

Lesson 2 Resources

Starter

'What is the case for high speed rail?' hand-out

Source: <http://www.greengauge21.net/high-speed-rail/>

- It can provide considerable additional rail capacity, which forecasts show will be sorely needed in the future
- High speed rail can deliver a step-change improvement in journey times
- It is an environmentally-sustainable solution to the country's transport needs
- By providing effective links between city regions and international gateways, high speed rail can boost economic development in the Midlands, the North and Scotland.

High speed rail has the potential to deliver a step-change in the time it takes to travel between major cities of the UK. The table at right shows the potential improvement for selected city pairs. This reduction in journey times is important for a number of reasons:

- Improving links between city regions by bringing them effectively 'closer together' will improve regional economic performance and narrow the north-south divide, as discussed under Economic Development.
- Operating at speeds of 300 km/hour will allow the railway to offer journey times of 3 hours or less between London and Scotland, which will result in a major mode shift from air to rail travel, with consequential environmental benefits.

High speed rail has a very valuable role to play in delivering an environmentally sustainable transport system and in encouraging sustainable economic development, as long as careful design is deployed to manage the impacts of construction.

Carbon emissions

Rail, as a relatively benign transport mode in environmental terms, increasingly needs to offer a viable alternative to other modes such as air and road travel. This is true even where much of the policy response is focused on restraining overall travel demand. The Tyndall Centre, in its 2006 report 'Living within a carbon budget', advocated investment in capacity in faster rail services as one way to help meet carbon reduction targets.

Land use effects

Constructing a new railway line will of course have environmental impacts in terms of land-take and its impact on landscape and urban areas. However, experience from High Speed 1 has shown us that these can be mitigated significantly in the design phases by building in existing transport corridors.

One positive effect from high speed rail that is often overlooked is that of encouraging development in city centres, reducing pressures to develop in the countryside. The

reinvigoration of cities and the creation of lifestyles that are sustainable and not car-dependent are crucial to reducing our carbon footprint. Other transport projects, even those such as light rail schemes, often encourage more dispersed patterns of land use development — even if they benefit the city centre, they also stimulate demand and development on the urban periphery.

One of the major challenges facing the UK is that of challenging the ‘north-south divide’ — so that the continuing output gap between the north and the south can be narrowed. We need to improve the economic performance of the midlands and the north while at the same time managing economic growth in the wider south-east without further increasing congestion and pressure on our public services.

Experience in other countries has demonstrated the significant effect that high speed rail can have on regional economic development. The Greengauge21 research report by Reg Harman on High Speed Trains and the Development and Regeneration of Cities looked across Europe and concluded that high speed rail services can serve as a major factor in the development of city economies, supporting city development plans and the regeneration of run-down areas by:

- Bringing cities closer to each other in time, especially by bringing major regional centres closer to the capital — boosting business activity in regional cities and promoting leisure travel to more destinations
- Integrating high speed rail services closely with city-centre service-sector development plans
- Facilitating movement within and beyond cities by integrating local and regional transport networks with high speed rail.

This is supported by academic research into regional productivity differentials: Boddy, Hudson, Plumridge and Webber demonstrated in 2005 that travel time from London is crucial in determining regional productivity and competitiveness.

High speed rail lines from London and Heathrow airport to Scotland and the north of England therefore have the potential to spread economic development more evenly across the country. Businesses will not feel that they have to locate in the south to gain the advantages of the London World City economy and the international links that Heathrow offers.

The potential wider economic benefits of a north-south high speed rail network were estimated at more than £10 billion in a study carried out by Steer Davies Gleave for the Northern Way. The report notes the importance of additional capacity for north-south links and also the additional productivity benefits that quicker journeys will bring to the north.

