

High Speed Two 6-monthly report to Parliament: October 2022

Overview

I am reporting continued progress on High Speed Two (HS2) in this, the government's fifth update to Parliament.

Phase 1 (West Midlands to London) remains within the budget and schedule range, is hitting construction milestones, has made progress on key procurements and is supporting more jobs and apprenticeships than ever before.

HS2 Ltd are progressing key activities for phase 2a to support the next stage of delivery, and since the last report the phase 2b Western Leg Bill had its second reading in June 2022 and is progressing through the legislative stages.

This report shows how, at this important time, we are continuing to grow the economy and bring communities together across the North of England, Midlands and the South.

Key achievements in this reporting period (February to August 2022 inclusive) are:

- HS2 has now over 350 active sites between West Midlands and London, since 2017 over 950 apprentices have been recruited and as of September over 29,000 jobs are being supported.
- Laing O'Rourke Delivery Limited has been awarded the contract for the construction of HS2 Interchange Station at Solihull worth up to £370 million (in 2022 prices). The contract will involve the finalisation of the detailed design and the subsequent construction of the station.
- 'Dorothy' became the first tunnel boring machine (TBM) to complete its first bore and is now preparing for the second parallel tunnel. The 1-mile tunnel preserves the ancient woodland above at Long Itchington Wood. Four TBMs have now been launched on phase 1 and driven a total distance of approximately 8.4 miles.
- in May the Canterbury Road Vent Shaft became the first diesel-free work site on the HS2 programme. This is a significant step towards the project's aim to be net-zero carbon from 2035.
- the phase 2b Western Leg hybrid Bill secured its second reading in the House of Commons by 205 votes to 6 and the First Additional Provision (AP1) was deposited in July.

The report uses data provided by HS2 Ltd to the HS2 Ministerial Task Force for phases 1 and 2a and covers the period between February 2022 and August 2022 inclusive. Unless stated, all figures are presented in 2019 prices.

Programme update

Schedule

On phase 1 (London to West Midlands), delivery continues to accelerate towards peak construction next year. The forecast for initial services from Birmingham to Old Oak Common remains within the range of 2029 to 2033, with HS2 Ltd currently reviewing its detailed construction and systems installation schedules to address some pressures within this range.

Phase 2a (West Midlands to Crewe) remains on track to be delivered between 2030 and 2034. Land possessions and enabling works are underway. The next stage is to appoint the design and delivery partner who will oversee the construction phase, award the advanced civil works contracts and will begin the early stages of procuring the main works capacity.

On phase 2b Western Leg (Crewe to Manchester), the delivery into service date range remains 2035 to 2041 as provided in the strategic outline business case (SOBC).

Affordability

The approximate cost range for the elements of the scheme committed to by the government for phases 1, 2a, 2b Western Leg is £53 billion – £71 billion (in 2019 prices). This range does not include HS2 East which is at early stage of development and cost estimates are subject to further work from HS2 Ltd and Network Rail.

Phase 1 remains within its overall budget of £44.6 billion, which includes contingency held respectively by HS2 Ltd and by the government. The previous HS2 minister noted in his last report to Parliament his concern at the steady increase in cost pressures on phase 1 reported alongside drawdowns in contingency.

In accordance with the arrangements in its development agreement with the department HS2 Ltd has indicated that, if unmitigated, the final delivery cost is likely to exceed its target cost of £40.3 billion based upon its forecast of future spending. As a result, in September, the department commissioned HS2 Ltd to develop and implement actions to bring projected costs back in line with the target cost.

To date, out of the phase 1 target cost of £40.3 billion, £18.3 billion has been spent, with an additional £1 billion for land and property provisions. £10.6 billion has been contracted and has not been spent. The remaining amount is not yet under contract. The target cost does not include government-held contingency.

HS2 Ltd has drawn £1.5 billion of its £5.6 billion delegated contingency for phase 1, an increase of £0.2 billion since the last update, leaving about £4 billion.

HS2 Ltd is projecting around £1.9 billion of net additional cost pressures on

phase 1, an increase of about £0.2 billion since March.

