

23. Social

The Western Sydney region is diverse, with densely populated and highly urbanised areas, as well as semi-rural, recreational and natural areas. The region is culturally diverse, with strong heritage values (both Indigenous and non-Indigenous), cohesive communities, natural and recreational values, and connections to the employment hubs of the Parramatta and Sydney CBDs.

The major employment, residential and transport infrastructure projects proposed for Western Sydney demonstrate the critical role the Western Sydney region plays in Sydney's future. The proposed Western Sydney Airport will be a significant catalyst for increased and faster growth for both Western Sydney, and Greater Sydney more broadly.

The proposed airport has the potential to bring significant benefits to the people and economy of Western Sydney. The majority of benefits for Western Sydney and Greater Sydney communities are expected to relate to economic development and employment opportunities. The project would create jobs for many types of workers of various skills and qualifications, contributing to increased incomes across the Western Sydney region. This report's recommendation to develop a Local Participation Plan as part of an Australian Industry Participation Plan would aim to ensure a high level of local and regional community involvement in the development of the proposed airport. As a facilitator of growth and change in Western Sydney, the proposed Western Sydney Airport would stimulate further development in regional and local centres, providing better quality social infrastructure, such as shops, health services, recreation and leisure services. Additionally, the development of training opportunities in the region undertaken by the state government and local governments would encourage innovation and the creation of new small and large businesses supporting the proposed airport development.

The construction and operation activities of the proposed Western Sydney Airport would be likely to result in changes to the social amenity and lifestyle of communities both in the vicinity of the airport site, and in Western Sydney more broadly. The rural character of the area would change with the development of the airport, and nearby properties would be impacted by noise. When considered with other employment initiatives taking place in the region, the opportunities for positive change and improved socio-economic outcomes for Western Sydney are significant.

23.1. Introduction

This chapter assesses the likely social impacts of the construction and operation of the Stage 1 development of the proposed Western Sydney Airport (the proposed airport). This chapter draws on a comprehensive social impact assessment, as well as relevant sections of the economic impact assessment, both of which are included as Appendix P1 in Volume 4. The potential social impacts of the Stage 1 development on the communities of Western Sydney are assessed and mitigation and management measures are identified to reduce potential impacts.

The assessment has been carried out in accordance with the *Guidelines for the Content of a Draft Environmental Impact Statement – Western Sydney Airport* (EIS guidelines) for Western Sydney Airport.

23.2. Methodology

The following tasks were undertaken in the preparation of the social impact assessment:

- identification and definition of the social area of influence (the study area) including communities and regions likely to be affected by the proposed airport;
- development of an appreciation of the existing social, economic and cultural characteristics and dynamics of the communities within the study area to establish a social baseline on which potential social impacts could be predicted;
- identification of potential benefits and impacts of the proposed airport on the study area communities and an assessment of these impacts in terms of the likelihood and consequence of their occurrence; and
- development of mitigation and management strategies to avoid or minimise potential adverse impacts and maximise benefits to communities.

23.3. Existing environment

The study area has been considered at the following scales:

- **Airport site:** this is defined as the area within the project site boundary.
- **Local study area:** this is defined as the communities surrounding the airport site and those that may experience more impacts from the proposed airport. The local study area includes Arndell Park, Austral, Badgerys Creek, Bringelly, Chatsworth, Cobbitty, Eastern Creek, Erskine Park, Glenfield, Greendale, Horsley Park, Kemps Creek, Leppington, Luddenham, Mount Vernon, Mulgoa, North St Marys, Orchard Hills, Penrith, Prospect, Rossmore, Silverdale, South Penrith, St Clair, St Marys, Theresa Park, Wallacia, Werombi and Werrington.
- **Western Sydney region:** the regional study area is defined as the area and communities which may potentially experience a high level of social interaction with the proposed airport. The regional study area was identified in line with the planning regions surrounding the proposed airport as determined by NSW Government in *A Plan for Growing Sydney 2014* (NSW Department of Planning and Environment, 2014). For the purpose of this assessment, the regional study area includes the local government areas (LGAs) within the following three subregions of Sydney:
 - **South West subregion:** – includes Camden, Campbelltown, Fairfield, Liverpool and Wollondilly LGAs;
 - **West subregion:** includes Blue Mountains, Hawkesbury and Penrith LGAs; and
 - **West Central subregion:** includes Auburn, Bankstown, Blacktown, Holroyd, Parramatta and The Hills LGAs.

Greater Sydney metropolitan area: this wider area of influence is the area from which some goods, services and workforce are anticipated be sourced for the Stage 1 development.

23.3.1. Airport site

The airport site is located at Badgerys Creek in the Liverpool LGA. The northern boundary of the airport site adjoins the Penrith LGA boundary. The study area is situated about 50 kilometres west-southwest of the Sydney CBD. The suburb of Badgerys Creek can be accessed from the north via Elizabeth Drive or The Northern Road, both of which are main roads in this area. Kemps Creek and Luddenham are the closest retail centres. Some minor additional land acquisitions may be required to support the development and operation of the proposed airport.

23.3.2. Land ownership

The airport site is around 1,700 hectares in size and located on land acquired by the Australian Government in the 1980s and 1990s. Since the land was acquired, the Australian Government has been leasing properties to private tenants, and a property management agency has been contracted to manage the properties.

23.3.3. Existing land uses

The key existing land uses on the airport site, prior to the tenant relocation process, are outlined below:

- 139 residential tenancies ranging in area from approximately one to 40 hectares each;
- 16 agricultural tenancies including market gardens growing cucumber, strawberry, Asian herbs and tomatoes, and livestock farming including poultry and cattle grazing;
- eight commercial tenancies including the operator of a shale quarry, vineyard and a Christmas tree farm;
- The former Badgerys Creek Primary School, which was closed by the NSW Department of Education and Communities in December 2014;
- Badgerys Creek Park;
- Two cemeteries (St Johns Anglican Church and Badgerys Creek Uniting Church); and
- A Scout hall located on Elizabeth Drive.

