Jandakot, contained absolutely no recognition or recommendation towards noise impact management from either, it would appear that they have abandoned entirely any recognition of Jandakot Aircraft noise impact on the community.

The submission papers of Moorabin (VIC) Residents and Bankstown (NSW) Council (see CD) to the Aviation Policy Statement clearly articulates the fears that surround the noise and expansion activities of two other General Aviation Airports in major capital cities, it is clear that there are major concerns that require resolution and the current MP / MDP process and must not be allowed to continue without major revision to noise impact from Jandakot on the surrounding communities.

The majority of the area of the cities of Cockburn, Melville and Canning are in the 10 and 15 ANEF contours as presented yet these areas are heavily impacted on a daily basis, see 1996 ANEI contours in the 1997 Mitchell McCotter report for FAC, through the constant never ending repetition of light aircraft overhead of altitudes up to 1500FT hour upon hour upon hour, which is a total and utter distraction to the residents in these suburbs, aircraft noise is tonal in nature and insidious, See Attached:

Impact Descriptors Versus Exposure Indices in Environmental Assessment A. J Hede of National Acoustics Labority

Comments by NAL on Jandakot Airport Noise and Social Survey Report produced by ERM Mitchell Mcotter for FAC NAL report 172 dated March 1998

In close proximity to the Jandakot runways 12/30 and 06L/24R departure lanes their are houses that are clearly over exposed in the >30ANEF as identified under noise 8.3 page 113 also see noise 10.2.1 of the FAC Draft Environmental Impact Statement – Proposed Additional Developments at Jandakot Airport-Dames and Moore 1993 (EIS) simply because aviators do not follow the runway heading on departure and are some 30 to 40 deg off track, therefore, in practice substantially altering the ANEF contour particularly at the end of 24R taking a short cut to Murdoch open space, this track needs urgent revision which contributes significantly to the >30 ANEF noise impact on houses in that area through engine climb power settings, and the type of aircraft that use Jandakot.

As outlined in the Dames and Moore EIS, properties in areas adjacent to the airport were released for development from 1980 onwards well before the Dept of Aviation produced the Jandakot Airport Master Plan in 1986 with the ANEF contour foot print being introduced far too late as property development was already approved by the Town Planning Authority (WA Planning Commission) of the day see section 11 Sinclair Knight Merz Preliminary Draft master Plan Jandakot Airport for JAH

The Draft MDP Roadwork's and 4th Runway July 2007 under Jandakot Redevelopment 2007 (see CD) page 63 figure 24 ANEF 2005 clearly displays the current impact problem in Cockburn and Canning that needs urgent attention. Also review Appendix D evaluating aircraft noise – expert and compact, page 5 under 4 TNIP.

**Air Traffic Management and noise Impact**

One of the principle reasons why aircraft deviate relates to the spacing of the dual 06/24 runways, the spacing of these parallel runways is at a minimum separation of 210 metres and air traffic control do not want any runway center line incursions so it is expedient to ignore the impact on residences under the banner of safety by sanctioning aircraft being 30 to 40 deg off track to create a larger separation splay.

The volume of traffic using Jandakot dictates that air traffic management currently needs a quantum leap forward for the betterment of all concerned which may contribute to an increase in charges, and may contribute to a reduction in traffic volume by improvement in departure management when the current dual runways 06/24 are in use, and if the proposed dual 12/30 runways are introduce which may not be all about training.

The proposed dual 12/30 runway system could be used to operate code 2B up to 3C and may not just be for circuit training i.e. 2B on one and up to 3C on the other, as Moorabin and Bankstown are pushing for regional RPT and in time so will Jandakot, therefore the real reason and need for dual 12/30 runways must be seriously questioned

Change is required, air traffic controllers at Jandakot appear to be under resourced and the circumstances that cause aviators to deviate when using dual 06/24 will prevail again with the dual 12/30 runways at a minimum spacing of 210 metres, this will result in some properties in close proximity receiving a double dose of noise that is not displayed in proposals, currently Jandakot is the busiest GAAP airport in Australia and needs the resources to support air traffic management to meet the noise impact expectations and needs of the residents impacted in the cities of Cockburn, Melville and Canning

**Runway 06L/24R Loading (PCN) and length**

The Dept of Aviation in the 1986 Master Plan states under 2.6.3" The airport is currently limited to aircraft operating with an all up mass (AUM) of 5700 kg or less except on the issue of a pavement concession expressed as a pavement number (PCN) the pavement rating is listed as 5700/550" this is assumed to mean both runways 06/24 and 12/30.

The only mention of runway loadings in the **Dames Moore EIS** generated for the FAC relates to the MTOW of proposed dual runway 12/30 at 5700 kg MTOW

The **Sinclair Knight Merz 1999** Preliminary draft master plan for JAH states under section 3 existing facilities states runway 06L/24R has a pavement classification (PCN) value of 11 suitable for code 3C aircraft and 12/30 with a value up to 2C a MTOW of 22000kg, how and when did 06L/24R and 12/30 go from MTOW of 5700 kg to 22000kg, this massive increase could have only been implemented under FAC management, **apparently without an EIS** as the PCN significantly changes the operational capability of Jandakot and the future impact of noise by heavier aircraft from code 2B up to code 3C **this can be the only conclusion to draw here.**

Runway 06L/24R originally had a length of 1127 metres and was extended to 1392 metres in 1997 again under management control of the FAC without an EIS, currently there is a proposal to lengthen the runways by up to 200 metres. this is viewed as creeping expansion in order to eventually change the code classification from 2B up to 3C in the future to operate RPT and freight aircraft from Jandakot

**The apparent runway upgrading without an EIS is a serious matter that requires investigation and was not contained in Dames and Moore 1993 EIS for the FAC, should this be found to be substantially correct, then it appears that the Commonwealth through the FAC may have engaged in deceptive conduct outside the Airports Transition Act and requires verification.**

**W.A Planning Commission**

The W.A planning commission produced a report **Aircraft Noise Insulation for Residential Development in the vicinity of Pert Airport- Final Report February 2004** this a detailed report on noise amelioration.

The Statement of planning Policy No 5.3 **Jandakot Airport Vicinity March 2006** by the **Western Australian Planning Commission** does not contain the detail of the previous Perth Airport 2004 report. Jandakot airport vicinity is more seriously affected by Aircraft noise than Perth on a continuous basis yet this report disregards the noise impact entirely and was merely produced at the behest by the W.A DPI to cover the fact that no policy was in place to protect the states preferred position on Jandakot Airport.

**Aircraft Age type and noise Impact**

Most of the aircraft using Jandakot do not have any exhaust after treatment to limit engine noise and are of an aged design from the 60's and 70's and most if not all engine exhaust pipes point down (poor antiquated design) creating a wide noise impact footprint that does not take into account the current noise expectations of the community and this would apply Australia wide at all GAAP Airports, the industry would argue that all aircraft type comply with ICAO noise standards, the community currently expects higher standards than when these were first set and the criteria of the day.

There is a proliferation of Pre and Post WW2 and ex military aircraft that are extremely noisy and designed to suit military purposes and have a severe noise impact from engine and propellers that requires attention and the Airport operators need to take an active role in limiting the use of this type of Aircraft including ex military jets at Jandakot through its **Terms and conditions of use.**

Singapore Flying college persist in using Beech Baron aircraft for twin engine circuit training, these aircraft must be one of the noisiest aircraft produced and at one point recognizing this Singapore Flying college were considering quieter twin engine aircraft then apparently changed their mind, this is an example of an offshore organization that displays little regard for the noise impact of their activities, not that money should be a problem Singapore Flying College is an arm of Singapore Airlines which is the Singapore Govt you would think they should be prepared to reduce the noise impact of their aircraft, example ,consistently, a Beech Baron has been in the air for circuit training at 21.30 hrs and goes flat out until the 22.30 curfew, this is Fly Neighborly at work.

**Visual Pilots Guide**

A review of the various **Visual Pilots Guides** produced by CASA particularly the one for Jandakot emphasises the safety aspect as being paramount, rightly so, the question must be asked why the emphasis on safety is not carried forward in the VPG's produced for Moorabin and Bankstown to the same extent. is this because ASA at Jandakot are under resourced, aircraft within the 3nm of Jandakot are still in ASA control zone or is safety a means to justify any action that can create a noise impact.

**Circuit Training and noise Impact**

The size of the circuit is dictated by the number of aircraft in that circuit, herein lies the problem, too many aircraft in order to reach training capacity are in the circuit forcing the aircraft further out into the suburbs and increasing the noise impact, clearly circuit training must be moved out of Jandakot as identified in the 2007 Draft MDP

Currently a curfew exists at 22.30 hours for night circuit Training with a limit to aircraft in circuit in an attempt to contain the size of the circuit at night to lessen the noise impact

It should be considered that a trainee pilot carrying out solo night circuit training from Runway 24R must be at a significant competency level, however, the reality is that the aviators conduct wide departures some 30 to 40 deg to the right of runway heading, to the point of reaching the Glen Iris estate then proceed to turn left at their designated altitude and cross over the center line of the runway they just departed, in other words they are all over the sky, fly neighborly at work

This is interesting as runway 24L is unlit and unused at night there are no aircraft impacting from the left, it would appear that the flying schools, ASA and CASA pay little regard to educating the trainees on correct circuit procedure, as they should be

maintaining runway heading and execute their left hand circuit turn without the wide circuit, or are they so entrenched into their day time routine they repeat the same actions at night.

China Southern aircraft in the past have conducted simulated engine failures over the roofs of houses from altitudes as low as 400ft combined with the resultant noise impact from reapplied power, another blatant display of the fly neighborly approach debacle.

It requires constant input from residents from the cities through to JAH operations, sometimes on a weekly basis to contain the actions of these aviators from noise impacting residents this displays that there is very little being done by the training and flying schools to address the noise impact problem as per the FPPR, in short, ASA do not care nor do the training schools and flying clubs like RACWA about noise impact and the fly neighborly approach.

**Self-Regulation does not work anywhere, for anything, and is constantly open to abuse, and this includes General Aviation at Jandakot**

**Continued Expansion and Investment on Return Impacting Beyond Border**

It must be recognized that Jandakot has undergone and is undergoing significant change since the FAC was created to divest the Commonwealth of airports, where are the limits to this headlong rush that is abusing communities through noise impact and aircraft operations with immunity from Commonwealth Land, not being subject to any noise control, and taking refuge behind the ANEF system and the related verbiage. The FAC started this abuse to get the best offer on lease and it is being perpetuated through the desire to continually expand circuit-training operations to the detriment of hundreds of thousands of people beyond border in the name of revenue and return on investment.

Noise impact must have a greater weighting in the MDP process than is currently presented or recognized while due care and attention is given to environment issues and while valid decisions are being made on wild life and vegetation impacts, very low weighting is given to noise impact and the question must be asked, why? considering the overall insidious nature of noise and its impact on health and well being it surely must be time to start recognising **noise as the most important issue** in the planning process and shifting circuit training to the often referred to circuit training airport within the 30nm radius from Jandakot, therefore, the need for the dual 12/30 runway system must be seriously questioned along with any increase in air movements

It has been long recognized that Perth needs a second GAAP airport this is evident in many documents and yet there is no current proposal or planning activity to achieve this, the state has been moribund in this regard and has abrogated it's responsibility under the FPPR, the proposal to create a dedicated circuit training runway system within 30nm radius of Jandakot must be urgently addressed and acted upon

Constraints and Expectations from Noise Impact on the Community must be seriously addressed to reduce the noise impact in the cities of Cockburn Melville and Canning and is listed in the Summary of recommendations.

## Summary of Recommendations

The consultative approach is a failure, and will not work, it is time for decisive measures to be taken that have positive outcomes on noise impact

It is clear that Jandakot Airport will continue to expand in scope and capacity and noise impact unless some constraints are put in place, a continuously managed noise monitoring and Flight Path Programme is one approach combined with capacity constraints being implemented

An appropriate ongoing Flight Path Noise Monitoring programme be immediately implemented to ensure that aircraft operations are managed in order that noise levels at any residential premises in occupation by an occupier who has not, in writing indicated that higher noise levels are acceptable, do not exceed:
an average of 60 dB (A) Ldn (this average noise constraint will limit the number of aircraft movements); (extraction from Murray field approved proposal 2 OCT 1993 recommendation 2) which should be read in it's entirety and contained in the supportive CD and applied at Jandakot

Occupied Premises that cannot achieve the noise levels by any measure be bought out and marginal remaining premises be noise attenuated and the ongoing necessity to reduce the noise impact in the suburbs of South Lakes Leeming and Canning Vale through flight path amendments to be introduced.

RFDS is low noise impact and not an issue.

Circuit Training restrictions to be implemented until circuit training runway system is fast tracked, then circuit training at Jandakot be stopped completely.

Twin Engine circuit training to cease and be relocated outside metro area.

Night circuit training curfew changed from 2230 hrs to 2000 hrs.

Curfew on circuit training that is currently in place at 1800 hrs on Sunday night to also include 1800hrs on Saturday nights and 1800 hrs on public holidays.

The above recommendations will be viewed as being radical and controversial, nevertheless, they are decisive and necessary for the communities impacted by noise.

This Document is supported by a CD containing supportive reference material that contain folders and pdf files that must be read in conjunction of the content contained herein to appreciate the scale of the noise impact problem

The folders contain a variety of pdf files related to the subject matter and their are a number of stand alone pdf files relating to single subject matter.

