

HS2:- The Lovegrove Report

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Introduction

1. This Review was commissioned by the Prime Minister and then Cabinet Secretary following the publication of the 2025 James Stewart Review^[footnote 1] into Major Transport Projects Governance and Assurance, and particularly High Speed 2 (HS2).

2. As that implies, this Review's terms of reference were not to duplicate prior, largely consistent, inquiries but to take them as a starting point and to consider the implications for the Civil Service and the wider public sector. For that reason, it does not reiterate their core findings, including the central question of why estimates of HS2 costs proved to be so disastrously wrong (See Figure 1). As well as those prior reviews and extensive documentation from HS2 Ltd, DfT and elsewhere in government, my considerations have been framed by conversations with many of the key actors and others with relevant expertise. I am grateful for their time and insights.

Figure 1^[footnote 2]

Change to table view

Cost

20.5	2012
26.8	2013
44.6	2020
54	2023
66	2024
82.2	2026

3. Without going into unnecessary detail, the "original sins" of the scheme have been variously identified by the Stewart Review, and to me in the course of this Review's interview schedule, amongst other things, as:

- the original "gold plating" of the high-speed concept, with a focus on the highest possible speeds, resulting in bespoke and highly engineered design and the decision to begin construction at the - hardest points of the route (i.e., Phase One between London and the West Midlands);
- changing objectives and political priorities;

- the award of the Main Works Civils Contract (MWCCs) at an insufficient level of design maturity, and on terms which did not manage risk; and
- the level of costs and risk being very badly underestimated.

4. These, and other factors, have been assessed in detail and with great insight by the much longer Review conducted by James Stewart. The Stewart Review was extremely clear that HS2 was always a huge undertaking, on a different scale to all but the largest mega projects and, therefore, likely to be tremendously complex. The challenges to its successful management by the whole of government were therefore always going to be correspondingly greater. Accordingly, and as the Stewart Review makes plain, different approaches, including a greater sense of common endeavour, would have provided the project with a much more reliable and secure underpinning. The focus of this Review is how the Civil Service (principally officials in DfT who were directly accountable for HS2 but also officials in His Majesty's Treasury (HMT) and Cabinet Office who played a role in advising on and overseeing the programme), sought, on behalf of ministers, to oversee and control the programme and the principal agent of its delivery, HS2 Ltd.

5. This Review looks mostly at the period after 2018, on the basis that this is the period when it began to become evident that previous cost estimates were inadequate and cost forecasts began to escalate and when, in 2020, the "Notice to Proceed" (NtP) (effectively the Final Investment Decision) was granted and the Main Works Civils Contracts (MWCCs) were awarded and proceeded into construction. By common consent this was the period when the problems of the project moved from the conceptual to the tangible, contractual and realised. However, it also covers some of the subsequent period where it is seen as particularly useful or relevant, noting that the causes of the massively increased costs of HS2 stem both from cost underestimation before NtP and the failure to control cost in detailed design and delivery after NtP.

The company

6. While the focus of this short Review is the Civil Service, and its culture, capabilities and structures, it is inevitable that observations need to be made with respect to HS2 Ltd, it being the entity that managed the project and provided the vast bulk of the information for DfT officials and Ministers. Its operation and governance were the key mechanisms by which government steered the HS2 project.

HS2 Ltd's status as a Company Limited by Guarantee

7. HS2 Ltd was established in January 2009 as a company limited by guarantee (a CLG), with government as the sole guarantor. This is not an unfamiliar construct for government to use. The London Organising Committee of the Olympic Games (LOCOG) for example was a CLG with government, the Mayor of London and the British Olympic Association as guarantors. Separately, the Olympic Delivery Authority (ODA) was set up as a statutory corporation and executive non-departmental public body with the purpose of delivering venues and associated infrastructure for the Games. I note that this organisation, closer to government, was entirely wider public sector funded. Another comparison would be Crossrail^[footnote 3] – a single purpose company set up as a wholly-owned subsidiary of Transport for London (TfL), albeit with joint sponsorship from TfL and DfT, and a different funding structure (including borrowing against future fares).

8. The advantages of the CLG structure, and criteria for its success, are typically deemed to be:

- a high degree of independence from government and, in particular, political cycles;
- the ability to hire expensive talent broadly exempt from Civil Servant pay restrictions;
- a commercial DNA which will be more effective in managing supply chains and contracts; and,
- an ability to make decisions at the speed of commercial relevance.

9. There is a plethora of organisational constructs available to government to employ when establishing organisations charged with carrying out activities, of varying degrees of commercial intensity, on behalf of the state. Amongst them are arm's length bodies; companies, limited either by guarantee or shares; statutory corporations; and trading funds. A key feature determining designation, however, is, or should be, how much of the entity's revenue is derived from the public purse and how much is from the private sector. To take the example of LOCOG again, most of its revenue came from private sector sponsorship, while trading funds are required to derive at least 50% of their income from the market.

10. This was not the case with HS2 Ltd. All of its funding has always come from government in the form of grant-in-aid, and it is difficult to envisage a situation in which this could not be the case. Company structures are arguably fundamentally ill-suited to this type of arrangement.