23.3.4. Social characteristics

Consistent with the semi-rural location of the site and the Australian Bureau of Statistics (ABS) data for Badgerys Creek, dwellings on the residential tenancies were generally separate houses. The tenancies included a range of household types, including families with children, couples without children, and single households. Tenants were primarily from English speaking backgrounds, with some people from Italian and Maltese backgrounds.

Some tenants were over 65 years of age, a proportion of which were on aged pensions or disability pensions. This is supported by the lower rate of labour force participation for Badgerys Creek (49 per cent) compared to the wider Liverpool local government area (58 per cent).

Of the 139 residential tenancies, 38 were long term tenants who had been living in the same property for 20 years or more and six tenancies were original land owners who had been leasing properties on the site since they sold to the Australian Government.



The occupations of tenants varied, from those who were self-employed and worked from home, or worked on the land (i.e. agriculture), to professionals, contractors and truck drivers. This is reflected by the employment profile for Badgerys Creek, with the top industries of employment being construction (13.3 per cent), agriculture (9.8 per cent) and transport and warehousing (9.2 per cent). The top occupations were managers (18.5 per cent), labourers (16.8 per cent) and technicians and trades (16.8 per cent).

23.3.5. Western Sydney region

The existing communities of the Western Sydney region are diverse; from densely populated and highly urbanised areas, to semi-rural, recreational and natural areas. Many communities are known for their cultural diversity, heritage (both Aboriginal and European), strong and cohesive communities, and recreational values. The Western Sydney region has a number of employment hubs such as Parramatta and Liverpool CBDs and has major transport connection within the region and to other parts of Greater Sydney.

The major employment, residential and transport infrastructure projects proposed for Western Sydney, such as the Western Sydney Infrastructure Plan, the South West Priority Growth Area, the Western Sydney Employment Area and the proposed airport, demonstrate the critical role the Western Sydney region will play in Sydney's future. As outlined in Chapter 2, these projects will support each other. The proposed airport will accelerate investment in employment, transport, housing infrastructure, while the Western Sydney Infrastructure Plan and other projects will provide the necessary infrastructure to support the development of the proposed airport. The proposed airport, along with the other projects in the Western Sydney region, has the potential to bring significant change to Western Sydney communities.

23.3.6. Employment growth

A Plan for Growing Sydney (DP&E 2014) focuses heavily on the role of Western Sydney in driving the growth of Sydney and NSW over the coming decades. Along with the development of the region more broadly, the emergence of Parramatta as Sydney's second CBD will further increase Western Sydney's national and metropolitan influence. The NSW Government proposes that, as well as an employment hub, Parramatta will become an education hub, with the Western Sydney University currently developing a new campus in the CBD, and plans to increase the capacity of the campus at Rydalmere. Adjacent to Parramatta, the Westmead Health precinct is one of the largest integrated health, research, education and training precincts in the world. Parramatta CBD will link with the Global Economic Corridor which will link Port Botany and Sydney (Kingsford Smith) Airport to the future employment hubs at Norwest and Sydney Olympic Park.



Providing more jobs in Western Sydney is a key requirement to providing liveable and healthy communities. Although half of Sydney's population lives in Western Sydney, only a third of Sydney's jobs are located in the region, leading to long commutes for many workers. This will be particularly important given the demand for employment in Western Sydney is expected to increase faster than overall demand for employment in Greater Sydney. By 2025, the total labour force (persons aged 15 to 64 years) of Western Sydney is expected to be 1,609,401 persons, increasing to 1,744,955 persons by 2030 and 2,664,991 persons by 2065. This is equivalent to an increase of approximately 66 per cent between 2025 and 2065. The total labour force for Greater Sydney is expected to be 3,297,664 by 2025, 3,522,912 persons by 2030 and 5,016,069 by 2065, which is equivalent to an increase of approximately 52 per cent over the same period (SGS Economics and Planning 2015).

Employment areas will be key contributors to providing new jobs to meet this projected demand. The Western Sydney Employment Area is planned to be a major contributor to the economic development of Western Sydney. Western Sydney Employment Area has been established to provide businesses with land for industry and employment, particularly transport and logistics, warehousing and office space. It is located close to major roads and utility services, and is near the airport.

The Western Sydney Employment Area is expected to have capacity for more than 57,000 jobs over the next 30 years, and 212,000 jobs in the long term. The Western Sydney Employment Area has also been extended to the south to Elizabeth Drive, and to include land to the west of the proposed airport site.

23.3.7. Population growth

23.3.7.1. New release areas

Many areas in Western Sydney have experienced a significant amount of development and growth over recent years. This is expected to continue, as new areas in Western Sydney are developed, and population density intensifies around regional and town centres.

The population of Western Sydney is expected to grow significantly. By 2030, the population is expected to increase by 29 per cent to 2,734,565 persons (SGS Economics and Planning 2015). Significant new development is required to support this expected population growth. Housing affordability was noted by most stakeholders during consultation for the social impact assessment as a key growing issue for communities in the regional study area.

Two key growth areas in Western Sydney are the North West and South West Priority Growth Areas, which were established by the NSW Government in 2005 to sustainably plan Sydney's growth on its urban edge. It is anticipated that the growth areas, when considered together, will become home to half a million people over the next 25 to 30 years.



The North West Priority Growth Area covers around 10,000 hectares across The Hills, Blacktown and Hawkesbury local government areas with capacity for 70,000 new dwellings and up to 200,000 people (NSW Department of Planning and Environment 2011). The North West Priority Growth Centre will support the Rouse Hill Town Centre which has been identified in *A Plan for Growing Sydney* as a strategic centre, and has been developed in recent years with a large shopping centre and key services (e.g. public library and community centre). In the future, Marsden Park will be developed as a new strategic centre within the North West Growth Centre.

