37. Social and economic

37.1. Introduction

This chapter considers the long term social and economic impacts of the proposed airport. Specifically, the impact assessment considers how the proposed airport could affect existing population, employment and land use across Sydney. This chapter draws on the social impact assessment and economic analysis undertaken (refer Appendix P1 and P3).

The long term development of the proposed airport would result in significant opportunities for regional economic benefits through direct, indirect and induced spending. 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, tourism and hospitality, and administration. Long term impacts on the amenity of Western Sydney are expected to vary between communities, depending on proximity to the airport site, and their location with respect to flight paths.

37.2. Methodology

37.2.1. Social

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 of the communities within the study area to establish a baseline on which potential 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 the stakeholders and communities.

37.2.2. Economic

As part of the preparation of the EIS, two key economic models were used to identify the economic impacts of the proposed airport, a spatial computable general equilibrium model (SCGE) and a land use econometric model.

37.2.3. Spatial computable general equilibrium model

The SCGE model was used to identify the potential economic impacts of the proposed airport on the wider economy. The SCGE model assists in the translation of benefits and costs into real economic impacts accrued through time, cost savings to individuals and businesses, and accessibility gains into area-specific changes in wages, productivity, incomes, value add, and prices. Metrics to describe the economic impact of the proposed airport through the SCGE model include:

- Increased value add – value add is the value of output produced less the cost of intermediate inputs used in the production of that output and expresses the net wealth generated by the activity. The proposed airport will result in higher value-add per year by supporting productivity and growth, delivering benefits to businesses and workers alike.
- Gross business profits – the share of an increase in value-add that is retained as real returns to owners, investors and others who finance businesses.
- Gross household labour incomes – the share of an increase in value-add that is enjoyed by households through an increase in real wages.
- Enhanced productivity per worker – this is change in real value-add per worker per year. The proposed airport enables workers in Sydney to be more productive due to a reduction in the cost of aviation services.
- Net imports – the balance of the real value of exports and imports in a region, representing both domestic, inter-regional trade and international trade.

The SCGE model is intended to represent transactions taking place between individuals, businesses and government agencies in terms of consumption, labour, capital, real estate and trade. Households provide labour and capital to firms and use the income generated to purchase goods and services. Firms use inputs sourced from other firms, as well as labour and capital, to produce goods and services, which are in turn sold to households and to other firms. These transactions are represented across four spatial areas: Western Sydney, Rest of Sydney, the Rest of NSW, and the Rest of Australia.

37.2.4. Land use econometric model

The land use econometric model was developed to capture changes in land use (i.e. employment and population distributions) in surrounding areas associated with the long term development. This model was designed to measure the change in population and employment as a result of changes in accessibility driven by the development of the airport and surrounding land uses. This includes:

- employment accessibility – one of the key drivers of where people choose to live is accessibility to jobs. By facilitating new jobs in and around the site, the proposed airport has the potential to provide added employment opportunities, which are expected to attract more people to live in the region.

- population and employer accessibility – another key driver of where employers choose to locate is the accessibility to workers and suppliers/customers. The proposed airport has the potential to improve accessibility for employers in Western Sydney by providing a greater pool of workers to choose from and enhanced connectivity with other firms in the form of supply chains, customers and knowledge spill-overs. This would be expected to make Western Sydney (and particularly the area immediately surrounding the airport) a more viable location for employers, attracting more businesses to set up there.
- other factors – in addition to accessibility to jobs, individuals value being close to various amenities and attractions (e.g. shopping and recreational opportunities, schools, greenspace, and hospitals). Firms value proximity to other firms, workers, key infrastructure and clients and customers.

To test these interrelationships, econometric modelling was used to understand the likely scale of the response in residential and business location due to each of these factors, in addition to the changes in accessibility.

37.2.5. Airport employment estimate

The proposed airport is expected to support a substantial number of jobs on the airport site. Specifically, these jobs can be divided into direct airport jobs and non-aeronautical jobs at the proposed on-site business park.