11. While there is no doubt that the advantages enumerated at Paragraph 8 above can furnish considerable benefits for large-scale, long-term projects which are heavily dependent on the private sector, they have not been successful in the case of HS2. In my judgement there are a variety of reasons for this.

12. The company structure established for HS2 was neither one thing nor the other, and the benefits of simpler constructs were lost. Strictly there is no "owner" of a company limited by guarantee, the DfT was the only member and guarantor. While the DfT Senior Responsible Owner (SRO) attended the HS2 Ltd Board as a "DfT Observer", and the HS2 Ltd Senior Independent Director had previously served as the Lead Non-Executive Director (NED) on the DfT Board, no DfT or HMT officials were Directors of the Board ahead of granting of NtP (two Special Directors were appointed to represent the shareholders interests as part of the strengthening of the Board following NtP)^[footnote 4] A number of consequences seem to have arisen accordingly:

- as there was no formal government representative at the time, the Board, and especially the CEO and Chair, seem to have developed an excessive and ultimately false sense of independence, instead of seeing themselves as overseeing a delivery function;
- the NED cadre in 2018 ultimately needed to be very substantially reinforced, particularly in 2020, and earlier NEDs seem not have had the pre-eminent interests of the department/shareholder as a priority; and
- the natural discipline, especially with regards to cost and cost-benefit assessment, that arises from having third party shareholders invested in the business, with associated governance, information rights and Board seats, was inevitably absent.

The Performance of HS2 Ltd's Board

13. Why did the Board of HS2 Ltd fail to identify and then get to the bottom of the inadequacies of the approach that the management was taking to letting immature contracts, controlling costs, and the treatment of risk? Interviews conducted in the course of this Review, and crucially, Board Reviews conducted independently in 2019 and 2021, provide most of the answers. Beyond its make-up and qualification, there were two main factors at play:

- a basic mischaracterisation of the role that the Board was meant to play, and;
- inadequate management information.

The Role of the Board

14. Financial Reporting Council (FRC) guidance, quoted in the 2021 Board Review, states:

A company's purpose is the reason for which it exists. The board is responsible for setting and reconfirming the company's purpose. A well-defined purpose will help companies to articulate their business model and develop their strategy, operating practices and approach to risk.

15. Indeed, despite the clarity of the FRC statement, the 2021 Review states baldly that there is “currently misalignment between the HS2 Board, the DfT and HMT on the Board's true purpose, [which] will have an impact on cost and schedule. ... The concept of Purpose seems to have become more opaque since the 2019 Review where levels of trust were seen as improving.”

16. It is clear from the above that a shared and consistent understanding of the basic objectives of the Company was absent. In particular, interviewees have repeatedly stated that they felt at the time that the Board, and especially the executive management and Chair, had adopted a “fortress mentality” and had become “cheerleaders”, not merely for HS2 but for the cause of high-speed rail in the UK more generally, repeatedly believing that they would be “ushering in a new era”.

17. This conception of HS2 Ltd's role was misguided. Transport policy is for ministers – indeed, for projects of the scale of HS2, Cabinet as a whole – to decide. DfT did provide direction, via the published Framework Document and regular correspondence from ministers, so the Company's purpose should have been clearly understood: to deliver a high-speed railway within the scope and cost envelope set by Parliament and government. To the extent that this was not possible, its responsibility was to express, accurately and with well-founded evidence and analysis, what additional resources or time would be required, or what scope would need to be reduced to remain within the parameters. Performing this task is principally for the Board.

18. Equally it is not the role of the Board and its non-executives to support the approach of the Executive without the most rigorous of challenge, particularly in a mega project of this complexity. If they believed that the Executive had been captured, was suffering from optimism bias or was “strategically misrepresenting” the real picture, then it was their duty to call this out in the most vigorous way. Despite views that the Board improved over time – notably through the inclusion of shareholder representation from DfT and HMT after NtP – it seems clear that this did not happen consistently or sufficiently in the reference period of this Review.

19. The role of politics has been repeatedly raised by interviewees and previous reviews. This is an important subject and there is little doubt that all players, certainly at HS2 Ltd and the Department, felt under significant pressure from ministers to keep things moving. However, this is fully covered in the Stewart Review, and it is sufficient to say that this Review supports its findings and recommendations.

Management Information

20. Some of the Board members of HS2 Ltd were experienced construction and infrastructure executives. Nevertheless, the Board Review of 2019 quoted one of them saying that the Board pack data provided “a veil behind which less good news becomes difficult to assess or even identify”. This clearly contributed to a feeling that the Board was incapable of “asking sharper questions and [requesting] sharper answers.

21. It is clear, however, that by 2021 little, if any, progress had been made:

“The Board Pack remains unwieldy with an inconsistent format for Management Information being adhered to. Its sheer size/volume, combined with a lack of “Board Paper sign-posting”, has the potential to unintentionally veil the Board from potentially relevant priorities in the detail.”

22. Several of the interviewees of this Review stated that it was clear that the Board did not feel empowered to challenge the Executive in the conventional manner. It is equally clear from interviews that some of the Board (as well as some of the teams in both the DfT and HMT) thought that they were not

receiving proper information from the Executive – with shifting figures, inconsistent answers to questions and a lack of prioritisation identified.

