


# Trip times, trains and the future of work

| Key Learning Area                                                                                  | Unit or lesson title and main focus questions                                                                                                                                                            | Most appropriate level and suggested number of lessons |
|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
|  <b>Geography</b> | <b>Trip times, trains and the future of work</b><br>Where do people living in Sydney's North West region work and how might Sydney Metro Northwest improve travel for people living along the alignment? | <b>Stage 4-5</b>                                       |
|                                                                                                    |                                                                                                                                                                                                          | 2-3 lessons                                            |

## Teacher briefing

In this lesson students consider two key features of modern urban growth planning – trip analysis and the journey to work. Minimising the length and time of the journey to work is at the forefront of most people's decisions about where to live and work.

In this lesson students gather community data, extrapolate trends and suggest potential solutions to important issues of urban planning.

### Focus questions:

- Where do people living in Sydney's North West region work?
- How might Sydney Metro Northwest improve travel for people living along the alignment?

### Requirements for these lessons

- Computers
- Internet connection
- Bookmarked websites (see web links)
- Printouts of Sources 1-3.

### Key terms and vocabulary

Extrapolate trends, traffic congestion, Global Economic Corridor.

### Background information

Sydney is a modern international city experiencing growth in population and employment. Sydney currently has a population of about 4.6 million people, but this is projected to grow significantly to 5.1 million by 2021 and six million by 2031. Driven by population growth, employment in Sydney is expected to increase from its current level of 2.1 million workers to 2.6 million by 2031.

As Source 2 (page 62) illustrates, the Sydney Central Business District will remain the primary employment centre and the Global Economic Arc, including Macquarie Park, North Shore, Central Business District and the Sydney Airport, will account for about a third of the employment opportunities in Sydney. This growth will place pressure on a rail system already straining to cope with current demand.

In the launch of the Sydney Metro Northwest's *Environmental Impact Statement 2*, 30 October 2012, the NSW Transport Minister's media release 'New stations, new trains and 14 million fewer car trips' highlighted the following benefits of the Sydney Metro Northwest project:

- Sydney Metro Northwest is forecast to reduce car trips by 14 million a year after opening. This is about 12,000 fewer car trips in an average two hour weekday morning peak. The reduction in car trips is forecast to increase to 20 million a year by 2036
- The trip from Tallawong, Rouse Hill to Macquarie Park will take about 28 minutes, to Chatswood 37 minutes and to Wynyard (including an interchange) 57 minutes.

## Web links



### Sydney's Rail Future

<https://www.transport.nsw.gov.au/sites/default/files/media/documents/2017/sydneys-rail-future.pdf>

### Sydney Metro Northwest 's *Environmental Impact Statement 2*, Project Justification and Conclusion

[https://www.sydneymetro.info/sites/default/files/24\\_Ch\\_22\\_Project\\_Justification\\_and\\_Conclusion.pdf%3Fext%3D.pdf](https://www.sydneymetro.info/sites/default/files/24_Ch_22_Project_Justification_and_Conclusion.pdf%3Fext%3D.pdf)

### Australian Bureau of Statistics Census data

<http://www.abs.gov.au/websitedbs/D3310114.nsf/Home/Assuring%20Census%20Data%20Quality>

### NSW Bureau of Transport Statistics data

<https://www.transport.nsw.gov.au/data-and-research>

It monitors and forecasts transport usage and performance, and profiles usage patterns in suburbs and across the greater Sydney area. Explore the 'Journey to Work' feature of this site.

### Further information

#### Department of the Environment, Water, Heritage and the Arts

<https://www.environment.gov.au/science/soe/2011-report/supplementary>

## Syllabus links

### Geography K-10

Geography Stage 4 – Place and Liveability

– the influence of accessibility to services and facilities on the liveability of places

(GE4-1) locates and describes the diverse features and characteristics of a range of places and environments

(GE4-3) explains how interactions and connections between people, places and environments result in change

(GE4-7) acquires and processes geographical information by selecting and using geographical tools for inquiry

