

27 Cumulative impact assessment

Cumulative impacts may arise as a result of the development of the proposed airport concurrently or sequentially with other major projects in the region. To identify the likelihood of airport-related cumulative impacts, other significant initiatives and major projects were reviewed including:

- Western Sydney Infrastructure Plan;
- Western Sydney Priority Growth Area;
- Western Sydney Employment Area;
- South West Priority Growth Area;
- Greater Macarthur Land Release Investigation Area;
- the potential expansion of airport operations beyond the proposed Stage 1 development; and
- other major projects identified in the region.

The potential for the proposed airport and other significant initiatives and major projects to generate cumulative impacts was assessed against each of the environmental aspects requiring assessment in the EIS guidelines. The aspects of the environment with the greatest potential for cumulative impacts were considered to be noise, air quality, traffic and transport, biodiversity, Aboriginal heritage and European heritage, social and economic. The potential for construction 'fatigue' to be experienced by communities surrounding the airport and other major projects in the Western Sydney region was also identified as a key risk. There is considered to be minimal potential for cumulative construction noise impacts upon sensitive receivers as a result of the distance from other major projects. The relocation and upgrade of The Northern Road and construction of the M12 Motorway have the highest potential for cumulative noise impacts. The majority of the roads on the anticipated construction haulage routes carry relatively high volumes of existing traffic and the increase in noise from construction traffic is unlikely to be perceptible. Further, aspects of likely noise impacts from additional road projects, such as the M12, have been considered on a preliminary basis in the noise assessment as part of this EIS.

Existing background air quality monitoring data in conjunction with the modelled emissions from the surrounding road network were used in the local air quality assessment. Consideration of the potential for increases in ozone in Sydney's regional airshed was also undertaken as part of the assessment. Predicted emissions would typically be below the respective air quality assessment criteria during construction and operation for both incremental impacts of the airport alone and when considered cumulatively with other surrounding land use and development.

The traffic assessment utilised land use forecasts to model anticipated future traffic generation in the region together with expected traffic from the proposed airport. While there is expected to be additional congestion as a result of the construction of the above projects and developments, the additional vehicle movements associated with the construction and operation of the proposed airport are unlikely to affect the operation of the surrounding road network significantly. Substantial road improvement works are planned as part of the Western Sydney Infrastructure Plan and other planned developments in Western Sydney. These are expected to provide sufficient capacity to cater for the expected passenger and employee traffic demand associated with Stage 1 operations.

The progressive development and urbanisation of Western Sydney has placed increased pressure on biodiversity, and Aboriginal and European heritage values of the region. Development of a biodiversity offsets strategy, consideration of a 'keeping place' and additional archaeological and archival recording would assist in mitigating cumulative impacts.

27.1 Introduction

This chapter provides an assessment of the potential cumulative impacts that may arise as a result of the construction and operation of the proposed airport concurrently or sequentially with other projects in the region.

Cumulative impacts are incremental environmental impacts that are caused by past, present or reasonably foreseeable future activities that, when combined, may have a cumulative effect. When considered in isolation, the environmental impacts of any single project upon a receiver or resource may not be significant. However, the potential impacts may increase when individual effects are considered in combination, either within the same project or together with other projects.

The proposed airport may result in both adverse and beneficial cumulative effects as a result of:

- concurrent or co-located projects under construction;
- regional land use changes;
- off-site infrastructure needed to support the operation of the airport;
- landside transport access to the airport; and
- incremental increases in the capacity of the airport beyond the proposed Stage 1 development.

Another type of cumulative impact is known as construction fatigue. This concept relates to sensitive receivers that experience construction impacts from a variety of projects over a long period of time with few or no breaks between construction periods. Construction fatigue typically relates to amenity impacts from projects that are constructed consecutively or 'back to back'.

This chapter is principally concerned with potential cumulative impacts involving the Stage 1 development. Potential cumulative impacts associated with the long term development and other potential future developments are considered in Volume 3.

27.1.1 Assessment approach

The assessment of cumulative impacts builds upon the detailed assessment of environmental aspects presented in Chapters 10 through to 26 in Volume 2a.

A review was undertaken to identify other significant initiatives or major projects with the potential to interact with the proposed airport. The review included:

- initiatives or projects under construction;
- initiatives or projects with publicly declared financial commitments;
- initiatives or projects that are approved under planning legislation;
- initiatives or projects that are seeking approval under planning legislation; and
- projects included in strategic planning documents related to Western Sydney.

In determining which other projects/initiatives are relevant to the cumulative impacts assessment, the following criteria were taken in account:

- location: the projects are located in proximity to the airport;
- project timeframe: projects likely to be under construction concurrent with the airport (or which would otherwise have a noteworthy operational interaction) were considered; and
- project size: projects were listed on either the NSW Department of Planning and Environment Major Projects Register or local government websites.