23. The management information provided to the Board also formed the basis of the information that was provided to government and underpinned the decisions ultimately made by ministers. To the extent that it was inadequate for Board purposes, it was also inadequate for government audiences.

Control Environment

24. The control environment within HS2 Ltd has been almost universally described by interviewees as “weak”. The importance of this fact is difficult to overstate given the scale of HS2 Ltd’s task and purpose.

25. Both Lines of Defence (LoDs) 1 & 2, (i.e. the executive management and the formal Risk function) appear to have relied heavily on consultants. LoD2 in particular seems to have been primarily process rather than substance driven.

26. LoD3 (Internal Audit) was repeatedly referred to by interviewees as “underpowered” and “superficial”. In fact, HS2 Ltd did not have an internal audit function of its own, relying on the Government Internal Audit Agency (GIAA), an executive agency of HMT. This Review has not been able to discover a full schedule of the Audits performed by GIAA and the audits that there are records of flagged some relevant issues but they did not identify the major cost and schedule problems of the Company. While GIAA brought in sector expertise, and outsourced elements of the work, in recognition of the specificity of the ask, in my view the scale and complexity of the mission of HS2 would always have been beyond the capabilities of the GIAA to address, and I would have expected either a fully professionalised Internal Audit function sitting within the Company, or the appointment of a major audit firm to conduct internal audits on the Company’s behalf. The presence of the GIAA was not only inadequate to the task of monitoring aspects of the Company, but also speaks to the confusion of the Company’s status (see above).

27. The HS2 Project Representative (P-Rep) was an auxiliary component of LoD3. The P-Rep is a concept and function used almost exclusively by government. It is described in the GIAA Report on governance as follows:

The HS2 Project Representative (P-Rep) provide assurance to the DfT that its requirements for the HS2 Programme will be delivered by HS2 Ltd in a manner that is fit for purpose and represents value for money for the taxpayer. The P-Rep has the expertise and capability to provide assurance across all areas of the programme and comprises a core team which is augmented as and when necessary by specialists from a range of disciplines. The P-Rep maintain a watching brief on the work HS2 Ltd is undertaking and produce a monthly report to the DfT. This report covers key issues, progress, changes proposed and makes recommendations where appropriate. The P-Rep also attends governance meetings and provides advice to the SRO. Thus, the P-Rep provides support to the governance process through the provision of detailed insight and recommendations to [DfT’s High Speed Rail Group] on HS2 operations, capacity and capability. The P-Rep attends all HSR governance bodies and tables monthly reports.

28. In essence it seems to have performed some of the duties of a properly constituted Internal Audit function, though on a scheduled rather than topic specific basis, and not primarily for the Company but for the Department. Again, while the utility of a comparable function on Crossrail was apparently a factor in the decision to use it on HS2, its presence speaks to an institutional immaturity. We also heard mixed evidence about how much heed was taken of its reports – in part reflecting a confusion of roles reporting to DfT or to the Company; possibly reflecting lack of ownership in HS2 Ltd as a result of P-Rep reporting to DfT or lack of clarity given it provided tactical advice and risk assurance but was also brought into strategic questions given needed. Given that it was supposedly an important part of the Internal Audit function, this lack of clarity on the part of both the Company and government is an example of the weakness of the prevailing control environment.

Conclusion

29. HS2 Ltd was established as a CLG to provide independence and the commercial freedom to hire expensive specialist talent in required areas. However, because the Company was entirely publicly funded and had no formal government representation on its Board, the expected commercial discipline and shareholder challenge to live within agreed cost envelopes did not materialise. The Board also lacked insufficient capabilities in some areas, especially in its earlier iterations, notwithstanding some capable and experienced people. This contributed to a culture in which the Board focused more on advocacy for high-speed rail and maintaining visible progress on the programme rather than on rigorous delivery within the cost envelope. Unwieldy management information reduced the Board's ability to identify risks and issues with costs, which was inevitably replicated within government when working from the same data, while a weak control environment meant cost and schedule data were insufficiently challenged. Together, these factors contributed to the failure to foresee the significant increases in estimates observed from 2020 onwards. This undoubtedly impacted the advice provided by HS2 Ltd and its Board to government.

The Civil Service

30. These challenges in the Company's structure, governance and operation are outlined because they were established and overseen by government, including both ministers and the Civil Service. DfT is not and was not responsible for building HS2 the railway, but it is and was responsible for overseeing HS2 Ltd – and it is universally agreed that the Company failed at this point in the evolution of the project, and that therefore oversight failed.

31. As one interviewee put it, the questions are therefore “why HMG failed to identify and act on the scale of failure in the company” and whether “it was reasonable to assume that the Department had reasonable oversight?”

Foundations

32. As outlined above, it is accepted that an arm's length structure was inevitable to deliver HS2. None of our interviewees considered that the alternative – DfT itself playing the delivery role – would have been remotely viable given the unique scale of the project, the specialist skills and experience required and the constraints of Civil Service remuneration. And, indeed, it wasn't. organisationally alone, it would have created a serious imbalance in size and function inside the Department. The same approach in broad terms is taken with other major projects and companies.