The South West Priority Growth Area is located across the Liverpool, Camden and Campbelltown local government areas. Covering approximately 17,000 hectares, the South West Growth Centre has capacity for up to 110,000 new dwellings and 300,000 people (NSW Department of Planning and Environment 2011). The South West Priority Growth Area will support a new strategic centre at Leppington. Recent developments within the South West Priority Growth Area include Oran Park, which supports a town centre including shopping centre, and will soon include a new library, community centre, and administration building for Camden Council. Edmondson Park is another recent area which will provide a new town centre around a bus and rail interchange.

The NSW Government is also investigating releasing land for new residential development in the Greater Macarthur region, which is located in the Campbelltown and Wollondilly local government areas. The investigation will consider the impacts of new urban areas on the environment, agricultural and mining activities, as well as how new communities would access jobs, services and amenities. The investigation will also consider existing planning proposals for land release in areas within the Greater Macarthur region (NSW Department of Planning and Environment 2011). This includes Wilton Junction, which is proposed to include a new town centre, with a population of over 30,000 people (Wilton Junction Consortium 2015).

23.3.7.2. Urban renewal

The renewal of established areas is also a key strategy for the NSW Government to provide increased housing and jobs in Sydney, with the focus on transport corridors and around strategic centres. A number of areas in Western Sydney have been identified as priority urban renewal areas including:

- **Glenfield to Macarthur priority urban renewal corridor** – located in Campbelltown local government area, with the area around seven train stations being investigated for redevelopment and provision of new homes.
- **Greater Parramatta to Olympic Peninsula priority urban renewal area** – located across the Parramatta and Auburn local government areas, work has already begun on revitalising Wentworth Point and Carter Street, and plans are being developed for Camellia.

23.3.8. Major transport infrastructure projects

A number of major transport projects are in various stages of planning and construction throughout Greater Sydney, which will connect Western Sydney to various centres and the central business districts of Parramatta and Sydney City.

23.3.8.1. South West Rail Link

The South West Rail Link was delivered in response to population growth and reliability issues on the metropolitan rail network in south-west Sydney. The South West Rail Link opened to the public in early 2015 and included a major upgrade of the existing station at Glenfield, and a new twin track passenger rail line between Glenfield and Leppington.

The NSW Government is also currently preserving additional public transport corridors for future extensions of the South West Rail Link. The extension corridor is proposed to connect Leppington Station to Bringelly, and then head into two different directions: north via the airport site to the T1 Western Line near St Marys; and south to Narellan in the Camden local government area. The NSW Government is also considering extending the corridor further south to the T2 South Line near Campbelltown.

The extension will provide a north-south connection through the South West Priority Growth Area and Western Sydney Employment Area including the proposed Western Sydney Airport. New stations are proposed for Rossmore, Bringelly, North Bringelly, Oran Park, Narellan and at the proposed Western Sydney Airport (Transport for NSW 2015).

23.3.8.2. Western Sydney Infrastructure Plan

Under the Western Sydney Infrastructure Plan, the Australian and NSW governments are investing \$3.6 billion in a number of road upgrades and new roads in Western Sydney to support the proposed airport and improve road connections in Western Sydney. The package includes:

- upgrade of The Northern Road to a minimum of four lanes from Narellan to Jamison Road;
- construction of a new east-west motorway to the airport between the M7 Motorway and The Northern Road;
- upgrade of Bringelly Road to a minimum of four lanes between The Northern Road and Camden Valley Way;
- construction of the Werrington Arterial Road between the M4 Motorway and the Great Western Highway;
- upgrade of Ross Street and the Great Western Highway intersection at Glenbrook; and
- a \$200 million package for local roads upgrades.

Together, the package of new roads and upgrades aims to ease congestion and relieve pressure on existing roads while improving connections between major hubs (DIRD 2015).

23.3.8.3. Outer Sydney Orbital

The Outer Sydney Orbital is a corridor being investigated by the NSW Government to provide a north-south connection for a future motorway, freight rail, and where practical a passenger rail line. The corridor would provide increased capacity for the road network to improve accessibility to housing and employment, and the freight rail would connect from Port Kembla to the South Line, Western Line and Northern Line. The area under investigation starts at the North West Priority Growth Area in the north, finishes in the south near Picton in Wollondilly LGA, and travels to the west of the proposed airport site.

23.4. Assessment of impacts during construction

The direct and indirect impacts associated with the construction of the Stage 1 development on people's lifestyle and social amenity are outlined in this Section. These issues are outlined below and include a reference to the relevant EIS chapters where the associated direct impacts are addressed:

- Economic and employment (see Chapter 24);
- Transport and access (see Chapter 15);
- Landscape and visual character (see Chapter 22);
- Air quality (see Chapter 12);
- Health (see Chapter 13); and
- Hazards and risk (see Chapter 14).

23.4.1. Economic and employment benefits

Economic benefits from the Stage 1 construction activities would be substantial, through the demand for goods and services. Over the construction period (2016-2024) the cumulative value-add from the construction of the Stage 1 development is expected to be \$1.9 billion for Western Sydney and an additional \$400 million for the rest of the Greater Sydney region. This includes direct spending from the development of the proposed airport, spending from industries supplying the proposed airport, and flow-on benefits.

The Stage 1 construction would generate a large number of direct, indirect and induced jobs. Direct jobs are those that are entirely related to, and dependent on, the construction of the proposed airport. Indirect jobs are those businesses which supply goods and services to the proposed airport. Examples might include suppliers of material, engineering services, heavy vehicle drivers, waste management services and others. Further to this are the induced jobs that would be created by the expenditure from construction employees. This could be through expenditure at retail stores, restaurants and professional services which would result in the creation of new job opportunities.

During construction, the direct jobs would be anticipated to require skills in:

- Non-Residential Building Construction – construction of non-residential buildings such as hotels, motels, or other buildings;
- Heavy and Civil Engineering Construction – construction or general repair of roads, bridges, aerodrome runways or parking lots; and
- Construction Services – a range of services provided as part of construction activities, including installation, finishing, management and others.

