High Speed Two
From Concept to Reality

Moving Britain Ahead

July 2017
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Foreword

Today marks an important step forward for High Speed Two (HS2). We have reached the award of stage 1 of the main civil engineering contracts for the route from London to the West Midlands (Phase One). We have deposited the next hybrid Bill in Parliament seeking powers to build the route from the West Midlands to Crewe (Phase 2a). We have also confirmed the remainder of the route, from Crewe to Manchester and from the West Midlands to Leeds (Phase 2b).

Britain pioneered the railway in the 19th century. It is a testament to the vision of the Victorian innovators who went before us that we still use the network they established today. But we cannot rest on their legacy when our railways are ageing and, as passengers will know, face overcrowding and capacity problems.

Poor connectivity between the cities and regions of the Midlands and the North is restraining economic growth. We need high quality transport to allow businesses to grow, work together and access a wide range of customers, suppliers and skilled labour markets.

HS2 will become the new backbone of our national rail network. It will increase capacity on our congested railways and improve connections between our biggest cities and regions. It will support our Industrial Strategy, generating jobs, skills and economic growth to help us build an economy that works for all.

By providing new routes for intercity services, HS2 will free-up space on our existing railways for new commuter, regional and freight services, taking lorries off our roads. It will provide new options for services to towns which currently do not have a direct connection to London. HS2 will create thousands of local jobs and apprenticeships. The main civil engineering contracts are expected to support around 16,000 jobs across the country, and generate 7,000 contract opportunities in the supply chain, for which we expect around 60 per cent will go to Small and Medium Enterprises.

I recognise that building major infrastructure will always be disruptive for those living nearby and I am very mindful of the concerns of communities. My Department and HS2 Ltd will continue to work closely with those affected communities and their local authorities up and down the line of route, and I expect people to be treated with fairness, compassion and respect. In addition to the property schemes currently operating for Phases One and 2a, I am pleased to today confirm a range of property
schemes for Phase 2b that will go over and above what is required by law, and give assistance to those who will be adversely affected by the railway.

This government is investing in world class infrastructure to ensure that the UK can compete on the global stage. HS2 is an ambitious and exciting project and we are seizing the opportunity it offers to transform our country for generations to come.

Rt Hon Chris Grayling MP
Secretary of State for Transport
Executive summary

Introduction

1 The case for HS2 is compelling. Since privatisation in the mid-1990s, the number of passenger trips on our railways has more than doubled. The number has nearly tripled on the key West Coast intercity corridor. The existing tracks, particularly the West Coast Main Line and the approaches to Leeds and Manchester are congested. Jobs are being created in our city regions at more than twice the rate as elsewhere. Between 2008 and 2014, 700,000 jobs were created in Britain’s 10 biggest city regions. A new line is essential to provide the capacity that people and businesses need. Compared to today, HS2 will more than double the number of seats out of Euston in peak hours and will carry over 300,000 people a day. The capacity freed up by HS2 will not only improve passenger experience by reducing overcrowding on peak time trains but will also allow train operators to run more varied and frequent services. Depending on how we choose to use this capacity, HS2 has the potential to more than double evening peak seats compared to today’s services from:

- Manchester Piccadilly towards Stoke and Crewe; and
- Leeds towards Wakefield

and almost double evening peak seats from London to Peterborough and further north to East Coast destinations.

2 HS2 will transform the connectivity between our major cities, making it easier for businesses to locate in the great cities of the Midlands and the North. Growth in the north of England and the Midlands will help to rebalance the economy across the UK.

3 We are making excellent progress and Parliament granted powers in February 2017 for the construction of the first part of the route (Phase One) from London to the West Midlands, with train services due to commence in 2026. We have decided to award the first stage of the civil engineering contracts for this section of the route which are expected to be signed at the end of this month after completion of the mandatory standstill period.

4 Completing the full Y network will unlock the full benefits of HS2. We will be able to increase capacity to Manchester and Leeds and transform journey times from London and Birmingham to Manchester, Leeds, Scotland, Newcastle, Liverpool and Preston, and between the northern cities. HS2 will play an important role in improving access to major and regional airports across the UK including Heathrow, Manchester and Birmingham. As fast intercity services use the new high speed lines, it will also free-up space on the existing network which could be used for new passenger or freight services. HS2 could take lorries off the roads, helping to improve air quality and reduce road congestion.

5 So the government has today deposited the hybrid Bill for Phase 2a from the West Midlands to Crewe. Construction of this section of the route requires no new stations or extra trains. We intend to commence services in 2027, six years earlier than
originally planned to bring more of the benefits of HS2 to the North and Scotland sooner.

6 At Crewe, there is an opportunity to create a rail hub where several rail lines connect with HS2 and with each other. The Department for Transport (DfT), HS2 Ltd and Network Rail are working together on this, with input from a number of key regional stakeholders. We are now consulting about options for Crewe Hub.

7 Today we are announcing decisions on the parts of the Phase 2b route which were consulted on last November. Along with the earlier decision on the majority of the Phase 2b route, this confirms the preferred route for the full Y network – the Eastern Leg to Leeds and the Western Leg to Manchester. This brings certainty for communities who have been unsure of the final route since 2013, shows the government’s commitment to the Northern and Midlands economies, and enables preparations for the third hybrid Bill, which we intend to deposit in Parliament in 2019. Phase 2b train services are to commence in 2033. We are today starting consultations on the environmental and equality assessment methodology to be used for the preparation of this hybrid Bill, and on an alternative site for the rolling stock depot on the Eastern Leg.

