

3 SUBMISSION RESPONSES

Approach to Addressing Issues Raised in Submissions

In categorising and responding to comments made by submitters on the Draft EIS/MDP, the approach taken in the Supplementary Report is to group and respond to substantive issues raised in the submissions under the main chapter headings of the Draft EIS/MDP.

Accordingly, Chapters 3-6 of this Supplementary Report are organised under each of the four Draft EIS/MDP volumes:

Volume A: Background and Need

Volume B: Airport and Surrounds

Volume C: Middle Banks, Moreton Bay

Volume D: Airspace

All validly made submissions received during the public comment period were reviewed by BAC and common issues raised were grouped (where practicable) to form the substantive issues addressed in this Supplementary Report.

As shown in the Table of Contents, Chapters 3-6 of the Report have been divided into the various Chapters (A1, A2, A3...) under each Volume. Under each Chapter section, is a list of one or more issue-based sub-sections.

For some Chapters of the Draft EIS/MDP there were no corresponding issues raised by submitters. In these cases, no change to the Draft EIS/MDP is required and reference to these Chapters does not appear in the Table of Contents.

For issues that relate to multiple chapters within a Volume (for example concern by a submitter about water quality as addressed in Chapter B8, its impact on ecology covered in Chapter B5 and the proposed water quality monitoring programme outlined in Chapter B14), a lead or main chapter is identified for the issue and related chapters and sections are cross-referenced.

3.1 Submission Identifiers

To create a link between the individual submitters and the issues raised in their submissions, each of the 196 submissions received during the public notification period for the Draft EIS/MDP were allocated a Submitter ID number and entered into a database.

A list of all the submitters and their corresponding ID number are listed in **section 3.3**.

In characterising the author of the submission received, submitters were further identified as being representative of four major groups:

- **Community.** Consisting of individuals making submissions as residents or small business owners.
- **Government.** Consisting of submissions from the Australian Government, the Queensland State Government and local governments such as Brisbane City Council.
- **Non-Government Organisations (NGO).** Consisted of submissions lodged on behalf of an organisation or group. Submitters from this category included the groups representing residents in a particular suburb, conservation groups, and industry groups such as the commercial fishing association for Moreton Bay.
- **Elected Representatives.** Consisting of submissions from local government Councillors, State Government Members of Parliament and Federal Members of Parliament.

3.2 Template Layout of the Supplementary Report

As outlined above, under each Chapter heading, there are issue-based sub-sections that make up the body of this Supplementary Report. For each of these, a standard template has been applied which identifies the submitter issue and provides a response to the issue raised.

To assist in reading Chapters 3-6 of the Supplementary Report, a description of the headings and information contained within this standard template is included below:

Issue:

<<eg. Runway Separation – describes the issue as raised by the submissions>>

EIS reference:

<<Lists the relevant chapter(s) and sections of Draft EIS/MDP where this issue is discussed>>

<<This section also includes background text outlining the issue to be addressed, the submitter who raised them and identification of related issues addressed elsewhere in the Supplementary Report>>

Submitter Issues:

<<Lists specific comments, concerns or recommendations in dot point form as made by submitters with respect to the issue>>

<<For complex or multi-faceted issues, the dot points are grouped into sub-headings>>

<<For issues that have a large number of submitters attributed, reference is made at the end of each dot point to the proportion of submitters that made comment on the issue i.e. '3/12' at the end of a dot point comment means 3 of the total of 12 submitters on the issue raised the particular sub-issue>>

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|-----------|-------------|-----|--------------|
| Submitter ID | | | | |
| Total | | | | |

<<This table cross-references the Submitter ID Number (refer discussion in section 3.2 above) with the issue raised and provides the reader information about both the total number of submitters for the issue and the breakdown of submitters between the four stakeholder groups>>

BAC response:

<<This section includes the response to the issue raised in the 'Submitter Issues' section above. This will generally be separated into sub-headings to assist in readability. The responses have been prepared by BAC and its consultant team>>

Addition/Omission to Draft EIS/MDP:

<<This section indicates either:

- No change is proposed to the Draft EIS/MDP based on the issue raised and response; or
- That the Draft EIS/MDP is to be modified through adding or omitting information and if so, listing the relevant section where the change is proposed>>

<Note that additions or omissions to the Draft EIS/MDP are shown in red coloured text to assist the reader in identifying proposed changes>

3.3 Draft EIS/MDP Submission Identifiers

| Surname | First name | Organisation | Submission Number |
|-----------------|----------------------|-------------------------------------|-------------------|
| Adamson | Stephanie | | 197 |
| Agli | T | | 76 |
| Aitken | Dora | | 34 |
| Albina | Patrick | | 60 |
| Anderson | Andree | | 118 |
| Arnold | Graham | | 97 |
| Asnicar | Michael | | 214 |
| Austin | S | | 109 |
| Balfour | Michael and Virginia | | 116 |
| Baltaise | Simon | WPSQ Bayside Branch | 72 |
| Bell | Robert | | 88 |
| Bill | Charles | | 124 |
| Blount | Dorothy | | 171 |
| Boon | G | | 110 |
| Borchert | Donald | | 145 |
| Bowen-Needs | Lindi | | 6 |
| Boyd | Don | Deacons | 149 |
| Bradbury | Robert | | 44 |
| Bradley | K | | 58 |
| Bredereck | Paul | AUSAC | 225 |
| Brown | Rod & Kath | | 196 |
| Brown | Christopher | TTF Australia | 202 |
| Bruce | Neil | | 18 |
| Brumpton | Alan | | 198 |
| Butler | Brendan | | 68 |
| Byrne | M | | 21 |
| Calleja-Chainey | Patrice | | 177* |
| Carter | N.G. & F. | | 46 |
| Cavanagh | Trish | Moreton Island Protection Committee | 193 |
| Clarke | Janene | | 90 |
| Cochrane | Barbara | | 61 |
| Collier | Alan | | 150 |
| Compton | H | | 47 |
| Cook | Gil | | 8 |
| Cross | Evelyn | | 42 |
| Cue | Ben | | 80 |

| Surname | First name | Organisation | Submission Number |
|--------------|------------------|-------------------------------------|-------------------|
| Cumming | Peter | Brisbane City Council | 205 |
| Cusack | Edward | | 165 |
| Da Silva | Bianca | | 229 |
| Daley | Helena | | 43 |
| De Vries | Tineke | On behalf of Nudgee Beach Residents | 207** |
| Dellit | Alan | | 120 |
| Dobson | John | Moreton Bay Environmental Alliance | 143 |
| Dodd | Joseph & Marie | | 194 |
| Doyle | Patrick | | 121 |
| Dwyer | J. | | 122 |
| Edgar | Gavin | | 19 |
| Elliott | Kerry | | 216 |
| Elmer | Timothy | | 161 |
| Eltherington | Peter | | 130 |
| Evans | Maree | | 28 |
| Fahey | BA & DA | | 13 |
| Fenn | Grant | Qantas | 206 |
| Ferguson | John | | 29 |
| Fitzgerald | Julie | | 23 |
| Flessner | Kim | Brisbane City Council | 114 |
| Foley | Thomas & Frances | | 215 |
| Forster | Syd | | 65 |
| Fox | William | | 117 |
| Frawley | Andrew | Frawley Enterprises | 66 |
| Fuehrer | Verena | | 81 |
| Gand | Sally | | 11 |
| Gordon | Tom | | 213 |
| Graham | M&C | | 126 |
| Gray | Ken | | 158 |
| Gschwind | Daniel | QLD Tourism Industry Council | 204 |
| Haenke | Jani | | 220 |
| Hafner | Rupert Keith | | 164 |

* Represents 66 signatories

** Represents 112 signatories

| Surname | First name | Organisation | Submission Number |
|-------------|----------------|-------------------------------------|-------------------|
| Hall | Arthur | | 107 |
| Hansen | Wade | | 7 |
| Hansen | Andrea | | 73 |
| Harbison | John | Keep Sandgate Beautiful | 154 |
| Harrison | Jim | | 33 |
| Heinrich | John and Helen | | 128 |
| Hoelscher | Martin | Energex Ltd | 228 |
| Hunter | Leanne | | 234 |
| Hurley | Michael | | 176 |
| Hutcheon | Toby | Queensland Conservation Council | 235 |
| Jamnadas | Rosemary | | 9 |
| Janssen | Sandra | | 208 |
| Jeays | Laurie | | 94 |
| Jeffery | Mark | | 69 |
| Jeremijenko | Andrew | Woodside | 190 |
| Jones | Jeff | Hawthorne Neighbourhood Watch Group | 159 |
| Joyce | Tim | | 175 |
| Keane | Carolyn | | 131 |
| Keane | Steven | | 224 |
| Kellett | Dennis | | 132 |
| Kline | Peter | | 3 |
| Kline | Peter | | 105 |
| Klucis | Margaret | | 219 |
| Lanham | E.A | | 77 |
| Lawrance | Ray | | 102 |
| Leckie | Cameron | | 123 |
| Long | B & K | | 112 |
| Love | Christopher | | 134 |
| Love | Norman | | 135 |
| Love | Amanda | | 136 |
| Lumley | Rebecca | | 4 |
| Lumsdale | Peter | | 67 |
| Marrinan | Karen | | 37 |
| Marten | Elizabeth | | 95 |
| Maslen | Robyn | | 133 |
| Maslen | Peter | | 160 |
| McBryde | H | | 230 |
| McCarthy | L R | | 104 |
| McCarthy | Stuart | | 152 |

| Surname | First name | Organisation | Submission Number |
|-------------|------------|---|-------------------|
| McDonald | Troy | | 101 |
| McDonald | Helen | | 146 |
| McKenna | Elizabeth | | 51 |
| McMillan | Scott | Alliance Airlines Pty Ltd | 24 |
| Meredith | John | | 103 |
| Miller | Terry | Power Link | 195 |
| Milton | David | QLD Wader Study Group | 237 |
| Molomby | Amanda | | 181 |
| Morgan | Stephen | | 180 |
| Morgan | Terry | | 238 |
| Morris | John | | 22 |
| Morton | Rick | Port of Brisbane Corporation | 183 |
| Muehlbauer | Donna | | 70 |
| Muller | Stephen | | 211 |
| Mullins | Narelle | Lourdes Hill College | 41 |
| Munro | Jude | Brisbane City Council | 153 |
| Newell | Cater | | 240 |
| Nicholls MP | Tim | State Government | 201 |
| Nordahl | John | | 84 |
| Norris | Kryisia | | 162 |
| Nunn | Elizabeth | | 172 |
| O'Brien | Juliet | | 151 |
| O'Gorman | John | Australian Catholic University Brisbane Campus | 221 |
| O'Rourke | Jim | | 50 |
| Ottaway | James | State Development Co-ordinator General's Office | 242 |
| Parish | Louise | | 56 |
| Parkin | Thelma | | 64 |
| Parr | Rosemary | | 199 |
| Paton | Kevin | | 52 |
| Paynter | George | | 187 |
| Peck | Geoff | | 115 |

| Surname | First name | Organisation | Submission Number |
|------------|----------------|---|-------------------|
| Pettit | John | Brisbane Development Association | 111 |
| Pierce | Arthur | | 174 |
| Pittam | Janice | | 45 |
| Powell | Katrine | | 182 |
| Purcell MP | Patrick | Queensland Government | 188 |
| Rawlinson | Peter | Pine Rivers Shire Council | 185 |
| Reichmann | Keith | Department of Primary Industries Queensland Government | 191 |
| Roberts MP | Neil | Queensland Government | 127 |
| Robinson | Royden | | 26 |
| Rogers | Bill | | 59 |
| Rounsefell | Mandy | | 148 |
| Rudd MP | Kevin | Australian Government | 184 |
| Sandstorm | Andrea | | 129 |
| Scaroni | Noelene | | 17 |
| Scorer | Robyn | | 15 |
| Scott | Michelle | | 91 |
| Scott | Inge | | 147 |
| Seager | Barry | | 2 |
| Singfield | Jennifer | Australian Marine Conservation Society (Moreton Bay Branch) | 155 |
| Singfield | Jennifer | Tinchi Tamba WPSQ | 166 |
| Smith | Julie & Graham | | 30 |
| Smith | R.J. | | 192 |
| Smith | Elaine | | 232 |
| Sparkes | Earl | | 179 |
| Spinks | Denise | Airservices Australia | 203 |
| Steele | Lincoln | | 227 |
| Stevens | Jim | | 63 |
| Sutton | Shayne | Brisbane City Council | 141 |

| Surname | First name | Organisation | Submission Number |
|-----------------|-----------------|---|-------------------|
| Swan MP | Wayne | Australian Government | 137 |
| Tarrant | Kevin & Colleen | | 156 |
| Taylor | Roderick | | 210 |
| Taylor | Matthew | Pinkenba State School | 226 |
| Templeman | Craig | Air Freight Council of Queensland Ltd | 78 |
| Teoh | Robert | | 35 |
| Thiele | Clem & Jan | | 53 |
| Thorburn | Rodney | | 98 |
| Thornton | G | | 27 |
| van Hooff | Tim | | 40 |
| Vandenberg | Jack | | 96 |
| Waldock | M.L | | 62 |
| Walker | Mick | | 106 |
| Webb | Yvonne | Residents Association of Moorooka | 113 |
| West | Jane | | 139 |
| White | Greg | | 83 |
| White | Shane | | 142 |
| Whyte | Randall | | 89 |
| Wilkinson | R, S, M & J | | 209 |
| Williams | J | | 57 |
| Williams | H | | 138 |
| Williams | Kellie | Moreton Bay Seafood Industry Association | 223 |
| Wood | Carol | | 14 |
| Wood | Rex | | 233 |
| Wrafter | Dave | | 79 |
| Wright | Elaine | | 71 |
| Yates | Herbert G. | | 25 |
| Zavaleta-Romero | Miguel Angel | | 92 |
| | | Brisbane North Development Forum | 125 |
| | | Nudgee Banyo Northgate Citizens Action Group Inc. | 231 |

3.4 A1 – Draft EIS/MDP Methodology Issues *(5 of 196 submissions)*

Draft EIS/MDP reference: Chapter A1 and Chapter A7

Environmental impact assessment is the process used to assess the significance of impacts and integrate environmental management with planning for development proposals. The role of an environmental impact statement is to enable interested stakeholders and the assessing agencies to understand the consequences of the proposed development.

The terms of reference for the assessment undertaken for the New Parallel Runway (NPR) were contained in EIS Guidelines prepared by the then Australian Government Department of Environment and Heritage (now Department of Environment and Water) in August 2005.

Several submitters raised issues about the impact assessment methodologies used in the Draft EIS/MDP. Related comments were made in submissions about the Draft EIS/MDP not adequately taking into account the economic cost of environmental and social impacts and that the Draft EIS/MDP did not fully account for cumulative impacts. A submitter also made comment about the suitability of the SPeAR sustainability model as described in Chapter A7 of the Draft EIS/MDP. This section of the Supplementary Report addresses these issues.

Submitter Issues:

Issues about Draft EIS/MDP methodology from the submissions can be grouped as follows –

Methodology/Valuation of Impacts

- The economic cost benefit analysis should not be separate from the Social Impact Analysis and the Draft EIS/MDP fails to attempt to quantify social and environmental costs and benefits (1/5).
- There is insufficient information provided in the Draft EIS/MDP to clearly identify the economic loss associated with the removal of the mangroves and the damage that will occur to coastal resources (1/5).
- A more thorough, independent assessment of environmental effects should be made of the project before approval (1/5).

Cumulative Impacts

- The project has not articulated the impacts of incremental development upon Moreton Bay’s natural resources and therefore underestimates the impact of this development when examined in this broader context (1/5).
- Natural assets are not being appropriately valued in the Draft EIS/MDP and cumulative impacts not effectively assessed (1/5).
- Account has not been taken of the cumulative effect of a range of major projects such as the Port of Brisbane Expansion, Gateway Motorway duplication, and sand extraction are having on wetlands (1/5).

