

Department of Civil Engineering
University College London
Gower Street
London WC1 E 6BT

Rt. Hon. David Cameron
The Prime Minister
10 Downing Street
London SW1 A 2AA

27th May, 2015

Dear Prime Minister,

High Speed 2

The recent report of the Economic Affairs Committee of the House of Lords on HS2 concluded that the case for the HS2 project had not yet been made. We, the undersigned, who represent some of the most senior engineers, transport planners and economists in the UK, share their Lordships' concerns and question whether it is appropriate to push ahead with such an expensive and potential environmentally damaging scheme. We are therefore writing to urge your new Government to act quickly, call for a pause to look again at alternative ways of tackling the problems that HS2 is supposed to address, and allow a thoroughgoing review of how best to bring our national rail system holistically into the 21st century.

Areas that such a high level review should address include:

- The **regeneration of the North** and closing of the north-south economic divide, a key purpose advanced by the advocates of HS2. It appears unlikely that HS2 would further this objective; more likely it could further strengthen the South. More targeted transport and other investments in the North are likely to be more effective.
- Examination of the principal rationale put forward for HS2, the **provision of extra rail network capacity**. There is a case for increasing capacity on parts of the north-south West Coast corridor and London approach in the medium term. But other major rail corridors into London are closer to their capacity limits. Moreover, the routeing, lack of integration with the WCML, and limited capacity of HS2 will not only deprive a number of cities of a high speed service, but remove the premium intercity services to London that these cities currently enjoy. The views of their Lordships should be taken most seriously, and further analysis conducted into alternative and more cost-effective means for dealing with the capacity shortfall.
- Addressing a **set of principles for rail investment** against which plans can be assessed. Our appreciation of the key advantages of rail in the geography of Britain suggests the following principles be included: city centre access; complementarity of local and long-distance passenger services; high connectivity with high frequencies; widely distributed advantages of speed and reliability rather than a concentration of

excessive speed; appropriate links to airports and ports; access to HS1; and routes for freight. Does HS2 score adequately against these principles?

- Reconsideration of whether HS2 will lead to a **reduction in carbon dioxide emissions**. The most recent official estimates, which may be optimistic, are that it would slightly increase emissions in the first 60 years. We would expect transport spending to contribute effectively to CO₂ reductions.
- Reviewing the **economic justification** of the scheme which currently appears to rely upon assessments based solely on comparison with an unrealistic “do minimum” alternative. Such a comparison can provide a necessary justification for “doing something”, but does not provide a sufficient justification for any scheme. Nor does it ensure that the best option is selected, especially when alternative strategies to HS2 that would achieve similar objectives but involve much lower costs and risks were not considered thoroughly enough or were inadequately considered.

It is doubtful whether HS2 even passes the “do minimum” test. We question whether benefits have been exaggerated and major adverse impacts omitted from the assessment. For instance:

- By far the most important item of economic benefit claimed for HS2 is the time savings that passengers may realise, especially those travelling on business. This provides the main rationale for choosing a high speed solution. There is plenty of evidence that business users find long distance rail travel to be a productive use of time. Yet even if business travellers were unproductive on the HS2 section of their journeys, and were to value the time savings as highly as suggested, does it follow that the taxpayer should pay for them?
 - No value has been placed on what many regard as the most negative effects of HS2, its environmental and socio-economic impacts. If the established rules of cost benefit analysis had been followed, there would be a much larger negative cost item in the appraisal that reflected these impacts.
- The subsidy required from Government for the **capital and operating costs of HS2** over two decades risks placing in jeopardy the economic recovery and weakening the economy in the longer run, at a time when public debt needs to be reduced. By the time HS2 is fully operational, there is a serious risk that technological advances will render the demand forecasts obsolete.

This is a short and incomplete summary of reasons for questioning HS2 that we could expand upon. We hope you will agree that the points raised are, nevertheless, more than sufficient to establish the urgent need for a thorough, impartial and expert reappraisal.

Such a reappraisal could not be carried out with any credibility while at the same time the HS2 project proceeds apace. We therefore urge your new Government to call a moratorium on work on HS2 pending completion of the reappraisal.

The transport infrastructure decisions of Government in the next few years will have *enduring consequences* for at least a century. Please take the time with a clean sheet in

front of you to make the right judgements, setting aside the preconceptions that seem to have underlain the development of the HS2 project.

