



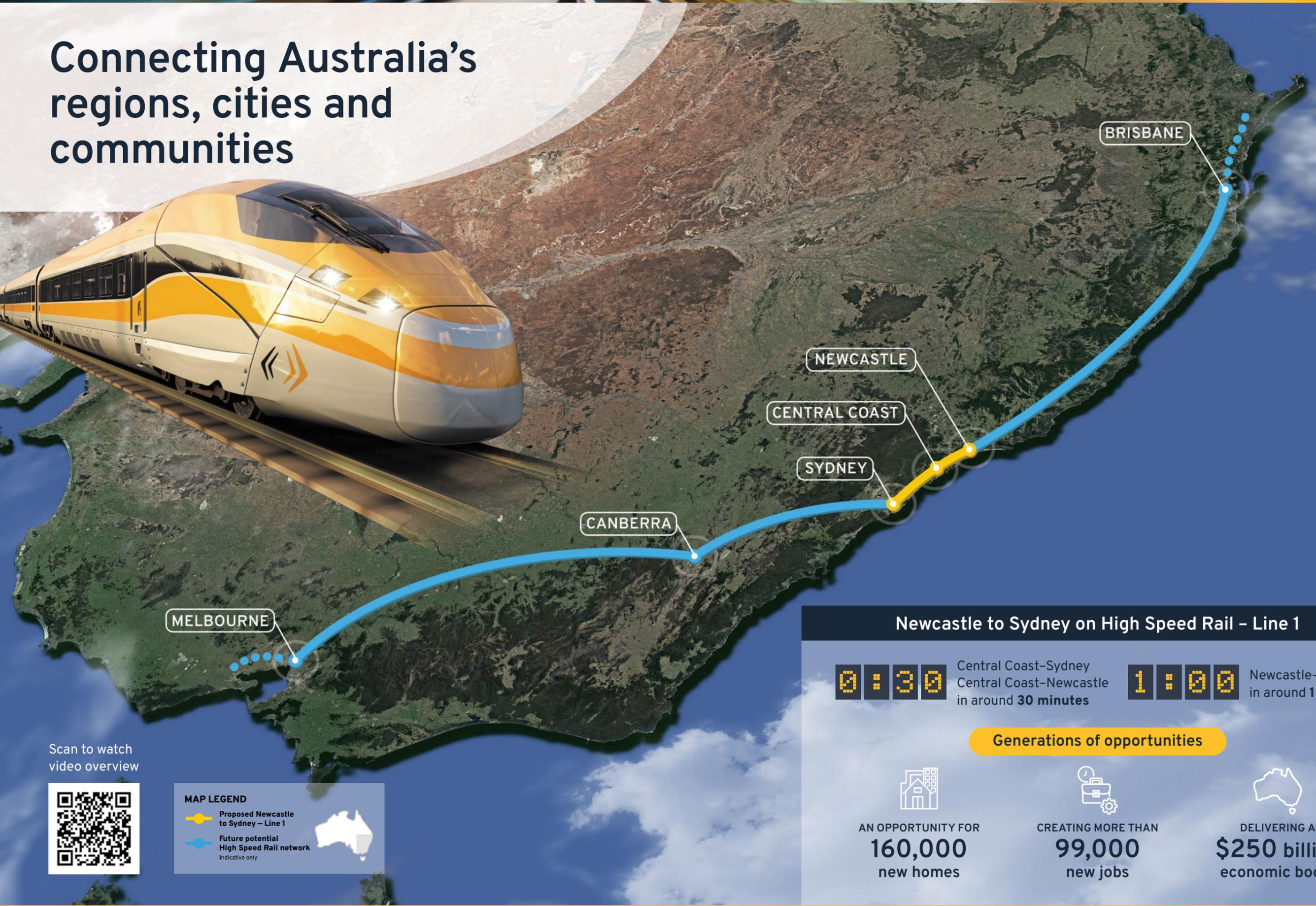
Australian Government
High Speed Rail Authority

High Speed Rail Newcastle to Sydney

Delivering Line 1 of
Australia's High Speed Rail



Connecting Australia's regions, cities and communities



MELBOURNE

CANBERRA

SYDNEY

CENTRAL COAST

NEWCASTLE

BRISBANE

Newcastle to Sydney on High Speed Rail - Line 1

0:30

Central Coast-Sydney
Central Coast-Newcastle
in around 30 minutes

1:00

Newcastle-Sydney
in around 1 hour

Generations of opportunities



AN OPPORTUNITY FOR
160,000
new homes



CREATING MORE THAN
99,000
new jobs



DELIVERING A
\$250 billion
economic boost

Scan to watch
video overview



MAP LEGEND

- Proposed Newcastle to Sydney - Line 1
- Future potential High Speed Rail network
Indicative only





Artist's impression of a High Speed Rail station.