33. However, the corollary of an arm's length construct is that the overseeing Department needs the tools and capability to fully perform its complex supervisory functions. Specifically, it needs:

- capability: people with the right mix of experience and expertise to provide effective oversight;
- information: to ensure it has access to proper information and the ability to understand it and that challenge needs to be formal and respected; and
- authority and judgement to take action to deal with under- or non-performance of contract or individuals including the ability and willingness to impose penalties for failure.

Capability

Skills

34. Notwithstanding the presence of many talented team members, everyone I spoke to agreed that with hindsight the Civil Service did not have the required capabilities, in sufficient depth, to consistently discharge its responsibilities with regards to HS2.

35. Opinions vary on which skillsets, and at which level of depth, would have made a difference – whether that be engineering, commercial, governance or strategic capability – in part because the make-up of the team did change over time (including for example when after re-procurement in 2022/23, the P-Rep had a greater focus on advising the DfT sponsor team). Similarly in some areas efforts were made to bring additional functional expertise to bear – such as through a parallel shareholder function in DfT under a separate Director General. Again, opinion varies as to whether this helped or whether it confused by separating out the SRO and shareholder function (see below on roles).

36. It is, however, fair to assume that at least at points, more, and more, experienced representation in those areas would have been beneficial in enabling the client team to properly fulfil its role. My own conclusions attempting to look across the areas and time periods is that:

- there was an over tactical reliance on consultants as opposed to embedding strategic and private sector expertise within the client team with a view to providing a mix of public and private sector experience. This model has been used successfully in other government entities such as Partnerships UK, UK Financial Investments and UK Government Investments (UKGI);
- more use should have been made of commercial and corporate governance inside government, such as, for example, UKGI, both in the set-up phase and on an ongoing basis;
- where infrastructure and mega project expertise was made use of, in particular from the then Infrastructure and Projects Authority (IPA, which has been superseded by the National Infrastructure and Service Transformation Authority (NISTA)), it was unclear if they were playing an assurance or an advisory function, confusion which led teams to engage as if it was the former. This almost inevitably resulted in a less open relationship;
- the training offered by the Major Projects Leadership Academy is failing to sufficiently develop the commercial and infrastructure project skills required by officials for the very largest and most complex programmes.

37. How specifically was this weakness manifested? Principally in the assessment of the contractual, price and management risks to which the project was subject – and therefore accurately incorporating that risk into the decision-making process. In resetting the programme, the Company was responsible for providing detailed bottom-up cost estimates which were then challenged, tested and assured by DfT, HMT and Cabinet Office and through external contractors using tested methodologies. The fact that there was a significant degree of uncertainty was reflected in the decision to recommend a wide range, rather than a single figure budget, as had been the practice previously.

38. Nonetheless it is clear that the level of intrinsic risk, especially given the level of design immaturity, the Company's track record and the unprecedented scale of the programme was seriously underestimated. These factors should have led to greater scepticism and more emphasis on delivery risk in the advice for ministers (this is covered below in further detail). Instead, advice relied on overly optimistic assumptions about costs and delivery in the benefits to cost ratio (BCR) as the core framework for the decisions. This assessment, simply put, shows the Civil Service failed to recognise the scale of the remaining intrinsic risk in the project, and instead made substantial, but ultimately incremental, adjustments to an existing picture.

Pay

39. As noted already, one of the reasons (though far from the only one) that government discharges its delivery obligations through companies and other quasi-commercial entities is that there are pay freedoms that are not available in the mainstream Civil Service. Highly specialised commercial skills command remuneration which is far beyond the average Civil Service pay. The disparity between the senior Civil Service, in particular, and the private sector continues to grow, to the extent that pay for Directors General and Permanent Secretaries has been falling in real terms since 2013 and is now

estimated to be approximately 50% of that commanded by private sector equivalents.^{[footnote 51](#)} In this particular case the gap between pay of the SRO and CEO of HS2 Ltd would have been much greater.

40. One consequence of this imbalance is that Civil Servants inevitably rely on the services of consultants to provide much of the specialised commercial analysis required to assist in the scrutiny of material coming from organisations they oversee.

41. I welcome that the Office for Value for Money (OVfM), in its study on the governance and budgeting arrangements for mega projects^{[footnote 61](#)}, found that delivery bodies such as HS2 Ltd should “be granted automatic freedom to determine pay for specialist roles not typically held by Civil Servants”. More of these freedoms need to be available within the Department sponsoring these projects. Without them there will be an inevitable out-sourcing of analysis and judgement to agents outwith government who can afford to pay the going rate for the expertise required.

42. While it is inevitable that some form of arm’s length body was established to deliver HS2 (i.e., HS2 Ltd.), to then fail to incorporate the necessary skills in the main body of the Civil Service to oversee that body is a false economy. Consultants do not take responsibility for advice given to ministers, while the Civil Servants who do take that responsibility need to be in a position to fully understand the nature of the information they are being given to assess. If the corollary of this is that significant pay freedoms need to be in place in to attract the volume and seniority of talent to full time Civil Service positions, they should be given. There are a number of precedents for specialist pay provisions across government, and they are ones that should have been followed in the formation of the DfT team. Given the unprecedented nature of HS2 as a project, such expertise would not alone have served to prevent the cost and delivery risks materialising – indeed the consultants who were used by the Department failed to identify them, as did the Board of HS2 – but it might have led to a better sense of how to correctly identify the level of risk the project was exposed to and to consider more appropriate mitigations or ways of proceeding.

