HIGH-SPEED RAIL

Fair and Affordable

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GREENGAUGE21

Contents

Executive Summary

Given the constraints on public sector funding, questions are bound to be raised in some quarters about whether we can afford Britain's proposed high-speed railway network. That high-speed rail has a strong economic case is not in doubt: studies for Government carried out over the last year have demonstrated that benefits will exceed costs by a ratio of well over 2:1; Greengauge 21's own work suggest even better returns. In the longer term, these returns will also produce substantial fiscal receipts for HM Treasury.[1]

But concerns have been expressed over whether passengers will actually be able to afford to travel by high-speed rail or whether it will be a transport system for a wealthy elite only.

This paper shows that HSR would be affordable for all. In today's prices, the average fare paid for a single journey could be £40-45. This is the average fare paid today for the journeys that will be typically on offer in future on high-speed rail. Unsurprisingly, few of today's rail passengers actually choose to pay the highest fares on offer, any more than is the case with today's air passengers.

As with all competitive transport systems, much lower fares, perhaps £20-25 one-way, will be available on high-speed rail for those willing to forgo some flexibility on travel times or able to take advantage of discounts such as from railcards. This is the basis – reasonably-priced fares with no high-speed premium – on which all of our business case work on high-speed rail has been conducted to date.

A new high-speed railway line would offer a major capacity gain as well as much faster journeys. With long trains capable of carrying over 1,000 passengers in comfort, this means that it would make sense for future HSR operators to offer low fares and discounts to more price-sensitive markets to fill the capacity available on each train, while using higher prices to capture some of the gains offered by HSR to the more time-sensitive travellers.

The paper also demonstrates that rail usage is not restricted to people with higher incomes, as some have argued. Even those on lowest incomes still make a significant number of rail journeys, with little difference between the lowest 20% and the next two income groups. With fares for high-speed rail expected to be (on average) at the same level as those on the existing rail network, we can expect the same broad level of usage, right across the social spectrum and across all income levels.

HSR can make a positive contribution to social inclusion by offering high standards of accessibility, connecting seamlessly with local transport networks and by offering a reliable, safe and high-quality passenger experience at an affordable price. As with today's rail services, HSR would be available to all, including those who for whatever reason are unable to drive or are reluctant to use short-haul air services. A genuinely national HSR network would ultimately serve all major cities in Britain. Services to local stations on main lines that parallel HSR will be able to get a better train service than is possible today when longer distance non-stop trains dominate. With HSR, these non-stopping trains can be removed and timetables on existing main lines can be re-focused on serving local and regional markets.

[1] High Speed Rail in Britain: Consequences for Employment and Economic Growth, Greengauge 21, January 2010. Available at: http://www.greengauge21.net/assets/uploads/research-reports_7_2422186523.pdf

With a new high-speed railway, there is an opportunity to avoid the complexities of the current railway fare system, and allow operators to develop a straightforward and understandable fare structure that both offers choice to customers and allows operators to manage capacity effectively through guaranteed seat reservations. The HSR fare structure does not need to be overly complex – and it is not in other European countries. Neither do fares need to be subject to year on year increases whether or not fares are regulated by Government, as can be seen from the stable but competitive headline fares offered by Eurostar over the last 15 years.

1. Background

The development of high speed rail (HSR) in Britain is progressing rapidly. The new coalition Government plans to consult publicly on the High Speed Two route between London and the West Midlands in early 2011 and aims to start preliminary construction works by 2015. Britain could therefore see domestic HSR services operating by the early or mid 2020s.

Much of the planning work carried out so far by Government-owned company HS2 Ltd has focused on developing the business case for HSR and planning the alignment of the initial route. Less attention has been paid to the experience of travelling on high-speed rail services – from booking tickets through to the journey itself. One important aspect of the passenger experience is the cost of HSR travel and what kind of fares will be on offer. This is also a key question for social inclusion policy.

Those wishing to decry high-speed rail have suggested that HSR will be a premium product that would only benefit a wealthy elite. Our research demonstrates that this will be very far from the truth: HSR will be affordable for all and will deliver benefits across Britain and across its different social and income groups.

This paper on HSR fares strategy draws on the passenger demand modelling analysis and consumer research that underpinned Greengauge 21's *Fast Forward* strategy[2] published in September 2009. This was supplemented with some more recent research on European HSR fares policies carried out for Greengauge 21 by MVA Consultancy, some of which is reproduced in Annex A.

