



# My rail journey map

Key Learning Area	Unit or lesson title and main focus questions	Most appropriate level and suggested number of lessons
 Science and Technology	<b>My rail journey map</b> Why does public transport in the North West region of Sydney need upgrading? What are the main travel benefits?	<b>Stage 3</b>
 Mathematics		1-2 lessons

## Teacher briefing

In this lesson, students use current public transport routes and timetables to discover some of the reasons behind building Sydney Metro Northwest, and seek answers to the focus questions:

- Why does public transport in the North West region of Sydney need upgrading?
- What are the main travel benefits?

### Requirements for the lesson

- Computers
- Interactive whiteboard
- Bookmarked Internet sites (see web links).

### Assessment

Create self-assessment sheets and guide students in assessing their own and their peers' contribution to group work. Assess students' ability to read and interpret maps, timetables and their 'My rail journey map'.

### Key terms and vocabulary

Map, directions, routes, timetables, journey, public transport, commuters, Sydney Metro Northwest, Central Business District.

## Web links



### Map of Sydney's public transport routes

<http://www.transportnsw.info/en/maps-and-timetables/index.page?>

<http://www.bing.com/maps>

<http://www.whereis.com>

<http://www.mapquest.com>

### Sydney Metro Northwest

<https://www.sydneymetro.info>

## Syllabus links

### Science and Technology K-6

ST3-2DP-T plans and uses materials, tools and equipment to develop solutions for a need or opportunity

ST3-3DP-T defines problems, and designs, modifies and follows algorithms to develop solutions

#### Values and Attitudes

Students value the importance and contribution of science and technology in developing solutions for current and future personal, social and global issues and in shaping a sustainable future

### Mathematics K-10

(MA3-1WM) describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions

(MA3-3WM) gives a valid reason for supporting one possible solution over another real-life situations and constructs timelines

(MA3-13MG) uses twenty-four hour time and am and pm notation in real-life.

# Learning experiences

## Step 1 – Class discussion

Teacher displays a current rail map for Sydney rail network on the interactive whiteboard, or as a large print out.

Topic One:  
A railway for Sydney's  
North West region



Figure 11: A map of the Sydney rail network.

Facilitate a class discussion about public transport options in the school's area and other areas in the North West region. Use the following questions as start. Draw up a retrieval chart to record their responses – it is useful data for the class that can be used again.

- What types of transport do students use to travel to school, friends' houses, sporting events?
- What types of transport do families use to travel to and from work?

## Step 2 – Mapping activities

Use one of the suggested Internet sites to create a map for a car journey travelling from school to Sydney's Central Business District.

Produce a map detailing directions and estimated travelling time by car from the school to another address in Sydney's Central Business District. Select a particular landmark such as Sydney Tower, the Sydney Opera House or an address suited to the students' learning context.

Discuss the map layout, the route and the language used in writing directions.

Ask students:

- How accurate do you think is the estimated travel time?
- What is the most appropriate and time efficient route to the Central Business District? Why? How do you know?
- What could affect these estimated travel times?

## Step 3 – Group task

In groups of four to six create a public transport “My rail journey” map travelling from Sydney to an address in Sydney's Central Business District.

- Each group selects a particular type of public transport – either train, ferry or bus
- Students use the suggested public transport Internet sites to research public transport, and work out the most cost effective and time efficient travel route from school to the selected address
- Students create the “My rail journey” map using publishing software (e.g. Microsoft PowerPoint, Publisher or Excel) including visual details, written directions and estimated travel time and a table of costs
- Students might like to animate their map, add an audio file of sound effects and, if the class has a blog, each “My rail journey” map could be uploaded.

## Step 4 – Reflection activity

Each group presents its “My rail journey” map to the class.

- Was one route more efficient? Why?

## Step 5

Students use the Sydney Metro Northwest map and estimated travel times information to ascertain the best travel route and estimated travel time to and from Sydney's Central Business District.

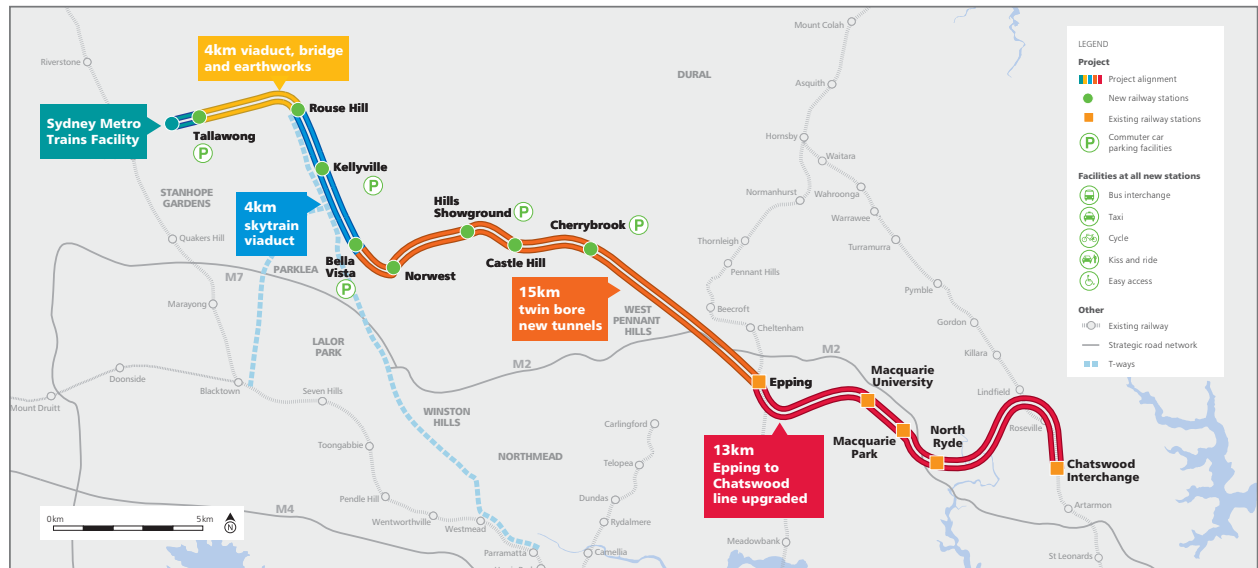


Figure 12: The route of Sydney Metro Northwest, from Tallawong Station to the Chatswood interchange.

If the class has a class journal, or a class blog, in which they record significant information, ask students to consider and record:

- How important is efficient travel time to a community? Why?
- Who will benefit most from Sydney Metro Northwest? Why?

## Teacher references and extension work

### Extension activities:

Students read 'Understanding the Challenges' (*Project Overview* June 2012, page 15).

[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)

In their own words, they write a short passage explaining three of the challenges commuters currently experience when using public transport.

### Stage modifications: Stage 2

Modify the group task above by reducing the size of the group and the difficulty of the activity. Students use <http://www.mapquest.com> to produce a map detailing directions and estimated travelling time by car from their home to an address in Sydney's Central Business District.

Ask students to:

- Identify other ways of travelling to Sydney's Central Business District on the "Sydney Trains network map"
- Research the estimated travel times of different types of transport travelling from the school to the Central Business District
- Explore the most direct route of travel using the Sydney Metro Northwest website.