Of the £1.9 billion, the key pressures are:

- An estimated £1.1 billion (increase of £0.3 billion since the last update) for potential additional main works civils costs stemming largely from lower than planned productivity and additional design costs.
- A pressure of £0.4 billion on the cost estimate for the HS2 Euston Station. The move to a smaller, less complex 10-platform single-stage delivery strategy at Euston, as confirmed in my predecessor's report, is now the basis for ongoing design work and other activities. The department anticipates that this will assist in addressing some of the cost pressure at Euston as the updated station design is developed over the coming months. This work will also consider and address the appropriate level of contingency that should be held to manage risks that are likely to arise during the construction of an asset of this complexity. I will provide further updates as this work progresses over the course of the next 18 months.
- A pressure of £0.3 billion (increase of £0.1 billion since the last update) against HS2 Ltd's budget for changes to Network Rail infrastructure at Euston and Old Oak Common that are required to operate the new HS2 stations.
- A further £0.1 billion of net cost pressures presenting on other parts of the programme. This is the aggregate total of smaller potential cost pressures.

£0.8 billion of net savings and efficiencies have been identified within phase 1. These principally consist of savings across the main works civils portfolio and savings in the acquisition and resale of land and property. These have partly offset gross cost pressures resulting in the net figure above.

On COVID-19 costs, HS2 Ltd's assessment of the likely financial impact of the pandemic on delivering phase 1 remains estimated within the range of £0.4 billion to £0.7 billion. Further claims are subject to detailed scrutiny by the government and will only be allocated against contingency once this assessment has been finalised. Further detailed claims are currently under review by HS2 Ltd and further updates will be provided in future Parliamentary reports.

Following confirmation of the move to the more efficient 10-platform station design and single-stage build at Euston Station, significant elements of the design work on the original 11-platform station can no longer be used. As the cost of this earlier design work has ceased to be of future benefit to HS2 Ltd, the related costs were reported as an 'impairment' in HS2 Ltd's published annual report and accounts for 2021/22.

The phase 2a budget remains unchanged, with a cost range of £5.2 billion to £7.2 billion. The government intends to set a target cost alongside publication of the full business case.

On phase 2b Western Leg the financial case of the SOBC published in January 2022 presented an estimated cost range of £15 billion to £22 billion. Removal of the Golborne Link from the scope of the phase 2b Western Leg Bill scheme has reduced the overall estimated cost range to £13 billion to £19 billion.

Consistent with the rest of the economy, the HS2 programme is experiencing high levels of inflation. HS2 Ltd is working with its suppliers actively to mitigate inflationary cost increases.

The Department for Business, Energy & Industrial Strategy and Office for National Statistics' September construction update showed that construction materials across all work in the UK have experienced inflation of 18% from August 2021 to August 2022. Whilst inflation is not affecting the overall affordability of HS2 in real terms because the total budgets and cost estimates for each phase are set in 2019 prices, it is creating pressures against its existing annual funding settlements, which have been set in cash. It is clear that HS2 Ltd and its supply chain must do all that they can to mitigate inflationary pressures.

Delivery

Work continues at pace on phase 1, with several significant developments to report. Across the programme HS2 Ltd report that they have moved 24.4 million m³ of earth, the equivalent of over 9,760 Olympic-size swimming pools' worth.

The new launching gantry 'Dominique' has installed the first decks of the Colne Valley Viaduct, which will be the longest railway bridge in the UK. The viaduct will carry the new high-speed line across a series of lakes and waterways on the north west outskirts of London.

Across the phase 1 route 8.4 miles of tunnel work has been driven so far. Progress has recovered well following an enforced shutdown to investigate and learn lessons from a small tunnel fire that took place in May this year. TBM Dorothy safely completed the first bore under Long Itchington Wood in Warwickshire in July.

At Old Oak Common Station, work continues with the Old Oak Common and Park Royal Development Corporation, the London Mayor and the Department for Levelling Up, Homes and Communities to bring forward proposals for the regeneration of the area around the station.

Stage 1 of the 2-stage design and build contract for Birmingham Curzon Street Station is expected to conclude later this year subject to agreement of an affordable target price.

