Northern Powerhouse Rail

HIGH SPEED FAIL

AN ALTERNATIVE PLAN TO HS2

Tony Arbour AM

GLA Conservatives

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Contents

Executive Summary

Demand for rail travel is higher than ever but, despite widespread investment, in many places the rail network is overcrowded and unreliable. The argument for High Speed Rail 2 is that it will provide capacity, with the least possible disruption.

This report sets out the problems facing HS2 including whether we need it, the cost of the scheme, the scope of the project/benefit, capacity, lack of connectivity and the impact on the environment. This document contains two proposals; that the money spent on HS2 should be part allocated towards delivering Crossrail 2, and the rest on Northern Powerhouse Rail so that both the north and south of the country benefit.

Crossrail 2 is key to the growth of London. London's population is increasing - it is already 8.6 million, its largest ever. And by 2030, London will be home to 10 million people, the equivalent of adding on a city the size of Birmingham.

An increasing population will require more housing, more jobs and greater transport capacity. London and the South East already have a chronic housing shortage and the public transport network is overcrowded. The predicted increase in population corresponds to an additional five million journeys on public transport each day.

Crossrail 2 would link people with jobs and homes. It would give the transport network the extra capacity it needs to keep the wider South East working and growing, and to make life in London better. The project would support more jobs, spur the development of 200,000 new homes across the region and increase London's rail capacity by 10 percent. Its impact would be felt across the wider South East and beyond.

We very much welcome the Government's announcement that a review into the HS2 project will be undertaken and a decision made by the end of the year on its future. We hope that this report will feed into this review and provide a worthwhile contribution to the HS2 debate.

Listed below is a brief outline of the report's 2 key recommendations, which are directed to the Government

1. **Fund Crossrail 2.** The Government should stop HS2 and redirect a proportion of the funding to delivering Crossrail 2.

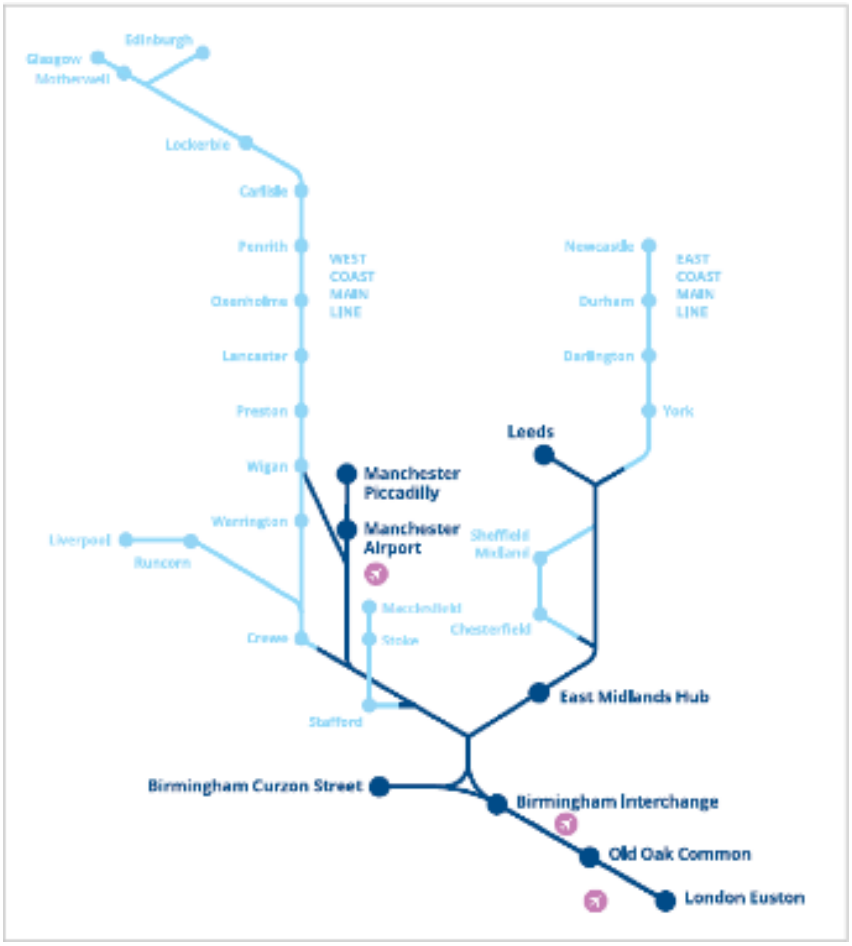
2. **Northern Powerhouse Rail.** The Government should use the money left over from scrapping HS2 to invest in the Northern Powerhouse Rail project in addition to Crossrail 2.

Introduction

HS2 is a proposed new railway line linking London Euston to Birmingham and, in the second phase, Manchester, Leeds, Sheffield and eventually Scotland. The scheme is split into three phases:

- Phase 1, between London Euston and the West Midlands, is due to open in 2026;
- Phase 2a, between the West Midlands and Crewe, is expected to open in 2027;
- Phase 2b, completing the full network to Manchester and Leeds, is due to open in 2033.

HS2 Route Map[1]



It is proposed that HS2 will eventually be connected to the existing rail network and classic compatible trains will be able to use the HS2 line to provide direct services from London to Glasgow and Edinburgh via the Western leg, and Newcastle via the Eastern leg.[2]

[1] Andrew Haylen, High Speed 2, the business case, costs and spending, June 2019, Page 6

[2] Andrew Haylen, High Speed 2, the business case, costs and spending, June 2019, Page 6

Reviewing The Case For HS2

The Case For HS2

The main case for HS2 is the desire to increase capacity on the north-south rail link. The Government's own strategic case found that even with the train improvements and enhancements that it had already budgeted for, the capacity issue, particularly on the West Coast Main Line, would be unlikely to improve going forward without major capacity interventions.[3]

The Government also found that there are connectivity problems across the country. It was felt by Government that growth would increase due to new transport infrastructure therefore potentially narrowing the gap between the north and south economies. This view was further promoted in 2017 when the updated strategic case stated:

> *"HS2 will help to build an economy that works for everyone. It will support the growth of knowledge-based businesses by better connecting towns and cities. It will strengthen labour markets, creating greater competition and economies of scale leading to higher growth and living standards."*[4]

The Conservative Government investigated a range of options to improve capacity, not just high-speed rail.[5] However, it took the view that the alternatives did not address long-term capacity nor the connectivity between the north and south.[6]

Capacity Concerns

The decision to go forward with HS2 was made on the basis that state intervention was required to provide extra capacity on the West and East Coast Mainline.

