

# HS2 - the Case Against

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# The issues

- Background
- Economic benefits and the Business Case
- Environmental impact
- The opportunity cost
- Demand growth and capacity
- The alternative

# Background

- Britain had been an interested observer of high speed in Japan, France and elsewhere
- Eddington (2006) argued against HSR
  - Journey times in Britain already good
  - Better case for incremental improvements, particularly in congested areas
- 2007 White Paper also rejected HSR
- Lib. Dems, Conservatives started advocating HSR
- Lord Adonis appointed Secretary of State – and strongly advocated HSR

*A Political consensus*

# The political consensus

HSR looks good to the politician on the Clapham omnibus

- Green
- Capacity
- Speed
- Regeneration
- Everyone else is doing it

*A sexy, dynamic legacy project!*

# Economic case – academic evidence

- Reducing the North-South divide not supported by serious academics
  - Tendency to benefit the hub (in this case London)
- Limited evidence for regeneration
- Zero sum game in the regions

# Evidence from HS1

*“Obviously, if you feel that something is going to do good for you, you big it up. We saw that with HS1 in Kent as well, as to all the effects it was going to have. I have to say, they are not visible to the naked eye”*  
[Professor Roger Vickerman (Transport Select Committee 6/9/11)]

*“Ashford station...has experienced little development and...Ebbsfleet International station has so far only witnessed the building of a park and ride facility”*

*“Full realisation of planning goals for station areas has seldom been observed within the first 20 years of station investments and may remain incomplete even at the 40 year mark”*

[ Tracks to Change or Mixed Signals, University of California, August 2013]

# The North South Divide

*“Predictive studies are largely optimistic of ...positive effects. On the other hand, observational studies tend to identify both benefits and shortfalls”*

*“the Shinkansen...strengthened the economic primacy of Tokyo and Osaka at the expense of...intermediate cities”*

*“second tier cities such as Lille and Le Creusot had more difficulty than expected in attracting firms”*

*“most scholars seem to agree that HSR redistributes economic activity, moving it from locations bypassed by HSR to locations more accessible because of the new service”*

[ Tracks to Change or Mixed Signals, University of California, August 2013]

# Economic benefits – the KPMG report

- KPMG recently forecast benefits of £15billion per annum
  - This compares with £15.4 billion over the life of the project in August 2012
  - Experts in the field have raised serious doubts on the methodology (Dan Graham, Imperial College and Henry Overman, LSE)
- ....and it doesn't pass the test of common sense: the benefits forecast by KPMG equate to each £1000 for each additional round trip on HS2**

# The Business Case

- Has deteriorated: Phase 1 Benefit Cost Ratio (BCR) has fallen from 2.7 (12/09), to 2 (2/11), now 1.7 (10/13), including “Wider Economic Benefits” (WEI)
- On DfT’s normal criteria, excluding WEI, now 1.4
- Correcting serious flaws in the evaluation would lead to a BCR of 1.0 or less
- DfT categorise 1.0 – 1.5 as “low”, below 1.0 as “poor”
- Normal pass mark for rail schemes is c2.0

# The Financial Case (Phase 1)

[The Economic Case for HS2, October 2012]

2011 present values	£bn
Capital cost	21.8
Operating costs	8.2
Increase in rail revenue	13.2
<b>Cost to the taxpayer</b>	<b>16.7</b>

**...and the cost to the taxpayer for the full Y is  
£31.5bn**

# Environmental impact

- At best neutral
- Only a small proportion of HS2 passengers forecast to transfer from air (1%) and car (4%)
- 26% generated traffic
- High speed drives up energy consumption: “...*doubling the trains’ speed from 200km/h to 400km/h will increase energy use by 300%*” [Prof Felix Schmid, Birmingham University Centre for Railway Research]
- Few slots released at Heathrow, and are likely to be taken up by long haul flights

***HS2 isn't Green!***

# Opportunity Cost

- The West Coast Main Line is one of the **least** overcrowded main line routes into London, with greater scope for longer trains than the majority of other routes.
- While, so far, Government has maintained high levels of investment on the existing network, HS2 will inevitably squeeze out other, potentially better, major rail projects

# The West Coast Main Line is one of the **least** overcrowded main line routes into London

## Morning peak load factors

[Network Rail London and South East Route Utilisation Strategy July 2011]

Service group (long distance services into London)	Load factor (3 hour morning peak - 2010)
Paddington (Main Line and other fast trains)	99%
Waterloo (South West Main Line)	91%
St.Pancras (Midland Main Line)	80%
Liverpool Street (Great Eastern Main Line)	78%
Victoria (fast trains via East Croydon)	72%
Kings Cross (ECML long distance)	65%
<b>Euston (long distance)</b>	<b>60%</b>
St.Pancras (HS1 domestic)	41%

