



National Audit Office



REPORT

# High Speed Two: Euston

Department for Transport, High Speed Two Ltd

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SESSION 2022-23  
27 MARCH 2023  
HC 1201

## Key facts

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**£2.6bn**

High Speed Two Ltd's (HS2 Ltd's) budget for High Speed Two (HS2) Euston station (2019 prices)

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**£4.8bn**

HS2 Ltd's estimate for HS2 Euston station as at March 2023 (2019 prices)

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**£548mn**

spend on HS2 Euston station as at the end of December 2022 (in cash terms)

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**February 2020** The Oakervee Review was published, raising concerns about the HS2 Euston station, including design and governance

**Autumn 2021** The Department for Transport (DfT) made several decisions about the design of the HS2 station at Euston:

- A reduction from 11 to 10 platforms, built in a single stage rather than in two
- A requirement to integrate more closely with Network Rail's redevelopment of the existing rail station
- The extent of the over site housing and commercial developments above and around the station that HS2 Ltd needed to incorporate into the project

**£106 million** HS2 Ltd's spend on design and development of options that have not been taken forward following autumn 2021 decisions (in cash terms)

**March 2023** Following an announcement by the Secretary of State for Transport, DfT will pause new construction work on the HS2 Euston station for the next two years to reduce spend over that period and to give it time to develop an affordable and deliverable design

**£1.5 billion** HS2 Ltd's spend on land purchases and preparatory works for Euston station and its approaches as at the end of December 2022 (in cash terms) that draws from the wider HS2 Phase One budget rather than the Euston budget

# Summary

**1** The High Speed Two (HS2) programme aims to construct a new high speed, high-capacity railway between London, the West Midlands and the north of England. HS2 is the government's largest infrastructure programme by value and many of its component parts are large and complex projects in their own rights. Phase One of the programme is under construction and covers the route between London and the West Midlands.

**2** Euston will be the London terminus station for HS2. There are three major projects taking place here as part of a wider Euston programme (the Euston programme). These are:

- **HS2 Euston station** – a new station led by High Speed Two Ltd (HS2 Ltd), which is responsible for delivering the HS2 programme;
- **Network Rail Euston station** – redevelopment of the Euston conventional station led by Network Rail, which manages the rail infrastructure in Great Britain; and
- **Over Site Development** of the Euston site above and around these two stations, providing a redesigned space and new housing and commercial plots, led by Lendlease, a private property development company.

The Department for Transport (DfT) is the sponsor of all three projects and is responsible for funding and overseeing their delivery.

**3** In January 2020 we reported that the work at Euston was more complex than DfT had originally anticipated and that there was uncertainty over the HS2 station design. The design at that time was for 11 platforms to be built in two stages. Government commissioned the Oakervee Review (the Review), which published in February 2020 and concluded that the HS2 Euston station design and approach were not satisfactory: it added unnecessary cost, did not meet stakeholders' ambitions and there was limited joined-up thinking between work on the HS2 station and the Network Rail station. The Review recommended that the DfT senior responsible owner should lead a study reviewing the station as a whole and develop a single plan for the wider Euston programme, with one organisation responsible for the programme's development and governance.

**4** In November 2020, following a review of options into the design of the station and how it would be built, DfT instructed HS2 Ltd to proceed with a simpler station design and build approach for the Euston project, reducing the platforms to 10 and building in one stage. In September 2021, DfT also instructed HS2 Ltd to integrate the design more closely with the Network Rail station. As at the end of December 2022, HS2 Ltd had spent £0.5 billion (in cash terms) on the HS2 Euston station, along with a further £1.5 billion on land purchases and preparatory works for the station and its approaches that draws from the wider HS2 Phase One budget rather than the Euston budget.

### **Scope of report**

**5** Following the changes to the HS2 Euston station since we last reported in January 2020,<sup>1</sup> this report assesses whether DfT and HS2 Ltd are now set up to effectively manage the risks to value for money at Euston station. We examine:

- whether DfT and HS2 Ltd have addressed the issues identified in early 2020 relating to the scope of the HS2 Euston station design and whether they are managing to stay within budget; and
- what steps DfT has taken to improve its governance and integration arrangements across the three projects within the wider Euston programme and whether appropriate delivery arrangements are now in place to achieve value for money.