The latest strategic case for High Speed 2 said the project was a once in a generation opportunity to improve rail services on the West Coast and East Coast Main Lines: according to the Government, HS2 will deliver a step change in capacity on the UK's long-distance rail network. By providing direct intercity services on dedicated high-speed lines, HS2 will free up train paths and platforms on the heavily congested WCML and ECML. This presents a once in a generation opportunity to improve services on these corridors, including passenger services to locations not directly served by HS2, and freight services. This will not only improve passenger experience by reducing overcrowding on

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[3] Andrew Haylen, High Speed 2, the business case, costs and spending, Page 3

[4] Dft, High Speed Rail Phase 2-Strategic Case, July 2017, Page 7

[5] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/253456/hs2-strategic-alternatives.pdf

[6] Andrew Haylen, High Speed 2, the business case, costs and spending, Page 3

peak time trains but will also allow train operators to run more varied and frequent services.[7]

However, not everyone has fully bought into the Government's view on the solution to capacity constraints. In 2015, a House of Lords report concluded that the West Coast Main Line was nearing full capacity in terms of train paths but that technological innovations, such as in-cab signalling, could release capacity[8]. It went on to say that the committee had not seen convincing evidence that the nature of the capacity problem warrants building HS2.[9]
There has been further research by the House of Lords since its 2015 report. The latest statistics show that long distance train journeys to cities that HS2 would serve are some of the least congested.

Table 1: Percentage of passengers standing in the peak hours on a typical autumn weekday by city in 2017 (fast long distance services are highlighted in bold)[11]

City	Train operator	AM peak arrivals (0700–0959)	PM peak departures (1600–1859)
Birmingham	Arriva Trains Wales	0%	11%
	Chiltern Railways	17%	7%
	CrossCountry	5%	7%
	Virgin Trains West Coast	**3%**	**8%**
	West Midlands Trains	18%	14%
Leeds	CrossCountry	2%	4%
	London North Eastern Railway	**0%**	**0%**
	Northern	13%	10%
	TransPennine Express	16%	15%
London Euston	London Overground[12]	55%	52%
	Virgin Trains West Coast	**2%**	**2%**
	West Midlands Trains	21%	18%
Manchester	Arriva Trains Wales	10%	5%
	CrossCountry	0%	13%
	East Midlands Trains	12%	0%
	Northern	15%	10%
	TransPennine Express	23%	17%
	Virgin Trains West Coast	**4%**	**1%**
Sheffield	CrossCountry	5%	1%
	East Midlands Trains	**0%**	**1%**
	Northern	5%	7%
	TransPennine Express	13%	12%

Simon Warburton, Transport Strategy Director at Transport for Greater Manchester, said that "rolling stock capacity and train capacity are now falling well behind passenger demand … Rail demand into central Manchester has doubled in the last 15 years but there had been only a 50 per cent increase in rolling stock capacity".[10]

Ben Still, Managing Director of the West Yorkshire Combined Authority, said that for the cities in the north, "there is more overcrowding on the commuter routes." The problem was that "many of the trains are serving dual purposes; they are both inter-city and semi-fast, and serving commuter markets"[11]:

> *"For example, the trans-Pennine services between York, Leeds and Manchester are most congested between Leeds and Manchester. They are*

[7] https://publications.parliament.uk/pa/ld201719/ldselect/ldeconaf/359/359.pdf Page 12

[8] https://publications.parliament.uk/pa/ld201719/ldselect/ldeconaf/359/359.pdf Page 12

[9] Economic Affairs Committee, The Economics of High Speed 2, Page 5

[10] Q 55 http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/economic-affairs-committee/HS2-follow-up/oral/97595.pdf (Simon Warburton)

[11] http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/economic-affairs-committee/HS2-follow-up/oral/97595.pdf Page 8

at the very most congested from Leeds into Huddersfield, and in those areas, there is standing room only."[12]

In conclusion, the House of Lords report in 2015 said that London would benefit the most from HS2 and that it was unsure that the project would be the solution to the capacity problems on the West Coast Mainline. Further work has been done by the House of Lords since then and in June 2019 its updated report stated that overcrowding was still a problem on commuter services rather than on long-distance services. This is a problem that High Speed 2 addresses indirectly and in full only for London commuters using Euston, who will be the main beneficiaries of the overcrowding relief provided by the project.

Cost

When the last review was undertaken, High Speed 2 was costed at £55.7 billion. The latest breakdown of cost between the different phases of the project shown below. In January 2019, Nusrat Ghani MP, Minister for HS2, said that the project will be delivered within the envelope provided at £55.7 billion.

Project
Phase 1: London-West Midlands £27.18 billion
Phase 2a: West Midlands-Crewe £3.48 billion
Phase 2b: West Midlands-Leeds/Manchester £25.07 billion[13]

The 2015 Spending Review increased the cost of the project in line with inflation. Adjusting for construction price inflation since 2015 it is estimated that the cost at today's prices is around £59 billion.[14]

HS2 Ltd recently wrote to the Chairman of the House of Lords Economic Affairs Committee that spending to date on the project was £4.3 billion. The main costs have been £1.8 billion on land and property purchases and £1.3 billion on "indirect costs" such as consultation, design and workforce.[15] Helpfully in the same letter, the £4.3 billion cost was broken down as follows:

- £1.3 billion - technical designs, safety standards, IT systems, design of both phases, HS2 Ltd staff, HR, legal, facilities costs, consultation and communications;

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[12] Ibid

[13] Source: Department for Transport, 'High Speed Two Phase Two Financial Case', July 2017, page 7

[14] The Office for National Statistics publishes an index of price increases for construction. This suggests that the price of new construction work for infrastructure rose by 6.7 per cent from 2015 to December 2018. Office for National Statistics, 'Construction Output Price Indices (OPIs), UK: October to December 2018', Table 2, 13 February 2019: https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/bulletins/constructionoutputpriceindicesopis/octobertodecember2018
[accessed 1 May 2019

[15] https://www.parliament.uk/documents/lords-committees/economic affairs/Letter%20Thurston%20to%20Chairman%207%20March%202019%20.pdf Page 2