This paper has been sponsored by the Greengauge 21 HSR Public Interest Group but the conclusions of the paper remain those of Greengauge 21 alone.

2. Why have a fares strategy for HSR?

The income stream from HSR fare revenue will be very substantial – Greengauge 21's demand forecasts suggest a national HSR network could generate over £8 billion (in 2008 prices) in fare revenue per year by the 2050s – and this will ultimately be an important source of funding for the system. And, given that the development of a high-speed rail network will inevitably involve public sector funding, everyone has an interest in the prices that are charged for tickets, the range of fares offered and the way the ticketing and reservation systems will work – since this will influence who will be using the HSR network in the future.

Looking at the widest national interest, an HSR fares strategy needs to balance a number of objectives:

- Achieving fairness in making HSR accessible and affordable to all;
- Encouraging large numbers of passengers to use the HSR network in order to maximise the social and economic benefits from the public sector's investment;

[2] Fast Forward – a High-Speed Rail Strategy for Britain, Greengauge 21, September 2009. Available at: http://www.greengauge21.net/assets/FastForward_Greengauge21.pdf.

- Optimising farebox revenues for commercial reasons, by offering choice in the market-place, so that that those who can afford to do so pay more (for instance, to get maximum flexibility on travel times, or to travel in the busiest time periods);
- Ensuring that the costs of HSR investment are balanced fairly between farepayers and taxpayers;
- Managing demand for train services across the day and across days of the week, in order to make best use of the capacity available.

Even if the start of HSR services is still some way off, it is important that the case for investment in new HSR lines is well understood and that questions of social equity are based on fact and not hearsay. The point that decisions on HSR fares don't have to be finalised now should not be a deterrent to considering this policy area before detailed planning inquiries start.

3. Current fare structures in Britain

The fares system on Britain's long-distance rail services is a legacy largely inherited from the British Rail period. Before the railway was privatised, BR sought to maximise its revenue through an increasingly complex array of fares and ticket restrictions, such as peak/off-peak designations, designed to discriminate between the various types of user by price. There were also regional and sector variations, many of which survive and are now overlain by fares available from individual franchises. Market segmentation tools continue to be used today, in part because of the lower levels of subsidy applied to rail services in the UK compared with other European countries: it is the key device to increase yields.

Since railway privatisation in the mid-1990s, certain fares have been regulated, largely to protect those travellers who have no alternative means of travel – in particular, commuters. In the intercity market, saver (return) tickets have also been regulated, so that for these specific tickets, fare rises are limited, currently to a rate of RPI+1%. This imposes some constraints on train operators and increasing complexity, particularly because of the operation of a regulatory regime in parallel with operator-specific market pricing and yield management techniques. In many other ways the intercity rail market is reasonably liberalised, with the main influence on fares being competition from other modes of transport.

The range of fares offered on some typical intercity journeys is illustrated in Table 1. The regulated fares are in general the (standard class) off-peak return fares, previously known as savers. The UK fares structure is focused on market segmentation – with high prices for business travel and lower prices for leisure travel. This is achieved through defining peak and off-peak periods and through managing the availability of 'advance' tickets through the use of increasingly sophisticated revenue management systems (as pioneered by the airlines) to encourage travellers to use less busy trains. This helps ensure that sufficient capacity is available at peak times to holders of more expensive unrestricted 'anytime' tickets. As a result, even in standard class, there is a wide range of fares available. Between London and Manchester for example, standard class fares range between £8 and £131 for a single ticket, depending on time of day, ticket restrictions and availability.

Table 1: Current Intercity Rail Fares

Ticket type	London – Bristol (118 miles)	London – Edinburgh (393 miles)	London – Manchester (184 miles)	Bristol – Leeds (209 miles)
First Single				
Anytime	£132	£186.50	£199.50	£184.50
Advance	£19 - £121	£49 - £175	£18 - £186	£30 - £228
First Return				
Off-peak return	£154	£229	n/a	£215.30
Standard Single				
Anytime	£79.50	£135.50	£131	£84
Off-peak	£34	£107.30 (Super OP)	£65.20	n/a
Advance	£11 - £68	£13.50 - £124	£8 - £110	£15 - £80
Standard Return				
Off-peak	£59	£183.50	£66.30	£87.70
Super off-peak	n/a	£108.30	n/a	n/a

Source: MVA Consultancy. Fares valid May 2010.