<table>
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| Phase One (London to West Midlands) | Decision to award the first stage of the main civil engineering contracts  
Progress with designing four stations: Euston; Old Oak Common; Birmingham Interchange and Birmingham Curzon Street  
Progress with selecting a Master Development Partner for Euston |
| Phase 2a (West Midlands to Crewe) | Introducing hybrid Bill for Phase 2a together with the Environmental Statement  
Following consultation, confirming three refinements to the design of Phase 2a  
Launch of consultation on the Environmental Statement  
Launch of consultation on the Equalities Impact Assessment  
Publishing updated Business Case for Phase Two |
| Phase 2b (West Midlands to Leeds and Crewe to Manchester) | Following consultation, the Secretary of State has made decisions on seven proposed changes to the route of Phase 2b  
Launch of consultation about a new location for a rolling stock depot for the Eastern Leg (near Leeds)  
Launch of consultation on the scope and methodology for the Environmental Impact Assessment and Equalities Impact Assessment needed for the Phase 2b hybrid Bill. |
| Crewe Hub | Launch of consultation on options at Crewe to create a hub |
| Property | Update of Safeguarding Directions to reflect the Phase 2b route refinements  
Following consultation, confirming the assistance package for homeowners close to the route of Phase 2b |

Table 1 HS2 July 2017 Announcements at a glance

8 We know that new infrastructure of this scale has big impacts on the communities it affects. Even though the HS2 route has been designed to minimise impacts on communities, the density of land use in England makes it difficult to avoid all settlements. We are committed to treating people fairly, and have also today
confirmed the property compensation arrangements that will be available for the full route.

9 HS2 is not just a rail engineering project. It will set new standards for passenger experience on our railways. It will be a catalyst for growth in and around the stations it serves. With the creation of the National College for High Speed Rail, and 2,000 apprenticeship opportunities across HS2 Ltd’s contracts, it will upskill a whole new generation of engineers. By boosting the supply chain and providing the bedrock of engineering skills for years to come, HS2 will be a key contributor to the government’s Industrial Strategy, to develop an economy that works for all.

10 The government is building for Britain’s future by making the biggest investment in transport infrastructure in generations. A modern, efficient transport network is essential to long term economic prosperity and HS2 plays an important part in this plan. Our vision is to complete the network to Manchester, the East Midlands, South Yorkshire and Leeds, helping to make the economy work for all and building on our existing strengths to create the Northern Powerhouse and the Midlands Engine. HS2 will support vibrant and growing economic regions that play host to innovative companies which thrive in the global marketplace.
1. Setting the scene

UK Rail - a success story

1.1 In the 1850s, when it first became possible to take a direct train between London and Glasgow, the UK population was 28 million people. We now have more than twice as many people and we make much more use of the rail network - together we make nearly 30 times as many journeys as our Victorian predecessors. Yet the West Coast Main Line (WCML) today would be recognisable to a Victorian traveller. It is the most intensively used mixed-use railway in Europe, carrying intercity and local passenger services and freight. We are reaching the end of our ability to squeeze more trains on to the network, and even where we do it can be at the expense of reliability. Without action, there is a risk of serious overcrowding by 2026 on WCML commuter and intercity trains serving London, Birmingham, Manchester, Scotland and Leeds.

Figure 1  Growth in Intercity Rail Journeys by Corridor, 1994 to 2013/14

$^1$ Data source: RUDD (LENNON) and Transport Statistics Great Britain (DfT, 2014)
1.2 We cannot continue with incremental, patch-and-mend upgrades of the existing infrastructure. New tracks are needed, that reach all the way into the city centres of London, Birmingham, Manchester and Leeds. That is why we are investing in the first new railway line north of London for more than a hundred years.

1.3 In doing so we have seven strategic goals, discussed below.

**HS2 will add capacity and connectivity as part of a 21st century integrated transport system**

1.4 HS2 will be a step change in capacity for our constrained network, increase connectivity and be a new backbone for our national rail network. HS2 will deliver a huge increase in intercity capacity with up to 18 trains per hour by 2033 running to and from London, and the potential for up to a further 12 trains per hour to and from Birmingham. HS2 services will be up to 400m long, with almost double the number of seats as the longest Pendolino (11 car) in operation today. HS2 is forecast to carry over 300,000 people a day, and with fast trains using the new line, there will be extra space for more trains on the existing rail network. This released capacity will improve reliability on the network and give train companies a once-in-a-generation opportunity to increase and improve services on these corridors and to locations not directly served by HS2.

Figure 2 Existing rail lines where capacity for new services is made available by each phase of HS2
1.5 The map above sets out the existing rail lines where capacity for new services is made available by each phase of HS2. These services may be able to extend on to other destinations.

1.6 Previous work has shown how HS2 could more than double the number of seats available out of Euston in peak hours, compared to today’s services.

![Figure 3 Increased number of seats from Euston](image)

1.7 New work, discussed in the updated *High Speed Two Phase Two Strategic Case*, sets out how the capacity released by Phase Two could be used. It could be used to:

- Provide high frequency, regular services for intermediate stations on the WCML and East Coast Main Line (ECML) that do not have HS2 stations;
- Introduce new London intercity services to stations which have an irregular service or no service today;
- Introduce more commuter services to London on the West Coast, East Coast and Midland Main Lines, for example from Milton Keynes or Peterborough;
- Enhance city-to-city services that do not begin or end at London;
- Develop initiatives put forward to meet regional transport aspirations, such as local and commuter services into Birmingham, Manchester and Leeds; or
- Introduce more long-distance freight services.

1.8 Depending on how we choose to use this capacity, HS2 has the potential to more than double evening peak seats compared to today’s services from:

- Manchester Piccadilly towards Stoke and Crewe; and
- Leeds towards Wakefield

and almost double evening peak seats from London to Peterborough and further
north to East Coast destinations. The following charts illustrate these scenarios. Full explanations can be found in the Strategic Case.
1.9 In determining how we use this released capacity, we will continue to build an open and shared evidence base and consult passengers, communities and freight users in order to finalise options.

**HS2 will be a catalyst for sustained and balanced economic growth across the UK**

1.10 The capacity and connectivity HS2 will generate will help to support economic growth across the UK and make it easier for businesses to choose to locate in our great Northern and Midland cities. Economic growth in the North has been constrained by poor connectivity between cities and the growth that HS2 can support will make it a more attractive place to live and work.

1.11 The strategic economic plans of the Midlands and northern city regions focus strongly on promoting knowledge-based sectors, such as advanced manufacturing, digital and creative industries and financial and professional services. As employees in these sectors have a greater propensity to travel by rail, it is these sectors that will benefit most from the better intercity connections provided by HS2.