Yours sincerely

James Croll FEng,
Emeritus Professor of Civil Engineering, UCL

Signing on behalf of the following signatories to the above letter:

Professor John Adams, Emeritus Professor of Geography, UCL

Professor Richard Allsop, OBE, FEng Emeritus Professor of Transport Studies, UCL

Professor Margaret Bell, CBE, Science City Professor of Transport and Environment and
Chair of the ITS (UK) Smart Environment Interest Group, *Newcastle University*

Anzir Boodoo, Transport Planner, Transcience, Leeds

Chris Castles, Transport Economist, former head of Transport Economics and Policy at PwC

Professor Stuart Cole, CBE, Emeritus Professor of Transport, University of South Wales

Professor Joyce Dargay, Emeritus Professor of Transport Econometrics, University of Leeds

Jeremy Drew, FCILT, Visiting Research Fellow, Institute for Transport Studies, University of
Leeds

Dr Daniel Durrant, Research Fellow, The Omega Centre, The Bartlett, UCL

Michael Edwards, Teaching Fellow, Bartlett School of Planning, UCL

Colin Elliff, Civil Engineering Principal, High Speed UK

Sir Christopher Foster, former Chief Economist, Department for Transport, and former
Chairman, RAC Foundation

Professor Stephen Gage, Professor of Innovative Technology, Bartlett School of
Architecture, UCL

Professor Christine Hawley, CBE, AA Dip, Professor of Architectural Design, UCL

David Henderson, Former Chief Economist at the OECD and Reith lecturer

Professor Paul Jowitt, CBE, FREng, Past President, Institution of Civil Engineers

Professor John Kay, Visiting Professor, London School of Economics

Sir Tim Lankester, Economist and former Permanent Secretary of DFID and the Department for Education

Professor Alexi Marmot, Professor of Facility and Environmental Management, The Bartlett, UCL

Professor Anthony May, OBE, FREng, Emeritus Professor of Transport Engineering, Institute for Transport Studies, University of Leeds

David Parish, Economist and former partner of PwC

Professor John Parkin, Professor of Transport Engineering, University of the West of England, Bristol.

Stephen Plowden, Transport Planner

~~Professor John Prescott, Professor of Transport Planning, University of Southampton~~

Professor Peter Rees, CBE, Professor of Places and City Planning, The Bartlett, UCL

Professor Tom Rye, Professor of Transport Policy, Director of Transport Research Institute, Napier University

Professor Leslie Sklair, Emeritus Professor of Sociology, LSE

John Smith, Former Director of Regulation, Railtrack

David Starkie, Editor, Journal of Transport Economics and Policy

Chris Stokes, former Director of Strategic Rail Authority, former board member Rail Regulator

Mark Sullivan, Technical Consultant, CPRE Warwickshire, former member Transport Users Consultative Committee for the Midlands

Jonathan Tyler, CMILT, Passenger Transport Networks, York

Professor John Whitelegg, Visiting Professor of Sustainable Transport, Liverpool John Moores University

Christian Wolmar, Rail expert, author and journalist, London mayoral candidate



**Department
for Transport**

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From the Parliamentary
Under Secretary of State
Robert Goodwill MP

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Web site: www.gov.uk/dft

Our Ref: MC/135862

16 JUN 2015

Dear Professor Croll

Thank you for your letter of 27 May to the Prime Minister, about High Speed 2 (HS2). Your letter has been passed to this Department and I am replying as Minister responsible for this issue.

The case for HS2 is crystal clear. It will have a transformational effect, supporting growth in the north by improving connectivity, freeing up space on our crowded rail network, promoting regeneration, boosting local skills, generating tens of thousands of jobs and helping secure the UK's future prosperity. It is a vital part of the government's long-term economic plan, strongly supported by the northern and midland cities, alongside our plans for better east-west rail links.

HS2 will provide the new transport capacity we need. UK transport capacity is filling up fast; rail journeys have doubled over the last 20 years to 1.5 billion journeys a year. HS2 will be fully integrated with the UK's transport and railway networks helping to unclog the arteries of our entire transport system.

Demand for rail travel has doubled over the last 20 years from 750 million to 1.5 billion journeys a year. This pressure is particularly acute on our key North-South rail corridors with parts of the West Coast Main Line effectively full at peak times.

HS2 delivers a step change in capacity. Compared with today, HS2 ultimately provides the potential capacity to triple the seats available from Euston. The railway shall have the capability for 11 trains per hour into and out of London Euston from the target delivery date for Phase One. Up to 18 trains will run per hour in each direction each carrying as many as 1,100 passengers into and out of Euston from the target delivery date for Phase Two.

Sir David Higgins, the chairman of HS2 Ltd, confirmed in his report of March 2014 that HS2 is the right project at the right price. The Strategic Case for HS2 illustrated that HS2 will provide two pounds of benefits for each pound spent which is similar to Crossrail although this may rise to between three to five pounds if rail demand continues to rise.

We are confident there is a strong economic case for HS2. The 2013 Economic Case was a comprehensive document that used the best available techniques. It demonstrated that there is a clear economic case and HS2 provides good value for money.

You may be interested to know HS2 Ltd has undertaken extensive analysis to understand the robustness of the benefit-cost ratio to changes in the assumptions made, including on economic growth, demand growth and costs. These demonstrate that our benefit-cost ratio is extremely robust and that even if a raft of downside risks materialised, the full Y network will still deliver 'medium' value for money.

We have done extensive work on the alternatives to HS2, including looking at train lengthening, platform lengthening, timetable changes, switching first class to standard and building new junctions and tracks. They fail to deliver the same level of capacity or journey time savings and would cause significant disruption on the existing rail network.