In presenting construction employment figures, this draft EIS uses two measures: peak workforce and person-years:

- Peak workforce is based on the actual workforce required to implement the indicative construction schedule discussed in Chapter 6. The peak workforce represents the highest number of jobs that will be in existence in a single year.
- Person-years provides a measure of the workforce effort required and is a measure which takes into account the number of people employed full-time and the length of the employment period. For example, five person-years of employment could be one person employed full time for five years or five different people working full-time in different roles of one year each. Person-years provides a basis for understanding the cumulative employment impact over the construction period (notionally from 2016-2024).

The estimated peak workforce required during Stage 1 construction would be 758 full-time equivalent (FTE) jobs in 2022. Cumulatively, the proposed airport would generate direct employment for approximately 3,200 person-years, as well as indirect and induced employment for 8,000 person-years over the construction period between 2016 and 2024 in Western Sydney. During the construction period, the proposed airport would generate an additional 2,200 person-years in the rest of Sydney.

23.4.2. Transport and access

The transport and access assessment (refer to Chapter 15) found that the proposed airport would lead to an increase of traffic on the local road network during construction. The major roads surrounding and connecting to the site include the M7 Motorway, The Northern Road, Elizabeth Drive, Bringelly Road, Badgerys Creek Road, Adams Road and Mamre Road. The assessment found that the existing road network currently experiences capacity constraints during peak periods, however the immediate area surrounding the site does not currently have significant traffic congestion.

The construction phase would lead to an increase of construction traffic on the road network surrounding the site compared to the existing situation with up to an additional 1,254 vehicle movements per day. The expected distribution and volume of construction traffic suggests that there would be approximately 160 additional vehicle movements (to and from the airport site) on Elizabeth Drive during the AM peak and 150 additional vehicle movements (to and from the airport site) on Elizabeth Drive during the PM peak.



Modelling indicates that this level of additional traffic volume would not result in operating conditions worse than Level of Service C on Elizabeth Drive in the vicinity of the airport site. There would be capacity constraints on the wider network, principally on the M4, M5 and M7 motorways, however:

- these constraints currently exist;
- the Level of Service does not deteriorate when construction traffic is included; and
- the proportion of construction traffic compared to overall traffic reduces with distance from the airport site and therefore the impact of construction is reduced with distance from the site.

It is expected that there would be a minor impact on the semi-rural lifestyles of residents in properties surrounding the site due to increased vehicles on the road. This may be associated with a decrease in air quality. There is not expected to be a perceptible noise impact (refer Chapter 11).

23.4.3. Landscape character and visual

The landscape and visual assessment (see Chapter 22) identifies that the construction of the Western Sydney Airport would result in landscape changes at the site. The assessment indicates that there would be varying levels of impact on different communities depending on their distance and elevation from the airport site, and their cultural and recreational values.

The proposed airport development would involve substantial modification of the landscape and the existing rural visual quality in the area to a more urbanised and commercial character. Construction would likely have the most visual impacts on areas to the north such as Luddenham and Elizabeth Drive due to their relatively close proximity to the airport. Surrounding rural residential areas at higher elevations such as Mount Vernon, Silverdale and Rossmore would experience moderate to low visual impact due to their views of the airport site.

23.4.4. Air quality

The air quality impacts assessment (see Chapter 13) identifies that construction air quality impacts are expected to be temporary and isolated in nature. Standard mitigation measures are proposed to reduce potential impacts.

23.4.5. Health

A human health impact assessment (see Chapter 13) identifies the likely impacts of the construction of the Western Sydney Airport on human health. There are a number of potential pathways by which the airport development may influence human health, and the assessment focussed on the key issues of air quality, noise and surface water and groundwater.

The assessment concluded that there would be minimal impacts on human health during construction. Mitigation measures proposed in the EIS would minimise health impacts on people surrounding the airport.

23.4.6. Social infrastructure

It is anticipated that construction of the proposed Western Sydney Airport would not generate demand for social infrastructure in the areas near the airport site. Because of the local and temporary nature of construction work, it is anticipated that the workers will be residents of the Western Sydney or the Greater Sydney Metropolitan region and will access social infrastructure facilities and services at their area of residence. The development of the proposed airport would also result in the removal of Badgerys Creek Park during construction.

23.4.7. Emergency services

The lead construction contractor of the airport would be expected to develop and implement safety protocols including an Emergency Response Plan in collaboration with all NSW emergency services. The Department of Infrastructure and Regional Development is also currently preparing a Bushfire Management Plan for the site. It is anticipated that these plans would cover emergency response, first aid and basic medical services, fire prevention, firefighting equipment, and security.

23.5. Assessment of impacts during operation

The indirect impacts associated with the operation of the Stage 1 development on people's lifestyle and social amenity are outlined in this Section. These issues are outlined below and include a reference to the relevant EIS chapters where the associated direct impacts are addressed:

- Economic and employment (see Chapter 24);
- Noise (see Chapters 10 and 11);
- Air quality (see Chapter 12);
- Health (see Chapter 13);
- Transport and access (see Chapter 15); and
- Hazards and risk (see Chapter 14).

23.5.1. Economic and employment benefits

During Stage 1 operations, economic and employment benefits are expected to increase commensurate to passenger movements at the proposed airport. In 2031 (roughly aligning with the end of Stage 1), the proposed airport is forecast to generate demand for 8,730 FTE jobs in airport operations and a further 4,440 FTE jobs in the expected commercial development in business parks on the airport site in 2031. The operation of the proposed airport is also forecast to generate approximately \$77 million in value-add for Western Sydney and a further \$145 million in value-add for the rest of Sydney in 2031.

In addition, the operation of the proposed airport would drive growth in business profits, productivity and household income in the region and is expected to drive the redistribution of population and employment growth towards Western Sydney. In this way, the proposed airport would shape investment in the region and contribute to a more balanced and sustainable growth for Sydney as a whole.