Consideration of cumulative impacts was inherently addressed as part of the detailed modelling approach for a number of technical assessments included in Volume 4 of this EIS.

For example, the traffic, transport and access assessment modelled background traffic and other major transport infrastructure projects at the time of operation of the Stage 1 development, while the air quality assessment includes background air quality and emissions from major roadways.

27.2 Major plans and projects considered

There are a number of initiatives and projects in progress or proposed for Western Sydney, which have the potential to generate cumulative impacts/interactions with the proposed Stage 1 development. These initiatives and projects are summarised below.

27.2.1 Western Sydney Infrastructure Plan

The Western Sydney Infrastructure Plan involves the Australian and NSW Governments investing \$3.6 billion over 10 years in major Western Sydney road infrastructure upgrades. The plan aims to relieve pressure on existing infrastructure and unlock the economic capacity of the region by easing congestion, reducing travel times and creating local jobs. The plan includes:

- upgrade of The Northern Road to a minimum of four lanes from Narellan to Jamison Road;
- construction of a new east-west four-lane M12 Motorway to provide access and traffic capacity for the proposed airport between the M7 Motorway and The Northern Road, with the retention of Elizabeth Drive for local traffic;
- upgrade of Bringelly Road to a minimum of four lanes between The Northern Road and Camden Valley Way;
- upgrade of the intersection of Ross Street and the Great Western Highway;
- construction of the Werrington Arterial road; and
- a \$200 million package for local roads upgrades.

27.2.2 Western Sydney Priority Growth Area

The Western Sydney Priority Growth Area is a strategic planning initiative that aims to provide jobs, homes and services in the land around the proposed airport. The extent of the Western Sydney Priority Growth Area is shown in Figure 27–1.

An accompanying Land Use and Infrastructure Strategy is under development to guide infrastructure investment in the Western Sydney Priority Growth Area. A key aim of investment will be to connect the proposed airport with the regional centres of Penrith and Liverpool.

