

## DINNER/DISCUSSION SUMMARY

The future strategy for high speed rail for the UK

Held at The Royal Society on 17th March, 2010

The Foundation is grateful for the support for this meeting from the Birmingham Centre for Railway Research and Education, University of Birmingham, Department for Transport, Engineering and Physical Sciences Research Council, Institution of Mechanical Engineers, London and Continental Railways and Lloyd's Register.

**Chair:** **Mr John Armitt CBE FREng**  
Chairman, Olympic Development Authority and  
Council Member of the Foundation

**Speakers:** **The Rt Hon the Lord Adonis**  
Secretary of State, Department for Transport  
**Iain Coucher**  
Chief Executive, Network Rail  
**Guillaume Pepy**  
Président, National Society of French Railways (SNCF)  
and Chairman, Eurostar  
**Terry Hill FREng**  
Chairman, Transport Markets, ARUP

LORD ADONIS outlined the proposals for High Speed Rail (HS2) in the government's recent White Paper. The proposals built on the experience and success of HS1 in Kent and East London. The new structure of rail network was crucial to redesigning the Victorian rail network to meet modern conditions; it would link the major cities of the north and Midlands to London and to each other. The benefits lay not only in reduced journey times, greater connectivity, and capacity, but produced greater environmental advantages than other options. But all transport modes - conventional rail, road and air - needed to be enhanced to cope with demographic change and population growth. But HS2 must be a priority; the option of incremental improvement on the existing network failed on cost/benefit and other criteria, and building new Motorways were unsustainable environmentally. The proposed HS2 network had wider social and economic advantages outside pure rail issues; linked to Crossrail it would enhance the advantages of the northern cities compared with the south by building in agglomeration benefits and reducing the north/south divide. The necessary investment was feasible; Crossrail would be built by 2017, when investment in HS2 would follow at the same scale. Obviously planning would be a

problem; but the advantages to communities along the lines, linked to a firm integration with the existing network, which would itself have a greater passenger and freight capacity, would be so great that it should be possible to persuade them to welcome it.

MR. CROUCHER welcomed the White Paper. He said that five years ago, the government ruled out further expansion of the rail network; what had changed? Population growth; more employment, more disposable income were factors, but the key change was in the number of passengers using the network, greater congestion on the roads, and environmental concerns. The train operating companies themselves had used marketing and pricing to get more people using trains; HS1 was seen as a success. As a result all political parties now saw rail as an opportunity not a problem and supported investment in a new network. There was enormous potential for expanding rail use - at present only 12 % used rail for 50 to 100 miles travel; 14% for 100 to 200 miles travel and 16% for 250 to 350 miles travel. 10 million people used rail per annum; that meant there was a potential 50 million who could be brought to use it. The capacity benefits of HS2 were large

compared to road - at most a motorway could take 12,000 people an hour, trains could take 30,000 people per hour. We must be ambitious and look at future likely demand; so much of existing network and facilities had been built ad hoc. But we must take care to minimize disruption and not raid planned investment in the conventional network for HS2. The advantages for conventional rail should be great - not only in increased capacity, but also linking badly served towns to the network. Building HS2, putting passengers first, was essential for delivering growth for a modern UK.

M. PEPY outlined the development and future proposals for the French high speed network. France now had 1,850 km of High Speed (HS) rail and was proposing 2,000 more by 2020 and 2,500 more by 2025 – 6,500 km in all. But Spain, for example, proposed to build 10,000 km of HS rail by 2025. It was clear that new HS and TGV services affected modal split, with shift from road and air. But, as in the UK, (which through its size and shape could have been designed for HS travel) there was great scope for expanding rail use. He outlined the criteria used in France to select opportunities for new projects; they went wider than cost/benefit in rail terms but also looked at socio-economic benefits to regions. Major political decisions had to be taken, however, on the share of investment funded by taxpayers or passengers, and developing further links with the existing network. HS was only suitable for passengers, and freight must use existing track. Speed attracted customers, and reduced costs, but top speeds had to be considered in the light of the characteristics of the corridor - for example it was more important to cut journey time on Paris/Bordeaux, than on Paris/Strasbourg. Speeds should also take account of environmental concerns - e.g. reduced speeds at night on the Paris/Marseilles route. Two specific projects to overcome existing capacity and connectivity problems were the second Paris/Lyon line through Orleans and Clermont and the Greater Paris project with three extra stations in Paris. The TGV network had markedly improved the conventional rail system, with CDG Roissy now linked to 65 cities. He emphasised the need to be ambitious, to recognize that technological and other changes will take place and ensure infrastructure is in place to exploit them.

MR. HILL said that valuable lessons had been learnt from the development and planning of HS1. Above all, for major infrastructure projects such as HS1 and HS2, the need for consultation, listening to the concerns and ambitions of those

who might be affected, was crucial. Such consultation had led to understanding that meeting environmental concerns and focusing on regeneration of deprived areas and towns was vital. It had turned what had been seen as a threat into a project that was welcomed. He demonstrated how the route of HS1 had been changed, and the use of the line for domestic traffic developed, in response to such consultation. The economic benefits to areas around stations at St. Pancras, Stratford (the Olympics were an unexpected bonus), Ebbsfleet and surrounding areas such as the Medway towns were already clear. It was noticeable that such was local enthusiasm for the project that the planning application for Ebbsfleet, the largest application made, had not been called in. The economic and social benefit was such that even the Treasury accepted it as a plus in the business case. Experience, therefore, showed that HS2 could be welcomed by those affected if they could see the benefits. He welcomed the scheme and was pleased that it had cross party support.

