Australian Government

Department of Infrastructure, Regional Development and Cities

WESTERN SYDNEY AIRPORT
EDUCATION PROGRAM

Stage 3 Lesson 2: Badgerys Creek: from township to global hub

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Front cover image:
Badgerys Creek before and after

LESSON 2:
BADGERYS CREEK: FROM TOWNSHIP TO GLOBAL HUB

Inquiry questions

What changes occurred in Badgerys Creek and Western Sydney during the 20th century?

What changes are occurring in Badgerys Creek and Western Sydney today?

How might Western Sydney Airport affect local communities and the environment and how is this being minimised?

What are the planned benefits of this development for the locality and region?

Lesson focus

This lesson examines Badgerys Creek in 1901 along with the impact of key 20th century events including migration on the growth of Sydney's west. Current population and land use changes occurring in Western Sydney and Badgerys Creek, including Western Sydney Airport, are also examined briefly, together with the role of government in planning and responding to local, state, national and international trends and demands. A scenario is used for an investigative study and creative activity based on principles of sustainability.

Stage 3 syllabus topics

History K–10 Syllabus	Australia as a nation
Geography K–10 Syllabus	Factors that shape places

Syllabus outcomes

HT3-3: identifies change and continuity and describes the causes and effects of change on Australian society

GE3-1: explains interactions and connections between people, places and environments

Syllabus concepts

History	Cause and effects, change and continuity
Geography	Infrastructure, suburbanisation, population growth, Water Sensitive Urban Design

Learning across the curriculum

Sustainability, difference and diversity, critical and creative thinking, numeracy, literacy

Lesson requirements:

Interactive whiteboard and internet connection

Activity sheets

Activity Sheet 1 Events and developments in Australia and in Badgerys Creek during the 20th century

Activity Sheet 2 Population growth in NSW and Western Sydney

Activity Sheet 3 Talking heads

Activity Sheet 4 Mind map: What will be built on the Western Sydney Airport site?

Resources

Resource 1 Sydney basin map

Resource 2 Satellite images of Badgerys Creek and Sydney

Resource 3 Population growth in NSW and Western Sydney

Resource 4 Badgerys Creek environment

Resource 5 Changing environment: Stage 1 Western Sydney Airport

Resource 6 Guidelines: Talking Heads activity

Resource 7 Sustainability

Resource 8 Plan for Western Sydney Airport

Resource 9 Design ideas for Western Sydney Airport

Fact sheets for scenario activity

1. Biodiversity

2. Infrastructure

3. Employment

4. Cultural heritage

5. Environmental quality

6. A globally connected city

References

The *Environmental Impact Statement for the Western Sydney Airport 2016* is very useful for maps, diagrams and further information.

http://westernsydneyairport.gov.au

http://westernsydneyairport.gov.au/media-resources/resources/index.aspx

Western Sydney Airport Portal
https://v2.communityanalytics.com.au/dird/wsa

Western Sydney Airport Brochure
http://westernsydneyairport.gov.au/files/summary_brochure-an_airport_for_WS.pdf

Liverpool City Council's *Badgerys Creek Oral History Project*, 1994.

Liverpool City Council videos

- Western Sydney Airport
- Gateway to Sydney's Aerotropolis

https://www.youtube.com/user/LivCouncil/videos

Designboom image gallery

https://www.designboom.com/tag/airport-architecture-and-design/

Media reports

- Sydney Morning Herald Interactive Media report: Sydney 2026: the new airport

http://www.smh.com.au/interactive/2016/sydney2026/chapter3.html

- Before and after aerial shots of the fastest growing places in Australia – Oran Park

https://www.businessinsider.com.au/pictures-before-and-after-aerial-shots-of-the-top-10-fastest-growing-regions-in-australia-2017-8

- Badgerys Creek airport: 'Aerotropolis' will be known as Greater West City

https://www.dailytelegraph.com.au/news/nsw/badgerys-creek-airport-aerotropolis-will-be-known-as-greater-west-city/news-story/cf1193c048eb9edd36b166f96ff40ec0

PART 1: WHAT CHANGES OCCURRED IN BADGERYS CREEK AND WESTERN SYDNEY DURING THE 20TH CENTURY?

Background information

Badgerys Creek at the time of Federation

By 1900, a number of families had moved into the Badgerys Creek area, as larger estates were sub-divided into smaller plots of land of approximately one and a half to five hectares. Many families had moved from Sydney onto farmlands to escape the economic depression of the 1890s. In 1884, a post office became the hub of the small community. In 1895, the Badgerys Creek Public School opened, followed by the Uniting Church soon after. Farming was the main economic activity, with grazing of cattle, cropping, market gardens and orchards. By the early 1900s, about 40 families lived at Badgerys Creek, and by 1901 the population of the Liverpool District (including Badgerys Creek) had reached 3,901. Residents in the area included the Nobbs, Freeburn, Shadlow and Dorahy families. Many of these families remained in the area.

With the increase in the number of local children, a new building was added to the Badgerys Creek Public School in 1908. St John's Anglican Church began holding services in 1912. Major world events impacted this small community at various times. In 1910, British military commander, Lord Kitchener visited nearby Holsworthy and suggested that a permanent army barracks should be established there to train soldiers.

World War I

World War I broke out in 1914 and local men enlisted to fight overseas. Their names are on the Honour Roll at Luddenham Primary School. Two young local men were killed in France in 1916 and 1918. Pupils at the Badgerys Creek School knitted socks to send to the soldiers fighting in Europe. The war also affected surrounding districts. As Australia was at war with Germany, a German Internment Camp was set up at nearby Holsworthy, around 25 kilometres away. In many cases, these men had lived in Australia for many years and had volunteered to join the army, yet were suspected of being disloyal to Australia. Later some German prisoners of war were also interned there. However, in some ways, life continued in the district as before. In 1916, the Badgerys Creek Cricket Club was established. Cecil Vicary bought a farm for dairying and planted vines to establish a vineyard in 1917.

The Great Depression

The intervening years between World War I and World War II saw an increase in demand for local agricultural produce. The local timber industry expanded and the first wine was produced at Vicary's vineyard in 1923. In 1927, the Uniting Church was granted the right to add a cemetery.

The next major world event to change Badgerys Creek was the Great Depression, beginning in 1929. With the collapse of the economy, thousands of families were left destitute. Men lost their jobs and families were evicted from their homes. However, many older residents remembered that as children they had sufficient food to eat as most farms grew their own vegetables and fruit, and had access to eggs and milk. One resident recalled not being able to afford shoes as a child. Some remembered 'swaggies' visiting the area, as men without jobs had to travel between towns to collect government sustenance payments — the Susso. One resident recalled: '…Even if you didn't have much yourself you always gave them something to eat at the time'.

Arrival of World War II

The 1940s witnessed another world war. World War II broke out in 1939 and concluded in 1945. Enlistments were fewer than in World War I because the economy required men to work the land. During this time, the Ingleburn Military Camp, some 20 kilometres away, was set up to train soldiers for the war. As Italy had joined Germany in the war, men with an Italian background were interned at Holsworthy camp.

Post-war years of the 1950s

The 1950s witnessed the first wave of migrants to move from war-torn Britain and Europe to Australia. From 1952 several British families settled in the area. There were also families from Austria, Poland, Czechoslovakia (now the Czech Republic and Slovakia) and Italy. They established market gardens, raised poultry and cattle, and grew vegetables. They also relied on their own cows to produce butter and milk. As newly arrived migrants, many of the men had to work for the government for two years, some on the railways. Other men found work in local industrial areas around Liverpool, or at the nearby Sydney University Farm. Before the arrival of television, locals recall that the community had to make its own entertainment. Dances, film nights and other social events were popular. The observation of Empire Day (the celebration of the British Empire) involved children's races, followed by fireworks and bonfires. Older students travelled by bus to Liverpool to attend school. One older resident remembered: '…It was one of those delightful places where life progressed very slowly'. Another world event impacted the local area. From 1950 to 1953, soldiers were trained at Ingleburn Army barracks to fight in the Korean War.

Immigration and the 1960s

The 1960s saw new families move into the area and as most houses now had television, the older style of local entertainment lost its attraction. However, community dances continued at Luddenham Progress Hall until 1995. Again, another world event impacted on the local area. From 1965 to 1970, soldiers were trained at Ingleburn to fight in the Vietnam War. The period saw considerable opposition to the war across Australia as it progressed and some conscientious objectors to the war were interned at Holsworthy.

Through the following decades, industries were established in the Badgerys Creek area, including Ingham's Chicken, Boral Brickworks, Pacific Waste Management and several plant nurseries. Vicary's Winery continued to produce wine, and farms and market gardens continued to supply the local market. In 1986, the Australian Government began purchasing land to prepare for the establishment of an airport.

Lesson steps

1. Teacher reviews the previous lesson **Badgerys Creek's past** focusing on inquiry questions

- Who has lived in Badgerys Creek in the past?
- How do we know?
- How do environments and people influence one another?

2. Teacher provides a brief overview of Badgerys Creek/Australia's 20th century history.

3. Teacher and students collaboratively construct a comparative timeline on the whiteboard using the information in the box titled 'Local events and developments' on **Activity Sheet 1**. Plot key periods and events in Australia's 20th century history and in the history of Badgerys Creek. Students copy the completed timeline.

4. Teacher initiates class discussion around questions outlined on **Activity Sheet 1** and summarises key points raised during the discussion.

PART 2: WHAT CHANGES ARE OCCURRING IN BADGERYS CREEK AND WESTERN SYDNEY DURING THE 21ST CENTURY?

Background information

Population growth

Population growth is the number of people by which a population will grow. Population growth is made up of natural increase and net migration.

A significant proportion of Sydney's population growth over the next 20 years is projected to occur in Western Sydney.

Net migration occurs when more people arrive to live in a country, state or city than leave to live somewhere else.

Natural increase occurs when the number of babies born is greater than the number of people who die.

Badgerys Creek location for the Western Sydney Airport

Various governments since the 1940s have considered a second airport for the Sydney basin. Other sites in the Sydney basin have been considered over the years such as Galston, Richmond, Londonderry, Bringelly, Holsworthy and Warnervale. In 2012, a study found that by 2035 Sydney would definitely require another airport, as the projected demand for flights will not be able to be met at Kingsford Smith airport at Mascot. Badgerys Creek was decided on as the best site for a new airport as it connects to Sydney's road network and had little residential development nearby the airport site. As Western Sydney grows, it will benefit from an airport through increased tourism, jobs and business opportunities.

What is planned for Badgerys Creek?

The plans for Stage 1 of the Western Sydney Airport, which is due to open in 2026, include a single 3,700 metre long runway, a terminal and support facilities and the capacity for 10 million domestic and international passengers annually, as well as freight transport. Further expansion will occur as the number of flights increase. It is planned that a second runway will be required by 2050.

The airport will be built and operated by Western Sydney Airport, a new company established by the Australian Government. Western Sydney Airport will lease the airport from the Australian Government.

Local, state and federal government.

Badgerys Creek is in the Liverpool Local Government Area, one of the largest local government areas in Sydney, with a rapidly growing multicultural population. It covers 306 square kilometres, contains 42 suburbs, and has a population of 217,000.

The NSW Government is planning the land around the airport and investigating opportunities for new jobs, homes and services in Western Sydney. The Greater Sydney Commission is working with Western Sydney councils. It is planning development near the airport site with Liverpool City and Penrith City Council. It is also working with Camden Council to plan for new homes, like those at Oran Park.

The Australian Government is responsible for planning on the airport site. The different governments are working together on planning. The new airport will be a catalyst for new jobs and economic growth in Western Sydney, the Sydney Metropolitan Region and wider NSW.

Lesson steps

5. Teacher locates Badgerys Creek on a map of the Sydney basin (**Resource 1**) and satellite images of Sydney and Badgerys Creek (**Resource 2**) to identify the airport site and surrounding land uses. Students are taken on a virtual tour of the area using Google Earth, Google Maps or another interactive satellite map. Students identify natural and human features and discuss the advantages of Badgerys Creek as the site of Western Sydney Airport. Record these on **Activity Sheet 2** Question 1.

6. Teacher displays selected population stimulus material (**Resource 3**) on the whiteboard to discuss population and population change. Explain the concept of a population projection. Students complete **Activity Sheet 2** Question 2.

7. Students work in pairs to brainstorm the consequences of population growth in Western Sydney. They create two flow diagrams in **Activity Sheet 2** Question 3.

8. Teacher explains that a growing population needs housing, facilities, services and infrastructure, drawing on the student's flow diagrams. This means the development of more suburbs. This is called suburbanisation. Teacher shows a video clip of Carnes Hill or Oran Park as examples of new urban development in Western Sydney to house the growing population. Alternatively, teacher displays satellite images that show change over time at Oran Park and The Ponds using the Sydney Morning Herald interactive media report or images of Oran Park in the Business Insider media report.

