

High Speed Rail for Australia's East Coast. *Has the time come?*

THE
GREENS



The Greens Proposal

The increasing urgency to reduce both greenhouse gas emissions and Australia's reliance on declining oil supplies, worsening air and road congestion and advances in train technology all mean that now is the time link the nation's major east coast population centres with high speed rail (HSR). The Greens want a major concept study to be undertaken.

The concept study should address:

- Current and future service demand, preservation of corridors and location and number of stations.
- Environmental, social and economic costs and benefits of the range of route and train technology configurations. The existing major highway routes should be examined.
- Comparisons to alternative options, including new or expanded airports and road networks.
- Options for the financing, governance and public ownership of the rail network.
- Options for providing a carbon neutral energy source to meet the trains' electricity requirements.
- Previous studies, including the last completed in 2001, nearly a decade ago.

The prospect of high speed rail is an exciting opportunity for Australia. Construction of an east coast high speed rail network would be a nation building project on the scale of the National Broadband Network (NBN), requiring leadership from the Commonwealth government and cooperation across all levels of government, business and the community. Countries across the world, including Spain, the US, Saudi Arabia and China are taking up high speed rail as the most cost-effective, safe, efficient and environmentally responsible transport option – Australians should not be left behind.

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The Greens proposed concept study should be completed over 12 months. If that study were to conclude that high speed rail is now a good option for Australia, a planning phase should commence immediately. This planning would involve finalising the railway route, the financing arrangements and rail corridor preservation. This planning phase would require an inter-governmental taskforce to further refine a range of costed options, extensive community consultation and cooperation between the Commonwealth, Victorian, NSW, ACT and Queensland Governments to set out the governance frameworks for the construction and operation of the HSR.

The planning phase would be a critical step because once there is agreement about the route and likely completion dates, governments, communities and businesses can make planning decisions that anticipate the future operation of the high speed rail.

Actual construction of the railway would then be expected to be completed in stages. The early stages are likely to involve relatively short trips linking poorly connected cities such as Newcastle or Wollongong with Sydney or Melbourne with Albury-Wodonga – allowing urban planners to fundamentally rethink their current plans for the expansion. Later stages would link the capital cities – displacing air travel between Melbourne, Canberra, and Sydney and eventually Brisbane.

Benefits of high speed rail

1. Accessible fast, reliable, ecologically sustainable transport for 75% of Australia's population

Travel between Melbourne or Brisbane and Sydney would take about four hours - city centre to city centre (with comfortable seats, phone and internet access).

2. Helps to reduce transport emissions and dependence on oil.

High speed rail can and should be electric. This means much lower greenhouse gas emissions and unlike air travel, the cost of train travel would be immune from inevitable and inexorable increases in oil prices. It also means that as renewable electricity displaces coal and gas derived electricity, greenhouse gas emissions from transport can be further drastically reduced. To hasten this process the Greens support increasing the Renewable Energy Target by an amount equivalent to the high speed rail's electricity demand.

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3. Removing congestion on high demand routes and increasing transport safety

The Melbourne-Sydney flight route is the fourth busiest in the world and business as usual projections anticipate high growth until at least 2020. The Pacific Highway between Brisbane and Sydney and the Hume and Princess Highways between Melbourne and Sydney have long standing reputations for being hazardous and accident prone, with heavy traffic congestion, which increases the risk of accidents.¹

4. Basis for future regional development

By reducing transport times, relative to road based transport, a HSR could open up new development opportunities along the route.

5. Opportunities for freight

In most instances traditional slower trains are likely to be the most cost-effective option for rail freight, however, there may be opportunities to use high speed rail for some urgent high value freight, such as mail for example.

6. Job creation

A High Speed Rail network would create a significant number of jobs during the construction phase and a smaller number of ongoing positions. During its peak construction period, the Adelaide to Darwin railway employed 1,500 people.² A larger number of people would likely be required for the construction of a HSR because there would be two tracks built to a much higher engineering standard.

International examples

High speed rail networks have been in operation for 35 years with almost 1,750 high speed trains operating at speeds of more than 250km/h around the world. The first high speed rail (the 'bullet train') was built in Japan in 1964. This remains the busiest high speed rail route in the world, carrying more than 360,000 passengers over 515km ever weekday. More than

¹ See for example Commonwealth of Australia (2009) National Building for the Future Budget Document, May 2009. Relieving congestion and improving safety were the principle arguments behind Commonwealth funding for upgrades to the Pacific Highway via the Kempsey Bypass and construction of the Hunter Expressway.

² ABS <http://www.abs.gov.au/ausstats/abs@.NSF/Previousproducts/1301.0Feature%20Article282005?opendocument&tabname=Summary&prodno=1301.0&issue=2005&num=&view=>

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4,000 million passengers have already travelled on bullet trains with no passenger injuries due to accident. High speed rail is now widespread throughout Europe, China, South Korea and Taiwan. Plans for the development of high speed rail in the United States are well advanced.

Table 1 : High speed rail lines (250km/hr) in operation and under construction worldwide

	In operation		Under construction	
Country	No. of lines	Length of track (km)	No. of lines	Length of track (km)
Japan	7	2,247	4	491
France	7	1,725	2	322
China	6	1,592	11	6,423
Spain	7	1,518	2	1,046
Germany	5	950	2	373
Italy	4	738	6	457
Taiwan	1	339	0	0
Turkey	1	251	1	306
South Korea	1	224	3	359
Belgium	3	206	1	40
UK	1	109	0	0
Netherlands	0	0	1	85
France/ Spain	0	0	1	45
Total	43	9,899	34	9947

Source: Railway Gazette

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How much will high speed rail network cost?

The cost of an east coast high speed rail network is high but it is comparable to the \$43 billion investment that Government is intending to make in the National Broadband Network, with approximate costs of \$20 million per kilometre of track work and additional costs for trains.

In 2001, the Department of Transport and Regional Services commissioned studies for a potential Melbourne- Canberra-Sydney-Brisbane high speed rail link.³ This study estimated the following costs associated with this project (for trains of that can operate between 250 -500km/hr). We have adjusted the findings from this study for an approximate current costing:

- For track work – a range of around \$40 billion (inflated to 2008 figures) for a full double track the entire length. Savings could be made by partial use of single track – with variations in the range of -10% to +30%. The report noted that these estimates are in the lower half of international costs on a per kilometre basis.
- For rolling stock – estimate cost of a 400 seat train set around \$50 to \$120 million (2008 figures). These costs are for passenger stock, and not freight cars, which we could expect to be lower in costs.
- Operating costs assessed on average of about 7-9 cents (2008 figures) per passenger per kilometre.

What is the potential route for a very fast train?

For the high speed rail link to be viable there must be an effective balance between linking the major population centres of the east coast and setting routes and timetables that minimise point-to-point travel times.

The most recent government study in 2001 on a very fast train network⁴ identified potential corridors along either an 'inland' route or a 'coastal' route, broadly consistent with existing road corridors. On balance, the 2001 report favoured an 'inland' route between Melbourne and Sydney and a 'coastal route' between Sydney and Brisbane.

³ Ibid

⁴ ARUP –TMG (2001) East Coast Very High Speed Train Scoping Study Phase 1 – Preliminary Study Final Report to the Department of Transport and Regional Services, November 2001.