There was a general welcome for the HS2 proposals in the ensuing discussion, but speakers raised concerns, principally about the design and number of stations, their relationship to other modes of transport, and fares and cost. Mr. Hill's comments about consultation were endorsed, but the problem was that any town on the route would want a station in its area - impossible, of course, if journey time was to be reduced as planned. This raised the question about how strong a priority was reducing journey time. Great emphasis had been laid on interconnectivity and integrating HS2 with the existing network. But this meant more stations. Was the priority speed above other issues? If the train was slower, it would release less CO<sub>2</sub>. This was not a question which could be answered precisely; it would depend on local consultations and compromises would no doubt have to be made. But reducing journey time was key to the wider socio-economic and environmental benefits which would flow from linking the north and east and west midlands to each other and to London, and encouraging modal shift from road and air to rail. So pressure for more stations would need to be resisted.

HS2 trains would deliver large numbers of passengers into city centres already heavily congested and with overloaded local public transport systems. Even if Crossrail was built as planned and so would take passengers quickly to Heathrow or Canary Wharf, there would still be large numbers wanting to use London

underground and buses. Similar, although less extreme, problems would arise in Manchester, Leeds and Edinburgh. Were there adequate plans to cope with these problems? It was not enough to plan new stations - and these needed to be planned with much more concern for an aging population who found long walks on stations, and interchanges difficult - but much more effort needed to be given to the whole journey from start to final destination. A particular concern was the impact of possible security requirements. Even if it were accepted that the onerous security arrangements for HS1 were not needed for HS2, because it did not use the Channel Tunnel, the new trains would still be a target for terrorists. There could always be an incident and getting the balance right between passengers' convenience and security would be difficult.

Investment in HS2 would run at £2bn a year over the 10 year period of construction, starting in 2017, after Crossrail had been built at about the same annual rate. However, as experience of building HS lines develops, and new technologies introduced, there is strong possibility that estimated costs could be reduced (although experience also showed that costs could rise as new requirements were added to early specifications). So there should be no real problem of the infrastructure investment being available, as long as it were seen as the national priority. But maintaining HS2 as a national priority depended on the public being convinced of the wider benefits, to all, not just to the rail travelling public. The taxpayer must be made to understand that rail investment is in his interest, even if he does not use rail. This demanded not only a prolonged and effective PR campaign (and there were doubts whether this had been appreciated) but also a firm and enthusiastic political lead. The rail authorities could not head such a leadership role. Essentially, therefore, the implantation of the project would depend on the leadership of successive Secretaries of State for Transport, strongly supported by the Prime Minister and Chancellor. Given the nature of UK political life, and the short life of Transport Ministers was this likely? If only Lord Adonis could stay in post until 2027!

Fares must obviously be kept to a level which would enhance usage. It should be possible to do so if the predicted increase in passenger volume materialized. But it was noted that the current cost of travel from London to Glasgow by air was £100; by rail it was £200. This differential must be reversed.

Specific points were also raised:

1. How would the significant energy demands that would be made as HS2 trains accelerated be met? The surge in demand could be great and electricity grids needed to be sufficient resilient to cope.

2. Why was there no direct connection between HS1 and HS2, and would travellers want to make a change from HS2 to Crossrail to get to Heathrow? Further consideration was being given to the Euston-St. Pancras link, with a possible high speed transit system, and the Euston/Crossrail interchange would be easy, with Heathrow only 10 minutes away on Crossrail.

3. Would HS2 be a monopoly? How would competition be assured? Admittedly, there would always be competition from road and air, but it would be essential to ensure that there was adequate competition on the line itself. On much of the existing network, rail competition did not arise.

4. Freight would not be allowed on HS2 (HS1 was a special case). So if there was to be an increase in rail freight it could only come from use of the existing network. How realistic was it to suppose this would happen? Would not Network Rail wish to maintain its preference for passenger traffic, because it does less damage to the track; and the Passenger operating companies wish to expand their usage rather than accepting limits because of freight movements?

A final general concern was that the whole project rested on assumptions about population and employment growth, peoples' travel habits and land use planning policies. All of these could fundamentally change over the project timescale. Even now working from home, internet usage and technical developments in road transport and highway management were affecting future predications. How flexible were the plans as these changes developed? Was there a danger that we would be building white elephants? How seriously had demand management, to reduce travel, particularly for 50 to 100 mile journeys, been considered?

Sir Geoffrey Chipperfield KCB

The speaker presentations can be found on the Foundation website at [www.foundation.org.uk](http://www.foundation.org.uk) .

Useful web links:

Birmingham Centre for Railway Research and Education, University of Birmingham  
[www.bham.ac.uk](http://www.bham.ac.uk)

Department for Transport  
[www.dft.gov.uk](http://www.dft.gov.uk)

High Speed Rail White Paper  
[www.dft.gov.uk/pgr/rail/pi/highspeedrail/commandpaper/](http://www.dft.gov.uk/pgr/rail/pi/highspeedrail/commandpaper/)

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