Geography Stage 5 – Changing places

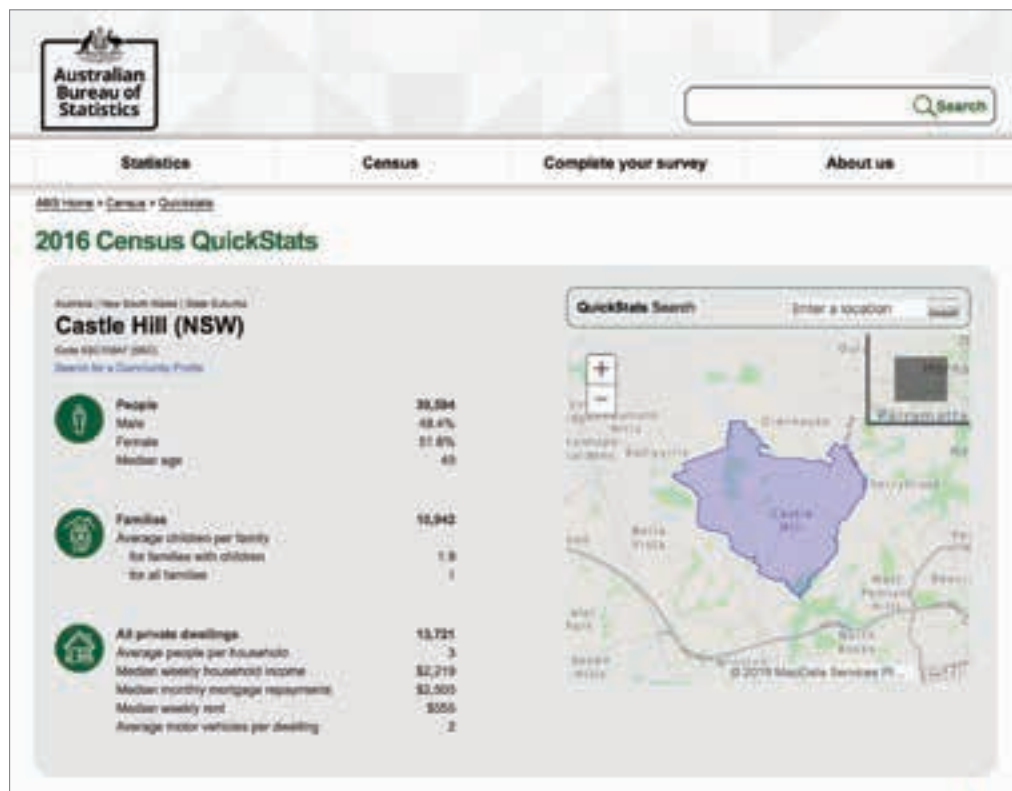
– the causes and consequences of urbanisation

– the management and planning of Australia’s urban future

(GE5-3) analyses the effect of interactions and connections between people, places and environments

(GE5-5) assesses management strategies for places and environments for their sustainability

(GE5-7) acquires and processes geographical information by selecting and using appropriate and relevant geographical tools for inquiry



**Figure 9:** The Australian Bureau of Statistics, [www.abs.gov.au](http://www.abs.gov.au) provides easy access to Community Profile Census data that allows students to analyse the communities on the Sydney Metro Northwest alignment in great detail. The example shown is Castle Hill. Also refer to the NSW Bureau of Transport Statistics, [www.bts.nsw.gov.au](http://www.bts.nsw.gov.au)

## Learning experiences

### Step 1

Go to the Australian Bureau of Statistics census data page and select 'Community Profiles'. Select each community along the Sydney Metro Northwest alignment and download their 'Basic Community Profile'. You may like to allocate individual communities to groups of students to make the task quicker. Refer to source 1 (page 62) to locate suburbs and their communities along the Sydney Metro Northwest alignment.

### Step 2

Tables B45 and B46 provide occupational and journey to work data. Make a summary of each. Repeat this exercise for the same community but for earlier censuses, e.g. 2006, 2012.

Calculate the percentage change in main occupation types and main methods of transport.

### Step 3

Go to the *Australia state of the environment 2011 report*, Chapter 10, page 800, (2.1.3) Transport. Department of the Environment, Water, Heritage and the Arts.