These four routes are reasonably representative of the kind of markets that HSR will serve. As can be seen from the table, there is a 'concertina' effect which means that while the full-price fares vary widely across the four routes sampled (reflecting an underlying pence per mile pricing foundation as well as market pricing and competition from air fares), the discount fares are clustered more closely (reflecting the wish to appeal on a 'price point' basis).

According the Association of Train Operating Companies (ATOC),[3] more than 80% of people travel on some form of discounted ticket and only 2% of long-distance passengers travel on a full fare ticket. This means that the average fares paid on routes such as these (one way, standard class) is between £40 and £45, substantially less than half the standard 'anytime' fares of £80 - £135.

This not only reflects the choice of lower headline price tickets but also the set of discounts available outside the morning peak period to those who purchase railcards, available for example to seniors (over 60 years old), young people (between 16 and 25 years old), 'family and friends' (with a child in the travelling party), disabled persons (not restricted to off-peak usage) and HM Forces. These types of discounts achieve a rare double: they aid social inclusion and they help maximise revenue –

[3] Fares on National Rail, ATOC. Available at: http://www.atoc.org/clientfiles/File/Policydocuments/Fares-2010.pdf.

without them, the railway would lose more customers than would switch to higher, non-railcard, fares.[4] There is every reason to assume that such discounts (no doubt suitably modernised, perhaps on a smartcard basis) would and should be available on high-speed rail.

The current rail fare system in Britain therefore provides a range of products to users and offers some very cheap fares, with further discounts targeted at certain groups. Research carried out last year for Passenger Focus[5] compared fares and ticketing in Great Britain and continental Europe and concluded that while fully flexible tickets are more expensive in Britain than in continental Europe, advance purchase and family fares, when they are available, are the cheapest in Europe. Overall, the actual fares paid are much lower (on average) than the headline top fares.

Nevertheless, the current rail fare structure is unloved. Passenger Focus set out in last year's Fares and Ticketing Study report[6] a number of findings: the fares structure is too complicated, there is too a high price for flexibility and passengers are sceptical over cheap fare availability. It was suggested that passengers need far greater clarity over the tickets they are buying and that ultimately a fundamental review of the fares structure is needed. To this we would add the observation that the mismatch between the perception of fares and the actual levels paid, along with the great complexity of the structure, may be a serious deterrent to rail usage. Research commissioned by ATOC from the University of Southampton[7] shows that around four out of five trips work out cheaper by rail than by car – but this is certainly not the public perception. High-speed rail should not be saddled with a similar misperception.

ATOC has announced that it is carrying out a fares review, to report shortly. This will be considering a range of fares policy issues, such as the level and structure of fares, how fares are retailed and how information about fares is presented to customers. The problem is not unrecognised.

High-speed rail has been the subject of repeated appraisals which assume that existing fare levels would apply to the new HSR services.[8] Given the advantages of the current British fares system, which provides a wide range of fares for each journey, including some very cheap advance and discounted fares, we can therefore conclude that fares on high-speed rail will be affordable, and not just attractive to the better-off. Furthermore, the introduction of HSR provides opportunities to address some of the shortcomings of the existing system and provide a clearer and more straightforward approach.

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[4] For a number of reasons, Eurostar, the international HSR operator, does not accept railcards on its services.

[5] Comparisons between fares and ticketing in Britain and continental Europe, prepared by Steer Davies Gleave for Passenger Focus, February 2009.Available at http://www.passengerfocus.org.uk/news-and-publications/document-search/document.asp?dsid=2528

[6] Fares and Ticketing Study – Final Report, Passenger Focus, February 2009. Available at: http://www.passengerfocus.org.uk/news-and-publications/document-search/document.asp?dsid=2526.

[7] See http://www.atoc.org/media-centre/latest-press-releases/tens-of-thousands-switch-from-cars-to-trains-as-petrol-prices-rise-100489.

[8] Subject only to the effects of inflation and the RPI+1 formula that governs regulated fares each year.

4. Social inclusion and HSR

Closely connected to fares policy is the question of whether HSR can make a positive contribution to social inclusion, that is, in providing people with the means to get to jobs, services and social networks to which everyone should be entitled. In its report on transport and social inclusion[9], *pteg* suggests that public transport should ideally fulfil four criteria: it must be available, accessible, affordable and acceptable.