References

ASA – Air services Australia
CASA – Civil Aviation Safety Authority

Jandakot Airport Master Plan Dept of Aviation April 1986

Draft Environmental Impact Statement, Proposed Additional Developments At Jandakot Airport FAC Dames and Moore April 1993

Dames and Moore – Proposed Development – Jandakot Airport Summary of Issues for Federal Airports Corporation April 1995

Impact Descriptors Versus Exposure Indices In Environmental Assessment Andrew J Hede Acoustics Aust Vol 21 No 2-41

Jandakot Airport Noise and Social Survey for FAC by ERM Mitchell Mcotter December 1997

Comments by National Acoustics Laboratory (NAL) on Jandakot Airport Noise and Social Survey Report ERM Mitchell Mcotter March 1998 P Peploe

The 1997 Australian Noise Exposure Index Contours for Jandakot Airport Acoustics Report for FAC June 1998 Mitchell Mcotter

Jandakot Flight Paths and Circuit Procedures Review December 1999 W.A Dept of Planning and Infrastructure

Final Report Flight Paths and Circuit Procedures Review Ross Jones 2004

Preliminary Draft Master Plan and Environment Strategy Feb 1999 Volume 1 Preliminary Draft Master Plan and Preliminary Draft Environment Strategy Volume 2 Sinclair Knight Merz 1999

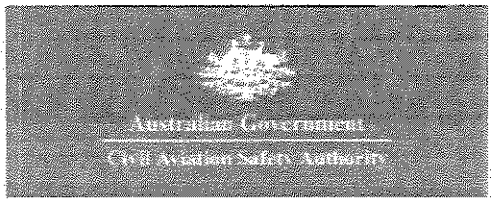
Jandakot Airport Preliminary Draft Master Plan 2005

Graham Ellis

Community Representative JACC
Jandakot Residents and Ratepayers Assoc
23 Glendale Cres Jandakot 6164 Contact 94179864 / 0427425196

# UTILITY OF GENERAL AVIATION AERODROME PROCEDURES TO AUSTRALIAN-ADMINISTERED AIRSPACE

Report to:




OFFICE OF AIRSPACE REGULATION

30 June 2009

AMBIDJI


A.C.N. 053 868 778

Melbourne, Australia

320 PAGES IN TOTAL

- AIR SAFETY ONLY - GAAP TO CLASS D
- NOISE IMPACT IGNORED COMPLETELY.
- COMMUNITY CONSULTATION IGNORED

# 3. GENERAL AVIATION AERODROME PROCEDURES

## 3.1 Concept of Operations

*Defining GAAP*

GAAP is an operational procedure in Class D airspace, designed to cater for high density air traffic operations in Visual Meteorological Conditions (VMC).

During the conduct of this review, the Ambidji team was unable to find a clear definition of GAAP. Studies of the Aeronautical Information Publication (AIP), the Manual of Air Traffic Services (MATS) and the Manual of Operating Standards (MOS) Part 172 – Air Traffic Services revealed the following:

- Within the GAAP Control Zone (CTR), Air Traffic Control (ATC) shall:
  - (a) Apply runway separation standards;
  - (b) Issue instructions and/or traffic information to regulate traffic;
  - (c) Provide relevant traffic information inside the CTR; and
  - (d) Where practicable, maintain surveillance of aircraft activity within the CTR and on the aerodrome.

The review team consider the following statements encapsulate the meaning of GAAP.

- General Aviation - The operation of civil aircraft for purposes other than commercial passenger and military transport. GA includes personal, corporate and instructional flying.
- General Aviation Aerodrome - An aerodrome that caters for GA aircraft operations.
- GAAP Control Zone - A volume of defined airspace, having both lateral and vertical limits, where GAAP are applicable.
- General Aviation Aerodrome Procedures - Airspace and ATM procedures that place prime responsibility for aircraft separation on the pilot in command (PIC) when operating in a GAAP CTR under VMC.

Though GAAP is a designation unique to Australia, the procedures used, with only some minor procedural variations, are similar to those being applied at aerodromes that cater for similar traffic in the United States of America (USA) and Canada. The GAAP designation was the result of the 1977 North American Review (1977 Review) discussed later in this section.

*such that with reasonable assurance a visual approach and landing can be completed.*

*Separation shall be provided between an aircraft cleared to execute a visual approach and other arriving and departing aircraft.*

*For successive visual approaches, radar or non-radar separation shall be maintained until the pilot of a succeeding aircraft reports having the preceding aircraft in sight. The aircraft shall then be instructed to follow and maintain own separation from the preceding aircraft".*[37]

### 6.4 Australian Standards and Procedures

Information relating to operations in GAAP CTRs is contained in various documents including the following:

- CASR Part 172 MOS – Air Traffic Services;
- AIP ENR (En Route);
- ERSA; and
- MATS.

In general terms, GAAP aerodromes cater for high density GA operations by day and night in VMC. The AIP requires IFR flights to conduct their operations in accordance with VFR procedures whenever VMC exists. Each GAAP CTR has unique operating procedures, which are specified in ERSA. By day, parallel runway operations occur with simultaneous contra-rotating circuits, utilising separate ADC frequencies. Operations are regulated independently in each circuit, with an ATC clearance required to enter the opposite circuit or GAAP airspace.

In VMC, the pilot in command is responsible for separation from other aircraft. ATC control runway operations by providing landing and take-off clearances, and facilitates a high movement rate by providing traffic information and/or sequence instructions. ATC may also restrict the number of VFR aircraft in the CTR.

In GAAP airspace, the VMC criteria are visibility 5,000 m and clear of cloud. This is different to the ICAO requirements listed in section 6.3.

AIP ENR lists the specific responsibilities of the pilot and ATC with regard to GAAP operations and the provision of separation. Pilots must:

- *"Sight and maintain separation from other aircraft whilst operating in the GAAP CTR;*
- *Comply with ATC instructions while ensuring that separation is maintained from other aircraft;*
- *Immediately advise ATC if unable to comply with a control instruction;*

[37] *Ibid*

# JANDAKOT AIRPORT HOLDINGS Pty Ltd

16 Eagle Drive, Jandakot Airport WA 6164

## COMMUNITY CONSULTATIVE COMMITTEE MEETING MINUTES

**Date:** 8th March 2010
**Location:** JAH Boardroom
**Time:** 1700hrs (5pm)

### 1.0 Attendance/Apologies

### 1.1 Attendance

| | |
|---|---|
| City Of Canning - Bev Olsen | City Of Melville - John Burton |
| City Of Canning - Gavin Ponton | City Of Melville - Peter Reidy |
| City Of Canning - Michelle Wheaton | Department Of Transport - Mark Sparrow |
| City Of Cockburn - Raymond Dong | Jandakot Airport Holdings – Darryl Evans |
| City Of Gosnells - Ross Wells | Jandakot Airport Holdings - John Fraser |

### 1.2 Apologies

| | |
|---|---|
| Airservices Australia - Barry De Jong | Department Of Planning - Neil Fox |
| Airservices Australia - Lance Dale | DITRDLG - Piet Tassell |
| Airservices Australia - Peter Schraven | Kardinya Rate Payers Association - Martin Press |
| Canning Vale Progress Association - P Green | DPI - Andrew Montgomery |
| | DPI - Carole Theobald |
| CASA - Rick Seager | DPI - Michael Kennedy |
| CASA - Terry Farquharson | Federal Member for Fremantle - Melissa Parke |
| City Of Canning - Bruce Mason | Jandakot Airport Chamber of Commerce - Michael Braybrook |
| City Of Cockburn - Daniel Arndt | |
| City Of Melville - Clive Robartson | Jandakot Resident Rate Payers - Graham Ellis |
| City Of Melville - Darrell Monteiro | Leeming Community Group - Rod Petterson |
| City Of Melville - John Bennett | Northlake Resident - Joe Branco |
| City Of Melville - Shayne Silcox | RACWA - John Douglas |
| City Of Melville - Todd Cahoon | RFDS - Tim Shackleton |
| | Winthrop Murdoch Community - Husain Baraja |

### 1.1 Distribution

To all above

| | ACTION |
|---|---|
| **2.0 Previous Minutes** | |
| The previous minutes were accepted as correct. | Note |
| **3.0 Correspondence In** | |
| None | Note |
| **4.0 Correspondence Out** | |
| None | Note |

| | |
|---|---|
| **5.0 Jandakot Airport** | |
| 5.1 John Fraser advised that the Master Plan has been drafted and sent to the Minister for comment. The Minister has raised a number of questions that JAH have since responded to and JAH now awaits the ministers decision. | Note |
| 5.2 John Fraser gave a brief overview on the process of getting approval for the Master Plan & the Environment Strategy from Minister. | Note |
| 5.3 John Fraser gave a brief on the process of getting approval to start construction on the 4th runway. John advised that completion of the 4th runway would be two to two and a half years away. | Note |
| 5.4 Darryl Evans advised the tower would not go to Class D tower until June due to CASA documentation delays. | Note |
| **6.0 Airservices Australia** | |
| No Discussion. | Note |
| **7.0 General** | |
| 7.1 Darryl Evans gave an overview of the Noise Complaints received by JAH since 1st January 2010. 3 only, 1 Warnbro and 2 Canningvale. | Note |
| 7.2 Darryl Evans explained how aircraft do circuit training – take off to 500ft then to 1000ft before leaving the circuit area or conduct a further circuit, and the reverse when landing. This means that aircraft are regularly under 1000ft when over residential areas for take offs and landings. Some complainants are receiving information from the Federal Department that stat aircraft to be at 1000ft over residential areas – this does not apply to aircraft landing or taking off. | Note |
| 7.3 Darryl Evans confirmed the number to call to have noise complaints registered is 1300 302 240. | Note |
| 7.4 Gavin Ponton queried if there had been any additional traffic due to the runway overlay works. Darryl Evans advised there had been only 2 medical emergency flights which were both in the early hours of the morning. | Note |
| 7.5 Darryl Evans mentioned the recent passing of Mark Jones and advised that the last project he had been working on to raise the steps on the north and south bound routes along the coast has been taken off the agenda due to the runway 06 clearance at Perth Airport. | Note |
| **6.0 Next Meeting** | |
| Next scheduled meeting at 1700 on Monday 14th June 2010 at JAH | Note |

# GAAP CHANGES

Australian Government

Civil Aviation Safety Authority

www.casa.gov.au

## INTRODUCTION

This booklet is produced for aviation safety education purposes. It does not replace information contained in the Aeronautical Information Publication (AIP), En-route Supplement Australia (ERSA) and/or NOTAM. Pilots should always refer to these documents for up-to-date information.

Practical guidance in the form of 'Good Aviation Practice' is offered as a suggested means of achieving safe operations. This is 'advisory' material only and is not the only methodology that could be accepted. It is not regulatory.

Please note that the Mount Gambier (Victoria), Melbourne (Vic) and the Yass Flight Gu[illegible] and have been withdrawn pending revision. This is superseded by one amendment to the ERSA [illegible] changes to the Directions issued by CASA. Pilots will be notified when the transition from GAAP to Class D occurs.



## GAAP CHANGES

### DIRECTIONS

On 21 July 2008, CASA issued legal directions to Airservices Australia (Airservices) and pilots in relation to General Aviation Aerodrome Procedures (GAAP) at Archerfield, Bankstown, Camden, Jandakot, Moorabbin and Parafield aerodromes.

The directions form part of CASA's ongoing efforts to improve safety at GAAP aerodromes and complement CASA's education and awareness campaign regarding safety and procedures at GAAP aerodromes as recommended by the recent GAAP reviews.

### EFFECTIVE FROM 21 JULY 2008, THE DIRECTIONS REQUIRE:

- An immediate limitation on the number of aeroplanes in the circuit for one runway controlled by one Air Traffic Controller to six. If two runways and two controllers are available then the total number of aeroplanes in the circuit is limited to 12. An additional departure may be permitted at the discretion of the controller having given due consideration to all relevant safety factors.
- An immediate requirement for all aircraft to obtain an Air Traffic Control clearance to enter, cross or taxi along any runway, irrespective of whether it is active.

These changes have been implemented in order to reduce identified risk levels to as low as reasonably practicable. The cap on the number of aeroplanes in the circuit is considered to be a temporary measure whilst further assessments are conducted.

### TRANSITION TO CLASS D AIRSPACE

On or before 21 April 2010, Airservices must provide at each GAAP aerodrome air traffic services (ATS) applicable to Class D airspace. This will harmonise Australia with international standards. More information on the transition to Class D will be made available in the coming months.

# FACT 1

## Pilots are primarily responsible for separation in a GAAP control zone in visual meteorological conditions (VMC)

It is incorrect to assume that air traffic control (ATC) separates all flights within a GAAP control zone. In VMC, the pilot in command of the aircraft, operating under visual flight rules (VFR) or instrument flight rules (IFR) is primarily responsible for establishing and maintaining safe separation from all other aircraft. To assist in safe separation, ATC will provide pilots with traffic information and instructions to establish an orderly flow of traffic, in a sequence, to a nominated runway. ATC may intervene to prevent an unsafe situation from developing by providing an alerting service. Pilots must keep an effective lookout and use information from ATC to maintain appropriate spacing.

AIP REFERENCE: ENR 1.1 PARAGRAPH 24.3

In VMC, the pilot in command is primarily responsible for separation from other aircraft, ATC clearances may sometimes alter [illegible] and type of flight to assist pilots in their [illegible] by providing [illegible] and [illegible] information.

Keeping an effective lookout and maintaining situational awareness is critical in a GAAP control zone. With up to five other aircraft in the circuit, and parallel runway operations, you must understand that you are responsible for separating your aircraft from others. Manage your aircraft's performance to ensure appropriate spacing is maintained.

GAAP control zones are primarily flying training environments. These procedures permit maximum **flexibility** so training objectives can be met while maintaining safety.

| Class | Type of flight | Separation provided | Service provided | Speed limitation | Radio COM requirements | Subject ATC CLR |
|---|---|---|---|---|---|---|
| GAAP CTR | IFR | In IMC:<br>IFR from IFR<br>IFR from VFR<br>IFR from Special VFR | ATC service | 250 KIAS | Continuous two-way | Yes |
| | VFR | Nil | ATC service | 250 KIAS | Continuous two-way | Yes |
| | Special VFR | Special VFR from Special VFR when visibility is less than VMC | ATC service | 250 KIAS | Continuous two-way | Yes |

# FACT 2

## Clearance is required to land on a runway.

Pilots **must** obtain a landing clearance. Irrespective of whether the runway appears to be clear, if a landing clearance is not received the pilot must conduct a go-around. In a GAAP control zone, ATC only provide runway separation. Pilots must obtain take off and landing clearances so that ATC can apply necessary runway and wake turbulence separation standards.