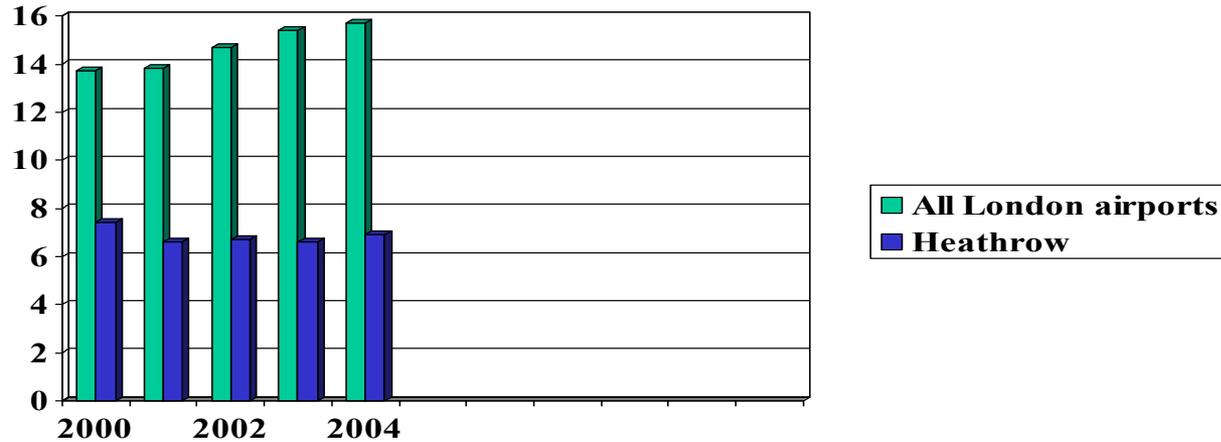
# Demand Growth

- Static rail volumes for 50 years after World War 2
- But strong growth in rail demand over the past 15 years
- Rail mode share increasing
- Total transport demand no longer rising with GDP
  - High fuel prices?
  - Congestion?
  - Saturated car ownership?
  - Alternatives to transport?

***Suggest we need to understand what's happening before committing £50 billion!***

# Domestic Air Traffic (1)

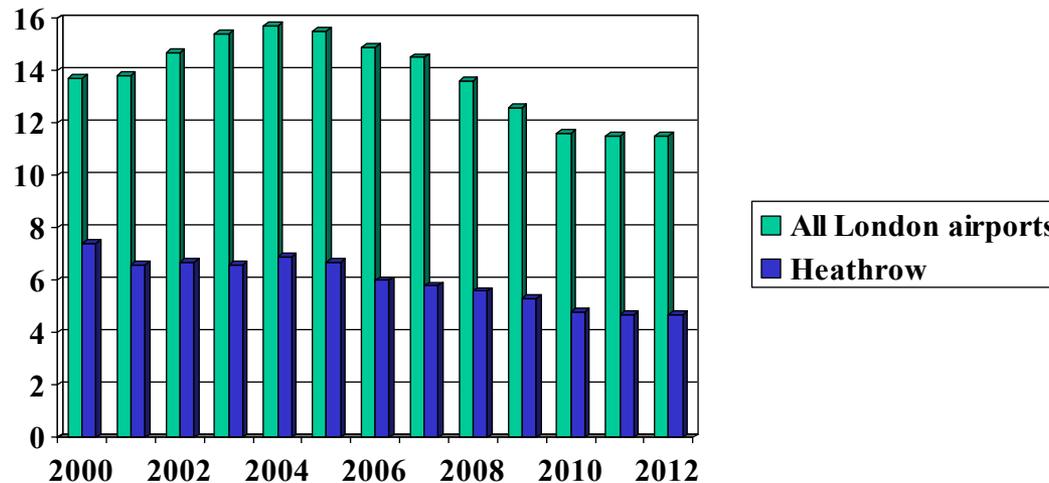
Inexorable growth...(CAA 2004 data)



*HS2 Review*

# Domestic Air traffic (2)

...but what's happened since? (CAA 2012 data)



