



National Audit Office



REPORT

High Speed Two: Euston

Department for Transport, High Speed Two Ltd

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High Speed Two: Euston

Department for Transport, High Speed Two Ltd

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

23 March 2023

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Key facts

£2.6bn

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

£4.8bn

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

£548mn

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

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 2020,¹ 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.

¹ 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.² 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.

² 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.

Part One

Background

1.1 The High Speed Two programme (HS2) 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. Four new stations will also be built as part of Phase One, including at Euston.

1.2 In January 2020, we reported that the work at Euston was more complex than originally anticipated and that there was uncertainty over the HS2 station design. In February 2020, the government-commissioned Oakervee Review (the Review) reported on HS2, including activity at Euston station. This part provides a background to Euston station, the key organisations involved at the site, the Review and a timeline of key events referred to in this report.

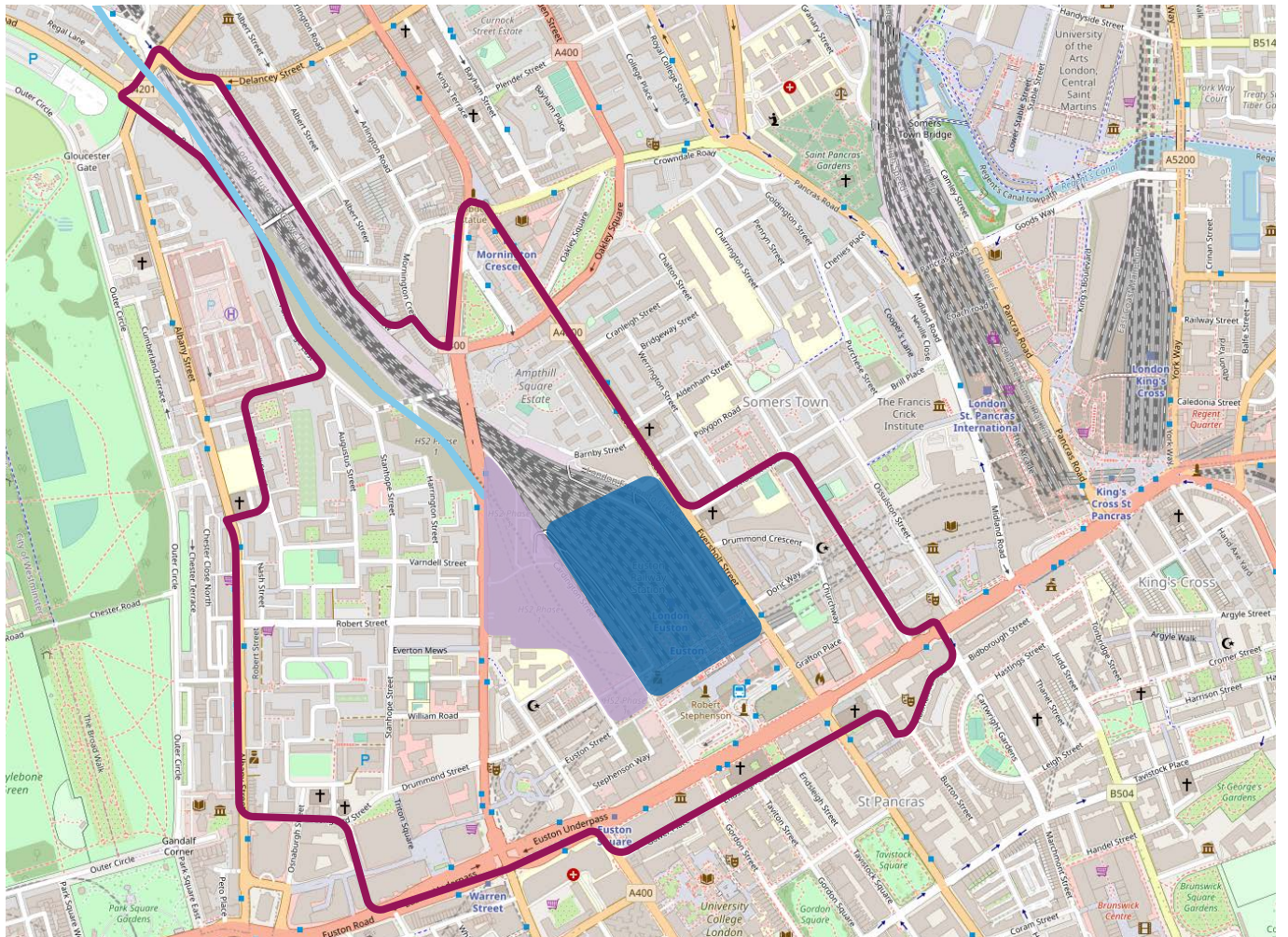
Background to Euston station

1.3 Euston will be the London terminus station for HS2. The site where the station will be built is a busy and built-up area of businesses and homes (**Figure 1** overleaf). In addition to the difficulty of planning and completing construction work in that environment, there are three connected major projects under way as part of a wider Euston programme (the Euston programme) (**Figure 2** on page 17). These are:

- **HS2 Euston station** – a new station for HS2;
- **Network Rail Euston station** – redevelopment of the existing Euston station; and
- **Over Site Development** – development of the Euston site above and around these two stations, providing a redesigned space and new housing and commercial property.

Figure 1
Map of the Euston site and approach route for High Speed Two (HS2)

The HS2 Euston station is being constructed in a built-up residential area alongside the existing Network Rail station



- Euston Area Plan border¹
- HS2 route
- HS2 station
- Conventional Euston station

Notes

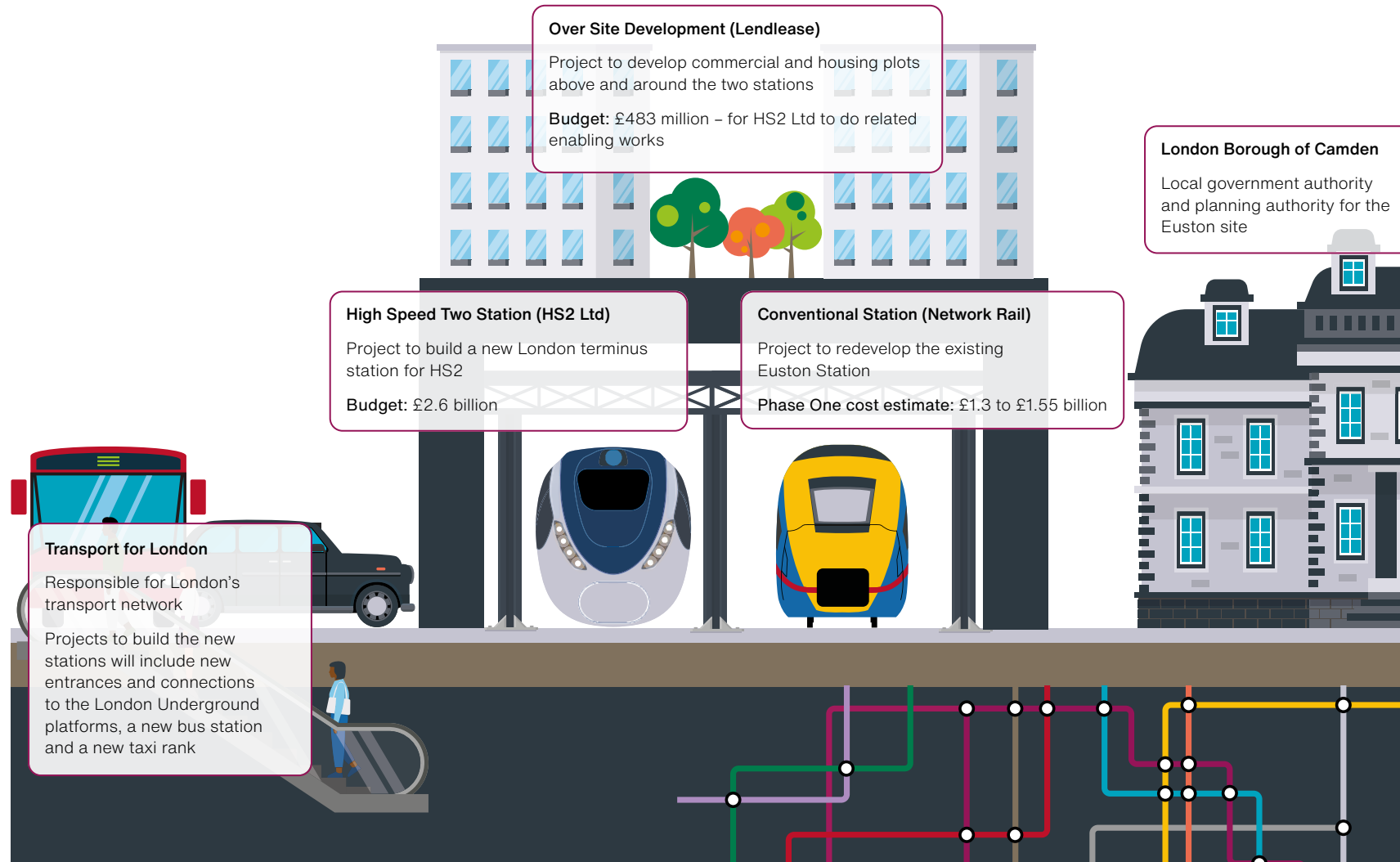
- 1 Approximate boundary of the Euston Area Plan (EAP), which is expected to be finalised in 2024. The EAP has been developed by London Borough of Camden, the Greater London Authority and Transport for London to develop and regenerate the area.
- 2 Over Site Development of commercial and housing plots will be above and around the two stations.

