



# REVIEW OF BRISBANE AIRPORT

## Noise Abatement Procedures



## 1. Summary

This document presents an overview of the findings of the review of the Noise Abatement Procedures in place for Brisbane Airport.

The technical review was undertaken in 2012 and the report completed in 2013 to assess the effectiveness of current Noise Abatement Procedures at Brisbane Airport. Options to minimise the impact of aircraft noise on residential areas around Brisbane Airport were explored, as well as options to move aircraft noise away from residential areas where possible.

The review found that there is a high level of compliance with the current procedures and identified some potential areas for improvement. Findings of this review will be subject to further consultation and engagement, with industry (Airlines, Brisbane Airport) in the first instance and then with other stakeholders including the community.

### 1.1 Summary of Review Findings

- Due to the location of the airport and surrounding residential areas it has not been operationally feasible to devise flight paths for arrivals to Runway 01 (coming in over land) and departures from Runway 19 (departing over land) which completely avoid overflight of the community. Where there are options for locating the flight path, very often a benefit to one area will be achieved by increasing the impact on another area.
- Adherence with flight paths which are specified in Noise Abatement Procedures by jet aircraft is high, at over 90% (excluding departures above 5,000ft).
- Adherence to flight paths which are specified in the Noise Abatement Procedures by turboprop aircraft is variable. Adherence at night is over 90% for all procedures except Runway 01 arrivals, where it is 87%. This was a very positive result and minimised impact of aircraft noise at night time. During the day there are only two requirements and these have less than 10% adherence. (This reflects that it has not been possible for ATC to apply these procedures during the day due to safety, demand and efficiency considerations).
- Nomination of the preferred runway by Air Traffic Control when it was available is high (95% during the day and 94% at night). Compliance with the preferred runway when nominated is also high (over 90% at all times).
- Airservices will continue to develop procedures to ensure the Noise Abatement Procedure requirements are fully met with respect to achieving altitude requirements and remaining over water as much as possible.

### 1.2 Noise Abatement Procedures

Under the *Air Services Act 1995 (Cwth)*, Airservices has an obligation to provide environmentally responsible services to our customers by minimising the environmental impact of aircraft operations, including the impact of aircraft noise.

Noise abatement is based on the following principles:

- Procedures should be optimised to achieve the lowest possible overall impact on the community.
- Noise should be concentrated as much as possible over non-residential areas.
- Noise exposure should be fairly shared whenever possible.

- No suburb, group or individual can demand or expect to be exempt from aircraft noise exposure.

Noise Abatement Procedures have been developed for each Australian airport on a case by case basis in response to the local conditions including the demographic profile of the area in which each airport is situated.

The requirement to follow Noise Abatement Procedures is subject to ensuring that safety and efficiency of the airport are not compromised. Compliance can therefore be affected by adverse weather, traffic complexity, or the specific operating requirements of individual aircraft.

### **1.3 Noise Abatement Procedure Reviews**

Airservices undertakes reviews Noise Abatement Procedures at airports to assess their effectiveness and, where possible, look for improvements to achieve a better noise outcome for the local community. The review for Brisbane Airport examined a 12 month period of operations from 1 July 2011 to 30 June 2012.

### **1.4 Noise Abatement Procedure Review Terms of Reference**

The draft Terms of Reference for the review were presented to the Brisbane Airport Community Aviation Consultation Group (CACG) for community feedback in June 2012, and stated that the review aimed to identify:

- a) Current noise distribution
- b) Demography and land use around Brisbane Airport
- c) Current Noise Abatement Procedures
- d) Compliance with Noise Abatement Procedures
- e) Effectiveness of Noise Abatement Procedures
- f) Forecast growth of traffic (as per Master Plan)
- g) Opportunities for improvement

Airservices did not receive any comments about the draft Terms of Reference or requests for change prior to the review being undertaken.

## **2. Background**

### **2.1 Current Noise Distribution**

Brisbane Airport has experienced a high level of growth over the last 10 years and this is forecast to continue over the next 20 years. While noise is largely concentrated to the areas immediately beyond the ends of each runway, the distribution of noise is affected by the design of flight paths and selection of runways. Noise Abatement Procedures aim to mitigate these impacts through establishing a system of preferred runways and flight paths for use at different times of the day.