*HS2 Review*

1

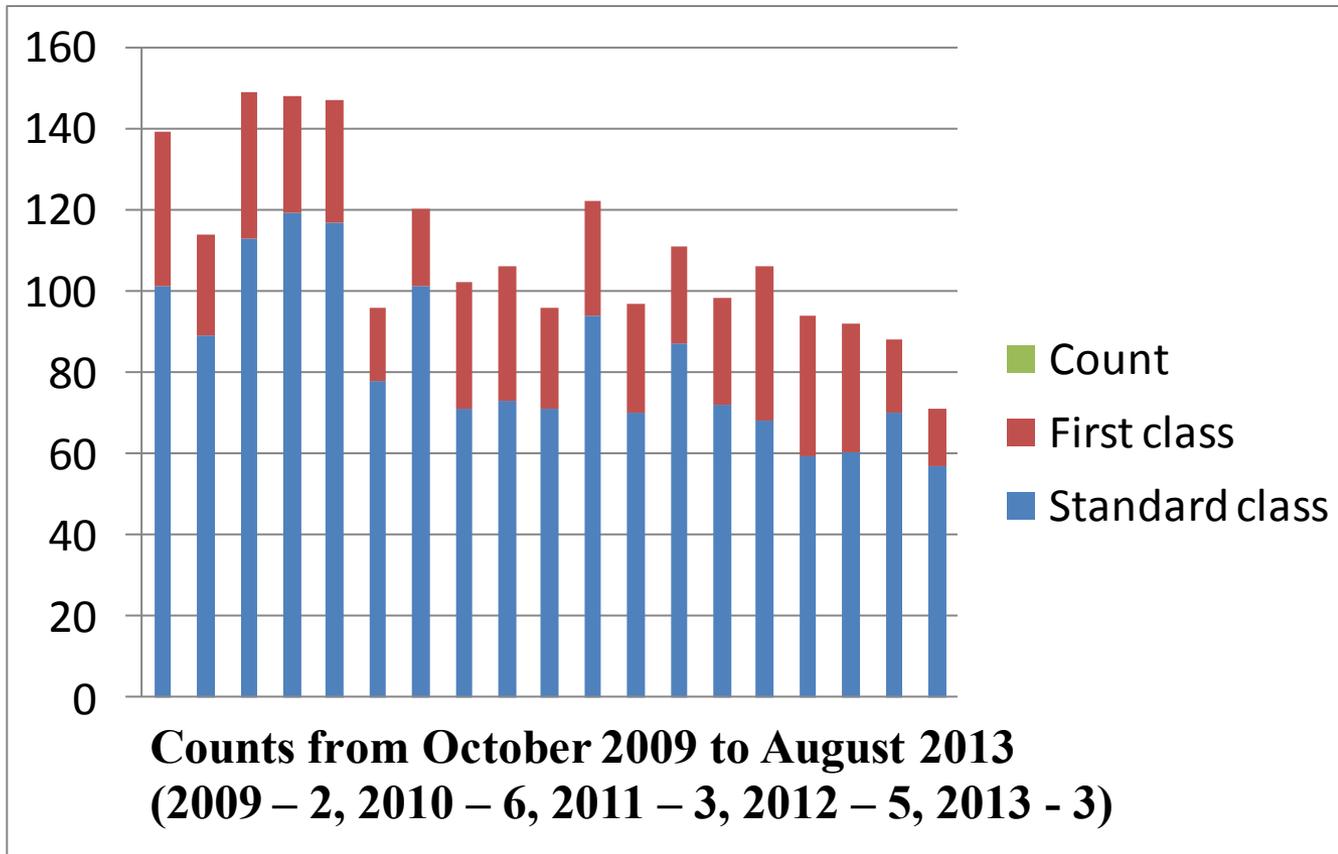
*Forecasting until 2086?*

# Is business travel declining? (1)

- Business trips per person by all modes have fallen by 22% since 1995/97 (DfT National Travel Survey)
- Virgin Rail have stated growth is concentrated on off-peak and at weekends
- Euston evening peak load factors for Virgin only 52.2%
  - Counts for 2011 – before any 11 car sets introduced
  - DfT refuse Freedom of Information requests for count data because of “commercial confidentiality”, but some data was released to the High Court as part of the December 2012 judicial review.
- Lloyds Bank :
  - “Increased volume of teleconferences by 73% in 2010, to 1.9 million”
  - “Reduced journeys by 143,000”