23.5.2. Noise

The proposed airport would result in an increase in exposure to aircraft noise in Western Sydney due to additional aircraft flight paths and airport operating modes. The Stage 1 noise impact assessment is presented in Chapters 10 and 11 of the EIS.

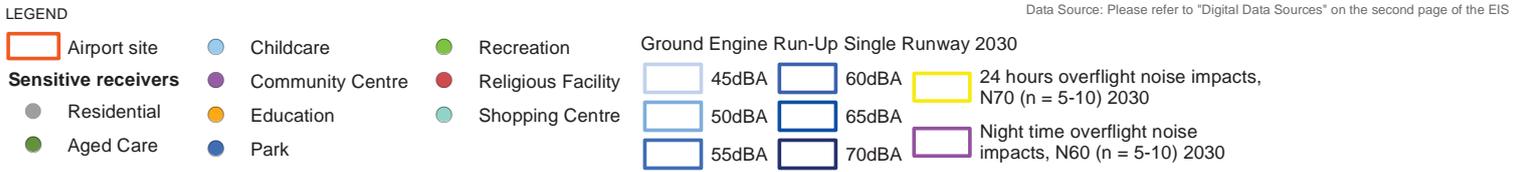
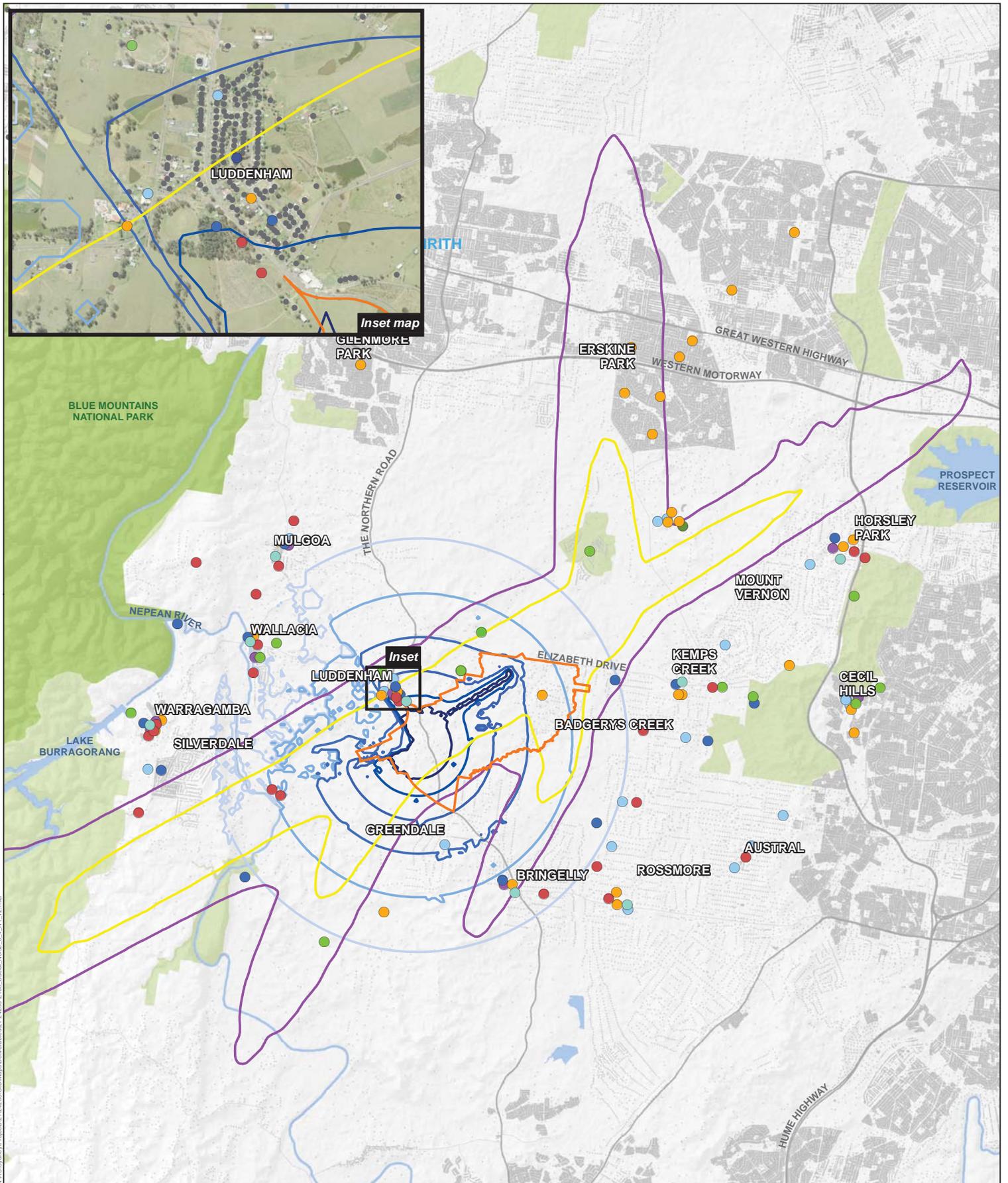
Based on the findings of the overflight noise assessment, the proposed airport could lead to a reduction in social amenity and impact on existing lifestyle for some communities across Western Sydney depending on the design, availability and usage of airport operating modes. The communities that could be most impacted by overflights would include areas of Luddenham, St Marys, Erskine Park, Greendale, Silverdale, Horsley Park, and parts of Blacktown. Many of these areas (particularly Luddenham, Greendale, Silverdale and Horsley Park) are semi-rural and large lot suburban areas with lower population density. It is likely that some sensitive social infrastructure in affected areas could also be subject to noise (including childcare centres, schools, churches, parks and recreation facilities, hospitals and other health care facilities) which may impact on their users.