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This artwork, by Mununjali and Kabi Kabi woman Navada Currie, celebrates the proposed High Speed Rail that will take passengers between Newcastle and Sydney. Australia is a vast country with great distances between each of our cities and communities. The railway will traverse the countryside quickly and efficiently, connecting many communities along the way.

The wattle and banksia represent the growth and benefit of the railway being created for many communities, opening up these communities to be easily accessible for more people. They are also a visual nod to the beautiful national parks that surround the area. The blue strokes represent the coastline and the many beautiful waterways. The brown pattern represents the Country that the trains will be travelling across.

The High Speed Rail Authority acknowledges the traditional owners of Country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to the Elders past and present.

Information in this document has been sourced from the High Speed Rail Newcastle to Sydney Business Case; the Product Definition Report; and demographic and industry sources including the Australian Bureau of Statistics, the United Nations, World Bank Open Data and International Union of Railways (UIC).

High Speed Rail

High Speed Rail – Line 1 will connect Newcastle to Sydney on a dedicated new railway line with new world-class trains capable of travelling up to 320km/h.

It will take around one hour to get from Newcastle to Sydney and around 30 minutes from the Central Coast to Newcastle or to Sydney.

High Speed Rail stations are proposed for central Newcastle, Lake Macquarie, the Central Coast, central Sydney, Parramatta and Western Sydney International Airport.

As the proposed network expands, covering a distance of more than 1,800 kilometres, further regions and communities will be connected by High Speed Rail.

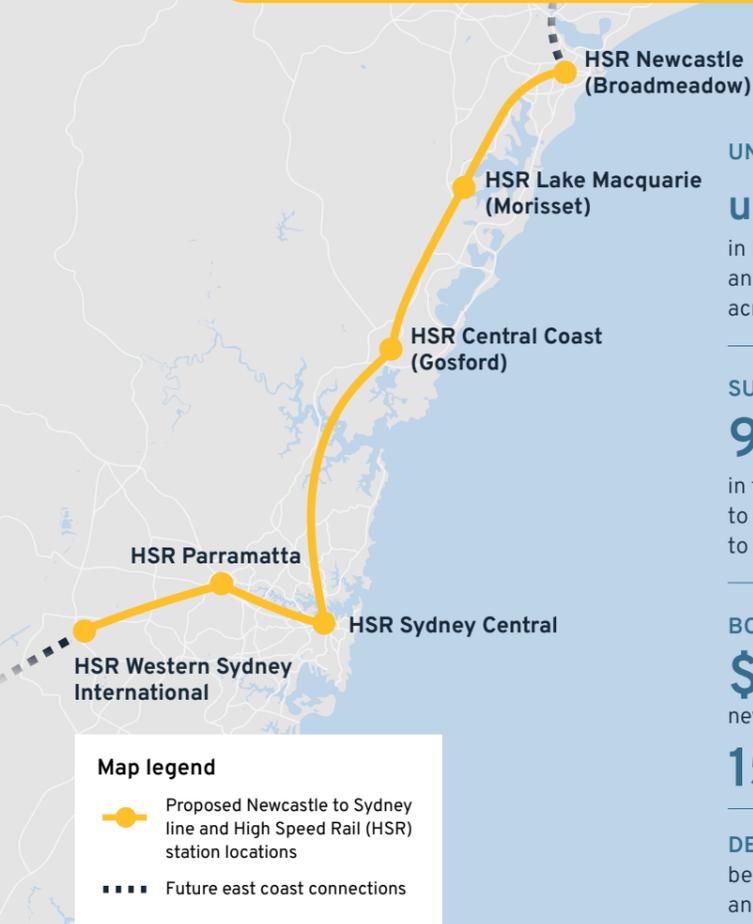
A journey from Canberra to Sydney will take around 90 minutes, while it will take around four hours to travel from Melbourne to Sydney or from Brisbane to Sydney.