# Anecdotal evidence: 0820 Euston – Manchester

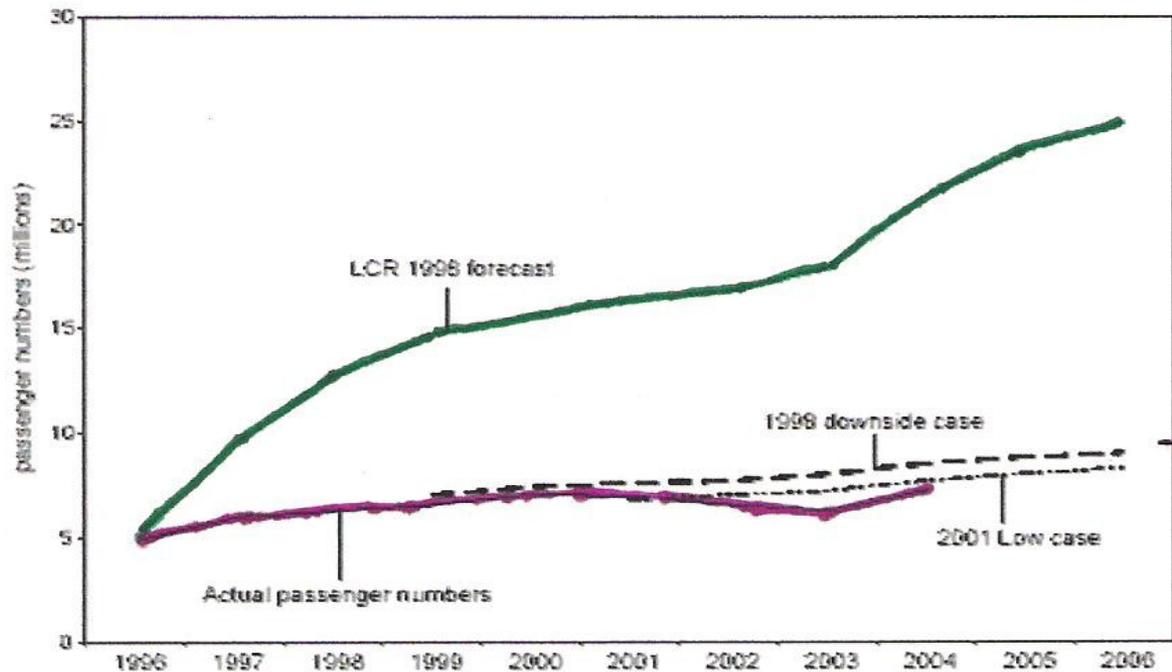
(Loading on the core section of the journey north of Milton Keynes)



This is a peak fare morning business train

# The Eurostar experience

## CTRL passenger numbers



Source: C&AG's Reports (HC 302 of Session 2000/1, Fig. 6; HC 77 of Session 2005/6, Fig. 8)

# A cautious hypotheses on rail growth....

- WCML growth driven by step change following completion of the upgrade
  - parallel with 1960s electrification
- One-off modal shift, especially from air to rail in Manchester – London market
- Significant growth in off-peak and weekend travel
- Business market becoming saturated?
- High mode share to central London – so future growth dependent on growth in total travel demand, not mode shift?

# Recent Virgin West Coast business results

- Passenger mile growth [Stagecoach Annual report]
  - 2009/10 - 20.4%
  - 2010/11 - 9.3%
  - 2011/12 - 4.6%
  - 2012/13 – 0.9%

The slow down is not just on West Coast: East Coast passenger miles grew by only 0.5% in 2012/13

***But HS2 Ltd state “Our demand forecasts are conservative, not optimistic. We assume 2.5% a year growth in passenger numbers.....”***

# Euston peak loadings

DfT was obliged to release some data on evening peak loadings to the High Court as part of the December 2012 judicial review (DfT have declined FOI requests)

[counts carried out before 11 car sets introduced, with 150 additional seats]

Peak trains (1630 – 1843)	Average load factor
Manchester (9 trains)	45%
Liverpool (5 trains)	44%
West Midlands (9 trains)	64%
Preston/Glasgow (6 trains)	57%
Chester/North Wales (3 trains)	42%
<b>All peak trains</b>	<b>52%</b>

# In summary, there is strong evidence to challenge the “capacity” case for HS2

- Existing WCML services had lower load factors than other long distance routes from London even before the majority of trains were lengthened to 11 cars
- There is emerging evidence that growth on WCML is sharply declining now the benefits of the 2008 upgrade have been captured
- There are real questions about future demand for business travel

...and there are alternatives which significantly increase capacity on the existing route

# 51m Alternative (1)

Delivers a major increase in passenger capacity – more than enough to meet DfT's growth forecasts:

- Reconfigure one first class car to standard
- Longer trains – 12 car except for Liverpool (stays 11 car because of constraints at Lime Street)
- Seats per set change from 145/294 to 94/594 (Standard class increase of 102%)
- New trains and construction of a flyover will enable fast peak capacity for Milton Keynes/Northampton to be doubled (before 2026!)

DfT's own consultants (WS Atkins) showed this alternative had a Benefit Cost Ratio of 6, compared with 1.7 for HS2

# 51m Alternative (2)

Segregates InterCity trains and freight on the core of the route, improving reliability, increasing freight capacity and reducing transit times:

- Additional track between Rugby and Nuneaton
- Stafford by-pass

The capital cost of the alternative is c10% of HS2, and it can be delivered flexibly and quickly, as and when needed – in contrast HS2 is an “all or nothing” solution, with no benefits until 2026

# Conclusion

- There is no clear case for HS2 on economic, financial or capacity grounds
- The project should be **independently** and **objectively** reviewed before any decision is taken to proceed