1.12 The government’s aim is for the Midlands and the North to develop as a prosperous, well-connected, multi-centre economy similar to the Randstadt in the Netherlands or the Rhein-Ruhr region in Germany. By directly contributing to better connections between cities in the North, HS2 will support more unified economies and labour markets, promoting growth and agglomeration. HS2 will also provide a platform for further connections as the Northern Powerhouse Rail (NPR) concept is developed by Transport for the North (TfN). HS2 is fundamental to the Northern Powerhouse vision to rebalance the economy of the UK through increasing productivity in the north of England, and to the Midlands Engine agenda of better connecting the East and West Midlands.
1.13 The government is developing an industrial strategy that will support the industries that are of most value to our economy and promote them through trade, tax policy, skills, training, research and development, and infrastructure. HS2 is a key part of this.

1.14 The North of England is home to digital clusters that employed over 280,000 people in 2014. Manchester has the most employees in the digital sector outside London, while Leeds, Newcastle and Liverpool have clusters with specific areas of expertise. Birmingham is distinct again with strong support for start-up digital businesses. Digital firms tend to cluster together, as face-to-face contact is important for collaboration and innovation. By shrinking the effective distance between northern cities, HS2 could help these businesses attract and retain people with the skills they need, allowing the digital sector to expand outside London.

1.15 The Professional Business and Financial Services (PBFS) sector is a major UK success story. Pressures from clients, international competition and changing business structures are driving a search by law and financial services firms for cost savings and new business opportunities. Seeing the potential for cost savings and access to a strong pipeline of graduate skills, financial and law firms are relocating: PBFS employs around 100,000 people in the city of Birmingham and 350,000 in the wider region; 10,000 work in the legal sector in Liverpool; and the Leeds City Region alone has over 200 law firms.

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The background to this map shows transport flows across the UK. Source: Alastair Rae, University of Sheffield. Current journey times are fastest typical times. All HS2 journey times are current estimates showing fastest northbound times. Journey times at Nottingham are shown for the East Midlands Hub at Toton. Birmingham to Liverpool journey time assumes an option for Crewe Hub is adopted and a five minute interchange is assumed at Crewe.
1.16 HS2 will support face-to-face collaboration in the advanced manufacturing industries by bringing manufacturing plants, their suppliers, universities and research centres across the UK closer together.

1.17 HS2 will expand opportunities for the tourism sector in the Midlands and the North. Shrinking distances will attract visitors from London and the South East, and international tourists via Heathrow, Birmingham and Manchester airports.

**HS2 will be a catalyst for regeneration**

1.18 The full benefits of HS2 to the economy will only be realised if stations are well integrated into local transport networks. The government has provided funding for HS2 places to develop growth strategies to maximise the benefit of HS2 in their local areas. Work between local authorities, Local Enterprise Partnerships (LEPs) and others local stakeholders, Network Rail and the Department of Communities and Local Government (DCLG) has been key to developing these plans. City leaders preparing growth strategies can be confident that HS2 is coming, taking the once-in-several-generations opportunity to plan for the future with a transformed transport network.

1.19 Local areas’ estimates show that HS2 has the potential to support

- Euston (London) – Up to 14,100 jobs and 3,800 homes in a new Central London District transformed by a world class interchange with access to great outside spaces, and a range of retail offers

- Old Oak Common (London) – Up to 65,000 new jobs and 25,500 new homes at one of the UK’s largest regeneration projects backed by a new Mayoral Development Corporation (under the Greater London Authority)

- Greater Birmingham and Solihull – Up to 52,500 jobs across the Local Enterprise Partnership area plus over 5,900 homes. Birmingham Interchange station, near Solihull, is regarded as a key development opportunity - its untapped potential and connectivity is generating significant interest among investors and developers.

- Constellation Partnership (including Crewe, Stoke-on-Trent and Stafford) – 360° connectivity through Crewe station could transform the housing and jobs markets across the partnership. The Partnership is aiming to publish its growth strategy by the end of 2017.

- East Midlands (hub serving Leicester, Derby, Nottingham) – Potentially 74,000 extra jobs created across the East Midlands area. There may be opportunities to develop land close to the station and there is interest in attracting technology companies to the East Midlands. Growth strategy plans also include a focus on redevelopment of Chesterfield, where HS2 trains will call, and Staveley.

- Leeds – Backed by local leaders, the ambition is to integrate the HS2 station and the national network station in a shared concourse that will bring growth, jobs, housing and regeneration into the heart of the city, and see benefits spread across the city region. The redevelopment of South Bank will be one of the largest regeneration projects in Europe, aiming to provide 4,000 new homes and 35,000 jobs. At Leeds station work is looking at developing local connectivity via the

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local public highway network, and potentially through more public space and new mass public transit.

- Manchester – The Growth Plan aims to maximise the economic potential of HS2 and Northern Powerhouse Rail. The Greater Manchester Combined Authority (GCMA) estimates that reducing travel times and increased business productivity through improved connectivity will bring up to 180,000 new jobs to the region by 2040. The development of Manchester Piccadilly could also support around 4,500 new homes. Key issues to resolve include the requirements for integrating the NPR ambitions in the plans for HS2 at Manchester Piccadilly, development of the Metrolink system at the station, and the development and regeneration of the area surrounding the station. The roles played by Manchester City Council, Transport for Greater Manchester (TfGM) and GMCA have been key to shaping these plans.

- Liverpool will be served by two HS2 trains per hour from day one of HS2, when Phase One opens in 2026. Current journey times to London of 2 hours 14 minutes will fall to 1 hour 46 mins. These journey times will improve further, to 94 minutes, when Phase 2a opens between the West Midlands and Crewe. HS2 will also free up space on the existing network which could be used for more commuter, regional and freight services. GVA in the Liverpool City Region could increase by up to £517m per year and HS2 could support up to 13,300 additional jobs. A range of options for Manchester to Liverpool, and the wider NPR network, are in development. The government and Transport for the North continue to develop a single integrated strategy for NPR. Options outlined in the Crewe Hub consultation could also result in faster journey times for some Liverpool services.