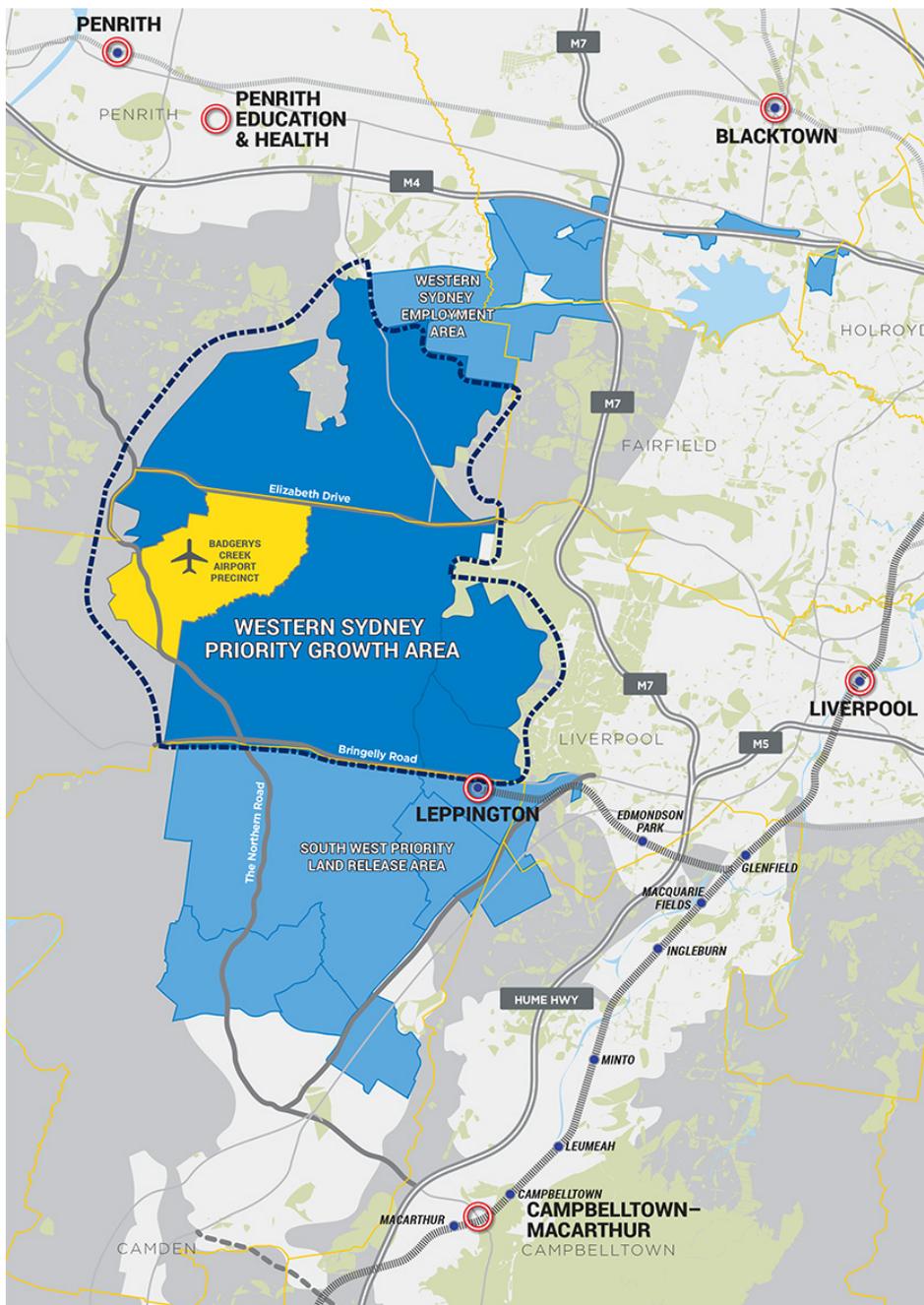


Figure 27–1 Key Western Sydney development areas considered

27.2.3 Western Sydney Employment Area

The Western Sydney Employment Area is a strategic planning initiative that aims to provide businesses in Western Sydney with land for industry and employment including transport, logistics, warehousing and office space. The Western Sydney Employment Area is adjacent to the Western Sydney Priority Growth Area and is shown in Figure 27–1.

The Western Sydney Employment Area is expected to provide more than 57,000 jobs in the next 30 years and more than 212,000 jobs in the longer term. As a result the area would provide opportunities for residents of Western Sydney to work locally.

27.2.4 South West Priority Growth Area

The South West Priority Growth Area is a strategic planning initiative dedicated to provide housing in Western Sydney. It includes lands recently identified by the NSW Government as the South West Priority Land Release Area (see Figure 27–1). The supply of housing generated by the initiative is also expected to place downward pressure on housing costs elsewhere.

The South West Priority Growth Area involves development of communities in precincts including Oran Park, Turner Road, East Leppington, Austral and Leppington North, Edmondson Park and Catherine Fields. Collectively the developments would create around 40,000 residences along with local amenities such as schools, public parks, employment areas and town centres. Planning is ongoing for other precincts such as Lowes Creek and Maryland.