Sustainability Model

- That the sustainability model in the Draft EIS/MDP [Chapter A7] is “outdated” and “unlikely to result in sustainable outcomes” (1/5).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|-----------|-------------|--------------|--------------|
| Submitter ID | 116 | Nil | 72, 143, 166 | 184 |
| Total | 1 | 0 | 3 | 1 |

BAC response:

3.4.1 Methodology/Valuation of Impacts

Integration of Social and Economic Assessments

In relation to a submitter's comment about integration of the economic cost benefit analysis with social impact assessment, BAC contends that social impacts such as noise from aircraft are highly subjective (that is, the level of impact differs from person to person) and there are no accepted methodologies for attributing or deriving economic costs or dollar values from these impacts. More macro-level economic assessment of quantitative impacts to property values (discussed in this report under Section 3.6), did not show a link between property prices and suburbs where aircraft overflights are generating noise of 70 decibels or greater (N70 contours).

The Draft EIS/MDP has sought to clearly identify the potential social impacts of the project for each of the three main subject areas covered by Volumes B, C and D, with particular effort directed toward the implications of new or intensified aircraft noise over residential areas. Illustration of flight paths and noise implications of the New Parallel Runway as shown in Chapter D5, the Flight Information and Noise Information Booklet and as part of the interactive software, the Transparent Noise Information Program are the most comprehensive attempt in Australia to date to describe and characterise potential impacts from aircraft. These outputs are seen as adequate and appropriate for determining the social impact from the proposal (at a individual, suburb and local level) without trying to link these results with heavily indicative and poorly understood economic impacts.

Consideration of the Economic Cost of Environmental Impacts

In the context of the submitter's comment about valuing the economic costs of the mangrove loss associated with the project, it should be recognised that while analysis methods for assessing the economic costs of environmental impacts such as wetland loss are becoming more widely accepted (as seen in Regulatory Impact Statements and similar cost benefit analysis documents), it remains that characterising the economic implications or cost in dollar terms of environmental impacts at the project (site-specific) scale are poorly understood and there is a lack of quantitative data available to provide a meaningful assessment.

Instead, the studies that support the Draft EIS/MDP involved a qualitative assessment of the prospective environmental impacts at several spatial scales (site specific, local, sub-regional and regional) utilising modelling and statistical analysis as well as the use of quantitative information available (such as for example, fish catch and value data) to augment the assessment.

BAC and its consultant team would argue that the breadth of supporting studies undertaken to support the key findings within the Draft EIS/MDP represent best practice in the field on environmental impact assessment and the document has addressed the EIS Guideline requirements such that a decision can be made on the project.

Independent Assessment

As required by the EIS Guidelines, the Draft EIS/MDP was prepared as a stand-alone document, written so that any conclusions reached can be independently assessed. BAC employed recognised, professional consultants to undertake the studies and prepare the reports which make up the document.

BAC also engaged peer reviewers during the preparation of the Draft EIS/MDP to critically review research methodologies and the key findings reached by its consultants. This included scientists from the Scientific Expert Panel of the Moreton Bay, Waterways and Catchment Partnership for those chapters of the Draft EIS/MDP related to coastal processes, ecology, geology and soils and water quality, as well as University academic experts in relation to aircraft noise and health issues.

3.4.2 Cumulative Impacts

The Draft EIS/MDP has considered the cumulative impacts which may arise between projects as well as the interactive effects occurring within the project. This is, as specified in the EIS Guidelines for the project:

“the cumulative impacts of the proposal must be considered over time or in combination with the impacts of other relevant existing or approved developments in the dimensions of scale, intensity, duration or frequency of the impacts....Cumulative impacts on the environmental values of land, air and water and cumulative impacts on public health and the health of terrestrial, aquatic and marine ecosystems must be discussed in the relevant sections”. (EIS Guidelines 2005)

The approach in the Draft EIS/MDP of establishing baseline conditions is done in part to assess the implications of cumulative impacts. Field data obtained directly for the project and analysis of recent studies from other sources were compared to historical data, where available, to identify longer term changes to natural systems and trends that are occurring as a result of past development.

The assessment of cumulative impacts has also considered the major projects which are occurring in the region in similar timeframes to the New Parallel Runway. These projects are the North-South Bypass Tunnel, The Airport Link, The Gateway Upgrade Project, Trade Coast Central and BAC's Northern Access Road Project.

Ecology, hydrology, air quality, water quality and traffic impacts are topic areas within Volume B of the Draft EIS/MDP that in particular may have cumulative impacts when considered in the context of other local and regional projects. These chapters have specifically addressed potential cumulative impacts.

In the context of the offshore component of the project, the Moreton Bay Sand Extraction Study, is itself an assessment of potential cumulative impacts on the Bay's resources from major sand extraction projects. Consistent with the findings of the Study, the Draft EIS/MDP concluded that there would be no cumulative or long-term impacts on the resources of the Bay from the sand dredging.

Care was taken in the preparation of the Draft EIS/MDP to also ensure interactive effects between and across issues was fully considered in the assessment. For example, changes to hydrology and coastal processes as determined by numerical modelling was considered in the context of both the ecology and water quality studies undertaken. Likewise implications on traffic generation and construction activities were considered in the assessment of air quality.

Based on this work, BAC and its consultant team would argue the Draft EIS/MDP has properly taken into account both cumulative and interactive impacts.

3.4.3 SPeAR® Assessment

SPeAR® has its origin in the recognition of the linkages between economic, social, natural resources and environmental systems. These systems cannot function in isolation and the intersections between environment and social systems, between social and economic systems and between environment and economics determine quality of life, socio-economic conditions and eco-efficiency respectively.

The four-quadrant model provides a robust and comprehensive description of sustainability. It captures the need for environmental protection, social equality, economic vitality and efficient use of natural resources in every project, if these are to respond to the sustainability agenda.

SPeAR® has been assessed by independent organisations as a valuable and leading sustainability assessment framework. It has a demonstrated track record globally of enabling project teams to make a significant contribution to improving sustainable outcomes.

Based on this, it is considered that the assessment is appropriate and no changes are proposed to the EIS/MDP.

Addition/Omission to Draft EIS/MDP:

Based on the discussion above, no changes to the Draft EIS/MDP are proposed in relation to all of the above issues.

3.5 A2 – Justification and Need

(10 of 196 submissions)

Draft EIS/MDP reference: Chapter A2

Chapter A2 of the Draft EIS/MDP dealt with the Need for the Project, examining forecast growth in passenger numbers and aircraft movements, the capacity of the current runway system to address the expected growth and an economic assessment taking into account population growth, employment and passenger forecasts.

Submitters raised issues about the validity of the growth forecasts, concern about the implications of increasing fuel costs including from global reduction in supply (Peak Oil Theory), the implications of climate change on forecasts and the New Parallel Runway project and one submitter criticised the methodology used in the economic assessment.

This section of the Supplementary Report addresses these comments made in relation to the justification and need for the New Parallel Runway project. Related comments made by submitters about increasing the **Use and capacity of regional airports** is addressed as a separate issue in Section 3.10 in the Supplementary Report.

Submitter Issues:

Submitter issues raised in relation to justification and need (Chapter A2) can be grouped as follows –

Forecasting

- General view that there is not sufficient evidence to demonstrate Brisbane Airport needs a third runway (2/10).
- The growth trends forecast is not convincing. The volatility of the aviation industry, bigger aircraft with greater seating capacity and the energy debate all point to slower growth in the future (1/10).
- Increases in traffic and aircraft movements are likely to plateau rather than continue at the current growth rate (2/10).

Fuel costs and 'Peak Oil' theory

- The Draft EIS/MDP's assumptions about oil prices are inconsistent with expectations of the future price of oil and as such the Draft EIS/MDP assumptions overstate demand (1/10).
- The Draft EIS/MDP ignores/has not adequately addressed the issue of 'Peak Oil' Theory (3/10).
- Expansion of the Airport is not necessary because domestic air travel is likely to decline in the future and be replaced by high speed rail based on impacts to fuel prices in the future (1/10).

Consideration of the Impacts of Climate Change

- More should have been done in the Draft EIS/MDP to examine future scenarios considering issues like global warming, fuel costs and availability, and fish stock depletion (2/10).
- The Draft EIS/MDP has not adequately addressed the issue of global warming (2/10).
- Sea level rise will mean the whole Airport needs to be abandoned by 2035 (1/10).

Economic Assessment

- The Computable General Equilibrium (GEM) Modelling (as used in the Draft EIS/MDP) is documented in relevant literature as being inaccurate and the numbers generated by the models are impossible to scrutinise by the public. The Draft EIS/MDP should incorporate results from international studies using alternative methodologies (1/10).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|-------------------------------------|-------------|----------|--------------|
| Submitter ID | 89, 113, 123, 124, 152, 154, 220 | Nil | 143, 155 | 184 |
| Total | 7 | 0 | 2 | 1 |

BAC response:

3.5.1 Forecasting

BAC engaged Tourism Futures International (TFI) to undertake the forecasting for the Draft EIS/MDP. TFI is a well respected company that has undertaken air travel forecasting for many years. TFI has provided forecasting data for a number of Australian and international bodies including airports, tourism authorities, hotels, major airlines and tourism operators.

TFI undertook three sensitivity forecasts for the project, namely low, central and high. Modelling results in the Draft EIS/MDP are based on the central forecasts as this is the forecast that TFI and BAC believe is most likely to occur. The low forecast would be where external events result in a lower than expected growth in air travel. This could be a result of unexpected events such as a terrorist bombing (September 11th) or a major health issue (eg SARS virus). Events such as these can cause a sudden drop in air travel particularly in overseas travel.

The high growth forecast is where air travel grows more rapidly than expected. This would be linked to more low cost travel options (eg new airline starting up) or more international services into Brisbane.

A variation in forecast growth rates between the low, central and high forecasts does not change the need for the new runway. The variation in the percentage growth (the low and high scenarios) would merely affect the time when the new runway would be needed. For example, under the central forecast, the Draft EIS/MDP shows that the new runway is needed by 2015. Under the low scenario, this would be 2017 while for the high growth scenario, it would be 2012. It should be noted that if the high growth forecast eventuated, then from an engineering construction timeframe, the runway would still not be available until 2015 as 2 to 4 years of ground settlement is needed. Under this scenario, Brisbane Airport would experience more delays during the two busy periods of the day. **Figure 2.7a** in Volume A of the Draft EIS/MDP shows these dates in terms of the forecast sensitivities.

As stated above, there can be external events such as terrorism, health issues and other “unknown factors” that can cause a sudden decrease in the demand for air travel. However, historical trends show that these factors usually have only a short term effect and that passenger growth maintains a steady increase over longer periods. In the case of the New Parallel Runway, the central growth forecast in the Draft EIS/MDP is 4.9% compound annual passenger growth from 2005 to 2015, and 3.5% compound annual passenger growth from 2015 to 2035. Aircraft movement annual compound growth rates are slightly less than passenger growth (3.5% 2005 – 2015 and 2.8% 2015 – 2035). This takes into account that as passenger traffic through Brisbane Airport grows, airlines will substitute higher capacity aircraft on the busier international and domestic routes.

3.5.2 Fuel Costs and Peak Oil Theory

The Australian Senate Rural and Regional Affairs and Transport Committee recently released a report (February 2007), following an inquiry into Australia’s future oil supply and alternative transport fuels. This inquiry was prompted by the question of whether Australia should be concerned about ‘peak oil’. This term refers to the theory that, for fundamental geological reasons, global conventional oil production will reach a peak and then start an irreversible decline soon enough to be of concern.

1 From Executive Summary (2007) – Source: http://www.aph.gov.au/senate/committee/rrat_ctte/oil_supply/report/a02.htm

In the Final Report¹, the Committee's comment on Peak Oil was that –

The essence of the peak oil problem is risk management. The risks involved are high if peak oil comes earlier than expected, or if economies cannot adapt quickly enough to the post peak decline. Australian governments need better information from which to decide a prudent response to the risk.

In the context of fuel prices in the future and implications for the transport industry, the Final Report stated –

Demand for oil is relatively inelastic, because for its major use – transport – there are no easy substitutes. This means that a relatively small shortfall in supply can cause a large increase in price. This will increase the volatility of the price in response to small changes in supply when there is little spare capacity.

The IEA [International Energy Agency] now expects that the price of crude oil will ease to about US\$47 per barrel by 2012, then increase to US\$55 by 2030 (2005 dollars). Prices are likely to remain volatile. Some commentators believe that much higher prices are possible.

In responding to the issues raised in the submissions, BAC is not in a position to speculate on the timing of Peak Oil and associated implications on the global aviation industry. However, it should be noted that general estimates and projections of fuel costs stated in the Draft EIS/MDP (refer Section 2.7.4) would appear to be consistent with those stated by the Senate Inquiry in its Final Report.

It should be recognised that the cost of fuel is only one factor in determining the cost of airfares. For example, no notable reduction in demand for air travel was observed at Brisbane Airport during the recent high fuel price spikes in 2006. The advent of low cost airlines in Australia and overseas has demonstrated a business model that can provide affordable air travel despite an inflated fuel price market.

Likewise, the demand for air travel over other modes of transport is not wholly driven by cost. Reduced travel time, convenience and safety of air travel will continue to be relevant factors when consumers are choosing amongst transport options.

Lastly, it should be noted that higher fuel prices are likely to spark further technological improvements in the fuel efficiency of aircraft (such as the use of composite materials in Boeing's new 787 aircraft), expedite fleet modernisation programs and/or initiate greater adoption of alternative/supplementary fuels (eg biofuels).

3.5.3 Consideration of Climate Change

Several submitters raised concern regarding the implications of climate change, global warming and sea level rise on the project.

In terms of the contribution of the project to climate change and greenhouse gases through air emissions, there is a thorough analysis for both construction and operational phases of the project in Chapters B12 and D6. The total greenhouse emissions from the construction phase of the project including land clearing was estimated to be approximately 318,000 tonnes CO_{2-e}. BAC through its Airport Environment Strategy promotes and encourages greenhouse reduction initiatives to airport tenants and operators.

In the context of the comment about sea level rise, **Section 3.11** of this Supplementary Report, **Engineering design and construction issues** explains how climate change attributed to sea level rise and implications of storm tides have been taken into account in the design elevation of the New Parallel Runway. A climate change increase of 400mm (with a sea level component of 300mm) has been used in the design to ensure impacts from climate change do not adversely affect operation of the runway in the future.

3.5.4 Economic Assessment

BAC commissioned a specialist consultant, Access Economics, to complete the economic assessment for the Draft EIS/MDP for which a General Equilibrium (GE) Model was used. Whilst it is acknowledged that GE models are complex and as such are difficult for the public to scrutinise, it is not appropriate to dismiss the analysis because it has been based on state-of-the-art modelling. Indeed, many Government agencies, both State and Federal, use GE Models to analyse the economic impacts of large scale projects and policy changes. For example, the Productivity Commission uses applied general equilibrium models for a wide range of analysis.

The BAC commissioned a GE modelling analysis in the interests of conservatism. This is because GE modelling is recognised as the best way to determine the flow-on **and** displacement impacts of a large project on the broader economy. Alternatives such as unconstrained 'multiplier analysis' only measures gross flow-on effects without allowing for displacement effects and are therefore prone to exaggeration.

In response to the submitters comment, a desktop review of Internet and journal article research was conducted but did not uncover large amounts of literature concerning the inaccuracies of GEM modelling. In contrast to the submitters comment, little material was found on the inaccuracy of GEM modelling or a definitive trend of inaccuracy of GEM modelling (i.e. 'tends to underestimate').

In addition, it should be noted that economic forecasting and economic impact assessment are two different exercises. The exercise completed for the BAC was an economic impact assessment, which was based on estimating the difference between two separate forecasts (with and without the parallel runway). As such, forecasting errors are common to both and essentially 'cancel out' in this exercise.

Based on these points, BAC would argue that the methodology used in the economic analysis is appropriate.

Addition/Omission to Draft EIS/MDP:

In light of the discussion above, no changes are proposed to Chapter A2 of the Draft EIS/MDP in relation to the issues raised by submitters.