### **2.2 D Brisbane Airport Operations**

Brisbane Airport is located 14km north-east of the central business district. It is bounded by residential areas to the west, south and north. The majority of operations at Brisbane Airport are international and domestic regular passenger services, mostly medium to large jets.

Under its current configuration, the main runway at Brisbane Airport, 01/19, is 3.5km long and orientated approximately south to north. This means for Runway 01, aircraft arrive over suburbs to the south of the airport and take off over water. For Runway 19, aircraft arrive over water and take off over suburbs to the south. There is a smaller 1.7km long cross runway, 14/32, orientated north-west to south-east, which is primarily used by propeller aircraft.

Brisbane Airport has been given approval to construct a new runway which is parallel to Runway 01/19. Work is underway and the new runway is expected to be operational by 2020. This Noise Abatement Procedure review does not include the proposed use of this new runway (NAPs will be prepared for the new runway taking into consideration the new procedures that will be required when a parallel runway is operational).



Runway 01 – runs (approximately) south to north. Aircraft arrive from the south over land and aircraft depart to the north over water when using this runway.

Runway 19 – runs (approximately) north to south. Aircraft arrive from the north over water and aircraft depart to the south over land when using this runway.

Runway 14 – runs (approximately) north west to south east. Aircraft arrive from the north west over land, and aircraft depart to the south east over water.

Runway 32 – runs (approximately) south east to north west. Aircraft arrive from the south east over water, and aircraft depart to the north west over land.

Different rules for noise abatement apply at different times of the day so much of the data presented is divided into “Day” and “Night”. At Brisbane airport “Day” is specified as the period 6am to 10pm Sunday to Friday, and the period 6am to 9pm on Saturdays. “Night” is the period 10pm to 6am Sunday to Friday, and the period 9pm to 6am on Saturdays.

### 2.3 Movements

There were a total of 206,103 movements at Brisbane Airport for the 12 month period of the study. This figure incorporates aircraft movements, comprising jets, general aviation aircraft and helicopters. There were a total of 146,219 jet movements during the period.

### 2.4 Current Noise Abatement Procedures

The main Noise Abatement Procedures currently in use at Brisbane Airport are:

#### 2.4.1 Preferred Runways

Air Traffic Control nominates the runway for use to ensure safety and operational requirements are met, depending on the weather conditions. If weather conditions do not favour a specific runway, the 'preferred' runway is used.

- From 10.00pm to 6.00am, providing wind and traffic management safety requirements permit, Runway Reciprocal Operations (RRO) are used to enable aircraft to depart and land over Moreton Bay.
- At other times, the preferred runways are, in order: Runway 01, Runways 14/32, Runway 19.
- Jet noise abatement climb procedures apply at all times from Runway 19.

#### 2.4.2 Preferred Flight Paths

- Jets arriving to Runway 19 are normally routed to the east of the coast (over water) to avoid noise sensitive locations. Aircraft are required to remain above 3,000ft until they are east of the coast (5,000ft from 10.00pm to 6.00am).
- Jets arriving to Runway 01 make use of the 'River Track' (along the Brisbane River) to minimise the impact over residential areas. From 10.00pm to 6.00am, these aircraft are required to remain above 3,000ft until aligned with the runway.
- Departure procedures from Runway 19 are designed to minimise the impact on residential areas. From 10.00pm to 6.00am aircraft are routed as far as possible clear of noise sensitive areas.
- Jets departing Runway 14/32 are required to stay over water until they are over 5,000ft. This applies to all aircraft from 10.00pm to 6.00am.
- Jets departing Runway 01 are routed to avoid residential areas until they reach 5,000ft.
- Between 10.00pm and 6.00am, all aircraft departing Runway 01 stay over water until they are over 5,000ft.
- For arriving aircraft, maximum use of overwater tracking is utilised until aircraft are established on their final approach course.