An indicative 'worst case' representation of the operational noise envelope is shown on Figure 23–1. The analysis includes the N70 and N60 noise contours (number of overflights per day above 70dBA and number of overflights above 60dBA over the night time period (10pm to 6am)) and engine ground running contours in 2030. These N70 and N60 contours include calculation of composite Prefer 05 and Prefer 23 operating strategies and therefore show a larger combined area of noise impact than would be experienced under typical operations. Social infrastructure that would be affected by one or more types of operational noise are primarily located in Luddenham and Mulgoa including five schools and child care centre, three places of worship, three parks and three recreation facilities in Luddenham and Mulgoa.

It is important to note that the formal flight path design for the proposed airport would be undertaken much closer to the commencement of operations. The formal design process would provide an opportunity to optimise flight paths on the basis of safety, efficiency, noise and environmental considerations, as well as minimising changes to existing regional airspace arrangements.

Decisions about airspace management arrangements including the determination of flight paths would be made by Airservices Australia and the Civil Aviation Safety Authority (CASA). These decisions may engage further environmental assessment processes, community and stakeholder engagement, and may be the subject of a future referral under the EPBC Act following detailed design.

Based on the outcomes of the ground-based noise study, the proposed airport may lead to a reduction in social amenity and impacts on the existing lifestyle of people living and working in communities close to the airport site, particularly Luddenham, Badgerys Creek, Bringelly, Greendale, and Wallacia. These localities are all semi-rural or small townships with lower population densities compared to other parts of Liverpool and Penrith LGA. Noise impacts would be expected for a number of social infrastructure in Luddenham and two childcare centres in Mulgoa, which may result in a negative social impact for users of these facilities.



Data Source: Please refer to "Digital Data Sources" on the second page of the EIS

Figure 23-1 - Social infrastructure and residences potentially affected by worst case operational noise envelope in 2030

23.5.3. Air quality

The air quality impacts of Stage 1 operations of the proposed airport are identified in Chapter 12 of the EIS.

The operation of the proposed airport may lead to a minor reduction in air quality for communities close to the airport site, including the townships and surrounding areas of Luddenham, Wallacia, Mulgoa, Greendale, Badgerys Creek, Rossmore, Mt Vernon, Kemps Creek and Badgerys Creek.

However, it is noted that the proposed airport would generally meet air quality criteria for operation of the Stage 1 development.

23.5.4. Health

A human health impact assessment (see Chapter 13) identifies the likely impacts of the Stage 1 operation of the Western Sydney Airport on human health. The assessment concluded that there would be minimal impacts on human health during Stage 1 operations.

The consideration of the potential for noise and air emission impacts from operations identified minor increases in attributable health risks as a result of the airport development. These risk level increases are generally within the range of acceptability identified by Australian and international public health agencies. Whilst there is the potential for overflights to impact on Sydney's drinking water supply, the likelihood of emissions or fuel jettison to impact on Warragamba Dam or Prospect Reservoir is remote.

23.5.5. Traffic and access

The traffic, transport and access impacts of Stage 1 operations of the proposed airport are identified in Chapter 15 of the EIS.

Stage 1 operations of the proposed airport would lead to an increase in traffic on roads surrounding the site. This would be expected to impact the social amenity and lifestyle of these semi-rural areas. However with the planned upgrades of surrounding roads and introduction of new roads in areas surrounding the site through the Western Sydney Infrastructure Plan, the increase in traffic would not be expected to result in major capacity issues.

23.5.6. Landscape and visual

The assessment indicates varying levels of impact on different communities depending on their distance and elevation from the proposed airport site, the presence of visual obstructions such as vegetation or terrain, their cultural and recreational values, and their location with respect to the orientation of the runways and flight paths.

Key findings from the visual assessment include:

- The proposed airport development would involve substantial modification of the landscape and the existing rural visual quality in the area to a more urbanised character;
- The most visual impacts would be on areas to the immediate north such as Luddenham and Badgerys Creek due to their relative proximity to the airport as well as areas to the south of the airport such as Bringelly, Greendale and Bents Basin due to aircraft overflights;

- Surrounding rural residential areas at higher elevations such as Mount Vernon, Silverdale and Rossmore would experience moderate to low visual impact due to views of the airport site. The impact would, however, be increased by aircraft overflights; and
- Visual impacts at selected important cultural and recreational areas, including the Bents Basin State Recreation Area and Blue Mountains would range from moderate to high due to the high sensitivity ratings of the viewpoints and the effect of aircraft overflights.

23.5.7. Lifestyle impacts

The proposed size, scale and nature of the Stage 1 development, combined with planned infrastructure, residential, business and commercial developments in the Western Sydney region are likely to modify the existing rural character of the area and increase the population.

The proposed airport would bring improved lifestyles for some residents in the region, through increased local employment and income generation opportunities. A large proportion of the population from the Western Sydney region currently undertake long commutes on a daily basis to access work opportunities. During Stage 1, the proposed airport would provide employment opportunities closer to home, reducing travel time and offering the prospects for improved lifestyle.

23.5.8. Impacts on recreational assets

Flight paths may result in visual and noise impacts on some recreational reserves in the Western Sydney region. Stakeholder consultation during the preparation of the draft EIS identified that some recreational areas may be more sensitive to aircraft noise and visual impacts.

The following recreational spaces are identified to be within the Western Sydney region:

- Twin Creeks Country Club;
- Ropes Creek Reserve (Erskine Park);
- Eastern Creek Raceway;
- Sydney International Equestrian Centre (Horsley Park);
- Western Sydney Parklands (Horsley Park);
- Calmsley Hill City Farm (Abbotsbury);
- Sales Park (Luddenham);
- Bent Basin State Conservation Area (Greendale);
- Burragorang Recreation Area (Silverdale);
- Gulguer Nature Reserve;
- Mulgoa Nature Reserve;
- Warragamba Dam; and
- Greater Blue Mountains Area.



These recreational areas are valued for their environmental and amenity values, and these values may be impacted by overflight noise. The amenity of areas located in rural or more isolated locations (such as the Bents Basin Recreational Area in Greendale, Burragorang State Conservation Area and a small part of the Western Sydney Parklands and Prospect Nature Reserve) is likely to be reduced for users.