Source: National Audit Office review of Department for Transport information, using map data from OpenStreetMap. OpenStreetMap data are available under the Open Database License (www.openstreetmap.org/copyright)

Figure 2

Major projects and existing transport infrastructure at Euston

There are three projects under development at Euston station – High Speed Two (HS2) station, Network Rail station, and Over Site Development – alongside existing transport infrastructure



Note

- 1 The budget we report for the Over Site Development project relates solely to the element that the Department for Transport will be funding as part of the HS2 Euston station and approaches, of which around £0.4 billion is ringfenced within the £2.6 billion budget for the station.

Source: National Audit Office review of Department for Transport information

1.4 The Department for Transport (DfT) initiated the three projects separately and at different times. They each have their own supporting business case and different delivery bodies and delivery timetables. As the projects were not conceived as a single programme, there is no overarching Euston programme business case setting out for example, collective benefits or how the projects would be managed together. In 2018, DfT decided to govern these projects as a single programme under one senior responsible owner in DfT. There are many organisations and local stakeholders involved at the Euston site. The key organisations are shown in **Figure 3**.

1.5 In February 2020, the Oakervee Review, which had been commissioned to inform a government decision as to whether and how to proceed with HS2, was published. In considering Euston, the Review highlighted that the station was an important part of realising the benefits of the HS2 programme but that construction work at this location was complex and very challenging. The Review concluded that the existing design, first proposed in 2015, was not satisfactory, added unnecessary cost and did not meet the aspirations of key stakeholders. It also pointed to the limited joined-up thinking between HS2 Ltd and Network Rail, and recommended that Euston should be viewed as one station to improve the efficiency of the future Euston station as a whole.

1.6 The remainder of this report examines:

- 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 (Part Two); 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 (Part Three).

An overview of key events at Euston between 2020 and 2023 is shown in **Figure 4** on page 20.

Figure 3

Key organisations at Euston

There are a number of organisations involved with the projects at Euston

Organisation	Description
Department for Transport (DfT)	Sponsor of all three projects at Euston and parent department for HS2 Ltd and Network Rail.
High Speed Two Ltd (HS2 Ltd)	Delivery body responsible for delivering the high-speed rail network, including the design and build of the High Speed 2 (HS2) station at Euston.
Network Rail	Delivery body responsible for maintaining and enhancing the rail network in Great Britain, including major mainline stations such as Euston.
Lendlease	Master Development Partner, a private property development company responsible for the Over Site Development project above and around the two stations.
The Euston Partnership	The partnership established between HS2 Ltd, the Secretary of State for Transport and Network Rail to improve collaboration and joint working between all partners working at Euston. Initially set up in June 2020 as an interim solution, before being formally established in December 2021.
London Borough of Camden	Local government authority and planning authority for the Euston site.
Transport for London	Authority responsible for London's transport network.

Note

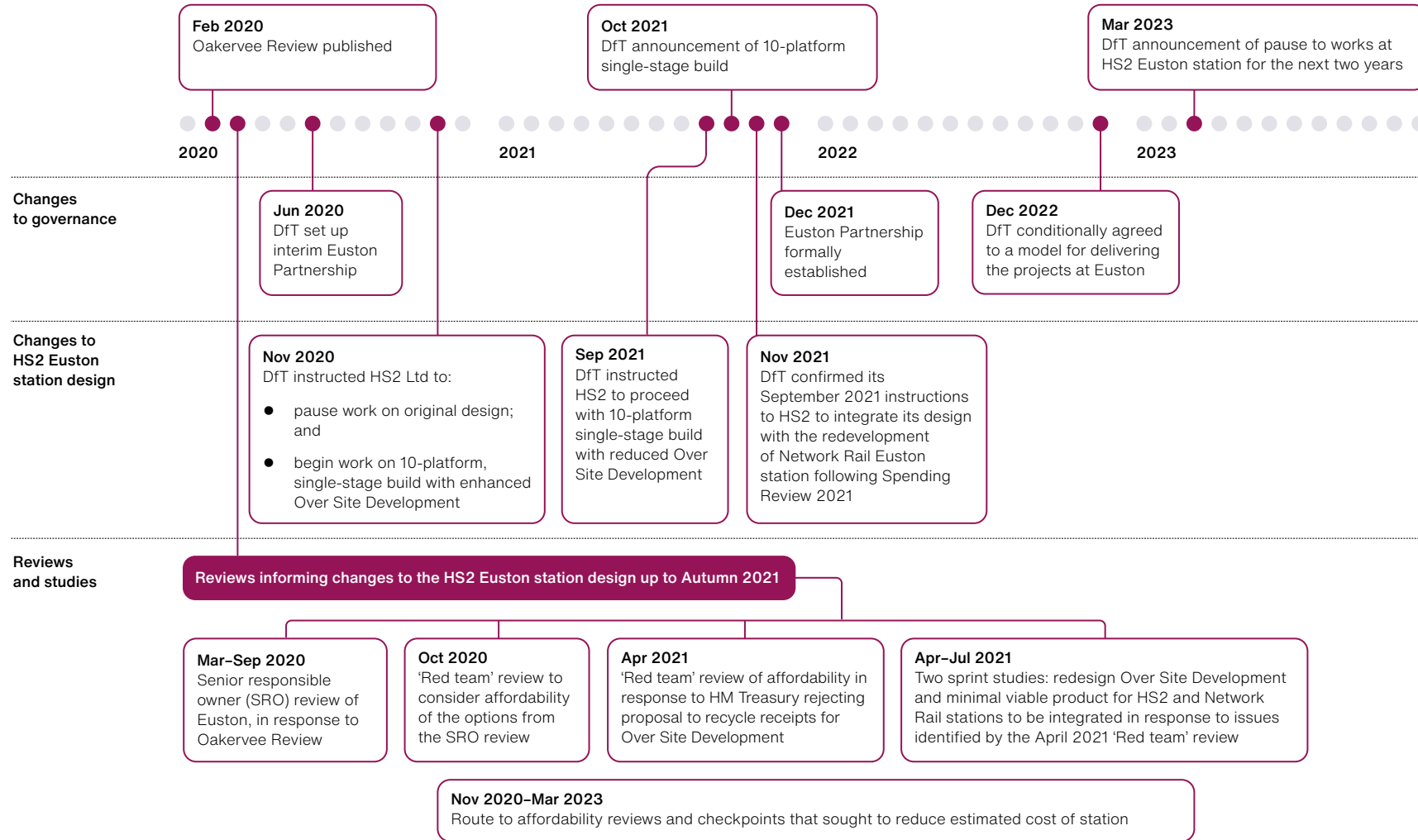
- 1 The Euston Partnership is an unincorporated joint venture between the Department for Transport (DfT), HS2 Ltd and Network Rail. Wider stakeholders including the London Borough of Camden, Transport for London, the West Coast Partnership and the Greater London Authority participate through the Euston Partnership Board and the Working Groups of the Euston Partnership.