### 3 Compliance with Noise Abatement Procedures

The Noise Abatement Procedure Review at Brisbane Airport found the following with respect to compliance with the existing noise abatement procedures (NAPs).

#### 3.1 Preferred Runways

Preferred runway procedures only apply if there is less than 5 or 10 knots downwind on the specified runway depending on the time of day (and none at all if the runway is not completely dry). A runway can only be nominated with up to 5 knots of downwind during the day or up to 10 knots at night. Preferred runways are nominated in accordance with these criteria and compliance is very high. There is also a maximum crosswind criterion which is influential at airports with more than one runway available for all operations. The presence of significant weather phenomena in the vicinity of the airport can also affect runway selection, and in these instances safety of aircraft operations overrides the requirements stipulated in the Noise Abatement Procedures. In addition, pilots may request use of a particular runway for operational reasons and Air Traffic Control will accommodate such requests if safety and efficiency permit.

Nomination by Air Traffic Control of the preferred runway was high during the period of review, being 95% of the time during the day and 94% at night when it was available given the weather conditions. Compliance by aircraft with the preferred runway when nominated by Air Traffic Control was also high, being over 90% at all times. The table below shows the percentage of use of preferred runways and the compliance rates when the preferred runway was nominated.

#### **Use of Preferred Runways**

		<b>Arrivals</b>		<b>Departures</b>	
		<b>R01</b>	<b>R19</b>	<b>R01</b>	<b>R19</b>
<b>Day</b>	Nominated	46%	n/a	47%	n/a
	Compliant	92%	n/a	92%	n/a
<b>Night</b>	Nominated	n/a	86%	70%	n/a
	Compliant	n/a	97%	95%	n/a

### 3.2 Preferred Flight Paths

Adherence with flight paths which are specified in Noise Abatement Procedures by jet aircraft was high, at over 90% (excluding departures above 5,000ft). This is summarised in the table below:

#### Jet Compliance

	Arrivals		Departures Day & Night	
	Day	Night		
<b>Runway 01</b>	<b>Requirement</b>	Follow River Track	> 3,000 ft until runway aligned	> 5,000 ft over residential
	<b>Level of Compliance</b>	92%	100%	99%
<b>Runway 19</b>	<b>Requirement</b>	> 3,000 ft over residential	> 5,000 ft over residential	Follow SID
	<b>Level of Compliance</b>	96%	99%	< 5,000 ft: 93-99% > 5,000 ft: 63-80%

Adherence to flight paths which are specified in the Noise Abatement Procedures by turboprop aircraft is variable. Adherence at night is over 90% for all procedures except Runway 01 arrivals, where it is 87%. During the day there are only two requirements and these have less than 10% compliance. (Non adherence reflects that it has not been possible for ATC to comply with these procedures during the day due to safety, demand and efficiency considerations).

This is summarised in the table that follows:

## Turboprop Compliance

	Arrivals		Departures		
	Day	Night	Day	Night	
<b>Runway 01</b>	<b>Requirement</b>	N/A	> 3,000 ft until runway aligned	N/A	> 5,000 ft over residential
	<b>Level of Compliance</b>		87%		99%
<b>Runway 14</b>	<b>Requirement</b>	Left base (maximise tracking over water)		N/A	> 5,000 ft over residential
	<b>Level of Compliance</b>	2%	90%		99%
<b>Runway 19</b>	<b>Requirement</b>	N/A	> 3,000 ft until east of coastline	N/A	Clear of sensitive areas
	<b>Level of Compliance</b>		98%		Not measured
<b>Runway 32</b>	<b>Requirement</b>	Right base		N/A	> 5,000 ft over residential
	<b>Level of Compliance</b>	10%	98%		100%

During the day (6.00 am – 10.00 pm) due to the volume and complexity of day time operations, Air Traffic Control is unable to process turbo prop aircraft to track over water. This has been the case for a number of years due to a need to maintain airport throughput and minimise crossing flight paths to prevent the Air Traffic Control system from becoming overloaded. As a result adherence to this noise abatement procedure on runway 14 was very low (2%).

