Chapter 19 Economic

This chapter provides an overview of the potential economic impacts and benefits that may occur during operation of the project.

The refinements to the preliminary flight path design since the exhibition of the Draft EIS would not change the overall conclusions of the economic assessment as presented in this chapter and supporting technical paper. Further detail is provided in Appendix G (Assessment of the refinements to the project) of the EIS.

The study area for the assessment aligns with the N60 24-hour composite noise contour and extends across 8 local government areas (LGAs), including Camden, Blacktown, Blue Mountains, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly. The combination of these LGAs form the study area for the economic assessment study area.

The assessment of economic impacts is focused on:

- economic activity and employment in the LGAs
- property values and land use
- social and tourism
- facilitated changes.

Demand for aviation services is predicted to continue to increase to service Sydney's ongoing growth in population and business activities. Any shortage in capacity to meet the rising demand will affect the future economic growth, productivity, employment, lifestyle and amenity of the Sydney Basin. The operation of the proposed airport is expected to generate significant economic and employment effects for the local and regional economy. The project is an integral part of WSI, ensuring that the benefits of WSI are realised. These benefits will grow commensurate with the forecast increase in passenger demand over time.

Overall, WSI (and the associated flight paths that allow for its operation) will be a major catalyst for investment and jobs growth in the Western Sydney region and will deliver benefits to the Australian economy more broadly. WSI will provide direct connections across the world, allowing for opportunities to enhance Western Sydney's connection to other parts of the world economy. The operation of WSI will also allow for improved access to tourism opportunities, providing better accessibility to destinations across Western Sydney and the Greater Blue Mountains. New or upgraded transport infrastructure that would be built to service WSI would also provide benefit to local communities.

It is estimated that WSI itself will generate a significant number of jobs for Western Sydney and contribute significantly to gross regional product. Ernst and Young (2016) concluded as part of the 2016 EIS that airport operations would directly generate around 8,730 jobs in 2031 increasing to 61,500 jobs by 2063. It is noted that that these jobs would be generated by WSI itself and not specifically generated by the flight paths, however the project is an essential part of the overall operation of WSI.

The flight paths of the project have the potential to affect the tourism industry both positively (through increased tourist access) and adversely (if it results in loss in amenity to sensitive land uses). While the location of the flight paths over significant tourist destinations, in particular the Greater Blue Mountains, has the potential to negatively affect the amenity of tourist experiences in the area, either through the visual location of aircraft or the noise they will generate, the location and access to an international airport closer to these destinations is also expected to provide a boost to this industry. The increased access to key tourist destinations, in particular for tourists visiting areas such as the Greater Blue Mountains, is considered to outweigh the potential adverse amenity impact of the flight paths.

WSI and the proposed flight paths would impact the use of the airspace. Currently the area is used by Bankstown and Camden airports for flying training, emergency services and other operations. As a result of the facilitated changes required to accommodate WSI, greater distances would need to be travelled to reach new flying training areas resulting in increased 'transit' flight durations, extended training schedules and increased costs including increased flying training times and increased fuel and maintenance costs. The cost of this was estimated at around $15 million in 2026 increasing at a rate of around one per cent per annum.

Operation of the project may result in potential loss in property values for residential properties that may be more adversely impacted by the operation of the project. Total impact have been estimated at around $56 million loss in total residential values in 2033, increasing to a cumulative value of around $148 million by 2055 (measured in 2022 dollars). While the impact appears high it is important to realise that residential values in Western Sydney have increased considerably over the past 10 years. Dwellings within the N70 contour (and outside the ANEC 20) are expected to have a low level of impact resulting in a loss in residential values of 3 per cent average. Any impacts to property values are expected to be temporary and are not expected to have a significant long term negative impact. In all likelihood this loss would be 'made good' by 6 months growth in real capital gain.

Project-specific mitigations have been identified, including continuing consultation with aerodrome operators and airspace users during the ongoing airspace design for WSI to consider the impacts to operators at Bankstown and Camden airports. Consultation with emergency services operators regarding priorities of airspace in order to minimise risks and associated economic costs will also continue.

19.1 Introduction

The economic impact of the flight paths has been assessed in relation to the defined study area. The economic impact has been focused on the economic impacts on existing airspace users and balances this against the broader economic costs and benefits of the project. The assessment looks at the flight paths and their impact on employment and economic output, tourism impacts and property values within the study area. The assessment also details the net present value of the flight paths within the study area.