Source: National Audit Office review of Department for Transport information

Figure 4

Timeline of events at Euston 2020 to 2023

Since 2020, the Department for Transport (DfT) has made changes to both the design of the High Speed Two (HS2) Euston station and the governance arrangements in place to manage the wider Euston programme



Note

1 'Red team' reviews were undertaken by a panel of experts selected and asked to provide advice by DfT.

Source: National Audit Office review of Department for Transport and HS2 Ltd information

Part Two

The station redesign and affordability challenge

2.1 In February 2020, the Oakervee Review (the Review) highlighted issues relating to the design of Euston station. In response, the Department for Transport (DfT) and High Speed Two Ltd (HS2 Ltd) developed a new design, but they have not been able to design this within the budget. This part examines the extent to which:

- DfT addressed the issues identified relating to the High Speed Two (HS2) Euston station design; and
- HS2 Ltd and DfT are managing the challenge to stay within budget on the HS2 Euston station, including how that budget was set.

We also outline the wider inflationary pressures on the whole HS2 programme at the time of our reporting and the decisions taken by DfT and HS2 Ltd in March 2023 to manage these pressures.

The budget for Euston station

2.2 Since 2015, the HS2 Euston station design had been as an 11-platform station, to be built in two stages. As part of the overall budget set by DfT for Phase One of the HS2 programme in April 2020 of £44.6 billion, HS2 Ltd set a budget for the Euston station of £2.6 billion. The overall budget for Phase One includes the contingency funds that are held by HS2 Ltd and held centrally by government while HS2 Ltd's budget for Euston only includes the contingency it controls.

2.3 The £2.6 billion budget was set lower than HS2 Ltd's assessment of what the station would cost. HS2 Ltd had estimated that the station would cost £3.0 billion – £2.3 billion, plus £0.7 billion contingency to cover the uncertainty on the project at this stage. HS2 Ltd, however, allocated only £0.3 billion contingency to the project, rather than the £0.7 billion it thought necessary.

2.4 At the time of setting the HS2 Phase One budget, both DfT and HS2 Ltd recognised that the complex scope of the HS2 Euston station meant that there was uncertainty over the estimated costs of the station and surrounding Over Site Development and accepted that estimates could change as the design developed. However, they had underestimated the extent of the complexity and how estimated costs would increase over time. Both HS2 Ltd and DfT consider that, in hindsight, HS2 Ltd should have agreed at the time a greater risk provision with DfT to cover the uncertainty around the station as part of setting the overall Phase One budget.

2.5 HS2 Ltd allocated contingency to Euston based on wider decisions about how it should allocate the contingency budget it controls. HS2 Ltd controls a delegated total contingency budget of £5.6 billion for Phase One work within a total contingency of £9.9 billion. DfT and HM Treasury hold the other £4.3 billion of this contingency and HS2 Ltd is not able to access or allocate this independently. In allocating the contingency budget it controls across Phase One activity, HS2 Ltd decided to ensure that the level of contingency it had assessed would be needed for the main civil construction works should be fully met. HS2 Ltd split the remaining contingency it controlled across the rest of the Phase One work, including for Euston, but at lower amounts than it assessed would be needed.

2.6 From late 2019, HS2 Ltd began reporting cost pressures and conducted further work to assess costs and review the previous early estimate of £3.0 billion. In June 2020, it estimated that the 11-platform design could cost as much as £4.4 billion. The increase in costs reflected the immaturity of the early cost estimate, with factors including the complexity of activity required at Euston and the time needed to complete the two-stage build. We have previously reported that estimates produced from early high-level information should be seen as provisional and used only as a guide until a detailed design is available.³

The HS2 Euston station design

2.7 The Oakervee Review (the Review) recommended that the senior responsible owner (SRO) should lead a study to consider the efficiency of, and options to simplify, the HS2 station. The Review also pointed to the limited joined-up thinking between HS2 Ltd and Network Rail at Euston and recommended that Euston should be viewed as one station. In response to the Review's recommendations and rising cost pressures, DfT commissioned HS2 Ltd in April 2020 to assess options for the HS2 Euston station, the outcome of which would need to consider the impacts on other infrastructure projects at Euston which could affect or be affected by the HS2 Euston station (Figure 2).

2.8 DfT instructed HS2 Ltd to assess four options for the design, with variations on one- and two-stage construction, and Over Site Development opportunities (**Figure 5**). All options exceeded the £2.6 billion budget, and two were more expensive than the revised estimate for the existing design.

2.9 On the basis of work undertaken by HS2 Ltd, DfT judged the option of a 10-platform station constructed in one stage with enhanced support for Over Site Development to best meet the requirements at Euston (Option 3 in Figure 5). This is because it offered the greatest prospect of achieving a more efficient and affordable build. DfT instructed HS2 Ltd to pause work on the existing Euston station design in November 2020 to reduce nugatory spend and begin work on the new design. However, the overall scope of the project remained uncertain until late 2021.

³ Comptroller and Auditor General, *Lessons learned from major programmes*, Session 2019-2021, HC 960, National Audit Office, November 2020.

Figure 5

The Department for Transport (DfT) commissioned four design options for the High Speed Two (HS2) Euston station

High Speed Two Ltd (HS2 Ltd) examined options that included variations in the stages of station construction and amount of Over Site Development

	Option 1	Option 2	Option 3	Option 4
Configurations				
Number of HS2 construction stages	2 stages	1 stage	1 stage	2 stages
Over Site Development	Limited	Limited	Increased	Increased
Impact rating compared with the baseline option				
Euston station cost compared with baseline	-1	+2	+2	0
Construction schedule	-1	+2	+2	-1
Placemaking compared with baseline	-1	-1	+2	+1

Notes

- 1 The baseline option was the 11-platform, 2-stage build design, estimated to cost £4.4 billion in June 2020. The impact assessments were: +2 major improvement on baseline option; +1 minor improvement on baseline option; 0 – neutral; -1 minor worsening on baseline option; -2 major worsening on baseline option.
- 2 All options involved 10 HS2 platforms.
- 3 Placemaking refers to the regeneration of the local area.

Source: National Audit Office review of Department for Transport information

2.10 In January, June and August 2021, HS2 Ltd wrote to DfT with early warning notices setting out concerns around the uncertainty and the impact on design costs and nugatory work. HS2 Ltd highlighted that the project team could not establish a baseline from which to plan the delivery of works and this was affecting its ability to manage risks on the project. HS2 also noted that the extended period of reviews was damaging to supply chain confidence.