In July, HS2 Ltd awarded the contract to design and build Interchange Station in Solihull to Laing O'Rourke Delivery Ltd. The contract, worth up to £370 million (in 2022 prices), will see work in two stages to finalise the detailed design and then build the station. HS2 Ltd continues to work collaboratively with private and public sector stakeholders to support the ambitions of the Urban Growth Company and the local authority to realise the economic and social benefits of HS2 and provide up to 30,000 new jobs and

3,000 new homes.

HS2 Ltd continues tendering for phase 1 and 2a rail systems packages (including track, catenary, mechanical and electrical, power, control and communications).

At Euston, HS2 Ltd and its construction partner, Mace Dragados, are continuing to optimise design and construction efficiencies. Work progressing on site includes demolitions, piling of the station box structure, the construction of a relocated London Underground traction sub-station, the creation of a new utility corridor and construction of a new six-storey site accommodation block.

In parallel, HS2 Ltd and Network Rail, with support from the Euston Partnership, are working together to develop a cost-effective design that provides integration between the HS2 station and the redevelopment of the Network Rail station and delivers value for money.

Lendlease, the government's master development partner at Euston, hosted the first in a series of public exhibitions and outreach events due to take place over the next year to gather feedback from the community and understand how proposals for a Euston Masterplan can support local aspirations.

On phase 2a, early environmental works continue at multiple sites along the route and the design for enabling civil works progresses at pace. Illegal protestors were successfully evicted from 2 key sites.

The phase 2b Western Leg Bill had its second reading in June 2022. The First Additional Provision (AP1) was deposited on 6 July, giving effect to Parliament's instruction to remove the Golborne Link from this Bill while alternatives are considered.

HS2 Ltd has held eight in-person events and three webinars ahead of depositing the first AP, attended by over 400 people. 134 petitions against the Bill and 21 against AP1 were received and a select committee is being convened to consider these petitions. A supplement to the SOBC was published at second reading, setting out the impact of removing the Golborne Link from the Bill on the scheme's business case. As the Bill progresses, HS2 Ltd is working to develop a robust future delivery strategy for the scheme.

The government is continuing work to develop plans for HS2 East, a new high-speed line between the West Midlands and East Midlands, which would enable HS2 to serve Nottingham and Sheffield (via Derby and Chesterfield).

Development of plans for HS2 East is being carried out by HS2 Ltd and Network Rail, in conjunction with work to electrify the Midland Main Line. The output of this work will be used to inform future decisions on how to progress the scheme, including how HS2 East can support economic growth aspirations in the region.

The government has recently provided funding to support the East Midlands Development Company to develop a revised HS2 Growth Strategy to reflect proposals for HS2 East.

Local community impact and engagement

Local impacts are unavoidable on a project of the scale of HS2. However, I expect HS2 Ltd to do its utmost to reduce disruption where it is reasonable to do so and to treat communities affected by construction with respect, sensitivity, and professionalism.

Independent construction inspectors continue to assess the considerate delivery of HS2 works. Following a public recruitment process, the government announced on 25 April that Stewart Jackson had been appointed for 3 years as the independent HS2 Residents' Commissioner.

The HS2 Helpdesk has recorded 181,585 enquiries or complaints since its launch in 2018. I am pleased that 100% of urgent construction enquiries and complaints between April and August 2022 have been responded to within 2 working days.

The Community and Business Funds (CEF and BLEF) are available to communities and business groups that are disrupted by construction of the railway. Over £12.4 million has so far been granted to 216 projects, helping HS2 to leave a positive legacy in areas near the new railway.

In its 2021 community engagement strategy, [Respecting People, Respecting Places](#), HS2 Ltd committed to continue to involve communities in opportunities to benefit and learn from the project. So far, 9,258 engagement activities have taken place along the line of route, with 101,614 people attending. HS2 Ltd has visited 91 primary schools involving 7,598 children in 'Playing it Safer' sessions.

Protestors have continued to target land required for construction of the railway. HS2 Ltd estimates that illegal protest has cost the project £36.5 million in direct costs and around £110 million in consequential costs such as delays to date.