3.6 A2 – Impact of Aircraft Noise on Property Values

(32 of 196 submissions)

Draft EIS/MDP reference: Chapter A2, Section 2.13

Submissions from the community and three elected officials raised concerns regarding impacts on property values from the New Parallel Runway. In particular, these comments related to aircraft noise and associated amenity impacts from new aircraft noise (flight paths affecting suburbs not currently impacted by aircraft noise) and/or the intensification of aircraft noise from increased use of existing flight paths.

Submitters from or on behalf of residential communities west of the Airport (Nudgee Beach, Nudgee, Banyo) raised concerns about potential impacts to property values in the context of increased lateral noise as a result of the proximity of the runway to these residential areas (measured laterally from the edge of the runway). This issue is addressed here and also addressed in the context of the discussion about **Runway Separation** in Section 3.8 of this Supplementary Report.

A related issue to impacts on property values is the issue of **Compensation for insulating homes** against aircraft noise. This issue is addressed more fully in Chapter D5 of the Draft EIS/MDP and **Section 6.3** of this document.

Submitter Issues:

The comments from submitters about property value issues can be summarised as follows –

- Increased noise and air traffic will affect property values (32/32).
- There should be compensation for this loss in property value (9/32).
- Studies for other airports show that aircraft noise does impact on property values (2/32).
- The findings of the Draft EIS/MDP in relation to property values do not take into account that at a certain point, the increases to air traffic will become significant enough to affect property values (threshold effect) (1/32).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|--|-------------|-----|---------------|
| Submitter ID | 13, 30, 42, 45, 56, 66, 104, 109, 110, 116, 128, 129, 134, 135, 136, 162, 174, 176, 180, 182, 199, 207, 208, 214, 227, 229, 238, 239 | Nil | 231 | 137, 188, 201 |
| Total | 28 | 0 | 1 | 3 |

BAC response:

3.6.1 Increased Noise and Air Traffic Will Affect Property Prices

Chapter A2, Section 2.13 outlines the findings of an assessment on the effect of the new runway on the values of properties within a 10 km radius of Brisbane Airport.

The study was conducted, by Matusik, a property research consultancy specialising in residential property and is recognised as one of Queensland’s leading research consultancies in the residential property sector.

Property sales for the last 20 years from 1985 to 2005 from data held by the Queensland Department of Natural Resources and Water was analysed. In that period, the new Brisbane Airport became operational in 1988 whereby there was a redistribution of aircraft flight tracks and associated aircraft noise. This is somewhat analogous to what will happen when the new parallel runway opens in 2015. The findings of the assessment indicated that being subject to overflight noise of 70 decibels or greater (N70 events) is not a major determining factor of residential price growth. The findings found that suburbs subjected to 70 decibel overflights actually had a higher percentage increase in property value.

Property price growth in Brisbane is being driven by other macro-level effects of population growth, job creation, infrastructure investment and dwelling supply. Many inner city suburbs that lie within the 10km radius to Brisbane Airport have benefited from comprehensive urban renewal programs as well as being linked to either “gentrification”, “the rediscovery of the Brisbane River” or an increasing desire to “live near the sea” in Bayside suburbs such as Nudgee Beach and Wynnum.

3.6.2 Compensation for Loss of Property Value

As stated above, there has been no decrease in residential property values as a result of aircraft noise.

In terms of the increasing volume of aircraft flying into Brisbane, Brisbane Airport has grown from 6.9 million annual passengers and 113,000 annual movements in 1991/92 to 16.8 million annual passengers and 163,000 annual movements in 2006. Matusik’s report shows no drop in property prices during the period when flights have substantially increased.

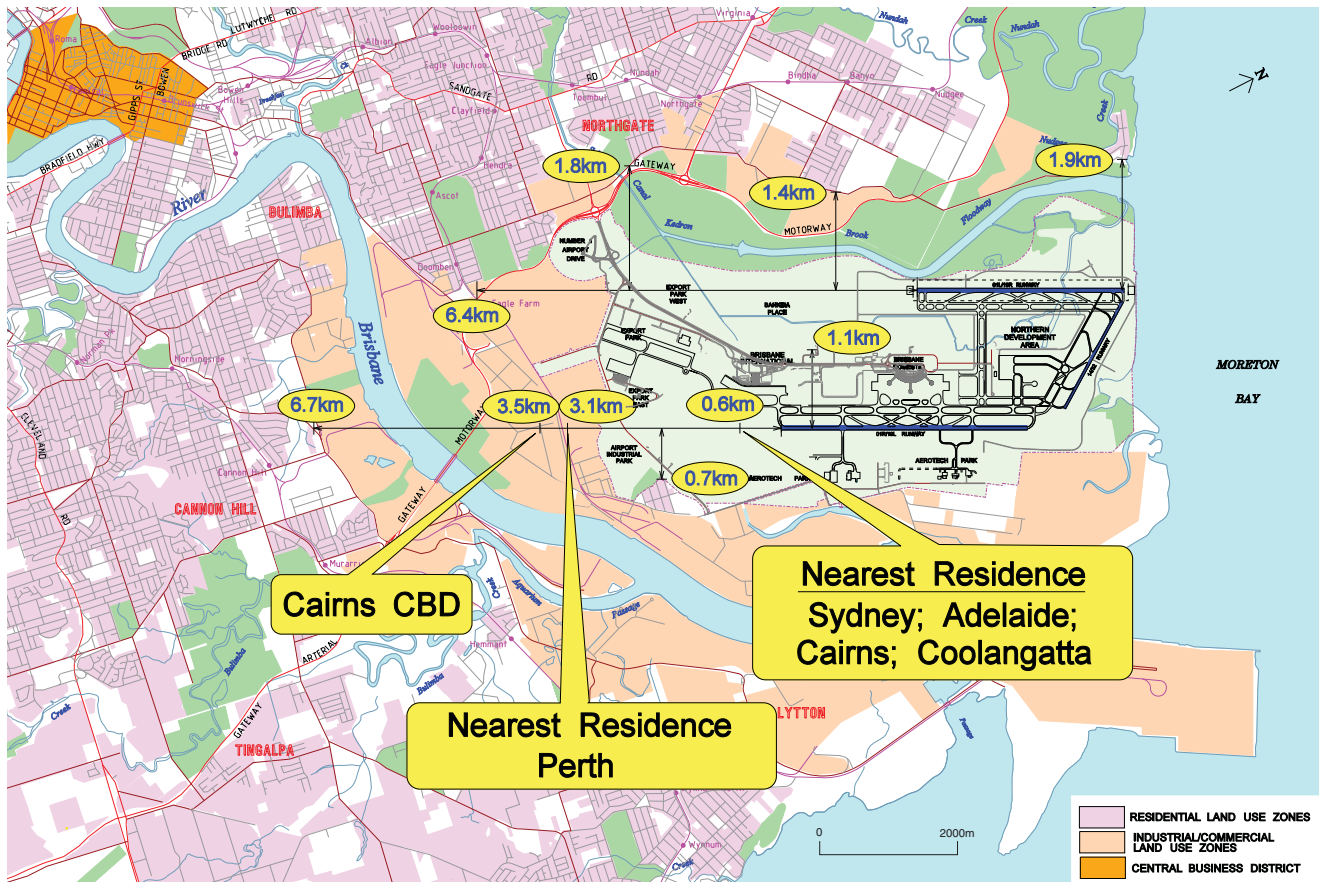
As there is no property value decrease, BAC considers there is no basis or evidence that compensation should be considered.

3.6.3 Other Studies Show a Link between Aircraft Noise and Reduced Property Values

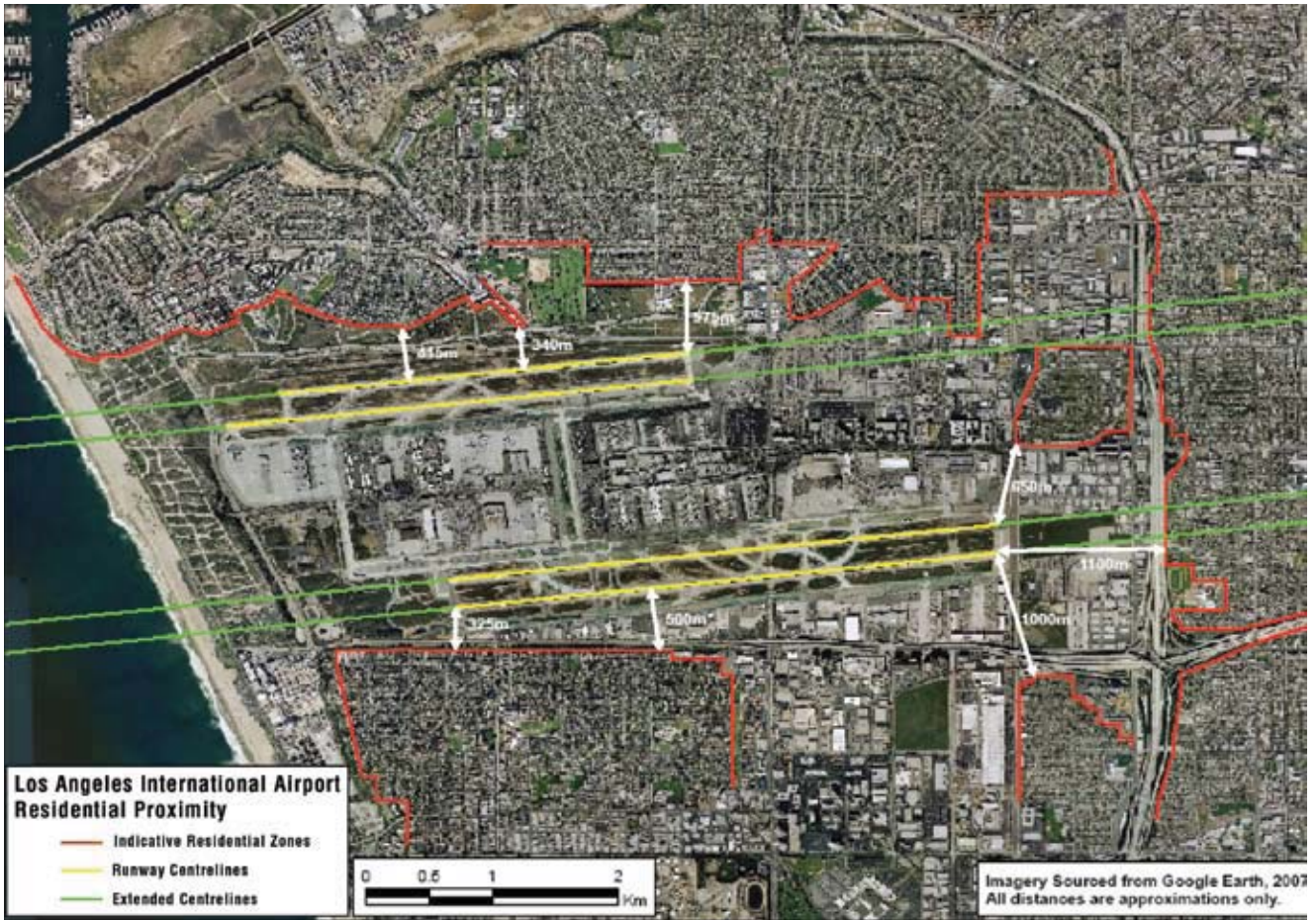
One of the submissions quoted studies relating to Adelaide and Los Angeles airports showing a link between aircraft noise and reduced property prices. In the case of Adelaide Airport, the nearest residence along the extended centreline from the runway end is some 600 metres away. In the case of Brisbane Airport, the nearest residence along a centreline projection from the existing main runway is 6.7km away while for the New Parallel Runway, the nearest residence will be 6.4 km away. To illustrate this comparison Brisbane Airport has prepared a buffer zone diagram which has been included in many publications and is reproduced over.

In terms of lateral noise (noise that is experienced to the side of the runways and flight paths), there are many residential areas adjacent to Adelaide Airport’s boundaries. In Brisbane, the small community of Pinkenba is the closest, laterally, at 700 metres from the extended centreline of the existing runway. The residential communities such as Banyo, Nudgee and Nudgee Beach situated to the west of the airport and which will be closest, in a lateral sense, to the New Parallel Runway are situated 1.4 km to 1.9 km away from the new runway.

Los Angeles International Airport has similar extensive residential areas near to the airport like Adelaide. No reasonable comparison can be made between these other two studies and Brisbane as Brisbane has much greater buffer zones.



Brisbane Airport has the Largest Buffer Zone of any Major Capital City Airport in Australia.



3.6.4 Threshold in Aircraft Flights After Which Property Prices Will Fall

As stated in Chapter A2 of the Draft EIS/MDP, it was found that over the last 20 years, those suburbs within the 70 decibel noise range or nearby the airport have had a larger annual capital growth than the other suburbs (10.9% annual growth versus 9.3% respectively).

Brisbane Airport has grown from 6.9 million annual passengers and 113,000 annual movements in 1991/92 to 16.8 million annual passengers and 163,000 annual movements in 2006. The Draft EIS/MDP shows no drop in property prices during the period when flights have substantially increased.

Addition/Omission to Draft EIS/MDP:

In light of the discussion above, no changes are proposed to this section of Chapter A2 in the Draft EIS/MDP.

3.7 A3 – Haulage Routes and Road Issues

(2 of 196 submissions)

Draft EIS/MDP reference: Chapter A3, Section 3.4

Submissions from the Queensland Government (Department of Main Roads) and the Pine Rivers Shire Council identified haulage routes for construction traffic as an issue needing further consideration in the Supplementary Report or prior to commencement of the project.

This section of the Supplementary Report does not deal with traffic impacts and modelling – this is dealt with by Chapter B10 of the Draft EIS/MDP and Section 4.13, **Traffic** within this Report.

Submitter Issues:

Specific comments raised in the submissions by the Queensland Government (Main Roads) and Pine Rivers Shire Council were as follows –

Materials Required for Construction and Potential Impacts on Road Network

- That the Draft EIS/MDP should further quantify the volumes of materials required and provide other information on sources of supply, traffic generation rates and potential significant road impacts and identify any required mitigation strategies.
- That the Draft EIS/MDP text should clarify an apparent inconsistency in the second paragraph of Section 3.4.4.3 which states that ‘...materials will be delivered...from mid to late 2012.’ This appears inconsistent with **Figure 3.4c** which has higher truck generation from December 2007 to October 2008.

Selection of Haulage Routes

- That before the commencement of haulage, BAC should:
 - identify the haulage routes from quarry and other origins of large volume construction inputs sites to the airport;
 - quantify the road impacts of transporting construction materials on the road network, for example, on pavements, traffic flows, road safety, traffic noise and generated dust from transport; and
 - propose any required mitigation strategies to address major road impacts.
- That the price of quarry material supply should also factor in the cost of impacts on pavements when choosing suppliers and routes.
- That consideration should be given to pavement condition of the haulage route in the selection of sources of quarry material and that minor roads used for haulage route will require a pavement condition assessment.
- The Draft EIS/MDP should make clear Main Roads’ preference for haulage to be via the Logan Motorway.

Haulage Routes Through Pine Rivers Shire

- That a noise impact assessment be conducted and discussed with Pine Rivers Shire Council should haulage routes result in traffic movement in or through Pine Rivers Shire.

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|-----------|-------------|-----|--------------|
| Submitter ID | Nil | 185, 242 | Nil | Nil |
| Total | 0 | 2 | 0 | 0 |

BAC response:

3.7.1 Materials Required for Construction and Potential Impacts on Road Network

The Draft EIS/MDP provides an estimate of the quantities of granular materials (including fill) required to construct the New Parallel Runway. The Draft EIS/MDP has established that there are sufficient resources within existing South East Queensland quarries to supply the material needed for the construction of the New Parallel Runway project.

The type and volume of materials needed for the New Parallel Runway construction are outlined in **Table 3.4a**. This information provides a basis for assessing the ability of the various quarries in Southeast Queensland to meet the demand required for the construction of the New Parallel Runway project.