2.11 DfT recognised that decisions at Euston were urgently required to keep the project on track but needed further development on the scope and cost maturity, including stakeholder engagement, before it could instruct HS2 Ltd on how to proceed. Following these decisions in autumn 2021, despite efforts to minimise nugatory spend, much of the previous design work could not be used and was written off, at a cost of £105.6 million to HS2 Ltd (in cash terms) as reflected in its 2021-22 annual report and accounts. These decisions related to:

- **the move to a 10-platform and single-stage build.** Following the outcome of the SRO study, HS2 Ltd proceeded with developing the new design. DfT subsequently confirmed after further work that HS2 Ltd should continue with this design in September 2021;
- **integration of the two stations at Euston.** DfT asked HS2 Ltd to integrate its design with the redevelopment of the Network Rail Euston station in September 2021, on the basis of design and affordability reviews which indicated that this option would create longer-term cost efficiencies, improve passenger experience and reduce overall construction time. DfT later confirmed this decision in November 2021, following the 2021 Spending Review (Figure 4); and
- **Over Site Development work.** HS2 Ltd had advised that a decision on the extent of this work was required by January 2021 to avoid delay and rework costs. DfT confirmed in September 2021 that Over Site Development activity should progress using the £483 million budget for enabling works, of which around £400 million is ringfenced within the HS2 station budget. This decision led to a change in design for Over Site Development.

2.12 Up until March 2021, HS2 Ltd had planned for a design option for enhanced Over Site Development. This option had been favoured by most stakeholders because it would create more commercial space, contribute to the regeneration of the local area and support more jobs.

2.13 This option would have required additional funding for HS2 Ltd to undertake further enabling works. The enabling work needed to be designed as part of the station and could not be added later. DfT proposed that the additional costs were funded by using the receipts from early sales of development plots, which is typically received by HM Treasury. This approach of recycling receipts into the project was not approved by HM Treasury in March 2021, which was concerned about longer-term uncertainty in the market following the COVID-19 pandemic, and that the case for additional investment was uncertain.

2.14 Following HM Treasury's decision, DfT approved a further study by HS2 Ltd to re-examine Over Site Development options, and from its recommendations, led to DfT instructions to HS2 Ltd in September 2021 (Figure 4). The level of Over Site Development from the option selected has a more limited scope as compared with the enhanced option selected in November 2020 and so will provide fewer benefits.

The affordability challenge

2.15 The 10-platform design that DfT chose in November 2020 was estimated at the time to cost £3.6 billion, excluding the additional Over Site Development spending proposed at the time. This was less expensive than the revised estimate for the 11-platform design, but still exceeded the budget of £2.6 billion by £1 billion. DfT and HS2 Ltd have conducted a series of reviews to address the affordability challenge (Figure 4). They commissioned two reviews by an expert panel of the design options and affordability. HS2 Ltd also conducted two reviews which looked at the design of the Over Site Development and how to integrate the HS2 station with the Network Rail redevelopment at Euston. 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.

2.16 Despite actions to address affordability, by September 2022 DfT's independent technical reviewer reported to DfT that it had seen no evidence that the estimates for HS2 Euston were likely to fall within the budget and that realising opportunities to deliver within HS2 Ltd's reported estimate at that time of £3.3 billion would be a significant challenge. The reviewer was also concerned that the costs would likely be greater than estimated, due to the immaturity of the design and cost estimate and the level of risk that was being provided for.

2.17 During 2021 and early 2022, HS2 Ltd revised the commercial incentives for its construction partner at Euston as following design changes they no longer worked as intended (**Figure 6** overleaf). HS2 Ltd assessed that it could incentivise its construction partner to deliver the station at a lower cost than under the original contract by making changes to the contract and having independent challenge of the construction partner's costs. In late 2022, DfT asked HS2 Ltd to further review its approach to establish if it could deliver greater cost efficiencies.

2.18 In October 2022, DfT instructed HS2 Ltd to undertake further work to review the scope and commercial strategy for HS2 Euston station to enable further review of the affordability challenge and options for closing the gap. In its instruction, DfT asked HS2 Ltd to explore options for changing the scope. In some cases this involved revisiting options that DfT had previously rejected, such as delaying the fit-out of HS2 platforms needed for later services when the line between Crewe and Manchester is complete. This could reduce initial spend but cost more overall to complete. Some options would also require agreement from other stakeholders. In December 2022, HS2 Ltd advised DfT that it was not possible at this stage to fully specify what scope would need to be removed to deliver within budget but provided its view of the potential savings associated with various scope changes.

Figure 6

High Speed Two Ltd's (HS2 Ltd's) construction partner contract

In 2022, HS2 Ltd amended its contract with its construction partner at Euston station so that the incentives reflected the revised scope of the project

Initial contract (March 2019)	<p>In March 2019 HS2 Ltd awarded the Euston Construction Partner contract to the Mace Dragados joint venture.</p> <p>The contract and its incentives were set with reference to:</p> <ul style="list-style-type: none"> • 11-platform design, built in two stages; and • plans for the 'consolidation point' – where the cost and performance targets to be delivered by the contractor are agreed – by January 2020.
Contract changes (March 2022)	<p>In March 2022, HS2 Ltd and the Mace Dragados joint venture agreed amendments to the contract so that the incentives reflected the revised scope of the project. These include:</p> <ul style="list-style-type: none"> • aligning to revised single-stage 10-platform design; • aligning incentive targets to the current approved budget; and • an increased payment for achieving lower cost designs, with the payment being higher as the estimate gets closer to the target cost. This is intended to encourage cost savings to be identified before the consolidation point.
Independent 'should cost' estimates	<p>The contract retains an incentive based on reducing costs once in construction. This means the construction partner may aim to agree a high delivery cost at the consolidation point to gain a share of savings during construction.</p> <p>HS2 Ltd has set up an independent 'should cost' estimating team to develop a detailed cost estimate. During the design process, where the construction partner's estimate is higher than the 'should cost' estimate, the team is able to challenge the figure and if not resolved report this to HS2 Ltd.</p>

Source: National Audit Office review of Department for Transport and HS2 Ltd information

2.19 In late February and early March 2023, HS2 Ltd reported first to its Board and then to DfT on its first detailed estimate for the revised 10-platform scheme: £4.8 billion (**Figure 7** overleaf). This estimate is £2.2 billion above HS2 Ltd's budget and £0.4 billion more expensive than the two-stage design it was intended to replace. HS2 Ltd has reviewed the cost estimate against a 'should cost' comparator (which was designed to provide an independent assessment on the cost of the design) and concluded that the estimate is reasonable for the current scope. DfT's independent technical reviewer considers that the estimate is based on a credible methodology and a more mature design and represents a more realistic forecast of likely outturn for that design. The reviewer also noted that in some areas the estimate may be understated and may need to be updated following further work by HS2 Ltd.

Inflationary pressures across DfT's capital programmes

2.20 DfT is facing significant inflationary cost pressures across its spending on major infrastructure. For example, HS2 Ltd reported that in 2020 the forecasting tool it uses as the basis of its annual cash budgeting with HM Treasury for the HS2 programme showed a fall in prices of 1% on the programme between December 2019 and August 2022. In comparison, its 2022 forecast for the same period suggested an inflation rate of around 18%. HS2 Ltd's contractors on its main civil construction works have reported to HS2 Ltd even higher rates of inflation during that period, of between 20% and 35%.

2.21 In the 2022 Autumn Statement, HM Treasury set out that there would be no increase to departments' cash settlements for the current Spending Review period to 2024-25. HM Treasury's standard approach, as set out in its budgeting guidance,⁴ and reaffirmed in the 2022 Autumn Statement, is that departments must absorb inflationary pressure within their existing budgets in the first instance. As a result, DfT has needed to work with its arm's-length bodies to consider the impact of capital spending being deferred, descoped or cancelled.