- Sheffield – There is an opportunity to boost growth across Sheffield City Region by maximising key growth opportunities in sectors such as advanced manufacturing, logistics & distribution and creative & digital. Key issues in Sheffield will include how best to integrate NPR services into Sheffield Midland station, Parkway station proposals, or for the extension of HS2 services north of Midland station. The government has confirmed that a second tranche of £625k will be made available to Sheffield City Region shortly, now that the station location in South Yorkshire has been confirmed.

**HS2 will create opportunities for skills and employment**

1.20 HS2 is a key part of the government’s industrial strategy.

- Around 60 per cent of contracts within the supply chain are expected to be awarded to small and medium size enterprises (SMEs)

- Bidders for major procurements are required to demonstrate how their proposals will contribute to the enhancement of the UK rail industry capability, employment and skills

- From September 2017 the National College for High Speed Rail in Birmingham and Doncaster will begin to offer a range of training opportunities, with the expected number of learners starting at around 100 for the 2017/18 academic year, and increasing to more than 1,000 new learners starting in 2021/22 academic year

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7 https://www.greatermanchester-ca.gov.uk/news/article/104/hs2_stations_confirmed_for_greater_manchester
8 Independent Economics Study: Hs2 and the Liverpool City Region, Steer Davies Gleave
There will be 2,000 new apprenticeships as a result of the HS2 programme. 25,000 private sector jobs will be created to build HS2, and a further 3,000 jobs to operate HS2. It will leave a lasting legacy of skills and capability in the UK supply chain that will support future competitiveness and work.

1.21 The procurement of the trains for Phase One and Phase 2a commenced in April 2017, with the contract expected to be awarded at the end of 2019. Bidders will be expected to make clear in their proposals how the design, manufacture, maintenance and refurbishment of the trains will add value to the UK economy and how they will contribute to the delivery of the HS2 strategic goals including:

- The creation of employment opportunities
- Investment in workforce education and the development of long term technical skills
- Promoting capability in designing, manufacturing, maintaining and refurbishing High Speed trains and other modern rolling stock and
- Making appropriate contracts as accessible as possible for local businesses and SMEs to bid for the work

**HS2 will set new standards in passenger experience**

1.22 We are focusing on the needs of passengers, with an ambition to improve the reliability and accessibility of journeys for people by:

- Making travel more convenient with faster journeys that connect efficiently to where people want to travel from and to, with integrated stations, planning and connections
- Making travel more reliable on the rail network, and giving passengers a better travelling environment with comfort and accessibility for all
- Giving passengers more choice, both in the range of services available and the flexibility with which people can use them, for example by smart ticketing

**HS2 will deliver value to the UK taxpayer and passenger**

1.23 The benefit cost ratio (BCR) for the HS2 network as a whole, including wider economic impacts, is calculated to be 2.3, meaning that for every £1 spent, the UK will receive £2.30 in benefits. In addition, non-monetised benefits such as apprenticeships and regeneration around stations will be catalysed by HS2.

1.24 The 2015 Spending Review set a total funding envelope for delivery of HS2 of £55.7bn and the government is committed to delivering HS2 within the total funding envelope. We are determined to control costs. We are seeking efficiency savings through design and procurement and will keep costs under review to maximise efficiency and minimise the risk of cost overrun. We have set HS2 Ltd ambitious benchmark targets of £55m/km and £65m/km for Phases 2a and 2b respectively, reflecting international best practice.
HS2 will create an environmentally sustainable solution and be a good neighbour to local communities

1.25 HS2 Ltd’s seeks to avoid significant adverse effects on communities, businesses and the natural, historic and built environment wherever possible. Where impacts do occur, it seeks to minimise these and provide other enhancements as far as practicable with the objective of no net loss to the natural environment. HS2 is being developed in consultation and engagement with communities and stakeholders.

1.26 We want HS2 to set a benchmark for excellence in community relations. People affected by HS2 should be informed about the scheme, able to ask questions and to receive timely and helpful answers. HS2 Ltd already has a team of local community representatives in place and a dedicated 24/7 helpline for people wanting to find out more about what’s happening in their area.

1.27 There are also two independent commissioners:

- The Residents’ Commissioner, to ensure HS2 Ltd is communicating as clearly as possible with people who live along or near the HS2 route
- The Construction Commissioner, whose role is to consider any issues arising from the construction of the railway

HS2 will be designed, built and operated with world class health, safety and security standards

1.28 Health and safety is at the heart of everything that HS2 Ltd does. This is all about caring for the workforce, passengers and the public, by creating an environment where no one gets hurt.

1.29 HS2 Ltd’s Safe at Heart programme⁹ applies to everyone who works for or with HS2 and to every aspect of the business. This has been developed into a number of areas of focus in which key risks will be proactively identified and managed:

- Workforce safety
- Public and neighbour safety
- Occupational health and wellbeing
- Safe design
- Safe supply chain life cycle
- Operations safety
- SMART assurance

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⁹ See HS2 Ltd’s Supply chain health and safety standard - Overview for more detail
2. HS2 is already having an impact

2.1 In *Changing Britain* (February 2016) and *Changing Britain: HS2 taking root* (October 2016), Sir David Higgins set out how HS2 is already changing the way central and local government and local enterprise partnerships (LEPs) are working together to plan the future of their cities, both in terms of developing their transport systems and transforming local economies.

2.2 Businesses are taking tangible action:

- The UK supply chain is gearing up – HS2 has held events across the UK and engaged with over 3,500 businesses
- More than £500m in investment has been attracted to the South Bank in Leeds during the last three years, including Sky’s technology hub which opened earlier this year

2.3 HS2 is also at the heart of strategic transport planning in the North and the Midlands. For example, work is progressing to see how HS2 could help deliver parts of a fast, frequent high capacity Northern Powerhouse Rail (NPR) network for Liverpool, Manchester, Manchester Airport, Sheffield, Leeds, Hull and Newcastle. This, and synergies with other plans such as Midlands Connect, are discussed in section 6.