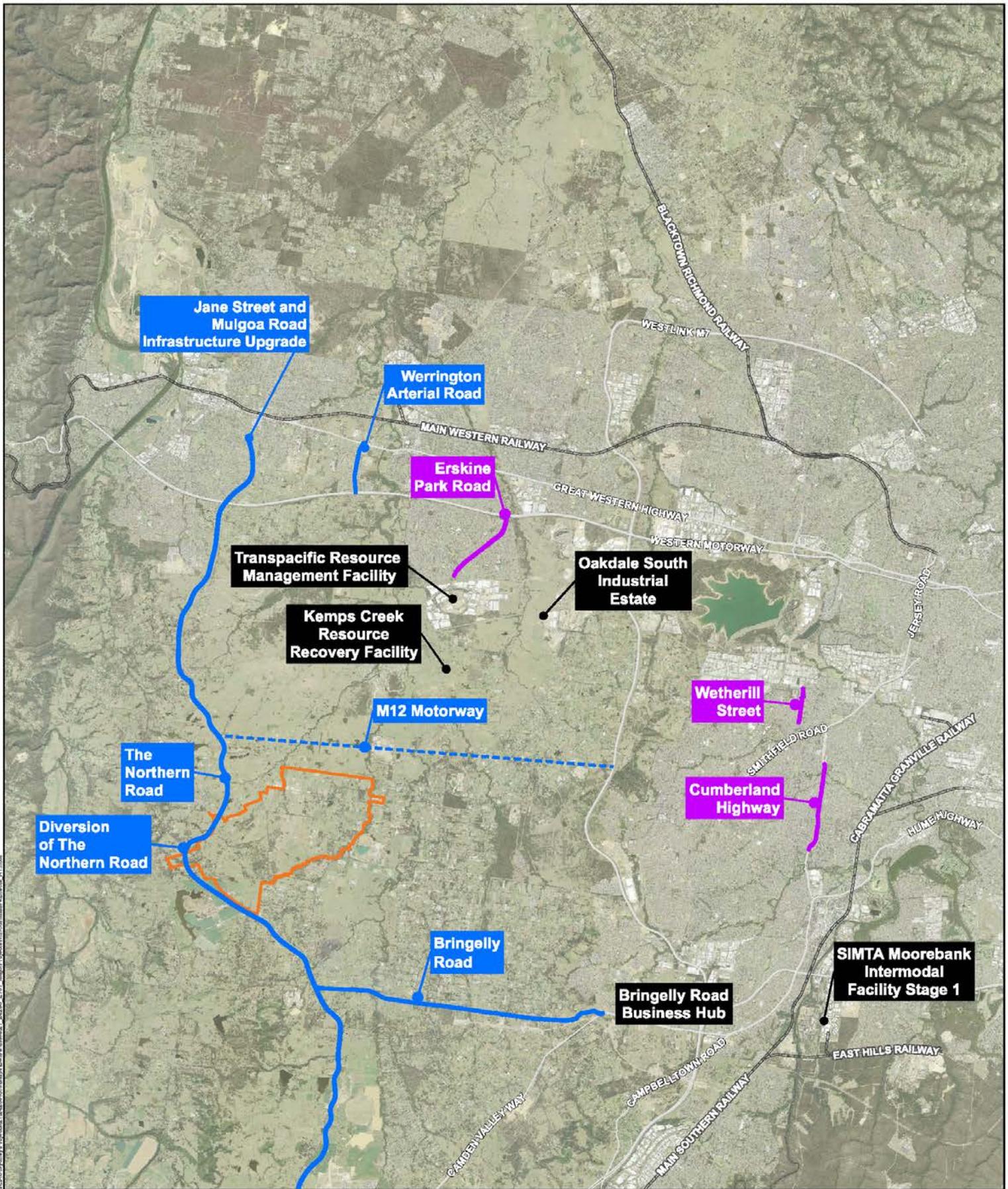
27.2.5 Major projects

In addition to the broad transformational plans identified above, five major projects which are currently undergoing project assessment or have been approved recently were identified as relevant for the assessment of construction and operational phase cumulative effects based on the criteria explained in Section 27.1 of this chapter. The projects are described in Table 27–1 and their locations are shown in Figure 27–2.

Table 27–1 Major projects with potential cumulative effects

Project and location	Description	Status
SIMTA Moorebank Intermodal Facility Stage 1, Moorebank Avenue, Moorebank	<p>Construction and operation of Stage 1 of the facility comprises the following components:</p> <ul style="list-style-type: none">intermodal terminal facility operating 24 hours per day, seven days per week with a capacity to handle up to 250,000 twenty foot equivalent units including: truck processing and loading areas; rail loading and container storage areas; and an administration facility and associated car parking;a rail link connecting the southern end of the site to the Southern Sydney Freight Line; andassociated works including: rail sidings; vegetation clearing, remediation and levelling works, and drainage and utilities installation.	<p>State Significant Development Concept Plan Approved Assessment by NSW Planning & Environment</p>

Project and location	Description	Status
Bringelly Road Business Hub, Bringelly Road, Leppington	<p>The proposed Bringelly Road Business Hub would accommodate large format retail, bulky goods and light industrial premises and may include the sale of home wares, electrical appliances, home building materials and/or office supplies. The proposal involves:</p> <ul style="list-style-type: none"> • demolition of existing structures; • subdivision of the site into eight developable lots; • bulk earthworks to regrade the land and provide generally level developable lots; • construction of new internal roads accessed from the realigned Bringelly Road; • construction and delivery of utilities, services and stormwater management infrastructure; and • public domain and landscaping works. 	<p>State Significant Development</p> <p>Approved by NSW Planning & Environment</p>
Kemps Creek Resource Recovery Facility, 788 – 804 Mamre Road, Kemps Creek	<p>The facility is intended to process general solid waste associated with the construction and property development industries. In particular, it seeks to screen, crush and sort building and demolition materials, excavated natural materials, and the like. It is expected that the site would process between 200,000 to 250,000 tonnes of such material annually. Recovered materials would be distributed throughout the Sydney metropolitan area, as required.</p>	<p>State Significant Development</p> <p>EIS requirements issued</p>
Transpacific Resource Management Facility, 50 Quarry Road, Erskine Park	<p>Erskine Park Resource Management Facility would include:</p> <ul style="list-style-type: none"> • Stage 1: Erskine Park Waste Transfer Station with a design capacity of 300,000 tonnes per year of waste (putrescible and non-putrescible) for sorting and transfer; and • Stage 2: Erskine Park Resource Recovery Facility designed to receive up to 150,000 tonnes per annum of selected recyclable material from the transfer station for processing into a number of saleable commodities. 	<p>State Significant Development</p> <p>Proponent reviewing submissions</p>
Oakdale South Industrial Estate, Erskine Park	<p>Oakdale South Industrial Estate is a 117 hectare site located within the Western Sydney Employment Area and is the second of four stages of the broader Oakdale Industrial Estate (421 hectares). Land uses permitted at Oakdale South Industrial Estate include those associated with warehouse, distribution and manufacturing.</p> <p>Staged development of the Oakdale South Industrial Estate would comprise:</p> <ul style="list-style-type: none"> • a master plan for the entire site establishing key development parameters; • subdivision of the entire Oakdale South site into six sub-precincts to allow for the staged development of the site; • bulk earthworks across the entire Oakdale South site, staged to align with infrastructure delivery and market demand; • staged infrastructure/civil works; and • development of selected precincts for warehousing and distribution. 	<p>State Significant Development</p> <p>Proponent reviewing submissions</p>



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

Figure 27-2 - Location of major projects with potential cumulative effects



27.3 Cumulative impacts

The cumulative impacts that may arise during construction and operation of the proposed Stage 1 development are outlined below.