Leadership

43. There is a question, related to the Accounting Officer (AO) and Senior Responsible Owner (SRO) discussion below, as to whether the Director General role overseeing HS2 – the SRO – was properly configured.

44. In the reference period, this role was performed by a generalist Civil Servant, albeit all incumbents had had considerable exposure to the commercial sector. However, for a role as significant as this, overseeing a project as consequential as HS2, it is at least arguable that a senior figure with significant commercial experience, most likely gained in the private sector, better able to understand and control the forces at play in HS2 Ltd the company, and probe the information coming from it, was advisable. This is not clear-cut and the counter-argument is that the job also involved the corporate leadership of DfT, managing Whitehall and a complex hybrid bill. Nevertheless, recruiting from the private sector for roles such as these is a leadership model which has been used in the past successfully in the Civil Service and could have been used here.

45. What is not arguable, in my opinion, is that the SRO for HS2 Ltd should have been SRO for that project alone. Though configurations varied over time – and moved towards a greater level of focus – the SRO was also engaged on other major rail projects throughout this period. It is a common failing across the whole of government that SROs for very significant projects have more than one programme for which they are responsible. This is a serious shortcoming and causes a lack of focus that programmes like this can ill afford.

Assessing Departmental Sponsorship Capability

46. An important part of the evidence for this Review has been the Board Reviews that HS2 Ltd itself conducted. In doing so it conformed to mandatory corporate practice, by which a Board will, usually on annual basis, assess a range of factors, amongst them:

- board skills
- culture and dynamics
- strategic oversight and performance
- information flow
- chair and individual NED evaluations

47. Although IPA and Gateway Reviews consider the sponsorship arrangements of a programme, and changes were made to the DfT team and its operating model around NtP, I would argue no comparable regular evaluation takes place of key bodies in the Civil Service. While not believing it necessary to replicate a full Board Review process, a much more deliberative approach to whether the right capabilities are in place, certainly including regular skills audits, would be an innovation worth making, particularly in commercial facing areas.

Governance and Oversight

48. I have been asked to specifically consider the appropriateness, design and interaction of the AO and SRO functions when it comes to projects of this scale.

49. The Principal Accounting Officer (PAO) role must reside with the Permanent Secretary of DfT, and no “first” Permanent Secretary (i.e. those with the principal responsibility for a Department of State) should, in my view, be appointed without very extensive Whitehall experience. Moreover, it is inconceivable that ultimate accountability to Parliament for expenditure on the scale of HS2 does not reside with the most senior official in the Department.

50. However, the Chief Executive of HS2 Ltd is also an AO for the HS2 programme, and the presence of two AO (the CEO and Permanent Secretary), as well as a policy SRO at the rank of Director-General (DG), and a separate shareholder function, under another DG, was cited to us by several interviewees as making lines of reporting and authority unclear. (A similar point was made about potential confusion between the CEO of HS2 Ltd as AO and the role of the Board as the custodian of the Company’s mission, about which I have already commented.)

51. With respect to the separation of policy and shareholding, and while understanding that the purpose of separation of the SRO and shareholder function was to ensure challenge to the company, I agree with the assessment that the balance of advantage is in favour of coherence, and welcome the fact that under current arrangements the DfT has brought the sponsor and shareholding functions under the same DG.

52. The most significant remaining question is whether the Chief Executive of HS2 Ltd should be an Accounting Officer. The strongest argument against them being so is that it diminishes the status of the SRO and potentially gives the CEO the opportunity to cut the SRO out, using direct Parliamentary accountability in support of that argument.

53. The arguments to make the CEO an AO are, however, much stronger:

- it affords legislators in Parliament to hold directly and publicly to account the individual principally responsible for the progress and performance of the programme. This is, in my view, the most important factor; and,
- there should be no question of the disintermediation of the SRO for the programme as long as the PAO, i.e., the Permanent Secretary, is clear that the SRO acts with their authority, and therefore has institutional precedence.

54. Accordingly, I do not believe that the governance and accountability arrangements in place throughout the reference period were deficient.

Advice and assessment of risk

Reviews vs advice

55. As outlined above, my interviews corroborated the Stewart Review's description of the decision-making environment around HS2, in particular a confusion between mission ("build the world's best railway"/"level up Britain"/"usher in a new age of high speed rail") and task (to deliver required capacity within time and budget).

56. Stewart also notes the challenge of navigating that political environment for the Civil Service and points to a sense that decisions were influenced by "political pressure to maintain momentum".

57. The sequence of events around the Oakervee Review^[footnote 7] was one example. Douglas Oakervee, previously Chair of HS2 Ltd from February 2009 to March 2012, was commissioned by the Johnson administration to review HS2 and government's options. Oakervee and almost all of his independent panel recommended proceeding with the full route and this decision was then announced in Parliament on 11 February 2020.^[footnote 8] This was a week after a trilateral meeting of PM-Chancellor-Secretary of State had reached the same conclusion. The formal NtP was confirmed to the Company in March 2020 – with HMT approval and further checks on readiness being conducted across that month.