Availability can be defined as being within easy reach of where people live and where they want to go, at times they want to travel. Because of its nature, HSR will provide links over longer distances between major urban areas and international gateways. As a new railway constructed to modern standards, it will be able to operate seven days a week from Day One and over, say, an 18-hour day.

The key factors to ensuring that HSR is within easy reach of the maximum number of people are:

- To connect HSR seamlessly to local transport networks, such as bus, tram, local rail or walking and cycling routes. This can most easily be achieved when HSR stations are located in city centres or at transport hubs such as major airports;
- To plan for a national HSR network to be developed so that all nations and regions will ultimately benefit.

Other countries have quantified this availability objective: for example, the French government has stipulated that all significant centres of population (with over 100,000 inhabitants) should be served by high-speed services, and that nowhere in France should be more than 100 km from a station connected with a high-speed line. Spain has set even more ambitious objectives: all provincial capitals of the country should be connected to the high-speed network, and 90% of the peninsular population should be within 50 km of a high-speed station. In our *Fast Forward* report, Greengauge 21 set out a vision for a HSR network that would ultimately serve all major cities in Britain. The coalition government has since committed to developing a genuinely national HSR network, developed in phases.

The development of a high-speed rail network will bring benefits to a much wider population than those who use the HSR services. Capacity freed on the existing rail network will allow local, commuter or regional services to be enhanced, benefiting those making much shorter journeys. Congestion will also be relieved on other modes of transport.

Accessibility means that HSR trains, stations and the routes to and from the stations need to be designed so that everyone can use them without difficulty. The legal frameworks now exist to ensure that new facilities will be as accessible as possible and, as a new transport system, HSR services can be designed from the start to be as accessible as possible to those with mobility or other impairments, or simply those carrying luggage or accompanied by young children. This is potentially a big advantage over existing arrangements.

[9] Transport & Social Inclusion: Have we made the connections in our cities? *pteg*, May 2010. Available at: http://www.pteg.net/NR/rdonlyres/570FF969-98D6-4C06-B9DB-9837A732E835/0/ptegTransportandSocialInclusionreportMay10.pdf

Affordability need not be a barrier to using HSR services. The result of the wide range of rail fares offered in Britain is that usage of the rail network is strong across all income groups: rail passengers are not, as is sometimes claimed, restricted to those in the higher income groups.

In Table 2 below, we set out the data on annual rail travel per person classified by income group. The evidence shows that there is little difference between the number of rail trips made by the people in the lowest income group and those on middle incomes. The number of rail trips is higher for the top two income quintiles, which is to be expected: rail usage increases as incomes grow, as do many categories of expenditure, including, of course, car use. After all, the same data source shows that even the low cost travel mode – cycling – sees greatest use by those in the highest income group. A significant part of the higher rail usage of the top two income groups is likely to be a result of higher levels of commuting by rail, especially in the South East. However, the evidence demonstrates that the lowest income groups are not excluded from using the railway now and there is no reason for this to be different for HSR services, as long as fares are comparable for 'classic' and high-speed services as described above and in section 6 below.

Table 2: Annual travel by rail (2008)

Household income quintile (average disposable income)	Annual trips	Total miles	Average distance per trip (miles)
1st quintile (£14,000)	15	223	15
2nd quintile (£20,000)	14	290	21
3rd quintile (£25,000)	17	370	22
4th quintile (£32,000)	29	626	22
5th quintile (£52,000)	59	1348	23
All (£29,000)	27	570	21

Source: National Travel Survey

The data in Table 2 also show that the average distance travelled per rail trip is remarkably invariate as a function of income. The average for four income quintiles is in the narrow range 21 -23 miles.

The *attractiveness* or ***acceptability*** of HSR is one of its key advantages. It will offer a new, high-quality, safe and reliable way to travel that will be appealing to a wide range of users. In a survey carried out for Greengauge 21 in 2009[10], 72% of people found HSR to be an appealing concept and relevant to their travel needs. The recent disruption to air travel caused by the ash cloud from Iceland has also raised awareness of the potential of high-speed rail travel. A Eurostar survey[11] showed that HSR is now seen as a serious alternative to short-haul air travel within Europe: over

[10] A Vision for High-Speed Rail, The Leading Edge, July 2009. Available at: http://www.greengauge21.net/assets/uploads/hsr-development-programme_18_612942930.pdf

[11] See: http://www.eurostar.com/UK/uk/leisure/about_eurostar/press_release/high_speed_rail_over_air_travel.jsp.