<http://155.187.2.69/soe/2011/report/index.html>

Read and discuss the coverage of congestion issues in major Australian cities as outlined in Chapter 10.

Focus on the report's coverage of Sydney. What do Figures 10.6 and 10.7 tell us about current and projected levels of traffic congestion in Sydney?

### Step 4

Using the information you have gathered so far, and with reference to Sources 2 and 3 (pages 62–63) answer the following questions:

- What trends can you see?
- If you extrapolated 20 years into the future, what might be the main changes in occupation and travel to work data? How might this affect travel?
- If future employment growth followed the pattern predicted in Source 2, how might this, along with population growth, affect travel time and traffic congestion?
- What implications do these predicted changes have for transport planning now, and in the future?

## Teacher references and extension work

Trip times and journey to work are important aspects of urban geography and traffic congestion is a complex topic. However, the NSW Bureau of Transport Statistics has published valuable data about congestion that allows students to explore the topic in more detail.

<https://data.nsw.gov.au/data/dataset>

# Sources

## Source 1

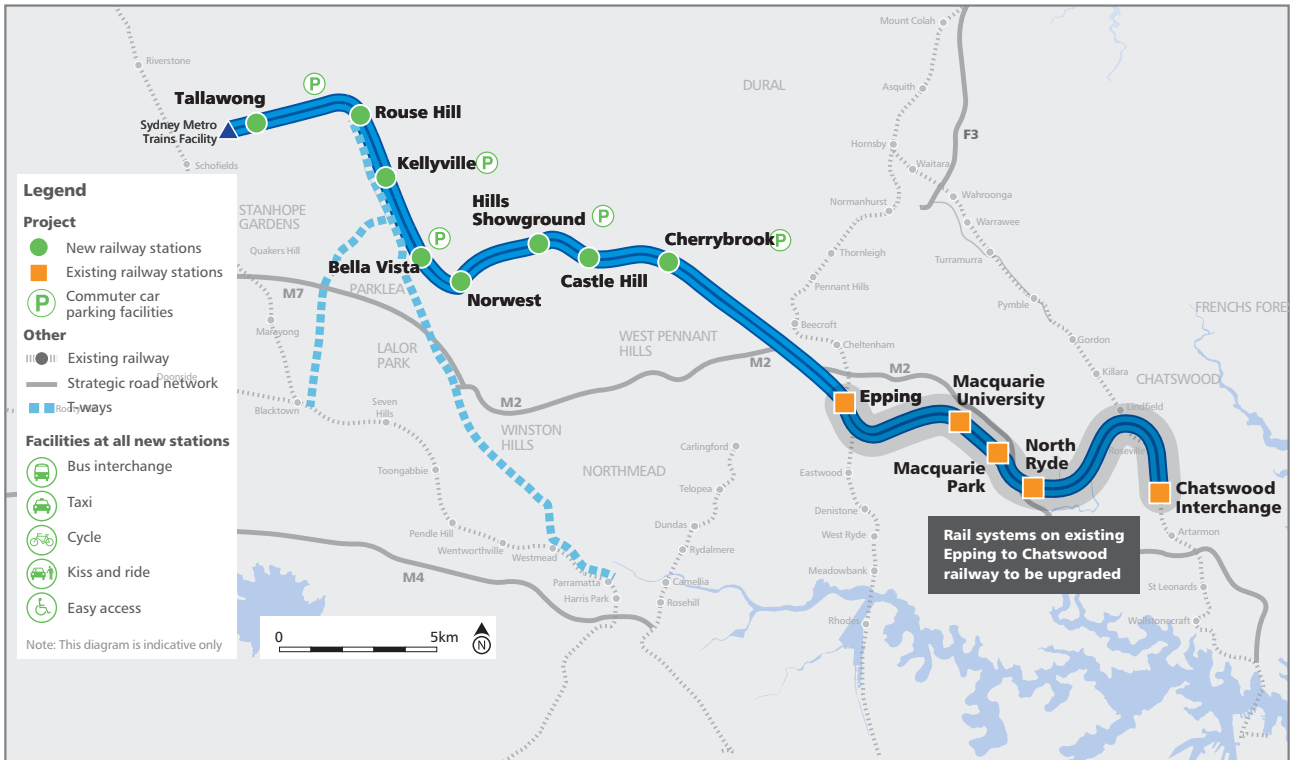


Figure 10: Suburbs on the Sydney Metro Northwest alignment.