The High Speed Rail Authority

The Australian Government's High Speed Rail Authority (the Authority) was established in 2023 to develop a High Speed Rail network between cities and key regional centres. The Authority has offices in Newcastle, Sydney and Canberra. During the development of the business case for the Newcastle to Sydney connection, the Authority worked with industry from across Australia and around the world, briefed more than 350 stakeholders and met with more than 5,000 community members in the Hunter Valley, Central Coast and Sydney.



Connecting Newcastle to Sydney with High Speed Rail



UNLOCKS THE OPPORTUNITY FOR
up to 160,000 new homes
 in Newcastle and the Lower Hunter Valley, the Central Coast and Sydney by 2061, and supports a future pipeline of housing across the corridor to relieve housing pressures over time.

SUPPORTS AND ATTRACTS MORE THAN
99,000 new jobs
 in these areas by 2061, by encouraging companies to expand to places that are easier for workers to get to because of faster transport.

BOOSTS THE AUSTRALIAN ECONOMY BY MORE THAN
\$250 billion by 2086, largely driven by new investment and tourism opportunities, and delivers **15,000** construction jobs a year during project delivery.

DELIVERS A STEP CHANGE IN CONNECTIVITY AND CAPACITY between the Hunter, Newcastle, the Central Coast and Sydney, relieving pressure on road and public transport corridors and delivering **\$12.7 billion** in transport benefits.

ACCELERATES PROGRESS TOWARDS **net-zero commitments**

catalysing economic development and legacy around industries such as those providing low carbon concrete and steel to support Line 1's construction.

Generates **\$16.4 billion**

of productivity benefits, including creation of new jobs in new industries, access to higher-paying jobs, more productive commercial land use, investment attraction and more tourism.

Saves more than **86,000 tonnes**

of carbon dioxide equivalent emissions and generates \$90 million through shifts from carbon-intensive transport options, laying the foundation for a network that is a cleaner alternative to emissions-intensive air travel.

Designed with Country

from the outset, providing new opportunities for people to connect, work and visit.

0:30

Central Coast–Sydney
 Central Coast–Newcastle
 in around **30 minutes**

1:00

Newcastle–Sydney
 in around **1 hour**



Newcastle: the birthplace of High Speed Rail in Australia

High Speed Rail connecting Newcastle to Sydney will deliver benefits for both the region and the national economy.

The Newcastle and Hunter Valley region is Australia's biggest regional economy, generating \$73 billion in annual activity.

The region's population is forecast to grow 22% to 1.3 million people by 2051.

The Newcastle to Sydney regional rail corridor is the busiest in Australia with almost 15 million passengers a year, forecast to reach capacity in the early 2040s.

The Central Coast and Newcastle areas currently support more than 420,000 jobs.

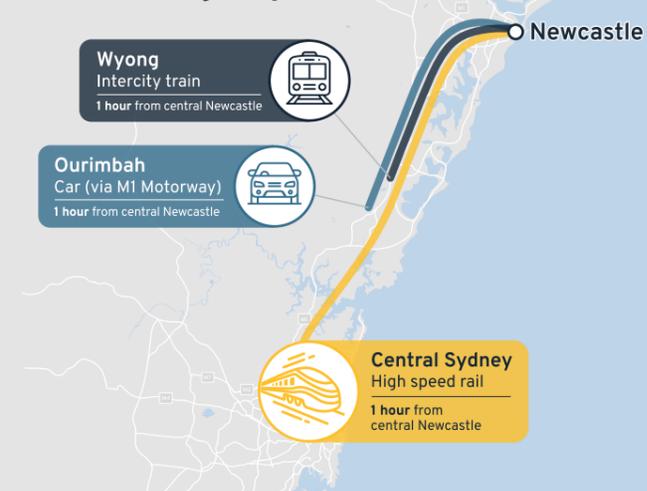
New homes to accommodate growth are expected in major greenfield areas and key centres such as Gosford, Tuggerah/Wyong, Lake Macquarie and Newcastle.

The current Newcastle to Sydney journey time by train and car is about 2.5 hours and road travel is often impacted by traffic.

