



A vision for the High Speed Line (HSL)

The case for HSL

Over the next 15 to 30 years, current demand forecasts suggest that unless action is taken there will be substantial overcrowding problems on the strategic rail network, against a background of increasing congestion on the road network. While these problems can be deferred or managed to a degree by capacity allocation or pricing mechanisms, this is only likely to secure short-term relief.

When the stage is reached at which new rail infrastructure capacity is required, a new High Speed Line is effective in relieving rail crowding problems and performs better in respect of relieving rail crowding than alternative investments such as upgrades of the existing networks, new lower-speed lines or highway upgrade programmes. HSL also has the potential to reduce some of the forecast growth in domestic air travel within the UK.

The appraisal of HSL has concluded that there is a business case for HSL and that in economic, safety and accessibility terms, HSL performs better than the alternative interventions considered:

- HSL is capable of delivering substantial economic benefits to the UK, covering costs by a ratio of between 1.9 and 2.8 to 1;
- depending on route option, HSL is expected to improve the wider economic performance of regions in the Midlands the North, and Scotland that are currently lagging, but not the more successful regions of the Southwest and Southeast. London and the other major cities are the prime beneficiaries;
- a reduction in transport-related accidents can be expected upon the introduction of HSL, arising from the forecast mode shift from road to rail-based transport;
- accessibility to the public transport network could be substantially widened by HSL, as it is capable of delivering a step-change in service frequency, population catchment and journey speeds;
- HSL has a good fit with transport and land use policy as long as the services that use it serve city centres. If road user charging is introduced, the net benefits of HSL are increased;

However, there are some difficult issues that need to be addressed:

- in environmental terms it is difficult to construct a new railway without adverse effects upon the natural and built environment - these would need to be carefully managed and appropriate actions taken to minimise and mitigate adverse impacts where possible;
- the nature of the scheme and its high capital cost means that a very large public sector financial

contribution would be required to support its construction and/or operation. A staged approach to implementation is therefore recommended.

Potential capabilities of the HSL

HSL has the potential to contribute to a range of economic, social, environmental and political objectives, and the analysis carried out during this study has illuminated which of these high level objectives HSL could be most effective at delivering:

- meeting the nation's north-south transport needs effectively - HSL could be very successful both in relieving forecast crowding problems on the strategic rail network and in making a step-change in the quality of rail travel in terms of speed, reliability, accessibility and frequency;
- enabling mode shift to more sustainable forms of transport - HSL can make a contribution towards mode shift to public transport, although the direct effects on the road network will not be substantial;
- stimulating or supporting national economic growth - there is a clear national economic gain from HSL, as captured in the cost-benefit analyses reflecting the efficiencies to be had from the use of faster more reliable means of transport;
- enabling regeneration in assisted areas - the HSL could be beneficial to the Government's urban renaissance and regional policy agendas by improving the performance of the lagging regions and conurbations, although it will not fundamentally alter the forecast geographical pattern of economic activity;
- supporting effective land use - HSL is consistent with land use policies as long as it is developed along appropriate guidelines, the most important of which is to serve city centres rather than new out-of-town parkway stations;
- making optimal use of resources: value for money - the economic appraisal has shown that despite the considerable capital cost of HSL, it has a positive business case and delivers better value for money than upgrading the existing rail network;
- promoting safety on the transport network - HSL provides safety benefits to the transport system, by reducing the number of accidents on the highway network, although the net gain from these benefits is not large in relation to other benefits;
- contributing towards environmental improvements - this is one area where HSL does not perform as strongly, since a scheme requiring such substantial new infrastructure would inevitably have significant negative landscape, biodiversity and heritage impacts, with relatively small benefits to air quality and noise levels.

On this basis, it is clear that the strengths of HSL are in meeting future transport needs and in delivering value for money while doing so. Secondary objectives could include enabling mode shift to public transport, supporting economic regeneration policies and promoting safer modes of travel.

Key Aspects

While this study has not been an exhaustive review of all factors that affect the viability of HSL, the characteristics that improve the case for HSL can be set out, taking into account the various policy reviews and environmental and economic appraisals that have been carried out throughout the study:

Product issues

- a premium service compared with existing rail services;
- a market-based fares policy that may involve premium fares but only where HSL provides significant advantages over classic services;

Technology choices

- a passenger-only line, without capability for freight traffic;
- fast journey times;
- careful specification of HSL and residual classic services, to ensure that the advantages of HSL are extended as widely as possible, without compromising either HSL journey times or residual classic rail services;
- use of high speed technology compatible with operation over conventional rail networks to contain capital costs, aid phased development and extend the benefits of HSL;
- tunnelled alignments through environmentally sensitive areas;

Geographical options

- routes to the north west and north east are both attractive and both could support onward services to Scotland over existing routes;
- however, easterly options are potentially more viable than westerly ones judged against committed investments on the existing rail network;
- either one or two north - south high speed lines linking London with the north east and north west of the country (but not a core route with high speed branches);
- a central London terminus probably adjacent to an existing main line terminus
- connections to both airports (for example Heathrow) and CTRL offer valuable additional benefits;
- in the first instance, a new line that could link London to either Yorkshire or Cheshire/Lancashire serving destinations further north via the existing network;
- in the long term, when affordability constraints permit, a line that serves Scotland.

Policy context

- city centre stations rather than parkway stations to serve the main cities;
- additional intermediate stations only where these can be justified on regional planning policy and environmental grounds;

Deliverability issues

- phased development, to improve affordability of the scheme.

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