ATC apply runway separation standards between aircraft using the same and crossing runways. If a landing clearance is not received, and a landing is carried out, a safety defence layer is removed. This exposes all concerned to elevated risk as the likelihood of something going wrong increases. If you are established on short final and haven't received a landing clearance, you must **go-around.**

AIP REFERENCE: ENR 1.1 PARAGRAPH 2

Aerodrome clearances are required for:

a. take-off and landing;

b. taxiing across or along all runways.

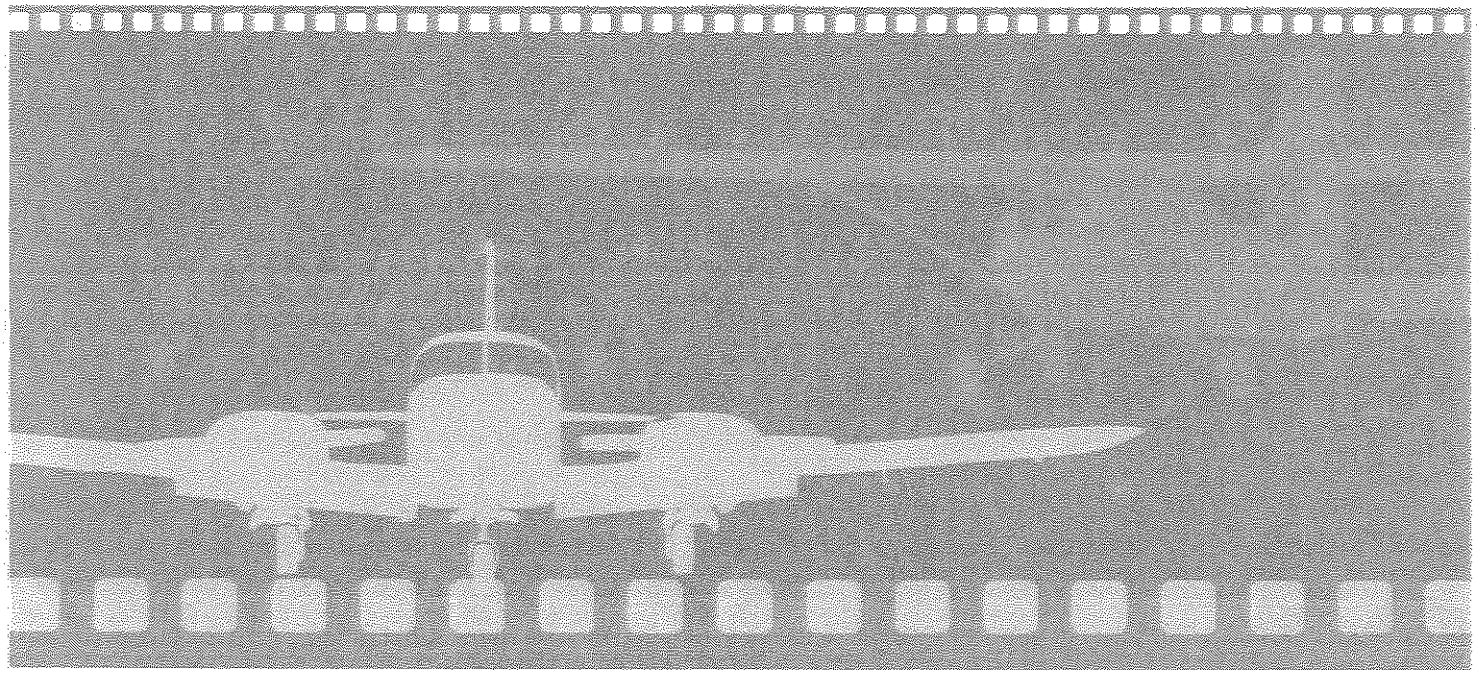
Note: An instruction to HOLD SHORT OF RUNWAY (number) [LEFT / RIGHT] (or similar) requires a pilot to hold at a marked holding point or hold short of the runway strip.

c. some or all aircraft entering or the airspace of a particular runway.

Note: An ATC clearance/instruction constitutes a clearance for a runway unit, if required to comply with the instruction.

d. aircraft flying flight defined to the circuit pattern published in ERSA for the particular GAAP aerodrome; and

e. operations on routes or at altitudes different from those published in ERSA for a particular GAAP aerodrome.

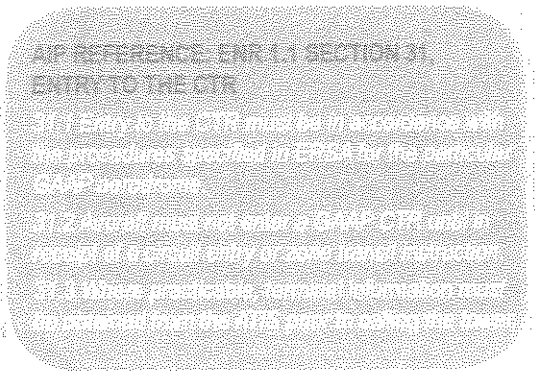


# FACT 3

## You must obtain a clearance to enter the GAAP control zone.

FACT 3

You require clearance to enter the GAAP control zone. This clearance is implied by the issue of ATC circuit entry instructions, following the inbound radio call. A take-off clearance implies departure clearance.



FACT 3

Do not enter the GAAP control zone without a clearance. Clearances via circuit entry instructions permit ATC to establish an orderly flow of traffic and landing sequence. The instructions enable you to sight traffic and establish necessary spacing. Inbound radio calls should be made at the correct GAAP approach point shown on the visual terminal chart and specified in ERSA. If the inbound radio call cannot be made at the appropriate position, or if clearance is unavailable, you should have an alternative plan.

**Do not orbit at an inbound reporting point.** Potentially, this is dangerous. If you need to hold, or reposition the aircraft to the GAAP approach point, do so in a manner that provides lateral and vertical separation from other aircraft likely to be in the same area. Ensure other airspace constraints are considered to avoid penetrating controlled or restricted airspace.
**Keep a vigilant lookout.**

# FACT 4

## Do not overtake a slower aircraft in the circuit area.

FACT 4

**You must not** overtake a slower aircraft in a GAAP circuit area. ATC issue instructions to aircraft to establish an orderly flow of traffic to a nominated runway. Unless otherwise instructed by ATC, this is generally the order in which aircraft turn base and should be maintained to the landing threshold.

FACT 4

If you are having difficulty maintaining spacing and need to overtake, you should advise ATC immediately. You should manage your aircraft's performance in the circuit keeping in mind the relative performance of other aircraft. ATC manage traffic flow and priorities on the established traffic sequence.

Take-off clearances are issued on the basis of the time available between the pending take-off and the nearest aircraft on final approach. Instructions to sight and keep spacing from other aircraft are based on the established order of the aircraft. This allows you to look and recognise aircraft in the landing sequence. If the order changes because an aircraft has been overtaken in the circuit, there is potential for you to sight and follow the wrong aircraft. This might bring aircraft into close proximity and present a collision risk. A sequence change will require ATC to amend instructions such as traffic information and the cancellation of landing or take off clearances. This may increase frequency congestion.

# FACT 3

## Transiting within proximity of a GAAP aerodrome requires contact with ATC.

Pilots of aircraft tracking within 5nm of a GAAP control zone boundary (or at a distance as specified in the ERSA) but not entering the control zone must obtain the Automatic Terminal Information Service (ATIS), then broadcast their position, altitude and intentions. Pilots must comply with any instructions issued by the tower and maintain a listening watch on the tower frequency while in the area. **Pilots must maintain a vigilant look out.**

Most operations at GAAP aerodromes are training flights involving relatively inexperienced pilots. This may result in circuits that are wider than might be acceptable. There may also be high numbers of arriving and departing aircraft. If you make the required broadcasts, ATC and other pilots will be alerted to the fact that you are in proximity, creating potential conflict with their aircraft.

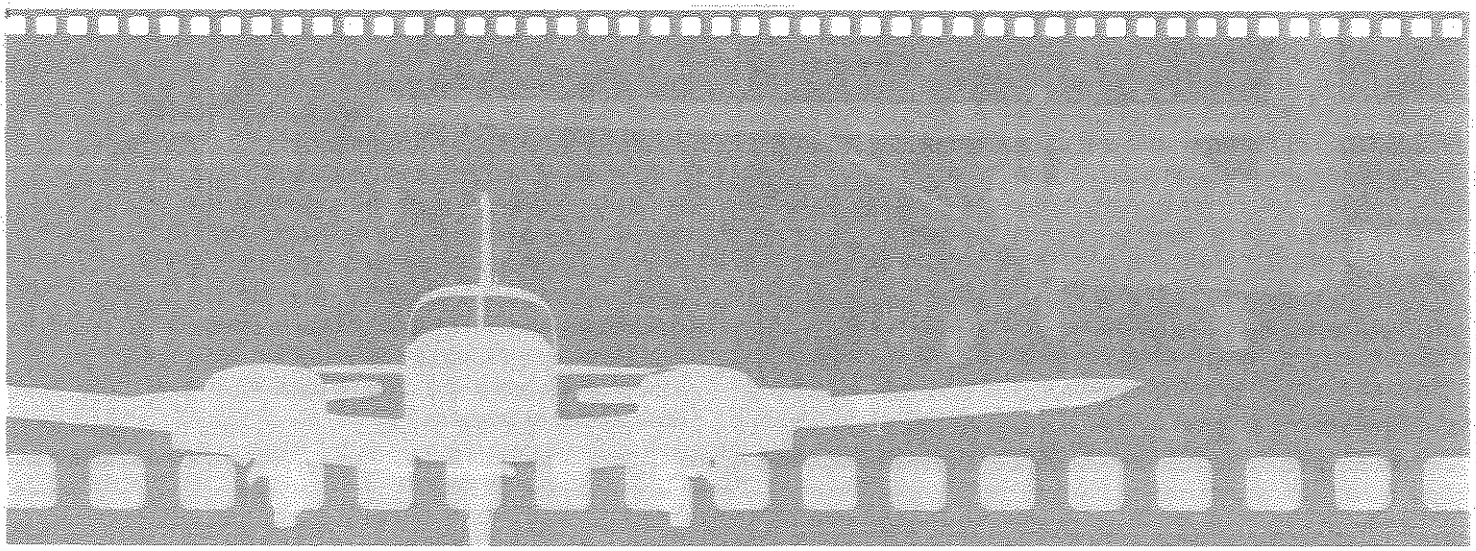
You need to obtain the ATIS so that you know the duty runway and associated circuit directions. This will permit you to avoid congested areas while transiting. This procedure will also allow ATC to call you if they need to issue instructions.

AIP REFERENCE: ENR 1.1
PARAGRAPH 46.2, FLIGHT IN PROXIMITY

46.2.1 When a pilot-equipped aircraft will track within 5NM (or as specified in ERSA) of the outer limits of a controlled aerodrome without entering the CTR, the pilot must:

1. prior to entering the airspace, obtain the ATIS then broadcast aircraft type, callsign, position, altitude and intention on the appropriate tower frequency; and
2. while operating in the airspace, maintain a continuous listening watch on the appropriate tower frequency.

46.2.2 While operating in the vicinity of aircraft, pilots shall maintain sufficient separation to avoid any potential conflict.



# FACTS

**Do not turn early after take off.**

Pilots are not permitted to turn early after take off, without ATC clearance, for a number of reasons. The Civil Aviation Regulations require aircraft to reach 500 feet above ground level (AGL) after taking off before a turn is made. If this is changed by a local procedure, the local procedure should be complied with or as amended by ATC.

CIVIL AVIATION REGULATION REFERENCE:
CAR 157 (1) (b)

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

ATC decisions about the traffic flow, traffic information to other pilots and related spacing are made on the assumption that aircraft turn at the required altitude after take off. Not only is there a regulatory requirement, but early turns may also create a noise nuisance by taking aircraft over noise-sensitive areas.

# SUMMARY

## THE FACTS

1. Pilots are primarily responsible for separation in a GAAP control zone in visual meteorological conditions (VMC).

2. Clearance is required to land on a runway.

3. You must obtain a clearance to enter the GAAP control zone.

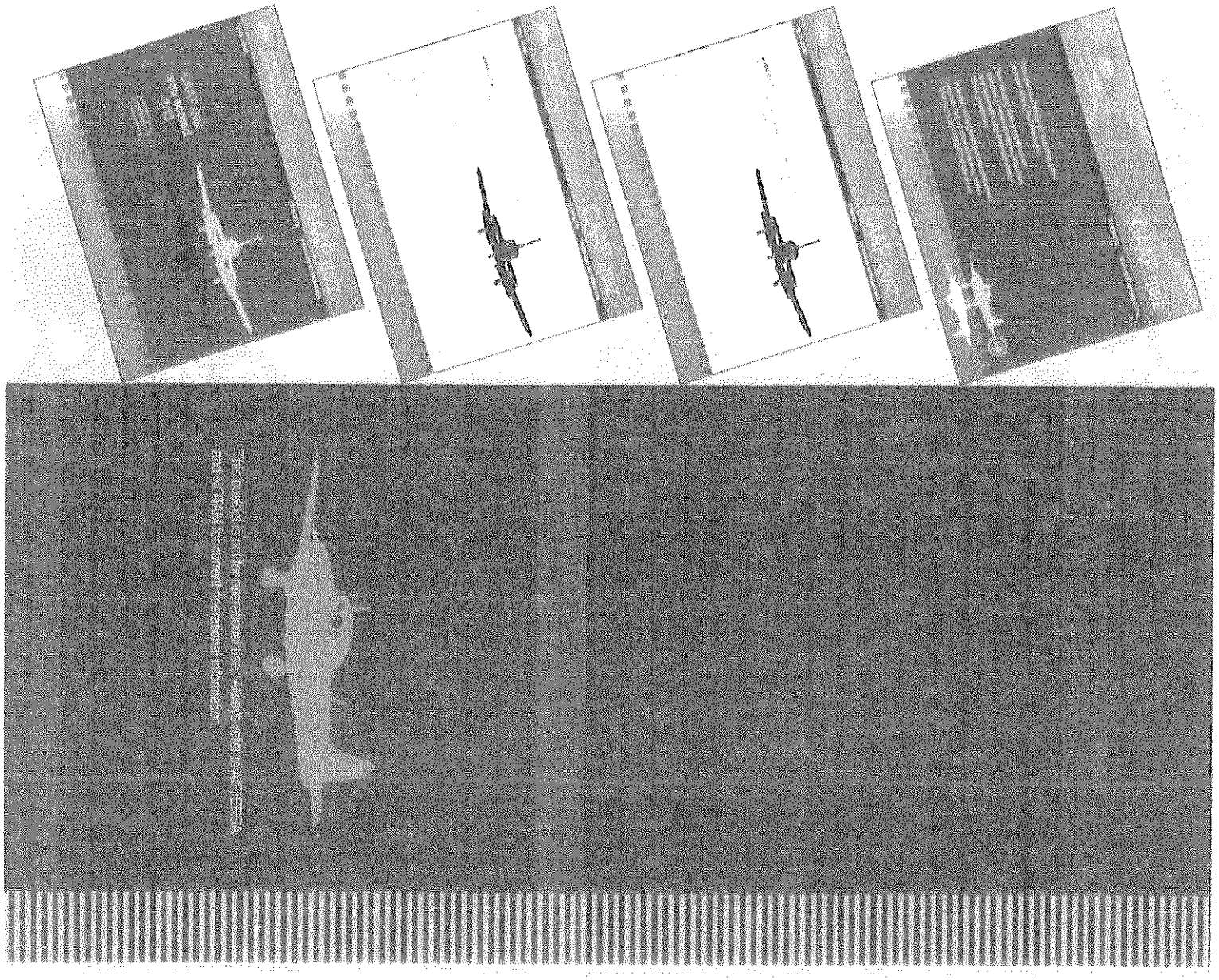
4. Do not overtake a slower aircraft in the circuit area.