In 2016, JLL undertook an economic assessment of WSI as part of the previous 2016 EIS, which dealt with the economic impact of the physical airport and associated infrastructure within Western Sydney.

That assessment evaluated the potential impact on land and property values around WSI (Western Sydney Airport EIS – Potential impacts on property values (JLL, 2016)) and the economic impact of WSI (Western Sydney Airport Environmental Impact Statement – Economic Impact Analysis (Ernst and Young, 2016)). The property value impact assessment considered the impact associated with aircraft noise exposure and found that:

- previous studies found a relatively consistent adverse effect of aircraft noise on residential prices, of between 0.4 per cent and 1.1 per cent per unit of ANEF (Australian Noise Exposure Forecast), with a greater impact at higher ANEF levels and for higher priced properties
- none of the previous studies sought to explore the impact on large lot land holdings comparable to those around Badgerys Creek, where few existing dwellings fall within areas expected to be exposed to noise levels in excess of ANEF 20
- the analysis undertaken in the 2016 JLL study encompassed over 1,800 residential sales transactions for suburbs in the vicinity of 4 main Australian international airports found:
  - no statistically significant relationship between noise exposure and housing prices in Melbourne or Sydney
  - in Adelaide and Brisbane, noise exposure was a more significant factor influencing residential prices
  - in the case of Brisbane, prices for houses exposed to aircraft noise between 20 and 25 ANEI/ANEF, experienced a -10.7 per cent reduction compared with dwellings outside the noise affected area
  - in Adelaide, a statistically significant impact was found ranging from -8.3 per cent (20-25 ANEI/ANEF); -14.7 per cent (25-30 ANEI/ANEF); and -19.8 per cent (30-35 ANEI/ANEF) compared with prices in areas less than 20 ANEI/ANEF

- at Sydney (Kingsford Smith) Airport, analysis of long run house prices since 1991 found no appreciable difference in growth rate between median prices in suburbs subject to in excess of ANEI 20 (Australian Noise Exposure Index) and those in similar areas not exposed to aircraft noise. Possible reasons may be:
  - housing pressures restrict housing choices
  - the benefits of living close to the city outweigh possible noise effects in the minds of potential purchasers
  - noise attenuation measures to dwellings with above ANEI 20 may have reduced the impact of noise on residents
  - aircraft noise sharing protocols and rising ambient noise levels in many suburbs may reduce the perceived impact of noise
- examination of sales of large lot land holdings in the vicinity of Melbourne, Perth and Avalon airports failed to establish a statistically significant relationship between noise exposure and property prices. Possible reasons for the lack of clear effect may include:
  - the lesser significance of the dwelling in the context of large land areas, compared with established urban areas
  - land used primarily for primary production may be less affected by noise
  - the wider range of factors influencing price that cannot be analysed from the available sales data, e.g. aspect, topography, soil and micro-climate
- analysis of long run growth rates of residential sales in the suburbs around Badgerys Creek indicates that despite short term fluctuations, property prices have grown at a similar rate to the wider Western Sydney and metropolitan regions
- rather than suffering a slowing of growth as a result of possible fears of noise or other impacts, residential prices in the suburbs around Badgerys Creek grew strongly in the period following the announcement in April 2014 that Badgerys Creek would be the site of the proposed airport, increasing by almost 24 per cent and substantially faster than both Western Sydney and the Sydney metropolitan regions, although it is not possible to attribute this growth to the announcement
- overall, the analysis failed to establish conclusive evidence of an adverse impact on large lot land property prices as a result of aircraft noise at levels of 20-25 ANEF that would suggest the development of WSI may have a major adverse impact on property prices in the vicinity.

The assessment presented in this EIS focuses on the economic impacts of the project (being the introduction of flight paths for WSI). This assessment, in conjunction with other information sources, considers the land and property value assessment as presented in the 2016 EIS as it relates to the potential impacts arising from aircraft noise exposure.

19.2 Legislative and policy context

There is no specific legislation that guides economic impact assessments. The economic impact assessment was undertaken to address the Minister's EIS Guidelines and with reference to Airservices Australia's Environmental management of changes to Aircraft Operations Standard (AA-NOS-ENV2.100) (Airservices Australia, 2022b) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

19.3 Methodology

19.3.1 Study area

The economic impact assessment study area (study area) covers the local government areas (LGA) that align with the predicted composite N60 24-hour noise contour (as exhibited). The study area is shown on Figure 19.1.