<https://www.sydneymetro.info/map/interactive-map>

## Source 2

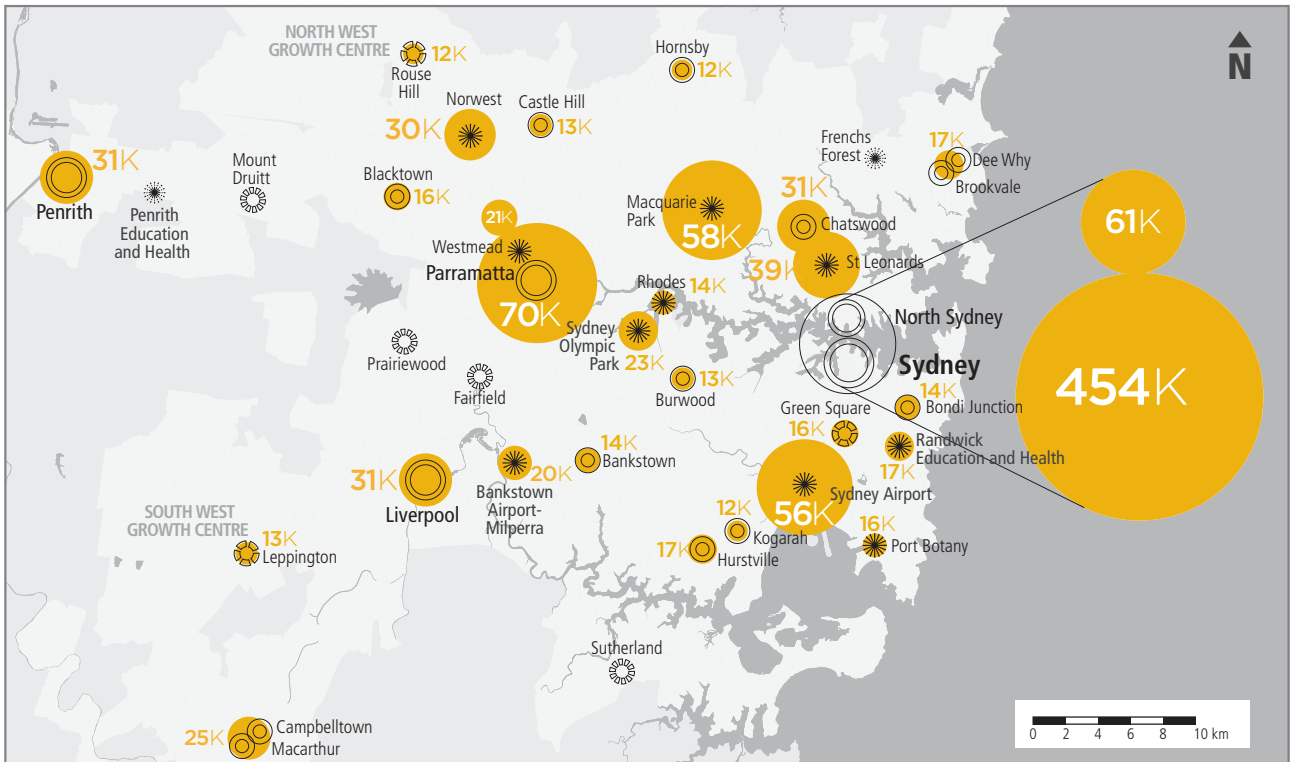


Figure 11: Major employment centres, Sydney 2031.

Source: Sydney's Rail Future, Transport for NSW.