HS2 Ltd has successfully enforced several civil injunctions. In September 2022 it was granted a route-wide injunction by the High Court prohibiting trespass on and obstruction of access to land owned by the Secretary of State that HS2 Ltd is entitled to possess. It is not intended to prevent lawful protest. The injunction is now active along the phase 1 and 2a routes. The injunction order contains provision for the injunction to be discharged or varied at any time and is relisted for renewal each May.

Land and property

In 2020, a comprehensive review of land and property acquisition led to 36 proposals for change, intended to improve the experience of property owners affected by the new railway.

I am pleased to report that, 2 years later, all 36 proposals have been progressed as far as possible, including HS2 Ltd's online portal that makes it much easier for property owners to track their claims. I continue to seek further improvements in the operation of HS2 land and property schemes and

the treatment of people impacted.

Environment

Over 800,000 trees and shrubs have been planted as part of HS2's Green Corridor.

HS2 continues to be at the forefront of efforts to decarbonise construction and to leave a positive environmental legacy. Since the last report, the first diesel-free construction site has started in action, including using the UK's only electric crawler cranes.

The programme has [successfully trialled hydrogen fuel cells](#) to replace large diesel generators, eliminating noise and air quality impacts for local residents. It has also made use of [cutting-edge Formula 1 technology](#) to use fuel more efficiently. New conveyor systems have been introduced, for example in Warwickshire, to reduce impacts to residents by reducing HGV traffic on local roads.

To support the achievement of biodiversity targets, £1.5 million of funding has been provided for 6 environmental enhancement projects in the Trent Sow Parklands and Cannock Chase Area of Outstanding Natural Beauty associated with phase 2a.

HS2 Ltd will publish the latest Environmental Sustainability Progress Report soon, which will provide up-to-date information on HS2's environmental impacts and activities. HS2 Ltd will also shortly publish its Ancient Woodland Summary Report with details of how it is mitigating impacts on these irreplaceable habitats.

Benefits

I am delighted that as of September HS2 is supporting over 29,000 jobs. To date 2,580 businesses are already working on the project, over 60% are SMEs and 97% are UK-based. The programme will create 2,000 apprenticeships, with over 950 having been recruited since 2017 and there have been 2,200 jobs starts by people who were previously workless.

The government will publish a HS2 Local Growth Action Plan later this year on how it will continue to support HS2 places to realise their local growth and regeneration ambitions.

On active travel the department has asked HS2 Ltd to assess making design changes in 5 more locations on phase 2a, in addition to the 20 locations HS2 Ltd is already committed to making design changes to on phase 1. HS2 Ltd is continuing to assess the feasibility of repurposing haul road and maintenance access tracks for local community benefit with pilot projects being progressed.

The government is exploring how we can support inward investment opportunities linked to HS2 and particularly how we can encourage large national and international investors to consider investing in places with HS2

stations and the surrounding areas.

Programme governance and controls

An updated [HS2 Ltd framework document](#) was published in August. It governs the corporate relationship between the department and HS2 Ltd, confirming key responsibilities, accountabilities and expectations.

I will provide an update on the recruitment of a permanent chair for HS2 Ltd in my next report. Until the permanent chair is in place, Sir Jonathan Thompson will continue to chair board meetings in his capacity as deputy chair.

Forward look

On phase 1, preparation continues for a TBM launch at Long Itchington Wood to create the second bore, before this TBM is moved to Bromford Tunnel in Birmingham. Following the recent successful launch from West Ruislip of the TBM named Sushila by local schoolchildren, preparations are underway for the next TBM to be launched from this site shortly.

In the next 6 months, HS2 Ltd will further develop its approach to managing the supplier alliance that will be delivering the rail systems packages such as track installation, overhead catenary and signalling systems.

This will include developing and testing its internal processes and systems to manage the integration risk between the fourteen different suppliers, development of its leadership capability and the evolving governance arrangements as it moves from a civils led programme to a systems and operability led programme.

I will continue to engage closely with Parliament and will provide my next update in Spring 2023.

Financial Annex ^[1]

Forecast costs by phase (2019 prices)

| Phase | Target cost | Total estimated costs range [2] |
|---|------------------|---|
| 1 | £40.3 billion | £35 billion to £45 bn |
| 2a | To be determined | £5 billion to £7 billion |
| 2b Western Leg | To be determined | £13 billion to £19 billion ^[3] |
| HS2 East (West to East Midlands) ^[4] | To be determined | To be determined |

[1] The numbers set out in the tables have been rounded to aid legibility. Due to this, they do not always tally.