Turbo prop aircraft are tracked over water when operating on runway 14/32 from 10.00pm – 6.00am. As outlined in the table above this had very high adherence to the noise abatement procedure requirement (90% for runway 14 and 98% for runway 32). This demonstrates this NAP is effective in minimising the impact of aircraft noise on the community during the night time.

While this is an existing noise abatement procedure that has been in place for a substantial period of time, it has not been able to be implemented sufficiently for many years due to the increase in traffic levels restricting the way Air Traffic Control can safely and efficiently process the mix of aircraft at Brisbane airport. The NAP review has considered the compliance to the wording of the current noise abatement procedures, not to the actual operational practice. This specific noise abatement procedure is outdated and not operationally possible to implement during the day.

Airservices is currently updating the pilot instruction (known as the DAP) to reflect this. This updated wording in the DAP will reflect how Air Traffic Control has processed turbo prop arrivals and departures for many years – it is a correction of outdated information to reflect the actual situation, not a change to the actual operational activities that are occurring. As a result there is not expected to be any change or impact to the community. Airservices provided an overview of this DAP

change to the Brisbane Airport Community Aviation Consultation Group meeting on 26 March 2013 (prior to the release of the NAP review). The wording of the changed DAP is included in Attachment 1.

#### 4. Effectiveness of Noise Abatement Procedures

Noise Abatement Procedures which ensure aircraft remain over water when at low altitudes are extremely effective. However, the use of over water flight paths is runway dependent so it is essential that noise preferred runways are nominated as much as possible and that barriers to their use are minimised. Due to the location of the airport and surrounding residential areas, it has not been operationally feasible to devise flight paths for arrivals to Runway 01 and departures from Runway 19 which completely avoid overflight of the community. Where there are options for locating the flight path, very often a benefit to one area will only be achieved by increasing the impact on another area.

#### 5. Forecast Growth of Traffic

Brisbane Airport has forecast total traffic growth of up to 3.5% per annum to 2015 and a further 2.8% per annum from 2015 to 2035. During the day, traffic levels do not impact on the use of the preferred runway, however at night the preferred runways can only be used when traffic levels are very low under the current runway configuration. As traffic levels increase over time, the opportunities to implement Reciprocal Runway Operations (i.e. arrivals onto Runway 19 and departures from Runway 01) will be reduced. However, it should be noted the proposed parallel runway should substantially increase the opportunity to manage aircraft over the bay with arrivals and departures on segregated runways.

#### 6. Opportunities for Improvement

##### 6.1 Proposed Parallel Runway

Before becoming operational, the proposed new parallel runway will require a further review of Noise Abatement Procedures to ensure over the number of flights over Moreton Bay is maximised.

##### 6.2 Preferred Runways

###### *6.2.1 Reciprocal Runway Operations*

There is a clear environmental benefit from using the runway combination known as Reciprocal Runway Operations (RRO). This mode of operation provides complete respite for all residential areas from aircraft overflight below 5,000 feet but there is limited opportunity to use RRO due to the resulting capacity constraint and weather requirements. It is therefore only used at night. The current Noise Abatement Procedures reflect the reality of this constraint, however the wording was prescriptive and effectively ruled out using RRO if the opportunity became available at any time of the day or early evening, particularly during the daylight saving period in the southern states.

Airservices has been working on options for RRO for the past twelve months, actively seeking improved noise outcomes for the community. The case to review RRO operations (consider the option to implement RRO earlier than 10.00pm) on weekends was also presented to Airservices by the Aircraft Noise Ombudsman for consideration.

As a result Airservices has amended the times that RRO could be implemented at Brisbane. The change enables RRO to be nominated earlier on the weekend if traffic

and weather conditions permit. The updated RRO information will also be formally published in the DAP later this year but is already in place as an Air Traffic Control local instruction. The alternate wording to the revised DAP is in Attachment 1.

#### *6.2.2 Preferred runway*

During the day, Runway 01 is the designated preferred runway for all operations. During the night periods that are too busy for RRO, Runway 01 is the preferred runway for all jet flights and Runways 14 or 32 are preferred for non-jet flights.

