

HS2, a summary for MPs - EXTENDED (A Transport Watch note)

WP REF MP/HS2 NOTES for MPs EXTENDED

1. It has been said that the HS2 project “cannot be cancelled” because cancellation would waste the £9 million spent on studies. However, the £9 million is less than one two thousandths of the capital required. It is as though someone believes that because they have spent one pound researching a £2,000 holiday they should pay for it regardless of its horrors. In the case of HS2 the horror is a loss in the tens of billions of pounds.
2. The Present Value of the capital required is £17.8 billion. Of that £13.7 bn is for construction, £3 bn for trains and 1.1 bn for renewals. All values are at the 2009 price and **discount** base. They represent the cash which, if invested at the Treasury Discount Rate of 3.5%, would yield the resources necessary to build and maintain the scheme.
3. Since construction will not reach its mid-year until 2022, 13 years after 2009, the actual cash required for that will not be £13.7 billion but close to £21.4 billion, to which the actual price of the trains (£2.8 bn) should be added. That yields £24 bn, equivalent to £1,000 for every household in the land. The annual interest on that at 5% would be one billion pounds (all at 2009 prices).
4. If the first set of trains, costing £2.8 bn, is resourced in 2025 the present value at the 2009 base is £1.6 bn leaving £1.4 bn to fund future trains and train maintenance. If that is deemed to be spent in 2057 the actual cost would be £7.3 bn. Likewise, if the 1.1 bn for renewals is deemed resourced in 2057 (half way through the evaluation period), £5.7 bn will then be required.
5. However, rather than relying on that it would more realistic if HS2 provided a tabulation giving the actual capital, and operating expenditures in each of the years from now to the last evaluation year, 2086.. The same table may provide the supposed net fare income and the cash values of the benefits. Only then would we see clearly what the future commitments are.
6. In any event, no nation can endure if it persists in funding projects that make losses. The 2009 present value loss attributed to HS2 is £11.9 billion, equivalent to £21 billion (void of inflation) in the opening year of 2026. That loss rises to £30 billion if the extraordinarily high passenger forecasts are reduced by one-third.
7. Here are the some of the other questionable assumptions and weaknesses within the economic analysis and business case:
 - 1) The HS2 passenger forecasts, upon which the economic analysis depends, are improbably high. They require a train every 5 minutes, or thereabouts, in each direction all day throughout the year.
(In more detail, the passengers per day who currently use rail and who would transfer to HS2, if it were now in place, amount to some 33,000. Higher speed would both generate passengers and attract people out of cars and planes. That inflates the 33,000 by a factor of 1.8, to 61,000. Thereafter growth in the economy would increase the flow by a factor of 2.4 to yield 145,000 in 2033, 4.4 times the present 33,000. If the route to Glasgow etc. were completed the forecast rises to over 200,000. Further, the demand on HS1 is two to three times less than forecast, suggesting a tendency to overestimate on a grand scale.¹
<http://www.publications.parliament.uk/pa/cm200506/cmselect/cmpubacc/727/72705.htm>)
 - 2) The analyses assume that passengers’ time is entirely wasted when it is not. If that reality were included a large proportion of the supposed savings associated with shorter times by rail would vanish.
 - 3) The value of time is inflated at circa 1.8% per year for ever and ever. The effect of this largely hidden assumption is to double the supposed benefits compared with those that would arise with no such inflation.
 - 4) For HS2, and indeed most projects, circa 40% of the calculated benefits come from the last 30 years of a 60 year evaluation period. In the case of HS2 that ends in 2086 so generating uncertainty. After all, most of us will be dead before the 30 years has started.

- 5) The sensitivity tests carried out by HS2 Ltd show that if the extraordinary annual growth in demand were reduced by 25%, or if growth were curtailed in 2026 instead of in 2033, then the proposal would fail the cost benefit test.
 - 6) No railway ever pays for itself out of fares revenue. Instead the railways create an endless call for subsidy running to tens, if not hundreds, of billions of pounds. For the most part, that subsidy is enjoyed by the better off. E.g. those from the top quintile of household income travel four times as far by rail as do those from either of the bottom two quintiles.²
 - 7) Financing projects that are certain to make vast losses by loans guaranteed by the Government is a fraud on the taxpayer and upon future generations.
8. There are three other issues. One is that 98% of the populations will use HS2 less than once a year³. Secondly, there is an issue to do with the economic theory which we believe is crucial and thirdly, emissions.
 9. When evaluating public transport proposals the New Approach to Transport Appraisal, the NATA, requires 'Incremental Fares' to be subtracted from costs thereby providing the net cost to the Government. In the case of HS2 the Incremental Fares are the full fares minus the revenue lost by the existing railway. It is that net cost which is compared with the supposed time and other savings attributed to the scheme. However, the absurdity is that the economic performance of the proposal can be changed by arbitrarily altering its economic boundary.
 10. For example, if the boundary were widened to embrace the losses to the airlines and the filling stations, following from the transfer of passengers to HS2, then the incremental fares would be correspondingly reduced.
 11. More generally, it is not the cost the Government that is of interest. Instead it is the cost to the nation as a whole. For that reason the economic boundary should be widened to embrace the economy as a whole. Incremental fares then fall to zero, and the economic case collapses.
 12. In response to that argument the Department for Transport wrote: 'Your letter of 08 June suggested that rail services were in principle no different from any other goods and services. If this were the case, we would leave the provision of such services and the networks on which they operated entirely to the private sector'
 13. We comment, by claiming rail is a special case, when it is not, and by ignoring the point being made, the DfT has effectively thrown in the sponge on this issue. The implication is that Incremental Fares should indeed be struck out, in which case projects such as Crossrail and HS2 fail the cost benefit test by wide margins.
 14. As to emissions, the HS2 report points out "**Perhaps the most important point to note is that this is equivalent to a range of -0.3% to +0.3% of UK transport emissions.** So HS2 would not be a major factor in managing carbon in the transport sector". Hence any attempt to market the proposal as likely to significantly reduce emissions should be dismissed as propaganda.
 15. Against that background it is extraordinary to find that HS2 has such wide ranging support. Rather than benefiting the nation the proposal will be a drain on the exchequer for ever.

A summary and commentary of the HS2 reports is available here <http://www.transport-watch.co.uk/hs2-reports.htm>.

Transport Watch 16th September 2010

Amended 10th October 2010 (Ref to HS1 forecasts added and syntax changes)

¹ Select Committee on Public Account:s Forecasting of passenger traffic [Thirty-Eighth Report](#)

² National travel survey data

³ National travel survey data shows that 55% of us use a train more than once a year and that 5% of rail journeys are more than 100 miles long. Hence if half of the latter would transfer to HS2, a very generous assumption, the proportion of the population that will use it at least once a year is (56% x 5% x 50%) = 1.4%, or one in 70. Conversely 98.6% of us will use it less than once a year, rounded down to 98% to allow for growth in rail use.