58. The use of external reviews (including this one) to inform government decision making is neither unusual nor unjustified. It is an important principle, however, they should not substitute for the provision of advice on overall strategic choices. There is often a premium placed within government to maintain schedule in delivery of major projects. This needs to be balanced against the need to consider options which effectively mitigate risks, and alternatives available.

59. To be clear official advice was provided ahead of the key meeting, and alongside the Report, but, perhaps reflecting the fact that they were considered to have been addressed by Oakervee, or preparatory material prepared for his independent panel, by the DfT secretariat, they did not address, for example, options on alternative ways of delivering the project (as opposed to alternative projects) – including options which would have led to a delay in construction while alternative designs, options or contractual arrangements were sought. Instead, and while I accept that it would always be a challenge to distil the core elements in a project as complex as HS2 for ministers, they lent in large part on the Oakervee work and focussed on the narrower decision on whether or not to proceed.

60. There was particular cause to provide the fullest range of advice at this point in HS2's history. In January 2020 the vice chair of the Oakervee Panel, Lord Berkeley, published a dissenting report on HS2 which cast doubt on the costings and schedule of the project and the capability of HS2 Ltd^[footnote 9]. There is no escaping the fact that the thrust of his judgements, in particular about the capability of the Company to manage the project, have proved to be correct, and his estimates much closer to today's outturn than those upon which ministers ultimately gave the go-ahead. That said, there was good reason to doubt the methodology by which he reached some of these conclusions (and they were dismissed as unfounded by the Panel after considerable interrogation), and subsequent reviews have made it apparent that some of the cost increases arose from factors not identified by Lord Berkeley.

Challenge

61. One conclusion from this assessment – and the overall dynamic surrounding the sense of "mission" – is that a greater level of in-built challenge would have been beneficial (although there were repeated formal reviews and lessons learned exercises – the joint publication of the DfT and IPA from April 2019 on "Lessons from transport for the sponsorship of major projects" being a good example). The Office for Value for Money (OVfM) study recommends "streamlined and bespoke decision-making processes and integrated assurance plans which recognise that people with the necessary expertise are running delivery, with independent assurance by those technically qualified." This is a welcome step forward in

simplifying and harmonising multiple tiers of assurance in order to drive cross-government buy-in but there are good arguments to go further in building in challenge to projects.

62. Formal advice should continue to come from officials on the overall strategic choice, with an appropriately detailed outline of alternative solutions and their associated risks. Any such impartial advice should be regularly red-teamed, or be subject to another formal challenge process. The focus of these sessions should be to identify further gaps, vulnerabilities and risks within the advice that those closest to its drafting and content may be unable to do effectively due to their proximity. In this fashion, it is not merely an assurance exercise but instead an active means to challenge groupthink and allow for alternatives to be properly costed and considered, alongside existing options.

The description of risk

63. Throughout the HS2's long history of assessment there have very naturally been many references to the risk of the project. The assessment of risk is critically important in any major project, and is central to the likelihood of project success, and of meeting cost and schedule. There is, accordingly, an extremely well-developed set of analytical techniques to identify, assess and mitigate risk, which are habitually used throughout the lifecycle of any project.

64. James Stewart discusses the approach to risk that was used in HS2 and makes trenchant criticism of it. This Review supports his recommendations in full.

65. There is one aspect that is not covered in the Stewart Review, however, and that is the description of risk in budgets and timings to non-expert audiences, which can include ministers.

66. The Stewart Review focuses on P values, which are expressions in percentage terms of the confidence level of achieving a successful outcome. They are standard tools used in the construction and infrastructure industry, and vital for project management. But they are not easily understood by a lay reader. I would strongly recommend that the lessons drawn from the assessment and characterisation of intelligence, most notably in the Butler Review of 2004, are extended to the description for ministers of the levels of confidence with which estimates are presented.

67. In my opinion, it would be much more informative for ministers to be advised that estimates of ranges (in themselves greatly to be preferred to spuriously precise point estimates, and, indeed, used by the HS2 teams) are held with low, medium or high confidence, as is now customarily the case for intelligence assessments. The relatively short description of costs and schedule in the final advice to the PM, Chancellor and Secretary of State (21 January 2020) would have benefited from such caveating, though it would be wrong to claim that the issue of uncertainty was not addressed – it was, and frequently. Reference is made to projects of this sort being “inherently uncertain” and that officials “cannot be confident that the costs of HS2 will not rise further”.

68. However, taken as a whole, the advice fails to give a good sense of the scale of the uncertainty at this phase in the project. The advice states that DfT's proposed budget for Phase 1 “includes a contingency to absorb the cost increases observed in practice by 70-75% of comparable projects”, and therefore it is implied that ministers should be seriously concerned only if they believed that “the project performs at the standard of the worst 25% of comparable projects.” It was, in fact, impossible to securely make these kinds of comparisons at this point with this quality of information, and articulating the position in this way runs the danger of giving rise to a false sense of security. In any case, a plain English statement of the uncertainty inherent in the risk modelling should have forced a more straightforward and possibly stark description of the enormous uncertainty inherent in a programme of this unprecedented scale. The failure to recognise and express this risk is at the heart of failings of HS2 in this period.