Video

Time lapse Carnes Hill
https://www.youtube.com/watch?v=Wl7pMoZ09sU

Oran Park
https://youtu.be/ZMyb0QvdMQc

Satellite images Oran Park and The Ponds

Sydney Morning Herald Interactive Media report: Locate the section titled, 'Where we will live'. Scroll to 'The Fringe' to locate interactive satellite images of Oran Park and The Ponds.

https://www.smh.com.au/interactive/2016/sydney2026/chapter4.html

Before and after aerial shots of the fastest growing places in Australia (number 10 is Oran Park)

https://www.businessinsider.com.au/pictures-before-and-after-aerial-shots-of-the-top-10-fastest-growing-regions-in-australia-2017-8

9. Teacher briefly explains what is planned for Badgerys Creek. Students investigate changes to the landscape that will occur with the construction of Western Sydney Airport using **Resources 4 and 5**. They reflect on what they have learned about population growth and change in Western Sydney to answer Questions 4 and 5 on **Activity Sheet 2**.

Note: If internet access is available students can use the Western Sydney Airport Portal 3D orbit and photo slider tools to carefully study the airport site shown in **Resource 5**.

Western Sydney Airport Portal

https://v2.communityanalytics.com.au/dird/wsa/orbit

Note: The video clips on the portal will be used in the next 2 activities.

PART 3: HOW MIGHT WESTERN SYDNEY AIRPORT AFFECT LOCAL COMMUNITIES AND THE ENVIRONMENT AND HOW IS THIS BEING MINIMISED?

Background

Biodiversity is the variety of all living things; the different plants, animals and microorganisms.

Infrastructure refers to the basic facilities and installations needed by communities, including roads, rail, schools, phone lines, sewage treatment plants and power connections.

Cultural heritage is the features of a society inherited from past generations, maintained in the present to benefit future generations. Cultural heritage refers to features from Indigenous and non-indigenous societies.

Environmental quality is about the condition of an environment, most commonly used when describing natural features such as air and water quality.

Global hub refers to a place that is well connected to the rest of the world, particularly for business and travel purposes, including migration.

Environmental Impact Statement

An Environmental Impact Statement (EIS) is a publicly available document describing in detail the effects a development proposal will have on the environment and how best to manage those impacts.

Introduction

Community consultation has been a part of the Western Sydney Airport development process. During consultation meetings with community members some concerns have been raised about impacts of the airport on the local community and environment. In this activity students will form advisory groups to investigate one of these concerns.

For their topic, students will research and report on the following:

- What will change?
- What the impacts of the change will mean for Western Sydney?
- Proposed strategies to reduce negative impacts and increase positive impacts.

Lesson steps

10. Teacher shows the Overview video from the Western Sydney Airport Portal and briefly discusses Environmental Impact Statements and the consultation process that takes place for big developments such as an airport.

Western Sydney Airport Portal
https://v2.communityanalytics.com.au/dird/wsa#

11. The teacher uses **Resource Sheet 6** to discuss the scenario for this activity and explains the terminology eg biodiversity, infrastructure.

12. Students work in groups to complete **Activity Sheet 3**. Each group is provided with two copies of an A3 Talking Heads template (for draft and final copies), a fact sheet and other suggested resources to assist with the task.

13. Each Talking Head response will be placed around the classroom. Students will move in their groups to read and discuss each topic. They will evaluate each response and add a comment to the A3 Evaluation on the wall beside each Talking Head poster. Students contribute to a class discussion. Groups can adjust their poster in response to the feedback.

14. The completed Talking Heads will be collated to create a poster, which could be presented at a community consultation meeting about the airport. The poster could also be displayed in libraries as a summary of the benefits of the airport and strategies to minimise negative impacts.

Printing

Talking Heads Templates: 6 templates.
Print 2 copies of each Talking Heads template in A3 size.

Evaluation: 1 template.
One per group printed in A3 size to be posted beside their Talking Head poster on the classroom wall for groups to comment.

PART 4: DESIGNING A SUSTAINABLE AIRPORT

Background

Sustainability is about the capacity of the environment to continue to support our lives and the lives of other living creatures into the future.

Geography K–10 Syllabus

https://syllabus.nesa.nsw.edu.au/hsie/geography-k10/geographical-concepts/

People, Planet, Profit is a phrase used to describe the goal of sustainability:

- benefits to people and communities (people)
- reducing environmental impact by carefully managing the use of natural renewables and reducing waste (planet)
- benefits to the economy eg jobs, income, profitable business (profit)

Water Sensitive Urban Design (WSUD) promotes the sustainable use and re-use of water in urban development and buildings. WSUD uses urban planning and design to re-use stormwater, to stop it reaching waterways by mimicking the natural water cycle. Strategies include collecting water in rainwater tanks, water recycling, using wetlands, rain gardens and grassed swales to increase infiltration (water soaking into the ground) and reduce run-off.

Smart buildings use technology to automatically control operations such as heating, ventilation, air conditioning, lighting and security. A smart building has features such as sensors, which collect data to help reduce energy use, optimise how space is used and minimise the environmental impact of buildings.

Green Star is Australia's national, voluntary sustainability rating system for buildings and communities.

National Australian Environment Rating System (NABERS) is a six-star scale that rates the environmental performance of buildings for energy efficiency, water efficiency, waste management and indoor environmental quality.

http://www.nabers.gov.au/

Introduction

Students will work in pairs or small groups to create a plan for a section of the Western Sydney Airport to incorporate sustainability features.

Lesson steps

15. Discuss the features found at an airport using guiding questions such as:

- Who has been to an airport?
- What do you find there?

16. Teacher shows video clips 4 and 5 from the Western Sydney Airport Portal (Stage 1 and long term) and displays the indicative airport layout for Stage 1 (**Resource 8**) to observe different features of the airport. Students complete a mind map on **Activity Sheet 4**. What will be built on the Western Sydney Airport site?

Teacher may also like to show the video clip Auckland Airport vision to 2044:

https://www.youtube.com/watch?v=ksgP6tr5UwY&t=41s

17. Class discusses the concepts of sustainability using **Resource 7** to answer the following questions:

- What is meant by sustainability?
- What resources should be used sustainably?
- What are the features of a sustainable building?
- What are the sustainability requirements for Western Sydney Airport?

Teacher explains sustainability strategies such as Water Sensitive Urban Design and Green Star buildings, drawing on prior learning about biodiversity, water, air and noise pollution.

Water Sensitive Urban Design animation:

https://www.youtube.com/watch?v=3uCk_O3yaL0

18. Teacher shows the below video as the basis for discussing Reduce, Reuse, and Recycle concepts. Students create a list of ideas on **Activity Sheet 4** that could be used for Western Sydney Airport.

Hong Kong: Building a green airport:

https://www.youtube.com/watch?v=N7APHRsUUpk&t=3s

19. Students select a design option:

- A floor plan for a part of the airport terminal (inside the terminal) eg arrival, departure and security halls, retail and food section, an entertainment precinct, duty free.
- A building design for the airport terminal eg What will the building look like? What will the building be made of? What shape will it be? What sustainability features can you see looking at the building?
- A landscape plan: airport grounds around the terminal building including open spaces, gardens, footpaths, parking and public transport zones.

Options for presentation

- model or diorama
- digital eg Minecraft or drawing software
- drawing of the floor plan, landscape plan or building design annotated with images (diagrams or photographs) to show their vision of the place they have designed

Modification: Class designs a section together

Note: Students completing a landscape plan will need a blackline map of the airport site.

Students completing a building plan can be given a blackline map of the airport site from which they can draw a larger diagram of the section they will be designing.

ACTIVITY SHEETS

ACTIVITY SHEET 1

EVENTS AND DEVELOPMENTS IN AUSTRALIA AND IN BADGERYS CREEK DURING THE 20TH CENTURY

Select the appropriate event/development for Badgerys Creek and the broader local area for each of the decades listed in the **Timeline for Australia** below. The events/developments are listed over the page in **Local events and developments**.

Timeline for Australia	Events/developments in Badgerys Creek and the local area
1901: Federation	
1901–1909:	
1910–1919: World War 1	
1920–1929:	
1930–1939: Great Depression and commencement of World War II	
1940–1949: World War II	
1950–1959: Australian involvement in the Korean War and commencement of post World War II migration	
1960–1969: Commencement of Australian involvement in the Vietnam War 1962	
1970–1979: End of the Vietnam War 1975	
1980–1989:	
1990–1999:	

ACTIVITY SHEET 1

EVENTS AND DEVELOPMENTS IN AUSTRALIA AND IN BADGERYS CREEK DURING THE 20TH CENTURY

Local events & developments:

Badgerys Creek Cricket Club established in 1916; 1986 the Australian Government began to buy up land for the Airport; 1916 local man Roderick Kerr died of wounds in France; local unemployed relief schemes set up in 1930s; 1904 market gardens thriving; 1990s Badgerys Creek butchery demolished (after opening in 1886); nearby Ingleburn Military Camp established to train soldiers in 1940s; new school building added to Badgerys Creek Public School in 1908; 1912 St Francis Xavier Church built at Luddenham; 1940 Badgerys Creek Public School became a full Public School again; 1953 Rolf Wiener, born in Austria, bought a poultry farm; 1960s land at Badgerys Creek still used for dairy and poultry farming, bee keeping and market gardens; 1927 the Uniting Church was granted the right to have a cemetery; 1989 Badgerys Creek post office closed; 1918 local man Frank Farrah killed in action in France; 1900s St John's Church built; 1910 orchards planted by the Longley family at Braeburn homestead; 1917 Cecil Vicary planted grape vines at Vicary's Vineyard; 1965–1970 soldiers trained at nearby Ingleburn Army Barracks for the Vietnam War; 1990s St Francis Xavier Church relocated to Greendale; 1950s a number of government-funded telecommunication research stations established on the old Thomas Laycock Cottage Vale estate; 1947 Vicary granted a license to sell wine at his vineyard; 1996 the population numbered 482; 1960 Yero Bautovich from Yugoslavia became a resident; 1914 a German Internment Camp set up at Holsworthy, later German POWs were included; Italians interned at Holsworthy in World War II; 1981 the population was 1,560; 1992 St John's Church demolished; 1950–1953 soldiers trained at nearby Ingleburn Army Barracks for the Korean War; 1936 University of Sydney built a facility at Badgerys Creek to train veterinary students in animal husbandry; 1920 further rural development occurred at Badgerys Creek following the subdivision of James Badgery's original land grant; 1970s many old cottages and rural allotments remained in use.

Class discussion:

- How have key historical events of the 20th century affected Badgerys Creek and its local area?
- If there are any gaps in the timeline, where might students find further information?
- What has changed and what has remained the same in Badgerys Creek over the 20th century?

ACTIVITY SHEET 2
POPULATION GROWTH IN NSW AND WESTERN SYDNEY

1 Natural and human features of Badgerys Creek

Natural	Human

What makes Badgerys Creek a good location for an airport?

2 Population diagrams and graphs (Population projections)

a. How many people will be added to the NSW population between 2011 and 2036?

b. Calculate the difference between the number of people added by natural increase and the number added by migration

c. Where do most people migrating to NSW come from?

d. What percentage of Sydney's population lives in Western Sydney?

e. How many people will be added to the population of Western Sydney between 2016 and 2036?

f. Name four multicultural groups in Western Sydney

g. Suggest why information about cultural groups would be important when planning new suburbs

ACTIVITY SHEET 2
POPULATION GROWTH IN NSW AND WESTERN SYDNEY

h. Select the correct answer. Most people in the Liverpool City Area

- ☐ Live and work in the area
- ☐ Work outside the area

i. Suggest why information about where people work would be important when planning for population growth in Western Sydney

3 The impacts of population growth

Work in pairs to brainstorm the consequences of population growth in Sydney and Western Sydney. Construct two flow diagrams showing possible effects (good and bad consequences) of population growth in Western Sydney. Use the example below for ideas.

Example

Population growth → More children born → Crowded schools → More schools need to be built

ACTIVITY SHEET 2

POPULATION GROWTH IN NSW AND WESTERN SYDNEY

Reflect on what you have learned about population growth and change in Western Sydney to answer Questions 4 and 5.

4 **Briefly explain why suburbanisation is happening in Western Sydney**

5 **Briefly describe how the Badgerys Creek area will change, both positively and negatively, when Western Sydney Airport is built**

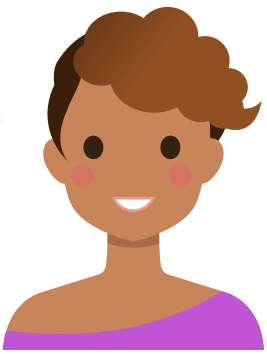
ACTIVITY SHEET 3
TALKING HEADS

TOPIC: _____

What will change:

What will the impacts of this change mean for Western Sydney (good and bad)?