Runway 01 operations result in departures over Moreton Bay until above 5,000 feet, however, arrival paths cannot avoid overflight of residential areas. The alternative would be to nominate Runway 19 for daytime operations, in which case arrivals would be over water below 5,000 feet but departures would be over residential areas.

For communities located near the airport, analysis shows there is less difference in altitude between arrivals and departures and it is more likely that departures will be louder. However, suburbs further away from the airport to the south, which are the location of the majority of community complainants, are not close enough for there to be a clear benefit derived from the current preferred use of Runway 01 for departures. This results in those areas being overflown by a higher proportion of arrivals.

This analysis does not support the use of Runway 01 as the preferred runway when Reciprocal Runway Operations are not available, nor does it support the use of Runway 19. Further analysis would be needed in order to be conclusive about which runway preference (if any) would have a greater noise abatement benefit.

### 6.3 Preferred Flight Paths

There were no alternative flight path proposals identified in the review.

### 6.4 Noise Abatement Areas

Noise Abatement Areas are not appropriate for Brisbane Airport, as there are no opportunities to concentrate Runway 01 arrivals or Runway 19 departures over non-residential areas.

### 6.5 Night Operations

Night operations are addressed through the preferred runway system, which aims to ensure all flights are over the water when below 5,000 feet. This is subject to weather, but also to traffic levels. If traffic levels increase, it can be expected that there will be more operations over residential areas, at times when Reciprocal Runway Operations are not feasible.

## 7 Recommendations

### **7.1 Options to improve Noise Abatement Procedures at Brisbane Airport:**

As a result of the findings of the Noise Abatement Procedure Review Airservices has proposed a number of recommendations for improvement.

1. Areas of low compliance with flight path requirements are addressed, particularly in regard to daytime processing of turboprop arrivals.
  - This recommendation has been implemented.

- This is a recommendation to update the pilot instruction (DAP) to reflect the actual practice of many years. While it will not change the current day time operations of turbo props (and therefore not be detrimental to the community) it will not create a noise improvement, but is required to ensure that published NAPs can be used. The DAP update has been put forward and is expected to be formally published in August 2013.
2. Implement Reciprocal Runway Operations (RRO) earlier when possible.
    - This recommendation has been implemented.
    - The RRO information was updated in the DAP review (as per recommendation number 1). The change enables RRO to be nominated earlier on the weekend if traffic and weather conditions permit. The updated RRO information will be formally published in the DAP by August 2013 but is already in place as an Air Traffic Control local instruction.
  3. A policy be developed and published regarding how decisions about the use of Reciprocal Runway Operations are made to help inform the community.
    - This recommendation will be implemented.
  4. Continued participation in the Brisbane Airport Technical Noise Working Group and the Community Aviation Consultation Group meetings to explore additional opportunities for noise abatement improvements.
    - This recommendation will be implemented.
  5. Other mechanisms be considered to ensure the preferred runways remain available as much as possible to maintain the very high compliance to this noise abatement procedure.
    - This recommendation will be implemented.
    - Airservices will work with the Brisbane Airport Technical Noise Working Group and the CACG to identify initiatives that identify an improved noise outcome for the community. These proposals for change will be investigated and information provided back to the CACG.

## **7.2 Other proposals investigated for noise abatement procedure changes:**

As part of this technical review, Airservices also considered other proposals and investigated these for feasibility. The following proposals were considered, but are not able to be implemented due to safety and operational considerations. Therefore these proposals have not been included in the final NAP review recommendations.

1. Runway 01, 14 and 32 turboprop departure procedures change considered to include a height requirement during the day, in order to maximise noise benefits from these operations.
  - *This proposal is not feasible and will not be investigated further.*
  - This would have an impact on capacity and introduce greater complexity for safe traffic management.
2. Consideration be given to increasing the daytime altitude requirement until east of the coast for Runway 19 jet arrival procedures from 3,000 feet to 5,000 feet.