5. Transiting within proximity of a GAAP aerodrome requires contact with ATC.

6. Do not turn early after take off.

# TEST YOUR KNOWLEDGE

VISIT THE CASA WEBSITE TO TEST YOUR KNOWLEDGE–www.casa.gov.au/gaap/



FOR FURTHER INFORMATION



## SAFETY TIP

Knowledge of and compliance with procedures are important safety defences

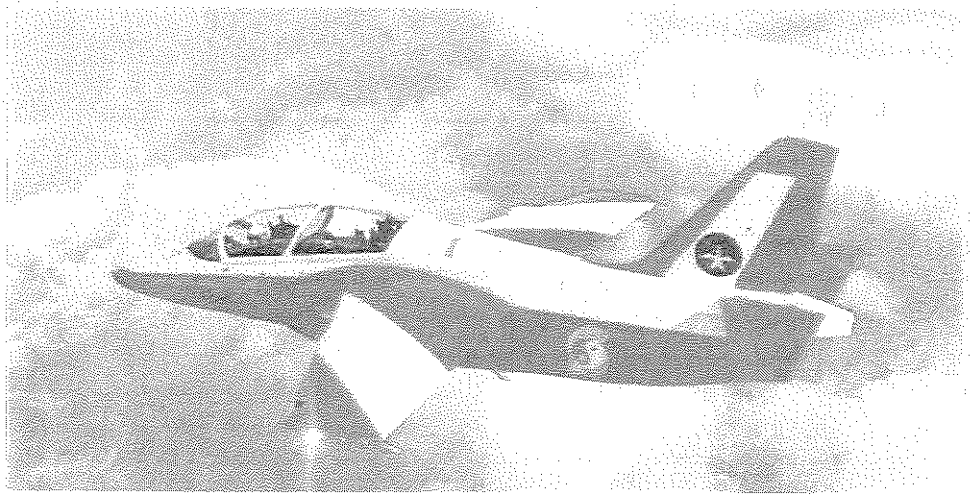
# S211 Jet Trainers for sale

**I.A.P. are pleased to offer as owners , up to 20ea Siai Marchetti S211 Jet Trainers.**

**These aircraft were recently retired (2008) from a major air force and are currently in short term storage at Perth Australia. All are currently flyable**

**The S211 is fully aerobatic , powered by a single P&W JT15D-4C engine , with a KTAS of in excess of 400 kts would make exciting warbirds , military chase planes or further use with a foreign military**

**Individual aircraft are priced starting at $ 175,000**



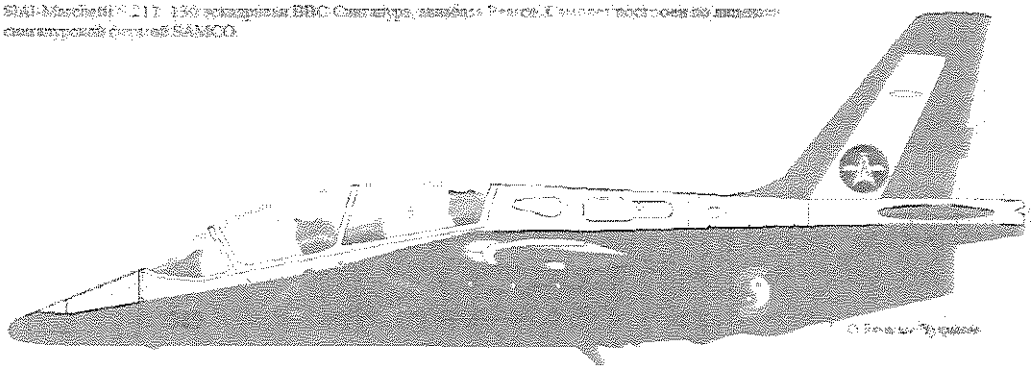
**IAP holds a very extensive spares inventory for these aircraft at its Sydney Headquarters'.**

**Each aircraft is sold with all records , a full set of manuals , ladders , bungs and ground locks**

The S211 is a relatively simple aircraft to fly , modern , with good looks and has the added benefit of being easily supportable .

The Engine , a JT15D-4C is essentially the same as fitted to the Cessna Citation and is therefore inherently supportable. Parts and maintenance being commercially available. Fuel burn is around 125 US gal an hr and it is reasonably quite . It should not invoke the ire of the airport authorities !

Wheels and Brakes are made by Cleveland , and are procurable through Avial . Main tires are the same at the Bandeirante and again procurable locally



These S211 have two different fatigue lives depending upon the embodiment of a life extension modification. Some of these have been complies , some have not. More info can be provided upon request.

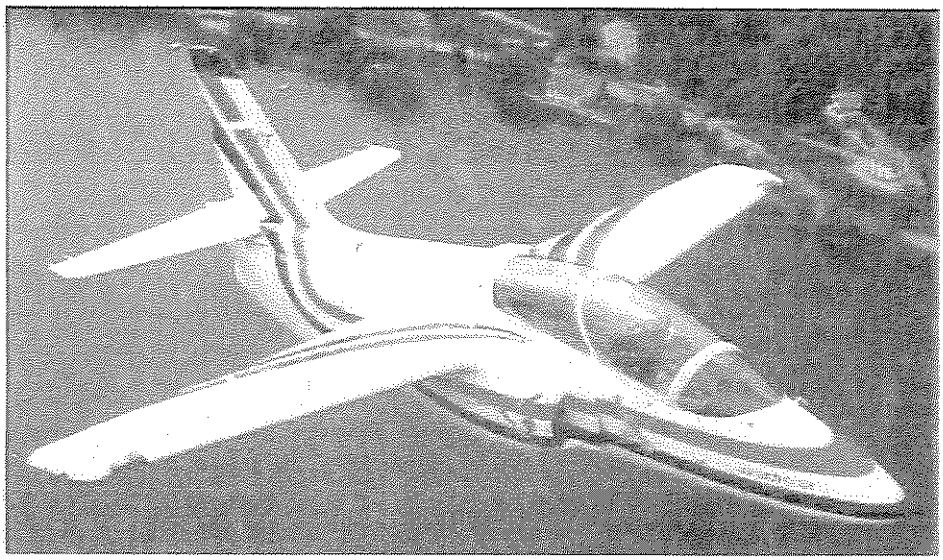
The engine TBO is 2300 hrs with a mid life H.S.I. Repairs , H.S.I. and overhauls can be carried out at many facilities.

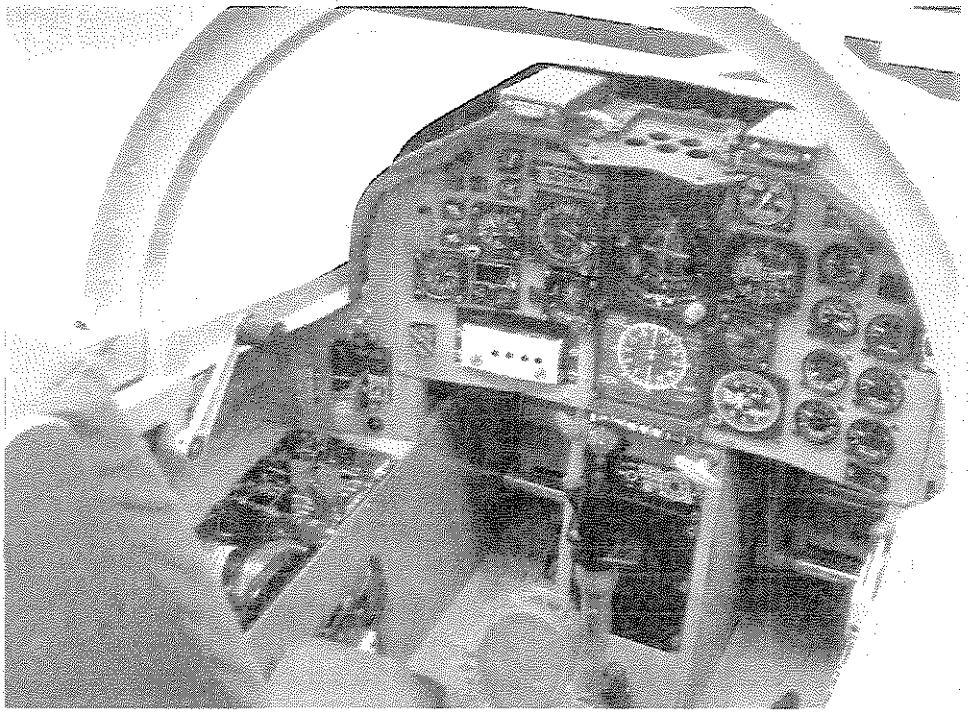
| Tail Number | S/N | Basic Weight | Total Time Hrs | Fatigue life limit | Hrs Rem Airframe | Engine s/n | Eng Hrs rem To OH | Engine Hrs rem To H.S.I. | |
|---|---|---|---|---|---|---|---|---|---|
| 347 | 030/02-028 | 2040.3 | 5388.9 | 5530 | 141.1 | PC-E 98034 | 983 | N/A | |
| 391 | 022/02-012 | 2040.43 | 5401.1 | 5705 | 303.9 | PC-E 98049 | 646 | N/A | |
| 398 | 029/02-019 | 2045.5 | 5647.2 | 6018 | 370.8 | PC-E 98030 | 780 | N/A | |
| 381 | 005/02-002 | 2026 | 5202.9 | 5853 | 650.1 | PC-E 98046 | 513 | N/A | |
| 392 | 023/02-013 | 2044.5 | 6421.9 | 8000 | 1578.1 | PC-E 98025 | 483 | N/A | |
| 386 | 010/02-007 | 2042.59 | 4238.3 | 5824 | 1585.7 | PC-E 98047 | 984 | N/A | |
| 385 | 009/02-006 | 2036 | 6400.5 | 8000 | 1599.5 | PC-E 98095 | 759 | N/A | |
| 389 | 013/02-010 | 2050 | 6380.7 | 8000 | 1619.3 | PC-E 98054 | 586 | N/A | |
| 394 | 025/02-015 | 2049 | 6301.4 | 8000 | 1698.6 | PC-E 98003 | 607 | N/A | |
| 345 | 037/02-026 | 2042.04 | 6223.6 | 8000 | 1776.4 | PC-E 98026 | 137 | N/A | |
| 349 | 041/02-030 | 2047.98 | 6216.8 | 8000 | 1783.2 | PC-E 98002 | 1736 | 586 | |
| 344 | 036/02-025 | 2042.58 | 4471.7 | 6427 | 1955.3 | PC-E 98029 | 601 | N/A | |
| 340 | 032/02-021 | 2022.43 | 5968.9 | 8000 | 2031.1 | PC-E 98036 | 717 | N/A | |
| 342 | 034/02-023 | 2046.34 | 5967.2 | 8000 | 2032.8 | PC-E 98061 | 779 | N/A | |
| 399 | 031/02-020 | 2039.05 | 5967 | 8000 | 2033 | PC-E 98008 | 797 | N/A | |
| 380 | 004/02-001 | 2049.93 | 5639.7 | 7674 | 2034.3 | PC-E 98018 | 898 | N/A | |
| 396 | 027/02-017 | 2050.01 | 5939.1 | 8000 | 2060.9 | PC-E 98023 | 2074 | 924 | Deposit taken |
| 348 | 040/02-029 | 2042.8 | 3745.5 | 6160 | 2414.5 | PC-E 98048 | 437 | N/A | |
| 339 | 019/03-004 | 2040.07 | 4174.5 | 6628 | 2453.5 | PC-E 98043 | 412 | N/A | |
| 338 | 016/03-002 | 2022.32 | 3922.4 | 6653 | 2730.6 | PC-E 98007 | 402 | N/A | |