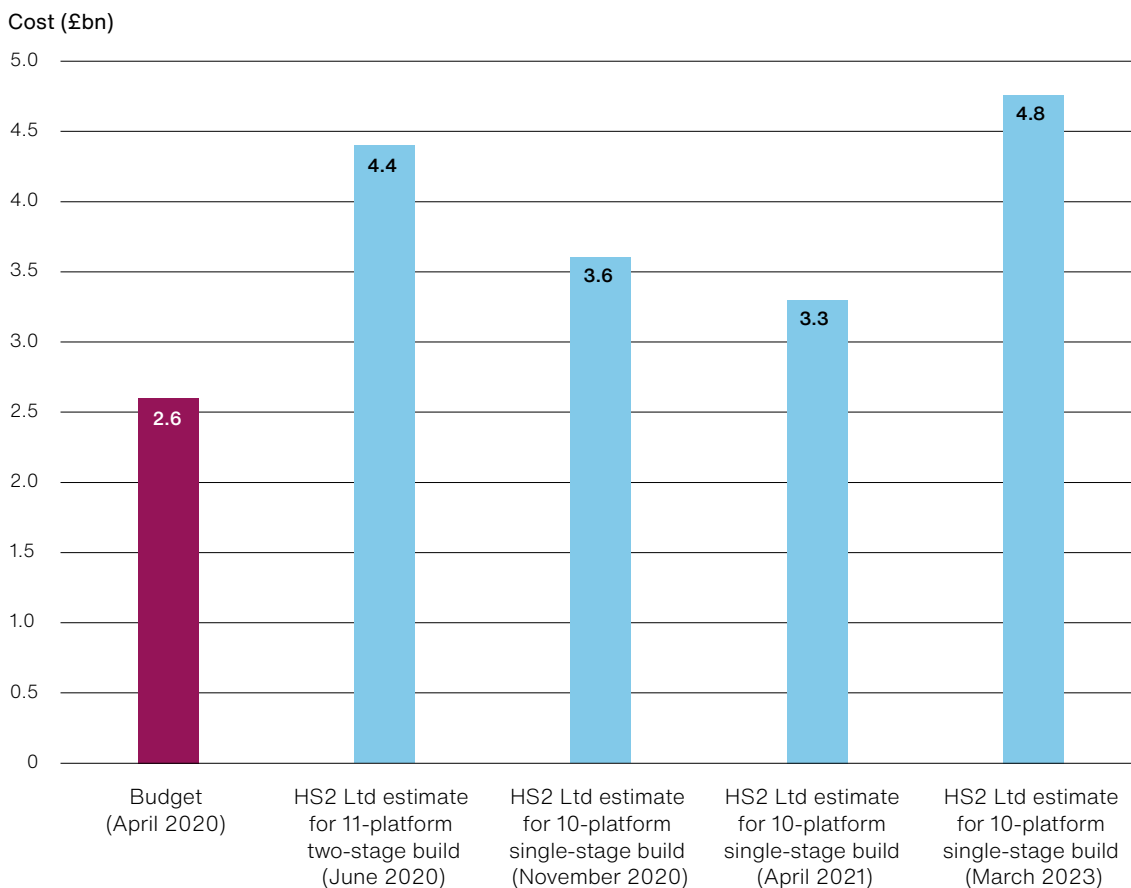
2.22 In January 2023, DfT wrote to HS2 Ltd to highlight funding constraints that may prevent the HS2 programme being delivered at its current schedule. Although HS2 Ltd's budget is set in 2019 prices and is ringfenced from the rest of DfT's spending, the annual funding settlements are set in cash terms and have been hit by high inflation. As DfT must manage within its overall funding settlement, HM Treasury's Autumn Statement decisions in effect removed the HS2 ringfenced budget. DfT had understood that – subject to certain conditions – HM Treasury would consider support if existing funds were insufficient to cover high inflation. HM Treasury set out that it is open to considering the case for additional funding if there is clear evidence of how those pressures had arisen, the steps that had been taken to manage those, and that they were clearly unavoidable, unforeseen and unabsorbable.

4 HM Treasury, *Consolidated Budgeting Guidance 2022-23*, March 2022.

Figure 7

How the cost estimate for High Speed Two (HS2) Euston has changed

High Speed Two Ltd's (HS2 Ltd's) cost estimate for the high-speed station has developed over time as the design and affordability measures have changed and matured, although it still exceeds the budget



Development of estimate over time					
Cost (£bn)	2.6	4.4	3.6	3.3	4.8
Estimate uncertainty (%)	-30/+50	-20/+30	-50/+100	-30/+50	-20/+30
Design uncertainty	Early scheme design (RIBA 3)	Scheme design (RIBA 3)	Strategic definition (RIBA 0)	Revised design brief (RIBA 1)	Scheme design (RIBA 3)

Notes

- 1 The budget includes £0.3 billion of contingency, while the estimates include between £0.7 billion and £0.9 billion of cost provision for risk.
- 2 Figures all include an allocation for the Over Site Development enabling work at HS2 Euston, with the November 2020 estimate excluding the additional spending proposed at the time. The budget for the Over Site Development project is close to £0.5 billion and relates solely to the element that the Department for Transport will be funding as part of the HS2 Euston station and approaches, of which around £0.4 billion is ringfenced within the £2.6 billion budget for the station.
- 3 The budget and cost estimates have been rounded to the nearest £0.1 billion and are in 2019 prices.
- 4 The estimate uncertainties that HS2 Ltd presented are typical ranges for different stages of a project as defined using the Cost Estimate Classification System. The system has been developed by The Association for the Advancement of Cost Engineering (<https://web.aacei.org/>).
- 5 A detailed explanation of the RIBA (Royal Institute of British Architects) stages for the design and construction process of buildings can be found at www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work.

2.23 The size of the HS2 programme makes it particularly difficult for DfT to manage as part of wider infrastructure spending. For example, HS2 programme spend was planned to be 29% of DfT capital spend during 2022-23. On most other programmes, DfT can manage them as part of wider capital portfolios. DfT and HM Treasury have been discussing how they might manage future cost pressures on the programme.

2.24 To inform decisions on managing the inflationary pressures and what additional funding would be required, DfT and HS2 Ltd developed options in early 2023 on how they would defer spending through reducing works on the HS2 programme in the short-term. However, the options showed that there will be additional costs from deferring spending and the more work that would need to be stopped, the costlier it could be to complete the programme and its projects in the long term. As well as work inherently costing more in the future due to inflation, there would also be more costs from its supply chain stopping and re-starting work, for example from demobilising and remobilising staff, contractual changes, and project and site management costs being incurred for a longer period. DfT and HS2 Ltd have also considered the potential impacts of the deferral of spending, for example on its supply chain.

2.25 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. On Euston station itself, government confirmed that it will be pausing new construction works there for the next two years. DfT and HS2 Ltd do not yet know what the impact of this pause will be on the overall schedule of the project and when the station will open. They are now working to determine that along with what the impact will be on the other projects and on stakeholders. DfT has also ruled out continuing with the 10-platform scheme as currently designed and has asked HS2 Ltd to prepare a remediation plan to provide options to reduce the cost of the station to an affordable position. DfT and HS2 Ltd will need to satisfy themselves that any revised plan is both realistic and still provides value for money.

HS2 Ltd spend at Euston as at the end of December 2022

2.26 As at the end of December 2022, HS2 Ltd had spent £0.5 billion on the HS2 Euston station (in cash terms). The majority of the spend has been on design and preliminary works, including £0.1 billion on nugatory design work following the changes in design (**Figure 8** overleaf).

2.27 HS2 Ltd has spent an additional £1.5 billion (in cash terms) on enabling works (£1 billion) and land and property purchases (£0.5 billion) as part of wider preparations for the Euston site, including approaches to the station. This additional spending falls outside of the HS2 Euston station budget of £2.6 billion and is instead incurred against the overall budget for HS2 Phase One.