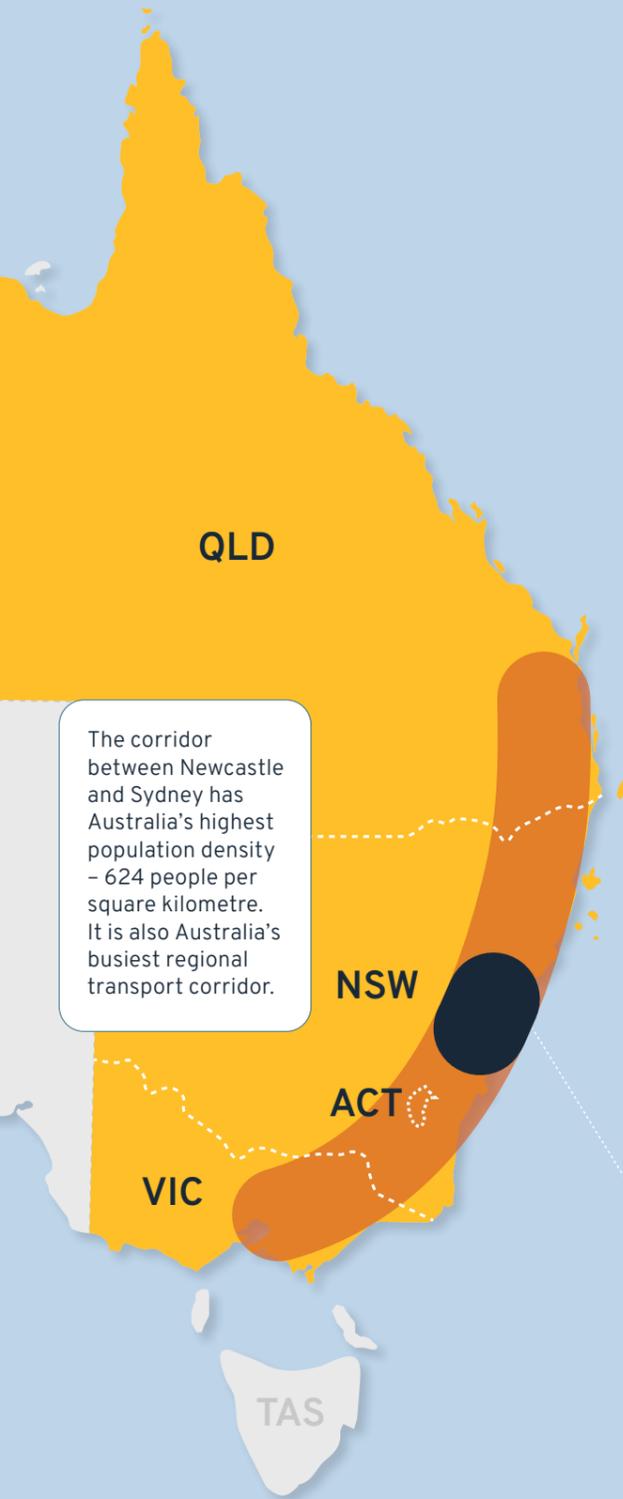
Why Newcastle to Sydney

- ▶ Existing Newcastle to Sydney railway built in 1880s
- ▶ Busiest regional rail corridor in Australia, moving about **15 million** people a year
- ▶ Forecast to reach capacity in the **early 2040s**
- ▶ Freight trains often disrupt passenger services
- ▶ M1 Pacific Motorway – more than **31.5 million** trips annually in Newcastle–Sydney corridor.

One hour's travel time out of Newcastle gets you this far:



The East Coast's population will increase 33% by 2051, or an extra 7 million people.



East Coast Australia

Current population **21.5** million

2051 population **28.5** million

↑ 33%

+7 million people

East Coast Corridor

60% of Australian population

70% of Australia's economic activity

2% of the land mass

104 people per square kilometre

NEWCASTLE–CENTRAL COAST–SYDNEY

624 people per square kilometre



A network fit for a thriving Australia

Australia's East Coast Corridor is the powerhouse of the national economy, home to more than 21 million people and contributing approximately \$1.3 trillion or 70% of national economic activity.

Stretching from Brisbane to Melbourne, this corridor is home to 60% of the nation's population and is expected to continue to grow.

High Speed Rail will help take the pressure off existing infrastructure and services – particularly in the largest cities.

High Speed Rail will support sectors like manufacturing, construction and tourism.

It will boost future economic growth, increase productivity and create more housing options.



Boost for the tourism sector

High Speed Rail will deliver a \$71 billion boost to Australia's tourism sector with faster travel providing new opportunities for domestic and international visitors.

East Coast Australia is expected to attract 79 million domestic and international tourists annually by 2061 and High Speed Rail is forecast to boost this number by

a further 18%, driving significant additional tourist expenditure growth.

Accommodation and food sectors along the east coast is expected to grow an extra \$17 billion by 2080 while commercial, residential and industrial developments around station precincts will deliver sustained economic growth.