We do not examine progress on the rest of the HS2 programme or undertake a detailed examination of the other two projects at the Euston site.

**6** The fieldwork for this report was completed ahead of the decisions by DfT and HS2 Ltd in March 2023 on how to manage wider inflationary cost pressures. We have not examined the steps taken by HS2 Ltd and DfT to manage affordability on the wider HS2 programme and its impact on the Euston station project. All costs are in 2019 prices unless otherwise indicated.

<sup>1</sup> Comptroller and Auditor General, *High Speed Two: A progress update*, Session 2019-20, HC 40, National Audit Office, January 2020.

## Key findings

The station redesign and affordability challenge

**7 In February 2020, the Oakervee Review raised concerns about the design of the HS2 Euston station.** The Oakervee Review was prepared to inform a decision by government about whether and how to proceed with HS2. The Review highlighted that the Euston station was an important part of realising the benefits of the HS2 programme but that construction work at this location was very challenging. There are three connected projects at Euston – HS2 Euston; Network Rail Euston station redevelopment; and Over Site Development above and around the stations. The Review concluded that the existing design for HS2 Euston, first proposed in 2015, was not satisfactory. It included 11 platforms and a two-stage build and was found to increase costs and not meet the aspirations of key stakeholders. Oakervee recommended a study looking at the efficiency of the future station as a whole (paragraphs 1.3, 1.5 and Figure 2).

**8 In April 2020, HS2 Ltd set a budget of £2.6 billion for the HS2 Euston station, but by June 2020 it had estimated that it could cost as much as £4.4 billion.** As part of the overall budget set by DfT for HS2 Phase One in April 2020, HS2 Ltd planned to design and build the station for £2.6 billion. This was based on HS2 Ltd's early estimate for the 2015 station design. HS2 Ltd had estimated around £0.7 billion of uncertainty for the station, but only allocated £0.3 billion from the contingency it held because it needed the funds for other parts of the HS2 programme. HS2 Ltd carried out further reviews from late 2019 which, by June 2020, indicated that progressing with the existing design could cost as much as £4.4 billion. This was because of the complexities of the project and the time to complete a two-stage build. Around the time of setting the £2.6 billion budget, both DfT and HS2 Ltd had underestimated the extent of the complexity of the HS2 Euston station and surrounding Over Site Development and how estimated costs would increase over time. Both HS2 Ltd and DfT consider that, in hindsight, HS2 Ltd should have agreed a greater risk provision with DfT to cover the uncertainty around Euston station as part of setting the budget (paragraphs 2.2 to 2.6).

**9 In autumn 2021, DfT confirmed a revised plan for the HS2 Euston station but the uncertainty until then led to HS2 Ltd progressing some designs that were subsequently changed.** While DfT sought to minimise nugatory spend, HS2 Ltd could no longer use much of the previous design work, at a cost of £106 million (in cash terms). DfT and HS2 Ltd responded to design concerns raised in the Oakervee Review and rising cost pressures by revisiting the design of the station. In addition to the redesign of the station itself, DfT also needed to take account of the impacts on other infrastructure projects at Euston which could affect, or be affected by, the HS2 Euston station. Following advice from delivery partners, DfT confirmed the scope during autumn 2021 through instructions to HS2 Ltd on:

- **changing to 10 platforms and a single-stage build.** In November 2020, DfT had instructed HS2 Ltd to pause work on the 11-platform design to reduce nugatory costs and begin development on the new design. On completion of further work, DfT confirmed that HS2 Ltd should continue with the new design in September 2021;
- **integrating the work at HS2 Euston with redevelopment of the Network Rail station.** In September 2021, DfT instructed HS2 Ltd to integrate its design with the planned redevelopment of the Network Rail Euston station. DfT later confirmed this decision in November 2021, following the 2021 Spending Review; and
- **the ambition for Over Site Development work.** DfT instructed HS2 Ltd to explore options to support more Over Site Development to maximise the wider benefits from the site, including from greater regeneration of the area. However, HS2 Ltd estimated that the costs of the enabling works required to support such development exceeded the available budget for HS2 Euston. DfT considered funding this work from the expected proceeds from the sale of land, but HM Treasury rejected that approach in March 2021 on the basis that the case for additional investment was uncertain. DfT therefore approved a further study by HS2 Ltd to examine Over Site Development options and, following its recommendations, DfT subsequently instructed HS2 Ltd in September 2021 to proceed with a development option within the existing budget. This led to further changes in design (paragraphs 2.7 to 2.14).