The N60 24-hour composite noise contour shows the number of events over 60 decibels with a frequency of 10 or more movements over a 24-hour period, across any of the 3 runway operating scenarios considered in the noise assessment. This noise contour primarily extends across 8 LGAs, these being Camden, Blacktown, Blue Mountains, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly. For residential dwellings and population statistics, only those within the N60 24-hour contour have been reported.

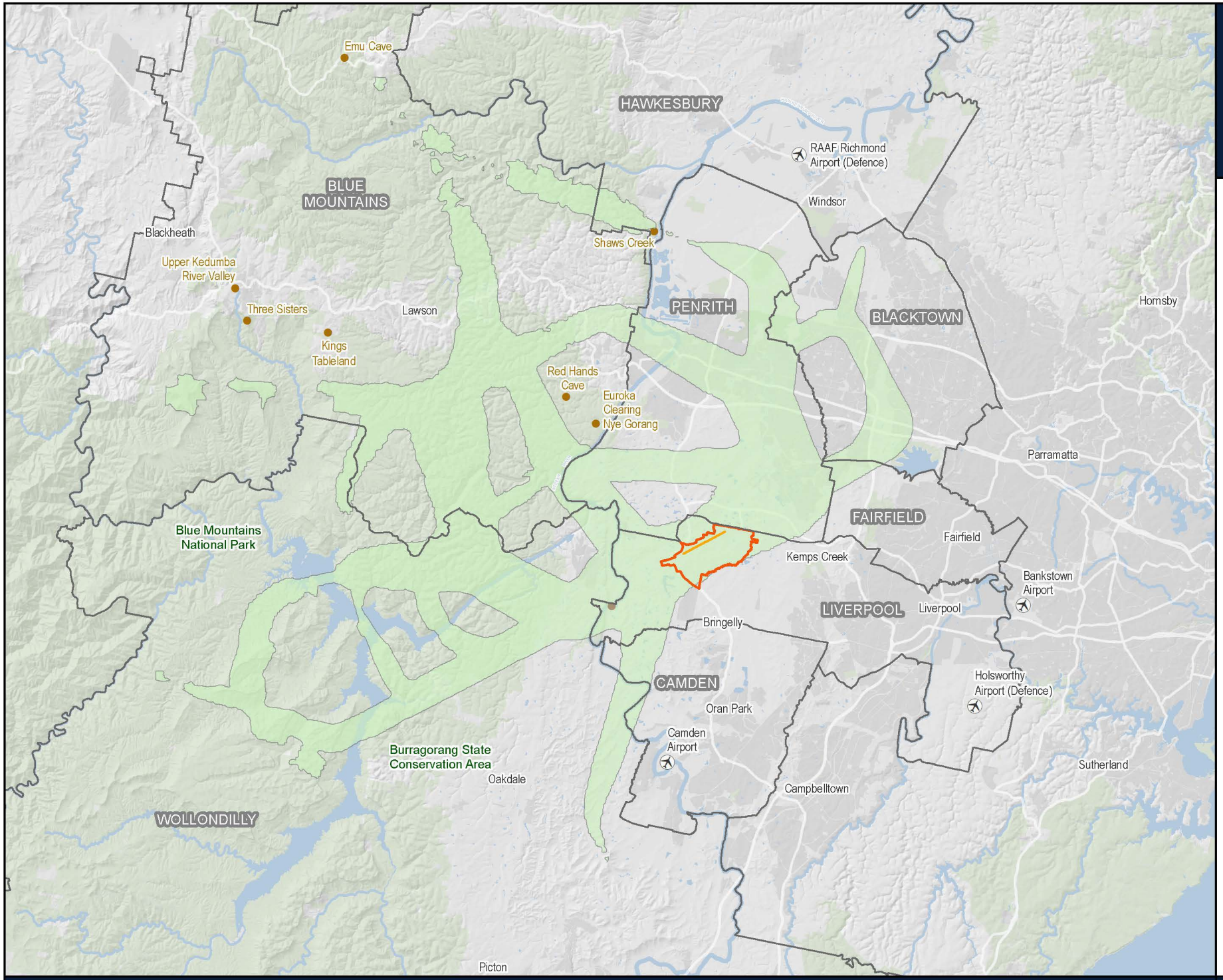

Figure 19.1

The economic study area

Legend

- WSI Runway
- Western Sydney International (Nancy-Bird Walton) Airport land boundary
- 2055 Scenarios 1,3 and 4 ANEC N60 contours 10 events
- LGAs covered by the N60 contour
- Aboriginal Places raised during consultation (NPW Act)
- Site of Aboriginal significance