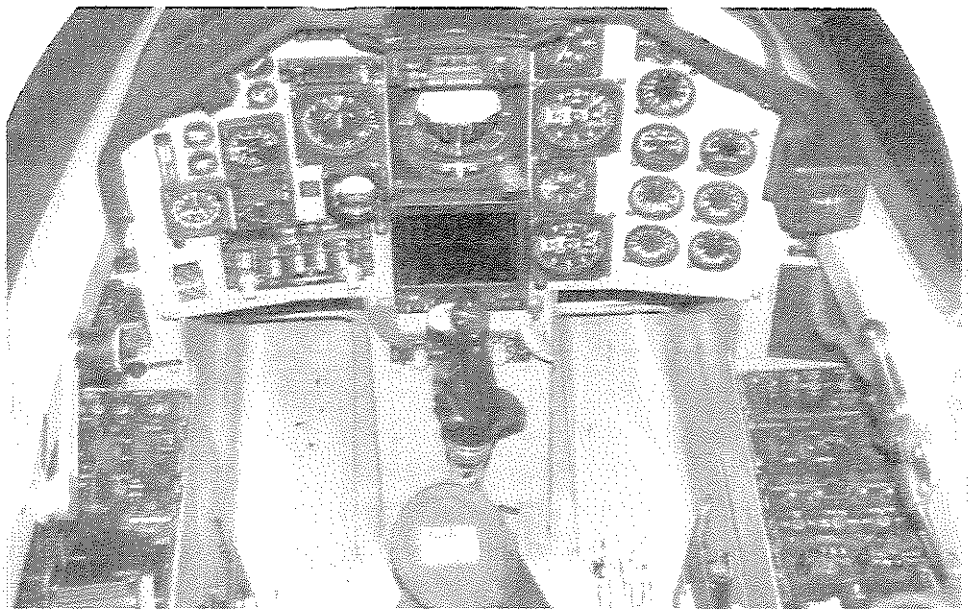
| | | |
|---|---|---|
| MODEL | S.211 | |
| CREW | 1-2 | |
| ENGINE | 1 x Pratt & Whitney Canada JT15D-4C turbofans, 11.12kN | |
| WEIGHTS | | |
| Take-off weight | 2500 kg | 5512 lb |
| Loaded weight | 1615 kg | 3560 lb |
| DIMENSIONS | | |
| Wingspan | 8.43 m | 27 ft 8 in |
| Length | 9.31 m | 30 ft 7 in |
| Height | 3.8 m | 12 ft 6 in |
| Wing area | 12.6 $m^2$ | 135.63 sq ft |
| PERFORMANCE | | |
| Max. speed | 665 km/h | 413 mph |
| Ceiling | 12190 m | 40000 ft |
| ARMAMENT | 600kg of weapons | |

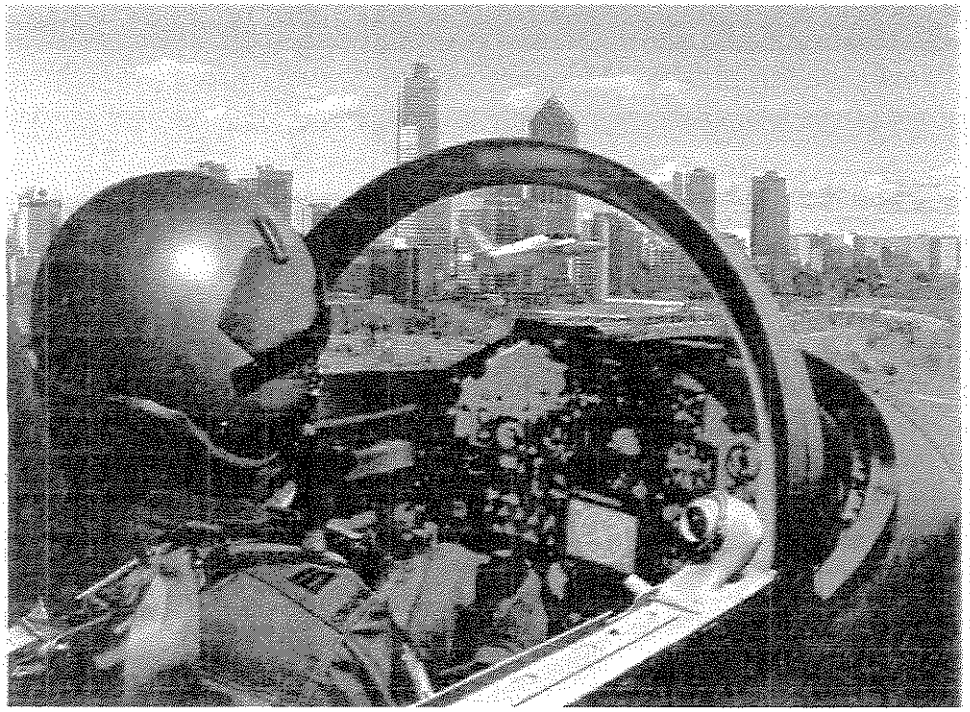
Tandem seat jet trainer and light strike aircraft. Powered by a Pratt & Whitney of Canada JT15D-4C Turbofan that puts out 2,500lb of static thrust. Equipped with two Martin Baker Mk10 zero-zero ejection seats. No armament is normally fitted. Aircraft can be equipped with four hardpoints with the inner hardpoints capable of taking up to 330kg of ordnance each. The outer hardpoints can take up to 165kg of ordnance. Can also be armed with a .50 cal center line machine gun in a pod below the cockpit. The aircraft is manoeuvrable to a maximum of +6/-3G in a clean configuration

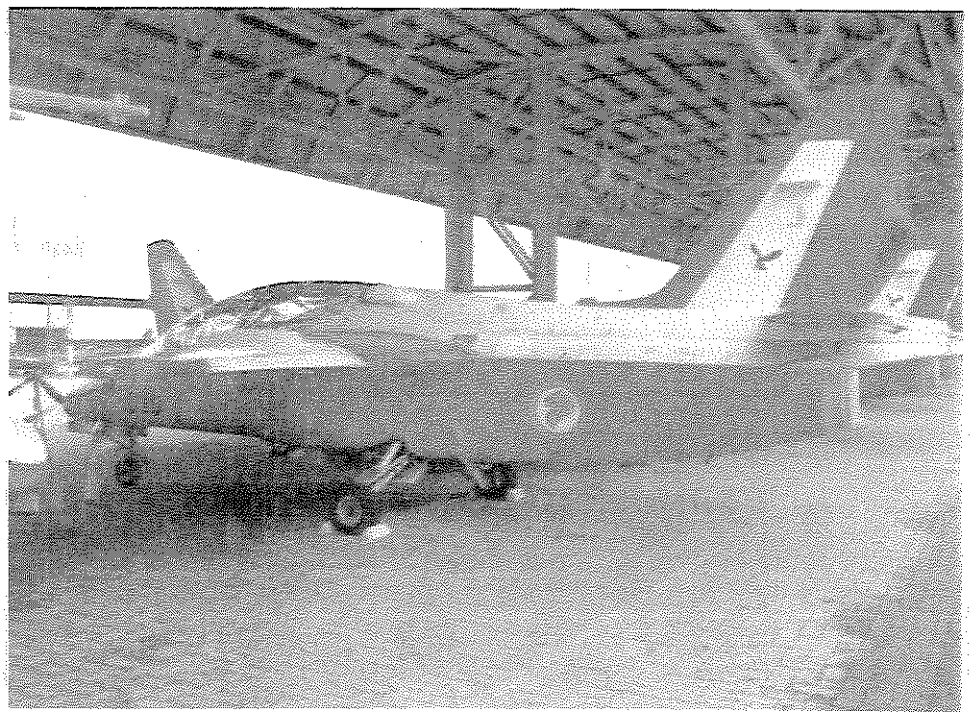
**We are offering these aircraft "as is" or flying on experimental category. Delivery point for Australian Customers is Jandakot , W.A. For international customers we will containerise the aircraft and ship worldwide .**