- £1.8 billion - land and property
- £300 million - Hybrid Bill development and delivery
- £144 million - enabling works
- £106 million - main works
- £72 million - utilities
- £65 million - ground investigation works
- £165 million – network activity
- £60 million – other work on behalf of HS2
- £275 million – VAT provisions[16]

There have been suspicions that HS2 would overspend on its budget. A December 2016 internal report from the Government's Infrastructure and Projects Authority formed part of an article in The Sunday Times by Andrew Gilligan which described the project as being in a precarious position and that it was highly likely to significantly overspend, [by around] 20-60% with the likely cost increasing to more than £80 bn.[17] The Secretary of State for Transport, Rt Hon Grant Shapps MP stated in September 2019 in an update to the House of Commons that HS2's cost had indeed risen from £62bn to between £81bn and £88bn.[18]

Comments made by key players in HS2 have failed to give any comfort to those who are concerned about the costs of project escalating. Sir Terry Morgan, the former chair of HS2, has said "everybody has their own guesstimate and when pressed for his own estimate he replied that nobody knows yet". [19]

In an interview with BBC Look North, the Chief Executive of HS2, Mark Thurston, was asked whether the project would be delivered on time and on budget. His response was that it was a challenge, and all involved would know what it costs to build HS2 once all the contractors and supply teams are mobilised. He emphasised that HS2 is a huge economic project for the country." [20] Mark Thurston's remarks suggest that the estimated total cost for the project remains unknown with the potential to increase even further.

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[16] https://www.parliament.uk/documents/lords-committees/economic-affairs/Letter%20Thurston%20to%20Chairman%207%20March%202019%20.pdf Pages 2 & 3

[17] Ibid

[18] https://www.bbc.co.uk/news/business-49563549

[19] Q 5 (Sir Terry Morgan). Sir Terry Morgan was the chair of HS2 Ltd from August 2018 to December 2018

[20] https://www.bbc.co.uk/news/magazine-24159571

Growth

HS2 supporters stress the link between the project and increased growth. A consultancy report by Albion Economics into the direct and supply chain job impacts of the High-Speed Rail (HS2) project was commissioned by Greengauge 21. The report concluded that the total job years projected for the London-Leeds/ Manchester HS2 project are almost 890,000 across the 60-year life of the project. On the standard assumption that 10 job years equate to a full-time job, this is equivalent to creating 89,000 full-time jobs. It is projected that 3,100 permanent jobs will be created in operations, maintenance and retail by 2026 and 7,800 when the 'Y' network is operational by 2032[21]

Times columnist Daniel Finkelstein has cited Harvard economist Ricardo Hausmann's Atlas of Economic Complexity as evidence the line will boost growth. The theory states that the ease with which talented people can link up is a determinant of economic growth.[22]

The report and article mentioned above all praise the scheme's potential for providing growth. However, there are some opposing views on whether the return on the investment is worth the overspend. The National Audit Office and Public Accounts select committee have questioned the original HS2 business case. Back in 2012, the Government said that the benefit cost ratio (BCR) for phase 1 was estimated at 1.4. Once it becomes the full Y-shaped network it rises to 1.9. This means for every pound spent £1.90 is generated.

Atkins in 2012 was asked by the Department for Transport to appraise a set of strategic alternatives to the Government's overall proposed high-speed rail strategy. It estimated that proposals to increase long-distance capacity on the west coast main line by lengthening the trains to 12 cars, reducing the number of first-class carriages and running additional peak long-distance services, offered the taxpayer a return of £6.06 for every pound invested. In contrast, the Government's official advice is that HS2 will deliver a return of between £1.80 and £2.50 for every pound invested. If the analysis is restricted only to HS2's London to Birmingham route and strips out its wider economic benefits, the benefit-cost ratio falls to 1.4 – below what the Government believes is acceptable to justify investment.[23]

Journey Times

The Department for Transport has claimed that the project will cut Birmingham-London journey times from 1-hour 21minutes to 52 minutes.[24]

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[21] http://www.greengauge21.net/wp-content/uploads/HS2Jobs_Report_ES_Final_photo-refs.pdf Page 2

[22] https://www.bbc.co.uk/news/magazine-24159571

[23] https://www.theguardian.com/uk/2012/jan/14/hs2-value-rail-option-report

[24] https://www.bbc.co.uk/news/uk-16473296

Once the second phase is complete, Manchester to London journeys would take one hour seven minutes (down from two hours seven minutes), and Birmingham to Leeds 49 minutes (down from two hours). This would effectively reduce journey times between London and Edinburgh and Glasgow by an hour to three-and-a-half hours.[25]

The Government believes its HS2 creation will free up capacity on overcrowded commuter routes. It also estimates the new line could transfer 4.5 million journeys a year from the air and nine million from the roads, reducing the number of lorries on busy routes.

HS2 aims to cut journey times from Birmingham to London to 49 minutes and from Manchester to London to just under an hour and 10 minutes. But these savings will be lost in the scrum of passengers, queues and poor onward connections at London's Euston station without Crossrail 2, claimed HS2 executives. Euston is already severely overcrowded and currently handles more than double its supposed 20m passenger-a-year capacity. With HS2, more than 10 high-speed trains an hour, each carrying up to 1,000 passengers, could cause a huge crunch. "We are dependent on Crossrail 2 for the train line to work properly at Euston," said one senior person at HS2.[26] This means that HS2, that is speculated to cost anywhere between £81-88 billion[27], might not deliver the improved journey times without Crossrail 2.

Environmental Impact

At the beginning of HS2, one of the reasons given why we needed the project was that it would contribute to reducing the country's carbon footprint, in line with the Kyoto Protocol and the 2008 Climate Change Act.