0 3 6 km

Coordinate system: GDA 1994 NSW Lambert

Scale ratio correct when printed at A4

1:400,000 Date: 27/07/2023

19.3.2 Approach

The economic impact assessment methodology generally involved:

- reviewing the 2016 EIS (including supporting technical papers), other comparable economic impact assessments and technical papers that support this EIS
- describing the existing economic environment by reviewing:
  - the 2021 Australian Bureau of Statistics (ABS) census data for the 8 LGAs within the study area
  - land use zoning established under relevant environmental planning instruments (EPI)
  - databases or other sources of information to identify sensitive land uses or receptors, including sources maintained by Core List, the Australian institute of Health and Welfare, the NSW Department of Education, Data NSW, data was also collated from Profile.id and REMPLAN
- determining the land use types and/or sensitive receivers within the study area – including the number of residential dwellings, rural lots, population, health and educational uses, businesses from the 2021 ABS census grouped according to the Australian and New Zealand Standard Industrial Classification (ANZSIC) and workers by occupation
- assessment of impacts on property values, supported by 2016 EIS assessments and other similar studies to quantify the total impacts of the project on property values
- highlighting particular employment uses that may be impacted by aircraft noise, such as tourism land uses
- quantifying the impacts from the other technical reports including social impacts in monetary terms where possible (using surrogate markets, cost estimates of mitigation measures and/or other techniques)
- identification of appropriate mitigation and management measures to mitigate negative economic impacts or maximise benefits of the project.

For the purposes of this assessment, land uses or sensitive receivers are defined as:

- sensitive land use zones: residential (all zones), parkland, recreation, and conservation, agricultural and primary production
- sensitive receivers: educational establishments, early education and child care facilities, places of worship, residential care facilities, health facilities, accommodation providers, commercial office space, libraries, courthouses, cinemas and theatres.

19.4 Existing environment

19.4.1 Economic employment, activity and value

The ABS 2021 employment data provides an understanding of the employment structure and economic value of the study area. The analysis has considered employment, gross revenue output and gross value added within the study area and compared this to the Sydney Basin as defined by the ABS.

As of 2021, the study area accommodated around 427,550 jobs. This represented 18 per cent of the 2.39 million jobs in Sydney Basin and 12 per cent of the 3.67 million jobs in NSW. The top 5 largest industries in terms of job numbers were:

- Health care and social assistance (14 per cent of jobs)
- Retail trade (11 per cent of jobs)
- Construction (10 per cent of jobs)
- Education and Training (10 per cent of jobs)
- Manufacturing (9 per cent of jobs).

In 2021 gross output in the study area was $137.9 billion. This represented 16 per cent of the gross output of the Sydney Basin and 11 per cent of NSW.

The top 5 largest output industries in the study area, as of 2021, were:

- Manufacturing – $24.7 billion
- Construction – $24.4 billion
- Transport, Postal and Warehousing – $12.7 billion
- Wholesale Trade – $12 billion
- Rental, Hiring and Real Estate Services – $9 billion.

Based on the industries and employment present in 2021, it is estimated that the study area generated $58.10 billion in Gross Value Added (GVA). This represented 15 per cent of GVA generated across the Sydney Basin and 10 per cent of NSW's industry GVA in 2021.

The top 6 largest GVA industries in the study area, as of 2021, were:

- Construction – $7.7 billion
- Manufacturing – $7.3 billion
- Wholesale Trade – $6.1 billion
- Transport, Postal and Warehousing – $5.7 billion
- Health Care and Social Assistance – $5.5 billion.

The study area has a high representation of industries involved in construction, manufacturing, wholesaling, transport and warehousing. These industries comprise 32 per cent of all jobs compared to 22 per cent in the Sydney Basin. The study area has an underrepresentation of industries involved in information, media and telecommunications, financial and insurance services, rental, hiring and real estate services and professional, scientific and technical services.