Accounting Officer assessments

69. There were numerous Accounting Officer assessments through the reference period, four in 2019 alone. [\[footnote 10\]](#) All concluded that there was no need for a direction from ministers on the basis that it was reasonable to continue to spend money on HS2 despite the fact of its unaffordability, given that a process to determine its future was underway and a new funding envelope would need to be agreed if a decision to proceed was taken, despite stating that Phase One of the project was not feasible within the existing affordability envelope. This is not an uncommon situation facing long running projects and I judge it to be a reasonable position to adopt.

70. What is more interesting is the value-for-money (VFM) decision. In essence the view was taken that the key way of thinking about the project's VFM was against the assumption that both Phase 1 and Phase 2 would be constructed. Just building Phase 1 itself (as was eventually decided) would be low VFM. In itself and at the time this was a reasonable position to adopt, reflecting, as it did, government policy, and there would be some benefits of Phase 2 was taken as a given - it would have been difficult to make an AO assessment assuming that this were not to be the case and the whole of Phase 2 might be cancelled. Nevertheless, in my view, it should have been made much clearer that the design, and therefore costings and schedule, for Phase 2 upon which the full decision rested, were much less mature than those for the low VFM Phase 1.

71. Nevertheless, it was reasonable to decide not to seek a Ministerial direction. The settled position of government was to build the railway beyond Birmingham. To have predicted otherwise seems to me to be an instance of hindsight bias. It is, though, a case study of needing to think through and describe future scenarios and risk through an AO process.

72. It is also the case that Managing Public Money rules are better suited to the assessment of fixed-point decisions or projects rather than the multi-decadal and multi-phase reality of the very largest programmes.

Sanctions for underperformance

73. The Civil Service failed in important ways to recognise or characterise the multiple issues in the Company HS2 Ltd and the information that it was producing. Nevertheless:

- the root of these failings was in the Company, and;
- weaknesses were recognised in HS2 Ltd (indeed, the Oakervee Review dwells on them at length, as do the Berkeley Dissenting Report and the Board Reviews)

74. In my view incentives and sanctions on HS2 Ltd to correct underperformance and promote more accurate information exchange were either inadequate or inadequately applied. A more defined and robust system of intervention, drawing on best practice in the commercial sector, is needed by the Civil Service. I note that the OVM made a similar conclusion that exceeding the agreed funding envelope should trigger a fundamental reset, as is currently happening on HS2.

75. In extremis this clearly includes changing the senior leadership in HS2 Ltd. This ought to have been considered more fully than it seems to have been. As Stewart outlines this is harder to do in practice in the public sector and there are risks attached. He also notes that the pressure for pace and concerns that a change in leadership would slow things down was an important inhibiting factor, and it is certainly true that appointments in the public sector are grindingly slow. This became particularly important after the NtP decision. However, the consequence of avoiding difficult, personnel decisions is worse. It is important for there to be a clear understanding that government can, and will, change senior management in arm's length bodies in the same way that would happen routinely in the private sector if necessary for the health of the project. To do so is not a statement of failure. It is important to note, however, that such an approach also indicates a need for more fully worked up succession plans and possibly a closer relationship between the Chair (and Senior Independent Director if one exists) and shareholder, as well as a broader realisation amongst ministers and officials that management changed needs to be effected at pace.

Conclusion

76. There is no doubt that participation at the controlling level of the private sector in high jeopardy, difficult national projects, with all the capital and management discipline it brings, is desirable. The Thames Tideway Tunnel is a case in point. Nevertheless, this is not always possible and the Civil Service and government needs to be capable of delivering high quality oversight itself. One common requirement for success, as Stewart identifies, is for the very biggest projects to be considered as “whole of government” endeavours, where a clearly articulated shared mission across multiple bodies and departments and the development of a culture of clear and open communication is firmly established.

77. As stated in my introduction, there are a multitude of reasons, which are well-documented, for the shortcomings of HS2’s execution. This Review has endeavoured to understand how the failings of HS2 Ltd, both in its establishment and subsequent operation flowed through to the Civil Service and the reasons why they were not adequately identified and acted upon.

78. The Civil Service was unable to fully assess and then articulate the commercial and financial risks to ministers, and too much weight was ultimately placed on the Oakervee Review. This is said with the benefit of hindsight, and it is important to note that I have discerned in the course of this Review no reason to doubt the integrity or application of the civil servants involved. However ultimately the fundamental requirements for success are as clear and unchanging as they are in any Civil Service programme:

- properly constituted delivery bodies;
- the right officials with the right skills and experience;
- regular challenge;
- clear advice;
- incorporating fully understood and accurately articulated risks; and
- well-defined and actioned frameworks of accountability.

79. In HS2, a project of national magnitude with unparalleled complexity and scale, there can be no compromise in the delivery of these elements, and there should be none as the project moves ahead.

Recommendations

1. More consideration needs to be given to the range of commercial constructs available when establishing Arm’s Length Bodies, giving due weight to their likely sources of revenue, both current and future. Specialist advice, either internal or external, should be sought when making this decision.

2. Government should always seek to have at least one non-executive Director on the Board of Companies in which it has a meaningful de jure or de facto stake. The incumbent of this role should have sufficient training and experience to be able to both perform conventional director’s fiduciary duties and represent the shareholder interest.