The Conservative and Liberal Democrat Coalition Agreement stated that the parties would establish a high-speed rail network as part of its programme of measures to fulfil joint ambitions for creating a low carbon economy. The vision was of a truly national high-speed rail network for the whole of Britain.[28]
Lord Adonis, who set up HS2 Ltd, claimed that "Virtually the whole of the developed world is now going ahead with high speed rail because it's the green solution to providing fast, high capacity connections between cities."[29]

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[25] https://www.bbc.co.uk/news/uk-16473296

[26] https://www.ft.com/content/b4af0eea-9ee3-11e7-9a86-4d5a475ba4c5

[27] https://www.bbc.co.uk/news/business-49563549

[28] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/78977/coalition_programme_for_Government.pdf Page 33

[29] https://www.bbc.co.uk/news/uk-england-12514335

Carbon Footprint

The carbon emissions associated with the construction of HS2 are substantial. The construction carbon footprint is estimated to be 1,451,000 tCO2e.[30] The project's operational emissions are anticipated to result in 8,000 tCO2e over the 120-year operational assessment period, once modal shift, carbon sequestration from tree planting and freight benefits from released capacity on the conventional network are taken into account.[31] When the operational and construction carbon footprints of the Proposed Scheme are combined, the residual carbon emissions are estimated to be 1,459,000 tCO2e.[32]

Work stage	Life cycle stage	Tonnes CO_2e	
		60 years	120 years
	Benefits and loads beyond project boundaries[11]	-159,000	-307,000
	Total residual carbon emissions	1,433,000	1,459,000

[33]

Table 2: The Proposed Scheme's carbon footprint from construction and over 60 and 120 year operational periods.

Work stage	Life cycle stage	Tonnes CO_2e	
		60 years	120 years
Construction	Before use stage	1,451,000	
Operation	Use stage[10]	141,000	315,000

[34]

[30] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/779301/E27_Carbon_v1.1.pdf Page 6

[31] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/779301/E27_Carbon_v1.1.pdf Page 5

[32] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/779301/E27_Carbon_v1.1.pdf Page 5

[33] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/779301/E27_Carbon_v1.1.pdf Pages 5 & 6

[34] https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/779301/E27_Carbon_v1.1.pdf Pages 5 & 6

Wildlife

In December 2018, an Independent on Sunday article stated that Wildlife Groups accused HS2 of failing to make adequate environmental preparations as it plans to build over irreplaceable habitats. The Wildlife Trusts said that the proposed new railway will cause "unacceptable" damage to nature, without enough efforts to conserve the woodlands and endangered species that will be harmed.[35]

The Wildlife Trusts in principle support sustainable transport solutions such as HS2 but highlighted that the current proposals for HS2 come at an unacceptable cost to our natural world, putting the homes of wildlife, including barn owls and otters, at risk.[36] Fourteen Wildlife Trusts have campaigned against the scheme. [37]

In 2012, in response to views submitted by Wildlife Groups during the first consultation, the Government reassessed the route through west London and agreed to place a significant proportion of it in a tunnel. This decision was welcomed by the London Wildlife Trust and meant that several wildlife sites, most notably Perivale Wood, would no longer be affected by HS2. However, the route eventually approved is still likely to impact on 10 wildlife sites in London, not just directly by the main two-track railway but also the enabling and construction works, for example the boring of the tunnels under much of west London and the Chilterns, and the building of a 3.6km viaduct over the Colne Valley.[38]

Sites of Importance for Nature Conservation (SINCs) in London impacted by HS2

- St James's Garden, Euston
- Regent's Park
- Chalk Farm Embankment and Adelaide Nature Reserve
- Wormwood Scrubs Park
- Mad Field Covert, Railway Mead and the River Pinn
- West Ruislip Golf Course and Old Priory Meadows
- Brackenbury Railway Cutting
- Newyears Green
- Dew's Dell, incorporating Dews Farm Sand Pits
- Mid Colne Valley including Broadwater Lake and Frays Farm Meadows

An example of the project's impact on wildlife and animals is that it is likely to destroy an area known to be a hedgehog hotspot in Regent's Park. The car park in the Outer Circle of the park and its surrounding green areas are proposed to be used as an HGV holding area. This is the only inner London greenspace known to support a breeding population of hedgehogs, currently regarded as "isolated and extremely vulnerable" during a Park survey in 2014. The hedgehog

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[35] https://www.independent.co.uk/environment/hs2-wildlife-trusts-environment-plan-woodlands-endangered-species-trains-a8691241.html

[36] https://www.wildlifetrusts.org/hs2

[37] Ibid

[38] Ibid

population in the car park area is thought to constitute 27 per cent of the hedgehogs now living in central London (from current data).[39]

Green Belt

Official documents disclosed that hundreds of acres of green-belt land will be lost, and more than 1,000 buildings are to be demolished to deliver HS2. Depots and railway hubs will be built on 250 acres of green-belt land. Green-belt land will have to be crossed west of Newcastle-under-Lyme, north of Northwich, along a spur into Manchester and outside Nottingham, Sheffield and Leeds;

- Around 25 miles of the line will be built on floodplains;
- More than 616 homes will be bulldozed, up from the 565 initially forecast;
- 342 homes will be cut off from their community, 207 more than previously thought.

The Sustainability Statement acknowledges that HS2 could increase the risk of flooding in some areas. The area around Manchester Piccadilly station would be "at risk of flooding" because of building over watercourses. It said there would be plans to set aside money for flood compensation for potential victims. Trains will run along viaducts in floodplains to mitigate the risk of flooding. However, the analysis says "other solutions" to reduce the threat may have to be worked out later.[40]

Trains will also speed through four country parks that attract hundreds of thousands of visitors a year, including Kingsbury Water Park and Pooley Country Park in Warwickshire, and Rabbit Ings Country Park and Rothwell Country Park in South Yorks. In Nottinghamshire, the remains of the county's only known Roman temple will be concreted over. At least 32 ancient woodlands that have existed since at least the time of Elizabeth I will also be affected.[41]

The route will affect 27 listed buildings, putting at least five Grade II-listed structures including a 12th-century church building in Derbyshire, a hotel in Manchester with an 18th-century farmhouse, and a Victorian bridge in Leicestershire, at risk of demolition.[42]

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[39] https://www.wildlondon.org.uk/hs2

[40] https://www.telegraph.co.uk/news/uknews/road-and-rail-transport/10192925/How-HS2-will-tear-up-rural-England.html

[41] Ibid

[42] https://www.telegraph.co.uk/news/uknews/road-and-rail-transport/10192925/How-HS2-will-tear-up-rural-England.html

Old Oak Common

The Old Oak and Park Royal Development Corporation (OPDC) is tasked with developing a whole new centre and community for west London. Old Oak and Park Royal is the only place where HS2 meets Crossrail. The GLA is using this opportunity to create a new area in the city; where people want to live, work and play, and a destination they will return to visit time and time again. The strategy is to secure the maximum benefits for London and Londoners in the area, by achieving the following:

The proposals are to transform one of London's most inaccessible areas into a well-connected, world-class transport interchange providing new housing and commercial development, surrounded by sustainable and thriving neighbourhoods and valued amenity space protecting and improving Wormwood Scrubs.[43]

The vision is to deliver at least 24,000 new homes[44]. This will comprise of a mix of house types and tenures, including low cost homes, that cater for residents at all stages of life.