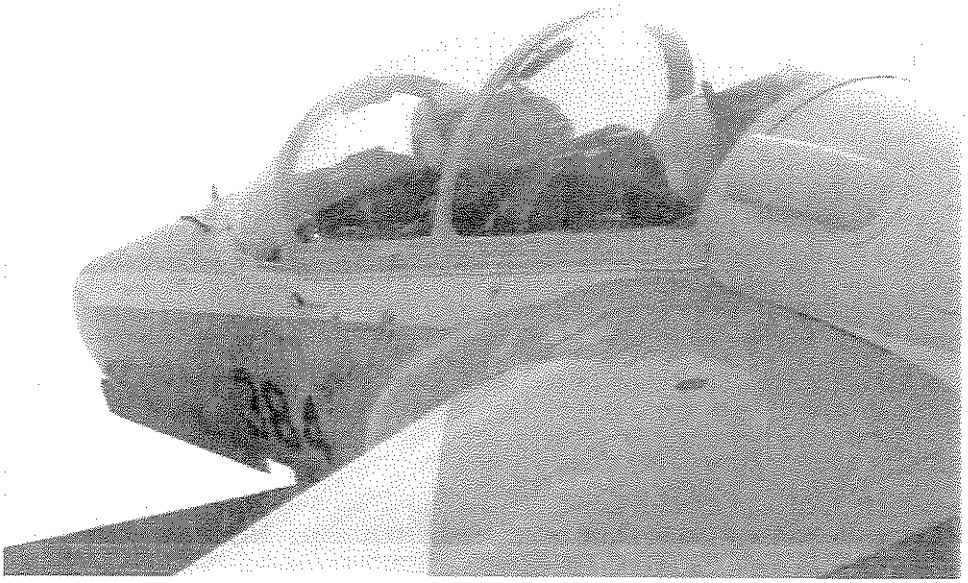


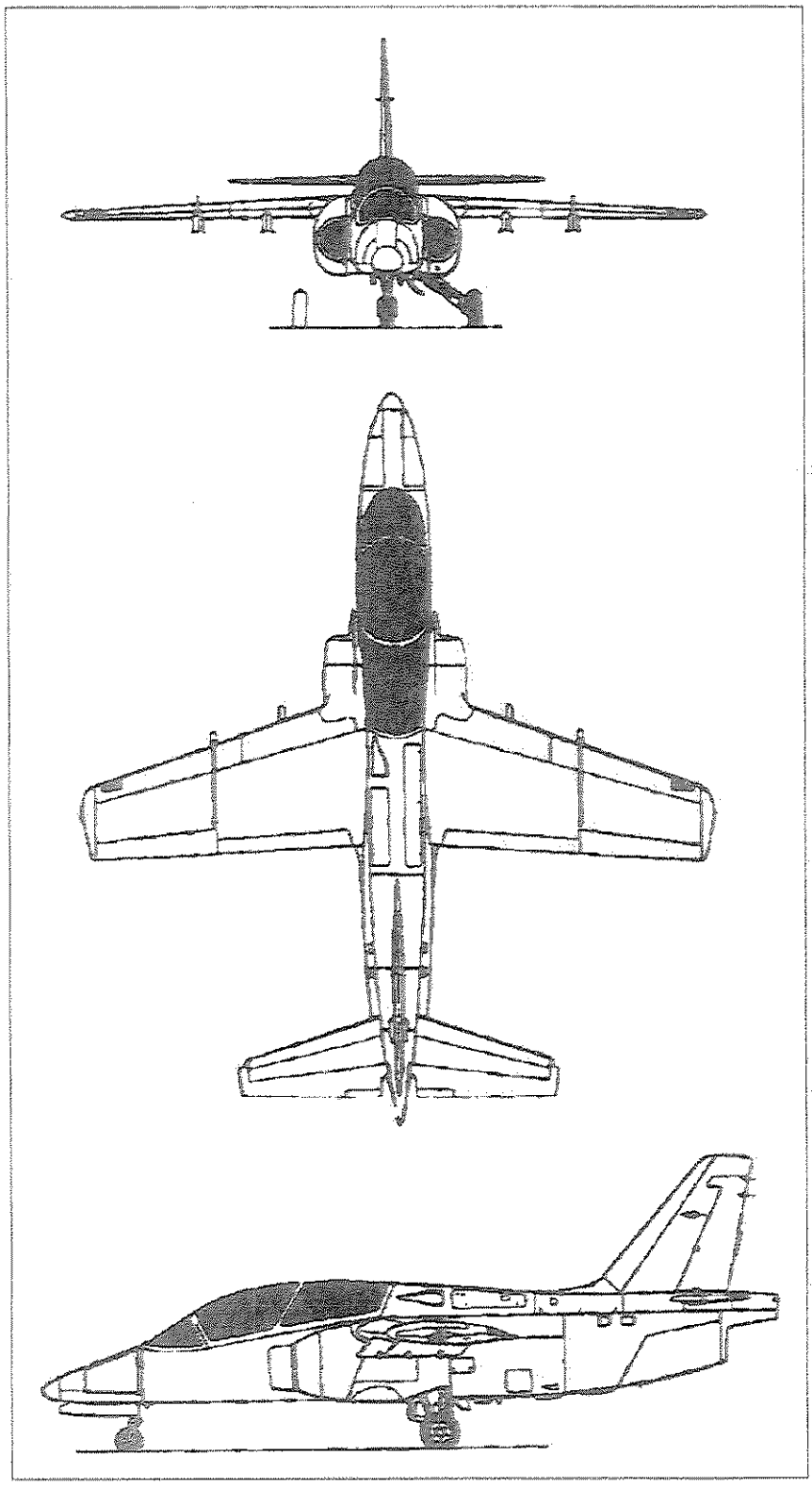


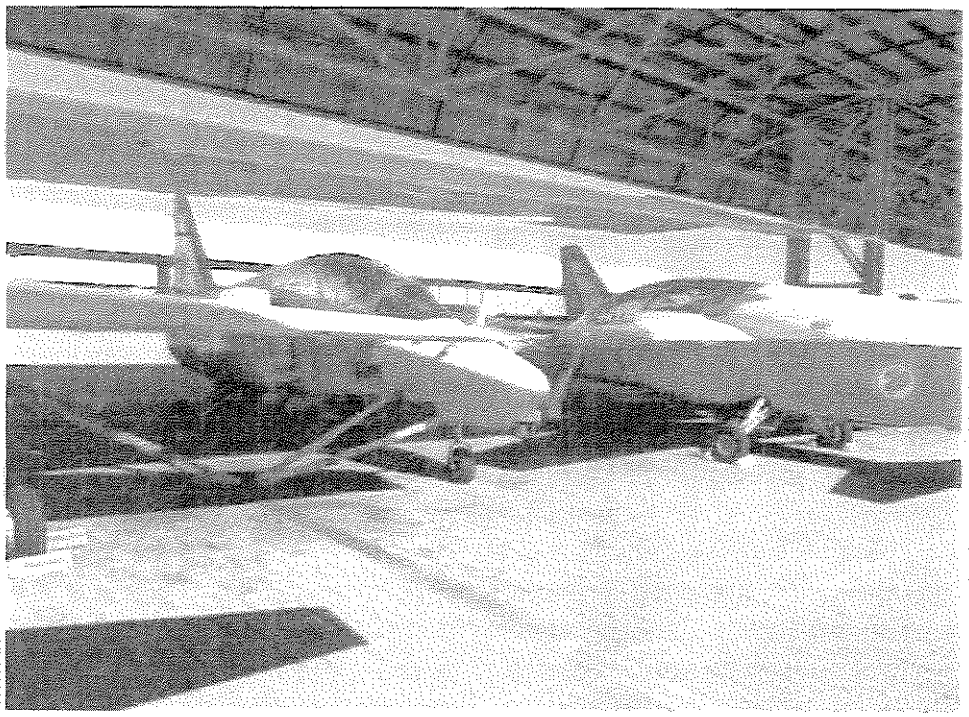


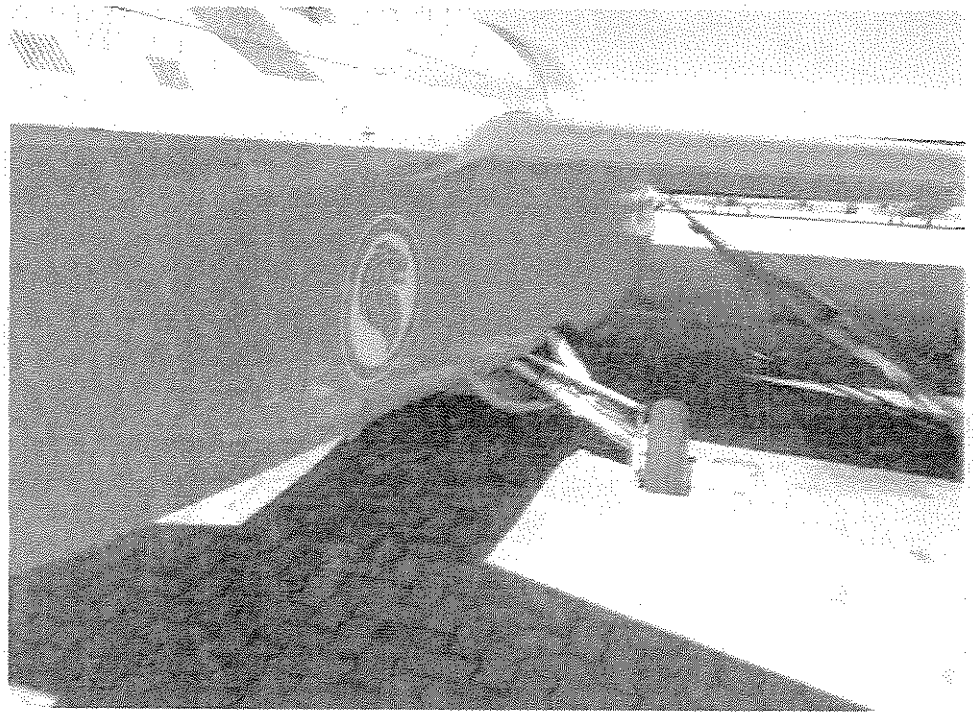


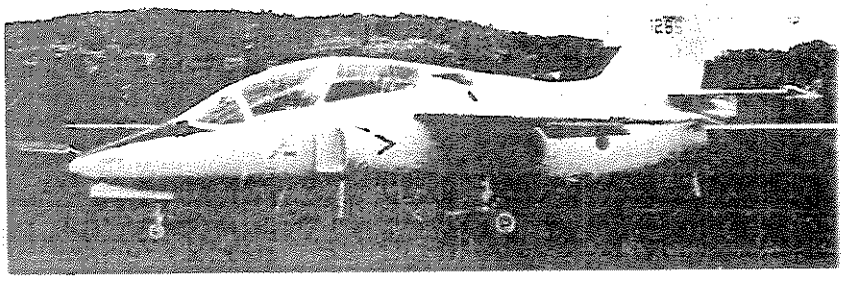












SIAI-Marchetti S.211 in the insignia of the air force of Haiti. *Aviation*

## SIAI-MARCHETTI S.211

This light, low-cost basic trainer and light attack aircraft was first revealed in the form of a model at the Paris Air Show in May/June 1977. Two flying prototypes were built initially, and the first of these (I-SIAI) made its initial flight on 15 April 1981. The second (I-SIAI) with a less square-cut tailpipe, flew later that year. Intake-splitter plates are fitted to the basic prototype (I-SIAI), which made its first flight in the Spring of 1983, and to the production version, which flew for the first time on 4 October 1984.

Deliveries of production S.211s began in November 1985, and an initial order for 60 has been placed by Italy. two S.211s were included in the sale from Singapore to Haiti. Equipment on S.211 includes Honeywell ring laser inertial navigation system (with GPS), Collins digital flight control system, and Sextant head-up display. The S.211 is manufactured by SAMA, a subsidiary of Singapore Aircraft Industries (which see).

Features of the S.211 are its sweptback and spinning counter-weights, and the very low airframe weight, made possible by the fact that some 45 per cent of the external surfaces are made from composite materials.

Brief details were given at the 1985 Paris Air Show of an uprated navigation/attack version, expected to fly for the first time in late 1986. This would have an EMI/Elbit head-up display (modified from that used in the AMX tactical fighter), and an Omega navigation/computer linked to the INS.

The following description applies to the current production S.211:

TYPE: Two-seat basic trainer and light attack aircraft.

WINGS: Cantilever mid-wing monoplane, with supercritical section aerofoil and computer-aided design by the University of New South Wales and Sokrates. Thickness/chord ratio 16% at root, 13% at tip. Incidence 2° 35' at root, −1° 17' at tip. Anhedral 2° from root. Sweepback 25° 30' at quarter-chord. Two-spar metal torsion box structure, forming integral fuel tank, attached to fuselage by four bolts. Upper and lower skins each formed from two one-piece panels joined along centreline and to the spars. Hydraulically actuated ailerons and large area electrically actuated Fowler flaps over trailing-edges. Trim tab in each aileron; servo tab in port aileron.

FUSELAGE: Conventional metal and plastics semi-monocoque structure. Hydraulically actuated airbrake under centre-fuselage. Equipment bay in nose. Large quick-disconnect panel at rear for rapid engine access or removal.

TAIL UNIT: Cantilever metal structure. Sweptback fin and horn balanced rudder, electrically actuated variable incidence tailplane has sweptback leading-edge. Horn balanced elevators, each with rope-iron tab.

LANDING GEAR: Hydraulically retractable tricycle type, of Messier-Hispano-Bugatti Magnaghi design. Oleo-pneumatic shock absorber in each unit. All units retract forwards into fuselage, main units through 90° to lie flat in under-side of engine air-intake duct. Nose-wheel (steerable to 30° left and right. Main wheels size 6·50-6, pressure/size 5·00-5. Designed for sink rate of 4 m (13 ft)/s. Wheel brakes actuated hydraulically, independently of main hydraulic system. Provision for emergency free-fall extension.

POWER PLANT: One 11·12kN (2,500 lb st) Pratt & Whitney Canada JT15D-4C two-shaft turbofan engine (4 in first pre-series aircraft) mounted in rear of fuselage, with intake sucked down through inlet plate. Fuselage 640 litres (169 Imp gal) fuel tank aft of wing spar, and 150 litres (33 Imp gal) in each wing leading-edge tank. Total capacity 940 litres (207 Imp gal). Single-point refuelling point in upper surface of starboard wing. Electric fuel pump for engine starting and emergency use. Fuel and oil systems permit inverted flight. Provision for two 345 litre (77 Imp gallon) drop tanks on inboard underwing stores points. Oil capacity 16 kg (22 lb).

ACCOMMODATION: Seats for two persons in tandem in pressurised and air-conditioned cockpit under one-piece framed canopy opening sideways to starboard; pupil in front, instructor on rear seat elevated 20 cm (11 in). Internal transparent screen between seats. Martin-Baker Mk 10 lightweight zero-zero ejection seats for both occupants.

SYSTEMS: Environmental control system for cockpit pressurisation and air conditioning, using engine bleed air for heating, freon vapour for cooling. Max pressure differential 0·29 bars (4·2 lbs/sq in). Hydraulic system, pressure 207 bars (3,000 lbs/sq in), for actuation of airbrake, landing gear, freon compressor and aileron boost, and independent actuation of wheel brakes. Primary electrical system is 28V DC from an engine-driven starter-generator, nickel-cadmium battery, two static inverters supply AC power for instruments and avionics. External power receptacle in port side of lower fuselage aft of wing. Demand type main oxygen system, at 124 bars (1,800 lb/sq in) pressure, sufficient to supply both occupants for 4 hours, plus bottles for emergency oxygen supply.

AVIONICS AND EQUIPMENT: To customer's requirements. Communications system has, as standard, dual UHF and one HF SSB, all with duplexers. BAE AX16 (or equivalent) HF antenna. Choice of ADF, DME, Tacan, VOR/ILS or R Nav; IFF. Flight director and radio altimeter standard. Provision for Doppler radar, nose-mounted attack radar, laser spotter/ranger, radar warning system and ECM. Landing and taxying lights in inboard wing leading-edges of first two prototypes; relocated near wingtips on production aircraft.

ARMAMENT: Four underwing hardpoints, stressed for loads of up to 350 kg (772 lb) inboard, 200 kg (441 lb) outboard (max external load 600 kg (1,323 lb). Typical loads can include four single or twin-pack 7·62 mm machine-gun pods; four 12·7 mm gun pods, or inboard and outboard 23 mm gun pods; four AIM-9 Sidewinder, Matra R 550 or 68 mm LAU-32/57 or 2·75 in or 70 mm Matra SNEB 68 mm rocket launchers, or inboard only two Matra JSS 68 or 88 mm SNORA RWK 90 (2·75 in or 81 mm) rocket launchers; four bomb or practice bomb dispensers of up to 250 kg each, or inboard only two bombs or napalm containers of up to 300 kg; four 54 mm cartridge throwers; or inboard only two photo-reconnaissance pods each with four cameras and infra-red linescan; or inboard only two 350 litre (77 Imp gallon) auxiliary fuel tanks.

DIMENSIONS, EXTERNAL:

| | |
|---|---|
| Wing span | 8·43 m (27 ft 8 in) |
| Wing chord: at root | 2·151 m (7 ft 0·9 in) |
| at tip | 1·00 m (3 ft 3⅜ in) |
| mean aerodynamic | 1·646 m (5 ft 4⅞ in) |
| Wing aspect ratio | 5·4 |
| Length overall | 9·31 m (30 ft 6⅝ in) |
| Height overall | 3·00 m (9 ft 10⅛ in) |
| Tailplane span | 3·96 m (13 ft 0 in) |
| Wheel track | 2·29 m (7 ft 6 in) |
| Wheelbase | 4·02 m (13 ft 2⅝ in) |

AREAS:

| | |
|---|---|
| Wings, gross | 12·60 m² (135·6 sq ft) |
| Airbrake | 0·42 m² (4·52 sq ft) |
| Vertical tail surfaces (total) | 2·01 m² (21·64 sq ft) |
| Horizontal tail surfaces (total) | 3·37 m² (36·28 sq ft) |

WEIGHTS:

| | |
|---|---|
| Weight empty, equipped | 1,645 kg (3,626 lb) |
| Max usable fuel: internal | 622 kg (1,371 lb) |
| external | 990 kg (660 lb) |
| Max T-O weight: trainer, 'clean' | 2,700 kg (5,952 lb) |
| armed version | 3,100 kg (6,834 lb) |

PERFORMANCE (at T-O weight of 2,900 kg; 6,393 lb except where indicated):

Never-exceed speed
Mach 0·85 (500 knots; 740 km/h; 460 mph EAS)

Max cruising speed at 7,620 m (25,000 ft)
360 knots (667 km/h; 414 mph)

Rotation speed 90 knots (167 km/h; 104 mph)

Stalling speed, flaps down
74 knots (138 km/h; 86 mph)

| | |
|---|---|
| Max rate of climb at S.L. | 1,280 m (4,200 ft)/min |
| Time to 6,100 m (20,000 ft) | 6 min 12 s |
| Service ceiling | 12,200 m (40,000 ft) |
| T-O run (S.L., ISA) | 390 m (1,280 ft) |
| T-O to 15 m (50 ft) | 512 m (1,680 ft) |
| Landing from 15 m (50 ft) | 705 m (2,313 ft) |
| Landing run (S.L., ISA) | 361 m (1,185 ft) |

Min air turning radius at S.L.
less than 305 m (1,000 ft)

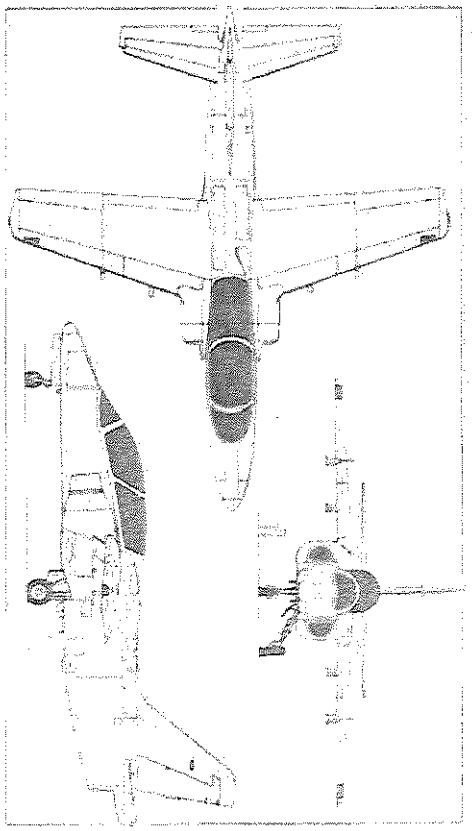
Typical attack radius with four rocket launchers, AUW of 3,100 kg (6,834 lb):
hi-lo-hi, out and back at 360 knots (667 km/h, 305 mph) at 9,145 m (30,000 ft), 2 h 50 min mission incl 5 min over target, 460 kg (1,232 lb) of fuel remaining
360 nm (555 km; 345 miles)
lo-lo-lo, out and back at 250 knots (463 km/h, 288 mph) at less than 305 m (1,000 ft), 1 h 5 min mission incl 5 min over target, 460 kg (832 lb) of fuel remaining
125 nm (231 km, 144 miles)