Proposed strategies to reduce negative impacts and increase positive impacts:



Created by Freepik

ACTIVITY SHEET 3
TALKING HEADS

Evaluation: Talking Head group

Group responding	Question 1	Question 2	Question 3	Evaluation score
	What did you learn from this Talking Head?	Which strategy to reduce negative impacts and increase positive impacts do you believe will be the most successful?	Do you have any questions to ask this group or points you want explained?	**1.** Needs more detail or no suggestion given **2.** Some good information and ideas **3.** Very thorough and informative with interesting suggestions
Group 1				
Group 2				
Group 3				
Group 4				
Group 5				
Group 6				

ACTIVITY SHEET 4

MIND MAP: WHAT WILL BE BUILT ON THE WESTERN SYDNEY AIRPORT SITE?

Mind map: What will be built on the Western Sydney Airport site?

Possible sustainability features for Western Sydney Airport

My design:

I have chosen to create a...

I will present my design as...

Reflection:

What did I learn completing this activity?

If I could redo this activity I would...

ACTIVITY SHEET 4
EXIT STATEMENT

Exit statement on completion of this study

Five things I learned completing the lessons for this unit of work

These can be about Badgerys Creek, Western Sydney or Western Sydney Airport

Give each statement a one word heading

1

2

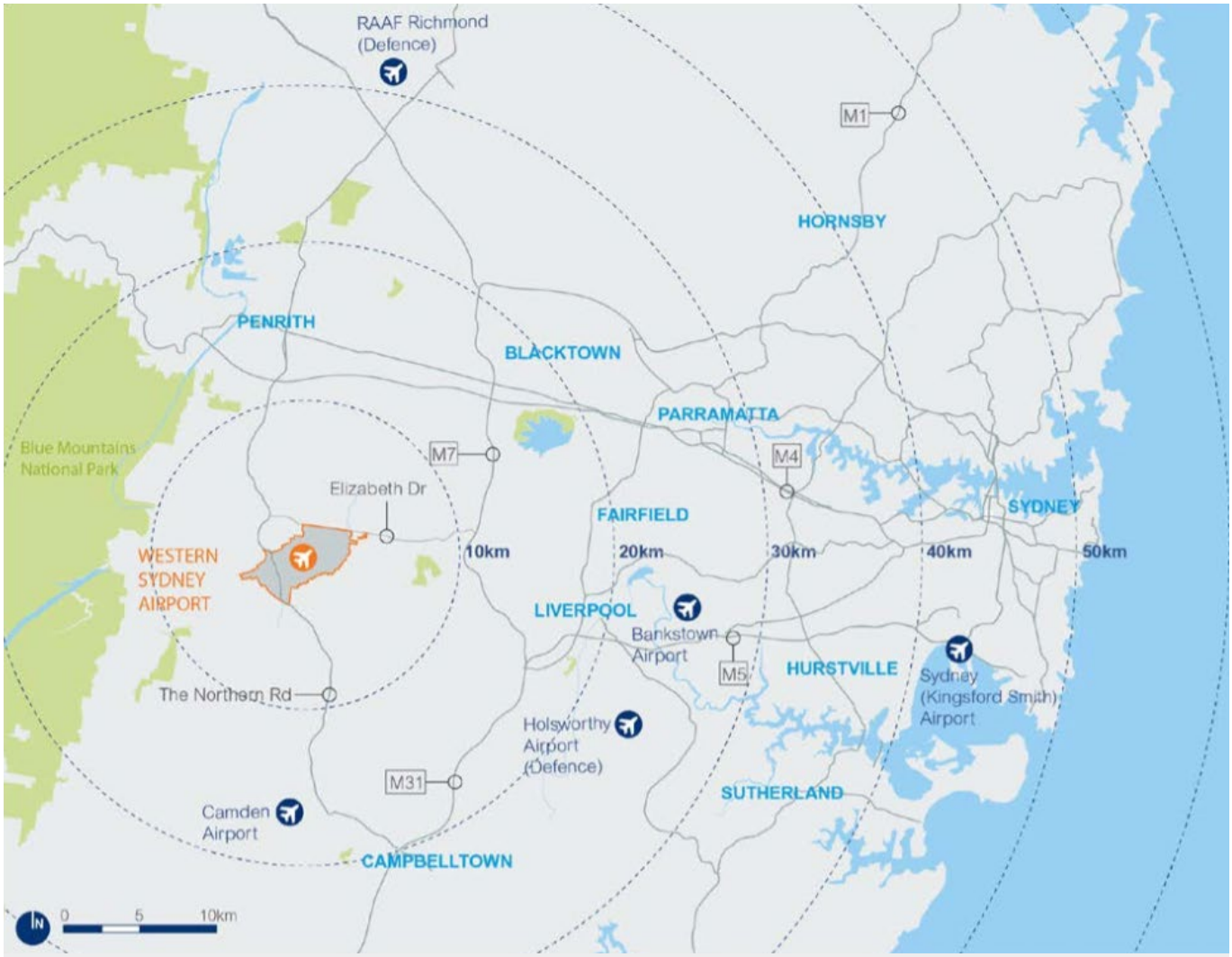
3

4

5

RESOURCES

RESOURCE 1
SYDNEY BASIN MAP

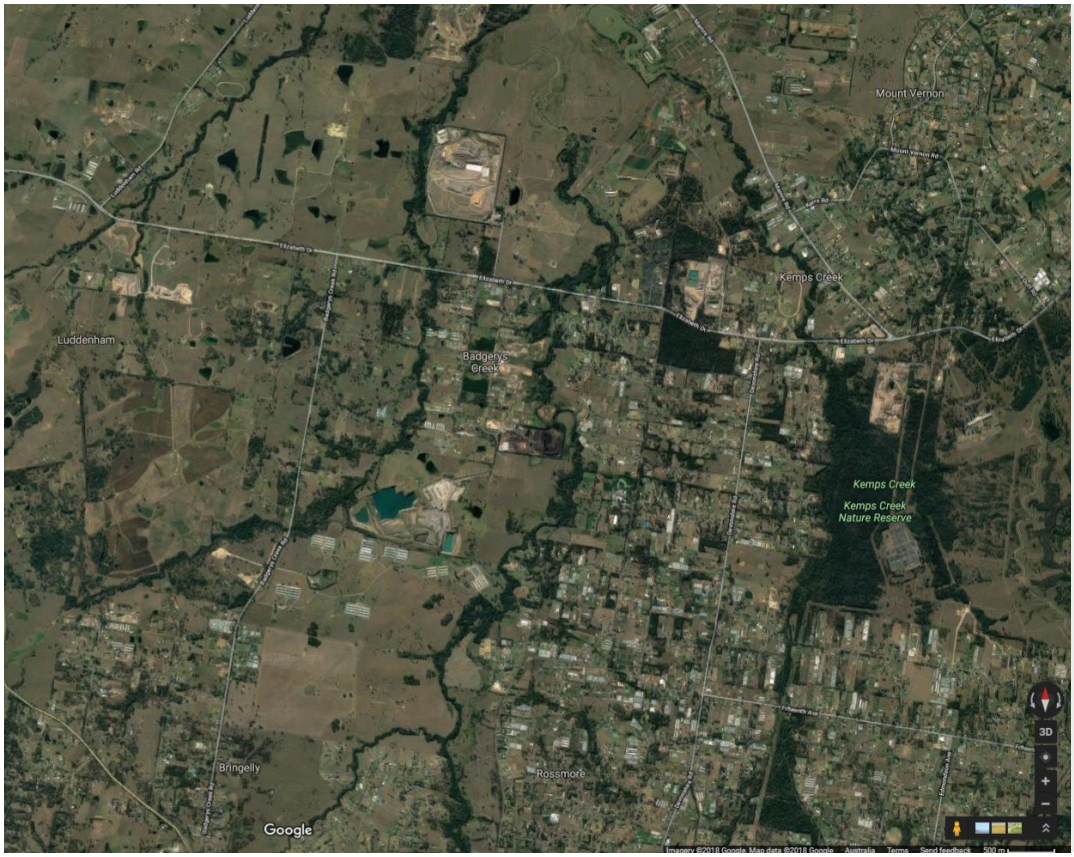


Map of Sydney showing the location of Western Sydney Airport

Source: Western Sydney Airport Environmental Impact Statement

RESOURCE 2

SATELLITE IMAGES OF BADGERYS CREEK AND SYDNEY

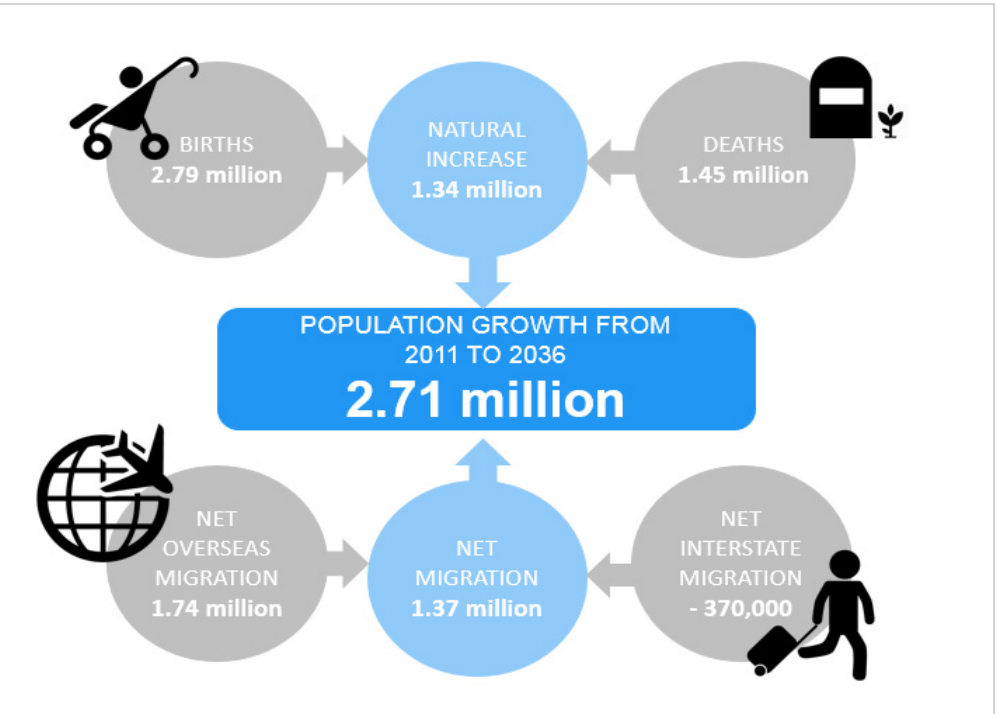


Satellite photo Badgerys Creek 2017

Satellite photo of the Greater Sydney Region 2017

RESOURCE 3
POPULATION GROWTH IN NSW AND WESTERN SYDNEY

Population growth in NSW



Population growth in NSW

Source: New South Wales Department of Planning and Environment

Population growth in Western Sydney

1. 'More than ¾ of the NSW population growth between 2006 and 2016 was in Sydney, which reached a population of 5 million during 2016.'

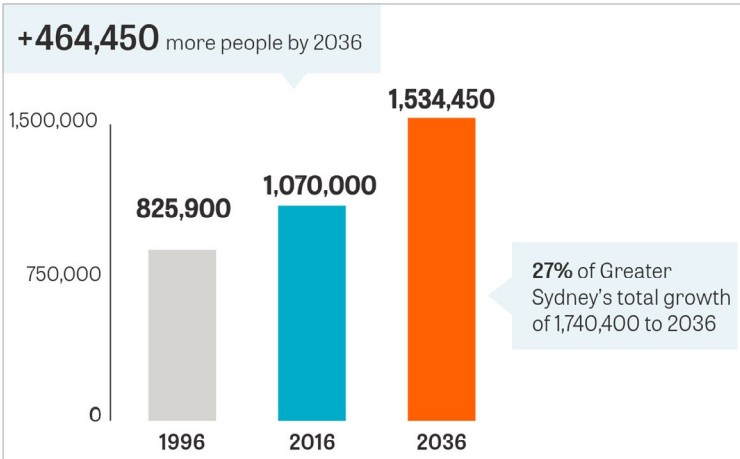
Source: Australian Bureau of Statistics Media Release July 2017

2. 'Western Sydney is a dynamic multicultural region and is currently home to around 47% of Sydney's population and 9% of Australia's population. Over the next 20 years, the number of people in Western Sydney will grow faster than other parts of Sydney, with almost 1 million more people expected to live west of Homebush by 2031'.