**10 The revised HS2 Euston station design addresses previous issues relating to the design and build of the station but it did not solve the challenge of designing a station within budget.** In April 2020, in response to the Oakervee Review, DfT commissioned HS2 Ltd to undertake a study of four design options. Two of these were more expensive than the existing design. DfT agreed with HS2 Ltd's recommendation to proceed with the option of a 10-platform station to be built in a single stage, with enhanced support for Over Site Development. However, the estimated cost for this option exceeded the budget of £2.6 billion (paragraphs 2.7 to 2.9 and Figure 5).

**11 HS2 Ltd and DfT cannot deliver the current HS2 Euston station design within budget.** While the 10-platform design DfT chose in November 2020 was estimated at the time to be less expensive than the previous 11-platform design, it still exceeded the available budget by £1 billion. As the design work on the chosen option progressed, DfT and HS2 Ltd conducted a series of further reviews to reduce the station's estimated cost. HS2 Ltd worked with its construction partner and other stakeholders to identify more than 600 areas of savings, for example through further design work and revisions to commercial arrangements. Despite the significant focus on affordability, in September 2022 DfT's independent technical reviewer reported to DfT that it was not likely that the project could be delivered within budget. The reviewer also highlighted that delivering within HS2 Ltd's reported estimate of £3.3 billion at that time would be a significant challenge. In March 2023, HS2 Ltd reported to DfT that, following detailed work, the revised estimated cost now stood at £4.8 billion, £2.2 billion above HS2 Ltd's budget for the station (paragraphs 2.15 to 2.19 and Figure 7).

**12 Budget pressures on HS2 Euston station have now been compounded by inflationary cost pressures across DfT's capital programme, which DfT will need to manage closely.** DfT is facing significant inflationary cost pressures across its spending on major infrastructure projects. For example, the forecasting tool that HS2 Ltd uses as the basis of its annual cash budgeting with HM Treasury predicted in 2020 that there would be a fall in prices between December 2019 and August 2022. The revised forecasts made in 2022 estimated an inflation rate of around 18% in that period. HM Treasury's standard approach, reaffirmed in the 2022 Autumn Statement, is that departments must absorb inflationary pressure within their existing budgets in the first instance. To manage this, DfT worked with its arm's-length bodies to consider the impacts of capital spending being deferred, descope or cancelled. This has included the HS2 programme where DfT had understood that – subject to certain conditions – HM Treasury would consider support if existing funds were insufficient to cover high inflation. DfT and HM Treasury will need to consider how best to control the budget for the HS2 programme in future years, as its large size and uncertainties around inflationary pressures make it difficult to manage as part of its wider infrastructure spending. HM Treasury set out that it is open to considering the case for additional funding and has been in discussion with DfT on how they might manage future cost pressures (paragraphs 2.20 to 2.23).

**13 DfT and HS2 Ltd will pause new construction work at HS2 Euston for the next two years while they look again at how to achieve an affordable and deliverable design that provides value for money. As a result of this pause there will be additional costs and overall spend could increase.** Following an announcement by the Secretary of State for Transport in March 2023, DfT is deferring work on HS2 Phase 2a (between Birmingham and Crewe) and on Euston station to manage inflationary pressures. The impact of deferring spending on the HS2 programme in the short term will be additional costs and could lead to an overall increase in spend in the long term. This is due to the costs of, for example, its supply chain stopping and re-starting work; contractual changes; and managing the site and project for longer. DfT and HS2 Ltd do not yet know what the impact of this pause will be on the overall schedule of the HS2 Euston station and when it will open. As well as considering that and what the impact will be on other activity and stakeholders at Euston, HS2 Ltd and DfT are looking again at the design of the HS2 station. In doing so, they will need to satisfy themselves that any revised design is affordable, deliverable and provides value for money (paragraphs 2.24 and 2.25).