A journey on High Speed Rail

The trains

Standard Class and Business Class services will be available on High Speed Rail. Australia will use tried-and-tested high speed trains like those used in other countries. Each train will move about 520 seated passengers, comparable to services in Europe and Asia.

The fares

Fares will be competitive with other travel options. There will be different types of fares for different customer needs.

Global success

More than 6,500 high speed trains are currently operating on 70,000km of High Speed Rail around the world, with another 30,000km under construction.

Dedicated passenger service

Operating entirely separately from existing rail networks on dedicated new tracks will ensure services are fast and reliable. High Speed Rail will create more capacity on existing lines for freight movements.



High speed WiFi



Fully accessible



Luggage storage



Quiet zones



Sustainable travel option



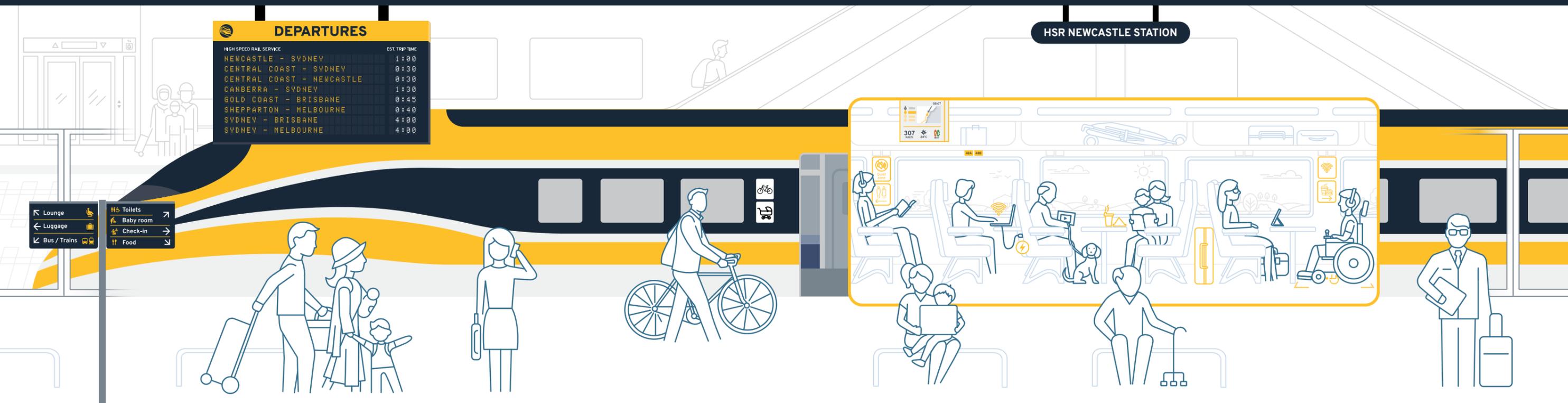
Power to charge devices



Food and beverage onboard



Pet friendly areas



The stations

High Speed Rail stations will be well-connected to other transport options, fully accessible and integrated into surrounding areas.



High speed internet



Food and beverage facilities



Fully accessible, lifts, escalators



Comfortable waiting areas and lounges



Facilities including showers and changerooms

Future services

The High Speed Rail network will be designed to operate as a two-tier service model, adapted for Australia's diverse needs and modelled on international best-practice.

Intercity services:

High speed, long-distance trains will offer express connections between major cities including Brisbane, Sydney, Canberra and Melbourne and cater to travellers who want rapid inter-capital journeys.

Regional services:

Trains with more stops will serve regional centres and intermediate locations, addressing the broader needs of passengers. This will include services from regional cities to capital cities, and services between regions.