In addressing the comment about **Figure 3.4c**, it should be clarified that this figure shows daily truck generation during the entire construction stage and scheduled programme timings (Phases 1 to 4 as outlined in Chapter A5). While the majority of the granular (quarried) materials will be required on the site for the civil works stage in 2012 (as stated in Section 3.4.4.3), **Figure 3.4c** also shows a 'spike' of forecast daily truck generation in calendar year 2008 which reflects truck movements needed for the importation of fill associated with Phase 1 works (upgrade of the 14-32 runway) and to a lesser extent Phase 2 works (early works to prepare the New Parallel Runway site for the reclamation phase) which will be occurring concurrently.

As indicated in the text of the section, these movements represent generally not more than 1% increase in heavy vehicle trips per day throughout the construction period along the Gateway Motorway, Pacific Motorway, Logan Motorway and Ipswich Motorway and the Warrego Highway and Bruce Highway.

3.7.2 Selection of Haulage Routes

To deliver the New Parallel Runway, BAC will appoint a construction contractor for the project who will in turn select suppliers for all of the required construction materials. In turn, the suppliers may seek to fulfil orders from various quarries within the region.

Quarry selection will be based upon a number of factors such as:

- The ability of the quarry to provide the specified materials;
- The ability to deliver the materials to the site in the required timeframe;
- The price to supply the materials; and
- Environmental performance of the quarry and their ability to meet operational conditions applying to the facility.

As such, specifying the location of the quarry(s) to be used during construction is not possible at this stage.

The selection of a haulage route will depend on the location of the quarry where the material is to be sourced from and existing conditions of operation attached to the quarry by local government and other regulatory agencies such as the Queensland Environmental Protection Agency. These could include designated haulage routes, hours of operation and road condition mitigation requirements.

In general, it is anticipated that all construction traffic to the New Parallel Runway site will approach the site via the Gateway Motorway.

3.7.3 Haulage Routes through Pine Rivers Shire

Pine Rivers Shire Council Planning Scheme Policy Number 6, “Traffic Noise Attenuation” states one of its objectives as being “To provide information to registered proprietors of residential lots about traffic noise levels.” The policy provides a method and guidance for calculating road noise as a result of a proposed development on the surrounding road network. Until the definition of haulage routes are determined, analysis as specified in the Pine Rivers Shire Council policy document cannot be undertaken. In addition, it will be necessary to ensure that consideration of any potential impact of heavy vehicles on the road network has been undertaken once (i.e. impacts have not already been considered in assessing the operations of the quarry, irrespective of NPR).

Defining the haulage routes is subject to the letting of construction contracts at which point the location of major supply quarries will be known with certainty. Notwithstanding this, the majority of haulage will be undertaken, where possible, on higher order road which are generally state controlled. Analysis of the forecast construction heavy vehicle traffic on the Gateway Motorway is not expected to be more than 1% of the existing, 2006, heavy vehicle volumes on the Gateway Motorway.

Addition/Omission to Draft EIS/MDP:

In light of the discussion above, no changes are proposed to Chapter A3, Section 3.4 of the Draft EIS/MDP in relation to these issues.

3.8 A3 – Runway Separation

(41 of 196 submissions)

Draft EIS/MDP reference: Chapter A3, Section 3.3

The decision to locate the New Parallel Runway 2000 metres to the west of the existing runway and staggered north towards Moreton Bay, is the carefully considered result of extensive analysis of complex and in some cases competing, technical, operational, spatial, environmental, meteorological and social factors.

No one factor can be isolated from the other in a discussion about optimum separation. Each is relevant but must be weighed up against all other factors in order to reach a solution that will deliver the better outcome for infrastructure at Brisbane Airport that is expected to efficiently and safely serve many millions of people within the local, national and international community for many decades to come.

Airfield planning is driven by the needs of the future, and for Brisbane Airport the planning horizon extends to 2050 and beyond. It requires the application of forward thinking about expected advancements in aviation technology, knowledge about spatial requirements for aviation related services and facilities, and the analysis of global historical data, trends and experiences.

A number of submissions query the separation between the runways. The most prevalent comment (36/41) is to have the new runway located at 1525 metres from the existing main runway. The majority of the submissions (36/41) are from the suburbs directly west of the New Parallel Runway centreline and include Nudgee Beach, Nudgee, Banyo, Northgate and Nundah.

Submitter issues:

The 2000 metres separation distance is being queried by communities west of the New Parallel Runway extended centreline on the basis of:

- Parallel runway standards allow separations of less than 2000 metres (36/41);
- Perceived noise impacts (31/41);
- Greater loss of wetland areas (17/41);
- Decreased property values (8/41);
- Upstream flooding of residential areas (4/41);
- Worsening air quality (2/41); and
- Health impacts for childcare and educational facilities (1/41).

There are also comments which query the need for the 2000 metres separation on the basis that:

- Sydney Airport operates parallel operations, including SODPROPS at 1037 metres between parallel runway centrelines (5/41);
- There is space to develop future terminal and other aviation related infrastructure (4/41);
- Over bay operations (ODPROPS) can be achieved irrespective of separation distances (2/41); and
- Brisbane can successfully operate Overbay operations if the Brisbane's radar capability was upgraded (1/41).

Some comments also suggest that if the runway separation was reduced it would diminish public requests for a curfew to be imposed (4/41).

Each of the reasons, outlined above, while all interconnected are for the purposes of discussion addressed individually below.

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|----------------------|---|-------------|----------|---------------|
| Submitter ID numbers | 50, 51, 53, 57, 58, 62, 66, 70, 76, 80, 83, 88, 94, 97, 101, 104, 106, 109, 110, 112, 120, 129, 142, 145, 146, 158, 179, 190, 207, 219, 227, 229, 230, 231, 239 | 153 | 154, 238 | 114, 127, 137 |
| Total | 35 | 1 | 2 | 3 |

BAC response:

3.8.1 Runway Separation Standards

The runway separation distance of 1525 metres mentioned in submissions is not applicable to the operation of over bay operations, which for noise mitigation purposes is BAC’s preferred operating mode with the New Parallel Runway system. The 1525 metre separation distance is specified in relation to modes of operation where aircraft are all travelling in the same direction not opposite directions as in over bay operations for Brisbane.

The International Civil Aviation Organisation’s (ICAO) specification outlined in its Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) sets for a number of different runway operating modes the, runway separation distances, navigation/radar capability, weather conditions, and a range of other issues relating to safety like air traffic control procedures and pilot training. The SOIR addresses the following modes of operation:

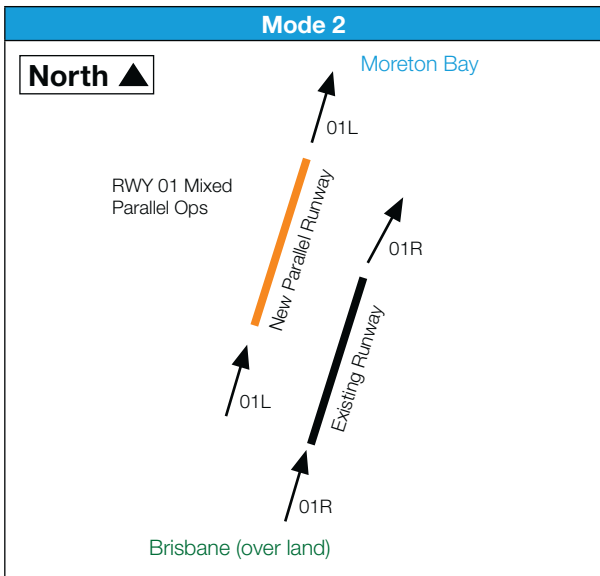
- Mode 1: Simultaneous parallel approaches – independent;
- Mode 2: Simultaneous parallel approaches – dependent;
- Mode 3: Simultaneous parallel departures – independent;
- Mode 4: Segregated parallel operations – where one runway is used exclusively for arrivals and the other is used exclusively for departures.

Of the modes addressed in SOIR the mode requiring the greatest separation is for independent parallel instrument approaches. This mode allows for a minimum separation distance of between 1035 and 1525 metres depending on radar/navigation capability.

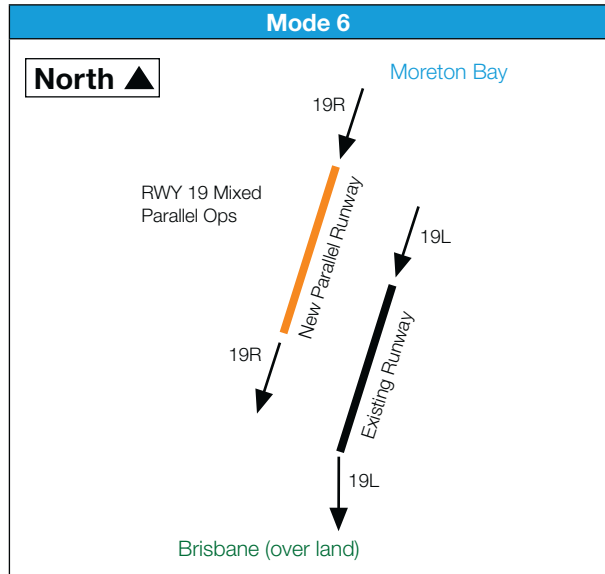
All modes discussed in the SOIR, however, refer to operations where the aircraft are travelling in the same direction. That is, all simultaneous approaches (both independent and dependent) are approaching both runways in the same direction, in the case of Brisbane either in a 01 (northerly) or a 19 (southerly) direction, depending on wind conditions.

The separations discussed in the SOIR apply to the main daytime modes to be operated at Brisbane. Draft EIS/MDP Mode 2 (01 Mixed parallel) and Mode 6 (19 Mixed Parallel) (refer Draft EIS/MDP pages D3-34 to 36 and reproduced below) will be the dominant modes in terms of the number of hours per day they will be in use being used most frequently during the day and early evening. The SOIR does not, however, discuss any modes where the aircraft are travelling in opposite directions.

Proposed Duty Runways for Mode 2.

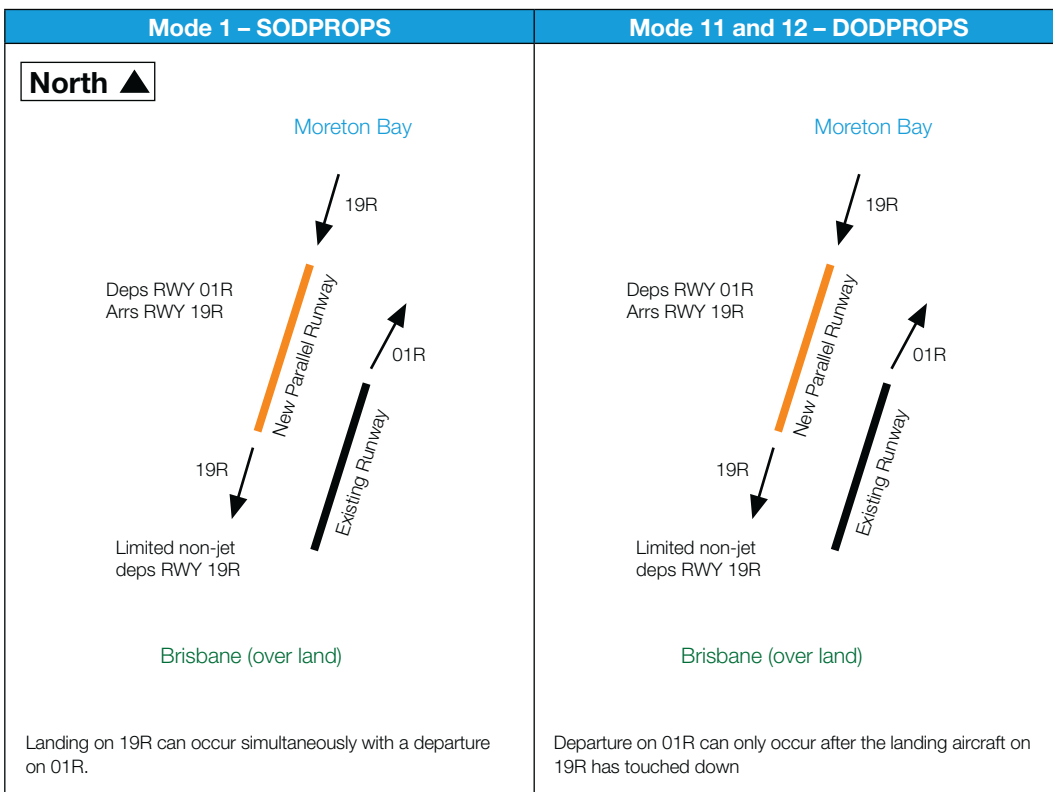


Proposed Duty Runways for Mode 6.



The preferred modes of operation being proposed for Brisbane with the New Parallel Runway termed “over bay operations” are SODPROPS (Simultaneous Opposite Direction Parallel Runway Operations - Draft EIS/MDP Mode 1) and DODPROPS (Dependent Opposite Direction Parallel Runway Operations - Draft EIS/MDP Mode 11) which Draft EIS/MDP noise modelling has shown will be used during the night time period (10pm to 6am) which will allow aircraft to arrive and depart simultaneously over the bay affording noise mitigation over residential Brisbane. There is no ICAO standard for runway separation distances for the application of SODPROPS.

Proposed Duty Runways for Modes 1, 11 and 12.



The SOIR separations do not apply to SODPROPS. To suggest that the SOIR and the separation distances discussed therein is relevant to the New Parallel Runway and the operation of SODPROPS is incorrect.

It is worth noting the historical context of why the SOIR was developed. The foreword to the document points to the global recognition of *“the difficulty in determining acceptable distances between parallel instrument runways”*.

As stated in the Draft EIS/MDP, the 2000 metre separation for Brisbane Airport’s parallel runways increases acceptance of the application of SODPROPS, and ensures sufficient area for future terminals for the 50+ million passengers that will use the airport in the future.

Many new parallel runway projects (eg Bangkok and Munich Airports) have separation distances of 2000+ metres to ensure sufficient space for terminals is available between the runways.

3.8.2 Unnecessary Increased Noise

A number of submissions (31 of 41) objected to the 2000 metre spacing on the basis that if the runway was closer (to suburbs on western side of the extended runway centreline) it must be louder. This is not the case. The findings of the Brisbane Airport Lateral Noise Study (2005) assessed the difference between a runway constructed at 1525 metres separation and 2000 metres separation at a range of representative sites to the west and north of the airport to be, at worst, “barely discernible”.

The lateral noise study was carried out in response to public suggestions that reducing the separation of Brisbane Airport’s proposed parallel staggered runway from 2000 metres to 1525 metres would have significant lateral noise benefits to suburbs to the west of the airport. As the greatest noise impacts are experienced to the rear direction of an aircraft and not laterally (sideways) BAC wanted to gain an appreciation of the noise sensitivity of a 2000 metre versus 1525 metre separation.

BAC engaged Parsons Brinkerhoff, a world-renowned engineering and environment firm, to undertake the study. Parsons Brinkerhoff was selected on the basis of their extensive experience in the noise assessment conducted in 1997 for Sydney’s proposed second airport at Badgerys Creek. The study has been available on BAC’s website since its completion in 2005.

The study methodology was based on taking actual noise measurements on the existing runway for a variety of aircraft types, phases of aircraft operations (take offs, and landings from a range of directions) and weather conditions. These measurements were then transposed onto both BAC’s preferred new parallel runway location at 2000 metres separation and an alternative runway location at 1525 metres separation in order to determine the difference in noise level.

Noise level increases modelled at a selection of representative sensitive receiver sites (eg. residences, an aged care facility and a teaching campus) in neighbouring communities range from 0 decibels to 4.2 decibels which is described as being “just detectable”.

The parallel runway staggered as far as possible toward Moreton Bay, separated by 2000 metres provides a greater opportunity to maximise take-offs and landings over Moreton Bay. A distance of 2000 metres between live runways provides sufficient lateral and vertical separation to allow “head to head” operations – in other words, aircraft that currently fly over Brisbane suburbs would be more readily directed over the Bay in suitable weather conditions.