Max range on internal fuel, 30 min reserves
900 nm (1,668 km, 1,036 miles)

Ferry range (AUW of 3,100 kg or 6,834 lb, max internal and external fuel) at 270 knots (500 km/h; 311 mph) at 6,145 m (30,000 ft), 90 kg (198 lb) of fuel remaining
1,840 nm (3,408 km, 1,843 miles)

Endurance, 30 min reserve 3 h 30 min

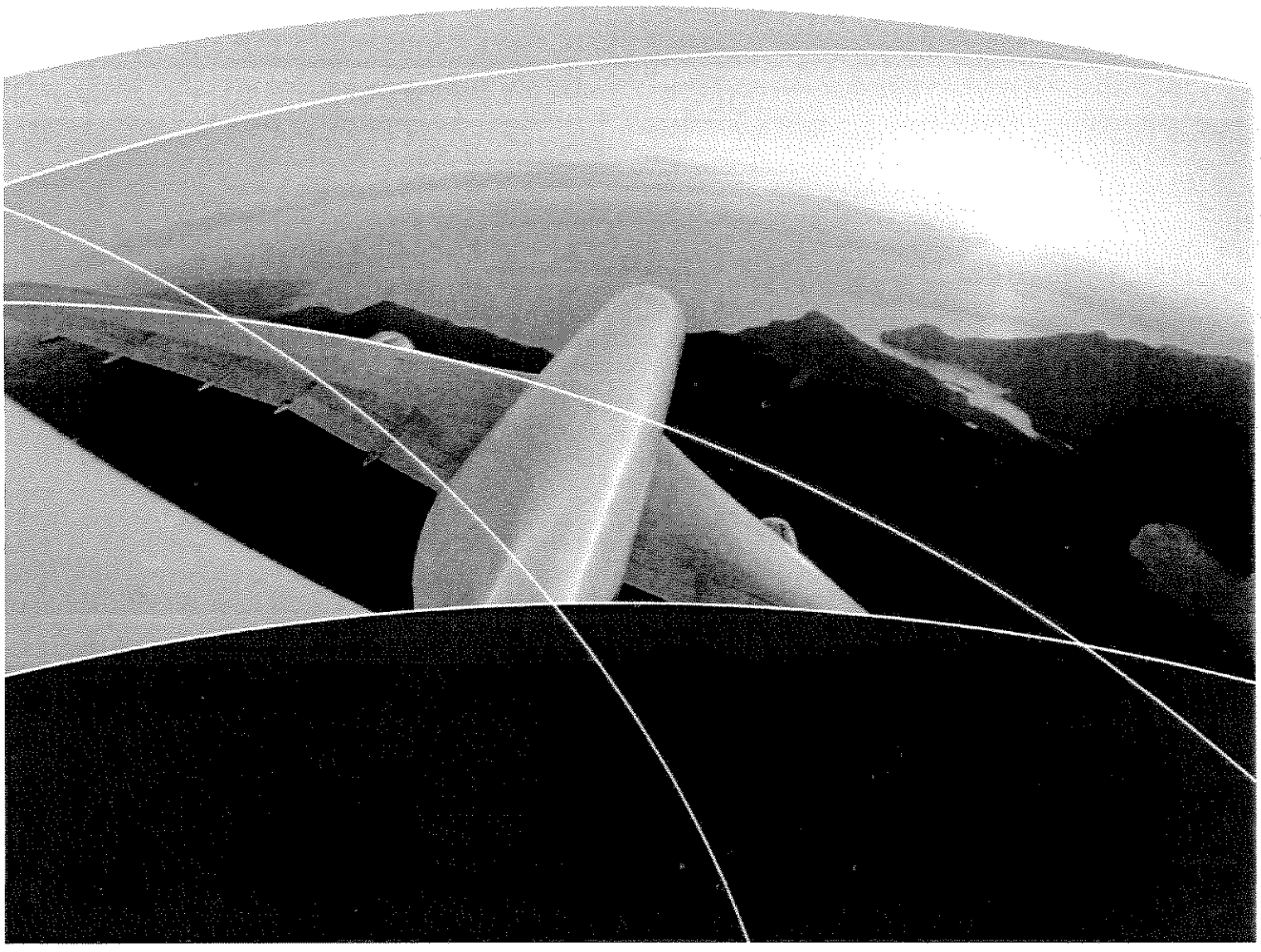
| | |
|---|---|
| Sustained g limit at 4,575 m (15,000 ft) | 3·4 |
| g limits, 'clean' | +6 −3 |
| with external stores | +4·4 −1·76 |



SIAI-Marchetti S.211 basic trainer and light attack aircraft (Peter Pigott)

AIRSERVICESAUSTRALIA

# Communication and Consultation Protocol



# Airservices communication and consultation commitment

Airservices Australia is committed to open and timely communication with the community in accordance with this protocol.

# Context

As Australia's air navigation service provider, Airservices has responsibility for controlling more than 11% of the world's airspace. Each year we provide air navigation services and aviation rescue and firefighting services to more than four million flights that carry over 63 million passengers. We provide safe, efficient and environmentally responsible services to the Australian community.

Airservices provides information to stakeholders and the community and uses consultation to clarify proposals, obtain feedback, or provide access to our expertise in a particular field.

While noise levels of individual aircraft movements can be measured, the debate on acceptable aircraft noise levels within a community can be subjective, is often emotive, and based on individual experiences, expectations and aircraft noise tolerance levels.

For this reason, consultation on changes to flight paths will not always lead to consensus. Nor should it provide the opportunity for a proposal to be vetoed by particular interests which may be detrimental to the overall welfare of the general community. Consultation will consider all views and expectations and where possible endeavour to incorporate these into a final outcome.

Changes or amendments to the services we provide may require the provision of detailed and timely stakeholder and community consultation. This consultation may need to be targeted directly to members of the public or to other stakeholders who may be directly affected by changes to existing flight paths or new infrastructure projects.

# Purpose

The effective management of aircraft noise is a partnership between:

- aircraft operators who generate the noise
- airport operators where location broadly determines which communities could be impacted by aircraft noise
- Airservices which, with prime regard to the safety of aircraft operations, designs and implements the flight corridors to be used by aircraft arriving and departing an airport
- Government which on behalf of the community must balance the impact of airport operations on the community with the need to provide the critical infrastructure required to facilitate social and economic growth at a regional and national level
- communities around airports which may be impacted by aircraft noise or emissions
- state and local planning authorities who determine land use around existing aerodromes.

While Airservices primary duty is to ensure the safety of aircraft and the people travelling in them, in managing Australia's airspace we endeavour to find a balance between cost, efficiency, noise and other environmental impacts, especially aircraft emissions.

Our legislative accountability to consult is expressed in section 9 (2) of the *Air Services Act 1995*. This states the organisation is legally obliged to "... exercise its powers and perform its functions in a manner that ensures that, as far as is practicable, the environment is protected from..." the effects (and associated effects) of the operation and use of aircraft.

Section 10 further states that "Airservices must, where appropriate, consult with government, commercial, industrial, consumer and other relevant bodies and organisations (including ICAO and bodies representing the aviation industry)."

The Government's Aviation White Paper announced new initiatives to strengthen consultation by improving transparency and the flow of information to the community. This includes an Aircraft Noise Ombudsman and formalised Community Aviation Consultation Groups (CACS) to be established at major federal airports.

Any air traffic management change proposal is assessed by the Airservices Environment and Climate Change Unit. This is done using Airservices Environmental Principles and Procedures for Minimising Aircraft Noise (available on our website). The assessment tests the proposal against twelve principles. Through this process any change is classified as 'significant' or 'not significant'. Any change considered 'significant' is then referred to the Minister for the Environment Protection, Heritage and the Arts as set out in the *Environment Protection and Biodiversity Conservation Act 1999* section 160(2)(c). This requires Commonwealth agencies to consider the advice from the Minister before authorising the adoption or implementation of a plan for aviation airspace management.

The outcome and advice from this referral process prescribes how we communicate and consult on a proposed change (refer to Communication and Consultation Protocol flowchart page 5).

This Communication and Consultation Protocol sets out how, when and what consultation is undertaken by Airservices. The protocol sets the framework to ensure that open, reasonable and timely consultation with stakeholders and the community is achieved.

The protocol provides guidance to stakeholders and the community and ensures consistency in its application. It also enhances Airservices consultation processes and will be subject to periodic review.

# Communication and consultation protocol

Airservices has implemented a Communication and Consultation Protocol. Key features include undertaking sensitivity overlays at the initial concept design phase. Sensitivity overlays include:

- intelligent (green) design – looking for green space, water, highways and other less noise sensitive areas
- air traffic control operational issues
- historical noise complaints and complainant analysis
- assessment of potential noise impacts and emission reduction opportunities
- operational requirements of airlines, airports, Defence and other impacted stakeholders.

This is then followed by a three stage assessment process before undertaking the required environment assessment. The three stages are:

- identify and clarify the type and level of potential stakeholder impacts to proposed changes and where appropriate any mitigation measures available
- informed decision making – using information obtained from analysis to identify alternatives to preferred flight path outcomes
- develop tailored consultation processes aligned with stakeholder and community sensitivities.

Through this protocol we will also identify the types and level of stakeholder and community consultation required.

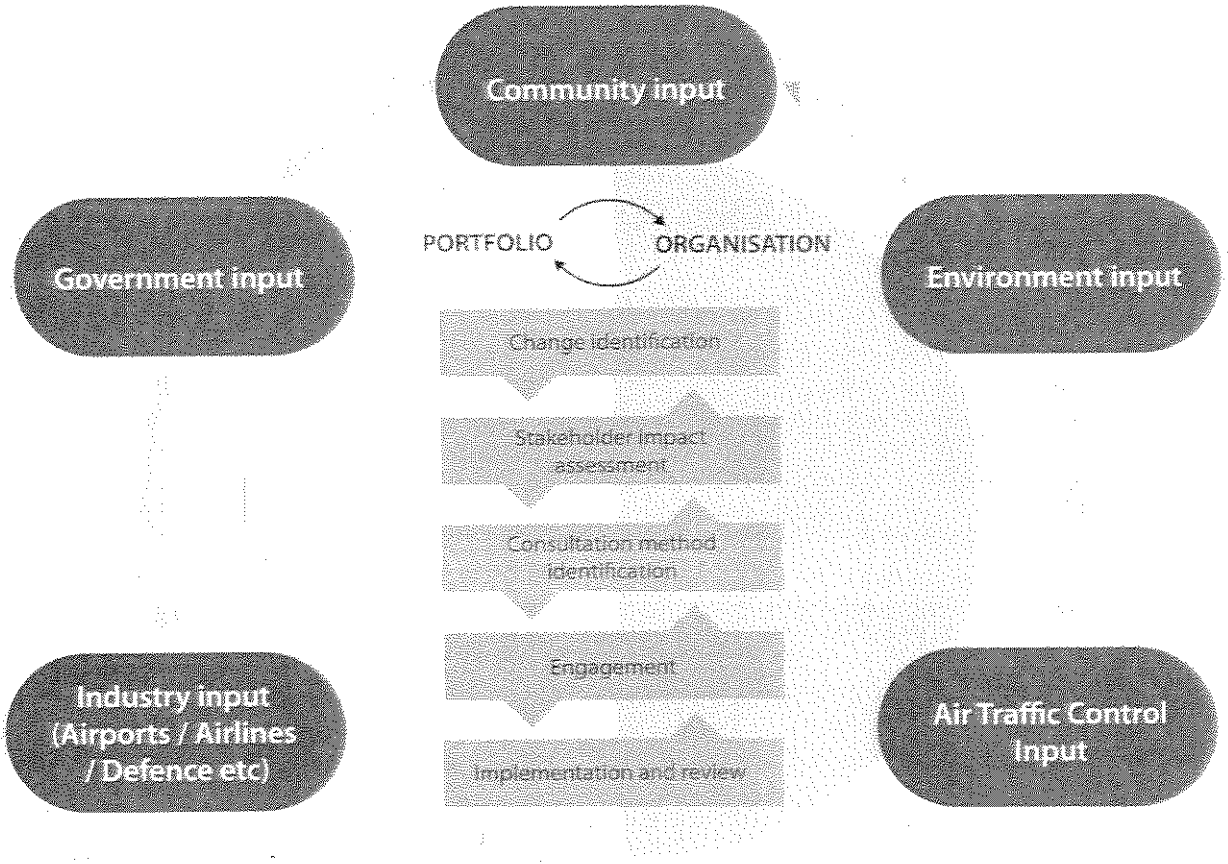
Airservices seeks to provide all interested parties with the opportunity to learn and understand how operational issues may impact them. There will be an opportunity for stakeholders and the community to provide feedback to Airservices.