27.3.1 Noise

Noise at the proposed airport would be generated from Stage 1 construction activities, aircraft overflights, including noise from take-offs and landings, and ground-based noise sources such as aircraft engine ground running and passenger and road freight traffic.

There is considered to be limited potential for cumulative noise impacts as a result of Stage 1 construction activities at the airport site. Noise and vibration emissions arising from construction activities would be predominantly limited to the airport site and immediate surrounds. The geographic separation from other major developments in Western Sydney would limit the potential for cumulative effects of noise upon any individual sensitive receivers.

The relocation of The Northern Road and other site infrastructure is proposed to be undertaken concurrently with site preparation activities at the airport site. Site preparation activities are expected to generally proceed from east to west within the airport site to facilitate relocation of the existing infrastructure. These works may also coincide with construction of the M12 Motorway. The distance between concurrent construction activities would limit the potential for cumulative impacts to receivers in proximity to the airport site.

Cumulative noise impacts may be experienced along haulage routes associated with construction vehicles accessing the airport site and surrounding developments. The majority of the roads on the anticipated haulage routes carry relatively high volumes of existing traffic and the increase in noise from construction traffic is predicted to be less than 2 dBA, which is unlikely to be perceptible.

During Stage 1 operations, aircraft operating concurrently with those from other Sydney region airports have the potential to increase aircraft noise exposure to the surrounding community. While the proposed airport would result in additional aircraft movements, the indicative flight paths are designed to facilitate safe, efficient and independent airspace operations for each airport. Air traffic arrangements will be confirmed through the detailed airspace and flight path design process, which will consider any interactions between aircraft operating at the proposed airport and other aerodromes in the Sydney basin. As a result, there are not expected to be any significant cumulative noise impacts upon any individual receivers.

The primary sources of ground-based noise during operations would be aircraft engine maintenance testing and taxiing. Road traffic generated by the airport would also increase local noise levels during operation. Apart from a section of the proposed M12 Motorway and Elizabeth Drive, noise level increases attributable to airport traffic would be less than 2 dBA. These increases are unlikely to be discernible.

It is important to note that a general increase in background noise levels associated with the ongoing urbanisation and development of Western Sydney is anticipated within the timeframes for airport construction and Stage 1 operations. For example, certain proposed road projects, such as the proposed relocation and upgrade of The Northern Road, would contribute to changed background noise levels in the vicinity of the airport site. An increase in background noise would effectively limit the incremental increase associated with noise generated by airport operations.

27.3.2 Air quality and greenhouse gas emissions

Emissions from existing local sources were reflected in the ambient air quality data obtained from monitoring stations in the vicinity of the airport site. The inclusion of this background data in the impact assessment of the proposed airport, coupled with a generally conservative approach to impact assessment, means that the potential impacts identified would account for any potential cumulative air quality impacts associated with existing sources. To address the potential cumulative impacts of the airport, emissions from airport operations sources have been characterised within the modelling. The potential for increases in ozone in Sydney's regional airshed was also considered as part of the assessment process.

Consideration of cumulative impacts is, therefore, inherently captured in the overall modelling approach for the assessment of air quality impacts associated with the proposed airport.

The results of the air dispersion modelling indicate that predicted emissions would typically be below the respective air quality assessment criteria during construction and operation for both incremental impacts of the airport alone and when considered cumulatively with other surrounding land use and development. Predicted exceedances were generally associated with external sources such as regional dust storms and emissions generated by traffic on the surrounding road network. The assessment of regional air quality impacts has found that operation of the proposed airport would have only a marginal impact on regional ozone levels.

The contribution of the Stage 1 development to global greenhouse gas emissions would not be material. The airport would contribute less than 0.09 per cent of NSW's total anthropogenic emissions for 2011-2012, and would account for approximately 0.11 per cent of the total forecast 'Transport' greenhouse gas emissions for Australia in 2029-2030. However, given that Australia faces significant environmental and economic impacts from climate change across a number of sectors, including water security, agriculture, coastal communities, and infrastructure, the cumulative impact of greenhouse gas emissions is an important issue requiring an effective international response. The EIS identifies a number of mitigation measures to minimise the proposed airport's greenhouse gas emissions.

27.3.3 Human health

A health risk assessment was undertaken for the chronic health risks which might result from the most likely pathways of exposure from the Stage 1 development. These were pollutant emissions to the atmosphere, noise exposure and surface and groundwater quality impacts during construction and Stage 1 operations. With regards to the health risks from air emissions, the modelling approach considers the cumulative impacts of the proposed airport development in combination with increased non-airport related traffic on major roadways near the airport site related to the urbanisation and development of Western Sydney.