The National College for High Speed Rail

2.4 This new college, located in Doncaster and Birmingham, opens in the autumn of 2017 and will directly address the skills shortfall that the engineering, transport and infrastructure industries are facing. The mission of the new college is to train the next generation of engineers for a career in the UK’s rail industry, and to provide the existing workforce with skills for now and the future. Offering Higher Apprenticeships and a qualification equivalent to a Higher National Certificate, the college will provide training across the whole rail industry to new entrants, workforce upskilling and continuing professional development.

2.5 The college has a vision to:

- Deliver a step-change in vocational learning for the rail sector
- Attract a wider pool of talent into science, engineering and technology
- Build the highly skilled workforce that is needed to deliver and maintain HS2, and to meet the future requirements of the wider railway industry
- Place the rail industry at the cutting edge of innovation, transforming its image
- Be a catalyst for regeneration and growth in and around Birmingham and Doncaster.
2.6 In June 2017 we announced the shortlist of pre-qualified bidders for a new rail franchise which will combine operation of the current InterCity West Coast services with the development and introduction of HS2 services, and we will publish the Invitation to Tender in November 2017.

2.7 The new franchise – the West Coast Partnership – will be responsible for operating services on the West Coast Main Line from 2019, designing and running the initial high speed services and recast West Coast Mainline services from 2026.

2.8 The franchise has attracted world-class bidding groups to develop and enhance the service for West Coast passengers and pave the way for the introduction of HS2 services in the future.

2.9 The successful bidder will have a blend of skills including; operating conventional and high speed rail services, developing and delivering innovation, driving great customer service and the ability to work with other stakeholders to achieve success. At every stage the Partnership will innovate by:

- Bringing leading edge technology into rail travel
- Designing services for now and the future, that maximise the value of the route
- Challenging the conventional way of doing things on the railway
3. Phase One

Parliament

3.1 The Phase One hybrid Bill was published on 25 November 2013 and Parliamentary scrutiny began. A specially appointed House of Commons select committee heard 1,578 petitions against the Bill from affected parties over 160 sitting days. The select committee published three reports setting out directions and recommendations about the hybrid Bill. A similar select committee was then established in the House of Lords, which heard 821 petitions over 64 sitting days, concluding on 1 December 2016. The committee published its report of directions and recommendations on 15 December 2016, and the government’s response was published on 17 January 2017.

3.2 The HS2 hybrid Bill achieved a rate of progress through Parliament that is unparalleled in recent hybrid Bills. During the course of the two committees, the government made many commitments about the HS2 scheme and its construction, both in its responses to the committees’ reports and as a result of detailed negotiations with petitioners. These are recorded on a public register of undertakings and assurances\(^\text{10}\), and the government expects HS2 Ltd to deliver fully on these commitments.

3.3 At Third Reading in the House of Lords, on 31 January 2017, the Bill was very strongly supported with 385 votes in favour of it proceeding, and only 25 against. Following the remaining stages of the Parliamentary process, the High Speed Rail (London-West Midlands) Act\(^\text{11}\) was given Royal Assent on 23 February 2017.

Stations

3.4 Phase One of HS2 will deliver direct train services from London to Birmingham on 140 miles of new high speed railway, and will enable HS2 trains to serve Manchester, Liverpool, the North West of England and Scotland via the existing rail network.

3.5 The Phase One project will build four new stations:

- Two in London, at Euston and Old Oak Common
- Two in Birmingham, at Birmingham Curzon Street and Birmingham Interchange station, near Solihull

3.6 HS2 Ltd, DfT and DCLG are working closely with local authorities to ensure that these new stations can support local growth through complementary developments. This work is most advanced at Euston station, where today we are also announcing the next stage in the competition to appoint a Master Development Partner (MDP) to


advise on, and later take forward, development opportunities for new homes, offices and retail space above and around the revamped London Euston.

3.7 Once appointed, the MDP will work with HS2 Ltd, Network Rail, the successful bidder for the Euston station design contract and local authorities to deliver a unified plan to unlock the full potential of the area. This comprehensive approach has the potential to deliver up to 21 hectares of development space, to improve accessibility and create new public and green spaces across the wider Euston site.

Procurement

3.8 HS2 Ltd are making excellent progress with their procurement programme to ensure the Phase One train service commences in 2026:

- Following the award of the Enabling Works Contracts last November, work on the ground has already begun. This includes the demolition of the Royal Temperance Hospital adjacent to Euston station
- HS2 Ltd today announced the decision to award Stage 1 of the Main Work Civils Contracts which are expected to be signed at the end of this month after completion of the mandatory standstill period. Stage 1 of these seven geographically based contracts includes design and construction preparation works for the civil infrastructure associated with the Phase One route. This includes embankments, cuttings, tunnels and viaducts. The expected total value of these contracts including both Stage 1 and Stage 2 (the full construction phase) is currently estimated to be around £6.6 billion. Stage 2 is scheduled to commence in 2019.
- In addition to the Euston MDP procurement, HS2 Ltd has also issued invitations to tender (ITTs) for the Phase One station design contracts. These will be highly significant contracts that will produce designs for the Phase One stations to enable passengers to efficiently access HS2 services and travel smoothly onward to other transport modes

3.9 Two other major contracts are in the pipeline:

- The Rolling Stock procurement, for which HS2 Ltd have received a very strong response from the market to an expression of interest issued in April 2017. An ITT will be issued in April 2018 and contract award is planned for late 2019
- The Railway Systems procurement which will provide the power and control systems, as well as the track on which the HS2 services will operate. The Pre-qualification Questionnaire (PQQ) will be issued at the end of 2017, and contract award is planned for the end of 2019
4. Phase 2a

Progress

4.1 In 2015, the Secretary of State decided to accelerate the construction of the Phase Two route between the West Midlands and Crewe. Acceleration of this route section, Phase 2a, will bring the benefits of HS2 to the northern cities and regions sooner.