84% of those surveyed said that they would definitely or probably choose high speed rail over air when they are next planning a trip to the continent.

5. European fares policies on HSR

An analysis by MVA Consulting of the fares strategies of HSR operators in France, Germany and Spain, plus Thalys and Eurostar international services, was commissioned by Greengauge 21. Annex A sets out the data collated on European long-distance fares. It shows that there are many common factors with current British intercity pricing practice.

All European operators offer a range of fares for each city pair; all operators have advance tickets (although in some cases these can be exchanged in advance of the time of booked travel); all operators use revenue management, with quotas on cheap tickets, but not all in as sophisticated a way as UK operators; and most operators offer discounts for passengers over 60 years and under 26 years, plus some family travel products.

There are of course some differences between British train operating companies and other European operators. In some cases, European rail operators provide three travel classes, rather than the two we have in Britain. Overall, European operators' fares strategies appear to be aimed mainly at spreading demand across different services in order to even out load factors. This tends to be a simpler system than the UK's revenue maximisation system because, in principle, it merely requires different fares for different trains dependent on the popularity of each train. It doesn't rely on complex peak/off-peak segmentation rules. The UK approach also affects the extent to which prices are increased in the peak periods: peak prices will tend to be greater where revenue maximisation is the objective of pricing policy rather than spreading demand across services. The range of fares offered is therefore significantly wider in the UK than in other European countries.

There is an interaction here with the train operator's timetabling strategy. In the UK a 'clockface' timetable is typically operated (where possible) with an unchanging service frequency throughout the day and throughout the year, sometimes with some additional peak trains. This optimises fleet utilisation. On networks such as in France, train services are more closely matched to variations in demand across the day and across the year, either through modifying numbers of trains or the length of trains. In this way, both timetabling and pricing tools are used to try to match the supply of seats to the underlying demand and achieve efficient operation.

Other features of European operators' fares policies include the following:

- Market segmentation is often achieved by offering tickets with different levels of flexibility (rather than the British approach of differentiating by peak/off-peak), with the highest prices being charged for fully flexible tickets and the lowest for non-flexible tickets that cannot be exchanged;
- Most operators require reservations to be made by all passengers on all HSR services, and technology allows for this to be carried out right up until train departure. **Compulsory seat**

reservation aids the management of capacity[12], thereby helping operators to keep prices down, and it also ensures that passengers can always be sure of a seat;

- More favourable exchange/refund conditions before train departure than after (encouraging early rebooking and allowing a seat to be resold);
- Some countries do charge a premium for high-speed rail services, although this is in the context of non-HSR fares being considerably lower than in the UK. SNCF's philosophy is to capture around two-thirds of the benefit of the higher speeds of TGV services through higher fares, the remaining third in increased passenger numbers;
- Single tickets are offered routinely at around half the price of a return (which is not the case in UK, where there is not always a single-leg equivalent of the off-peak return fare).

6. The HSR business case

Fares policy clearly has a substantial impact on an HSR operator's revenue stream and hence on the business case for developing new HSR lines. The work carried out by Greengauge 21 for the *Fast Forward* strategy and the detailed studies of HS2 Ltd on the London to West Midlands route[13] both assumed for their business cases that the average level of fares for HSR services would be the same as for existing 'classic' rail services. Both studies revealed a strong business case for HSR, with benefit: cost ratios of over 2:1 – **without premium fares for HSR**. In addition, earlier work carried out by Atkins[14] demonstrated that the economic case for HSR was stronger without a blanket fare premium being applied to all HSR journeys.

The Greengauge 21 analysis showed that the average yield today for a typical long-distance journey in Britain is around £40-45 one-way. This is consistent with the fares shown in Table 1 and reflects the mix of usage of the different ticket types. Under the Greengauge 21 and HS2 Ltd assumptions, **the average single fare that would be paid today for a HSR journey in the UK would be £40-45**.