Unlocking more housing and job opportunities in more places

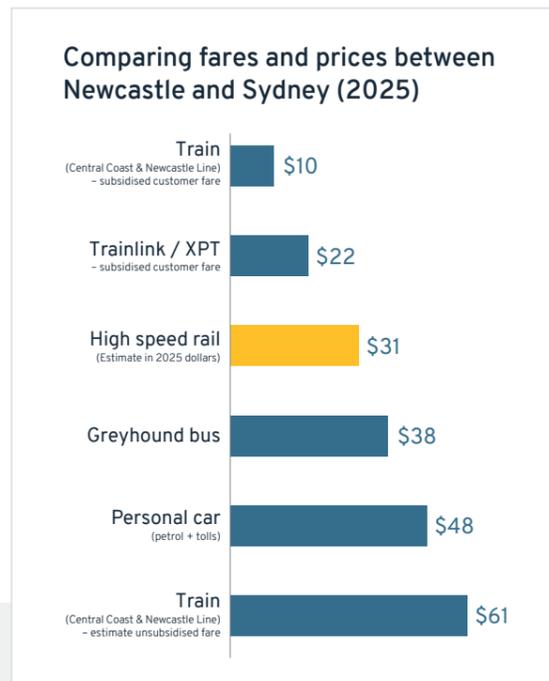
High Speed Rail will connect more people to more places, unlocking land along the east coast and improving access to growing regional areas.

Connecting Newcastle to Sydney with High Speed Rail could unlock capacity of up to 160,000 new homes.

Globally, High Speed Rail has proven to be a catalyst for housing growth.

By 2061, 27 million people and 14 million jobs could be within one-hour's distance of High Speed Rail, creating new opportunities for more people. This will help boost housing across the East Coast.

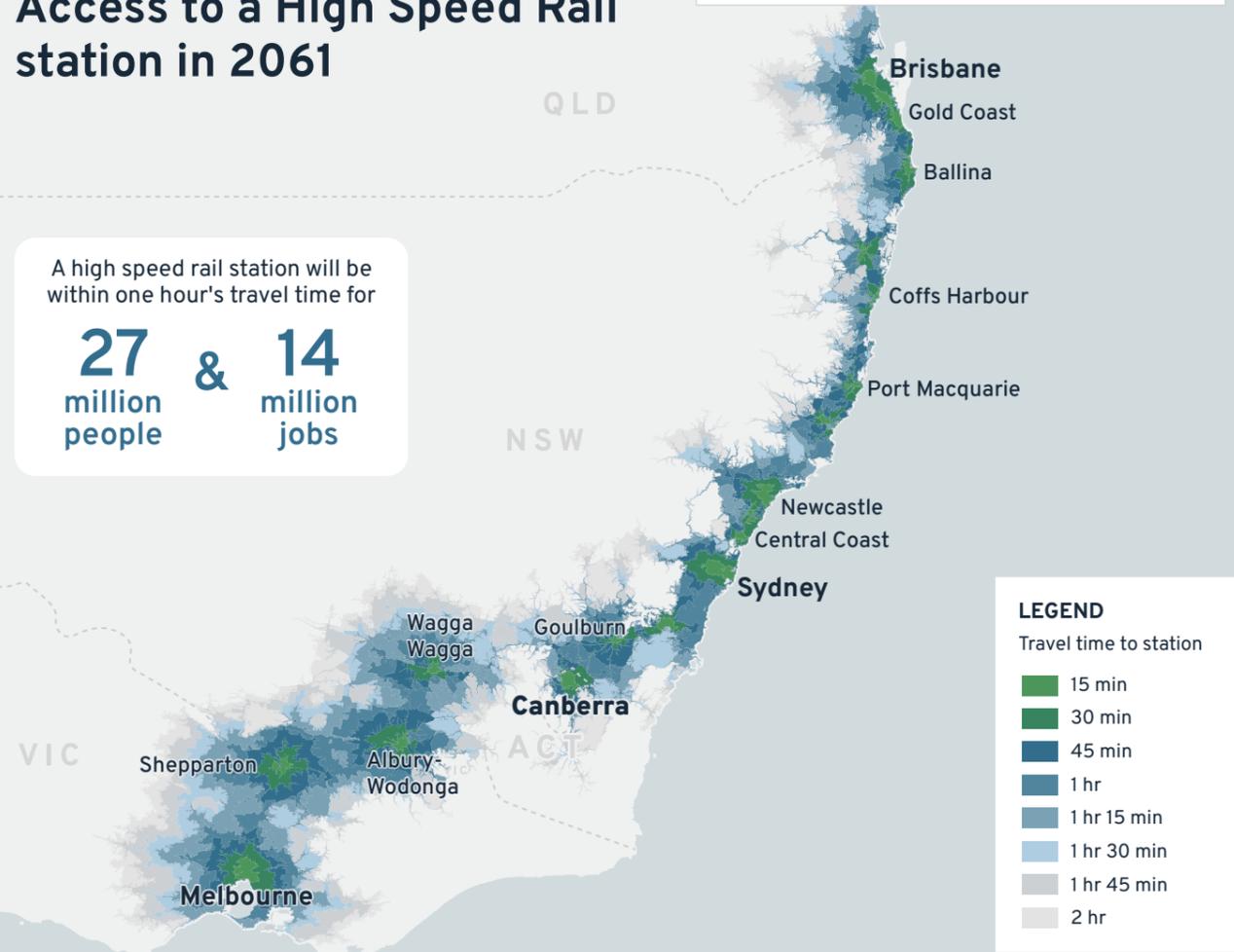
Faster trips between regions and cities will improve efficiency for workers, making long distance travel more productive. Time lost in traffic, on slow trains or in airport queues is time lost from the economy.