The wilderness amenity of the Greater Blue Mountains Area has the potential to be impacted by an increase in aircraft overflight noise. However, aircraft noise would generally be limited as the height of the aircraft is expected to be in excess of 5000 feet above ground level, limiting noise impacts at sensitive locations to below 55dBA. Marginal impacts are anticipated from the infrequent operation of a Boeing 747 which is the noisiest aircraft expected to operate at the proposed airport. As outlined in Chapter 7, there is a general decline in the use of Boeing 747s as airlines replace these aircraft with newer and quieter aircraft. This would further reduce the noise impacts associated with airport operations.

23.5.9. Impacts on social infrastructure and housing

The increase in population due to the development of Stage 1 of the proposed airport would result in additional demand on social infrastructure in the region.

The Stage 1 operational workforce at the proposed airport may impose additional demand on social infrastructure in areas near the airport site (e.g. medical centres, dentists, pharmacies) and recreational facilities (e.g. swimming pools, gymnasiums, public parks). This may affect access to these services and facilities by existing residents.

Consultation with the NSW Department of Education and Communities indicated there may be some impact on demand for schools as a result of the operational workforce. Some workers may prefer for their children to attend a school near their workplace.

Some workers at the airport site may choose to move from other parts of Sydney or outside of Sydney to areas in Western Sydney, resulting in a small increase in demand for housing. It is expected that the proposed airport may contribute to population growth in Western Sydney of 17,800 persons by 2031. Such increase in demand for housing, coupled with the overall growth in Western Sydney, may exacerbate housing availability and affordability issues for socio-economically disadvantaged groups.

Stage 1 airport aeronautical operations and increased road vehicle traffic are likely to generate noise, visual and air quality impacts on social infrastructure facilities such as schools, educational institutions, hospitals, recreational spaces and places of worship.

23.5.10. Emergency services

Operational safety protocols including an Emergency Response Plan would be developed and implemented for the proposed airport. It is anticipated this would occur in collaboration with relevant Australian and NSW emergency services to cover emergency response, first aid and basic medical services, fire prevention, firefighting equipment, and security.

An Airservices Australia Aviation Rescue Fire Fighting Service station is proposed for Stage 1, with a mutual aid agreement with the Rural Fire Service expected to be in place before airport operations commence. Should local resources be required to assist with an emergency situation at proposed airport, it is likely NSW Fire and Rescue would manage and re-distribute its resources as appropriate.

NSW Ambulance does not expect an on-site station to be provided at the airport site and does not expect airport operations to directly impact its ability to service the local community.

23.5.11. Property values

The potential adverse effect on property prices associated with aircraft noise (among other factors) is documented in a number of Australian and international studies. A review of recent literature and was undertaken in the preparation of the EIS to explore the potential price devaluation effects on lower density, large lot land holdings similar to those found at Badgerys Creek. Comparable examples including Melbourne (Tullamarine and Avalon) and Perth airports were analysed for a potential relationship between price and noise effects. However the analysis failed to establish a statistically significant relationship between noise exposure and property prices. Possible reasons for this might include the lesser significance of the dwelling in the context of large land areas, land used for primary production may be less affected by noise and/or the wider range of factors influencing price that cannot be analysed.

The potential for reduction in property values could affect a range of properties given the nature of the development and the scale of the noise envelope. The effect would differ depending on location and individual circumstances. Analysis of long run house prices in Sydney since 1991 however found no appreciable difference in growth rate between median prices in suburbs subject to noise in excess of 20 ANEF and those in similar areas not exposed to aircraft noise.

Over the past 12 months since the Australian Government announcement that Badgerys Creek is the preferred site for a new airport for Western Sydney, there has been a spike in house prices in areas closer to the airport site. Analysis of longer term growth rates of residential sales in the suburbs around Badgerys Creek between 1991 and 2015 indicates that despite short term fluctuations, property prices have increased at a similar rate to dwelling across Sydney. Rather than suffering a slowing of growth as a result of concerns relating to environmental impacts, residential prices in the suburbs around Badgerys Creek grew strongly in the period following the Australian Government announcement, increasing by almost 24 per cent, which was substantially greater than the average increase in both Western Sydney and the Sydney metropolitan regions.

23.6. Summary of key social benefits and impacts

The key social and economic benefits and impacts arising from the construction and operation of the Stage 1 development are summarised in Table 23–1 and Table 23–2.

Table 23–1 – Summary of social and economic benefits

Social and economic benefits	Construction	Operation
Increased opportunities for local, regional and Greater Sydney businesses through direct, indirect and induced spending from the airport development.	✓	✓
Increased benefits for other industry sectors such as construction, utilities, trade, transport and services, accommodation, retail, professional services, public administration and tourism.	✓	✓
The value-add from construction of the proposed airport would peak in 2022 with benefits to Western Sydney reaching \$450 million, and a further \$90 million to Greater Sydney in that year. The cumulative value-add for Western Sydney from Stage 1 construction is estimated to be \$1.9 billion with an additional \$400m to the rest of Greater Sydney over the construction period.	✓	-
During operations, the economic benefits are expected to increase commensurate with passenger movements. In 2031 (roughly aligning with the end of Stage 1), the proposed airport is estimated to generate an additional \$205 million in value-add in the Australian economy, with \$77 million in value-add being in Western Sydney.	-	✓
An increase in average incomes in Western Sydney. By the time the airport is fully operational, average incomes in Western Sydney are expected to increase to just over 95 per cent of the average for Greater Sydney, compared to 90 per cent in 2014.	-	✓
The proposed airport development would generate a number of direct, indirect and induced jobs in Western Sydney and Greater Sydney during both construction and operations: <ul style="list-style-type: none"> Construction employment would peak at 758 direct FTE jobs in 2022 in Western Sydney, with 3,200 cumulative person-years in Western Sydney over the construction period for Stage 1 (between 2016-2024) There would be indirect and induced employment generated for 8,000 person years in Western Sydney over the construction period between 2016-2024 An additional 2,200 person years in the rest of Greater Sydney over the construction period between 2016-2024 An estimated 8,730 FTE jobs would be required for airport operations by the end of Stage 1 in 2031 and a further 4,440 FTE jobs are expected to be generated by commercial developments in business parks on the airport site. 	✓	✓
Employment opportunities from the proposed Western Sydney Airport would provide work prospects closer to home for the residents of Western Sydney, who otherwise often have long commutes. This will reduce travel times and improve quality of life (e.g. increased time spent with families, recreation and leisure as well as increases in household incomes) for people from Western Sydney engaged in employment at the airport site.	✓	✓
Employment opportunities due to the airport development would contribute to strong population growth of approximately 17,800 additional persons in Western Sydney by 2031. The new residents are likely to be younger people attracted to employment opportunities and housing that is affordable compared to other parts of Sydney.	-	✓
Potential increase in tourism to the Blue Mountains recreation areas and related attractions and services due to the close proximity of the new airport.	-	✓