Figure 8

High Speed Two Ltd's (HS2 Ltd's) spend on the High Speed 2 (HS2) Euston station to December 2022

HS2 Ltd has spent **£548 million** on HS2 Euston station as at the end of December 2022

Category of spend	HS2 Ltd spend to December 2022 (£mn)
Design – of the HS2 station. Spend to date includes £105.6 million of nugatory costs, following changes in design	200
Preliminaries – the initial work undertaken by HS2 Ltd's construction partner to plan and set out the work required	144
Ancillary – specialist support services	45
Fees – contractual payments	39
Construction skills centre – a new facility which includes training rooms, workshops and interview rooms and provides accommodation for HS2 site and management staff.	27
Utilities – work associated with re-routing utilities to make way for demolitions, excavations and tunnelling	23
Substructure – the construction work below ground level	16
Demolition – work associated with clearing the area for development at Euston	13
Tunnels – work associated with underground tunnelling to develop the HS2 route into Euston	11
Other – consolidates other lower value categories of spend	29
Total spend to December 2022	548

Notes

- 1 Spend data relate to actual costs incurred by HS2 Ltd and are in cash terms.
- 2 Figures do not sum due to rounding.

Source: National Audit Office analysis of HS2 Ltd data

Part Three

Governance and integration across the Euston programme

3.1 In February 2020, the Oakervee Review (the Review) found that the management at Euston was muddled and the governance arrangements needed to change. In this part we examine what steps the Department for Transport (DfT) has taken in response and whether appropriate delivery arrangements are now in place to achieve value for money.

DfT's response to the need for change

3.2 The Oakervee Review found that the governance arrangements between the three projects at Euston (the Euston programme) was unclear and that there needed to be better integration and coordination between stakeholders involved at Euston:

- While recognising that since 2018 DfT had brought the projects together under a single senior responsible owner, the Review concluded that the arrangements at Euston needed to change.
- The Review recommended that there be a single plan for the overall Euston programme and that there should be one single organisation responsible for the overall development and governance of the Euston project.
- However, given the programme's complexity, it recommended that the organisation should not be High Speed Two Ltd (HS2 Ltd).

3.3 Around the same time as Oakervee reported, DfT also identified that the current arrangements at Euston needed to change as they were sub-optimal. It concluded that long-term arrangements were needed to maximise benefits and build momentum. Governance and integration were particularly challenging because there are three separate projects at Euston, all started at different times, led by different delivery bodies, and with different business cases. A DfT-commissioned review identified three main issues:

- **No effective process or basis for assessing strategic trade-offs between projects.** There was no overarching strategic case supported by common objectives, programme-wide benefits, a shared baseline of costs and benefits and a consistent stakeholder engagement strategy.

- **Limited coordination of projects, plans and assumptions.** Each project was at a different stage of design, commitment and funding. The business cases were developed differently. This made it difficult to coordinate work and evaluate trade-offs between projects.
- **Attempts to improve coordination had not filtered down into working-level behaviours.** Stakeholders believed that joint working had improved at senior levels. The review, however, concluded that it would take more than re-aligned governance to drive the changes in behaviour needed to improve collaboration throughout all of the organisations involved.

3.4 In June 2020, DfT set up interim arrangements while it reviewed long-term options for governance at Euston. It set up the interim Euston Partnership to improve collaboration and joint working between the DfT, HS2 Ltd and Network Rail teams working at Euston. As part of the Partnership, an oversight board – the Euston Partnership Board – was also established to support collaboration across the Euston site by bringing together the delivery bodies and key stakeholders, including Lendlease, the London Borough of Camden, Transport for London, the Greater London Authority and the West Coast Partnership.

3.5 DfT and its delivery bodies had already been considering a range of options for improvement since 2019. These were intended to improve decision-making, drive effective collaboration and be implemented without adding any unnecessary risk to the programme. DfT concluded that there would be advantages and disadvantages in each option. Following wider government engagement, it rejected the option of a separate legal body, as recommended by Oakervee, to manage the Euston programme. This was because of the time, cost, complexity and disruption to the programme it would take to establish and change existing legislative and commercial arrangements.

3.6 In February 2021, DfT selected an unincorporated joint venture model between it, HS2 Ltd and Network Rail. DfT considered that the advantages of this model included it being relatively quicker, less costly and less risky than setting up a separate body. It would also take advantage of the existing knowledge of HS2 Ltd and Network Rail. Disadvantages identified by DfT included: risks around agile and independent decision-making; potential constraints to delivery of integration benefits due to limits around its remit and budgetary control; and that most decisions would still likely require HS2 Ltd and Network Rail agreement. The chosen option built on the interim Euston Partnership in place since June 2020. It was formalised through a tripartite agreement between the Secretary of State for Transport and the two delivery bodies, which they signed in December 2021.

The Euston Partnership and integration challenges

3.7 The Euston Partnership was set up with an emphasis on integration rather than delivery. It has an advising and convening function, intended to identify trade-offs between projects and deliver integration activities. For example, it produced strategic plans in October 2020 and April 2022 to help set up the vision for works at Euston. It is not a decision-making body, operating alongside existing governance structures for each of the individual projects (**Figure 9** overleaf). DfT continues to be the funder and sponsor for the Euston programme, and HS2 Ltd and Network Rail remain accountable for the delivery of their projects, including managing risk. The Euston Partnership provides recommendations for DfT, HS2 Ltd or Network Rail to agree and implement through their own internal governance processes.

3.8 The Euston Partnership promotes greater collaboration between the organisations at Euston but stakeholders still find it difficult to agree decisions. For example, the location and design of the bus station has not yet been resolved, having been raised as an issue following the selection of the new design option. The Euston Partnership has supported discussions, leading to some progress. However, stakeholders have still not yet agreed the capacity required and have had to balance the need for space for the bus station against the needs of their own projects for that space. Other areas that are still to be resolved include the temporary arrangements for the taxi rank and entrance to the London Underground during the redevelopment of the Network Rail station.

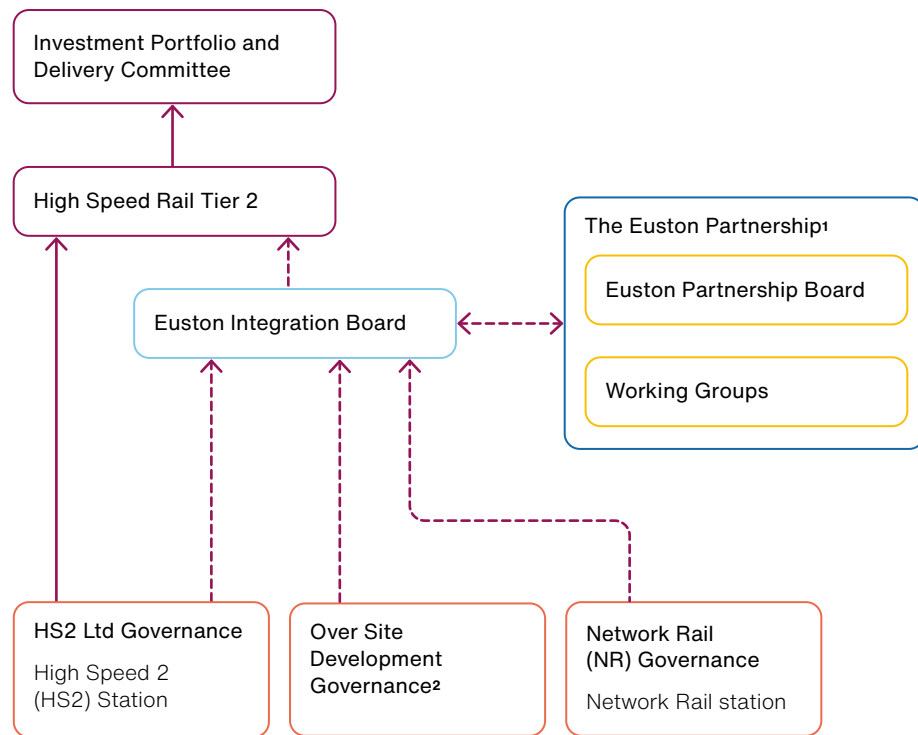
3.9 DfT has also been required to be involved in the transfer of work between HS2 Ltd and Network Rail as part of managing interfaces between them. For example, it may be practically easiest for HS2 Ltd to lead on some work that will support the redevelopment of the Network Rail station and vice versa. However, the existing mechanisms in place to transfer funding between them is inefficient and may require approval from DfT.