4.2 We have now made our final decisions about the Phase 2a route and have deposited a hybrid Bill in Parliament. Subject to Parliament's approval, this will provide the powers to build Phase 2a. As part of the Bill process, a select committee of MPs will hear petitions from those directly and specially affected by the scheme and may recommend changes to the government’s proposals. Similar scrutiny in the House of Lords will follow. We hope to get Royal Assent in 2019, begin construction a year later and to have passenger services running along this section of the route in 2027.

4.3 Phase 2a comprises approximately 58km (36 miles) of HS2 main line. It starts where Phase One ends in Fradley, near Lichfield, and runs on to a connection with the West Coast Main Line (WCML) just south of Crewe. It also includes a section of line which will connect with and form the first part of Phase 2b. See the map in figure 5 below.

4.4 The majority of the Phase 2a route introduced to Parliament has not changed since 2015. However, following a consultation that began in September 2016 we have decided to make three refinements to the design of Phase 2a:

- Near Stone, to build a temporary construction facility between the proposed HS2 route and the M6, and to subsequently convert this to a permanent maintenance facility to replace the facility previously proposed at Crewe
- South of Crewe, to extend the Crewe tunnel shown in the November 2015 design south by approximately 2km further and re-site the tunnel portal, which marks the beginning of the Phase 2b route, south of the A500 and Weston Lane
- South of Crewe, to move the spur lines that connect HS2 to the WCML further south and to extend their length

4.5 These design refinements, which are discussed in more detail in High Speed Two Phase 2a: West Midlands to Crewe - Government Response to the Design Refinement Consultation12 (September 2016) are reflected in the hybrid Bill. Construction of the proposed scheme will commence in 2020, ahead of the rest of Phase Two, with train services planned to commence in 2027.

4.6 The High Speed Rail (West Midlands - Crewe) Bill largely follows the precedents in the High Speed Rail (London - West Midlands) Act 2017. We have made some changes to reflect committee reports and other issues raised in the passage of the Phase One hybrid Bill.

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4.7 As well as faster journeys, Phase 2a will also release capacity on the conventional rail network. Phase 2a extends the HS2 route from north of Birmingham to a junction with existing lines just to the south of Crewe station. This means that six trains per hour can be transferred onto Phase 2a lines, freeing up capacity on the WCML from Lichfield to Crewe. Subject to future decisions about the railway, Phase 2a could free up capacity in the following areas:

- Increasing the frequency of services to Nuneaton, Tamworth, Lichfield and Rugeley from hourly to half-hourly or better, subject to capacity at Crewe or Stoke-on-Trent. In order to provide wider connectivity, these services could be combined with Manchester and Liverpool commuter services to the north and with services from London to Northampton to the south
- Increasing the frequency of services from London to Chester, from one to two trains per hour. These services could be extended to destinations in North Wales
- Capacity released by Phase 2a could instead be used for freight services as far as Crewe. Additional freight services beyond Crewe from the London area, Southampton and Felixstowe would be subject to constraints elsewhere on the network. For example, freight services beyond Crewe towards Liverpool would be possible if capacity improvements could be delivered between Crewe and Weaver Junction

4.8 A full Environmental Impact Assessment has been carried out on the scheme and an Environmental Statement has been deposited with the hybrid Bill. There is now a consultation on the Environmental Statement which offers members of the public the opportunity to comment. Those comments will be summarised in a report for MPs. HS2 Ltd will also consult on the Equality Impact Assessment for the Phase 2a Scheme. Information papers explaining aspects of the hybrid Bill have been published and can be found online.  

4.9 We have issued safeguarding directions to protect the route from conflicting development. Later this year we will update the safeguarding directions to reflect the land requirements that are identified in the hybrid Bill. We have put assistance schemes in place for owner-occupiers and have begun purchase of properties.

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5. Phase 2b

Progress

5.1 The government has confirmed its preferred route for Phase 2b of HS2 and we plan to deposit legislation in Parliament by 2019 to seek the powers to build it. We aim to have Parliament’s approval by 2022 so that trains can run on the whole network from 2033.

5.2 Phase 2b will complete the Y network and realise the full capacity and connectivity benefits of HS2. Phase 2b has two parts. The Eastern Leg runs from the West Midlands to Leeds, joining the East Coast Main Line (ECML) east of Leeds at Church Fenton. The Western Leg continues from Crewe to Manchester, joining the West Coast Main Line (WCML) at Golborne, south of Wigan.

5.3 The choice of route follows extensive consultation, initially in 2013, after which the government confirmed the majority of the route in November 2016. This was followed by a further consultation on seven proposed refinements. The government’s decisions about this most recent consultation are set out in detail in High Speed Two: From Crewe to Manchester, the West Midlands to Leeds and beyond. Phase 2b Route Decision. We understand that local communities and landowners will have concerns about further design development. HS2 Ltd will work with them to consider these as the more detailed stages of design are carried out.

5.4 The government has confirmed the following proposed changes to the Phase 2b route following the consultation launched in November 2016:

Western Leg

- Moving the rolling stock depot on the Western Leg from Golborne in Greater Manchester to the north of Crewe, near Wimboldsley. The new site avoids the significant environmental impacts of the Golborne proposal and will be between HS2 (once built), the WCML and the A530 Nantwich Road
- Changes of up to 800m in the alignment of the route between Middlewich and Pickmere, and raising the route to better avoid salt brining and gas storage infrastructure, reduce underlying mining and geological risks during construction and operation, and better allow for drainage and options for ground stabilisation
- A change in the way the HS2 route approaches Manchester Piccadilly station. This avoids West Gorton community and primary school, resulting in the tunnel portal being within the existing Ardwick rail depot

Eastern Leg

- Routing HS2 around rather than under East Midlands Airport. The route follows the eastern side of the A42 and then the M1, before passing west of Kegworth in

a cutting up to 12m deep. This reduces engineering complexity and cost compared with the 2013 proposal.