To identify the total number of direct airport jobs which could be supported by the proposed airport development, a benchmarking exercise was used to determine the relationship between the passenger throughput at domestic and international airports and the number of direct employees at each airport. In light of the results of this analysis, a ratio of 750 employees to one million annual passengers was applied to passenger demand forecasts to identify expected direct employees at the proposed airport. This ratio is consistent with analysis from the Bureau of Infrastructure, Transport and Regional Economics (BITRE) which found that major Australian airports typically generate between 200 and 1,500 jobs per million passengers (BITRE 2013).

The number of non-aeronautical jobs supported by the proposed on-site business park was based on the size of the business park site. This considered the proposed scale of the business park, forecast land use (i.e. allocation of office, commercial and warehousing space), floor space to site ratios and benchmarked space requirements per employee (i.e. number of square metres of floor space per employee), based on industry benchmarks.

37.3. Assessment of impacts

37.3.1. Social

The impacts of the long term development of the proposed airport on lifestyle and social amenity due to noise, visual and air quality impacts have been addressed in the following EIS chapters:

- Noise (see Chapter 31);
- Air quality (see Chapter 32);
- Traffic, transport and access (see Chapter 33);

- Landscape and visual (see Chapter 36); and
- Health (see Chapter 39).

37.3.1.1. Noise

The communities that may be most impacted as a result of the indicative long term noise scenarios include Luddenham, Badgerys Creek, Bringelly, Greendale, and Wallacia, St Marys, Erskine Park, Greendale, Silverdale, Horsley Park, and parts of Blacktown. The broad area of exposure to aircraft noise includes a range of social infrastructure including childcare centres, schools, churches, parks and recreation facilities, hospitals and other health care facilities, particularly in Luddenham and Mulgoa.

Based on the outcomes of the aircraft and 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 above mentioned communities, depending on the final flight paths and preferred airport operating modes.

37.3.1.2. Air quality

Long term operation could lead to changes in air quality for communities close to the airport, including the townships and surrounding areas of Luddenham, Wallacia, Mulgoa, Greendale, Badgerys Creek, Rossmore, Mt Vernon and Kemps Creek. This predicted change in air quality may reduce the amenity of residents and other sensitive receivers in these localities.

It is noted that the predicted minor exceedances of air quality criteria are limited to a small number of receivers in the immediate vicinity of the airport.

37.3.1.3. Traffic and access

The proposed airport may lead to an increase in traffic on roads surrounding the site. This is 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, the increase in traffic is not expected to result in major capacity issues.

The long term operation would lead to an increase of traffic on roads in Western Sydney, which along with future population growth, may lead to road capacity issues if planning is not undertaken sufficiently early. This would require future planning beyond current road upgrade plans and the potential extension of the South West Rail Link to reduce impacts on Western Sydney communities.

37.3.1.4. Impacts on social infrastructure

The long term operational workforce, coupled with the projected increase in population, would result in additional demand on social infrastructure in areas near the airport (e.g. medical centres, dentists, pharmacies, child care centres) and recreational facilities (e.g. swimming pools, gymnasiums, public parks). This may affect access to these services and facilities by nearby residents. However it is anticipated that by 2063, there will be more social infrastructure facilities and services available in Western Sydney to cater for the population increase in the area.

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

37.3.1.5. Impacts on recreational assets

The following recreational spaces are identified to be within the regional study area:

- 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 (Greendale);
- Mulgoa Nature Reserve;
- Warragamba Sportsground; and
- Greater Blue Mountains World Heritage Area.

The long term operation of the proposed airport, and associated increases in overflight noise, may reduce the amenity of these recreational areas over time. However, as aircraft overflights in the Greater Blue Mountains Area will be at relatively high altitude (typically over 5000 feet), maximum noise levels are anticipated to be less than 55 dBA. They may also be reasonably expected to reduce over time as a result of improved engine design and technology advancements which would further limit potential amenity impacts.