While in general, the health risks of the Stage 1 development were low, some air pollutants emitted during operation were determined to be at the upper bound or marginally above levels considered to be acceptable by national and international regulatory agencies. Further analyses indicated that the primary causes of the elevated levels of risk were emissions from motor vehicles operating on roads outside the airport site that were non-airport related i.e. background traffic related to increased urbanisation and development. The contributions of these non-airport related motor vehicle emissions varies according to the estimate year and by pollutant but in 2030 includes: 88 per cent for carbon monoxide, 70 per cent for volatile organic compounds, 68 per cent for nitrogen dioxide and between 90-92 per cent for particulate matter.

The health risks identified for the Stage 1 development are all additional to the existing baseline level. In 2006, a Parliamentary Inquiry into the health impacts of air pollution in the Sydney basin found that despite evidence that air pollution had improved over the last 30 years, these improvements were offset by Sydney's growing population, particularly in the south-west and western areas of Sydney. Evidence provided by NSW Health at that time estimated that in Sydney, there was between 600 and 1,400 deaths per year due to air pollution in the Sydney basin. Additionally, a recent review of the *Fuel Quality Act 2000* estimated that in Sydney, NO₂ was responsible for 330 additional deaths per year and an additional 336 and 371 hospital admissions in 2015.

The health risk assessment finds that the risks posed by noise to the health of exposed communities is generally low and within acceptable limits. In addition, the assessment finds that potential health impacts to Sydney's drinking water supplies are unlikely. Due to this, it is not expected that there would be cumulative impacts associated with these pathways of exposure.

Managing the cumulative health impacts of proposed urbanisation and development in Western Sydney over the next several decades will be a challenging issue that will need to be addressed by the relevant government agencies.

27.3.4 Traffic and transport

The traffic impact assessment was undertaken using the Strategic Travel Model provided by the Transport for NSW Bureau of Transport Statistics to project travel patterns in the Sydney Greater Metropolitan Area. The model uses land use forecasts in the form of population and employment projections by travel zone combined with a detailed representation of the road and public transport networks to assess the impact of growth and trip making behaviour on transport infrastructure. Cumulative impacts associated with the proposed airport in conjunction with other major developments in Western Sydney are therefore inherently captured in the modelling approach.

Additional vehicle movements associated with the construction and operation of the proposed airport are not likely to affect the operation of the surrounding road network significantly. A plan would be developed in consultation with relevant stakeholders to control and manage traffic during the construction phase of the proposed airport development. Development of the plan would seek to ensure coordination of measures with any concurrent road works projects.

Significant road improvement works are part of the Western Sydney Infrastructure Plan and other planned developments in Western Sydney. These works may be concurrent with construction and operation of the proposed airport and may result in noticeable congestion at peak times and in certain locations on the surrounding road network. The existing road network and Western Sydney Infrastructure Plan works are, however, expected to provide sufficient capacity to cater for the traffic demand associated with the Stage 1 development and beyond.

The Australian and NSW governments are undertaking a joint scoping study into Western Sydney's rail needs, which will help to determine the need, cost, timing and route of a future rail connection to the airport site. A final alignment would be determined in consultation with the NSW Government.

27.3.5 Biodiversity

The progressive development and urbanisation of Western Sydney has placed increased pressure on the biodiversity values of the region including the endangered Cumberland Plain Woodland and a range of threatened flora and fauna. The cumulative impacts of the proposed airport and other developments would include further loss and fragmentation of habitat and creation of edge effects in retained remnant native vegetation.

The biodiversity offset package detailed in Chapter 16 and Appendix K2 (Volume 4) would help address unavoidable impacts of the proposed airport on Cumberland Plain Woodland and other threatened species, including the likely cumulative impacts outlined above. The quantum of biodiversity offsets required has been calculated in accordance with the *Environmental Offsets Policy* (DSEWPaC 2012) and NSW Government *Biodiversity Banking and Offsets Scheme* (BioBanking).

At this stage, most of the offsets package is planned to be delivered through the conservation of offset sites in perpetuity under the BioBanking scheme. Suitable offset sites have been identified for Cumberland Plain Woodland and other impacted biodiversity values at the airport site. Alternative mechanisms to offset impacts would be considered such as conservation projects, especially where they would be more readily implemented or achieve better conservation outcomes.

Long term development at the airport site would require separate calculation of any additional biodiversity offsets with reference to the prevailing airport master plan and the prevailing environmental offsets regulations. Due to the many employment, residential and transport infrastructure projects taking place in Sydney, including the North West Priority Growth Area and the Western Sydney Priority Growth Area, there is high demand for suitable biodiversity offsets. To address these cumulative impacts, strategic offsetting opportunities will need to be considered.

27.3.6 Surface water and groundwater

Site preparation and construction of the Stage 1 development would transform the site to a predominantly built environment, altering the nature of surface water flow in catchment areas within the airport site. The design of the Stage 1 development includes a water management system to control the flow of surface water and improve the quality of water prior to its release back into the environment. Modelling of the airport site indicates that the proposed water management system would be generally effective at mitigating impacts on water quality and flooding.