It is proposed that residents will be served by a new town centre and high street that provides abundant opportunities not only in housing and employment but also in education, culture, sport and leisure.

Old Oak is the location for HS2's Old Oak Common Station, to be built on the current Great Western Railway Depot site. The HS2 station will not only have platforms for HS2 trains, but also Crossrail and Great Western trains. The Old Oak area is also a key location for the construction of the railway as it is where all the excavated material from the deep bored tunnels will be brought to the surface, to be taken away by rail. The map outlines where the station will be located.

[43] https://www.london.gov.uk/about-us/organisations-we-work/old-oak-and-park-royal-development-corporation-opdc/about-opdc/introduction-old-oak-and-park-royal-development-corporation

[44] Ibid

HS2 is seen a catalyst for the Old Oak Common scheme. The key figures involved have stated that HS2 will unlock regeneration in the area.

Matthew Botelle, HS2's Old Oak Common Project Director, said:

"The arrival of HS2 has the potential to transform Old Oak Common, unlocking thousands of new jobs and homes around the UK's best-connected transport hub. Linking HS2 and Crossrail, our new station will be a landmark piece of architecture at the heart of the development, designed around the passenger to ensure seamless, accessible and stress-free travel."[45]

At a London Assembly meeting, OPDC chair Liz Peace said: "If, for any reason, HS2 was cancelled, the GLA and the Transport for London (TfL) would presumably have to take a view on whether they want a Crossrail station at the development."

"The whole premise of the OPDC development is based around the interchange between HS2 and Crossrail. If there is neither station, then the rationale of the OPDC does somewhat change, and we might look differently at the phasing of any development at that area."[46]

Clearly, if HS2 were cancelled it would have an impact on the regeneration of Old Oak Common. Old Oak Common could still have an Elizabeth Line station (formerly known as Crossrail 1) serving it which would provide transport links into the central London. This shows that there is potential for the project to continue without HS2.

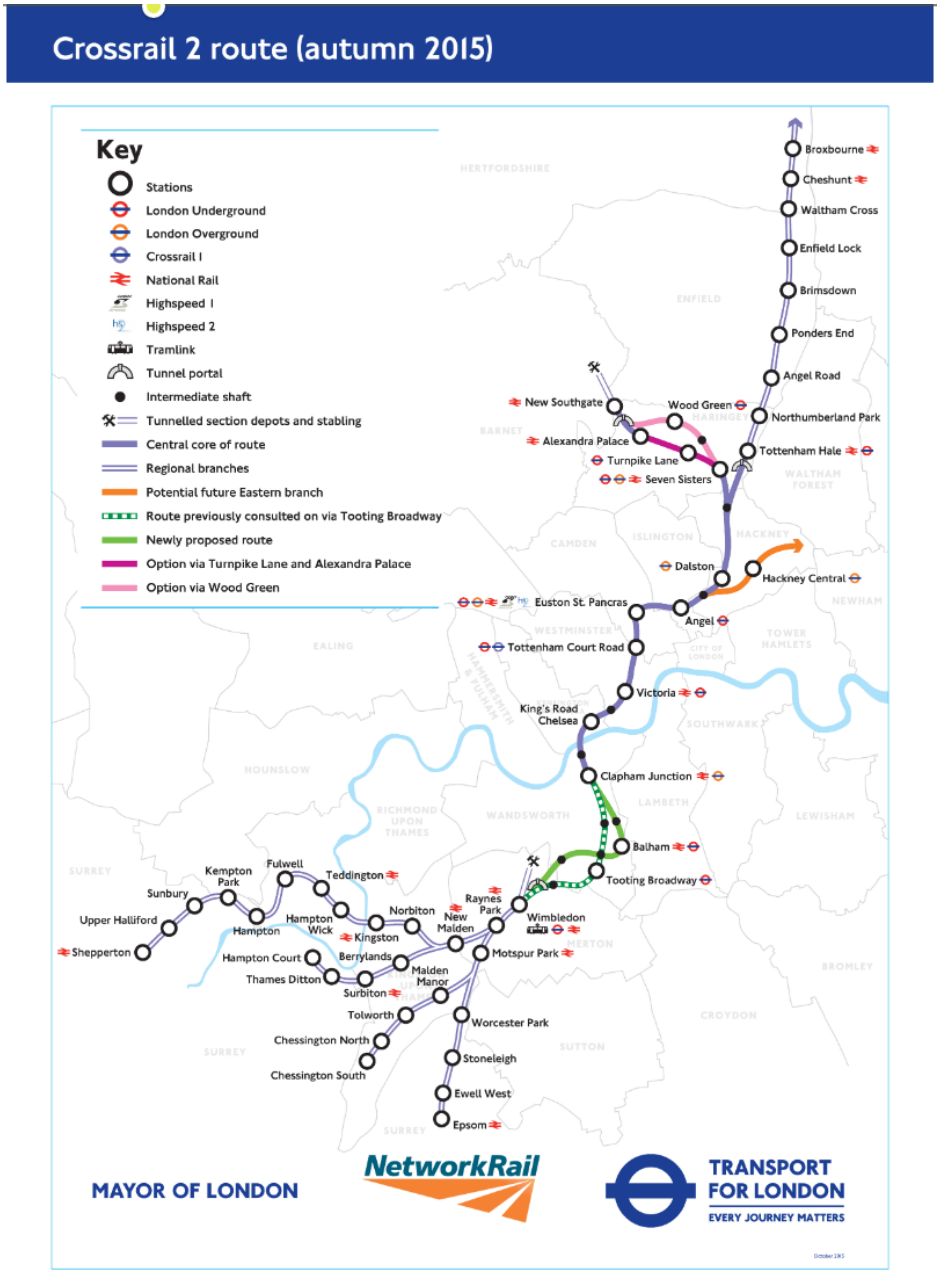
[45] https://www.gov.uk/Government/news/hs2-reveals-old-oak-common-station-designs-as-work-ramps-up-on-west-london-super-hub