Source: Western Sydney Airport EIS Volume 1, 2016

RESOURCE 3
POPULATION GROWTH IN NSW AND WESTERN SYDNEY

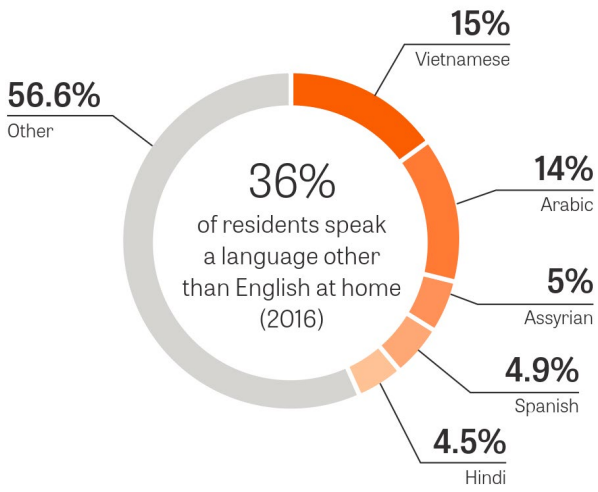
Population growth in Western Sydney



Population growth in Western Sydney, 1996–2036

Source: Greater Sydney Commission

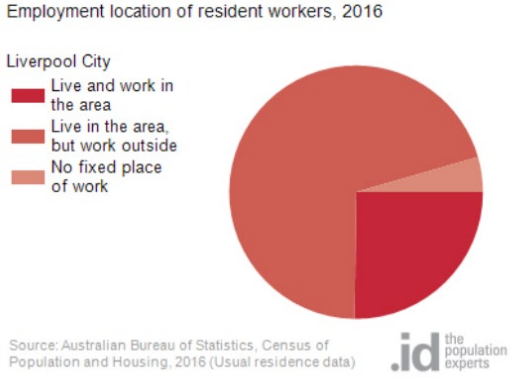
Multicultural Western Sydney



Multicultural Western Sydney

Source: Greater Sydney Commission

Where do people in Western Sydney Work?



Where do people in Liverpool work?

Source: profile.id

RESOURCE 4
BADGERYS CREEK ENVIRONMENT

Aerial photograph of Badgerys Creek in 2016

Aerial photograph of Badgerys Creek in 2016

Source: Western Sydney Airport Portal

Ground-level photographs of Badgerys Creek

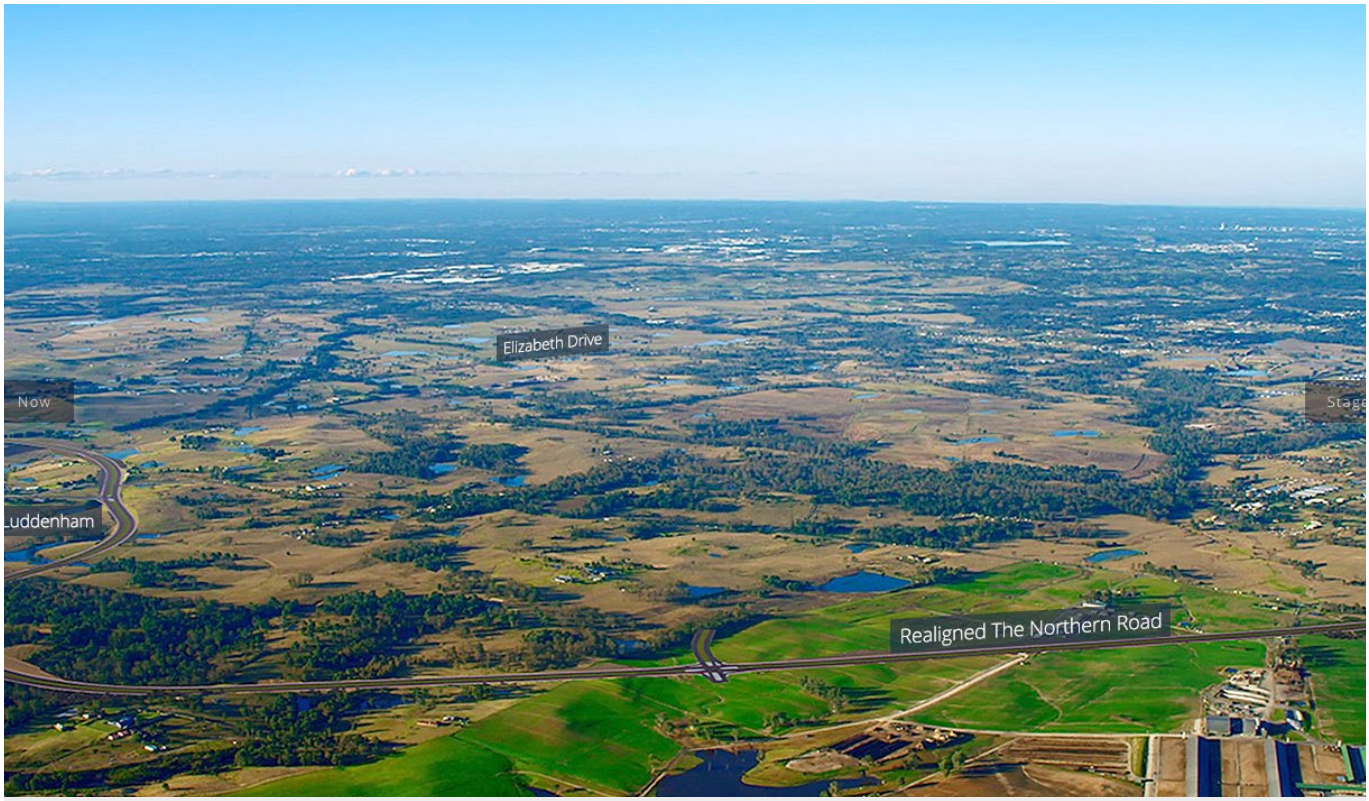
Views at Badgerys Creek

Source: Western Sydney Airport Environmental Impact Statement

RESOURCE 5

CHANGING ENVIRONMENT: STAGE 1 WESTERN SYDNEY AIRPORT

Images showing change from today to Stage 1 completion

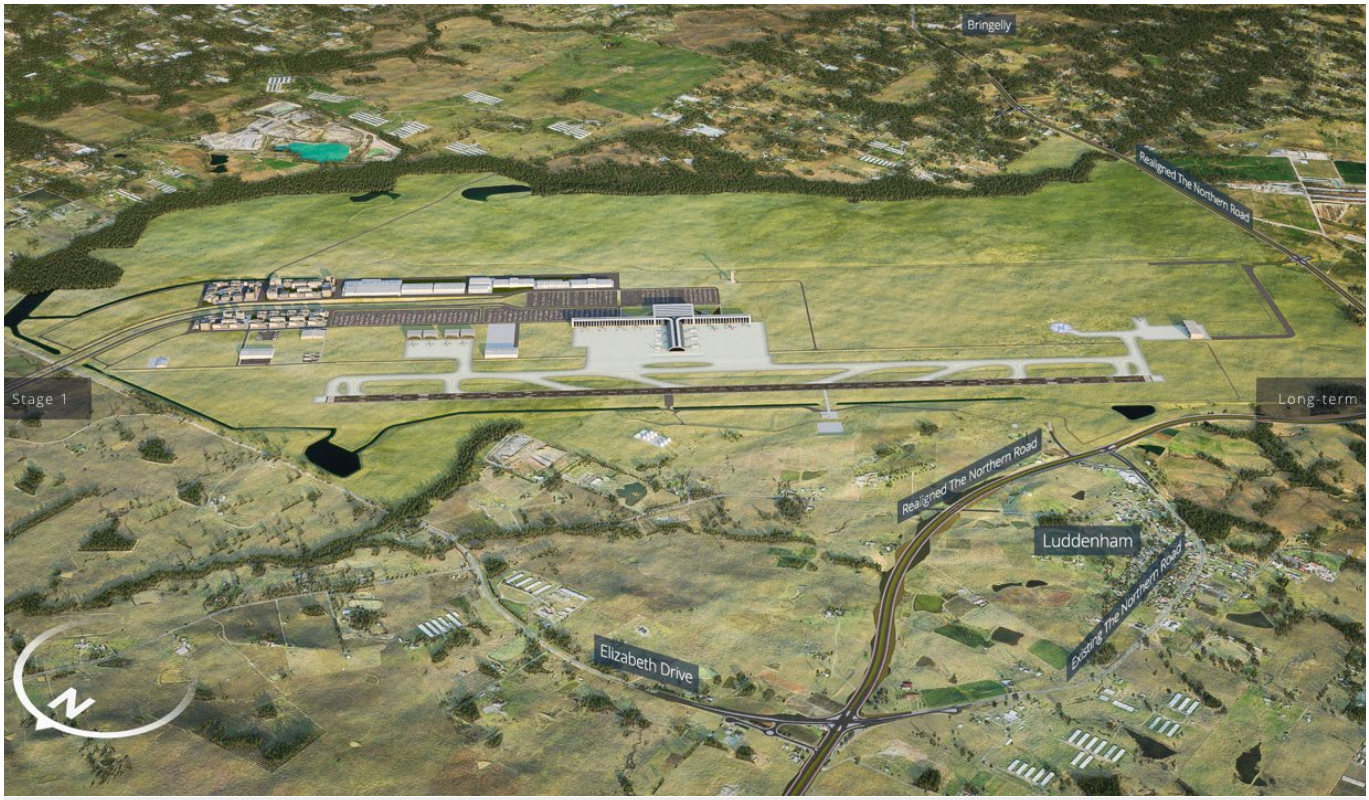


Images showing how the airport site will change from today to Stage 1 completion

Source: Western Sydney Airport Portal

RESOURCE 5
CHANGING ENVIRONMENT: STAGE 1 WESTERN SYDNEY AIRPORT

Images showing change from today to Stage 1 completion



Images showing how the airport site will change from today to Stage 1 completion

Source: Western Sydney Airport Portal

RESOURCE 6
GUIDELINES: TALKING HEADS ACTIVITY

The planning that takes place for any large development, such as an airport, involves community consultation meetings. Government representatives, business people, local community groups and individuals attend these meetings to get information, express opinions, put forward ideas and ask questions.

In this scenario, there have been several community meetings with residents of Western Sydney, particularly those close to Badgerys Creek, about plans for the airport. Some concerns that have been raised require investigation. These concerns are listed below.

1. What is being done to protect plants and animals at Badgerys Creek? (Biodiversity)

2. There will be more cars on the road travelling to the airport. Is there a plan for roads and transport to stop congestion? (Infrastructure)

3. How will Western Sydney Airport benefit our local communities? How many jobs will there be? How do we know that the jobs will go to local people? (Employment)

4. My parents have lived in Badgerys Creek all their lives. They are worried the heritage will be forgotten. What will happen to the heritage of Badgerys Creek and Aboriginal artefacts on the airport site? (Cultural heritage)

5. I came to live in the Blue Mountains to raise my family in a quiet, clean environment. How will the airport affect the Blue Mountains World Heritage and National Parks? What about pollution and noise from planes? (Environmental quality)

6. People keep telling us that the airport will make Badgerys Creek and Western Sydney more globally connected. I need this explained in more detail. Why is this a good thing for Western Sydney? (A globally connected city)

Your advisory groups have been employed to research these concerns, identify strategies planned to address them and propose other practical strategies.

Each group will be allocated one topic area with its own resources and instructions.

Your group will present its conclusions and suggestions on a Talking Heads diagram. Each Talking Head will be placed around the classroom. Groups will rotate around the room to read and discuss how each concern has been addressed, then will evaluate each response using the feedback form on the wall beside each poster. After a class discussion, groups can adjust their Talking Head in response to the feedback.

The completed Talking Heads will be collated to create a poster to present to the next community consultation meeting to allay fears and concerns about the airport. The poster will also be displayed in libraries as a summary of the benefits of the airport and strategies that will be used to minimise negative impacts.

RESOURCE 6
GUIDELINES: TALKING HEADS ACTIVITY

Each group will be provided with a fact sheet on their topic and other suggested resources

Group 1: Biodiversity

Fact sheet 1

Western Sydney Portal Video clip 7

Guidelines

Group 2: Infrastructure

Fact sheet 2

Western Sydney Portal Video clips 1 and 3

Western Sydney Infrastructure Plan Overview video:

https://www.youtube.com/watch?v=tgAJyym0R8I

Guidelines

Group 3: Employment

Fact sheet 3

Western Sydney Portal Video clips 1 and 2

Guidelines

Group 4: Cultural heritage

Fact sheet 4

Guidelines

Group 5: Environmental quality

Fact sheet 5

Western Sydney Portal Video clip 7

Guidelines

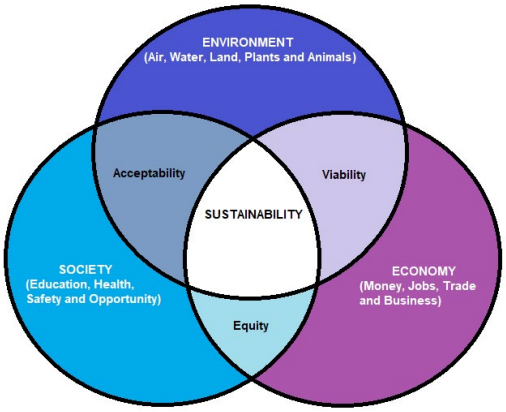
Group 6: A globally connected city

Fact sheet 6

Western Sydney Portal Video clips 1 and 6

Guidelines

RESOURCE 7
SUSTAINABILITY



What is sustainability?