Planned future development in the vicinity of the proposed airport, including development associated with the Western Sydney Employment Area, Western Sydney Priority Growth Area and the South West Priority Growth Area has the potential to impact flooding and watercourse geomorphology. Any new development would be subject to requirements to review and mitigate impacts downstream through measures such as on-site detention.

Existing water quality at the airport site and surrounding areas is in a degraded condition due to land clearing and other historical land uses. With the mitigation proposed as part of the Stage 1 development, including the proposed bio-retention basins and other treatment measures, water quality is expected to improve relative to existing conditions. Using interim site-specific water quality trigger levels established for the site, water pollutant concentrations for Stage 1 operations are predicted to satisfy the water quality criteria at all the modelled locations.

27.3.7 Aboriginal, European and other heritage

The progressive development and urbanisation of Western Sydney has placed pressure on the Aboriginal and European heritage values of the locality.

Further development such as the proposed airport and other major projects and growth initiatives would result in an increasing pressure on Aboriginal, European and other heritage values to be retained in their original location and landscape setting.

The Department of Infrastructure and Regional Development will seek to establish, with the support and collaborative action of governments and other stakeholders, an Aboriginal cultural heritage 'keeping place' for archival storage of some artefacts salvaged from the airport site. Any such facility may also be used as a repository for Aboriginal cultural artefacts salvaged from other development sites in Western Sydney. The EIS mitigation measures also provide for reburial of other salvaged materials at a designated area on the airport site's Environmental Conservation Zone as a means of addressing cumulative impact on Aboriginal cultural heritage values. These measures are described in Chapter 19 and Appendix M1 (Volume 4).

Impacts to European and other cultural heritage values at the airport site would be mitigated and managed by a range of measures including further investigation and archival recording. These measures are described in Chapter 20 and Appendix M2 (Volume 4).

27.3.8 Planning and land use

The cumulative effects of the development of the Western Sydney Priority Growth Area, Western Sydney Employment Area and the South West Priority Land Release Area are expected to transform existing rural-residential land uses to urban land uses, particularly over the long term. In developing the Western Sydney Priority Growth Area (previously part of the South West Priority Growth Area and the Broader Western Sydney Employment Area) around the proposed airport site, the NSW Government and local councils have taken into consideration the potential cumulative opportunities and impacts from the proposed airport.



Planning for the proposed airport and surrounding land uses has been ongoing for a number of decades, across all levels of government. Land use planning controls have largely protected the airport site from incompatible development and reduce land use conflict between the airport and surrounding land uses. For example, lands adjoining the north-west and south-east sides of the airport site have been earmarked for commercial and industrial purposes. A formal Australian Noise Exposure Forecast (ANEF) chart will be prepared during the detailed airspace and flight path design process — based on projected long term airport operations — to ensure that local land use planning complements the future operation of the proposed airport.

27.3.9 Landscape and visual amenity

The implementation of the Western Sydney Priority Growth Area, South West Priority Land Release Area and Western Sydney Employment Area will contribute to changing the rural-residential character of Western Sydney. The proposed airport is expected to accelerate this process of urbanisation.

These projects will lead to increased urbanisation of the area over time and corresponding visual effects. The increased urbanisation of the area will generally reduce the impact of the airport development, including night sky glow, as it becomes a part of the developing urban visual character of the area.

27.3.10 Social

Western Sydney is undergoing a major transition to a more highly urbanised region. This transition will be accelerated by the various major employment, residential and transport infrastructure projects identified for Western Sydney, including the proposed airport development. The cumulative impacts of these projects will have both positive and negative aspects and are likely to be widespread.

Due to the Stage 1 development and other residential and transport initiatives, there will be more people forecast to live and work in Western Sydney, where business profits and household incomes will increase. This economic development will stimulate further development in regional and local centres and contribute to the provision of better quality social infrastructure, including shops, health services and recreation services. At the same time, there will likely be changes to social amenity and lifestyle, as urban development brings greater demand on social infrastructure, an increased number of cars on roads, more sources of noise, and further potential health risks.

27.3.11 Economic

The proposed Stage 1 development is predicted to generate a range of economic and employment impacts directly through investment and employment, and indirectly through demand generated by the proposed airport and the workforce at the airport site.



Western Sydney is undergoing a major transition to a more highly urbanised region, evidenced by numerous major residential and transport infrastructure initiatives such as the Australian Government's Western Sydney Infrastructure Plan, NSW Government's priority growth areas, multiple road and rail projects and the proposed airport. The cumulative impacts of these projects will result in economic benefits for Western Sydney and the wider region, and will lead to a greater proportion of Sydney's jobs and residents being located in Western Sydney. The proposed airport development will facilitate this development, through its predicted positive economic contribution to indicators such as value-add, business profits and household incomes.