[46] https://www.architectsjournal.co.uk/news/old-oak-common-scheme-is-dependent-on-politicians-nailing-hs2/10043066.article

Crossrail 2

Crossrail 2 is a new proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London. The new railway would stop at key locations throughout the city centre, including Tottenham Court Road, Euston St. Pancras, Victoria, Clapham Junction and Wimbledon.[47]

The Route[48]



[47] https://crossrail2.co.uk/discover/what-is-crossrail-2/

[48] https://consultations.tfl.gov.uk/crossrail2/october2015/

The Case For Crossrail 2

London's population is growing rapidly. An increasing population will require more housing, more jobs and greater transport capacity. London and the South East already have a chronic housing shortage and the public transport network is already overcrowded. The predicted increase in population corresponds to an additional five million journeys on public transport each day.[49]

Transport improvements already underway across the network, including The Elizabeth Line, will help offset the pressure in the short term when it is eventually finished. Crossrail 2 would form part of the plan for future growth as it proposed to link people with jobs and homes. It would give the transport network the extra capacity we need to keep the wider South East working and growing, and to make life better.

Transport Improvements

London and the wider South East are growing rapidly. In London alone there are now a record 8.6 million people; this will increase to 10 million by 2030. These extra people will mean five million more journeys each day on the transport network. Overcrowding on the Tube is forecast to double by 2041, and National Rail services will face similar challenges.[50]

Crossrail 2, it is believed, would relieve congestion on existing transport routes across the capital. The main premise of the transport improvements is that they would allow passengers to bypass congested London stations such as Waterloo and Liverpool Street, and provide interchange connections with London Underground, London Overground, Crossrail Elizabeth Line, National Rail and International Rail services.

South West Main Line

The benefits of Crossrail 2 are due to be felt far beyond the route, according its supporters. Destinations across the wider South East would improve significantly. For example, Crossrail 2 would release space on the rail lines into Waterloo and Liverpool Street so people travelling from towns and cities as far away as Cambridge, Portsmouth, Southampton, Basingstoke, Winchester, Andover and Woking could benefit from thousands more seats on trains across the region.[51]

The South West Main Line is one of the busiest and most congested routes in the country. It already faces capacity constraints and demand for National Rail services into Waterloo (a key gateway to The City) are forecast to increase by up to 40% by 2043[52].

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[49] https://crossrail2.co.uk/discover/what-is-crossrail-2/

[50] https://crossrail2.co.uk/discover/improved-journeys/

[51] Ibid

[52] Ibid

One of the other arguments in favour of Crossrail 2 is that it would free up space on the national railway helping to reduce congestion and potentially allow for more local services to central London that bypass the most congested stations. Trains would run south west of Wimbledon serving lines to Epsom, Chessington South, Hampton Court and Shepperton.[53]

Better and quicker interchange to and from trains at Waterloo would be available at Raynes Park and additional interchanges with London Underground, the Elizabeth line and National Rail services would also be available across central London if Crossrail 2 is delivered. There is potential to deliver more services that miss very busy London terminal hub stations.

North London

The West Anglia Mainline customers suffer from frequent unreliability, slow journey times and delays. This is because the local stopping services compete for space on the existing railway lines with faster services to and from London-Cambridge-Stansted, especially the Stansted Express. When one service is delayed, this has a knock-on effect for all other services.[54]

It is forecast that by 2043 demand for rail travel along this line will have increased by up to 39%. Crossrail 2 would free up space on the railway, reducing journey times and allowing for more trains per hour in each direction. Transport improvements are already underway along the West Anglia Mainline but it is only Crossrail 2 that would provide the transformational change required in the long term.

Crossrail 2 is proposed to provide 10-12 trains per hour calling at all stations between Tottenham Hale and Broxbourne. There would also be significant improvement works at each station to accommodate the longer trains, as well as the installation of new lifts or ramps at all stations to provide step-free access.[55]

City Centre

The argument is that Crossrail 2 would provide relief to existing London Underground networks. It would provide significant relief to the most congested parts of the Northern, Victoria and Piccadilly lines, providing alternative routes to key destinations across the city centre and reducing the need for crowd control measures at key stations such as Victoria and Euston.[56]

Crossrail 2 would increase capacity across London's railway network by 10%, allowing for an additional 270,000 journeys during the morning peak. By providing alternative routes to and from central London, the railway would

[53] Ibid

[54] https://crossrail2.co.uk/discover/improved-journeys/

[55] Ibid

[56] Ibid

relieve the bottleneck at Waterloo and at other parts of the rail network around London. The current proposals include up to 30 trains in each direction per hour.

Crossrail 2 is proposed to link with HS2 at Euston. However, Crossrail 2 is not totally dependent on HS2. The management of the HS2 high-speed rail link has warned that their £56bn project will not "work properly" if the £40 Crossrail 2[57] line proposed for London is not built.

HS2 aims to cut journey times from Birmingham to London to 49 minutes and from Manchester to London to just under an hour and 10 minutes. But these savings will be lost in the scrum of passengers, queues and poor onward connections at London's Euston station without Crossrail 2.[58]

Homes

In July 2015. former Mayor of London, Boris Johnson set up the independent Crossrail 2 Growth Commission with the task of helping ensure that the opportunities for regeneration, house building, and job creation made possible by the new railway could be developed to its full potential. The Commission examined evidence from a wide range of public bodies, businesses and individuals to assess the credibility of TfL's growth predictions and made recommendations for tackling potential barriers to growth. The Commission's report was published in July 2016. The Commission concluded that TfL's assessment that Crossrail 2 could unlock 200,000 new homes and support 200,000 new jobs is credible and that growth could potentially be even greater still. [59]

Crossrail 2 Costs

The Coalition Government recommended that 50% of the costs for Crossrail 2 should be met by London in a similar fashion to that of Crossrail 1. An independent report produced by PricewaterhouseCooper (PwC) in 2014 set out several options for how Crossrail 2 could be funded. It shows that over half of the costs of the scheme could be met by London, using existing funding mechanisms.[60] The text below explains a few examples of the tools that either could be used or are being used to collect the money necessary to part fund Crossrail 2.