To jeopardise the opportunity to maximise over bay operations, particularly at night, when faced with evidence that there is a barely discernible lateral noise benefit from reducing the separation is not considered prudent. Runway separation must ensure that Brisbane Airport can in the future safely and efficiently handle 50+ million passengers. A 2000 metre separation provides for this.

3.8.3 Greater Loss of Wetlands

A runway built at 1525 metres separation would have its footprint directly over the 90 hectare mangrove wetland areas. Hence, there would be no reduction in loss of wetlands for a 1525 metre separation. Refer to Volume A, **Figure 3.3c**.

3.8.4 Decreased Property Values

The detailed property evaluation carried out in the Draft EIS/MDP found no evidence that since Brisbane Airport became operational in 1988 that aircraft noise had an effect on prices of residential property values. The major determining factors for residential price growth include macro-level effects like population growth, job creation, infrastructure investment and dwelling supply and all these aspects are expected to perform strongly for South East Queensland in the coming 20 years.

These findings are taken from the comparative house price growth study undertaken as part of the Draft EIS/MDP and are in Volume A, Chapter 2, Section 2.13 - Property. See also Section 3.6 of this report for further information.

The study examined the residential house price growth for suburbs adjacent to the airport and within the N70 contours compared to the price growth of suburbs outside the N70 contours since 1985. The price growth trend was stronger for the suburbs within the N70 contours than the suburbs outside the N70 contours having grown its stronger performance from a 2.4% difference between the two groups in 1985 to a 37.3% difference in 2005.

As has been stated before, the difference in lateral noise due to the New Parallel Runway being positioned at 1525 metres and 2000 metres is barely discernible.

3.8.5 Upstream Flooding Impacts on Residences

The flood modelling study conducted for the New Parallel Runway project found no impact to off-airport residential and commercial properties. This is consistent with the original design intent for the Kedron Brook Floodway (KBF).

The KBF was designed in the 1970s taking into account ultimate development of both the airport site as well as infill development of the catchment upstream of the airport. The design of the KBF assumed the airport site would be filled and raised above flood immunity level and developed as an impervious surface along the length of its western boundary which abuts the floodway. This included a filled, raised area to accommodate a parallel runway at 2000 metres separation.

An extensive flood modelling study was commissioned as part of the Draft EIS/MDP process which is presented in the Draft EIS/MDP Volume B, Chapter 7. The aim of the study was to inform the final runway elevation and drainage system but also to determine the impacts the construction of the runway would have on existing flood conditions in the lower Kedron Brook Catchment.

The outcomes of the study show that with the runway and drainage in place there will be some increases in the flood levels in the 1 in 100 year flood event which are confined to airport land and part of Nudgee Golf course. Parts of Nudgee Golf Course are already flooded in a 1 in 100 year event and the New Parallel Runway will result in a small increase to the existing flood level. All other off-airport residential and commercial areas will have no increase in flood levels or water velocity due to the New Parallel Runway at 2000 metres separation distance.

As there is no flooding impact to residential and commercial properties due to a 2000 metre separation there is no benefit to be gained on this basis by reducing the separation to 1525 metres.

3.8.6 Air Quality at Suburbs West of New Parallel Runway

An assessment of the air quality associated with aircraft movements on the New Parallel Runway was undertaken in Chapter D6 of the Draft EIS/MDP. The conclusions of the study found that:

- There would be compliance with air quality goals at all locations beyond the boundary of the airport,
- The with and without new parallel runway cases are predicted to be very similar;
- The modelling was conservative as it was based on existing aircraft emissions and did not allow for improvements to aircraft technology that can be expected with new aircraft replacing existing aircraft using Brisbane Airport.
- The contribution of airport emissions to air quality in the environs of Brisbane Airport, including the suburbs to the west of the Airport, was determined to be minor to negligible.

3.8.7 Impacts on Sleep and Education

The submission from Nudgee Beach that suggests that Australian Standard AS/NZS 2107:2000 Acoustics - Recommended design sound levels and reverberation times for building interiors is the appropriate standard by which to assess aircraft noise for educational facilities, living quarters, offices and public buildings like hotels is incorrect. The standard clearly states that it is *“not intended for either the assessment or prescription of acceptable noise levels from transient or variable noises such as- (i) aircraft noise (see AS 2021 [NZS 6805])”* and that *“The standard is applicable to steady-state or quasi-steady-state sounds”*.

The main reason aircraft noise is excluded from these types of standards is due to the nature of aircraft noise. An aircraft flying over does not generate an enduring noise at a constant loudness but will be intermittent, though frequent at some locations at certain times, and typically, will steadily increase and then dissipate over a number of seconds.

The submission has also been selective in quoting the results of studies conducted at Los Angeles and Munich on blood pressure levels in school children. The submission states that *“Studies conducted in both Los Angeles and Munich found that average blood pressure levels were slightly elevated in a group of school children exposed to aircraft noise”*. This is, in fact, only a partial quote from the studies. Both studies go on to conclude that neither study provides conclusive proof that aircraft noise causes chronic stress in children. Furthermore, a follow up study conducted by the Los Angeles’ researchers one year later found no measurable difference in blood pressure levels between children exposed to aircraft noise and those who were not.

In addition, the Munich study also looked at the levels of three different stress hormones in the children’s blood. When the children were exposed to aircraft noise, the levels of two stress hormones went up, but the level in the third did not. This was significant because the study noted that the stress hormone that did not increase is considered a better indicator of chronic stress than the other two.

Nonetheless, the two studies referred to by the submitter formed part of the discussion on health effects due to aircraft noise presented in the Draft EIS/MDP (refer Volume D, Chapter 7 - page D7-304). However, the discussion in Chapter D7 considered a greater number of more recent studies in addition to the Los Angeles and Munich studies.

The submitter is critical of the 17 kindergarten and childcare centres which are subject to potential noise-induced awakenings (during the daytime). The Draft EIS/MDP found that there is an overall net decrease (-1) in the number of kindergarten and childcare centres exposed to 5 or more of 70 decibels or greater (N70 overflights) (refer to **Table 9.7a**, Volume D, page 387). So while there are increases in the number of facilities affected there are also facilities which benefit from the parallel runway.

Examination of **Figures 9.4b** and **9.4d** in Volume D (see pages D9-367 and D9-369) indicates that there would be little to no change in the number of schools or childcare centres affected if the 2015 with New Parallel Runway (light blue contour line) moved 500 metres toward the existing runway.

3.8.8 Sydney Parallel Runway Operations

A small number of the submissions cite Sydney's operation of SODPROPS on parallel runways less than 2000 metres separation in support of a reduced separation for the New Parallel Runway. While, as stated above, there is no international (ICAO) standard for SODPROPS, Sydney's Kingsford Smith Airport operates SODPROPS in accordance with Australia's Civil Aviation Safety Authority (CASA) standard which states in the Manual of Standards (MOS) Part 172 - Air Traffic Services, Chapter 10: Standards for the Provision of Air Traffic Services, 10.4.8. Simultaneous Opposite Direction Parallel Runway Operations the following:

Simultaneous Opposite Direction Parallel Runway Operations (SODPROPS) may be conducted subject to the following conditions:

- (a) runway centrelines are separated by a minimum of 860 M;*
- (b) operations are conducted in meteorological conditions equal to, or better than, the minimum radar vectoring level, or the lowest minimum commencement level for instrument approaches to the arrival runway, whichever is the lower. (without prior approval the minima shall not be less than cloud base 2,300 FT and visibility 8 KM, in the arrival and departure sector concerned;*
- (c) traffic information is passed to conflicting aircraft;*
- (d) the departure runway course diverges by 15 degrees from the approach course to the other runway.*

While the CASA standard allows for operations of SODPROPS at a runway separation of less than 2000 metres, the development of the standard and its application need to be put in context.

Each airport is unique and the application of procedures for individual airports is quite often built around the infrastructure and circumstances of that airport, not necessarily the infrastructure built around the procedures. Brisbane Airport planners, having identified many decades ago the good planning sense in facilitating the optimum separation for parallel runways for a range of reasons including increased safety for a range of parallel operations, purchased a greenfield site capable of delivering 2000 metre separated parallel runways.

Sydney, on the other hand, when faced with critical capacity shortcomings in the late 1980s finally opted for a medium-spaced parallel runway with the intention of commencing a staged development for an alternative airport at Badgerys Creek to service Sydney. The location and geometry (that is, separation distance, length, width etc) of Sydney's third runway (the parallel runway) was dictated by a number of constraints including surrounding terrain and other built up areas. The widest separation it could achieve given the constraints was 1037 metres reclaimed into Botany Bay. This parallel runway opened in Sydney in 1994.

The minimum separation standard Sydney was aiming to satisfy was the minimum separation for independent parallel approaches in instrument conditions (IMC) which would give Sydney the greatest capacity increases. This separation is, as outlined above and stated by ICAO, 1035 metres.

The CASA standard for SODPROPS outlined above was developed for Sydney following community pressure to develop alternative approach and departure procedures which afforded greater noise mitigation over Sydney suburbs. The procedure was developed to suit the newly established runway geometry and introduced in 1996. While the standard is included in the MOS as a general standard, at the time of its introduction Sydney Airport was the only airport in Australia with the infrastructure for its application and remains the only airport to this present time.

At Brisbane, the development of a 2000 metre runway separation has always been part of the planning and the purchase of the land in the 1970s was with the intention of being able to construct parallel runways 2000 metres apart.

A risk analysis has been conducted on Brisbane's proposed 2000 metre separation to determine whether SODPROPS can be operated safely within the current standard given all the terrain and obstacles in the vicinity of the airport. The risk analysis showed that Brisbane's proposed configuration significantly reduces risk over a 1035 metre separation.

However, as will be discussed below, an important reason to retain a 2000 metre separation is for terminal and other aviation related development which needs to be optimally located between the runways.

3.8.9 Development Between the Runways

Investment in new infrastructure is an exercise in balancing the required outcomes of purpose and the cost to achieve those outcomes. One of the most important planning considerations for an airport is the effective integration of airfield, terminals and public access design.

The first important interface is the efficient transfer of passengers from landside to airside and back again. This means developing road, carparking and public transport access which efficiently delivers and returns passengers to the airport terminal/s. Terminal design and location is important to enable the efficient processing of passengers, luggage and freight from the terminal to and from the aircraft.

The second important interface for the effective operation of an airport is the efficient parking, taxiing and take-off and landing of aircraft. This is a function of terminal, apron, taxiway and runway design.

Some submissions suggest that a 1525 metre centreline separation is adequate to fit in future terminal, car parking and access roads, apron, taxiway and runway development. While it may appear that this is possible, particularly in the short term (eg. next 5-10 years), some important planning considerations have been taken into account when proposing the 2000 metre separation as the optimum planning solution for future terminal and aviation related infrastructure for the long-term. These include:

- Comparison to other major airports;
- Optimal location for facilities; and
- Sustainable use of facilities (existing and new).

Comparison with Other Major Airports

The Draft EIS/MDP forecasts indicate that by 2035 Brisbane Airport will be facilitating around 50 million passengers. A comparison with major European airports reveals that in 2005 Heathrow Airport handled around 68 million passengers at 4 separate terminals with a fifth terminal due for completion in early 2008, Paris's Charles de Gaulle Airport was around 54 million serviced by 8 terminals/halls and Frankfurt Airport with around 52 million passengers serviced by 2 terminals and 5 concourses with another terminal planned. Los Angeles Airport handled just over 61 million with 9 terminals.

The requirement for terminal space at Brisbane within the coming decades will be similar and therefore planning has to take into account not just where the next terminal will need to be located but where the next 2, 3 or 4 terminals will be located. In order to maintain as efficient an airport as possible BAC aims to keep any future terminals between the runways provided the 2000m parallel runway separation distance is achieved.

Optimal Location for Facilities

The optimal location for terminal/related infrastructure is between the runways. There are two main reasons for this. Firstly, it allows for efficient use of road access, car parking and public transport strategies to be co-located in a centralised position rather than duplicating this infrastructure for disparate locations. Secondly, terminals co-located between runways increases efficiency and decreases safety risks because aircraft are not required to cross "live" runways to reach the terminals.

Sustainable Use of Facilities

The duplication of a number of facilities caused by a lack of centralisation will result in additional natural resources for construction materials for roads, car parking and public transport. It will mean greater fuel usage for both aircraft and surface transport accessing the terminals. It will also mean a greater planning footprint which may see a reduction in the biodiversity area due to extra areas being required in the western portion of the site.

3.8.11 Maximising Over-Bay Operations

The proposed 2000 metre separation distance between the parallel runways provides, in BAC's opinion, the optimal runway layout for maximising over-Bay operations. Over-bay operations (the SODPROPS, DODPROPS and Reciprocal modes discussed in the draft EIS/MDP) result in the least noise impact to residential areas.

When aircraft are flying towards each other as is the case in over-Bay operations (an aircraft approaching to land over the Bay while the other aircraft is taking off over the Bay), it is essential that the aircraft are separated both laterally (ie horizontally) and vertically. The 2000m separation maximises the lateral separation of aircraft, while staggering the new runway as close as possible to Moreton Bay results in enhanced vertical separation.

The 2000 metre separation is also important in conditions of reduced visibility eg such as low cloud or thick smoke haze. The 2000m separation provides a greater safety margin under such reduced visibility conditions.

Pilots landing at Brisbane Airport are required to be able to visually sight the runway by a nominated minimum altitude, otherwise they have to either initiate a "go around" manoeuvre, or divert to another airport.

If the runways are more closely spaced, then it could alter the operational standards such as minimum visibility requirements for over Bay operations. BAC's intentions have always been to enhance safety and to optimise the conditions for which over the Bay operations could be available.

3.8.12 Radar Capability

The submitter issue here is that if Brisbane Airport's radar system was upgraded, then over-Bay operations could be achieved with a closer runway separation. This comment presumably is based on the fact that Sydney Airport has parallel runways closer than 2000m and operates these with a precision radar approach system.

The issue with Sydney Airport, as explained in **Section 3.8.8** of this Supplementary Report, is that the existing geographical constraints both on and off the airport precluded a runway separation of greater than 1037m. A precision radar system was necessary to optimise safety for such closely spaced runways.

As explained in this Supplementary Report and the draft EIS / MDP, Brisbane Airport has always been planned to be a benchmark in major international airport design and layout with widely spaced parallel runways at 2000m separation.

BAC does not consider that the new parallel runway should be benchmarked against another airport whose physical location and geographic surrounds precluded the runways being spaced any further apart. In other words, Sydney Airport should be considered very much as an exceptional case. It is clear that from reviewing new international airports around the world that widely spaced runways are the optimal layout and consistent with sound airport planning practice.

3.8.13 Decrease Need for Curfew

It is assumed that the submitters' arguments on this point are based on the premise that a reduced runway separation would cause less lateral noise for the suburbs immediately to the west of the new parallel runway.

As has been outlined in both the draft EIS / MDP and this Supplementary Report, a reduced runway separation will not result in any discernible reduction in lateral noise to the suburbs west of the airport (Nundah, Banyo, Nudgee and Nudgee Beach).