Access to a High Speed Rail station in 2061

A high speed rail station will be within one hour's travel time for

27 million people & **14 million jobs**



A new approach to delivery



- 194 kilometres of fully dedicated High Speed Rail alignment
- Twin-bore tunnel sections totalling 115 kilometres
- 38 kilometres of bridges and viaducts
- 41km of surface alignment

*Subject to project refinement

Learning from recent mega projects in Australia and around the world, a new delivery approach will be used.

An upfront Development Phase of about two years will now start on the Newcastle to central Sydney section of High Speed Rail – Line 1. This gives time to plan and execute a project of this complexity and scale, reducing risks prior to delivery and laying the groundwork for substantial productivity improvements.

The Development Phase includes securing time-critical environmental and planning approvals and early involvement with construction companies. Given its length and complexity, the project will generally be delivered in stages from north to south with a second development phase from central Sydney to Western Sydney International Airport.

Ongoing community and stakeholder feedback will help shape High Speed Rail.

An engagement framework will be developed with First Nations stakeholders, with planning and designing for Country incorporated into infrastructure delivery.

DEVELOPMENT PHASE WE ARE HERE

- Community engagement
- Geotechnical work
- Planning approvals
- Land acquisition
- Early contractor involvement

GOVERNMENT DECISION-MAKING PROCESS

- Award tunnelling contracts
- Construction start

Standard Class



Business Class

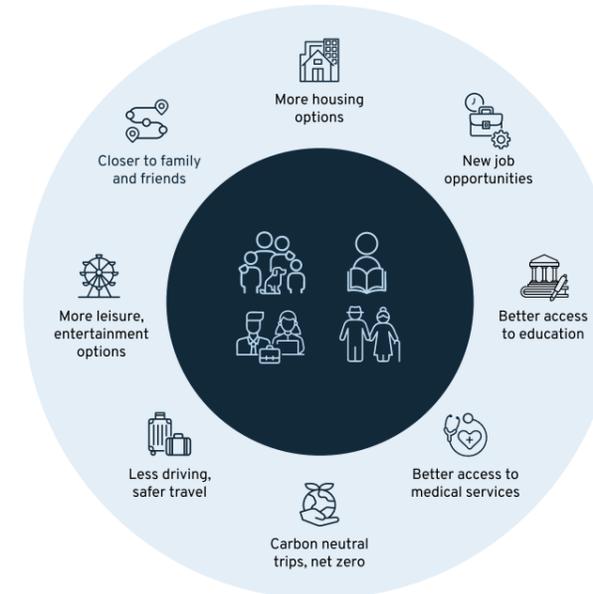


Artist impressions.

Making a big country smaller

The benefits of High Speed Rail

High Speed Rail will connect Australian regions, cities and communities – delivering generations of opportunities.



Cutting travel times and improving connections will help reshape Australia, giving more options for:

- where people choose to live, work, study and play
- how and where companies set up and invest, giving businesses greater access to a workforce and opportunities for new markets
- investment in the Australian economy, including boosting the tourism sector.

Currently, cities and regions on the east coast operate largely as independent economies. People mostly live and work in the same region, meaning growth is restricted.

A reliable High Speed Railway network will connect these cities and regions. New opportunities include unlocking housing as well as providing better access to jobs and services and improving people's quality of life.

CASE STUDIES

How High Speed Rail can change people's lives



A family renting in Sydney buys their first home in Newcastle after one parent's employer opens a new office in Newcastle to capture a new market. The other parent commutes to Sydney two days a week, getting to their central Sydney office in one hour on high speed rail – a journey that takes almost three hours now.



A Newcastle family travels to Sydney for a concert or to watch a game of rugby league or AFLW, knowing they can return that same night on a fast, safe and affordable service. They avoid traffic congestion or staying overnight, and enjoy a relaxing journey with fast WiFi, and food and beverages available onboard.