27.3.12 Resources and waste

The generation of waste during construction and operation of the proposed airport would be reduced through the implementation of a waste management plan. Waste requiring disposal would be sent to an appropriately licensed facility. The waste management market in Western Sydney is mature and handles significant volumes of waste from various domestic, commercial and industrial sources across Sydney. Waste facilities in Western Sydney have sufficient capacity to handle wastes of the type and volume expected to be generated at the airport site in conjunction with the broader development of Western Sydney.

27.3.13 Greater Blue Mountains World Heritage Area

The proposed airport would have no direct impact on the Greater Blue Mountains. The contributory factors influencing potential cumulative impacts on the Greater Blue Mountains World Heritage Area (GBMWA) are potential direct impacts from increased urban development in the Blue Mountains and indirect impacts from overflight noise, air quality emissions and visual amenity. Indirect impacts associated with the operation of the airport are unlikely to have a significant impact on World Heritage values or the integrity of the listed property.

While the proposed airport would provide progressively increasing aviation capacity in the Sydney region, which could also parallel a growth in tourism and visitation for the GBMWA, it is very unlikely that an airport would directly contribute to inappropriate development or uncontrolled visitor access, particularly within the context of management plans which are already in place for the GBMWA. Other factors such as Sydney's expanding population are considered more likely to influence the need for any new management responses to threats posed by increased visitations.

The predicted increase in aircraft overflights over the GBMWA and their cumulative effect with existing overflights from other airports is considered in Chapter 26. Large areas of the World Heritage area would not experience aircraft overflights, or would do so infrequently. In those areas directly under or near flight paths, potential indirect impacts on amenity are not considered to be significant due primarily to the high altitude of operating aircraft.

27.3.14 Other developments on the airport site

The Airport Plan, when determined, will provide authorisation for additional non-aviation and commercial uses at the airport site within the Stage 1 construction impact zone and identifies permissible onsite uses outside the zone. The EIS identifies the biodiversity and heritage values of the airport site, including in those areas outside the Stage 1 construction impact zone. It also documents potential impacts on these values and the predicted economic benefits of commercial uses at the airport site. Issues such as increases in traffic generation, potential impacts on surface and groundwater quality and social equity considerations associated with additional non-aviation and commercial uses are not addressed. The potential cumulative impacts of these additional activities are acknowledged. Any future development of these or other types of non-aviation uses at the airport site outside the Stage 1 construction impact zone would be subject to separate environmental assessment and approvals processes under the Airports Act 1996.

27.3.15 Airport development beyond the proposed Stage 1 development

It is expected that the proposed airport would be progressively developed as demand increases beyond 10 million annual passengers. Additional aviation infrastructure and support services such as taxiways, aprons, terminals and support facilities would be required to service the growing demand.

The need for a second runway would be triggered when operational demand approaches 37 million annual passengers, which is forecast to occur around 2050. Conceptual layouts have been developed for an airport with the capacity to service approximately 82 million annual passengers. This level of patronage is forecast to occur by around 2063.

A strategic level environmental assessment of this possible long term development is provided in Volume 3 to provide an indication of the impacts associated with the progressive expansion of operations beyond the scope of the proposed Stage 1 development. Volume 3 also includes a strategic level assessment of predicted aircraft overflight noise for a scenario where the proposed first runway is operating at or near its design capacity. Any further developments by the Airport Lessee Company (ALC) on the airport site that are not covered by the Airport Plan determined by the Infrastructure Minister will be subject to the existing regulatory regime contained in Part 5 of the Airports Act 1996 after the airport lease has been granted. This includes the requirement for public consultation on and approval of a major development plan for major airport developments.

27.4 Conclusion

This assessment considers the potential cumulative impacts that may arise as a result of the construction and operation of the proposed airport and other major projects that are planned to occur in the vicinity of the airport site. The chapter identifies key major projects to consider in project planning and key cumulative risks.

As part of its Stakeholder and Community Engagement Plan, the Department of Infrastructure and Regional Development will liaise with the proponents for the major projects identified and key stakeholders (such as Roads and Maritime Services (RMS), Transport for NSW, the Department of Planning and Environment, and the Greater Sydney Commission) to reduce the potential for cumulative impact to arise during construction.

The highest risk for cumulative impact is the concurrent upgrade and relocation of The Northern Road and the construction of the M12 Motorway between the M7 and The Northern Road which could contribute to construction fatigue for surrounding communities. To manage this risk a high level of coordination will occur between the Department of Infrastructure and Regional Development, RMS and relevant construction contractors.

Prior to and during operations, the ALC and the Department of Infrastructure and Regional Development will liaise with Airservices Australia, the Civil Aviation Safety Authority, other Sydney basin airport operators, NSW Government agencies and other key stakeholders to identify measures to reduce the cumulative impacts of airport operations.