- *This proposal is not feasible and will not be investigated further*
3. Consideration is given to extending the application of the 10 knot downwind criteria to daytime operations. In addition, the relevance of the surface condition to the criteria should be examined. This would be in conjunction with airlines and the safety regulator, CASA.
- *This proposal is not feasible and will not be investigated further.*
  - The use of a preferred runway is limited by the wind and weather conditions.
  - 10 knots downwind significantly increases risk of an unstable approach/go round which reduces safety due to an increase in complexity and ATC workload. Downwind on a wet runway is not an option for arriving jets.
  - Safety and operational factors preclude this recommendation from being feasible.

## 8 Community Consultation

Airservices presented the draft Terms of Reference (TOR) for the Brisbane Airport Noise Abatement Procedure Review to the Brisbane Community Aviation Consultation Group (CACG) in June 2012 for discussion and feedback. No feedback was received from the CACG representatives. The TOR was then finalised. A copy of the TOR is in Attachment 2.

The CACG comprises representatives from Brisbane Airport, Airservices, Commonwealth (Department of Infrastructure and Transport) and QLD (State and Local) government, the aviation industry (i.e. airport users) and residents' associations (or similar purpose organisations) for areas surrounding the airport.

Airservices provided status updates on the NAP review at subsequent meetings in 2012.

At the March 2013 CACG, Airservices advised the final NAP review would be presented to the May 2013 CACG meeting, with the review to be provided to the Brisbane Airport Technical Noise Working Group (TNWG) before the CACG to finalise the recommendations. The CACG members supported that this review be presented to the TNWG prior to going to the CACG.

At the March 2013 CACG meeting, Airservices also gave an overview of turbo prop operations at Brisbane Airport based on findings in the NAP review and a change being made to the pilot instruction (DAP) as a result.

It is not possible to track turbo prop aircraft over water during the period 6.00am - 10.00pm due to the increased volume and complexity of day time operations. The current noise abatement procedure was outdated and not operationally possible to implement during the day. There was no change proposed to current night operations of turbo props, which has very high compliance to the current noise abatement procedure.

Airservices provided the recommendations of the NAP Review to the May 2013 CACG meeting. There were no comments made by the CACG members.

## **9 More Information**

For further information or to provide feedback on this review please contact:  
[community.relations@airservicesaustralia.com](mailto:community.relations@airservicesaustralia.com)

## **NOISE ABATEMENT PROCEDURES BRISBANE**

Airservices Air Traffic Control will facilitate over water operations and maximise the use of preferred flight paths wherever possible.

### **Day Operations**

Day Operation times are 0600am -1000pm Local Monday to Friday and 0600am-0900pm Local Saturday and Sunday.

### **Night Operations**

Night Operation times are all other times.

Reciprocal Runway Operations require:

- Downwind component does not exceed 10 knots (including gusts) and
- Runway surface completely dry.

During Night Operations, Reciprocal Runway Operations are the preferred runway mode. Traffic Management –airborne holding and start clearances- will be employed to enable Reciprocal Runway Operations where safety requirements permit.

Noise abatement will not be a determining factor in runway selection at Brisbane under the following circumstances:

1. During Thunderstorms and Low Visibility Procedures
2. MEDEVAC priority aircraft
3. Where traffic management procedures are required to safely manage ATC workload

Where noise abatement procedures are prescribed, and ATC traffic management safety requirements permit, the following runway nomination provisions will be applied.

#### **1. - PREFERRED RUNWAYS**

Jet Noise Abatement climb procedures apply H24 RWY 19.

(a) Day Operations and when Reciprocal Runway Operations are not possible, the preferred runways are:

LANDING	TAKE-OFF
RWY 01	RWY 01
RWY 14/32	RWY 14/32
RWY 19	RWY 19

RWY 19 Intersection departures are not permitted for aircraft exceeding 30,000kg MAUW

(b) Night Operations the preferred configuration is Reciprocal Runway Operations in the following order.