- The M18 / Eastern route through South Yorkshire so that HS2 serves the existing station in Sheffield city centre and Chesterfield. A junction will also be developed to connect the existing rail network with the HS2 mainline north of Sheffield, to allow fast direct journeys between Sheffield and Leeds city centres. Having carefully considered the points made by respondents to the consultation and further advice from HS2 Ltd, the Secretary of State has decided that confirming the route as consulted in 2016 supports his strategic aims of serving South Yorkshire whilst maintaining the integrity of the service to the larger markets in Leeds, York and the North East and direct connectivity into northern city centres in support of the Northern Powerhouse ambition. The Secretary of State considers that this route performs better overall than the Meadowhall route against five strategic tests: demand; the needs of Sheffield and the wider region; connectivity with the existing rail network and the wider transport network; topography, urban density and the environment; and cost. The government’s conclusions are set out in more detail in the Phase 2b Route Decision document.

- At Long Eaton, the government consulted on two possible heights for the route (both using the same land corridor, immediately adjacent to the existing low-level rail line through the town). Having carefully considered all consultation responses, the Secretary of State has decided that HS2 should take the higher level, passing through Long Eaton on a viaduct. Whilst there is greater visual impact than the lower level alternative, it helps address concerns over flooding and permeability.

5.5 At Measham, in Leicestershire, the Secretary of State has decided not to proceed with the change of route consulted on in 2016, and is instead confirming a modified version of the 2013 route, approximately 80m to the east through Measham. This follows the line of the A42, and passes through the north western side of Measham before continuing to follow the A42 towards Tonge.

5.6 At the time of the November 2016 consultation, we explained that HS2 Ltd was actively looking at alternatives to the proposed Eastern Leg Rolling Stock Depot (ELRSD) at New Crofton. HS2 Ltd believes it has now identified a better site for the ELRSD, to the east of Leeds. The government is now consulting on this proposal.

Property Schemes

5.7 The government has today confirmed the property assistance schemes that will apply to the Phase 2b section of the route. The government has concluded that there are no significant differences between the route’s three phases to justify a new approach to property assistance schemes for Phase 2b. To this end, the government has decided to implement the same package of property compensation and assistance schemes for Phase 2b as those which are in place for Phase One and Phase 2a. We believe the package we are announcing today strikes the right balance between assisting those along the line of route and the government’s responsibility to the taxpayer.

5.8 We have carefully considered comments about the proposed rural / urban boundaries and as a result we have amended four of the five boundaries. This will result in more residents being eligible for the rural property schemes. Furthermore, we have also adjusted how the rural schemes apply to properties which are close to the railway line where it enters and leaves a deep tunnel, again bringing more
residents into the scope of these schemes. While this change will apply route wide it will have the greatest impact on properties along Phase 2b of the route.

5.9 We recognise that for those living along the line of route there will be concern over how HS2 will affect their homes, communities and businesses. The government and HS2 Ltd will continue to engage extensively with everyone affected to reduce the impact of HS2, and ensure that people are treated with fairness, compassion and respect. The statutory compensation package provides those whose homes need to be acquired for HS2 unblighted market value plus 10 per cent, plus moving costs.

5.10 A report published today by property specialists Carter Jonas tells us that the particular circumstance of the Shimmer estate development in Mexborough, South Yorkshire may mean this package may not allow homeowners to acquire a similar property in their local area. In light of the report’s findings, Government will ensure Shimmer homeowners can secure a comparable local home15.

Figure 5 The Y Network

15 The details of this support will be announced as part of a wide package of support for the residents of Shimmer and will reflect existing published Government guidance.
6. Maximising the potential of HS2

6.1 We want to make the most of HS2 as the new backbone of the UK rail network. HS2 services, including those from London as well as regional services from Birmingham, will provide a substantial boost to connections between cities in the North and the Midlands. For example, the regional HS2 services from Birmingham that are to be introduced in 2033 will directly connect the West Midlands with the North West, Scotland, Yorkshire and North East. In addition to this, we are also seeking to future proof HS2 where appropriate in support of Transport for the North (TfN) and Midlands Connect ambitions to transform the economies of the North and the Midlands.

6.2 Last year we set out that we would undertake a systematic review of options, including requests for new junctions. The planned construction of the HS2 network in the North will create some spare capacity that, with careful design, may be able to support further connectivity between regional city centres. Use of the HS2 network in this way may also allow development of parts of the national rail network for better intermediate passenger services and freight. All such proposals would need to reflect constraints around affordability and demonstrate value for money. In this context, it will be important for TfN and Midlands Connect to advise on the phased development of any such new connectivity.

Figure 6 Potential interfaces between HS2 and NPR / Midlands Connect
Northern Powerhouse Rail (NPR)

6.3 NPR is the shared ambition of government and Transport for the North to significantly improve the capacity, speed and frequency of train services between Manchester, Liverpool, Leeds, Sheffield, Newcastle, Hull and Manchester Airport. NPR aims to boost economic growth by developing fast, frequent, comfortable and reliable trains with enough capacity for commuting, business and leisure.

6.4 Together with TfN, the government is continuing to work with HS2 Ltd and Network Rail in support of these aspirations. We are looking to develop a clear set of proposals on the options below - which relate directly to the HS2 network - before the end of 2017. The following potential uses of Phase 2b could be reflected in the hybrid bill if practical and affordable propositions can be developed that deliver value for money for the taxpayer whilst ensuring significant benefits for passengers:

- Sheffield to Leeds - Using the M18 alignment for the Eastern Leg of HS2 to significantly improve connectivity between Sheffield and Leeds city centres, supporting a journey time of under 30 minutes. This would require a new junction off the HS2 line to the existing network north of Sheffield and possible electrification. The cost of the junction is already included within the Phase 2b cost estimate.

- Leeds and the North East - Potential new connections between the national network and the HS2 Eastern Leg both east and south of Leeds. These options could (a) make use of the HS2 line for faster services between Leeds and York / Newcastle, or (b) allow through-running at Leeds of NPR services using the HS2 line between Sheffield and York / Newcastle or Hull

- Manchester to Liverpool - Potential use of the HS2 Western Leg line to connect Liverpool to Manchester Airport and Manchester Piccadilly stations. This includes options to allow NPR services from Liverpool to continue from Manchester Piccadilly station towards Leeds and / or Sheffield

- Manchester Piccadilly - As recognised by the National Infrastructure Commission (NIC), an integrated solution at Manchester Piccadilly can contribute significantly to development of the Northern Powerhouse. It will be important to establish proposals for Manchester that deliver the benefits of better connectivity, value for money to the taxpayer, and make good use of HS2 capacity, without diluting the benefits of HS2 in the North

6.5 In parallel, the government is working with TfN to respond to the NIC’s High Speed North: A National Infrastructure Commission Report16 (March 2016).