Source: Department of Infrastructure, Regional Development and Cities

Features of a sustainable urban development

Features of sustainable urban development

Source: Lehmann (2011)

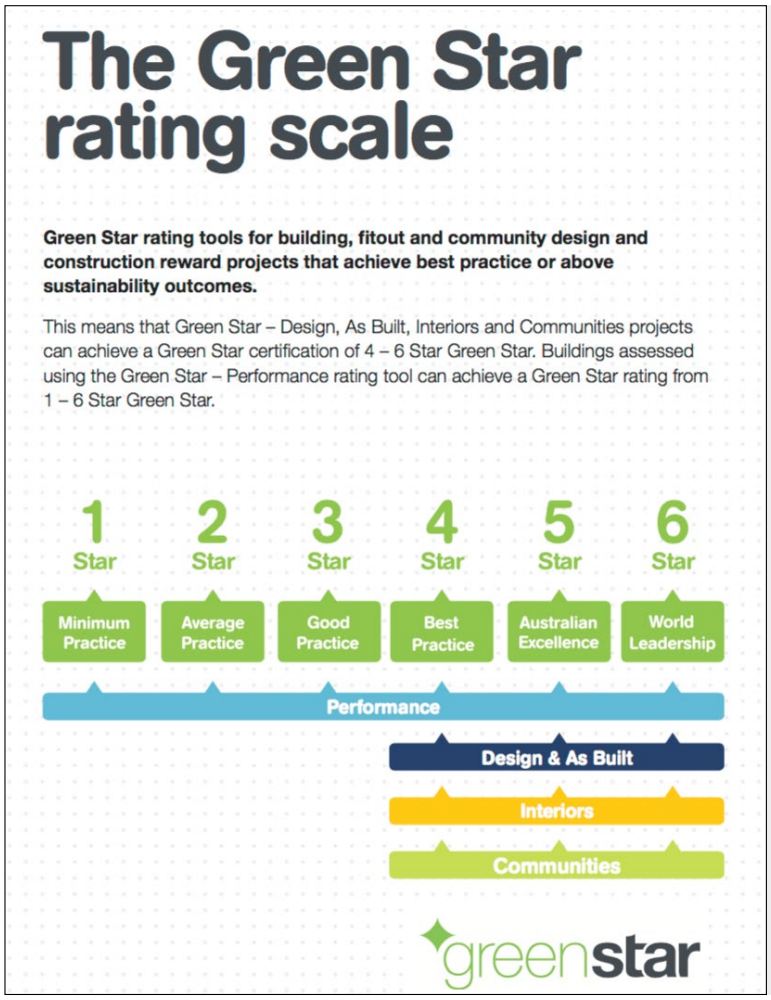
This image shows some of the ways neighbourhoods can be sustainable, for example:

- solar cells convert solar energy into electricity
- car pooling to reduce use of private cars
- safe footpaths and bikeways to encourage active transport
- street rainwater is treated locally and flows into the lake instead of to a treatment plant
- waste is used to produce heating and electricity
- low-flushing toilets reduce water consumption

RESOURCE 7
SUSTAINABILITY

Green Star sustainability rating system

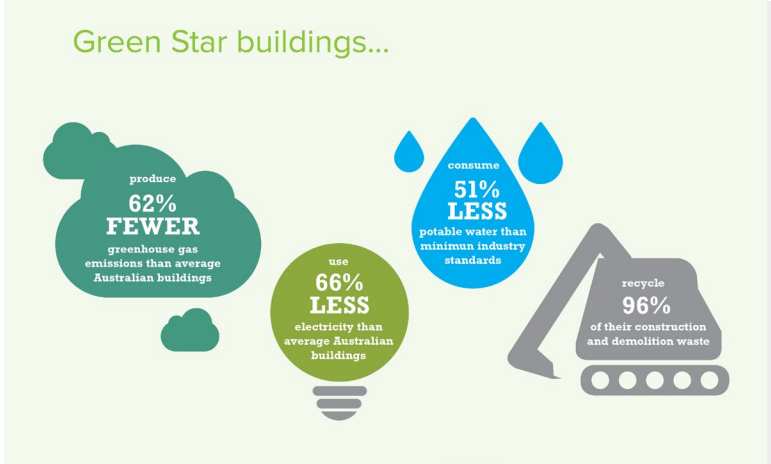
'Our built environment is currently the world's single largest contributor to greenhouse gas emissions, and also consumes around a third of our water and generates 40 per cent of our waste. Green Star is helping to improve environmental efficiencies in our buildings, while also boosting productivity, creating jobs and improving the health and wellbeing of our communities.'



Green Star ratings

Source: Green Building Council of Australia

Features of a sustainable building



Benefits of a Green Star rated building

Source: Green Building Council of Australia

Green Star categories

Green Star assesses and rates buildings, fitouts and communities against a range of environmental impact categories. Green Star rating tools for individual building and fitout design, construction and operations assess projects for:

Management

Indoor Environment Quality

Energy

Transport

Innovation

Water

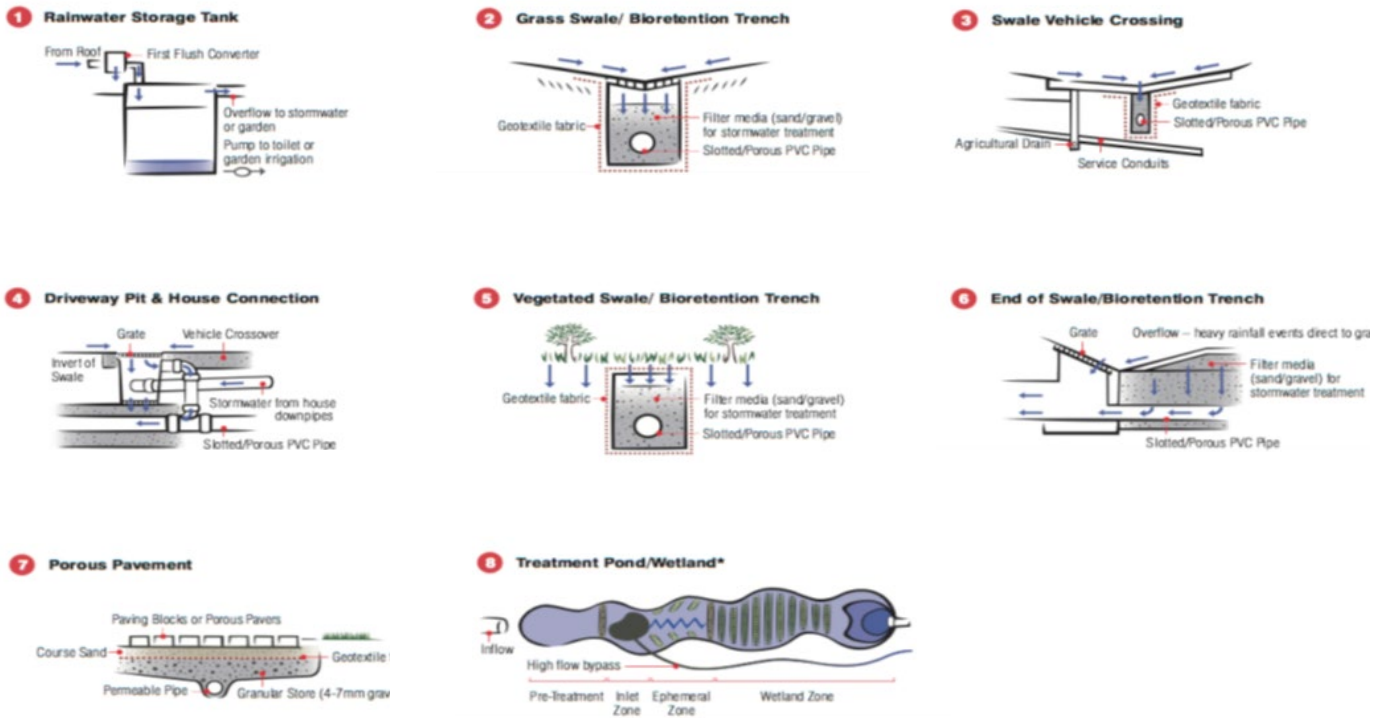
Materials

Land Use and Ecology

Emissions

RESOURCE 7
SUSTAINABILITY

Water Sensitive Urban Design

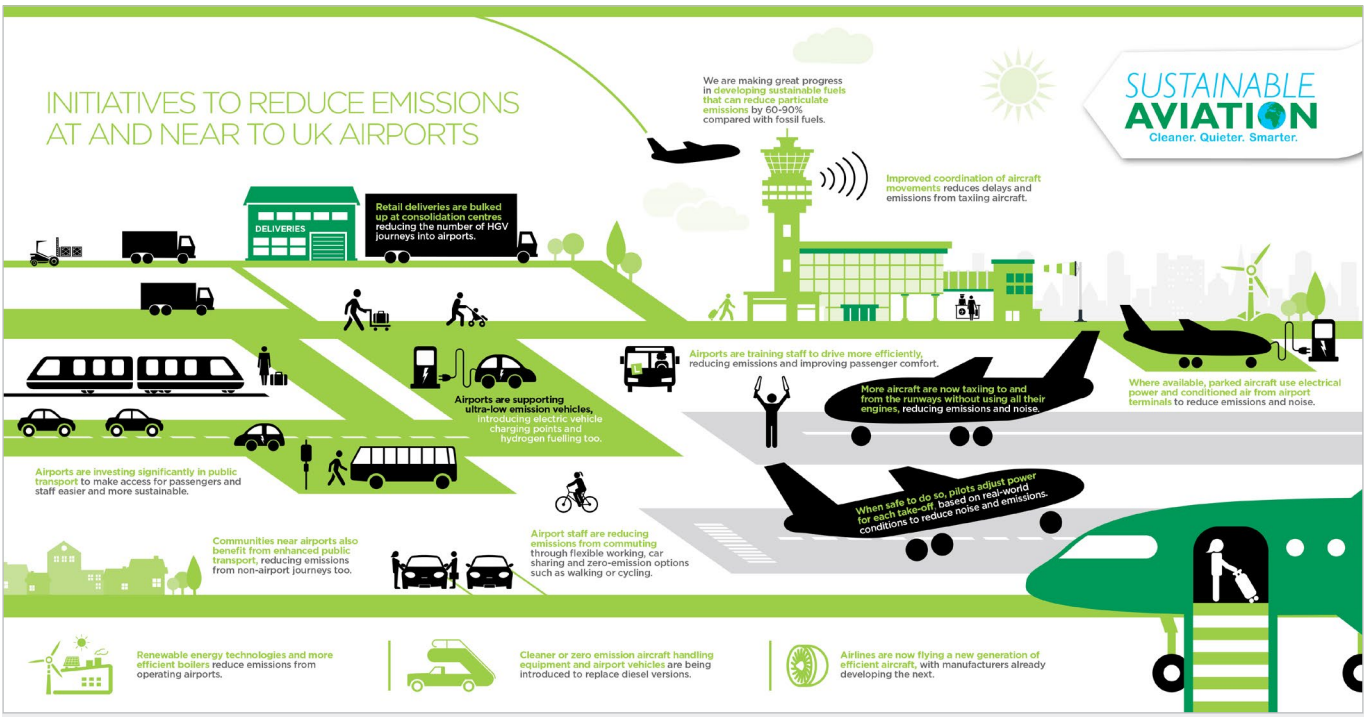


How to design urban areas for sustainable water use

Source: Melbourne Water

RESOURCE 7
SUSTAINABILITY

A cleaner, quieter, smarter airport



Initiatives to reduce emissions at and near to UK airports

Source: Sustainable Aviation, United Kingdom

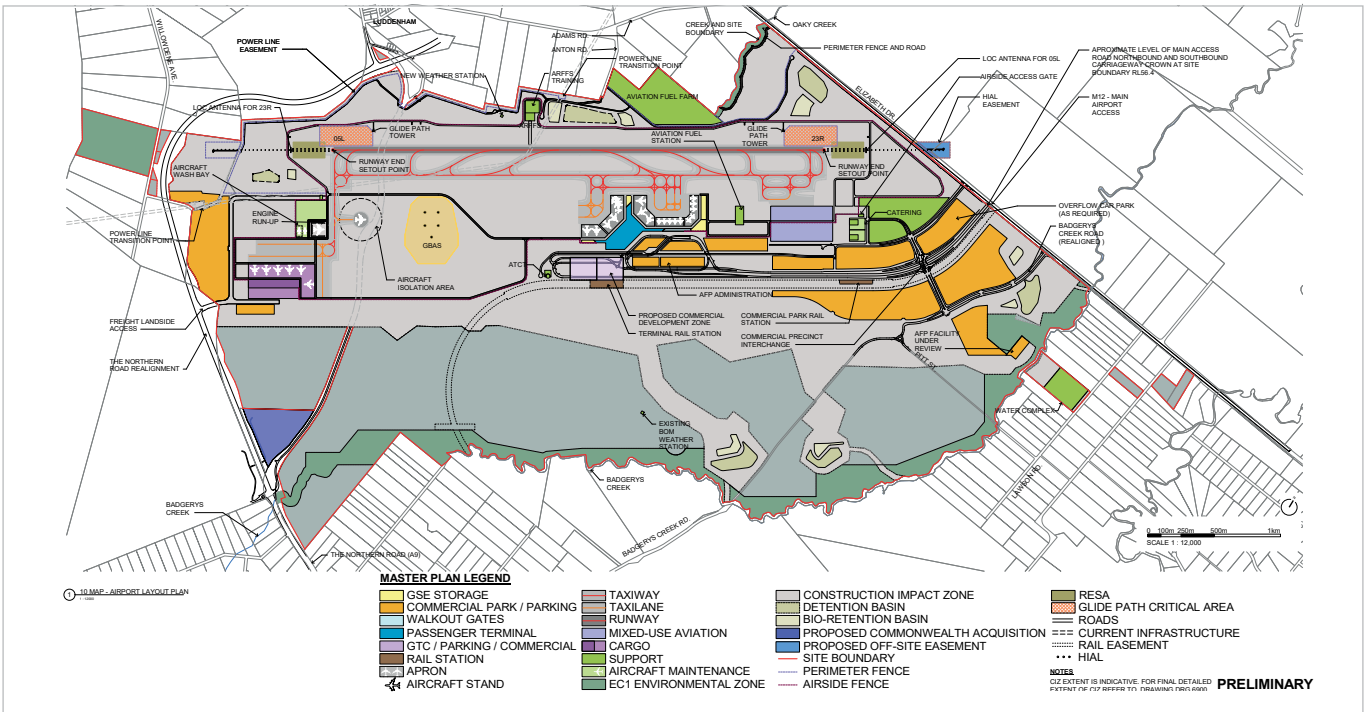
The Western Sydney Airport will meet Infrastructure Sustainability Council of Australia ratings, Green Star ratings and ratings under the National Australian Built Environment Rating System.

A sustainability plan will identify targets for a range of sustainability measures, including:

- reduced electricity use
- reduced fuel use
- quantity of waste recycled
- quantity of waste reused
- reduced water consumption
- waste water recycling and reclaiming
- water harvested for reuse
- embodied energy and water use in building and construction materials
- recycled content in building and construction materials
- biodiversity enhancement

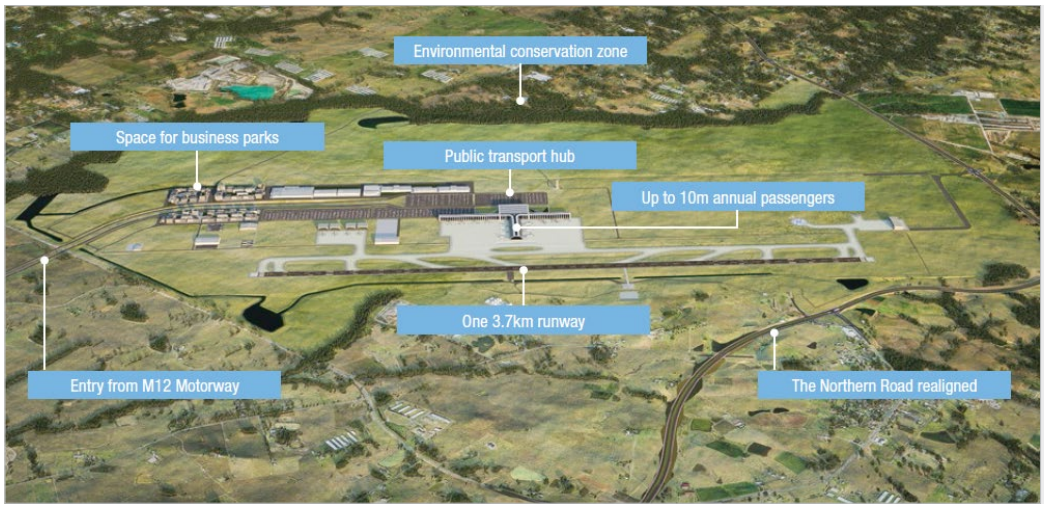
RESOURCE 8
PLAN FOR WESTERN SYDNEY AIRPORT

Western Sydney Airport site layout



Airport site layout: 10 million annual passengers

Source: Western Sydney Airport



Indicative map of Stage 1

Source: Department of Infrastructure, Regional Development and Cities

RESOURCE 9
DESIGN IDEAS FOR WESTERN SYDNEY AIRPORT

One vision for WSA

Vision for Badgerys Creek airport calls for see-through quality

'It's got a passenger terminal shaped like an eye, integrating indoor and outdoor parkland with a billabong, and an oasis of gardens and palm trees inside.

'The flagship terminal building will consist of an undulating living green roof that biomimics the skyline of the Blue Mountains providing aesthetic appeal and another iconic building in Sydney for all to enjoy,' the plan states.

Other concepts include 'a drive-through airport, which processes planes like a car wash', and another that envisages 'a low environmental impact model with a "runway in the rough."'

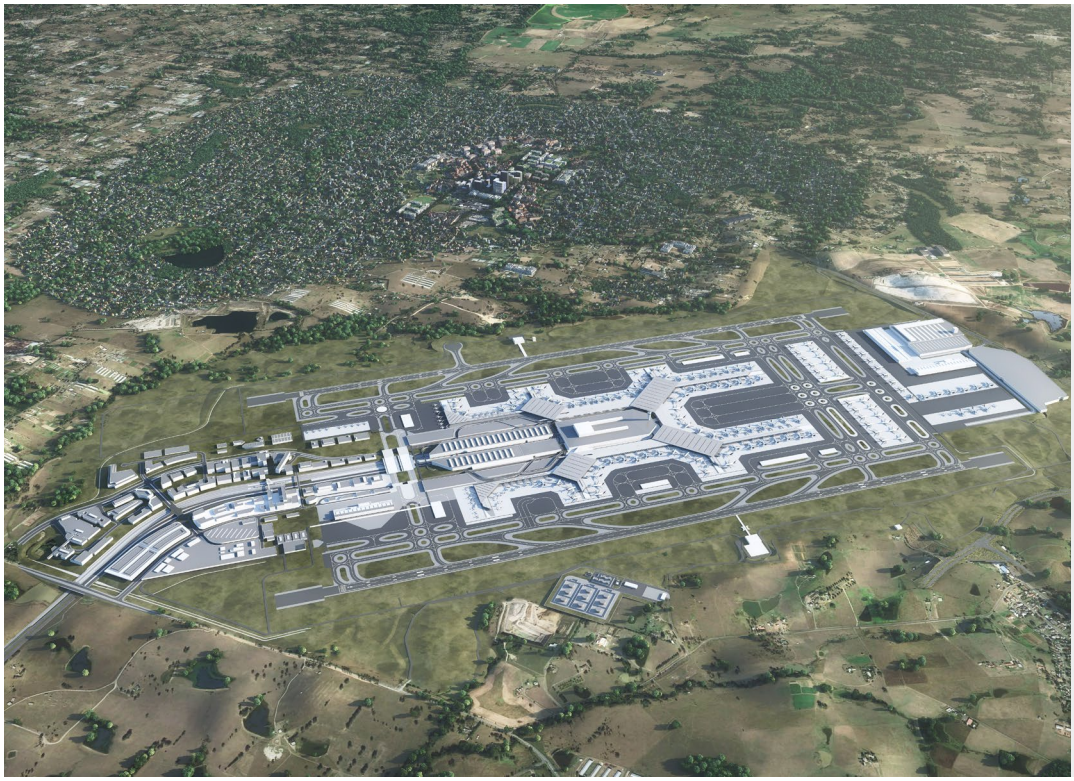
There are visions of building a giant shopping centre at the airport, a 40,000-seat stadium for the A-League club Western Sydney Wanderers, a convention centre and a wilderness park.

One concept has a 'Food Bowl' at the airport, described as 'a farmers' market to offer passengers and visitors a taste of our exquisite food and fine wine'.

The ideas came from a competition run three years ago by Consult Australia, the association that represents the business interests of 48,000 consulting firms operating in the built and natural environment.

Source: The Australian, 6 May 2017

What is your vision for WSA?



Visualisation of Western Sydney Airport in the 2050s

Source: Western Sydney Airport

RESOURCE 9
DESIGN IDEAS FOR WESTERN SYDNEY AIRPORT

What Western Sydney Airport could look like in the year 2050

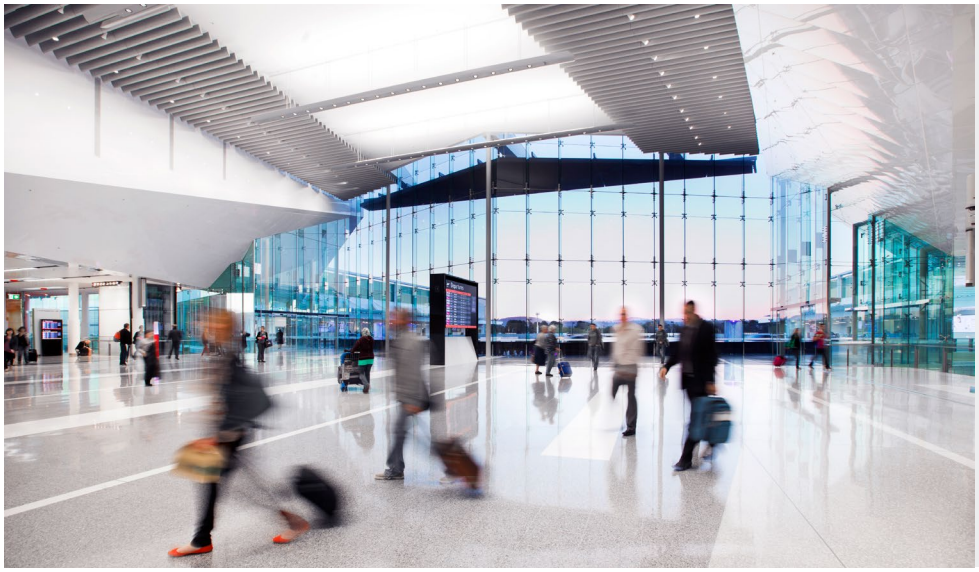
Visualisation of Western Sydney Airport in the 2050s