3.10 Managing the integration of the three projects at Euston is particularly challenging due to the different maturities of each of their designs (**Figure 10** on page 35). Each project needs to take into account or agree designs where there are overlaps and interfaces between them. For example, the two stations are expected to be owned and operated separately but they need to be delivered alongside each other and have the potential to share facilities. However, as the most advanced project, HS2 Ltd has had to make assumptions regarding the design of the Network Rail station while Network Rail has also had to take early decisions in some areas, for example the location of the London Underground ticket hall and how that links to the two stations. The risks are that designs may have to be amended later or that early decisions taken now may constrain Network Rail's later designs. The Department's decision to pause new construction work on the HS2 station in March 2023 may, however, reduce this risk by bringing their timetables closer together.

Figure 9

Governance arrangements for the three projects at the Euston site as at December 2022

Alongside existing governance for each of the three projects, the Euston Partnership provides overarching governance across the three projects



- DfT corporate governance
- DfT chaired steering group
- The Euston Partnership
- Euston Partnership chaired boards and groups
- Individual project governance
- Formal reporting/escalation
- Integration issues

Notes

- 1 The Euston Partnership is an unincorporated joint venture between the Department for Transport (DfT), High Speed Two Ltd (HS2 Ltd) and Network Rail. Wider stakeholders including the London Borough of Camden, Transport for London, the West Coast Partnership and the Greater London Authority participate through the Euston Partnership Board and the Working Groups of the Euston Partnership.
- 2 The Landowner’s Representative team within The Euston Partnership manages the contract with Lendlease on behalf of DfT and Network Rail.

Source: National Audit Office review of Department for Transport information

Figure 10

The business case and design stage status of the three Euston projects in February 2023

The three projects are at different stages in their business case and design stage processes

		High Speed 2 (HS2) Euston	Network Rail Station	Over Site Development (HS2 enabling works) ¹
Business Case Stage	Outline business case approval	October 2013 (not Euston-specific) ²	Expected spring 2023	December 2017
	Full business case approval	April 2020 (not Euston-specific)	TBC	Expected autumn 2023
Design Stage ³	Conceptual Design (RIBA stage 2) completed	April 2022	TBC	Up to RIBA 3 ⁴
	Developed Design (RIBA stage 3) completed	Expected July 2023	TBC	

Notes

- 1 Over Site Development enabling works above and around the Network Rail station will be separately funded.
- 2 HS2 Euston is included in the business case for the wider HS2 Phase One.
- 3 A detailed explanation of the RIBA (Royal Institute of British Architects) stages for the design and construction process of buildings can be found at www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work.
- 4 Over Site Development designs have reached different stages depending on how they relate to the other projects (for example HS2 station related elements are more advanced).
- 5 The design status of the projects are as they were in February 2023 and prior to the March 2023 decision on changes to the HS2 Euston station schedule.

Source: National Audit Office review of Department for Transport and HS2 Ltd information

3.11 There is not yet a comprehensive and detailed, integrated plan for the programme of works across the three projects. Work is in progress by the Euston Partnership to fully develop an integrated plan which identifies the pressures, risks and mitigations across all three projects. Such a plan will help to ensure that key interactions and dependencies between all the projects are identified and managed. For example, the Euston Partnership used its initial integrated plan to set out critical decision points and dependencies across the projects to support coordination. Work on the plan has included making revisions following changes to the Network Rail station design. DfT also established the Euston Integration Board in 2022, which DfT, HS2 Ltd, Network Rail and the Euston Partnership attend, to make recommendations on integration issues across the three projects. The Board meets monthly to identify, monitor and resolve issues.

3.12 The design of the Network Rail station is uncertain as the project's next stage has not yet been approved by DfT and HM Treasury. The outline business case for the project, to select a single preferred design option, was originally scheduled for September 2022. However, it is now not expected to be approved until spring 2023. This delay was to enable Network Rail to further develop its delivery model for the project and to provide a more robust cost estimate, including validating potential savings. Network Rail's initial cost estimate for Phase One was between £1.3 billion and £1.55 billion (2019 prices). Funding for the redevelopment of the station is expected to be set as part of its outline business case approval but DfT and Network Rail are not certain that the project's costs will be able to stay within this estimate. Any significant change to the scope of the Network Rail project has potential implications for the other projects.

3.13 HS2 Ltd has proceeded with its station design on the assumption that the Network Rail project will go ahead, but it has also made alternative plans in case the redevelopment of the conventional station is not approved. In October 2022, DfT asked HS2 Ltd to consider the design changes, cost and impact to the station should the extent of the Network Rail project be reduced or entirely removed.

Euston delivery model

3.14 During 2022, DfT reviewed the delivery arrangements at Euston as part of establishing the delivery model for the Network Rail station and to better enable the integrated delivery of the two station projects. DfT consulted with HS2 Ltd, Network Rail and the Euston Partnership and commissioned an external review. The review agreed with the model proposed by the delivery bodies but, alongside DfT, raised risks relating to:

- the large number and complexity of interfaces between the two station projects, requiring a delivery model that would allow these to be managed effectively;
- collaboration across the projects, requiring a focus on behaviours as well as the process to improve working relationships;
- a lack of clarity on accountability for managing interfaces between projects and a risk that trade-offs on detailed issues would be escalated to DfT; and
- the lack of a formal integrator at Euston, as the Euston Partnership does not have decision-making powers, and the capability of DfT to play a formal integrator role alongside sponsoring the projects at Euston.

3.15 In December 2022, DfT conditionally agreed to the proposed delivery model for the Network Rail station, which should better integrate the delivery of the two stations. The delivery model would include Network Rail and HS2 Ltd acting as delivery managers, with Network Rail also acting as the delivery client. However, DfT's agreement is subject to the bodies confirming how they would improve collaboration and manage interfaces and then, with the support of the Euston Partnership, implementing their plan. This would include agreeing specific responsibility for each interface between them so clear lines of accountability exist, as well as establishing a more efficient contracting mechanism to allow HS2 Ltd and Network Rail to exchange scope and funding directly between them.

3.16 Further work is planned to determine how the model will work in practice, although this will now need to be done alongside DfT's and HS2 Ltd's consideration of the decision to pause new construction works at Euston. The model is expected to be phased in over 18 months and the Euston Partnership will be responsible for monitoring and reporting on progress. The Partnership has also commissioned an independent review on collaboration to improve communication and joint working at Euston. Other planned work includes DfT exploring how it might support the Partnership's capability to act as integrator for the three projects. Once such work has been completed, it will be clearer as to whether the delivery model will further address the governance and integration issues identified by DfT in 2020. As it stands, some gaps remain as we summarise in **Figure 11** overleaf.