37.3.2. Economic analysis

37.3.2.1. Regional benefits

The long term development of the proposed airport would result in significant economic benefits for Western Sydney and the wider region. Benefits would extend to businesses and employees in industries such as construction, utilities, trade, transport, accommodation, retail professional services, tourism and hospitality, and administration. These benefits would have flow-on effects to individuals through increased household income and greater access to employment opportunities.

Table 37–1 provides an overview of the predicted economic impacts associated with the long term development under the SCGE model.

Table 37–1 – Long term economic impacts in 2063 (undiscounted 2015 real values)

Metric (per year)	Western Sydney	Rest of Sydney	Rest of NSW	Rest of Australia	Total
Value add ($ millions)	$1,507	$4,640	$506	-$815	$5,838
Business profits ($ millions)	$541	$1,372	$248	-$138	$2,023
Productivity per worker ($/worker)	$941	$1,613	$225	-$42	$252
Household income ($ millions)	$869	$1,580	$333	$670	$3,452

In 2063, the proposed airport would generate an additional $5.8 billion in value-add. Approximately $1.5 billion of this value-add would be generated in Western Sydney. There is a reduction in value-add in the Rest of Australia (outside NSW), reflecting the proposed airport's role in attracting economic activity to the region. The increase in value-add is supported by increases in productivity per worker, averaging $941 in Western Sydney and $1,613 per worker in the Rest of Sydney.

The long term development would also result in significant economic benefits for business in the regions surrounding the airport site. In 2063, the proposed airport would generate an additional $541 million in profits for businesses in Western Sydney and an additional $1.3 billion in profits for the Rest of Sydney. There are smaller positive benefits to the Rest of NSW with some of these benefits potentially drawn from the Rest of Australia, reflecting the proposed airport's role in redistributing economic activity to Western Sydney and the broader metropolitan area.

In relation to household income, the proposed airport would generate $869 million and $1.5 billion in additional household income for Western Sydney and the Rest of Sydney. It is expected there would be significant regional spill-overs, with a substantial share of the total gains falling to the Rest of Australia.

37.3.3. Employment growth at the airport

In 2063, the operation of the long term development is expected to generate approximately 98,650 jobs on the airport site. This would include 61,500 jobs directly associated with the operation of the proposed airport, and 27,000 jobs in the manufacturing, business services and consumer services sectors as part of the non-aeronautical developments in the proposed business park.

A breakdown of the expected employment opportunities can be seen in Table 37–2 below.

Table 37–2 – Long term employment at the airport in 2063

Category	Employment in 2063
Direct airport	61,500
Business park	27,000
Proposed airport (total)	88,500

37.3.4. Regional employment growth

While the proposed airport will require a significant workforce and provide the region with increased employment opportunities, for the purposes of the land use econometric model, it was assumed that there would be no net new employment in Sydney as a result of the proposed airport. Instead, the model assumed that future regional employment growth would be redistributed across Sydney after the development of the proposed airport and the associated changes in accessibility. The estimated change in regional employment growth is incremental on the base case (do nothing). Accordingly, areas that see a reduction in employment in the analysis do not necessarily decline in absolute terms. Rather they do not grow by as much as they would have otherwise without the proposed airport.

For the purposes of this assessment, the following Western Sydney subregions are defined according to local government areas (LGAs):

- Sydney South West – Liverpool, Fairfield, Camden, Campbelltown and Wollondilly LGAs;
- Sydney West – Penrith, Hawkesbury and Blue Mountains LGAs; and
- Sydney West Central – Auburn, Bankstown, Blacktown, Holroyd, Parramatta and the Hills Shire LGAs.