Addition/Omission to Draft EIS/MDP:

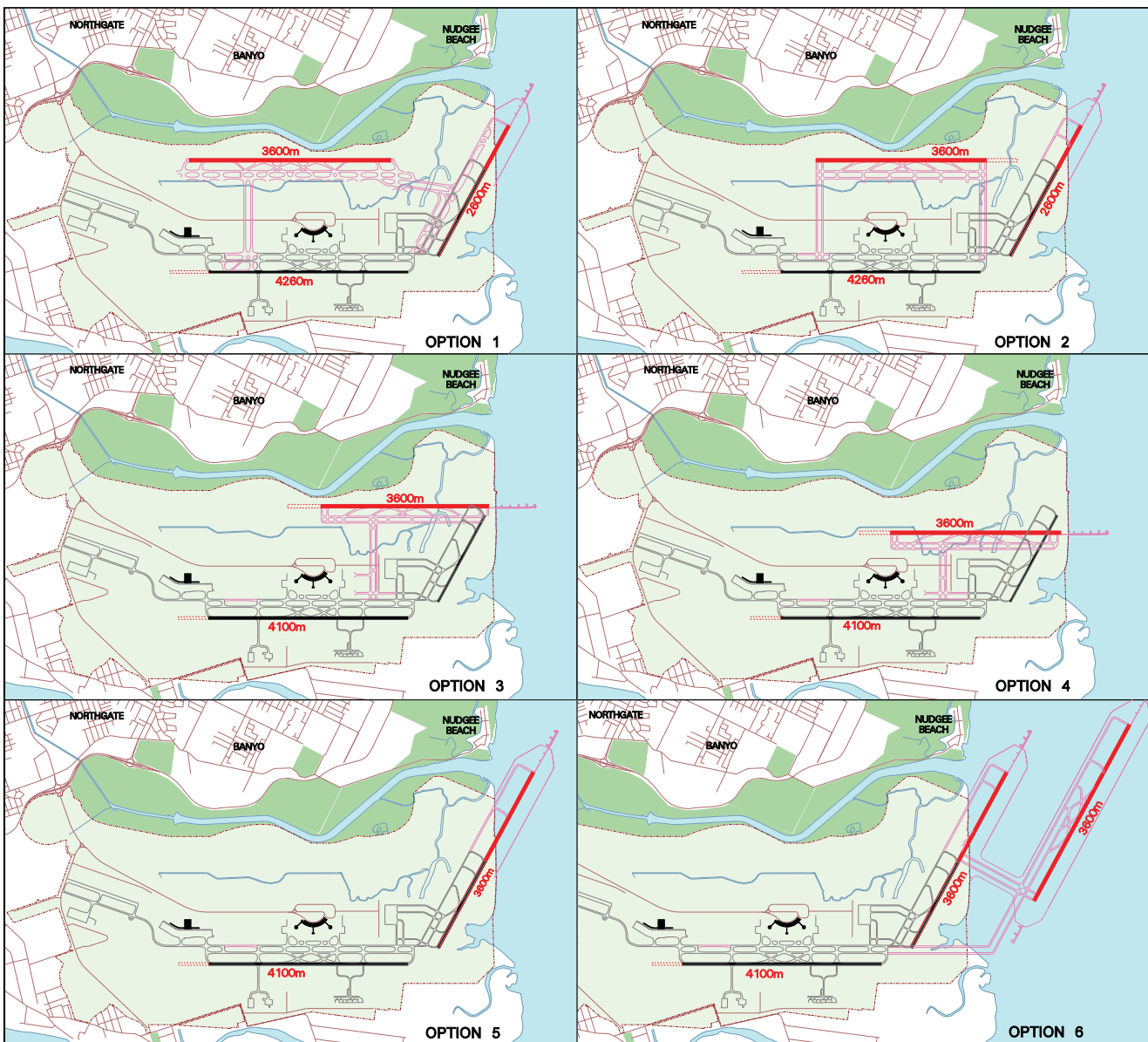
Based on the discussion above, no changes to the Draft EIS/MDP are proposed in relation to this issue.

3.9 A3 – Runway Layout Options (17 of 196 submissions)

Draft EIS/MDP reference: Chapter A3, Section 3.3

Chapter A3, Section 3.3 of the Draft EIS/MDP includes six alternative layouts for future development of the runway system at Brisbane Airport as shown in the 2003 Brisbane Airport Master Plan (refer Draft EIS/MDP **Figure 3.3a** (page A3-101) and reproduced below). The alternatives were shown to reiterate the historical context of the decades of planning which preceded the release of BAC's 1998 and 2003 Master Plans. The Draft EIS/MDP summarised in Section 3.3.1 (page A3-100) the long history of the development of runway options which has occurred which culminated in the final six alternative options.

Figure 3.3a: Runway Options from the 2003 Master Plan.



Draft EIS/MDP **Table 3.3** (page A3-107-108) shows a qualitative assessment of the three most feasible options when considering the relevant economic, environment and social impacts associated with the options. Section 3.3 concludes that runway option 3 (Parallel Runway with 2000 metre separation) is identified as the preferred option and consequently was the proposal taken forward for assessment as part of the Draft EIS/MDP.

This section of the Supplementary Report deals with submitter comments in relation to Section 3.3 of the Draft EIS/MDP as well as submitters who put forward additional runway options to those canvassed in the 2003 Master Plan.

It should be noted that specific submitter issues about runway separation and the preference for a reduced runway separation (Runway Option 4 over Runway Option 3 in **Table 3.3**) is dealt with in Section 3.8, **Runway Separation**.

Submitter Issues:

Specific issues raised by submitters in relation to runway layout options were as follows –

- That the preferred alternative should be one that minimises planes over heavily populated inner-city suburbs and that the runway should be situated as far away as possible from residential homes (4/17).
- That the option testing was not robust and did not take into account a rigorous quantitative comparison of costs and benefits (3/17).
- That option 5 is preferred (extension of the 14-32 cross runway) based on minimising air traffic over inner city residential areas, optimising space for new terminal development and that this runway makes better use of prevailing winds (2/17).
- That BAC should look at reclaiming land in Moreton Bay to minimise flights over residential areas and/or reduce noise or move the Airport to an offshore location (4/17).
- That the preferred option (option 3) does not protect mangroves and other estuarine habitats on the site recognised as significant in current and past Airport EIS documents (3/17).
- That the existing 01-19 runway should be extended northward to the edge of Serpentine Inlet (1/17).
- That the new parallel runway should be developed east of the existing runway (closer to Brisbane River) to protect the mangroves (1/17).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|--|-------------|---------|--------------|
| Submitter ID | 33, 44, 52, 67, 68, 103, 117, 162, 181, 197, 213, 224, 234 | Nil | 72, 193 | 184, 201 |
| Total | 13 | 0 | 2 | 2 |

BAC response:

3.9.1 Minimising Aircraft Noise Over Residential Suburbs

The decision to develop Brisbane Airport at its current location occurred after consideration of various sites in the early 1970s. The current site was selected as it had the advantage of permitting the development of widely spaced long parallel runways in a NNE/SSW direction that would take advantage of prevailing winds. The site was also large enough for the runways to be sufficiently separated to permit independent (same direction) operations on each parallel runway with a central location of terminal facilities between both runways. The new airport was also planned to be compatible with the increasing industrial and seaport activities which were taking place along the Brisbane River and the 01/19 orientation was chosen to minimise the constraints on nearby development, particularly in regard to noise and height limitations.

Given the prevailing wind conditions and location of the site in relation to the City, there are no runway layout options available at the Brisbane Airport site that would allow for the removal of all aircraft overflight noise over Brisbane suburbs. Similarly, if the New Parallel Runway project does not go ahead, there are no proposals to move the Airport from its current location. Growing aircraft traffic will continue to use current flight paths into and out of the existing runway system.

As stressed in Chapter A1 of the Draft EIS/MDP, compared to other Airports in Queensland and Australia, Brisbane Airport benefits from large buffer zones from the end of the existing and proposed new parallel runway to residential areas. The airport was planned and designed with these large buffer areas and for parallel, 2000 metre separated runways. The buffer zones are significant given aircraft noise is loudest in the context of over-flying aircraft arriving and departing from the runways. Brisbane Airport also benefits from buffers to residences laterally from the runway centreline, which reduces lateral noise from aircraft arriving and departing from the runway system.

3.9.2 Option Testing

Brisbane Airport Master Plans have shown a parallel runway system separated by 2000 metre as the preferred configuration for the Brisbane Airport site since 1983. The preferred runway layout as taken forward in the Draft EIS/MDP (option 3), was developed on the basis of a range of studies and analysis undertaken as part of previous Master Plans. The 2003 Master Plan undertook an analysis of the benefits and disadvantages of all six runway configurations, identifying option 3 as the preferred layout based on relevant economic, social and environmental considerations.

The EIS Guidelines for the New Parallel Runway project prepared by the Department of Environment and Heritage under the *Environmental Protection and Biodiversity Conservation Act 1999* acknowledged the 2003 Master Plan and required the analysis of other runway options at Brisbane Airport,

“to the extent necessary to clearly demonstrate why the preferred option has been selected over other options taking into account environmental factors, aircraft noise impacts, impact on airport operations, impact on air traffic and airspace management arrangements for other airports in the region, land reclamation, capacity, operational flexibility cost and any other relevant factors.” (EIS Guidelines August 2005)

The qualitative analysis undertaken in Chapter A3, Section 3.3 has been prepared to address this Guideline requirement.

BAC would argue that additional quantitative analysis including detailed costing and social impact assessment of each runway option is not required by the Guidelines and not warranted, particularly for those options that BAC would, based on its preliminary assessment, have no intention of constructing based on their logistic, economic, environmental or social costs. Ultimately, BAC would not proceed with an option which for its cost, did not deliver sustainable long term capacity and efficiency for Brisbane Airport.

BAC discounted options 1, 2 and 6 on the basis that they were not feasible (given the development of Airtrain) or cost prohibitive, for no long term gain in capacity, efficiency or environmental benefit.

In the context of comparing options 3, 4 and 5, BAC would argue that this has been done comprehensively as part of the Draft EIS/MDP in **Table 3.3**. The findings within the Table are considered to be accurate and quantifiable given that they have been informed and guided by the completion of the preliminary design and construction methodology for the New Parallel Runway as well as the detailed assessments of environmental and social impacts on that design in other chapters of the Draft EIS/MDP that are translatable and comparable to all three of the options canvassed.

The assessment of runway layout options is further addressed through this Supplementary Report both in the paragraphs following (in relation to Option 5 – extension of the cross-runway) and in response to more substantive comments received from submitters on Option 4 (parallel runways with a separation of 1525 metres) which is addressed in Section 3.8 of this Report.

3.9.3 Comments Supporting Option 5 (extended cross-runway)

As identified in **Table 3.3**, the preferred parallel runway layout (option 3) taken forward in the Draft EIS/MDP is seen by BAC as being preferred to extending the cross-runway (option 5) on the basis that:

1. Compared to a runway system with the existing 01-19 runway and extended 14-32 (open V-configuration) as shown in option 5, the preferred option of parallel runways (option 3) allows the greatest capability to meet future growth in aviation traffic. The capacity advantages of a parallel configuration are well documented worldwide by the aviation industry. The V-configuration of the runways reduces capacity in certain modes of operation and does not permit simultaneous over-bay operations.
2. Under this scenario, the aircraft noise is being re-distributed when compared to the current proposal rather than reduced. Intensification of noise from expanded 14-32 operations (more movements and larger aircraft) would expose new suburbs to noise impacts as does the New Parallel Runway. This option would intensify and magnify existing noise impacts along coastal suburbs both north (principally Redcliffe but including all suburbs along Northern Moreton Bay) and south (Bayside suburbs including Wynnum and Manly) of the Brisbane Airport.
3. Expanded 14-32 operations also increase the risk of aircraft collision with nearby obstacles associated with the BP Oil Refinery and the Port of Brisbane. Both facilities are infrastructure of critical importance to the State. Mitigation of this risk could be developed through new flight paths and operating modes but is likely to have a further impact on the capacity of the runway system to accommodate future growth. It should also be noted that this risk will grow with the planned expansion of port facilities such as new gantry cranes into the Future Port Expansion (FPE) reclamation area.
4. The reclamation of Bramble Bay to facilitate the expansion of the cross runway would be expected to have more serious and permanent environmental impacts compared to the preferred runway layout. This could include impacts on the adjacent Ramsar listed wetland and effects on the functioning of the Kedron Brook Floodway with a possible outcome of upstream flooding or alternatively, redirecting flood flows west of its current location.
5. The parallel runway system is consistent with long-term terminal and transport planning at the Airport site.

Based on these arguments, BAC sees no value in further investigation of this runway layout option.

3.9.4 Reclaiming into Moreton Bay

While planning was undertaken in the mid-1990s to consider the extension of the 14-32 cross-runway into Moreton Bay, BAC would argue that reclamation of the Bay for the New Parallel Runway (either through extension of the proposed runway into the Bay similar to Sydney Airport or construction of a purpose built offshore island) would likely cause significant and more permanent changes to natural coastal processes in western Moreton Bay such as tidal currents, transport of sediments and erosion, water quality and ecology in both benthic marine environments and bird feeding and roosting in the local area.

Subsequently, BAC is of the view that such a proposal would not be acceptable by either the Australian Government (by virtue of its likely impact to the Moreton Bay Ramsar Wetland and other matters of National Environmental Significance) or the Queensland Government as such reclamation would require revocation of areas of the Moreton Bay Marine Park. In addition to the environmental impacts, the feasibility and cost of creating an artificial island in Moreton Bay for use as an airport are seen as prohibitive.

Moving the runway further offshore (but still connected to the existing runway system) would also increase the distance from the runway to existing terminals and transport links. Increased taxiing time would increase fuel and maintenance requirements, as well as produce increased noise and air emissions.

For these reasons, options for reclamation of the runway into the Bay have not been pursued.

3.9.5 Layout Options in Relation to Mangroves on the Airport Site

In the context of choosing between runway layout options on the basis of impacts to mangrove habitats, the Draft EIS/MDP demonstrates that none of the three major options examined will protect the mangrove environments on the Airport site found along the remnant Serpentine Creek in the long term.

As shown in the Draft EIS/MDP **Figure 3.3c** Runway Option 4 of Chapter A3 (page A3-105) and as discussed under Section 3.8, **Separation**, there would be no reduction in the loss of mangroves for a 1525 metre separation between the runways.

As shown in the other major runway option, Option 5 (Draft EIS/MDP **Figure 3.3d**, page A3-106), the large area of mangroves associated with the remnant Serpentine Creek on the Airport site would be spared direct impact through the extension of the existing cross runway into Moreton Bay. This option, while initially not impacting on the mangroves on the Airport, presents potentially more significant and permanent impacts to natural processes in the Western Bay (in terms of coastal processes and hydrology) and would reclaim nearshore benthic environments that are important in their own right as shorebird habitat and fisheries habitat. In addition, the retained mangrove area would eventually need to be developed for future terminals and other aeronautical infrastructure to support aircraft utilising the extended cross-runway. As such, selection of this option could only provide protection to these mangrove areas in the short term.

As reported in the Draft EIS/MDP, the preferred option – option 3 (parallel runways with 2 km separation – refer **Figure 3.3b**) will necessitate the loss of this wetland habitat. For this reason, BAC has focussed its effort at developing a long-term strategy for protecting similar environments on the Airport outside the development footprint of the Runway and other infrastructure projects and to develop off-site mitigation projects related to wetland habitats with key stakeholders. These matters are discussed further in Section 4.7 of this Supplementary Report under the heading **Wetland Mitigation**.

3.9.6 Other Runway Layout Options

Extension of the current 01-19 runway north to the Serpentine Inlet as recommended by one submitter does not provide any increased runway capacity and would provide very limited noise reduction given the existing buffer zone to residential areas at the southern end of the runway. This area also is an important safety area and contains a range of navigational aids that would need to be re-built in Moreton Bay if the existing runway were extended further north.

Existing infrastructure east of the current 01-19 runway such as major aircraft hangar facilities and other light industry, the Luggage Point Wastewater Treatment Plant and the residential suburbs of Myrtletown and Pinkenba, precludes the option of locating the New Parallel Runway to the east of the current runway. For this reason, this option has not been canvassed in the 2003 Brisbane Airport Master Plan or the Draft EIS/MDP.

Addition/Omission to Draft EIS/MDP:

Based on the discussion above, no changes are proposed to the Draft EIS/MDP in relation to this issue.

3.10 A3 – Use of Other Airports

(3 of 196 submissions)

Draft EIS/MDP reference: Chapter A3, Section 3.2.2 and 3.2.3

Brisbane Airport in 2005 handled over 16 million passengers and 160,000 aircraft movements per year. Aircraft movements range from around 450 on a normal day to around 500 movements on a busy day. By comparison, the Gold Coast Airport currently handles around 3.5 million passengers, which equates to around 35 movements per day on a normal day up to 40 movements per day on a busy day. Sunshine Coast Airport at Maroochydore will average around 22 passenger transport aircraft movements per day.