LANDING	TAKE-OFF
RWY 19	RWY 01
RWY 32	RWY 14

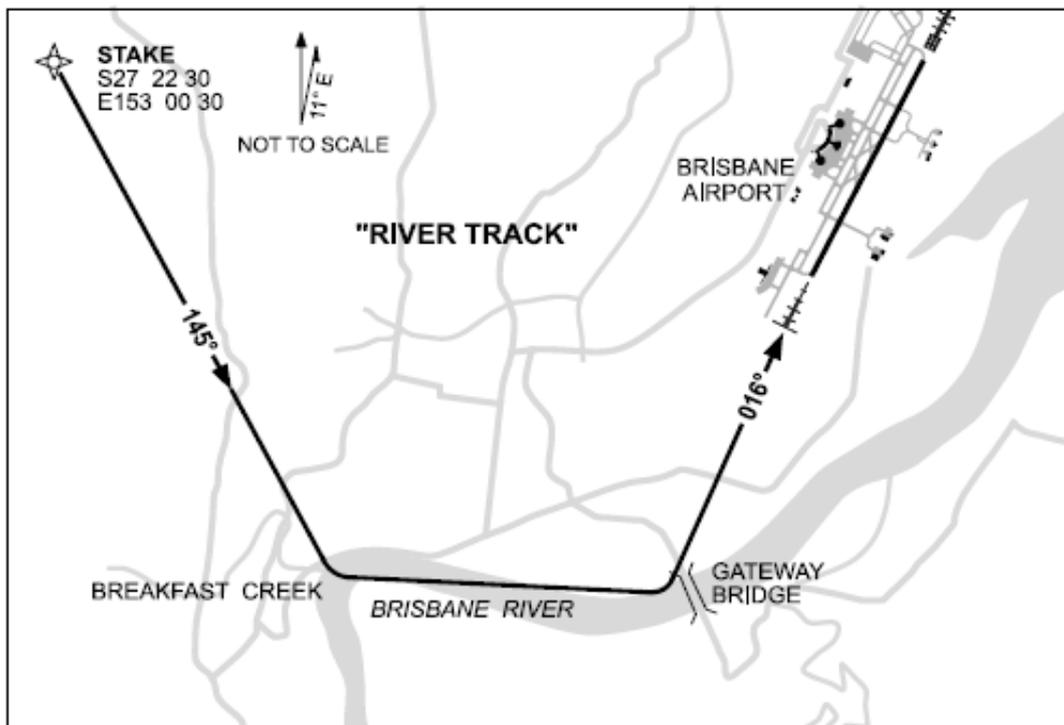
RWY 14	RWY 32
RWY 01	RWY 19

RWY 19 Intersection departures are not permitted.

## 2 - PREFERRED FLIGHT PATHS

### 2.1 - Arriving Aircraft

1. Landing runway 19:
  - All JET aircraft will not normally be descended below 3000ft until east of the coast to avoid noise sensitive areas.
  - During Night Operations, descent below 5000FT is not permitted for all JET aircraft until east of the coast.
  - During Night Operations, descent below 3000FT is not permitted for all NON-JET aircraft until east of the coast.
2. Landing runway 32:
  - During Night Operations, all aircraft will be normally tracked for right base.
3. Landing runway 14:
  - During Night Operations, all aircraft will be normally tracked for left base.
4. Landing runway 01:
  - Jet aircraft arriving from the north on the SMOKA V ARRIVAL will be routed via "RIVER TRACK" from waypoint STAKE for a visual approach. (See depiction below)
  - During Night Operations all aircraft shall not descend below 3000FT until aligned with the runway



**Note 1:**

To satisfy the requirement of 2.1(1) and (3) for aircraft tracking from the south, ATC will radar vector or direct aircraft to track JCW-POODL-BN. Pilots are to plan JCW-POODL-BN.

## 2.2 - Departing Aircraft

1. Departing runway 19:
  - Jet aircraft will normally be assigned a procedural SID
  - Non Jet aircraft will normally be assigned a SID RADAR.
  
2. Departing runway 14/32:
  - All aircraft will be assigned SID RADAR
  - Jet aircraft will normally be contained within a sector 360°-120°, over water until above 5000FT.
  - During Night Operations all aircraft will be contained within a sector 360°-120°, over water until above 5000FT.
  