As outlined in Table 37–3, the analysis found that by 2063, the proposed airport would provide for additional job growth of 29,200 jobs in Western Sydney. As part of this, the Sydney West subregion is anticipated to see the largest increase in population with 14,300 additional jobs. The Sydney South West and West Central subregions would also experience additional growth in employment in 2063. It is assumed in the econometric land use model that additional job growth in Western Sydney would be redistributed from the Rest of Sydney. As explained previously, this does not necessarily mean a decline in absolute employment but rather a reduction in employment growth. Regional employment growth identified in the land use econometric excludes employment growth at the airport.

Table 37–3 – Long term employment changes in 2063 as a result of the proposed airport

Region/Year	2063
Sydney South West	10,600
Sydney West	14,300
Sydney West Central	4,300
Total Western Sydney	29,200
Rest of Sydney	-29,800
Rest of NSW	600

Across Sydney, the strongest employment growth increases associated with the long term development are estimated to occur within the following LGAs:

- Penrith;
- Wollondilly;
- Blue Mountains;
- Camden; and
- Blacktown.

The actual location of employment growth changes over the long term are likely to be shaped by regional planning and policy directions from government agencies, as well as the decisions of private businesses and individuals.

37.3.5. Regional population change

For the purposes of the land use econometric model, it was assumed that there would be no net new population in Sydney as a result of the proposed airport. Instead, forecast population growth was assumed to be redistributed across Sydney following the development of the proposed airport and the associated changes in accessibility. The estimated change in population is incremental to the base case (do nothing). Accordingly, areas that see a reduction in population in the analysis do not necessarily decline in absolute terms. Rather they do not grow by as much as they otherwise would have without the proposed airport.

As outlined in Table 37–4, the Sydney West subregion is anticipated to see the largest additional increase in population due to the long term development of the airport. In 2063, Sydney West is expected to have an additional 63,400 people. Sydney South West is also anticipated to see strong growth relative to the base case with an additional 31,100 people in 2063. These population increases would be redistributed away from the rest of Sydney, the rest of NSW, and Sydney West Central. As mentioned earlier, the Rest of Sydney, the Rest of Sydney, the Rest of NSW and Sydney West Central would not experience a decline in population. Rather, they would not grow by as much as they otherwise would have without the proposed airport.

Table 37–4 – Long term population changes in 2063 as a result of the proposed airport

Region	2063
Sydney South West	31,100
Sydney West	63,400
Sydney West Central	-18,200
Total Western Sydney	**76,300**
Rest of Sydney	**-59,500**
Rest of NSW	**-16,800**

Across Sydney, the strongest population growth associated with the proposed airport development is estimated to occur within the following LGAs:

- Penrith;
- Blue Mountains;
- Camden;
- Wollondilly; and
- Hawkesbury.

The actual location of population growth changes over the long term are likely to be shaped by regional planning and policy directions from government agencies, as well as the decisions of private businesses and residents.

37.4. Summary of findings

The long term development of the proposed airport would result in significant economic, employment and social opportunities for the Western Sydney region. It would also provide wider benefits to other areas of Sydney, NSW and Australia. Economic benefits would accrue beyond the aviation industry, and extend to business and employees in industries such as construction, utilities, trade, transport, accommodation, retail professional services and administration.

The proposed airport would make it more attractive for people to live in Western Sydney by virtue of having a greater access to jobs and wanting to be closer to an airport. This would lead to a relatively higher population density in areas like Penrith, the Blue Mountains, Blacktown, Wollondilly and Camden. These people would otherwise have continued living in the rest of Sydney, in places like Randwick, Hornsby and Canterbury, and also other parts of Sydney West Central such as Parramatta and Bankstown.

The proposed airport would also create better business development opportunities in Western Sydney as employers would have access to a large labour pool and proximity to markets and supporting businesses. Therefore there would be relatively higher employment densities in areas like Penrith and Blacktown, but also in Liverpool, Fairfield and Camden and across the rest of Western Sydney.

The long term development would change the amenity of communities and recreational areas in proximity to the airport and aircraft flight paths as a result of noise and visual impacts.

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