[2] Rounded to the nearest billion.

[3] Removal of the Golborne Link from the scope of the phase 2b Western Leg

Bill scheme reduces the overall estimated cost range of the phase 2b Western Leg to £13 billion – £19 billion.

[4] The government confirmed in the Integrated Rail Plan (IRP) that a high-speed line between the West and East Midlands (known as HS2 East) will be taken forward, with HS2 trains continuing to Nottingham and to Chesterfield/Sheffield (via Derby) on the upgraded conventional rail network.

Historic and forecast expenditure (2019 prices, including land and property)

| Phase | Overall spend to date (£ billion) | 2022 to 2023 budget (£ billion) | 2022 to 2023 forecast (£ billion) | Variance (£ billion) |
|---|-----------------------------------|---------------------------------|-----------------------------------|----------------------|
| 1 ^[5] | 19.3 | 5.0 | 5.3 | 0.3 ^[6] |
| 2a | 0.8 | 0.3 | 0.2 | -0.1 |
| 2b Western Leg | 0.6 | 0.3 | 0.2 | -0.1 |
| HS2 East (West to East Midlands) & East Midlands to Leeds HS2 | 0.7 ^[7] | 0.1 | 0.0 | -0.1 |
| Eastern Leg (West Midlands to Leeds) | | | | |
| Total | 21.4 | 5.7 | 5.7 | 0.0 |

[5] Spend to date includes a £1 billion liability (provision) representing the department's obligation to purchase land and property.

[6] The total variance of £0.3 billion on phase 1 is due primarily to additional design costs within the main works civils contracts (MWCC).

[7] The government is proceeding with HS2 East (the new high-speed line between the West and East Midlands) (HS2 East) and is providing £100 million to look at the most effective way to run HS2 trains to Leeds, including understanding the most optimal solution for Leeds Station capacity, and starting work on the new West Yorkshire Mass Transit System. As at the end of August 2022, £0.65 billion had been spent developing the HS2 Eastern Leg to Leeds, including workforce costs. A substantial proportion of this has been spent on HS2 East (the West to East Midlands section of the HS2 Eastern Leg), which is proceeding as confirmed in the IRP. £0.15 billion has been spent on land and property along the full HS2 Eastern Leg to Leeds, and again a substantial proportion of that land and property spend is along the section confirmed in the IRP between the West and East Midlands. Any land or property not ultimately required for the railway will be resold, enabling the government to recover costs.

Evolution of phase 1 HS2 Ltd contingency (2019 prices) drawdown over last 5 Parliamentary reports

| | Oct 2020 report | Mar 2021 report | Oct 2021 report | Mar 2022 report | Oct 2022 report |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Total HS2 Ltd contingency drawdown and % used | £0.3 billion (5%) | £0.4 billion (7%) | £0.8 billion (14%) | £1.3 billion (23%) | £1.5 billion (28%) |
| Total HS2 Ltd contingency remaining | £5.3 bn (95%) | £5.2bn (93%) | £4.8bn (86%) | £4.3bn (77%) | £4.0bn (72%) |

Evolution of phase 1 government-retained contingency (2019 prices) drawdown over last 5 Parliamentary reports

| | Oct 2020 report | Mar 2021 Report | Oct 2021 Report | Mar 2022 Report | Oct 2022 Report |
|--|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|
| Total government-retained contingency drawdown and % used | used £0 billion (0%) | £0 billion (0%) | £0 billion (0%) | £0 billion (0%) | £0 bn (0%) ^[8] |
| Total government-retained contingency remaining | £4.3 billion (100%) | £4.3 billion (100%) | £4.3 billion (100%) | £4.3 billion (100%) | £4.3 billion (100%) |

[8] As highlighted in the October 2021 report, £0.015 billion has been allocated to enable Old Oak Common to increase the number of trains it serves before opening services to Euston Station from 3 to 6 trains per hour but has not yet been drawn down from government-retained contingency.