19.4.2 Residential areas

Some of the most sensitive receivers to aircraft noise are residential uses. There are a number of residential properties throughout the study area and a large variation in the lot sizes and housing typology.

Rural-residential and rural areas broadly surround WSI. Residential areas in the vicinity of WSI include:

- the villages of Luddenham, Wallacia, Mulgoa and Cobbitty, with Luddenham village located immediately west of the Airport Site, and the residential estate associated with the Twin Creeks Golf and Country Club, located directly north of WSI
- residential suburbs to the west (such as Silverdale and Warragamba), north (such as Glenmore Park, St Clair, Erskine Park), east (such as Middleton Grange, Hoxton Park, Cecil Hills and Abbotsbury) and south (such as Oran Park and Camden).

Within the Greater Blue Mountains Area (GBMA), low density development is concentrated along ridgelines and alongside the Great Western Highway, with scattered apartment buildings (such as at Katoomba and Leura).

As detailed in Chapter 11 (Aircraft noise):

- around 132,000 people would reside in the areas that correspond with the N60 24-hour composite noise contour in 2033 and 175,000 people by 2055. This equates to a 33 per cent increase in people living within these areas
- around 5,100 people would reside in the areas that correspond with the N70 24-hour composite noise contour in 2033 and 13,000 by 2055. This equates to a 155 per cent increase in people living within these areas.

It is estimated that 50,000 private dwellings would be within areas that correspond with the N60 24-hour composite noise contour in 2033 and 65,600 by 2055. Of these total dwellings, it is estimated that:

- 75 per cent are detached houses
- 13 per cent are townhouses
- 11 per cent are apartment style dwellings.

19.4.3 Non-residential uses

The study area encompasses a number of non-residential uses including agribusiness, industrial, environmental and commercial. The most concentrated urban area is located to the north and north-east of the study area. These areas have a number of industrial and commercial buildings (including bulky good retail stores). The site area to the west encompasses the environmental conservation and tourist uses of the GBMA. The uses to the south and closer to the WSI site boundary are focused mainly on agribusiness such as cut flowers, turf and mushroom farms. These agricultural uses provide employment opportunities to Western Sydney.

19.4.4 Tourism

Due to the impact COVID-19 has had on the tourist numbers, data has been used from the 2018/2019 year for a more accurate representation of the tourist use within the study area. Economic impacts can be split into direct and indirect effects. The indirect effect is known as a multiplier impact. This multiplier effect covers any additional economic impact created as a result of the initial direct impact.

In 2018/2019, there were 24,960 jobs in the tourism industry within the study area, which presents 17 per cent of tourism jobs within the Sydney Basin. In addition to these directly employed positions, a further 20,160 jobs were generated and/or supported in production and consumption impacts, representing 14 per cent of all employment directly generated and/or supported by tourism activities across the Sydney Basin.

Tourism in the study area directly contributed a total of $1.79 billion to Greater Sydney's Gross Regional Product (GRP), representing 11.4 per cent of the Sydney Basin's total. A further $2.61 billion was generated and/or supported through multiplier impacts.

In 2018/19 the total number of tourists and visitors to the study area was estimated at just over 11 million. This represented 21.5 per cent of the 51.5 million tourists and visitors to the Sydney Basin and 9.6 per cent of NSW's tourists and visitors in that year. Of the total number of tourist and visitors to the study area, the largest category was domestic day visitors. They recorded 8.3 million visitors in 2018/19, representing 75 per cent of all visitors to the study area in that year.

The main tourist and visitor attractor within the study area is the Blue Mountains region with 4.6 million tourists and visitors being recorded in the locality in 2019. This represented 42 per cent of all tourists and visitors estimated to have visited the study area.

19.5 Assessment of impacts

Potential economic impacts to the study area are difficult to quantify from the flight paths themselves. It has been widely stated in the 2016 EIS that the airport building, and associated infrastructure provided a positive impact to Western Sydney. The flight paths are an integral component of WSI, and some quantifiable impacts are detailed within this section of the EIS.

19.5.1 Impacts on employment and economic output

WSI would generate a significant number of jobs for Western Sydney and contribute significantly to gross regional product. The conclusions from the economic impact assessment in the 2016 EIS was that airport operations would directly generate 8,730 jobs in 2031 increasing to 61,500 jobs by 2063.