Source: Western Sydney Airport

Visualisation of Western Sydney Airport in the 2050s

Source: Western Sydney Airport

RESOURCE 9
DESIGN IDEAS FOR WESTERN SYDNEY AIRPORT



Foyer at Canberra Airport

Source: Canberra Airport

Entrance to Canberra Airport

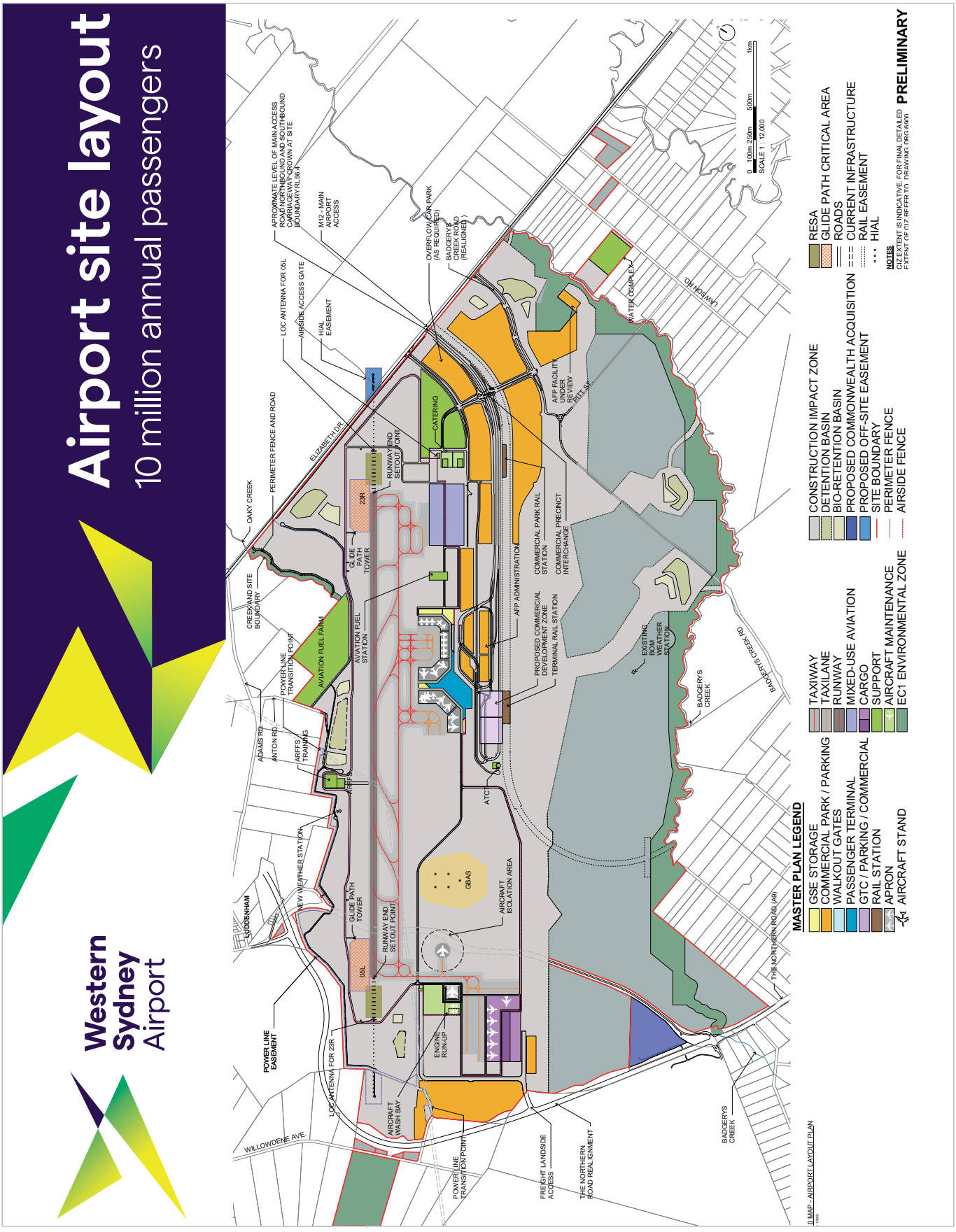
Source: Canberra Airport

Canberra Airport's landscape design

Source: Canberra Airport

RESOURCE 9
DESIGN IDEAS FOR WESTERN SYDNEY AIRPORT

Western Sydney Airport: Stage 1 indicative layout



FACT SHEETS

FACT SHEET 1
BIODIVERSITY

What is biodiversity?

Biodiversity describes all the different types of plants (which scientists call 'flora') and animals (which scientists call 'fauna') that live in a certain place. This includes everything from big animals and trees down to the grass, flowers, fungus and bugs.

The biodiversity of a desert includes plants and animals that can survive in hot and dry environments. The biodiversity of a rainforest is very different, with plants and animals suited to wet and humid conditions.

What sort of biodiversity exists at Badgerys Creek?

Around 1150 hectares of trees, grass, flowers and fields will be cleared to build the airport. This is the equivalent of over 1400 rugby league fields. Around 360 hectares of the airport site is made up of native plants, including around 145 hectares of the Cumberland Plain Woodland.

The Cumberland Plain Woodland is home to over 300 different native plants and is a major part of the biodiversity of Western Sydney. The Cumberland Plain stretches from Windsor in the north, to Picton in the south; and from the Nepean-Hawkesbury River in the west, to Inner Sydney in the east.

Only a small amount of the Cumberland Plain Woodland still exists, and much of what is left is not very healthy. It is important to protect the biodiversity that remains.

How will biodiversity be protected at Badgerys Creek?

Before construction on Western Sydney Airport could begin, plans had to be put in place to address how the plants and animals in Badgerys Creek will be protected.

- Some plants or animals will be relocated to safer areas for rehabilitation.
- 117 hectares of land is being protected on the airport site as an environmental conservation zone, providing a safe habitat for flora and fauna.
- Greening Australia has been collecting native grass seeds from the airport site. Greening Australia has a special seed production area where it will grow these seeds to help restore Cumberland Plain biodiversity.
- Scientists from the Australian Botanic Garden in Mt Annan have been taking plant cuttings and seeds from three endangered plant species (including the Spiked Rice-flower, pictured). Using clever scientific techniques, these cuttings and seeds will be used to grow many more plants that could then be re-planted in protected areas.

What is a biodiversity offset?

A biodiversity offset makes up for any loss of biodiversity in an area. If development on a particular site will affect biodiversity, then the developer must protect other land with the same type of habitat to make sure that biodiversity will not be worse off because of their development.

Other biodiversity offsets can include:

- making improvements to the existing habitat
- creating a new habitat in a safer area
- providing funding for research
- programs to educate people on biodiversity

As part of the airport development, the Australian Government is providing funding to Greening Australia. As well as helping to regrow native grass seeds, the Government funding will support Greening Australia to upgrade its facilities and continue doing research. This is an example of a biodiversity offset.

Spiked Rice-flower © State of New South Wales and Office of Environment and Heritage

FACT SHEET 2
INFRASTRUCTURE

What is infrastructure?

Infrastructure is the word we use for all the facilities and services communities need to live and work, including roads, water and electricity, schools, buildings and the internet.

Airports are a type of infrastructure, but they also need other infrastructure to keep them operating, like electricity, and roads for people to get to the airport.

As a community grows, the need for infrastructure grows too. Good planning is important to make sure the right infrastructure, like bigger roads and more schools, is in place at the right time.

Western Sydney Infrastructure Plan

When Western Sydney Airport opens, more people will be using the roads to and from the airport. The Australian Government and the New South Wales Government are working together on road upgrades that will be able to handle the increase in traffic for at least 10 years after the airport opens.

This is called the Western Sydney Infrastructure Plan.

- Some upgrades are already finished, like the Werrington Arterial Road.
- Others are currently under construction, like The Northern Road and Bringelly Road.
- A major new motorway called the M12 is being planned, and will be the main road into the airport, with up to six lanes to carry the extra traffic.

How is a road built?

Roads are planned by experts who study how many vehicles will need to use the road. This allows them to make sure there is enough space for all the cars, even during peak hour.

If there aren't enough roads to where people need to go, there will be traffic jams and congestion causing longer waiting times to drive to work or home.

What will the traffic be like during airport construction?

During the busiest point of construction, around 1254 extra cars and trucks will use the roads around the airport each day. This is not expected to create congestion on other major roads. For example, Elizabeth Drive is one of the main roads that connects to the airport site. At the moment, around 26,000 vehicles travel along part of Elizabeth Drive each weekday.

Western Sydney Airport has developed a plan that will minimise the construction traffic and make sure other people using the roads are aware of any road changes. For example, this could include encouraging construction workers to take public transport or car-share, or using different roads during peak hour.

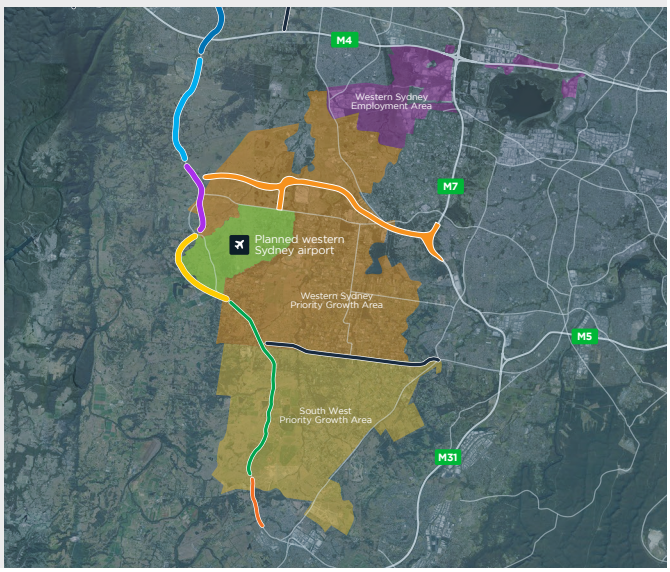
What will the traffic be like once the airport is open?

Once the airport is open, more than 21,000 vehicles will travel to and from the airport each day, without congestion and delays. Building the new M12 motorway now has planned for this.

Western Sydney Airport will develop a plan to manage traffic. The airport will have lots of car parking, clear signs showing where passengers can be picked-up or dropped-off, and public transport options.

Rail and public transport

One way to reduce traffic on the roads is to give people the choice to travel by public transport, such as bus and train. Bus services will operate to the airport from the day it opens. The Australian Government and NSW Government have together committed to having a rail link to the airport by the time the airport opens.



FACT SHEET 3
EMPLOYMENT

Working towards Western Sydney Airport

One major benefit of a new airport is jobs for the community. There will be jobs building Western Sydney Airport and jobs once it opens.

Types of jobs during construction (2018–2026)	Types of jobs during operations (2026 and beyond)
• Builders	• Pilots
• Labourers	• Flight attendants
• Engineers	• Engineers
• Managers	• Shop assistants
• Other types of construction workers	• Transport and warehousing

Construction jobs

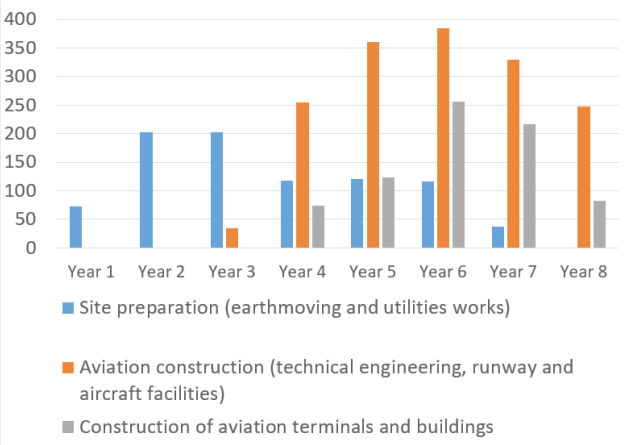
The need for different types of jobs in construction will change as different parts of the airport are built.

Before construction can begin, around 22 million cubic metres of earth will need to be moved to flatten the airport site.

Towards the end of the construction phase, the airport terminal, aircraft facilities, the runway and taxiways will be built.

The graph below shows how the types and numbers of jobs will change during the different years of construction.

It will take 8 years to build the airport, and the busiest year will be in the 6th year of construction.



Local jobs

The activity in and around the airport will also give local people the opportunity to get a job closer to home, which means less time spent getting to work.

Western Sydney Airport has targets for local workers.

- 30% local workers during construction.
- 50% local workers once the airport opens.

Construction companies working on the airport will also need to meet local worker targets.

Jobs when the airport is open

Airports offer a lot more jobs when they are open rather than in construction. This is unlike building roads, where most of the jobs are in construction and, when the road opens, fewer jobs are needed to maintain and operate them.

For every million passengers that come and go through the airport each year, around 750 jobs will be needed to run the airport. This is a useful way of seeing how many jobs the airport will create as more passengers use it.

Airports are like mini city centres: they can have train stations, office buildings, industrial land, shopping centres, and access to hospitals, schools and universities.

Because of the way Western Sydney Airport is being planned, there will be more types of jobs besides those needed to run the airport. There will also be jobs in business, education, industry and ongoing construction.

Western Sydney Airport will have space for businesses and offices on the airport site. This means high-skilled jobs will come to the area, including jobs in computing and information technology, communications, high-tech engineering, banking and scientific research.

FACT SHEET 4
CULTURAL HERITAGE

What is heritage?

Heritage can include anything that helps us understand the history and culture of a place, such as:

- objects
- landscapes
- traditions
- language

As Western Sydney Airport is built, it is important to protect the heritage of Badgerys Creek.

Protecting cultural heritage

In 2016, an Environmental Impact Statement was completed for the Western Sydney Airport. This investigated all the effects of the airport on the surrounding environment, both positive and negative. It also investigated different ways to preserve the heritage of Badgerys Creek, such as:

- recording and reporting on heritage values, including by taking photos
- collecting and storing heritage items, for example at museums
- commemorating culture, such as by recording an oral history

Aboriginal Heritage

Aboriginal heritage items have been found on the Western Sydney Airport site:

- stone tools
- a scarred tree, where bark was removed from the tree to make canoes or other items
- a grinding groove site, with rocks where stone tools were sharpened or seeds were ground for food

Heritage is not only about objects, but also landscapes, plants and animals that are important for the Aboriginal community.

The Aboriginal community is involved in preserving heritage.

Some heritage items will be protected on site, including the grinding groove site and scarred tree. Some items will need to be moved to protect them. A 'keeping place' may be established to store and protect Aboriginal heritage items collected from the site.

European Heritage

European heritage items found on the airport site included a winery, Badgerys Creek Public School and farm cottages.

This farm cottage (pictured) was built in the early 1900s, and helps us understand how people lived at Badgerys Creek at this time.

To prepare for construction, European heritage items have been removed or relocated, after being properly recorded.

Some items could be displayed in a museum. An archival report, including photographs, will make sure this history is not lost.

Did you know? At the Australian Museum in Sydney, glass floors in the foyer allow visitors to see the original foundations of the early European structure that the museum was built over. This is an example of how heritage can be preserved in place.