Three submitters made comments about the implications of expanding the operations of regional airports such as the Gold Coast and Sunshine Coast Airports on the New Parallel Runway project. This issue was addressed as part of Chapter A3, Section 3.2.2 and 3.2.3 within the Draft EIS/MDP and briefly discussed in the context of the origin and destination of air travellers in the region within Chapter A2, Section 2.11.3.

Submitter Issues:

Specific issues raised in the submissions included:

- That as population growth in the region will be occurring outside the Brisbane City Council area, new or expanded airports should be considered in areas such as Archerfield, the Gold Coast, Maroochydore and Ipswich.
- That use of other {regional} airports will increase as airlines and travellers are likely to choose smaller airports closer to their destination and these smaller airports will attract low cost carriers.
- Forecast movement at Brisbane Airport will slow or decline given Gold Coast Airport's lengthened runway and further development of Sunshine Coast Airport which has unused capacity.

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|--------------|-------------|-----|--------------|
| Submitter ID | 89, 113, 150 | Nil | Nil | Nil |
| Total | 3 | 0 | 0 | 0 |

BAC response:

3.10.1 Alternative Use of Other Airports

Brisbane Airport, as the major airport for the State of Queensland and the South East Queensland region (which extends into northern New South Wales) provides regular transport services to numerous regional, interstate and international destinations. Suggestions that use of other airports like Gold or Sunshine Coast Airports would somehow negate the need for the new runway cannot be supported.

Gold Coast Airport

The Gold Coast Airport currently services four principal domestic destinations, Sydney, Melbourne, Adelaide and Newcastle and four international destinations all in New Zealand with approximately 3.5 million passengers per year. The aerodrome primarily serves the Gold Coast/Tweed tourism industry with leisure-based travel accounting for an estimated 75% of all its regular public transport (RPT) traffic.

Sunshine Coast Airport

The Sunshine Coast Airport provides regular passenger transport (RPT) services to Sydney, Melbourne and Adelaide. Annual RPT services handled at Sunshine Coast Airport were less than eight thousand passengers in 2005 with forecasts expecting this to grow to approximately fourteen thousand by 2020. Outside some minor expansions of current facilities, Sunshine Coast Airport has not intimated any further expansion of its runway system until after 2020.

As outlined in the Draft EIS/MDP, Chapter A2, Section 2.11.3, both the Gold Coast and Sunshine Coast Airports can be expected to grow strongly due to population growth in both of these catchment areas but due to the nature and size of these airports they can in no way seek to deliver the capacity requirements that Brisbane Airport is preparing to deliver to meet its demand.

While it is anticipated that domestic and perhaps international air travellers in the leisure and visitor market will make more use of regional airports in the future, Brisbane Airport as a capital city airport will continue to be the major destination for business travellers from inter-state. As shown in **Table 2.11a** within Chapter A2, over 50% of domestic air traveller trips at Brisbane Airport were for business, employment or education. These travellers, as opposed to leisure travellers and travellers visiting friends and relatives, would be less likely to utilise other regional airports as the primary purpose of their trip would be conducted in the City CBD or surrounding Greater Brisbane Area.

3.10.2 Low-cost Airlines and Use of Regional Airports

The Draft EIS/MDP already recognises that the Gold Coast and Sunshine Coast Airports will continue to play an important role in servicing the South East Queensland catchment area with respect to the leisure market. However, to suggest as some submitters have, that with the attraction of low cost airline carriers to regional airports like the Gold and Sunshine Coast airports will increase to the point that the expansion of Brisbane Airport is not needed is not correct. Low cost airlines including Freedom Air, JetStar, Pacific Blue and Virgin Blue already are the mainstay of regular transport activities at both these airports.

However, as stated in the Draft EIS/MDP, even after allowing for continued strong growth at Gold Coast and Sunshine Coast Airports, the overall rapid pace of growth in the South East Queensland region and Brisbane Airport's role in the business travel market (and full service airlines) ensures capacity expansion at Brisbane is complementary to rather than in competition with growth at Gold Coast and Sunshine Coast Airports.

3.10.3 Runway Extension at Gold Coast Airport

The Gold Coast Airport has plans for expansion underway with a runway extension due for completion by 31 March 2007. The development of the Gold Coast Airport is to cater for its demand and does not in any way cater for the requirements that Brisbane Airport must meet to service the demands of the community it serves.

The runway extension at Gold Coast Airport is to extend the current runway of 2042 metres by 458 metres to a total length of 2500 metres. This extension is designed to allow all aircraft types (except the new Airbus A380) to land and take-off to a range of destinations. According to its official website the Gold Coast Airport is working in partnership with airlines, government and industry to establish new direct routes from throughout Asia, India and the Middle East. (refer www.goldcoastairport.com.au). The potential for the Gold Coast Airport to attract an increased number of international flights is improved but its expansion has been taken into account in developing the forecasts underpinning the increase in demand for Brisbane Airport.

Addition/Omission to Draft EIS/MDP:

In light of the discussion above, no changes are proposed to Chapter A3 of the Draft EIS/MDP in relation to the issues raised by submitters.

3.11 A4 – Engineering Design and Construction Issues

(3 of 196 submissions)

Draft EIS/MDP reference: Chapter A4, Chapter A5

Airservices Australia, the Queensland Government and Brisbane City Council raised issues in their respective submissions related to the engineering design and construction methodology for the New Parallel Runway and associated development such as the seawall reconstruction, approach lighting structure, and Kedron Brook Floodway Drain. These matters are dealt with collectively in this section of the Supplementary Report.

Submitter Issues:

Specific issues raised by the submitters can be grouped as follows –

Airfield/Aviation Safety Considerations

- Airservices Australia raised various issues regarding:
 - the location and suitability of the current Brisbane Airport control tower to service the new runway;
 - implications of the design and construction programme on the Joint Airservices/BACL Fibre-optic Cable Ring; and
 - potential impacts to existing navigational aids, satellite infrastructure and services and Aviation Rescue and Fire Fighting access and operations.

Seawall reconstruction

- The Queensland Government recommended that the Supplementary Report should include:
 - drawings of the seawall, including dimensions, location with regard to the property boundary and Mean High Water Springs, and materials, and sources of materials proposed to construct the seawall.
 - the procedure, including machinery to be used, to construct the seawall; and
 - drawings of the original seawall relative to that proposed.

Approach Lighting Structure

- The Queensland Government recommended that the Supplementary Report should include:
 - more detailed drawings of the lighting structure, including dimensions, locations, how the structure will be piled, likely depth of pile, pile type, etc.
 - additional information including lighting alternatives, reasons for the preferred option, and need for the lighting structure.

Kedron Brook Floodway Drain

- The Queensland Government recommended that the Supplementary Report should include more detailed drawings showing the location of the drainage works in Kedron Brook, the location of Mean High Water Springs and Highest Astronomical Tide and the location of the property boundary.
- Brisbane City Council recommended that a bridge be constructed over the Kedron Brook Floodway Drain to facilitate access to Council-controlled land adjacent to the Kedron Brook Floodway.

Dredge Pipeline

- Brisbane City Council raised a range of design issues regarding the alignment and operational implications of the dredge pipeline crossing the Luggage Point Wastewater Treatment Plant Reserve.

Accommodating sea level rise and climate change

- Brisbane City Council raised whether the current design took account of rising sea level(s) and the increasing frequency and ferocity of storm events and associated flooding.

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|-----------|---------------|-----|--------------|
| Submitter ID | Nil | 153, 203, 242 | Nil | Nil |
| Total | 0 | 3 | 0 | 0 |

BAC response:

3.11.1 Airservices Issues

BAC recognises that the project will require extensive consultation with the various divisions of Airservices to manage the range of issues that have been identified with the New Parallel Runway’s construction and operation. A consultative forum will be established with Airservices Australia through the final design and construction phases of the Project to ensure that Airservices Australia’s issues are appropriately addressed.

In terms of the Control Tower Response Time, the air traffic controller needs to detect movement of the departing aircraft once it has been cleared for take-off. Desirably, response times should be no greater than 4 seconds.

The present Control Tower was sited to meet air traffic control requirements in relation to the fully developed airport envisaged at that time with parallel 01/19 runways, immediately opposite each other, at 2000 metre separation.

Since then, BAC has proposed staggering the new runway closer to Moreton Bay. This results in a Control Tower Response Time of slightly longer than the preferred 4 seconds for the northern end of the New Parallel Runway. In this situation other aids can be utilised to meet the 4 second response requirement such as Surface Movement Radar (SMR) and / or closed circuit television (CCTV) and these will be investigated further during detailed design.

Airservices Australia already is well advanced in its planning for the installation of a Surface Movement Radar system for Brisbane Airport. BAC will continue to work with Airservices to ensure that adequate Control Tower response mechanisms will be in place when the new runway is operational.

It should be noted that there is no single Control Tower location that would provide a 4 second response time to the thresholds of all runways (existing and new parallel) at Brisbane Airport.

In terms of Fire Fighting Services, the design as shown in the Draft EIS/MDP makes allowance for the construction of a new Fire Fighting Station to service the new runway.

In terms of the Fibre-optic cable ring and navigational aids, the final design and construction methodology will address this in more detail. BAC has already identified and discussed in the Draft EIS/MDP the need to relocate a number of existing services to facilitate construction of the new runway. Airservices’ equipment and navigational aids will remain operational at all times.

3.11.2 Seawall

An additional preliminary design plan for the seawall has been included in this section of the Supplementary Report to address the comment by the submitter.

It is normal practice to prepare the requested detailed drawings of the seawall following final design. BAC intends to do this and seek the necessary development application approval from the Queensland Environmental Protection Agency at that time. The location of the seawall as shown in the Draft EIS/MDP together with the additional new **Figure 4.14a** is considered sufficient to enable agencies to assess whether the wall will cause any impacts.

The procedure and the machinery to be used to construct the seawall is described in Chapter A5 of the Draft EIS/MDP (refer to 5.2.6).

3.11.3 Approach Lighting Structure

A preliminary design plan for the approach lighting structure is already contained within the Draft EIS/MDP in Chapter A5, **Figure 5.5d**. As is the case for the seawall, BAC intends to do further design work to confirm the pile lengths and other relevant factors during detailed final design.

As stated in the Chapter text, approach lighting may not be required should improvement to aircraft navigation over the next 5 -10 years prior to runway opening supersede current requirements for approach lighting. BAC intends to make a decision on this closer to when pavement works are scheduled to begin around 2013. It has been included in the Draft EIS/MDP to enable agencies and the community to determine if there are any issues associated with the proposal.

In relation to the comment seeking additional information about the need for and alignment of the structure, the lighting structure is designed to support approach lighting as per ICAO/CASA requirements that are set out in the Manual of Standards (MOS 139).

The CASA documentation clearly states the dimensions and geometry of the lighting structure and these physical dimensions have been used in developing the preliminary design presented in the Draft EIS/MDP.

3.11.4 Kedron Brook Floodway Drain

More detailed drawings of the drain showing the required tide levels will be undertaken to enable BAC to obtain the relevant State/Council licences and permits. As such, additional drawings are not proposed in the EIS/MDP.

The recommendation by Brisbane City Council that a bridge be constructed over the proposed Kedron Brook Floodway Drain is not supported. The cost of constructing and maintaining the bridge is seen as prohibitive given the frequency and nature of the access that is required. To address Brisbane City Council's concern regarding access to the area west of the New Parallel Runway, BAC will ensure as part of the final design of the runway layout, provision be made for Council and its contractors to have vehicle access to the area throughout the construction period similar to the current arrangements.

Once the runway is operational, access will continue to be provided but will need to occur through normal airside security arrangements (escort and registration) as the area will only be able to be accessed through the airside area. The process for securing access is routine, can occur 24 hours a day and should not pose unreasonable delays or inconvenience to Council officers and contractors in carrying out the required management activities on the Brisbane City Council land adjacent to Kedron Brook.

From a security perspective, BAC's proposal is preferable as it will allow BAC and the Federal Police to better monitor who may be in the areas immediately to the west of the new runway.

3.11.5 Consideration of Sea Level Rise in Design of the New Parallel Runway

The New Parallel Runway project has a significant design life and consideration of the long term effects of climate change and sea level rise was taken into account in the design of new parallel runway infrastructure.

In this context, the design consultants for the project, Maunsell, used design frequency curves obtained from Queensland Climate Change and Community Vulnerability to Tropical Cyclones - Ocean Hazards Assessment Stage 3 (July 2004). This report presents the findings of current investigation of storm surge along the east coast of Queensland and provides a comprehensive analysis suitable for assessment of storm surge impacts on the new parallel runway. Storm surge statistics for Nudgee Beach (included in the Ocean Hazards Assessment) were applied to the assessment.

Design storm tide levels were derived representing the combined effect of tide level, storm surge effect and wave propagation. A 1% Average Exceedence Probability (AEP) design storm tide level for the western shoreline of Moreton Bay, which includes the northern perimeter of Brisbane Airport, consists of:

- Current storm surge level of 1.5m AHD;
- Climate change increase of 400mm (including 300mm sea level rise and increased cyclone frequency); and
- Wave set up freeboard of 500mm.

Accordingly, a design storm tide level of 2.4m AHD or 3.53m Airport Datum for a 1% AEP storm surge event was adopted for preliminary design of the new parallel runway. The design level adopted for the new runway is RL 5.3m (AD) which provides sufficient freeboard above the design storm tide level. Taxiways linking the new runway with the apron areas are also set above the 1% AEP storm surge event.

3.11.6 Dredge Pipeline Issues

Brisbane City Council has previously indicated to BAC, in-principle support for the Draft EIS/MDP to show the Luggage Point pipeline alignment as the preferred option. The specific matters raised in the submission relate to the alignment, design and construction of the dredge pipeline as it crosses the Luggage Point Wastewater Treatment reserve. These are technical issues and viewed by BAC as being able to be resolved between BAC and Brisbane City Council as part of the detailed engineering design and assessment process. Accordingly, these issues will be further discussed with the relevant Council officers as part of the subsequent assessment process for approvals required under State and local legislation.

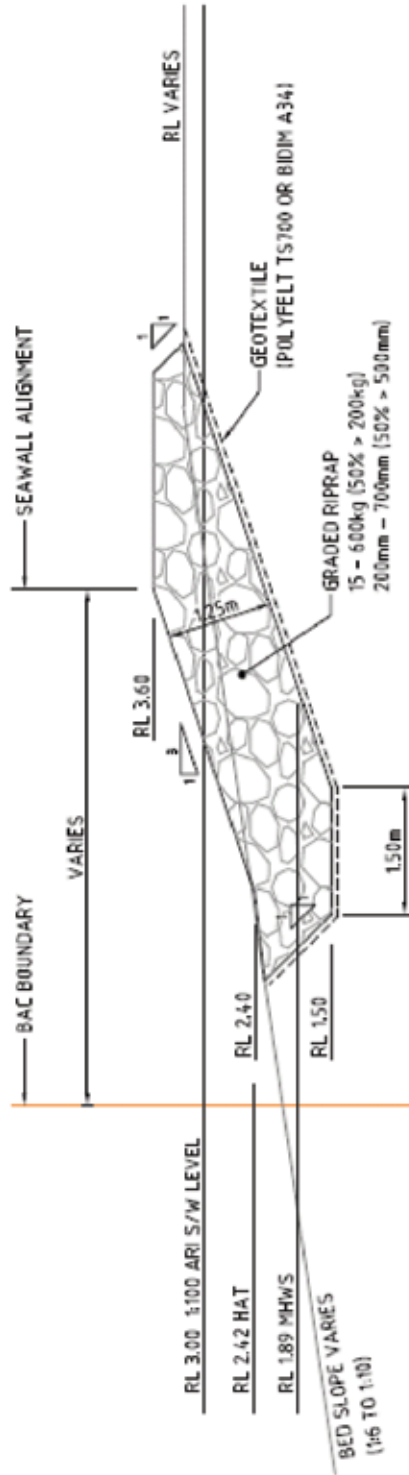
Addition/Omission to Draft EIS/MDP:

As indicated in the discussion above, the following additions to the Draft EIS/MDP are proposed:

- That new Figure 4.14a (refer Maunsell Drawing #'s 10302405-SK369) be added to list of figures in Chapter A4 of the Draft EIS/MDP.