The Communication and Consultation Protocol is a commitment by us to:

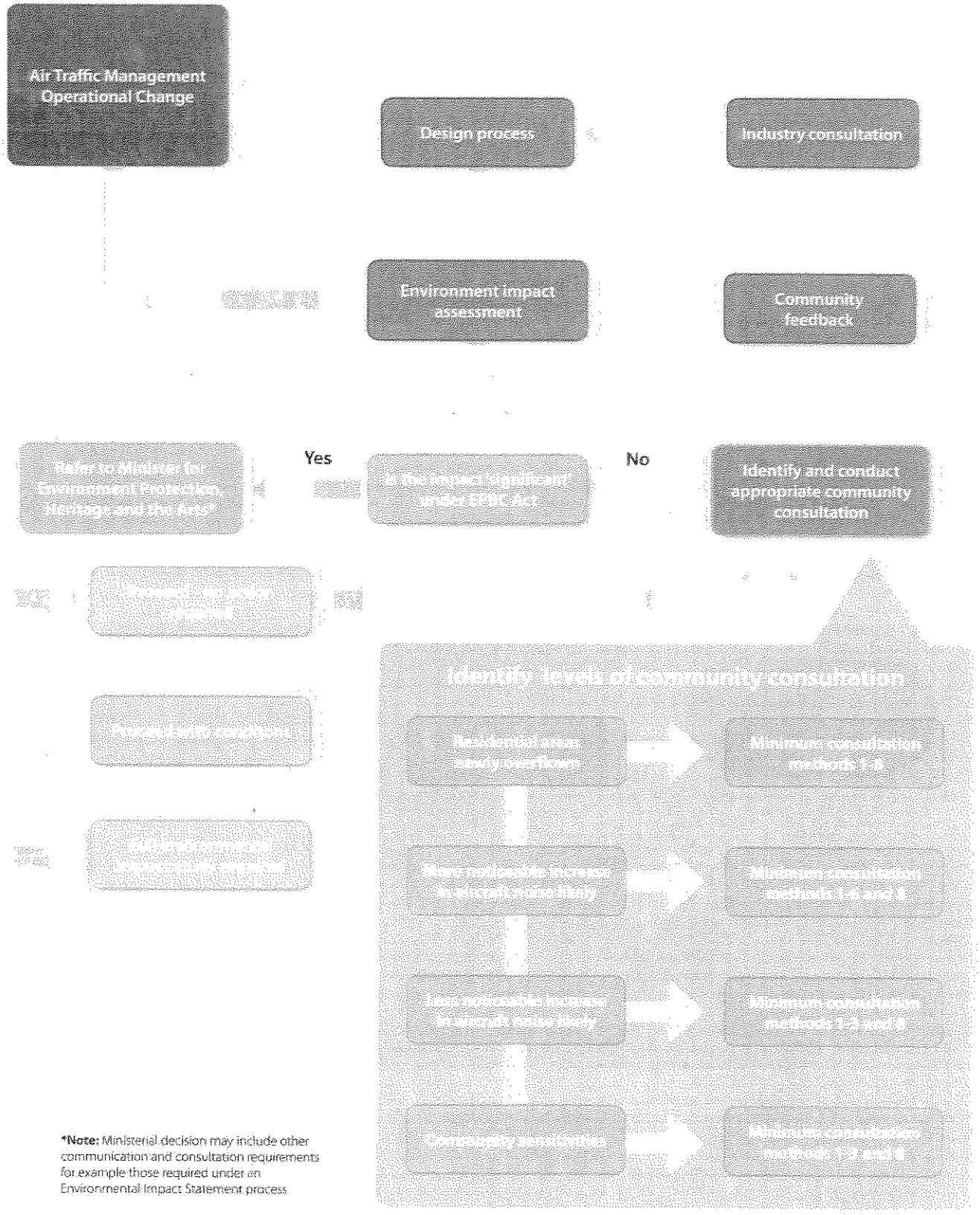
- inform stakeholders and the community
- listen to stakeholders and the community
- acknowledge any feedback
- consider all feedback
- communicate information on decisions made.

This process is represented graphically on the following pages.

## Communication and Consultation Protocol



## Communication and Consultation Protocol flowchart




*Note: Ministerial decision may include other communication and consultation requirements for example those required under an Environmental Impact Statement process

# Methods of consultation

This protocol sets out a number of consultation methods that can be undertaken. Where appropriate, Airservices will implement a consultation program which will:

- inform stakeholders and the community early in the process
- detail where and how information may be obtained
- ensure appropriate information is accessible and easily understood
- detail how feedback may be provided
- invite feedback from stakeholders and the community
- provide additional feedback if required
- inform stakeholders and the community about the consultation process
- consider any stakeholder and community feedback before making a final decision
- communicate any outcome or decision to stakeholders and the community.

Consultation will be tailored using some or all of the following methods depending on the nature of the change.

### Method 1: Industry briefings and/or correspondence

Where appropriate, Airservices will conduct industry briefings and make direct contact with key industry stakeholders. Stakeholders include but are not limited to:

- airlines
- airports
- Commonwealth, state and/or territory government agencies, councils and local, federal and state members of Parliament.

### Method 2: Community Aviation Consultation Groups

As outlined in the Government's Aviation White Paper, major federal airports are required to establish a Community Aviation Consultation Group (CACG). These committees will have representatives from the airport, airlines, local government, Airservices and community and/or resident groups. Whilst many airports already have their own consultative committees, the CACGs will provide a standardised forum for consultation to occur. Airservices will be represented at each of the CACGs. Where appropriate, we will provide briefings and written information to the committees on issues of interest in a form that is easy to understand.

### Method 3: Information on Airservices website

Airservices will make available on our website information in a form that is easy to understand. The scale and detail of the information will be tailored to address the nature of the changes or project to be undertaken. Information on how to provide feedback via the website will also be included.

### Method 4: Press advertising

Where appropriate, advertising in the Public Notices section of local and regional newspapers may be undertaken. The advertisements will advise stakeholders and the community on the specific changes or project to be undertaken. The advertisement will also state where they can obtain more information and how to provide feedback. If required we will invite stakeholders and the community to attend a public information session.

### Method 5: Direct mail to residents

Where appropriate Airservices and other key stakeholders, such as an individual airport or airline, may write to residents directly affected by proposed changes. This will depend on the nature and scope of the proposed changes or project. Residents will be invited to provide feedback.

### Method 6: Information kit

An information kit may be provided to the media and/or community and could include:

- a project fact sheet including how to provide feedback via Airservices website
- a media release
- a copy of this protocol
- a CD or DVD of relevant information, for example a map or images.

### Method 7: Public information session

A public information session is a meeting which allows Airservices to report to and/or engage in open discussion with community members. Where appropriate, Airservices may conduct a public information session at a local community venue. These would be designed to allow small groups of people to meet with Airservices staff for face-to-face discussion about the project.

For public information sessions:

- a public notice will be published in a daily newspaper circulating in the area involved containing the place and time a public information session will be held, where additional information is available, and an invitation to attend the information session.
- an information kit will be released (see Method 6 above).
- information will be made available via our website at least seven (7) business days before the information session.

### Method 8: Consultation report

A report will be written after each consultation process is completed. It will detail the feedback, if any, that was received. The report will contain:

a. the name and contact details of the person/s supplying feedback (unless anonymity has been requested)
b. the date that feedback was received
c. the subject matter of the feedback
d. Airservices response to any of the feedback (if feedback is given)
e. if appropriate, an assessment of the matters that were raised in the feedback.

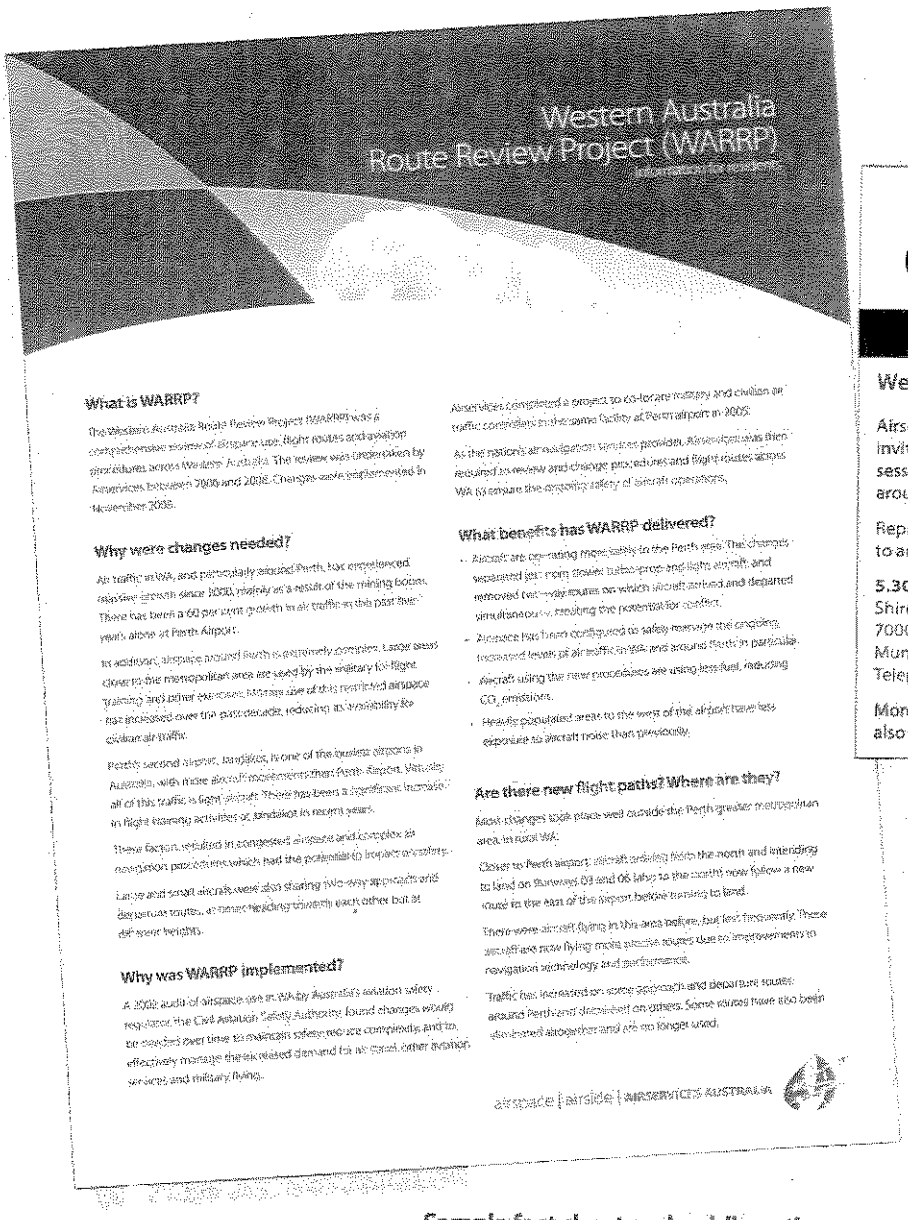
# Consultation exceptions

Notwithstanding the requirements of this protocol, the level of consultation for a change to flight paths or specific project undertaken by Airservices may be modified for matters relating to safety, national defence or security issues.

## Templates

The following example templates have been developed to be used when preparing the following items for public consultation:

- project fact sheet
- feedback form (via Airservices website)
- feedback acknowledgement letter
- decision notice to submitters
- public notice for publication in newspapers
- letter for direct mail to residents.



Western Australia
Route Review Project (WARRP)

### What is WARRP?

The Western Australia Route Review Project (WARRP) was a comprehensive review of airspace, flight routes and aviation procedures across Western Australia. The review was undertaken by Airservices between 2006 and 2008. Changes were implemented in November 2008.

### Why were changes needed?

Air traffic in WA, and particularly around Perth, has experienced rapid growth since 2000, mainly as a result of the mining boom. There has been a 60 per cent growth in air traffic in this past three years alone at Perth Airport.

In addition, airspace around Perth is extremely complex. Large areas close to the metropolitan area are used by the military for flight training and other exercises. Military use of this restricted airspace has increased over the past decade, reducing the availability for civilian air traffic.

Perth's second busiest airport, Jandakot, is one of the busiest airports in Australia, with more aircraft movements than Perth Airport. Virtually all of this traffic is light aircraft. There has been a significant increase in flight training activities at Jandakot in recent years.

These factors resulted in congested airspace and complex air navigation procedures which had the potential to impact on safety.

Large and small aircraft were also sharing two-way approaches and departure routes, at times heading towards each other but at different heights.

### Why was WARRP implemented?

A 2006 audit of airspace use in WA by Australia's aviation safety regulator, the Civil Aviation Safety Authority, found changes would be needed over time to maintain safety margins and to effectively manage the increased demand for air travel, other aviation services and military flying.

Airservices completed a project to co-locate military and civilian air traffic controllers in the same facility at Perth airport in 2005.

As the national air navigation services provider, Airservices was then required to review and change procedures and flight routes across WA to ensure the ongoing safety of aircraft operations.

### What benefits has WARRP delivered?

- Aircraft are operating more safely in the Perth area. The changes separated jet, more modern turbo-prop and light aircraft, and removed two-way routes on which aircraft arrived and departed simultaneously, reducing the potential for conflict.
- Airspace has been configured to safely manage the ongoing increased levels of air traffic in WA, and around Perth in particular.
- Aircraft using the new procedures are using less fuel, reducing $CO_2$ emissions.
- Heavily populated areas to the west of the airport have less exposure to aircraft noise than previously.

### Are there new flight paths? Where are they?

Most changes took place well outside the Perth greater metropolitan area, in rural WA.

Closer to Perth airport, aircraft arriving from the north and intending to land on Runways 03 and 06 (also to the north) now follow a new route to the east of the airport before turning to land.

There were aircraft flying in this area before, but less frequently. These aircraft are now flying more precise routes due to improvements in navigation technology and performance.

Traffic has increased on some approach and departure routes around Perth and decreased on others. Some various have also been shortened altogether and are no longer used.

airspace | airside | AIRSERVICES AUSTRALIA

**Sample fact sheet and public notice**

AIRSERVICES AUSTRALIA

## Information session

### West Australian Route Review Project

Airservices Australia and the Shire of Mundaring invite the Mundaring community to an information session about changes to air traffic management around Perth which took place in November 2008.

Representatives from Airservices will be available to answer questions.

**5.30pm - Wednesday 3 February**
Shire of Mundaring
7000 Great Eastern Highway,
Mundaring WA 6073
Telephone: 08 9290 6666 (All Hours)

More information on the flight route changes is also available at **www.airservicesaustralia.com**