Video clips from 21st Century Challenges event

00:00 – 06:22

<http://www.21stcenturychallenges.org/challenges/not-in-my-back-yard/media-gallery/video/jim-steer-director-and-founder-of-steer-davis-gleave/>

and the response from Wayne Hemmingway

06:37 – 10:00

<http://www.21stcenturychallenges.org/focus/interview-with-wayne-hemmingway-mbe/>

5 key questions for students to respond to:

1. What is High Speed Rail and why is it of interest to geographers?
2. Why do people object to large scale projects such as railways?
3. What are the economic and environmental benefits of High Speed Rail?
4. List two ways in which Britain would benefit from High Speed Rail
5. How does the geography of Britain affect large scale projects such as High Speed Rail?

Main activity

Background reading: Newspaper reports:

[Faster travel, but at what cost?](#) By Nick Higham BBC News Thursday, 11 March 2010

[‘Brum high-speed rail link is on the wrong track’](#) By Andrew Neather London Evening Standard 12.03.10

[‘High-speed rail plans submitted’](#) Press Association, Independent Wednesday, 30 December 2009

Cost benefit analysis

Source: http://www.greengauge21.net/assets/greengauge21_manifesto_web.pdf

The evidence available in the business case for north-south High Speed Lines in Britain is shown in the following table. It is taken from the Summary Report prepared by Atkins for the SRA in January 2004 having been updated by them to take into account changes in appraisal techniques contained in HM Treasury's Green Book.

	Option 1 North West (Staffordshire)	Option 16 North East (Yorkshire)	Option 8 Central Scotland (Edinburgh / Glasgow)
Net revenue	4.9	8.5	20.6
Total benefits	29.6	44.5	89.8
Capital costs	8.6	10.6	27.7
Net operating costs	5.7	8.3	20.5
Total costs	15.8	18.9	48.2
Net present value	13.3	27.3	40.9
Benefit : cost ratio	2.07:1	2.59:1	2.04:1

Source: Atkins Summary Report Tables 2.1 and 3.2 in Appendix B (available DfT website). Costs and benefits in (discounted) £bn.

To be attractive as investments for Government, ideally the benefit: cost ratio would exceed 2:1 after allowing for the risk and uncertainty inevitably involved in early stage appraisal, ('optimism bias') as the figures in this table do. The first, and most striking, conclusion is therefore that all three HSL options pass this crucial Government expenditure test.

Greatest net value is delivered by the longest route (Option 8), to Scotland, although this option also has the highest cost. Current rail share of the large London to Edinburgh/Glasgow market has fallen to the 10-20% level, but high speed rail would be expected to win back much of this market from air and establish a dominant market position (just as Eurostar has in the London– Paris/Brussels markets).

Plenary

Practice examination style questions

Specification	Section	Question type	Question	Marks
OCR Unit F762 Managing Change in Human Environments	Section A	Specimen	With reference to one or more named urban areas, discuss the ways problems of traffic congestion are being managed.	9 marks
OCR Unit F762 Managing Change in Human Environments	Section B	Specimen	With reference to located examples, describe and explain how urban environments can be managed to ensure sustainability.	25 marks
AQA Unit 3 Conflict and challenges	Section C	Specimen	For a conflict over the use of a local resource, analyse the causes of the conflict and assess the extent to which it has been/can be resolved to the satisfaction of all those concerned.	40 marks
CCEA AS	Section C	May-June 2009	With reference to places for illustration, discuss three issues faced in the rural–urban fringe.	12 marks
CCEA AS	Section C	January 2010	With reference to one national case study, describe and explain the regional contrasts in development.	12 marks
Edexcel Unit 2 Geographical Investigations	Section B	Sample assessment 2007	With reference to named examples, explain how rebranding strategies such as those shown in Figure 4 might regenerate rural areas.	10 marks
Edexcel Unit 3 Contested planet	Section A	Sample assessment 2007	Assess the view that economic development is not possible without causing environmental degradation.	15 marks
WJEC Unit 2 Changing human environments	Section G2	Specimen 2009	Explain why the social structures of either urban or rural settlements are changing.	10 marks