An emerging technology company relocates to the NSW Central Coast, based on the knowledge that it can reliably draw its workforce from Sydney and Newcastle because a fast and reliable High Speed Rail service gets people to work in 30 minutes.



Newcastle empty-nesters retire to the Central Coast, knowing they can get to Newcastle within 30 minutes to help look after their grandchildren. At the same time, specialist medical services in Sydney are also 30 minutes away, making it easier to travel for treatment.



The Hunter Valley and Central Coast become an easy day trip for cruise passengers arriving in Sydney, boosting regional tourism and creating new opportunities for tourist operators.



Generations of opportunities

At the peak of construction, the Newcastle to Sydney project will increase national economic activity by \$3 billion a year and create about 10,000 construction jobs a year.

High Speed Rail has a unique opportunity to engage a new generation of workers – from school leavers and university graduates to re-skilled workers from adjacent sectors, including mining.

Workforce training pathways will evolve to match the scale and complexity of High Speed Rail and its multi-generational infrastructure pipeline.

High Speed Rail offers meaningful long-term employment in roles that support major national priorities including infrastructure delivery, regional development and the transition to a low-emissions economy.

The Australian Government will co-design innovative workforce development initiatives with industry and form new domestic and international education and training partnerships.

Ways to accelerate and enhance training and qualifications for high-demand trade and professional positions will be identified to address workforce shortages.

Sustainable travel

High Speed Rail will be instrumental to Australia’s transition to a sustainable and resilient transport network, supporting the Australian Government’s goal of reaching net-zero emissions by 2050.

Currently, transport is Australia’s third largest source of emissions, accounting for 21% of carbon dioxide emissions (CO2e) in 2023. As other sectors decarbonise, and without further action, transport will be the biggest emitter by 2030.

High Speed Rail will be net-zero carbon in operation, using 100% renewable energy. Carbon emissions will be progressively reduced in construction, supported by the growth of low-carbon supply chains to meet increasing demand.

Melbourne to Sydney

1740kg
CO2e

31kg
CO2e
99%
reduction

Advanced manufacturing facilities

High Speed Rail will be the first major Australian infrastructure project to fully embed advanced manufacturing techniques – a vital innovation that will drive significant efficiency.

Advanced manufacturing facilities in regional areas will be designed to boost productivity and efficiency in the construction sector. They will create new career opportunities for people in areas like the Hunter Valley who have been affected by the job changes caused by the energy transition.

Productivity in the construction industry has not improved in the past 20 years. Working with industry, the Authority can help transform infrastructure delivery by enabling a manufacturing-led approach to boost construction productivity.

This leads to reduced risk, higher quality and reduced costs – not just for High Speed Rail but applicable to many other infrastructure and building projects.

Advanced manufacturing presents a unique opportunity to support local industry and drive skills development and employment – creating jobs that range from skilled tradespeople to engineers and technicians, supporting local industries and improving construction productivity in major cities and across the regions for a range of projects.

Training programs set up to prepare for advanced manufacturing will equip people with future-ready skills to ensure long-term career pathways in a high growth sector or to transition from other industries, helping position Australia as a global leader in construction and manufacturing.

Improving construction for smarter, more productive outcomes



A reliable future-ready network, delivered in stages

Learning from global experience, High Speed Rail will be delivered as a dedicated standalone network and progressively built in stages. Each stage will deliver immediate benefits while supporting the broader network – improving connectivity and expanding access for more people as the system grows into a national network.

Newcastle to Sydney is the first step in a national network, delivering immediate benefits to this region.



Future stages will connect east coast capitals and regional centres, delivering benefits to each area as individual stages come online.



A new High Speed Rail network will reshape Australia's east coast, delivering benefits to the nation on top of the benefits from each individual section.



CASE STUDY

Berlin–Leipzig, Germany, 1991–2006

The 190km trip from Berlin to Leipzig was cut from 142 minutes to 70 minutes by the Deutsche Bahn with trains travelling up to 300km/h.

Leipzig's population increased by 100,000 to 580,000, while surrounding regions declined in numbers.

Annual economic growth of 2.2% and jobs growth of 1% outpaced other regions.

New investment flourished in the city, including in manufacturing, with BMW, Porsche, Amazon and DHL moving there.



Geotechnical drilling on Hawkesbury River, October 2024.





High Speed Rail Authority

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COVER IMAGES: Artists' impressions

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