Additional jobs on the Airport Site could be accommodated in retail, hospitalities, business park and airport related industries. The EY study estimated an additional 4,439 jobs in 2031 increasing to 27,148 jobs by 2063.

Further to this are indirect jobs that are generated and/or supported. There are 2 types of indirect jobs:

- production induced jobs that relate to industries in the supply chain (providing the inputs to the industries on the Airport Site)
- consumption induced jobs which relates to jobs meeting the demand for additional goods and services due to increased spending by the wage and salary earners arising from employment on the Airport Site.

An additional study, the *Western Sydney Airport Labour Market Analysis* (Ernst and Young, 2017), estimates further indirect jobs at 14,777 in 2031 and 23,428 in 2041.

Flight paths are a consequential impact of WSI itself and do not directly generate jobs or create economic value when considered in isolation. However, it is acknowledged that the project is an integral part of WSI, ensuring that the jobs and economic value of WSI are realised. At the same time, flight paths can affect house value or reduce gross regional product due to potentially negative impacts of the flight paths such as noise.

The study area currently accommodates around 428,000 jobs and significant growth is expected in jobs over the next several decades with another 180,000 plus jobs at WSI and in the Aerotropolis by 2063. This growth is expected regardless of the selection of flight paths.

19.5.2 Tourism impacts

WSI and the associated infrastructure generate the benefits to the tourism industry. The flight paths can potentially affect the tourism industry if it results in loss in amenity to sensitive land uses.

The location of the flight paths over the Greater Blue Mountains could negatively affect the tourist experience of the area either through the visual location of aircraft or the noise they generate. These impacts are further discussed within Chapter 11 (Aircraft noise), Chapter 15 (Landscape and visual amenity) and Chapter 18 (Social).

With respect to the potential impact on tourism due to aircraft noise and/or visual intrusion, it is noted that:

- the flight paths generally avoid the primary tourist destinations in the Blue Mountains. The main tourist area is the Upper Blue Mountains from Lawson to Mount Victoria with Wentworth Falls, Leura, Katoomba and Blackheath being the primary destinations for staying overnight and for daytime tourist activities such as sightseeing, bushwalking, adventure and other activities. Springwood in the mid-Blue Mountains is also a popular destination although to a lesser extent. Springwood is 3 km from the nearest N60 contour. In the Upper Blue Mountains, all the towns, lookouts and nearby bushwalks are more than 5 km from any N60 contour
- views of planes from WSI at the main lookouts would be very distant at more than 5 km away during the day and the number of flights would not be frequent
- flight paths to and from Sydney (Kingsford Smith) Airport currently fly over the Blue Mountains, albeit at higher altitudes
- flight paths are a necessary component of the operating airport. The selection of flight paths appears to have been done with the deliberate intention to minimise impacts to built-up areas, and communities in the townships in the Upper Blue Mountains have largely been avoided. However, it is acknowledged that parts of Blaxland, Warrimoo and Mt Riverview in the Lower Blue Mountains and a small area on the east side of Linden are inside the N60 contour
- there is no evidence or data that would implicate the flight paths as causing a loss to tourism in the Blue Mountains whether that be the number of overnight visitors, the number of day visitors or the level of enjoyment in undertaking tourist activities in the Blue Mountains including bush walking and camping.

Given the above, there would be no loss in tourism spend in the area and hence no impacts on the local economy. On the contrary, WSI itself provides some potential for positive impacts on tourism in the Blue Mountains due to its proximity.

19.5.3 Property values

One of the primary methods used to determine economic value change due to flight paths is through property values. The impact to property values is usually through a combination of social and economic impacts rather than a direct impact to the value simply because the flight paths exist. In this case, the noise impact on the amenity of a property is one of the deciding factors for value change.

The analysis for Brisbane Airport, Sydney (Kingsford Smith) Airport and Melbourne Airport indicates that property values are impacted negatively in the short term of airport construction and operation, but there were stronger land value gains for neighbouring properties in the years following operations commencing. Within international studies, most found some negative impact on residential properties but not for commercial or industrial properties, and that it generally showed that there would be no impact on residential property values for those located beyond the 60 dB(A) noise contour. In the 2016 EIS, the assessment by JLL (JLL, 2016) of the N60 and N70 contours on property sales price data showed lower levels of impact and were considerably less statistically valid. As there was a higher level of uncertainty with the results, it was excluded.