Whilst upgrading existing lines would provide a short-term fix, it does not provide the long-term capacity we so vitally need. Upgrading the existing lines would significantly disrupt services as upgrade work is carried out (over 2,500 weekend closures – up to 14 years of disruption).

A link to HS2 alternatives report may be of interest to you and can be found online at:

www.gov.uk/government/uploads/system/uploads/attachment_data/file/253456/hs2-strategic-alternatives.pdf

Rebalancing the national economy is a core part of Government's economic strategy, and an agreed priority with city leaders across the North. Sir David Higgins' conclusion when taking up his post as HS2 Ltd Chairman was that there is huge untapped potential for more trade and commerce across the Pennines, but that would require better connections than currently exist. It also formed the basis of the One North prospectus³, which helped to scope out a vision for a connected Northern Powerhouse and confirmed the value of establishing Transport for the North (TfN). A world class transport system must better link up the individual cities and towns in the North, to allow them to function as a single economy and be stronger than the sum of their parts.

You may be interested to the Government working with the TfN on 20 March published 'The Northern Powerhouse: One Agenda, One Economy, One North' report. A copy is available online at:
<https://www.gov.uk/government/publications/northern-transport-strategy>

We will minimise the environmental impact of HS2 wherever possible; we will protect the countryside and work with environmental groups to landscape the line carefully.

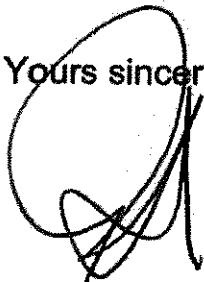
Even though trains use more power as they travel faster, the high levels of passenger usage that high speed trains attract and the increased capacity will mean that 'greenhouse gas' carbon emissions per passenger will remain comparatively low. As the national grid decarbonises over the longer term, HS2 will be substantially decarbonised also. The carbon emissions from HS2 will be a fraction of those from the transport sector and UK as a whole.

Environmental mitigation is something that has been considered from the very beginning of the project meaning that reducing environmental effects is hard-wired into the railway. We have taken a responsible approach to the environment but ultimately, following the principles of sustainable development, a balance needs to be struck between the economic, social and environmental effects of a project. We believe the measures set out in the Environmental Statement strike the right balance.

We are establishing a Design Panel to provide independent challenge to the project and to help ensure the right design decisions are made. The panel will advise on the design of stations, bridges, viaducts and other associated infrastructure as well as on user experience and landscaping.

I trust this helps to answer your concerns; if you do however require further information on HS2 this is available online at:
<https://www.gov.uk/government/policies/developing-a-new-high-speed-rail-network>

Yours sincerely



ROBERT GOODWILL

& suggest that you also refer to the House of Commons Select Committee reports which does not agree with their noble lordships!
R

**Department of Civil Engineering
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**The Parliamentary Under Secretary of State
Robert Goodwill MP
Great Ministry House
33 Horseferry Road
London SW1 P 4DR**

6th July, 2015

Dear Minister,

High Speed 2

I acknowledge your letter of 16th June, 2015, in response to the letter to the Prime Minister from myself and a number of colleagues with deep knowledge and long experience of the transport sector.

I have to say that I and my colleagues are extremely disappointed by the substance and tone of your response. We raised a number of serious issues in relation to the HS2 project to which we expected a serious response. Instead, all we have is a repetition of assertions - many of them highly dubious - that the government and HS2 Ltd have previously made to justify this highly questionable and hugely expensive project.

At the end of your letter you suggest that we should "also refer to the House of Commons Select Committee report which does not agree with their noble lordships!" I assume you are referring to the House of Commons Select Committee's Interim Report of March 2015, and the House of Lords Economic Affairs Committee's highly critical report "The Economic Case for HS2". The former report does not discuss the case for HS2 at all - that would of course have been outside its remit. So, your comparing the two is really beside the point.

Yours sincerely,



James Croll FREng, FICE, FStructE

Copies of this letter sent to No 10 and the Chancellor of the Exchequer's office.

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**The Direct Communications Unit
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London SW1 A 2AA**

6th July, 2015

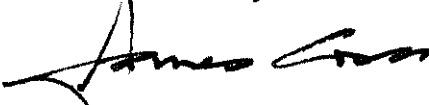
To whom it concerns;

High Speed 2

Thank you for your response of 17th June on behalf of the Prime Minister and for enclosing a copy of the reply we had received from the Parliamentary Under Secretary of State for Transport, Robert Goodwill MP.

I enclose a copy of our response to the Parliamentary Under Secretary of State for Transport which I hope may be brought to the attention of the Prime Minister.

Yours sincerely

A handwritten signature in black ink, appearing to read 'James Croll', with a long, sweeping underline that extends to the left and then curves back under the name.

James Croll FREng, FICE, FStructE
Emeritus Professor of Civil Engineering
UCL

Copy of this letter sent to the Chancellor of the Exchequer's office.