3. Departing runway 01:
  - Jet aircraft will normally be assigned a procedural SID
  - Non Jet aircraft will normally be assigned a SID RADAR.
  - During Night Operations all aircraft will be contained within a sector 360°-120°, over water until above 5000FT.

**Note 1:** In the above procedures the term "all aircraft" applies to all aircraft categories described in AIP ENR 1-5, Para 9.1.1 and all other aircraft having two or more engines.

**Note 2:** Procedural SID's issued to jet aircraft all have preferred noise abatement procedure flight paths.

**Note 3:** Jet aircraft may be cleared via a SID RADAR when required for weather or traffic management. When this occurs, they will be processed as closely as possible to comply with the applicable Day or Night Operations NAP

Current Version

**Airservices Australia**  
**Review of Brisbane Airport Noise Abatement Procedures**  
**Terms of Reference**

**Context**

Airservices Australia has legislated obligations to first and foremost regard safety as its most important consideration and, subject to that requirement, to protect the environment from the effects of, and effects associated with, the operation and use of aircraft. Airservices is also required by Ministerial Direction to:

*“Develop and implement effective aircraft noise abatement procedures and monitor and report to the secretary on compliance with those procedures at Australian airports.”*

A review of noise abatement procedures at Brisbane Airport is part of a broader program of NAP reviews, covering most major Australian airports in the period 2011 – 2013.

The outcomes of the NAP review will help to inform the Australian Government’s review of the need for a curfew at Brisbane Airport.

**Purpose**

To review ways to minimise the impact of aircraft noise on residential areas around Brisbane Airport, especially at night, and explore options to concentrate aircraft noise away from existing residential areas.

**Scope**

The review will identify

1. Current noise distribution, which will rely on
  - h) Noise and flight path monitoring data
  - i) Noise complaint data
  - j) Community impacts of aircraft noise
2. Demography and land use around Brisbane Airport
  - a. Historical
  - b. Future growth projections where available
3. Current Noise Abatement Procedures, including
  - a. Historical and legal foundation, including ICAO balanced approach
  - b. Preferred runways
  - c. Preferred flight paths
4. Compliance with Noise Abatement Procedures (an appropriate period considering seasonal variation will be used)
  - a. Preferred runways
  - b. Preferred flight paths
5. Effectiveness of Noise Abatement Procedures
  - a. Preferred runways
  - b. Preferred flight paths
  - c. Operating restrictions

6. Forecast growth of traffic (as per Master Plan)
  - a. Traffic levels
  - b. Aircraft types
  - c. Impact on effectiveness of Noise Abatement Procedures
7. Opportunities for improvement, including likely operational, environmental and efficiency implications for their implementation
  - a. Preferred runways
  - b. Preferred flight paths
  - c. Noise abatement areas
  - d. Night operations
  - e. Operating restrictions
  - f. Concentration vs sharing of noise
  - g. Opportunities from new technology
  - h. Noise monitoring studies

### **Consultation with interested parties**

Airservices will consult with interested parties via the Brisbane Airport Community Aviation Consultation Group (CACG), convened by airport management. The CACG comprises representatives from the airport, Airservices, Commonwealth (Department of Infrastructure and Transport) and QLD (State and Local) government, the aviation industry (i.e. airport users) and residents' associations (or similar purpose organisations) for areas surrounding the airport.

### **Review process**

#### *Terms of Reference*

The Terms of Reference for the review were finalised by Airservices following consultation through the members of the CACG. The draft Terms of Reference were circulated in advance of the 20 June 2012 CACG meeting, with comments to be received by 4 July 2012 (extended from 27 June 2012 on request of the CACG). Comments were to be sent to [community.relations@airservicesaustralia.com](mailto:community.relations@airservicesaustralia.com). No comments were provided to Airservices on the draft Terms of Reference and the review will now proceed.

#### *Review Report*

A final draft of Airservices' report of the NAP review will be provided to members of the CACG for discussion, targeting the 3 December 2012 meeting.

#### *Final Report*

The final report will be provided to the CACG after receiving comments on the draft report from the CACG and published on Airservices' website, <http://www.airservicesaustralia.com/>