The value of commercial, industrial and employment related land uses are considered to be less impacted than residential uses. The non-residential uses are likely to find an increase in value due to the boost in economy that WSI itself brings. This benefit outweighs the impact from the noise associated with the aircraft flight paths.

In the 2016 EIS, JLL derived the potential impact of noise on property values by land use type based on the analysis of the Brisbane and Adelaide airports and other supporting studies. The JLL study did not find any statistically significant relationships between noise exposure and housing prices in Melbourne and Sydney. At Sydney (Kingsford Smith) Airport, analysis of long run house prices since 1991 found no appreciable difference in growth rate between median prices in suburbs subject to 20 ANEI/ANEF or more and those in similar areas not exposed to aircraft noise. Examination of sales of large lot land holdings in the vicinity of Melbourne, Perth and Avalon airports failed to establish any statistically significant relationship between noise exposure and property prices.

In the 2016 EIS, JLL estimated the percentage discount on residential properties having primary consideration to the statistically significant results from the Brisbane and Adelaide airports, with support from academic literature and professional studies (refer to Table 19.1). This found a decrease in values for residential properties within the ANEI/ANEF 20-25 contour and above have an average loss of between 9.5 per cent to 19.8 per cent.

Table 19.1 Summary of assessment of noise impact on property values by land use type (JJL, 2016)

Land use	ANEI/ANEF 20-25	ANEI/ANEF 25-30	ANEI/ANEF 30-35
Residential	-9.5%	-14.7%	-19.8%
Large lot land holdings	No discernible impact	No discernible impact	No discernible impact

For WSI, only 0.5 per cent of properties in the study area are located within this ANEI/ANEC boundary. An earlier study by JLW Advisory in 1997 (for the Badgerys Creek Airport EIS) concluded a 3 per cent reduction in residential values in the ANEC 15 to ANEC 20 range (which for this study has been approximated to the N70 (24-hours) contour).

Using the above assumptions, the total loss in value of residential property is forecast as follows:

- Year 2033: $56m
- Year 2040: $77m
- Year 2055: $148m.

The above impacts are cumulative (and hence should not be added together). Total impact is a $53 million dollars loss in total residential values in 2033 increasing to a cumulative level of $148 million dollars by 2055 (measured in 2022 dollars).

While the impact appears high, it is important to recognise that residential values in Western Sydney have increased considerably over the past 10 years. Following the announcement of the location of WSI at Badgerys Creek in April 2014, residential prices in the suburbs around Badgerys Creek increased by almost 24 per cent and substantially faster than both Western Sydney and the Sydney Metropolitan regions. The median house price in Blacktown and Penrith LGAs have both increased by 130 per cent (more than doubled) since September 2012 (NSW Department of Communities and Justice, 2023). When converting the median house price in 2012 into 2022 dollars (using the CPI index) real growth remains high at 80 per cent. This calculates to an average real growth rate of 6.3 per cent per annum. Further, these are the maximum impacts that can be expected.

As outlined in Chapter 11 (Aircraft noise), a noise insulation and property acquisition (NIPA) policy would be implemented for eligible properties.

19.5.4 Social impacts

Social impacts were covered in Technical paper 10: Social. Social impacts include:

- changes to community composition and cohesion
- increased inequality (as lower income households are likely to be more impacted)
- loss of residential amenity
- use and enjoyment of social infrastructure (such as parks).

All these impacts (with exception to increased inequality) can be quantified by loss in residential land values since land values reflect the desirability of living in the area. There are other social impacts identified but quantifying these are difficult and includes impacts such as impact on cultural heritage (Aboriginal and historic). In some incidences, impacts can be mitigated, such as noise impacts on children's education which can be mitigated by noise insulation measures. The cost of these measures can be internalised in any quantitative assessment – that is they can form part of the capital cost whether it be for new buildings or existing buildings.

19.5.5 Economic impacts to Bankstown and Camden airports

Due to the introduction of flight paths for WSI, there will be a change in the overall airspace configuration within the Sydney Basin available for Camden and Bankstown Airports. According to Aeria Management Group (the airport operator) during the preparation of the Draft EIS, both airports will contribute around $1.6 billion and around 10,000 jobs by 2024/2025. Transport for NSW (2022) and .id Consulting Pty Ltd (2022) indicate there are around 3,500 jobs at Bankstown Airport, and around 350 people work in retail and food services on the fringe sites.