The scheme was estimated to cost £30 billion in 2014 prices when a lot of the investigative work was conducted. However, in the Mayor's final budget for 2019-2020, the costs had increased to £40 billion.[61] The tool being used is a Community Infrastructure Levy (CIL) which is a compulsory per metre squared

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[57] https://www.london.gov.uk/questions/2019/6298

[58] https://www.ft.com/content/b4af0eea-9ee3-11e7-9a86-4d5a475ba4c5

[59] http://crossrail2.co.uk/wp-content/uploads/2016/10/Growth-Commission-Report.pdf Page 8

[60] https://crossrail2.co.uk/discover/funding/

[61] https://www.london.gov.uk/questions/2019/6298

(m2) charge that local authorities in England can choose to levy upon new development as a condition of granting planning consent. In London, the Mayor has powers (under the Planning Act 2008) to introduce a London-wide Mayoral CIL for the purpose of delivering local and sub-regional large-scale transport infrastructure.

The Mayor's current Community Infrastructure Levy (MCIL1) was introduced in 2012 to help finance Crossrail 1. In February 2019 the Mayor adopted a new charging schedule (MCIL2). MCIL2 came into effect on 1 April 2019 and superseded MCIL1 and the associated Crossrail Funding SPG (applicable in central London, the northern part of the Isle of Dogs and within 1km of a Crossrail station for the rest of London). The new charging schedule is being used currently to fund Crossrail 1 (the Elizabeth Line) and Crossrail 2. According to the original PwC funding and financing study, it was assumed that mayoral CIL could contribute up to 5.8% of the total cost of Crossrail 2. [62]

The PwC review also put forward the potential to use Business Rates to provide some of the funding for the project. If a Business Rate Supplement (BRS) were to be used as part of the funding package under current legislation a ballot of business ratepayers in London would need to be held in order to approve a new BRS to fund Crossrail 2.[63]. Business rates have been successfully used to pull in funding for Crossrail 1 (Elizabeth Line) so it is proof that this mechanism works.

Political Support

Crossrail 2 enjoys cross-party support in London. The Mayor of London, Sadiq Khan, has acknowledged the continued cross-party support for the project.

"I want to start by thanking you and the Assembly for the continued cross-party support for Crossrail 2. To ensure Crossrail 2 can carry passengers by 2033, it is vital that the Hybrid Bill is submitted in this Parliament."[64]

The current Prime Minister, whilst Mayor of London, said that the new capacity provided by Crossrail 2 was vital to let London breathe and would give transport links to support 200,000 new homes in 2014.[65]

In 2016, Boris Johnson urged the then Government to give the green light to taking Crossrail 2 forward and commit the necessary development funding for the vital new railway line in next month's budget. He has also warned that any delay will result in £4bn in lost economic benefit every six months.[66]

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[62] http://crossrail2.co.uk/wp-content/uploads/2016/10/crossrail-2-funding-and-financing-study.pdf Page 33

[63] http://crossrail2.co.uk/wp-content/uploads/2016/10/crossrail-2-funding-and-financing-study.pdf Page 25

[64] https://www.london.gov.uk/questions/2017/3215

[65] https://www.theguardian.com/uk-news/2014/oct/28/crossrail-2-plan-boosted-boris-johnson-funding-claims

[66] https://www.london.gov.uk/press-releases/mayoral/no-time-for-delay-on-vital-crossrail-2-says-mayor

Northern Powerhouse Rail

Northern Powerhouse Rail (NPR) is a major strategic rail programme, designed to transform connectivity between the key economic centres of the North. Featuring a mix of new and significantly upgraded railway lines, allegedly it will increase the capacity, speed and resilience of the North's rail network. In doing so, it is hoped that passengers will experience faster and far more reliable journeys between the North's economies and its largest international airport.[67] The project would be the region's single biggest transport intervention since the Industrial Revolution and builds on early ambitions from the North's leaders. By the North, for the North.[68] The Strategic Outline Business Case received approval in February 2019. The cost of the network is an estimated investment of up to £39bn.[69]

The Route[70]

[67] https://transportforthenorth.com/wp-content/uploads/TFTN_-_NPR_At_a_Glance.pdf Page 2

[68] Ibid

[69] https://transportforthenorth.com/northern-powerhouse-rail/

[70] https://transportforthenorth.com/wp-content/uploads/TFTN_-_NPR_At_a_Glance.pdf Page 5

Rationale For Northern Powerhouse Rail

The North of England is currently held back from reaching its full potential: the economic value per person in the North (measured as GVA) has consistently been around 15% below the UK average. The Northern Powerhouse Independent Economic Review identified that poor links and under-investment in transport is one of the key factors contributing to the economic gap. The North currently has a lack of reliable and fast rail connections across its major city regions, with the average rail speed just 54mph.[71]

Demand for rail has increased in the region during the last two decades, and passenger numbers are forecast to continue increasing. Even with the improvements to capacity from the existing rail programme, forecast growth on the rail network in the North will lead to significant overcrowding by 2033 on some parts of the network.[72]

After this point, if there is no further investment it is argued unsustainable levels of crowding and congestion could persist under the different economic scenarios considered in the Strategic Transport Plan up to 2050. Northern Powerhouse Rail is a 'whole network' approach that aims to address these challenges, providing more capacity for both passengers and freight, while improving journey times and connectivity.[73]

In essence, there are currently fewer than 2 million people in the North who can access four or more of the North's largest economic centres within an hour. This would rise to 10 million once Northern Powerhouse Rail is delivered: transforming the job market, giving businesses access to skilled workers in larger labour markets and offering individuals the opportunity for flexible career development and progression, all within the North of England.[74]

[71] https://transportforthenorth.com/wp-content/uploads/TFTN_-_NPR_At_a_Glance.pdf Page 3

[72] Ibid

[73] Ibid

[74] Ibid

Improved Journey Times

The current average speed by rail between key cities in the North amounts to around 54mph - only 9mph faster than road. The journey time from Liverpool to Newcastle takes almost 3 hours (2 hours 57 minutes). In that time, you could fly from Liverpool to Lisbon. In 2011, almost 500,000 commuters travelled over 30km to work in London daily – double the number who commute that distance across all six major city regions in the North.[75]

One of the proposed benefits of Northern Powerhouse Rail is improved journey times between major economic centres in the North, bringing more people within the catchment area of one or more Northern cities. The current forecast frequencies and journey times across the network are shown below.