<https://www.transport.nsw.gov.au/sites/default/files/b2b/publications/sydneys-rail-future.pdf>

# Sources

## Source 3

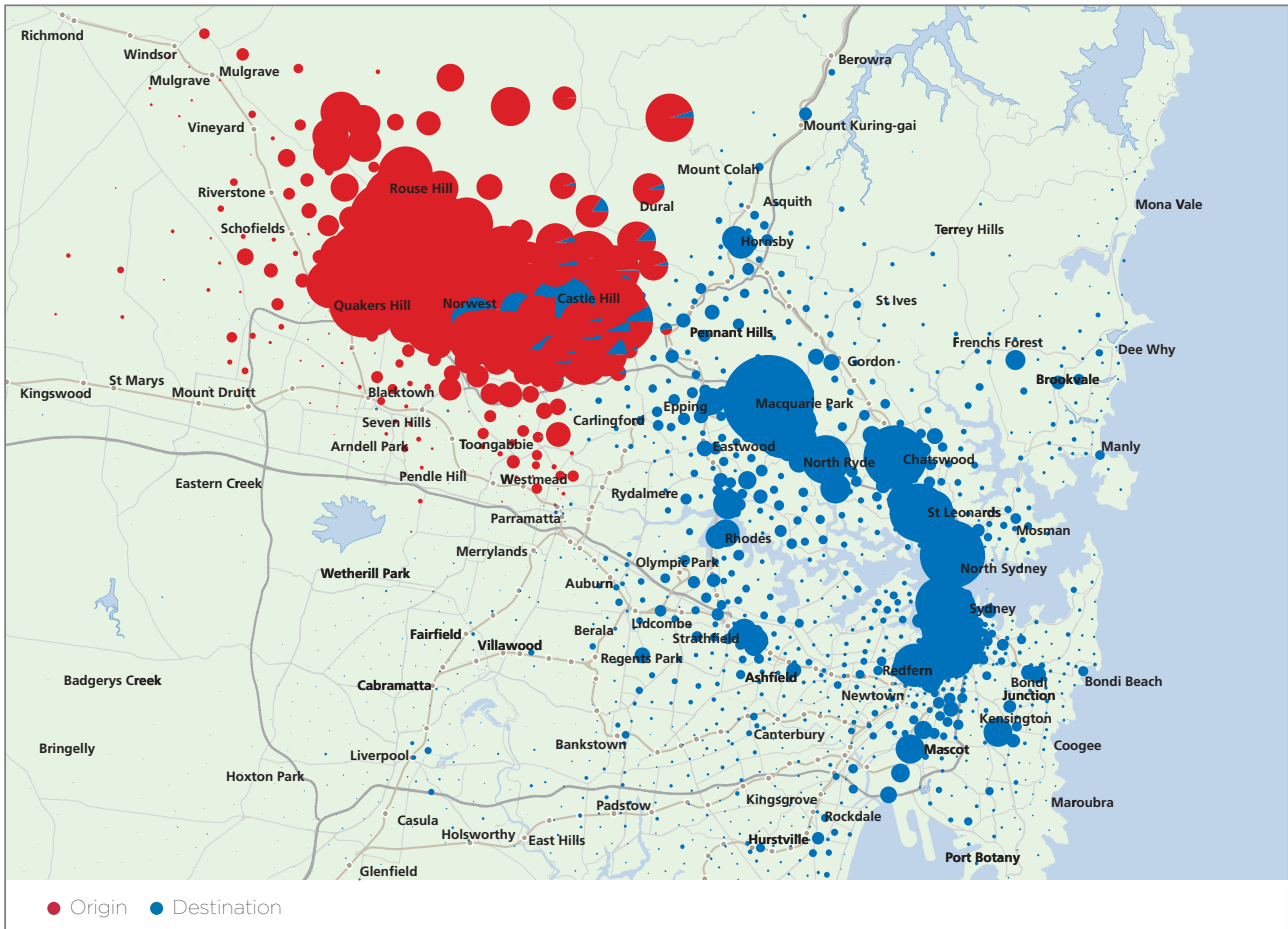


Figure 12: North West Sydney region, origins and destinations of journeys to work.

Source: Sydney Metro Northwest *Project Overview*, June 2012

[https://www.sydneymetro.info/sites/default/files/Project\\_overview.pdf%3Fext%3D.pdf](https://www.sydneymetro.info/sites/default/files/Project_overview.pdf%3Fext%3D.pdf)