#### Governance and integration across the Euston programme

**14 In February 2020, the Oakervee Review concluded that governance arrangements at Euston needed to change.** The Review found that the governance arrangements between the three projects at Euston were unclear and there needed to be better integration and coordination between stakeholders. Around the same time, DfT also identified that the governance arrangements at Euston were sub-optimal, and that it needed to put in place long-term arrangements to maximise benefits and build momentum. The main issues related to delivery bodies' abilities, through existing arrangements, to make strategic trade-offs between projects; coordinate projects at different stages of maturity; and work collaboratively. These issues arose in part because there are three separate projects, started at different times, led by different delivery bodies, and with different business cases. Without changes to the governance arrangements, there was a greater risk of not achieving the best outcomes for the programme as a whole (paragraphs 3.2 and 3.3).



**15 DfT established the Euston Partnership to better join up the different bodies at Euston but this has not resolved all issues around managing integration.**

After considering different options for improving delivery at Euston, in February 2021 DfT selected a model that built on the interim measures it had already put in place from June 2020. The Euston Partnership is an unincorporated joint venture between DfT, HS2 Ltd and Network Rail that provides an advising and convening function to improve integration across the Euston programme. It is not a decision-making authority: DfT retains responsibility for decisions on funding; and the delivery bodies remain responsible for delivery and managing risk. Delivery bodies and wider stakeholders have found it difficult to manage competing priorities and agree decisions, especially as there is no efficient mechanism for the delivery bodies to trade off between them the scope of their work and associated funding (paragraphs 3.4 to 3.9 and Figure 9).

**16 DfT and its delivery bodies do not yet have a comprehensive integrated plan for the programme of work across the three projects at Euston, which increases the risk on works across the whole programme.** Managing the integration of the three projects at Euston is particularly challenging because the projects are at different stages. In November 2021, DfT instructed HS2 Ltd to integrate its design with the planned redevelopment of the Network Rail Euston station. Integration is intended to create cost efficiencies, improve passenger experience and reduce overall construction time. The need to integrate projects has added complexity to the HS2 project as the redevelopment of the Network Rail station project is at a much earlier stage and designs have been changing. However, the pause on new construction on the HS2 project may bring their timetables closer together. Work on integrating the projects is under way, including identifying how critical activities align to each other. However, there is not yet a comprehensive and detailed integrated plan for the whole programme of works at Euston, which makes it harder to identify and manage key interactions and dependencies between the projects (paragraphs 3.10 and 3.11 and Figure 10).

**17 To maintain momentum HS2 Ltd had proceeded with integration work despite the uncertainty and additional risk to the HS2 station from the Network Rail Euston station project not yet being funded.** The two stations are expected to be owned and operated separately but they need to be delivered alongside each other. HS2 Ltd has proceeded with design work on the assumption that both it and the Network Rail project will be funded and they will be able to take an integrated approach. However, the outline business case for the redevelopment of the Network Rail station is not expected to be approved until spring 2023, and it is not clear if Network Rail can deliver it within its initial estimate of £1.3 billion to £1.55 billion. Until the decision to pause new construction work on the HS2 Euston station in March 2023, HS2 Ltd had therefore proceeded under the risk that designs may be further amended or that early decisions taken now may constrain later designs (paragraphs 3.10, 3.12 and 3.13).

**18 In December 2022, DfT conditionally agreed to proceed with a model for delivering the projects at Euston. It is still work in progress so it is not yet clear whether it will fully address the challenges experienced to date, especially following the decision to pause new construction on the HS2 Euston station.** During 2022, DfT reviewed the delivery arrangements for integrated working at Euston, as part of establishing the delivery model for the Network Rail station and to address ongoing risks to delivery. In December 2022, DfT agreed to the proposed model put forward by HS2 Ltd and Network Rail. The approval is subject to the delivery bodies implementing their planned changes, which the Euston Partnership will be responsible for monitoring. The plan will include HS2 Ltd and Network Rail agreeing specific responsibility for each area of joint work, as well as establishing a more efficient contracting mechanism to exchange scope and funding between them. Some elements are still to be determined, such as improving collaboration and how the integrator function will work to address ongoing issues. DfT and the other bodies are undertaking further work over the next 18 months on how the delivery model will work in practice, alongside the impact of the decision to pause new construction work on the HS2 Euston station (paragraphs 3.14 to 3.16 and Figure 11).