FACT SHEET 5

ENVIRONMENTAL QUALITY: NOISE, AIR AND WATER POLLUTION

Western Sydney Airport is a major construction project. It will have many benefits, including improved access to flights in the area and more jobs for Western Sydney, but building a big airport will also affect the environment. For that reason, there are strict rules that must be followed to make sure the airport is as clean and as healthy as possible.

What is an Environmental Impact Statement?

An Environmental Impact Statement or EIS is a scientific document that tells us about the effects a big construction project will have on the environment, and helps governments decide if a project can go ahead.

- After a lot of work, the Western Sydney Airport EIS was completed in 2016.
- Experts closely examined the area, tested the air and water, studied the plants and animals and assessed construction plans.
- A draft of the EIS was released to the public so the communities in Western Sydney could have their say before it was finalised.
- The EIS agreed that the airport meets national and international health standards and the project could go ahead.
- The final EIS is around 5,500 pages.
- It recommends ways to develop the airport to keep the environment clean and reduce the impact on the local community.

What is the Greater Blue Mountains World Heritage Area?

The Greater Blue Mountains World Heritage Area covers 1.03 million hectares of Australian landscape and is noted for its outstanding and diverse range of eucalyptus trees and habitats. It is one of the largest and most undamaged areas of protected bushland in Australia and was added to the World Heritage List in 2000.

Some parts of the Greater Blue Mountains World Heritage Area are as close as 7 kilometres to Western Sydney Airport, so it was important to be sure the airport would not harm this protected area.

The EIS found that the Blue Mountains would not be affected from the construction or long-term operation of the airport because:

- There are roads, farmlands and the Nepean River creating a buffer between the airport site and the Blue Mountains.
- Wind conditions and the distance between the airport and the Blue Mountains mean air quality in the mountains is unlikely to be affected by the airport.
- The airport is being carefully designed to make sure that water will be captured on site, so if water is polluted it won't drain into creeks or streams.

There are strict rules to protect the Greater Blue Mountains World Heritage Area and the airport will follow those rules.

How will the airport protect air quality?

Under Australian law, the airport must follow certain regulations for maintaining air quality. It will need to make a plan to keep air clean before construction can begin. Although construction will create some dust and fumes, the EIS found that this will make up less than 1% of the total emissions in the Sydney basin and will not damage the air quality of Western Sydney.

As a brand new airport, Western Sydney Airport will be designed to improve air quality and reduce pollution wherever possible by:

- using clean-energy ground vehicles (for example, baggage vehicles)
- using energy-efficient equipment
- designing ways to reduce how much fuel and electricity a plane uses while it waits for passengers at a boarding gate

What will be done to protect water quality?

Western Sydney Airport will be built in a way that makes sure water quality, including underground water, remains the same, or is improved.

The EIS found that drinking water is at very low risk from pollution by the planes, cars and trucks that will be around the airport.

FACT SHEET 5

ENVIRONMENTAL QUALITY: NOISE, AIR AND WATER POLLUTION

A water management system will be designed to control how water flows around the airport site. This will improve the quality of the water that is released back into the environment.

Water quality will be checked regularly to make sure the airport does not significantly pollute the water around the site or harm the environment and communities of Western Sydney.

How much noise will people hear?

Communities in Western Sydney and the Blue Mountains will hear noise from the airport as planes take off, land, or fly overhead. People who live closest to the airport, or have a house directly under where the planes fly, are likely to experience the most noise. For everyone else, the amount of noise they hear will depend on a lot of different things, such as:

- which way the planes are flying
- the type of plane
- the time of day
- weather conditions
- the season

Noise affects different people in different ways. To one person, the sound of a plane would be very annoying, while a different person may not even notice it.

Once a plane takes off from the runway, they are only allowed to fly along certain routes, known as flight paths. A lot of work is being done with the community to decide where the flight paths for Western Sydney Airport should go. It is important to keep the planes safe while they are in the air, but also to avoid flying directly over places where a lot of people live.

While this is not always possible, planning around the airport has meant that there are only a few houses in the higher noise area close to the airport. This will help reduce the effects of airport noise on the community.

FACT SHEET 6
A GLOBALLY CONNECTED CITY

Why does Sydney need a second airport?

As the population of Sydney grows, so does the number of people wanting flights.

The number of people wanting to fly out of Sydney will double by the 2030s, and double again by the 2060s. Sydney (Kingsford Smith) Airport can't provide flights to all these people on its own.

Sydney Airport is located in the middle of suburbs where lots of people live.

This means:

- Sydney Airport has no room to grow
- there are rules that limit the number of flights
- the airport can't have flights at night

A second airport is needed to make sure there will be enough flights.

What does it mean to be globally connected?

Before modern airports, telephone and the internet, most people didn't travel very often or very far. Businesses would mostly sell goods in their local area, especially businesses selling food that wouldn't keep fresh on a long journey.

Today, airports mean people and business can be globally connected and easily travel or send goods all around the world. Australia has connections with other countries through:

- importing and exporting goods
- tourism
- migration
- sport

Being globally connected can also mean being able to communicate with people around the world.

How will Western Sydney benefit from being globally connected?

Western Sydney Airport will be almost twice the size of Sydney Airport and built away from suburbs and communities. At Sydney Airport, there are houses 600 metres from end of the runway, but at Western Sydney Airport, the nearest urban area will be 10 kilometres from the end of the runway.

This means that Western Sydney Airport will not have to follow the same rules as Sydney Airport. Planes will be allowed to take off and land at night.

Western Sydney Airport will help the whole of Australia to be globally connected by allowing people, tourists and goods to arrive and depart any time in the day or night.

For businesses, this will mean more trade with international companies. For tourists and families, Western Sydney Airport will provide more options for flying.

For people living in Western Sydney, Western Sydney Airport will be closer than Sydney Airport. It will be built near the facilities and warehouses that businesses need to store and sell their products.

This will mean more jobs and more opportunities for the people and businesses of Western Sydney.

Without Western Sydney Airport, it would be more inconvenient for people flying overseas, and not as many tourists would be able to come here. Local businesses would miss out on money they could have made through trade, shopping and tourism.

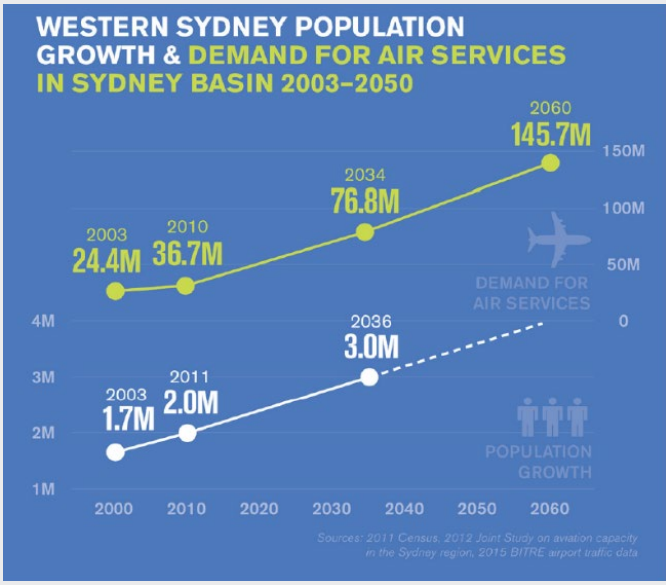


Image references

Cover: **Badgerys Creek before and after.**
Source: Department of Infrastructure, Regional Development and Cities, © Commonwealth of Australia, 2017.

Resource 1:

Map of Sydney showing the location of Western Sydney Airport.
Source: Department of Infrastructure and Regional Development, 2016, *Western Sydney Airport Environmental Impact Statement: Volume 1*, p.4 http://westernsydneyairport.gov.au/files/eis/WSA-EIS-Volume-1-Executive-Summary.pdf

Resource 2:

Satellite photo – Badgerys Creek 2017.
Sources: Google Earth, CNES/ Airbus, 2017. Data: SIO, NOAA, U.S. Navy, NGA, GEBCO.

Satellite photo – Greater Sydney Region in 2017.
Sources: Google Earth, CNES/ Airbus, 2017. Data: SIO, NOAA, U.S. Navy, NGA, GEBCO.

Resource 3:

Population growth in NSW.
Source: NSW Department of Planning and Environment, 2017, *2016 NSW population and household projections*, www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections © State of New South Wales and Department of Planning and Environment (unless otherwise indicated). For conditions of use, please see www.planning.nsw.gov.au/Copyright-and-Disclaimer

Population growth in Western Sydney, 1996-2036.
Source: Greater Sydney Commission, 2017, *Draft Western City District Plan*, p.14, www.greater.sydney/draft-western-city-district-plan © State of New South Wales through the Greater Sydney Commission.

Multicultural Western Sydney.
Source: Greater Sydney Commission, 2017, *Draft Western City District Plan*, p.14, www.greater.sydney/draft-western-city-district-plan © State of New South Wales through the Greater Sydney Commission.

Where do people in Western Sydney work?
Source: .id, 2017, *Employment location of resident workers, 2016*, profile.id.com.au/cws/residents

This material was compiled and presented by .id, the population experts. www.id.com.au. This material is a derivative of ABS Data that can be accessed from the website of the Australian Bureau of Statistics at www.abs.gov.au, and which data can be licensed on terms published on the ABS website.

Resource 4:

Aerial photograph of Badgerys Creek in 2016.
Source: Department of Infrastructure and Regional Development, 2016, *Western Sydney Airport Portal*, v2.communityanalytics.com.au/dird/wsa# © Commonwealth of Australia, 2016.

Ground-level photographs of Badgerys Creek.
Source: Department of Infrastructure and Regional Development, 2016, *Western Sydney Airport Environmental Impact Statement: Appendix O*, p.10, http://westernsydneyairport.gov.au/files/eis/WSA-EIS-Volume-4-Appendix-O-Landscape-charater-and-visual.pdf

Resource 5:

Images showing change from today to Stage 1 completion.
Source: Department of Infrastructure and Regional Development, 2016, *Western Sydney Airport Portal*, v2.communityanalytics.com.au/dird/wsa# © Commonwealth of Australia, 2016.

Resource 7:

What is sustainability?
Source: Department of Infrastructure, Regional Development and Cities, 2017.

Features of sustainable urban development.
Source: Lehmann, Steffan, 2011, 'What is Green Urbanism? Holistic Principles to Transform Cities for Sustainability' in *Climate Change—Research and Technology for Adaptation and Mitigation*, Dr Juan Blanco (Ed.), InTech, www.intechopen.com/books/climate-change-research-and-technology-for-adaptation-and-mitigation/what-is-green-urbanism-holistic-principles-to-transform-cities-for-sustainability

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Water sensitive urban design.
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A cleaner, quieter, smarter airport. Source: Sustainable Aviation, 2016, *UK Aviation and Air Quality Report*, p.23–25, www.sustainableaviation.co.uk

Please note: This product was developed in a UK context. Initiatives described in the infographic may not be applicable in Australia the same way as they are in the UK, or at all. If applied as in the UK, they may not have the same effect.

Resource 8:

Western Sydney Airport site layout.
Images courtesy of Western Sydney Airport © 2018.

Indicative map of Western Sydney Airport.
Source: Department of Infrastructure and Regional Development, 2016, *Western Sydney Airport Portal*, v2.communityanalytics.com.au/dird/wsa# © Commonwealth of Australia, 2016.

Resource 9:

Visualisations of Western Sydney Airport in the 2050s.
Images courtesy of Western Sydney Airport © 2018.

Canberra Airport photographs (three photographs).
Images courtesy of Canberra Airport.

Western Sydney Airport: Stage 1 indicative layout.
Images courtesy of Western Sydney Airport © 2018.

Factsheet 1:

Spiked Rice-flower. Source: The Australian Plantbank, www.plantbank.org.au/articles/10287 © State of New South Wales and Office of Environment and Heritage, 2017. For conditions of use, please see www.environment.nsw.gov.au/help/copyright-disclaimer.htm

Factsheet 2:

Western Sydney Infrastructure Plan.
Source: Roads and Maritime Services, 2017, *Western Sydney Infrastructure Plan Portal*, v2.communityanalytics.com.au/rms/wsip
© Roads and Maritime Services 2017.

Fact sheet 3:

Jobs graph. Source: Department of Infrastructure, Regional Development and Cities, 2017, © Commonwealth of Australia, 2017.

Fact sheet 4:

Heritage images.
Source: Department of Infrastructure,Regional Development and Cities, © Gavin Jowitt, 2016.

Fact sheet 5:

Water quality image.
Source: Department of Infrastructure,Regional Development and Cities, © Gavin Jowitt, 2016.

Fact sheet 6:

Western Sydney population growth & demand for air services in Sydney basin 2003-2050.
Source: Department of Infrastructure and Regional Development, 2015. Data sourced from 2011 Census, *2012 Joint Study on aviation capacity in the Sydney region*, 2015 BITRE airport traffic data, © Commonwealth of Australia, 2015.