3. There is a necessity for the appropriate Senior Leader (e.g., SRO, Permanent Secretary) within the Sponsor Department to have oversight of the vision for companies and their boards.

4. All Board members should be formally aware of the role that they are meant to play as Directors, which to the extent that it can be, distinct from the formulation of policy. The Chair’s letter, issued every year, needs to reiterate these instructions.

5. Management Information is of paramount importance in the successful execution of strategy and operations. Its prominence as a key factor needs to be much greater, and information packs must be designed for swift and accurate comprehension by Boards, shareholders, sponsors and other stakeholders. There must be every effort made to ensure that there is only one version of the truth for all readers.

6. The Internal Audit (IA) function of Arm's Length Bodies needs to be fit-for-purpose. There are a number of models which can be employed depending on the scale and complexity of the organisation in question, but for HS2 and organisations of similar type, an IA function must be well resourced and sophisticated. Above all the function must be given esteem, and in all instances IA findings must be acted upon, with any risk acceptances clearly justified.

7. Civil Service sponsor and shareholding teams need to have the right combination of skills. This needs to be a fundamental design principle, and exactly what those skills are needs to be reviewed regularly as circumstances change and programmes evolve. This should be a formal mandated process.

8. Pay freedoms should be extended to enable the formulation of properly constituted Civil Service teams.

9. Senior Responsible Officers (SROs) for the largest projects should not automatically be career civil servants, and more effort should be put into attracting and recruiting qualified and experienced executives from the private sector programmes where it is appropriate. Alongside this, the Civil Service should seek to create a pipeline of future Director General SROs by bringing in qualified individuals at the Deputy Director / Director level providing them with relevant training and support to be successful in a government context. This should also encompass a clear retention plan by government of those SROs with the appropriate, valuable, experience and qualifications - supported by a regular review of the professional accreditation required of major programme SROs.

10. The same person should not be appointed as SRO for two or more distinctly separate programmes. They should also spend at least 50% of their time on programme management.

11. It should be made clear in the job descriptions for all Permanent Secretary roles that one of their central responsibilities will be the oversight of Major Programmes.

12. It is imperative that Senior Leaders are aware of their responsibilities and the governance frameworks within which they are working, to support this:

a. A plain English and commonly understood set of protocols should be put in place that is understood by all the players both at the initiation of and throughout a programme. This will ensure proper management and accountability, reducing confusion, especially for those joining from the private sector.

b. HMT should review how Accounting Officers can comply with their ongoing duties under Managing Public Money in respect of multi-decadal programmes of this nature to ensure that the point in time Accounting Officer Assessments can appropriately analyse and set out for Parliament the full nature of the costs, risks and benefits through the lifetime of the programme










13. His Majesty's Treasury should clearly articulate the roles and responsibilities between the Government Internal Audit Agency and the National Infrastructure and Service Transformation Authority on assurance and advisory of major projects.

14. Reviews by external actors (including this one) have their place in informing policy formulation, but they should not substitute for official advice which will be able to reflect a broader range of relevant concerns.

15. The subject of risk is fully considered in the Stewart Review. In the description of risk, alongside the use of ranges, a clearer and more simple taxonomy of terms (possibly mirroring those used in intelligence assessment) should be developed for the most senior decision makers and used uniformly.

16. At all stages of delivery, government should more actively consider its leverage to intervene should things go wrong. Where decisions are taken that would reduce leverage and intervention options, e.g. after contract award, this impact should feature as a key trade-off and tolerances for performance deviation and mitigation plans should be developed at the point of decision to manage this risk.

17. Sanctions for underperformance should be understood by the executives of Arm's Length Bodies and, where appropriate, more forcefully imposed. This will require a greater degree of openness between Chairs and Government shareholders/sponsors.

1. [The HS2 Experience: major transport projects governance and assurance review \(PDF, 1,389KB\)](#) 
2. Figure 1 shows the history of published Phase 1 cost estimates from 2012 to 2026. All these costs include the upper limit of contingency calculated at the time and the full cost of delivering Euston Station. They are presented in 2019 prices, but I note that the recently announced HS2 cost range of £82.2 bn is expressed in a mixed price base, including the costs of both works to date and future work excluding inflation. To aid comparison, the upper bound of the 2026 HS2 cost range is presented here in an equivalent 2019 price base. Spend to Q3 2019 is retained in nominal and spend between Q3 2019 and Q3 2025 is deflated to Q3 2019 prices. The totality of remaining spend from September 2025 is also deflated to Q3 2019 prices, excluding all anticipated future construction costs increases. 
3. Crossrail was a company limited by shareholders 
4. A DfT non-executive director was made a director after the notice to proceed decision. The equivalent HMT role was filled in 2021. 
5. [Part 2: The state of the civil service - Institute for Government](#) 
6. [Office for Value for Money \(OVfM\) \(PDF, 1,284KB\)](#) 
7. [Oakervee Review of HS2 - GOV.UK](#) 
8. [11 February 2020 Hansard](#) 
9. [Lord Berkeley HS2 Review Dissenting Report \(PDF, 1,314KB\)](#) 
10. [HS2 2019 Accounting Officer Assessments](#) 