Figure 11

Progress by the Department for Transport (DfT) and other bodies to improve governance and integration between the projects at Euston

DfT and other bodies involved with works at Euston have made some progress in addressing governance issues identified in 2020, but gaps still remain

Issues DfT identified in 2020	Progress and remaining issues
No effective process or basis for assessing strategic trade-offs	<p>The Euston Partnership has developed a single strategic plan for Euston that sets out the vision for work at Euston, and it has made progress in baselining the costs and benefits of the three projects. High Speed Two Ltd (HS2 Ltd) and Network Rail will be aiming to improve the mechanism to support direct trade-offs between the delivery bodies.</p> <p>However, underlying this issue is that there are three separate business cases and no formal strategic case to inform decision-making.</p>
Limited coordination of projects, plans and assumptions	<p>DfT has taken steps to improve coordination between stakeholders through the Euston Partnership, the Euston Integration Board and the delivery model for the Network Rail station.</p> <p>However, the different maturity and timing of the projects continues to be a constraint, with no comprehensive and detailed integrated plan as yet. The Euston Partnership will also require further support from DfT and its delivery bodies so that it can more effectively fulfil its integrator role for the three projects.</p>
Attempts to improve coordination are not filtering down into working-level behaviours	<p>Working relationships and behaviours to support better collaboration between bodies remains an area for improvement.</p> <p>Revisions to governance should support improved coordination, and a review is underway to examine how to improve collaboration and joint-working.</p> <p>Achieving a change in working-level behaviour will require focused effort, and a plan for implementing that change across delivery bodies that helps staff adjust to working in ways that are different to those of the organisation they work for.</p>

Source: National Audit Office analysis of Department for Transport and HS2 Ltd information

Appendix One

Our audit approach

1 Euston will be the London terminus station for the High Speed Two (HS2) programme. The development of the HS2 station is also one of three major projects at the site that form a wider Euston programme. The two other projects are the redevelopment of the existing Euston station, led by Network Rail, and commercial and housing development of the Euston site above and around the stations, led by a development company. The Department for Transport (DfT) is the sponsor of all three projects and is responsible for funding and overseeing their delivery.

2 We have reported on the HS2 programme four times since 2013, undertaking regular examinations of preparations, progress and future risks to value for money. In our last progress report on the HS2 programme in January 2020, we stated that the work at Euston was more complex than originally anticipated and that there was uncertainty over the HS2 station design.⁵ Since then DfT and High Speed Two Ltd (HS2 Ltd) have made changes to the design and governance of the station in response to the Oakervee Review in February 2020.⁶

3 This report assesses whether DfT and HS2 Ltd are now set up to effectively manage the risks to value for money following the changes to the HS2 Euston station. We examined:

- 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.

4 We did not examine wider progress of the HS2 programme, nor did we undertake a detailed examination of the other infrastructure projects under development at the Euston site.

⁵ Comptroller and Auditor General, *High Speed Two: A progress update*, Session 2019-20, HC 40, National Audit Office, January 2020. In 2021, we also published a report on how DfT and HS2 Ltd had responded to our recommendations since 2016: Comptroller and Auditor General, *Progress in implementing National Audit Office recommendations: High Speed Two*, Session 2021-22, HC 292, National Audit Office, June 2021.

⁶ The Oakervee Review had been commissioned by government to inform its decision as to whether and how to proceed with HS2.

5 The fieldwork for this report was completed ahead of the decisions by DfT and HS2 Ltd 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.

Developing our audit questions

6 In developing our audit questions, we drew on our April 2021 guidance, *Framework to review programmes*, which comprises key audit questions that have been developed from our experience and learning in auditing major programmes.⁷ The framework groups audit questions into the four elements we consider when we audit programmes and projects – purpose; value; set-up; and delivery and variation management. We also drew on our lessons learned reports on major programmes, including *Lessons learned: Delivering programmes at speed*, *Lessons learned from Major Programmes*, and *Lessons learned: Resetting major programmes*.^{8, 9, 10}

Our evidence base

7 We reached our independent conclusions on whether DfT and HS2 Ltd are effectively set up to manage the risks to value for money at the HS2 Euston station after analysing evidence collected primarily between September 2022 and December 2022. In general, the evidence presented in this report and used to reach our conclusions is based on documentary evidence and data analysis. Our interviews helped to inform our understanding of the issues and to focus our review of documents and analysis of data.

Interviews

8 We undertook 20 interviews with staff from nine different organisations. We used information from these interviews to build our understanding of the relevant topics. Most importantly, we used these interviews to inform our document requests and prioritise our review work. DfT identified interviewees at relevant organisations, in response to our request for advice on who would have the knowledge and expertise to assist us with our lines of inquiry.

9 All our interviews were face-to-face but most were conducted virtually using Microsoft Teams. We did not record but took a note of each interview.

⁷ National Audit Office, *Framework to review programmes*, April 2021.

⁸ Comptroller and Auditor General, *Lessons learned: Delivering programmes at speed*, Session 2021-22, HC 667, National Audit Office, September 2021.

⁹ Comptroller and Auditor General, *Lessons learned from Major Programmes*, Session 2019–2021, HC 960, National Audit Office, November 2020.

¹⁰ Comptroller and Auditor General, *Lessons learned: Resetting major programmes*, Session 2022-23, HC 1198, National Audit Office, March 2023.

10 Our interviews with DfT and its bodies included:

- 11 interviews with officials from DfT and HS2 Ltd. One of these was a joint meeting with officials from both organisations present. Our interviews covered: the chronology of events, the decisions made and their impact on the HS2 Euston project; the cost and schedule estimates, how they have changed over time and spending to date; and the governance arrangements, including the various structures in place to identify and manage risks; and
- two interviews with Network Rail. Our interviews covered: progress with its project to redevelop the existing Euston station and the challenges presented by aligning and undertaking this work alongside HS2 and other infrastructure projects at Euston; cost pressures and challenges to meeting the project's budget; and views on the effectiveness of governance arrangements to aid collaboration and integration across projects at Euston.

11 In addition, we spoke with:

- the Euston Partnership managing director twice regarding his role and the role and remit of the Euston Partnership, engagement with partners and stakeholders, activity to aid collaboration and integration, and future plans;
- Lendlease about its role in the Over Site Development project and its views on the effectiveness of governance arrangements to aid collaboration and integration across projects at Euston;
- the London Borough of Camden and Transport for London about their engagement in the HS2 Euston project and views on the effectiveness of governance arrangements to aid collaboration and integration across projects at Euston;
- HM Treasury about its role in the funding arrangements and key decisions about the HS2 Euston project; and
- DfT's project representative (P-Rep), an independent technical reviewer on the HS2 programme, about its oversight and assurance role on the HS2 Euston project.

Document review

12 We reviewed a number of documents related to the projects at Euston.

Our review included:

- governance documents such as terms of reference, minutes and papers for the various governance forums associated with overseeing and managing the HS2 Euston project, specifically the Euston Partnership, DfT's Investment Portfolio and Delivery Committee (IPDC), the Euston Integration Board and the Euston Development Board;

- correspondence between DfT and HS2 Ltd, including DfT's instructions to commission work from HS2 Ltd and the outputs HS2 Ltd produced in response;
- departmental documents such as business cases for HS2 Phase One and Network Rail's redevelopment of the existing Euston station;
- planning and strategy documents such as the strategic plan and business plan produced by the Euston Partnership;
- working papers supporting the cost estimate and how it has changed over time and HS2 Ltd's accounting records on spending to December 2022;
- knowledge-sharing reports compiled by HS2 Ltd to capture some of the key learning from station construction projects with a view to ensuring the risks around these areas are addressed by the HS2 Euston project team; and
- other relevant publications such as the Oakervee Review, which made several recommendations regarding the future delivery of HS2 Euston station and Phase One; and the Euston Area Plan, a joint publication by the London Borough of Camden, Greater London Authority and Transport for London.

Financial data analysis

13 We analysed financial data provided by HS2 Ltd to:

- compare the changes in HS2 Ltd's estimated cost of the HS2 Euston station since 2020 (in 2019 prices); and
- set out HS2 Ltd's spend on the station and also on land purchases and preparatory works that draws from the wider HS2 Phase One budget rather than the Euston budget, up to December 2022. Data were provided to us in cash terms, as drawn from its finance systems, and we categorised the spend into the main types of activities using the account code descriptions provided. We audit HS2 Ltd's expenditure as part of auditing its annual report and accounts.

Site visit

14 We undertook a site visit to Euston accompanied by HS2 Ltd and DfT staff to see the work that has already been conducted and the planned designs. Our visit began at the Euston Partnership's office at Euston followed by a tour of the site.

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