Midlands Connect

6.6 Midlands Connect is a partnership of local authorities and local enterprise partnerships (LEPs) in the East and West Midlands. The ambitions of Midlands Connect are focussed around greater connectivity for the Midlands. In March 2017, Midlands Connect published a transport strategy, The Midlands Connect Strategy: Powering the Midlands Engine17. There are particularly strong synergies between the work of Midlands Connect and TfN with respect to the HS2 Eastern Leg.

6.7 The government has committed £17m to support Midlands Connect and we are working closely with the partnership to help them develop their transport strategy, and exploit synergies with HS2 Phase 2b where possible. This includes designing the East Midlands Hub station to enable local connectivity from Derby, Nottingham and Leicester. We are also considering options that make use of HS2 for improving connectivity between the East Midlands, Yorkshire and the North East.

Crewe Hub and Stoke-on-Trent

6.8 Crewe is already a key hub station on the existing rail network. It allows interchange between services to London, Manchester and Scotland; Chester and Liverpool; Stoke-on-Trent, Stafford and Derby; South Wales; and Shrewsbury and North Wales. It also serves a critically important role for national rail freight operations, with much of the freight traffic on the West Coast Main Line (WCML) routed through Basford Hall Yard, immediately south of Crewe.

6.9 Crewe’s existing links, and its place on the proposed HS2 network, are the reason Sir David Higgins in his reports *HS2 Plus* (March 2014) and *Rebalancing Britain* (October 2014), recommended a North West hub station should be considered at Crewe.

6.10 We believe there could be benefits from better integration between HS2 services and the existing network in a Crewe Hub. Following Sir David Higgins’ recommendation, the government asked Network Rail and HS2 Ltd to undertake technical work to examine options for a Crewe Hub, to allow additional HS2 services to call at Crewe, address the existing constraints and provide for future growth.

6.11 The government continues to support the vision for a Crewe Hub station and today is asking for views on options which could give Crewe and the surrounding region even better access to conventional and HS2 services. These options would be subject to consideration of a business case and affordability.

6.12 Funding the broader vision for a Crewe Hub station will require both central and local government to work together. The government is working with Cheshire East Council and the Constellation Partnership (formerly the Northern Gateway Partnership) to identify how they could invest in the scheme to ensure the wider local benefits can be fully realised, including improvements to the existing station buildings and the local road network.

6.13 As set out in the Crewe Hub Consultation, some of the options could also facilitate a service to Stoke-on-Trent. The government intends to take decisions on HS2 services for Stoke-on-Trent in 2019, as part of the Outline Business Case for Phase 2b.

South Yorkshire Parkway and Connectivity Study

6.14 HS2 Ltd has been looking at options for a potential parkway station to serve South Yorkshire, and possible extensions to HS2 services that would otherwise terminate at Sheffield Midland. The NIC recommended that the design of the northern phase of HS2 should enhance connectivity between Leeds and Sheffield, and TfN is developing its response. Further work on the parkway and service extension options will therefore reflect ongoing development of NPR as well. Any such proposals will need a convincing business case and demonstrate value for money.
Scotland, Cumbria and North East England

6.15 Scotland will be well served by HS2: Phase 1 will see faster trains to Glasgow and when Phase 2b opens, journey times between London and Glasgow / Edinburgh will be reduced to around 3 hours and 40 minutes. In March 2016, HS2 Ltd published *Broad options for upgraded and high speed railways to the North of England and Scotland*\(^1\). The report was welcomed by both governments and a joint commitment was made to work with Network Rail to identify options with strong business cases that could further improve journey times, capacity, resilience and reliability on routes between England and Scotland.

6.16 The UK and Scottish governments have been working closely with Network Rail and HS2 Ltd on options that could reduce the journey time to 3 hours. The first phase of this work has focused on understanding the interaction of HS2 with the renewal of ageing parts of the existing railway. Decisions will be taken forward as part of the normal rail network planning cycle. Options that are likely to have a strong business case will be considered for further development in the next phase of work.

Manchester Airport

6.17 The government remains very supportive of a HS2 station at Manchester Airport subject to the agreement of a local funding contribution. The government is working closely with Greater Manchester Combined Authority, Manchester Airports Group and other Greater Manchester delivery partners to this end.

6.18 TfN have placed emphasis on the importance of the HS2 Manchester Airport station within the context of the NPR plans. The HS2 Manchester Airport station, combined with suitable interchange connections to the airport terminals, would provide the opportunity to significantly improve connectivity in the North. This would support Manchester Airport’s role as the main hub airport in the North.

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7. Timetable and next steps

7.1 We plan to commence services on Phase One in 2026, Phase 2a in 2027, and Phase 2b in 2033. Preparatory construction work on Phase One has already commenced. The main civil engineering works will follow in 2019, preceded by a full business case for Phase One in 2018.

7.2 The hybrid Bill for Phase 2a has now been deposited and a consultation on the accompanying Environmental Statement and Equalities Impact Assessment has begun. Parliament controls the timetable for management of the hybrid Bill. We expect to start hearing petitions against the hybrid Bill in spring 2018.

7.3 HS2 Ltd will now take forward the preparation of the hybrid Bill and Environmental Statement for Phase 2b. We are now consulting on:

- Options for a Crewe Hub
- Moving the Eastern Leg rolling stock depot from New Crofton to Leeds
- The scope and methodology to be employed in the Phase 2b Environmental Impact Assessment and Equalities Impact Assessment

7.4 We expect to consult on the working draft environmental statement for Phase 2b, together with any potential route refinements, for example to future-proof HS2 for the TfN NPR ambitions, in 2018.

Figure 7 Overview of HS2 schedule