	Corridor concepts under consideration	Best current		Best potential with Northern Powerhouse Rail*	
		frequency	minutes	frequency	minutes
Newcastle - Leeds	Infrastructure upgrades	3	88-95†	4	58
Leeds - Hull	Infrastructure upgrades	1	57	2	38
Sheffield - Leeds	Infrastructure upgrades and use of HS2	1	39-42	4	28
Sheffield - Hull	Infrastructure upgrades	1	80-86	2	50
Manchester - Sheffield	Infrastructure upgrades	2	49-57	4	40
Leeds - Manchester	A new line serving Bradford via Parkway or centrally Diggle Upgrades Akin to New Line	4	46-58	6	25
Liverpool - Manchester‡	A new line via Warrington Southern Parkway or centrally A Fiddlers Ferry upgrade via Warrington	4	37-57	6	26‡

* Journey times will depend on the final engineering options, the strength of the business case, and what can be timetabled in practice.
† Typical journey times via York, Darlington and Durham. Fastest current journey time is 81 minutes.
‡ Liverpool - Manchester via Warrington, journey time includes a call at Manchester Airport. A non-stopping service would take 21 minutes. [76]

Unlocking growth

Northern Powerhouse Rail complements the development plans of the towns and cities being served by the network. It is now being embedded into local regeneration and economic growth plans. It is hoped the scheme could improve cities such as Hull, Leeds and Bradford, providing growth in the future.

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[75] Ibid

[76] https://transportforthenorth.com/wp-content/uploads/TFTN_-_NPR_At_a_Glance.pdf Page 6

In Hull, for example, over 30,000 businesses and over one million more people will be within 90 minutes' reach of the city. Hull's connections to the rest of the North's economic centres will be dramatically advanced.[77] More than 4 million people and 135,000 extra businesses will be within 90 minutes' reach of Leeds and the programme will see greater capacity and significantly higher speeds on the network than today.

Bradford now has a £10.5 billion economy, the fifth largest in the Northern Powerhouse, and is home to half a million people. The transport connectivity is currently poor, with journeys taking over an hour between Bradford and Manchester. The Northern Powerhouse Rail project is alleged to be central to unlocking opportunity and transformational growth in Bradford. However, it is claimed that the economic benefits can only be realised if Bradford is served directly, which is why it the North's clear preference is a new line between Leeds and Manchester via Bradford rather than further upgrading the existing line via Huddersfield. Several options for serving Bradford are under consideration, but the key options are a city centre station and a parkway south of the city centre at Low Moor.[78]

Political support

The new Prime Minister, Boris Johnson, has expressed his support for the project. In a speech in Manchester on 27th July 2019 he gave his backing to the trans-Pennine transport link to "turbo-charge the economy"[79]. The project is part of the Prime Minister's rebalance of power, growth and productivity across the country.

The scheme enjoys cross-party support. Judith Blake, Leeds City Council's Labour Leader said, after the Prime Minister's announcement, that: "Northern Powerhouse Rail is key to our vision for a modern, reliable transport network that delivers faster journey times, additional capacity and greater reliability and I hope the government will now work with us to accelerate delivery of this project."[80]

Theresa May's government had said that it supported the idea of a new, fast rail route across the Pennines in principle - but it had not found the money to make it a reality. If HS2 is scrapped, part of the money saved by not delivering it could be allocated to Northern Powerhouse Rail and Crossrail 2 so that the north and south of the country can benefit.

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[77] https://transportforthenorth.com/wp-content/uploads/TFTN_-_NPR_At_a_Glance.pdf Page 8

[78] https://transportforthenorth.com/wp-content/uploads/TFTN_-_NPR_At_a_Glance.pdf Page 8

[79] https://www.bbc.co.uk/news/uk-england-49132477

[80] Ibid

Conclusion

HS2 is proposed to cost anywhere between £81- 88 billion[81]. The benefits are marginal for the cost and inconvenience the scheme will cause. It is claimed that HS2 will reduce the journey time from Birmingham to London to just 49 minutes and from Manchester to London to just under an hour and 10 minutes. But these savings will be lost in the scrum of passengers, queues and poor onward connections at London's Euston station without Crossrail 2, which will cost an additional £40 billion if paid in its entirety.

The Government's official advice is that HS2 will deliver a return of between £1.80 and £2.50 for every pound invested. If the analysis is restricted only to HS2's London to Birmingham route and strips out its wider economic benefits, the benefit-cost ratio falls to 1.4 – below what the Government believes is acceptable to justify investment. Atkins's work for the Department for Transport to investigate alternative projects to HS2 found that proposals to increase long-distance capacity on the west coast main line by lengthening the trains to 12 cars, reducing the number of first-class carriages and running additional peak long-distance services, offered the taxpayer a return of £6.06 for every pound invested. This shows that HS2 does not provide bang for buck especially as there is continued speculation that the cost of the project could rise even further.

Crossrail 2, on the other hand, is proposed to cost only half that of HS2 with a significant proportion coming from the private sector in London. The scheme is projected to deliver 200,000 homes and it will aid in managing the population growth in London and the South East. The scheme will benefit people who live beyond London's boundaries. We believe the money for HS2 would be much better spent on Crossrail 2. This report acknowledges the need to improve connectivity and journey times between cities in the North. HS2 is a national scheme and therefore, if the scheme is cancelled, money should be allocated to projects that will enhance both London and the north of the country. That is why part of the funding from ending HS2 should be spent on the Northern Powerhouse Rail project as well as on Crossrail 2. Northern Powerhouse Rail is now being embedded into local regeneration and economic growth plans and it is hoped that it will improve cities such as Hull, Leeds and Bradford by providing growth in the future. The scheme also has the backing of our new Prime Minister as it forms part of his plans to aid in rebalancing the country's economy.

The 2 recommendations below indicate what the Government should consider going forward in order to deliver infrastructure projects that will make a difference to Londoners and the rest of the country.

1. **Fund Crossrail 2.** The Government should stop HS2 and redirect a proportion of the funding to delivering Crossrail 2.
2. **Northern Powerhouse Rail.** The Government should use the money left over from scrapping HS2 to invest in the Northern Powerhouse Rail project in addition to Crossrail 2.

[81] https://www.bbc.co.uk/news/business-49563549

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