Both airports provide essential flying training capacity in the context of the global shortfall in pilots. Pilot shortages can constrain the economy with wide ranging impacts. Flying training at Bankstown and Camden airports provides capacity for more than 600 student pilots per annum. The trainee pilots use 3 flying training areas within the vicinity of WSI. With the introduction of the proposed airspace design, these flying training areas are anticipated to be restricted to the residual portions of the flying training areas as well as 2 possible areas to the north and south of the Sydney Basin. This means that the pilots would need to travel further to reach the new flying training areas which would translate to increased "transit" flight durations, extended training schedules and increased costs including increased flying training times and increased fuel maintenance costs.

The majority of training flights for the CASA Recreational Pilot Licence (RPL) are based on a one hour start-up to shutdown sortie length. According to operators at Bankstown Airport this is likely to increase to 1.2 hours due to longer transit times to and from what is anticipated to be the new training area resulting in a marginal cost of $91.80 per lesson. Training flights for the issue of a CASA Private Pilot Licence (PPL) would increase flight time by around 10 per cent at a marginal cost of $50.60 per lesson. Joy flight sorties would face an increase in flying time of approximately 20 per cent at a marginal cost of $222.

This assessment has assumed that half of all aircraft movements (being around 150,000 per annum) are affected by extending flight times at an average cost of $100, resulting in around $15 million in additional costs each year. This would increase over time with rising demand at around one per cent per annum.

The EIS has identified future possible flying training areas for use by the local General Aviation community. These possible training areas have been the subject of consultation by Aeria Management Group, the owners of Bankstown and Camden Airports, who have committed to working with the local General Aviation community to refine the details of these areas and have them promulgated in time for the opening of WSI. The final proposed detail and ultimate procedures will not be confirmed until completion of a separate airspace change proposal, depending on the extent of the change.

There are several emergency service operators including, NSW Police, NSW Ambulance, AirMed, Royal Flying Doctor and Fire and Rescue NSW. Aircraft participating in a Search and Rescue (SAR), Medical (MEDEVAC), or Fire and Flood Relief (FFR) flights shall be granted priority as necessary (Airservices Australia, 2022a).

19.5.6 Net present value

Net Present Value is how much an investment is worth throughout its lifetime, discounted to today's value. The 2016 EIS estimated a Net Present Value of negative $308 million for the flight paths presented in that EIS.

It is important to recognise that the flight paths are a necessary component of WSI itself, and WSI generates huge benefits to Western Sydney, Sydney Basin and NSW. The economic and financial impact of the flight paths cannot be separated from that of the broader airport project. There will be a total of 8,730 jobs in airport operations in 2031 increasing to 61,500 by 2063 (Ernst and Young, 2016). These jobs will provide a range of services in airport administration, retail, food services, travel services, customs and other government services, airline operations, freight, baggage handling, security, etc. There will be further jobs on the Airport Site in airport related businesses, industrial, commercial office jobs, food and hotel services and the like. At an average GVA of $135,000 per worker in airport operations and $102,000 per worker in other services on the Airport Site total GVA generated in Year 2033 is expected to be $1.976 billion increasing to $8.3b in Year 2055. The net present value of GVA over a project life out to 2055 is estimated at $45 billion dollars – 147 times higher than the NPV of the total quantified costs.

This GVA excludes GVA from other businesses outside WSI in the Aerotropolis, as well as any input/output multiplier impacts. Inclusion of these impacts would further increase the GVA.

19.6 Mitigation and management

19.6.1 Project specific mitigation measures

The below mitigation measures have been identified (refer to Table 19.2).

Table 19.2 Proposed mitigation measures – economic

ID No.	Issue	Mitigation measure	Owner	Timing
E1	Existing airspace users	DITRDCA will continue to consult with aerodrome operators and airspace users at Bankstown and Camden Airports regarding airspace requirements in order to minimise risks and associated economic costs.	DITRDCA	**Pre-operation** (Detailed design, 2024–2026)
E2	Emergency services	DITRDCA and Airservices Australia will continue to consult with emergency services operators regarding priorities of airspace in order to minimise risks and associated economic costs.	DITRDCA and Airservices Australia	**Pre-operation** (Detailed design, 2024–2026) and **Operation** (Implementation, 2026–ongoing)