## **Conclusion**

**19** DfT's and HS2 Ltd's attempt to reset the programme since 2020 has not succeeded and further action is now required to develop an affordable and viable station. DfT and HS2 Ltd have been working to reach an affordable solution since 2015, but this highly complex project continues to present significant challenges. While it was necessary to look again at the design and costs of the station in 2020, the budget for Euston station was fixed too early and too low for what was intended to be achieved. DfT and HS2 Ltd have made efforts to reduce costs and improve governance. However, they have not been able to develop an affordable scope that is integrated with other activity at Euston and a further reset is required.

**20** The changes DfT has announced to the HS2 programme provide the time that may allow it and HS2 Ltd to move the Euston project forward on a more stable footing. However, the deferral of spending to manage inflationary pressures will lead to additional costs and potentially to higher spend overall for the project that will need to be managed closely. A successful reset will need DfT and HS2 Ltd to have a clear understanding of the costs, risks and benefits of their chosen design for the HS2 station within the wider Euston programme, supported by a realistic budget, clear and effective governance and integration arrangements, and long-term certainty on the scope of the project. DfT and HS2 Ltd cannot yet demonstrate that the conditions are in place to secure value for money.

## Recommendations

- a** As part of planning an affordable and deliverable station, DfT and HS2 Ltd should learn lessons from how other projects have approached a reset, including those we set out in our report on resetting major programmes.<sup>2</sup> This will include having clear aims for the reset and establishing clear measures to monitor its success.
- b** DfT should work with the Euston Partnership, HS2 Ltd, Network Rail, Lendlease and local partners to clarify a shared understanding and expectations for the Euston programme in light of the changes and the affordability challenge. This should include reviewing or revisiting:
- the risks and opportunities that the change provides and how these are managed;
  - the budget for the project against the shared expectations for the programme;
  - the benefits DfT and other stakeholders will look to achieve, which will assist with further trade-off decisions across the programme;
  - how it can help HS2 Ltd and Network Rail establish the culture required for effective collaboration across its delivery partners and wider stakeholders;
  - the roles of each partner in the decision-making processes; and
  - what authority can be delegated to the Euston Partnership, HS2 Ltd and Network Rail to help ensure timely decision-making, particularly where trade-offs need to be made.
- c** DfT and HS2 Ltd should apply the lessons from Euston to the HS2 Manchester stations and other parts of Phase 2b of the HS2 programme. These should include:
- ensuring that a robust estimate is used to set the budget and contingency, supported by appropriate assurance and a clear understanding of how cost risks are shared; and
  - putting in place appropriate governance arrangements that fully support integration and collaboration between the expected range of stakeholders involved. Such arrangements should be identified from the start to avoid being constrained by future decisions.

<sup>2</sup> Comptroller and Auditor General, *Lessons learned: Resetting major programmes*, Session 2022-23, HC 1198, National Audit Office, March 2023.

- d** DfT should ensure that the decisions it and HM Treasury make on the Network Rail station's outline business case provide the long-term clarity required on the extent to which the two stations need to integrate. This should reduce the risk of further change to the HS2 station design from integration with the Network Rail station.
- e** DfT should revise the anticipated HS2 programme schedule, costs and benefits to reflect recent decisions on scope and schedule.
- f** DfT, HS2 Ltd and HM Treasury should consider how best to manage the budget for the HS2 programme to best protect value for money. This should include consideration of:

  - re-setting HS2 budgets and costs in 2023 prices to maintain a clearer view of costs, and agreeing how regularly these should be re-baselined in future;
  - whether inflation risk is best held by DfT or with HM Treasury on a programme of this size, given the difficulty of managing it at a departmental level;
  - how far forward annual budgets can be reasonably set when there are high levels of uncertainty around inflation;
  - revisiting financial controls that allow for flexibility in spend between years, and whether these need to be increased; and
  - identifying opportunities for contractual changes with the supply chain that will incentivise management of costs and inflation.