This fare level varies relatively little by distance. In the UK, yields and fares typically increase with distance up to about 200 miles (e.g. a London - Manchester/ Leeds flow). Hence, in Table 1, the London – Bristol fares were cheaper than the other flows to Manchester and Edinburgh. Beyond that distance, a taper is applied on the fares, so that the fare increases proportionately less than distance, as could be seen by the similarity between fares from London to Edinburgh and Manchester. The degree of competition from domestic air services increases significantly for the flows between London and Scotland, which tends to keep down the level of rail fares. In addition, for the longest journeys the ratio of leisure:business travel increases, so that there is little or no increase in the average yield for the longer journeys.

[12] It allows, for example, SNCF and Eurostar to achieve average load factors of 70-80%.

[13] High Speed Rail, London to the West Midlands and Beyond, High Speed Two Limited, December 2009. Available at: http://www.dft.gov.uk/pgr/rail/pi/highspeedrail/hs2ltd/hs2report/.

[14] High Speed Line Study Summary Report, Atkins, 2003.

There are various reasons why the level of fares may be different from these assumptions in practice when HSR services start running. At the current time, regulated fares on the classic network increase by RPI+1% each year, and this would therefore increase average fares over time if the policy continued to apply in the future and was extended to cover HSR fares. The introduction of HSR services may also change the mix of passengers travelling on intercity services: the reduced journey times of HSR are likely to attract more business passengers, particularly for the longer-distance flows, and this will tend to shift the average fare paid upwards, even if actual ticket prices remain unchanged.

However, it is worth noting that Eurostar kept its entry-level fare from London to Paris/Brussels at £59 return between 2003 and 2009 and has only recently increased it to £69 – the equivalent of £35 per single-leg. There is no reason why a promotional fare on domestic HSR services should not be significantly lower than this, perhaps at £20-25 per single-leg journey, given that Eurotunnel per passenger charges currently make up a significant proportion of Eurostar costs on the lower-priced tickets.

One issue that Government will need to address in due course is whether or not to regulate HSR fares. It would be possible to leave HSR fares unregulated and open to the market to decide, as has been the case on Eurostar, and for which there has been 15 years' experience to judge outcomes. Competition between HSR and other modes, or even between different HSR operators, has and is likely to continue to constrain the exercise of excessive market power and operators do not make excess profits from passenger revenues. Unlike with Eurostar, passengers will also have alternative rail services on the classic network available to them. However, rail fares are an area of current Government concern, in the context of the value for money of the rail network, and the HSR revenue stream will be very significant. Government may wish to exert some control over this revenue stream. It may consider that from a public policy perspective, safeguards are desirable to ensure that usage of the HSR network is maximised and that regulation is necessary to ensure HSR fares are available at affordable levels for all while allowing at the same time higher fares to be available for those prepared to pay a premium. This would help ensure that the costs and benefits of HSR are shared fairly between taxpayer and farepayer. The regulation of access charges for HSR infrastructure will also play a role in influencing the level of rail fares charged to passengers.

7. Recommendations

In planning and implementing Britain's national high-speed rail network, we need not be bound by existing policies and practices. There is an opportunity to establish an HSR fares policy that is:

- Fair and accessible to all;
- Effective at securing benefits from public investment;
- Successful at raising revenue;
- Balances costs fairly between taxpayer and farepayer; and
- Efficient in managing capacity.

There are many different ways that HSR fares could be structured and there are good models in the UK and from other European countries. We do not seek to set out here a definitive structure for future HSR fares, but some of the features that are likely to be appealing to passengers and attractive to operators are:

1. A simple and readily understandable set of fares, based on single-leg journeys.
2. Fares differentiated according to the degree of flexibility/non-flexibility provided.
3. A revenue management system that manages quotas on discount tickets, according to how busy trains are.
4. Discounts for senior, youth, family, disabled persons – through the use of railcards.
5. Seat reservations for all, which can be booked and changed right up to (and even after) train departure.

Our analysis has shown that on average HSR fares need be no higher than existing intercity rail fares, at about £40-45 per single journey, with even lower prices available on most trains. It may be that competitive pressures will be sufficient to keep HSR fares at this level; if not, Government can establish a fares regulation system that achieves the same end or which sets them at some other level which is adjudged to bring about a fair balance between farepayer and taxpayer.

The evidence from current rail users is that rail is well used across all of the income groups. High-speed rail can provide the kind of connectivity that will be used by people across social groups; it will be of value to the wealthy and the less-well off alike.

Annex A - European long-distance rail fares: selected case studies

A1 Paris – Lyon

SNCF (French Railways) only has single fares. They vary by time period (peak or off-peak) and by whether they can be fully exchangead/refunded, only before departure or not at all.