Table 23–2 – Summary of social impacts

Social impacts	Construction	Operation
Amenity and lifestyle impacts resulting from construction dust, noise, changes to visual amenity, traffic and related health impacts, particularly on communities surrounding the site.	✓	-
Noise impacts due to airport ground-based operational noise. These impacts would occur during the daytime and night time and affect dwellings and community infrastructure, particularly in Luddenham, Badgerys Creek, Bringelly, Greendale and Wallacia.	-	✓
Depending on the operating strategy adopted for the proposed Western Sydney Airport, communities that may experience overflight noise at varying levels during the daytime and night time include areas of St Marys and Erskine Park, Greendale, Silverdale, Horsley Park and parts of Blacktown. Many of these areas (particularly Greendale, Silverdale and Horsley Park) are semi-rural areas where a high value is placed on the amenity provided by a semi-rural lifestyle.	-	✓
Overflight noise and visual impacts may lead to a minor reduction in amenity and enjoyment of recreational areas located in Western Sydney e.g. Bents Basin Conservation Area, Burragorang State Conservation Area as well as the Greater Blue Mountains Area.	-	✓
Visual amenity impacts for communities close to the site, including Luddenham, Badgerys Creek, Mount Vernon, Silverdale and Rossmore. Views would be permanently changed due to the proposed change in use of the site.	-	✓
Increased emissions of ozone and particles but below guideline criteria levels during airport operation for communities close to the airport site including in Luddenham, Wallacia, Mulgoa, Greendale, Badgerys Creek, Rossmore, Mount Vernon, Kemps Creek and Badgerys Creek.	-	✓
Increased traffic on local and regional roads as a result of the airport operations.	-	✓
Changes to air quality due to aircraft emissions could increase the risk of health impacts on communities near the site, particularly in Bringelly, Luddenham, Rossmore and Kemps Creek.	-	✓
The risk of health effects resulting from daytime and night time (sleep disturbance) noise would increase, particularly in areas surrounding the site and particularly as a result of ground based airport activities. The risks are highest in Luddenham, Greendale, Bringelly, Rossmore, Badgerys Creek and Horsley Park. The specific impacts from aircraft overflights will be determined by the preferred airport operating strategy following the finalised EIS.	-	✓
Overall there is no discernible negative impact expected on property values, as the anticipated value uplift from land use changes will outweigh any consequence or concern about noise impacts.	-	✓
Changes to land use in Western Sydney due to the proposed Western Sydney Airport development and other planned development may result in competition for land and labour and a consequential decline in industry sectors such as agriculture and manufacturing. Stakeholder consultations conducted for the social impact assessment and ABS data show these industries are already in decline in Western Sydney.	✓	✓
There may be a minor impact on some businesses that would need to hire new staff to replace workers taking up employment at the Western Sydney airport.	✓	✓
Proposed airport employees may choose to relocate to live closer to the future airport, which may increase demand for housing locally in Western Sydney. This may particularly affect socio-economically disadvantaged groups due to issues of housing availability and affordability.	-	✓

23.7. Mitigation and management measures

This section identifies proposed measures to reduce the social impacts of the proposed airport. In addition to the mitigation measure identified below, additional mitigation measures for social impacts have been identified in the traffic, noise, air quality, planning and land use chapters and the Community and Stakeholder Engagement Plan of the draft EIS.

Table 23–3 – Mitigation measure

ID	Issue	Recommended mitigation measure	Timing
23.1	Local employment generation	Develop an Australian Industry Participation Plan, including consideration of local industry participation.	Construction
23.2	Stakeholder engagement	Liaise with relevant agencies to inform their planning allocation of funding to programs that may benefit from the proposed airport. Relevant agencies may include local and State government agencies, tourism agencies, agencies responsible for affordable housing and other organisations (e.g. Western Sydney Business Chamber, educational facilities including universities and TAFE).	Operation

23.8. Conclusion

The construction and operation of the proposed airport would result in significant economic and employment opportunities for the Western Sydney region, as well as wider economic benefits throughout the Greater Sydney area. Benefits would be accrued beyond the aviation industry, and extend to businesses and employees in industries such as construction, utilities, trade, transport, accommodation, retail professional services and administration.

Impacts on the amenity of the people Western Sydney would vary between communities, depending on proximity to the airport site, and their location with respect to flight paths. The rural character of the local area would transition to urban with the development of the airport and the implementation of the Western Sydney Employment Area and the South West Priority Growth Area. Noise impacts would affect amenity on local communities, particularly Luddenham and Greendale. Social infrastructure may also be put under stress during the construction of the airport and early stages of operation, but as urbanisation advances in the region, additional services would be expected to come online to meet demand.

Mitigation measures are proposed to manage the social impacts and to maximise the expected economic and employment benefits associated with the proposed airport.