No other changes to the Draft EIS/MDP are proposed in relation to these issues.

Figure 4.14a: Figure showing indicative cross-section of proposed seawall from Cribb Island Jetty to Serpentine Inlet.



NOTE:
LEVEL TO AIRPORT DATUM

TYPICAL SECTION - SEAWALL



NOT TO BE USED FOR CONSTRUCTION
REVISION ONLY

| | |
|------|-----|
| DATE | NO. |
| | 2 |

3.12 A4 – Harvesting, Re-use and Recycling Water

(6 of 196 submissions)

Draft EIS/MDP reference: Chapter A4, Chapter A5

Harvesting stormwater for re-use and the use of treated recycled water in construction projects are critical issues in South East Queensland given the drought and impending level 5 water restrictions. Several submitters raised issues or had queries regarding how Brisbane Airport and in particular the New Parallel Runway project, is dealing with these matters. This section of the Supplementary Report looks at the issue of stormwater re-use and use of recycled water in the context of the New Parallel Runway design and construction methodology as set out in the Draft EIS/MDP in Chapters A4 and A5.

Submitter Issues:

Specific comments raised by submitters in relation to these issues were as follows –

- BAC should develop one Integrated Water Cycle Plan for the whole Airport site and that increase in demand on water and sewage infrastructure that will result from the New Parallel Runway should be serviced through water recycling (1/6).
- The Draft EIS/MDP does not outline plans for water storage on BAC property (1/6).
- Stormwater management for the New Parallel Runway should be focussing on recycling (2/6).
- The Draft EIS/MDP should examine the option for the airport to supply water for the construction phase entirely from run-off from its present infrastructure (2/6).
- Drainage retention basins or tanks should be constructed to harvest rainwater for re-use (2/6).
- BAC should co-locate water infrastructure services along the proposed dredge pipeline corridor (1/6).
- Ensuring the use of recycled water for dust suppression and other similar activities does not pose a potential risk to human health (1/6).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|-----------|-------------|-----|--------------|
| Submitter ID | 34 | 153, 242 | 143 | 114, 127 |
| Total | 1 | 2 | 1 | 2 |

BAC response:

3.12.1 Integrated Approach to Water Management

Under its water management strategy, Brisbane Airport is on-track to report a 75% reduction in water usage from 2004. It has already achieved a 50% reduction from 2004 levels from 1.6 million kilolitres down to 0.8 million kilolitres and BAC's target is to reduce consumption by a further 0.14 million kilolitres by July 2007.

As South East Queensland gets set to face level 5 water restrictions, Brisbane Airport is pushing forward with new water saving initiatives including:

- Investigating building two on-airport waste water treatment plants that will enable waste water produced at the airport to be recycled and re-used on site; and
- A project with Brisbane Water to deliver a recycled water pipeline to the Brisbane Airport boundary.

BAC's other water saving initiatives include:

- Installation of rainwater tanks capable of collecting 5 million litres of rainwater a week.
- Establishment of a second freshwater lake for outdoor irrigation and for compaction and dust suppression at Airport developments. The lake has the capacity to supply over 700,000 litres of water a day for irrigation purposes although maximum yield is dependent upon rainfall.
- Introduction of a new pressure monitoring and leakage detection program to dramatically increase the response time to water network leakages thus reducing the volume of water that could potentially be discharged.
- Finalisation of an Airport Landscape Master plan which contains a species list based upon salt and drought tolerant native species.
- Extensive overhaul of building, irrigation and landscape guidelines for all Airport tenants and businesses designed ultimately to make all Airport operations as water efficient and self-sustaining as possible.

These and other measures are developed and implemented as part of annual Water Management Plans that have been developed by Brisbane Airport Corporation for Brisbane Water since 2001/2002.

3.12.2 Use of Harvested Stormwater in Construction

Most construction activities require water as part of the process. Some construction activities, such as concrete batching and production, require high quality, reliable water supplies while other activities, such as dust suppression, do not require potable quality water.

As outlined in the previous section, stormwater is already being used effectively elsewhere on the Airport. These sources can supplement water needs for the New Parallel Runway project but are insufficient to become the sole supply of water for the project during the construction phase.

During Phases 1 and 2 of the construction sequencing (14-32 upgrade and early works package) there will likely be some opportunity for the contractor to re-use stormwater that has been collected in the engineered sediment ponds for a range of construction uses. However, once the reclamation phase (Phase 3) has commenced, any stormwater collected will be thoroughly mixed with much larger amounts of saltwater from the dredge fluidisation process which will limit the re-use potential of the water.

As they represent a risk to aircraft safety by attracting bird life, it is likely that the sediment settlement ponds for tailwater and stormwater management established during the construction period will be filled and decommissioned following the completion of the reclamation. De-commissioning the northern sediment pond will be a higher priority given its proximity to the 14-32 cross runway which will be re-opened following the completion of the reclamation phase.

During the consolidation period treated recycled water (see below) will likely be used for dust suppression until surface erosion and dust control measures (likely combination of natural emulsion, hydro-mulch, and planted species) are established. As construction on the New Parallel Runway largely ceases during the consolidation period, water requirements for the New Parallel Runway project will be at a minimum.

By the time of the commencement of the civil works stage in 2013, there may be additional opportunities available for the re-use of stormwater. BAC will ensure that these opportunities are examined by the construction contractor prior to and during the civil works construction phase.

3.12.3 Use of Recycled Water in Construction

As outlined in Chapter A5, Section 5.2.10, the construction contractor(s) for the various works associated with the New Parallel Runway will be required by BAC to use recycled water in preference to potable water, where appropriate.

BAC is currently working with Brisbane Water for the delivery of A-class recycled water to the Airport with connection to the Airport expected by July 2007.

Brisbane City Council and BAC are currently finalising the terms of agreement for the delivery of the recycled water. BAC is also working with Brisbane City Council to use the hydrant point at Luggage Point to fill trucks with A-class recycled water to be used on construction sites. These arrangements will facilitate the use of recycled water for the New Parallel Runway project and other construction projects on the Airport.

In addition, BAC and Queensland University of Technology are investigating the range of alternatives for water use on construction sites. This includes future development projects such as the New Parallel Runway.

3.12.4 Safe Use of Recycled Water

In the context of human health risks from use of recycled water, BAC will ensure that relevant National and Queensland Guidelines for use of recycled water will be considered as part of the final design of the project and in the development of construction environmental management plans by the construction contractor in accordance with best practice.

3.12.5 Co-location of Services

Brisbane City Council has raised in its submission, the merit of providing for the co-location of water services along the alignment of the temporary dredge pipeline from Luggage Point to the New Parallel Runway reclamation site. While BAC is not averse to considering the co-location of these services across the airport, it may not be appropriate for services to be installed along the route of the dredge pipeline during the construction phase as the contractor will be actively maintaining and managing the pipeline. These activities may pose a threat to the security of any permanent services co-located along the pipeline alignment and as such, may not be the most appropriate solution.

In addition, BAC has indicated to Council as part of preliminary discussions that further extension of water services from the existing runway system across the New Parallel Runway area (to service suburbs to the west of the Airport) will be problematic until after the construction of the New Parallel Runway is complete, predominantly due to large settlements expected throughout the site.

These issues will be further discussed with Council officers as part of the detailed approval process for the dredge pipeline.

Addition/Omission to Draft EIS/MDP:

In light of the discussion above, no changes are proposed in relation to these sections of the Draft EIS/MDP for water resource issues.

3.13 A6 – Public Engagement

(6 of 196 submissions)

Draft EIS/MDP reference: Chapter A6

In relation to this chapter of the Draft EIS/MDP, six submissions were received addressing public engagement. Two of these submissions came from elected representatives, two from non-government organisations and two from community individuals.

Submitter Issues:

The submitter comments made in relation to the public engagement program can be summarised as follows –

- Concerns related to the timing of the public comment period in relation to the calendar year (1/6).
- Issues related to the choice of locations for Community Information Sessions held during the public comment period (2/6).
- Concern that additional information sessions were not held in local areas (1/6).
- Concern that the research strategy employed to gather community opinion was flawed (1/6).
- Concern about community access to the Draft EIS/MDP during the public comment period (1/6).
- Concern that the public engagement period was used to ‘sell’ the project to the community (1/6).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|------------|-----------|-------------|----------|--------------|
| Submitters | 181, 193 | Nil | 113, 159 | 184, 141 |
| Total | 2 | 0 | 2 | 2 |

BAC response:

3.13.1 The Timing of the Public Comment Period was Too Late in the Calendar Year

The public comment period for the Draft EIS/MDP commenced on 1 November 2006 and ran through to 6 February 2007. Brisbane Airport Corporation was required to hold a public comment period of 90 days to meet the legislative requirements for the combined Draft EIS/MDP. The public comment period was extended to 98 days to account for public holidays during the period.

There would not be a three month period within a calendar year that does not cross over a holiday period.

3.13.2 Location of Information Sessions

Community Information Sessions were held in three Brisbane locations for four days each during the public comment period. The methodology for choosing these venues was driven by proximity to the airport and areas within N70 noise contours (in Brisbane’s south, north and west), availability of the venue for a four day period that included two afternoon/evenings, a full day and a weekend day, a venue large enough for the display to be erected and access to public transport at the venue. An extensive search for venues was conducted and the venues chosen for the Community Information Sessions were the most appropriate available at the time to meet these requirements.

BAC recognised that there was a need to provide access to information in multiple areas located within or close to the N70 noise contours during the public comment period. To achieve this, information about the Draft EIS/MDP was taken to 19 shopping centres and libraries during the public comment period through a series of displays. Information kits were distributed at these displays along with information about the Community Information Sessions. BAC set up shopping centre and library displays in suburbs both within and in close proximity to N70 contours for the New Parallel Runway.

3.13.3 Requests for Additional Information Sessions

Where a request to hold additional information sessions was received from elected representatives, BAC offered to brief community individuals or groups on the New Parallel Runway project in either a location of their choice, or to bus community members out to the Community Information Centre at Brisbane Airport for briefings. The offer was made to many elected representatives with the local communities of Pinkenba and Nudgee Beach being the only groups to take advantage of this offer.

3.13.4 Research Strategies Employed were Flawed and Dilute Possible Adverse Results

Three different research strategies were used to gain a more balanced view of public opinion surrounding the New Parallel Runway project in the lead up to the release of the Draft EIS/MDP for public comment. These included a reply paid/email survey, telephone surveys and focus groups.

330,000 copies of each Community Newsletter (#1 and #2) were distributed to residences within 10 kilometres of Brisbane Airport via Quest Community Newspapers in February and June 2006. These newsletters contained a reply paid survey which was also available online during the survey periods. The sample for this research was self-selected, meaning people chose whether or not to participate in the survey. This reply paid survey research therefore used a non-random sampling methodology, which limited its statistical reliability.

To balance this, telephone surveys using a random sampling methodology were undertaken. The primary focus of this research was to test the reach of communication materials for the project with a secondary focus of gathering public opinion data. 100 residents from the southern, northern and western suburbs of Brisbane, living within 10 kilometres of Brisbane Airport were randomly selected for these surveys. This research gave a statistically reliable set of data that could be compared and contrasted against the self-selected set of data.

Focus groups were also used to gather public opinion about the New Parallel Runway project and to test communication materials.

All data related to these different research strategies is presented in Chapter A6. There has been no attempt to combine these results and therefore dilute the results.

3.13.5 All Affected Community Members Should Have Been Provided with a Copy of the Draft EIS/MDP During Public Comment Period

Copies of the Draft EIS/MDP were widely available to the community in various forms during the public comment period. The availability of the Draft EIS/MDP was widely advertised through metropolitan and local newspapers (see Chapter 2 for the advertising schedule). The Draft EIS/MDP was also mentioned in 135 media stories during the period. Community members had the opportunity to access the document in printed form in many locations, online or on CD-Rom. More than 2,500 people on the project database were advised of the release of the Draft EIS/MDP for public comment via post or email.

Requests for CD-Rom copies of the Draft EIS/MDP and supporting materials (the Summary of Major Findings, Flight Path and Noise Information Booklet, TNIP and the Project DVD) could be made online, by fax or via the Freecall 1800 number. These requests were processed swiftly to ensure community members had quick access to the documentation they required.

Locations to View Printed Copies of the Draft EIS/MDP

- At the Community Information Centre located at 9 Boronia Road, Brisbane Airport.
- At one of three travelling Information Sessions held during the public comment period in Brisbane's southern, northern and western suburbs.
- At 24 Brisbane City Council Ward offices.
- At 84 State Government Electorate offices (Queensland wide).
- At 24 Australian Government Electorate offices (Queensland wide).
- At 15 Local Council Administration Centres (in South East Queensland).
- At 62 Local Council Libraries (in South-East Queensland).

Online Access to the Draft EIS/MDP

More than 22,000 hits were recorded on the New Parallel Runway project website during the public comment period. The home page of this site had direct links to the Draft EIS/MDP volumes. The number of hits recorded during the public comment period on web pages dedicated to each volume of the Draft EIS/MDP is listed below:

| | |
|---------------------------|-----|
| Need and Background | 661 |
| Airport and Surrounds | 763 |
| Middle Banks, Moreton Bay | 266 |
| Airspace | 603 |

CD Rom Access to the Draft EIS/MDP

Close to 4,000 copies of the Draft EIS/MDP on CD Rom and its supporting materials were distributed during the public comment period.

3.13.6 The Public Engagement Process Attempted to 'Sell' the Project

All materials and activities developed for the Draft EIS/MDP public comment period were created with the specific goal of informing and educating the community about the impacts of the New Parallel Runway.

Every effort was made to present material in an impartial way, evidenced by the Flight Path Noise Information Booklet and other materials developed to support the Draft EIS/MDP during the public comment period.

Materials presented to the community did contain information about why the New Parallel Runway was proposed, but this information was presented in a factual manner.

Addition/Omission to Draft EIS/MDP:

Based on the discussion above, no changes to the Draft EIS/MDP are proposed in relation to issues raised.

3.14 Volume A – Supportive Submissions

(23 of 196 submissions)

Draft EIS/MDP reference: Various but principally related to Volume A: Background and Need

23 submissions received on the Draft EIS/MDP were identified as being either predominantly supportive or containing very strong statements of support for the New Parallel Runway project.

Similar to how other comments from submitters have been addressed in the Supplementary Report, this section highlights the issues raised in the submission (eg. the aspect of the project that is supported) and identifies the Submitter ID and stakeholder type.

No response section is provided for these submissions and no changes to the Draft EIS/MDP are proposed as a result of the issues raised.

Submitter Issues:

- Recognition and support for the New Parallel Runway in the context of the economic growth of the city, region and/or State (8/23).
- That the Draft EIS/MDP has comprehensively addressed relevant environmental and social impact issues and/or that information was well researched and presented (8/23).
- Recognition and support for the New Parallel Runway on the basis that it is critical to meet passenger air traffic capacity requirements for Brisbane (6/23).
- Opposition to imposition of a curfew or other operational restrictions at Brisbane Airport (6/23).
- General support raised by individuals from the community (5/23).
- Recognition and support of the specific importance of the Airport and New Parallel Runway to the tourism industry (3/23).
- Recognition and support that the New Parallel Runway is critical for freight export/import industries (1/23).

Raised by:

| | Community | Govt Agency | NGO | Elected Reps |
|--------------|--|-------------|--|--------------|
| Submitter ID | 2, 7, 8, 63, 64, 65, 73, 84, 96, 98, 240 | 153 | 24, 78, 111, 125, 149, 202, 204, 206, 221, 225 | 205 |
| Total | 11 | 1 | 10 | 1 |