Table A1: Single fares Paris – Lyon (290 miles)

	1st	2nd peak	2nd off-peak
Fully exchangeable	121.50€	89€	70€
Exchangeable before departure	114.80€	83.90€	64.30€
Exchangeable before departure (limited availability)	59€	41€	41€
Advance (non-flexible)	34€	22€	22€

In addition, there are discounts for seniors and youth, and discounts (50%) for frequent adult travellers on purchase of a card (85€ for adults, less for others).

It is worth noting that as well as being able to exchange before departure, if you miss your train you can still exchange for the next available train within one hour. This is of course not available for the Advance (non flexible) fare.

It is interesting to note that fares on TGVs are significantly greater than on classic services in France, although in most cases there is no direct competition between TGVs and classic trains. The objective is to capture approximately two thirds of the benefit in terms of higher fares, the remaining third in terms of increased demand. However, this is in the context of base fares that are substantially lower than those in Britain, certainly for flexible tickets.

Fares range from 0.076€ per mile up to 0.31€ per mile in Second Class and 0.42€ per mile in First Class.

A2 Berlin - Frankfurt

DB (German Railways) only has single fares. There is no distinction between peak and off-peak.

Table A2: Single fares Berlin - Frankfurt (350 miles)

	1st	2nd
Fully exchangeable	183€	113€
Saver (Sparpreis) – incl a weekend advance purchase, but exchangeable for a fee	89€ – 129€	49€ – 89€
Saver (Dauer-Spezial) advance purchase, very limited availability	49€	29€

Discount cards are available for all people (57€ gives 25% discount, 230€ gives 50%). Cheaper cards available for seniors and youth.

Fares range from 0.083€ per mile up to 0.32€ per mile in Second Class and 0.52€ per mile in First Class.

A3 Madrid - Seville

RENFE (Spanish Railways) offers a discount of approx 20% on return tickets. There are three classes of travel on AVE trains. There is no distinction between peak and off-peak.

Table A3: Single fares Madrid - Seville (single fastest trains) (320 miles)

	Club AVE	1st	2nd
Fully exchangeable (10% fee after departure)	145.20€	121€	80.70€
Estrella – 7 days advance (15% fee for exchange)	87€ +	73€ +	48€ +
Web fare – 15 days advance (no exchange)	58€ +	48€ +	32€ +

The discounted fares are all yield managed – i.e. there are quotas for them by train.

There are also discounts for seniors and youth with a very cheap card (5€).

Fares range from 0.10€ per mile up to 0.25€ per mile in Second Class and 0.45€ per mile in Club AVE.

A4 Paris - Amsterdam

Thalys has two classes of travel. Fares are single, with a return being twice a single. There is no distinction between peak and off-peak.

Table A4: Single fares Paris - Amsterdam (330 miles)

	Comfort 1	Comfort 2
Fully exchangeable (Highlife)	199€	123€
Exchangeable before departure (Optiway)	109€ – 149€	62€ – 105€
No exchange (Smoove)	79€	35€ – 45€

The cheaper fares all require purchase at least one day before departure, and are yield managed with quotas.

There are also discounts for seniors and youth; no card is required, as this is an international service and expecting recognition of different countries' cards is too difficult in practical terms.

Fares range from 0.11€ per mile up to 0.37€ per mile in Comfort 2 and 0.60€ per mile in Comfort 1.

A5 London - Paris

Eurostar offers a discount of 10% - 15% for return tickets. There are three classes of travel marketed, although Leisure Select is soon to be replaced by the mid-range Standard Premier. There is no distinction between peak and off-peak.

Table A5: Single fares London - Paris (300 miles)

	Business Premier	Leisure Select	Standard
Fully flexible	£260	n/a	£179
Exchangeable before departure (semi-flexible)	£206	£162 - £200	£141 - £163
No exchange (non-flexible)	n/a	£107 - £192	£39 - £140

The cheaper fares are yield managed with quotas.

There are also discounts for seniors and youth; no card is required, as this is an international service and expecting recognition of different countries' cards is too difficult in practical terms.

There is an additional weekend return fare (requires a Saturday night away) in both Standard and Leisure Select.

Fares range from £0.13 per mile up to £0.60 per mile in Standard Class and £0.87 per mile in Business Premier.