National Audit Office

INSIGHT

Lessons learned: Governance and decision-making on mega-projects

Cross government

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Cross government

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

7 March 2025

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Summary

1 Major projects are one of the main ways the government delivers its objectives. They provide economic infrastructure such as roads, railways and power stations, and social infrastructure such as hospitals and schools. They also support the transformation and improvement of public services. The government spends substantial amounts of public money on these projects. On 31 March 2024, the Government Major Projects Portfolio (GMPP), which comprises the government's largest, most innovative and most risky projects, included 227 projects at a combined whole-life cost of £834 billion. Within the GMPP are a small number of projects, such as big railway or energy projects, that are particularly costly, innovative, risky, complex and/or strategically important. We are calling these 'mega-projects'.

2 Governance is the system that provides a framework for managing organisations or projects and making decisions. It includes both formal structures and processes, and people and behaviours. In major and mega-projects, good governance is clear about who has authority and accountability and about the role of the investing organisation in defining and controlling a project. It also emphasises the importance of outcomes, benefits and value, as well as cost.

3 The government is currently making several changes that will affect the governance of major projects.

- The government intends to frame future delivery around five missions, some of which cut across government departments. It is setting up mission boards to deliver against these priorities, although is not yet clear how these boards will align with departmental boards or programme boards.
- It intends to publish a 10-year infrastructure strategy setting out the government's plans for infrastructure in the public and private sectors at the same time as the Spending Review in mid-2025. It also aims to reform the system for granting planning approval for infrastructure projects.
- It is creating the National Infrastructure and Service Transformation Authority (NISTA) by bringing together the functions of the Infrastructure and Projects Authority and the National Infrastructure Commission. NISTA will combine strategy and delivery of infrastructure and will be responsible for overseeing the implementation of the 10-year infrastructure strategy with industry, regulators and departments.
- It has set up the Office for Value for Money to reduce waste and inefficiency, scrutinise investment proposals and make suggestions for system reform.

Our scope

4 The purpose of this report is to improve how government approaches strategic governance and decision-making in the largest, riskiest and most complex major projects as it makes changes to the way in which major projects are organised and overseen. We have seen that the repercussions of poor governance and decision-making in these mega-projects are potentially greater than for other more standard major projects. The report:

- sets out some characteristics of 'mega-projects', and some thoughts on why standard models of governance and oversight may not be effective for these projects (Parts One and Two); and
- examines governance in the early stages and throughout delivery for mega-projects (Parts Three and Four).

Parts Two, Three and Four end with questions for project sponsors to consider. We set out recommendations for the centre of government.

5 We have examined major projects across different parts of government and at different stages of delivery over many years. For this report, we have reviewed a sample of projects that we covered in these reports and examined whether and how governance and decision-making enabled the government to manage risks and make timely decisions. We also interviewed officials, and tested our insights with delivery departments, centre of government and external experts. More information on our methodology is in Appendix One.

6 This report is not an exhaustive account of how governance works on major projects, nor about all governance challenges faced by major projects. We do not seek to reproduce or revise the comprehensive guidance on project management techniques and effective governance of major projects that already exists. It is critical that departments understand and use that guidance as they develop and deliver their major projects.

Insights

7 Mega-projects have some different characteristics to major projects. While there is no official definition of a 'mega-project', we have identified some characteristics that make the governance of mega-projects more complex. Mega-projects tend to take significant time to develop and deliver, often spanning parliaments. They also often involve multiple government departments and have many stakeholders. They are strategically important and can be transformational to the economy, society or a government's ability to achieve its priorities. The delivery environment is often complex and challenging and can involve high levels of innovation or be the first of its type. They can be so costly and carry so much risk and uncertainty that they can dominate the financial position of a department or even a government (Part One).

8 The characteristics of mega-projects can make it more difficult for the standard model of governance to work effectively. Normally, a single department is accountable for major projects. However, there can be risks with this approach. For example, it can be more difficult for a single department to take effective decisions where there are differing views between departments and/or stakeholders about the reason for a project and its importance. The government does not systematically identify whether an alternative approach to governance might be more appropriate (Part Two).

9 Given the nature of mega-projects, it is important that those involved in governance and decision-making are clear about the need for a mega-project, its deliverability, affordability and the value it will produce, particularly in the early stages. There is often pressure to get started quickly, but deliverability, feasibility and uncertainty tend to be more difficult to get a grip of in mega-projects, making it more complex to make good value for money decisions. We have seen cases where mega-projects have not had a clear, strategic rationale that is supported by stakeholders. Where the government commits to budgets and timetables before it fully understands what is necessary to deliver the project and its intended value, we have sometimes seen significant cost increases or delays (Part Three).

10 Mega-projects need a governance culture that responds and adapts to challenge but maintains focus. Mega-projects go through the same phases as standard projects, but each phase is likely to be more complex and uncertain, with a greater likelihood for decisions to be reopened, and multiple stakeholders involved, requiring a more iterative approach. Resolving issues on mega-projects can be difficult, owing to their size and complexity. It is therefore important to have suitably qualified and experienced people, with the right behaviours and culture, involved in governance (Part Four).

Recommendations

a HM Treasury and NISTA should develop how they categorise major projects according to their risk and strategic importance. In particular, they should define a category for 'mega-projects' that may require a different approach to governance and specify the criteria for giving a project 'mega-project' status.

b HM Treasury and NISTA should consider using alternative governance approaches for the projects it determines are mega-projects to ensure those who have the authority to make decisions are accountable for the impact of those decisions on the project. This could include, for example, HM Treasury or NISTA having greater involvement in a mega-project during its development – such as a formal position on a project board – to provide it with executive authority and certainty, and to improve alignment between the funder and delivery organisation during the critical early stages of a mega-project.

c Any alternative governance approach should also ensure that:

- roles and responsibilities are clear across those charged with governance and those involved with decision-making; this is particularly critical where decisions and accountabilities stretch across a system or set of organisations; and
- the roles and responsibilities of those who may not be directly involved in governance but are part of the broader government decision-making landscape, such as HM Treasury, cross-government or departmental programme boards, mission and leads, and NISTA, are clear and understood.

d For mega-projects, HM Treasury and NISTA should strengthen the project gateway and business case approval processes to ensure that government has assurance about the affordability, value for money and feasibility of the project before it is given final approval to proceed. This might include only providing funding to take the project to the next stage of development and maturity. Each decision stage should provide governance bodies and funders with assurance that the project's development should continue. NISTA and those charged with governance should advise government to stop a project if early work indicates that the project is too risky and/or costly, or that successful delivery of the benefits is too uncertain to proceed.

Part One

Mega-projects

1.1 We have identified the following characteristics of government's major projects. Mega-projects are likely to display several or all of the following characteristics, which when taken together, make them more difficult to deliver.

Strategic importance and impact on the economy and society

1.2 Mega-projects often have the potential to be transformational to the economy or society and are central to the government's efforts to achieve its priorities. Carbon capture and storage, for example, is a central component of the government's objective to reach net-zero carbon emissions. The COVID-19 vaccine programme, meanwhile, was central to the government objective to "return to life as close to normal as possible, for as many people as possible, as fast and fairly as possible",[1] and the London 2012 Olympic and Paralympic Games were a key government priority with a clear objective to support the regeneration of east London.

Novelty

1.3 A mega-project may involve high levels of innovation or be the first of its type. Innovative and large-scale projects are sometimes necessary to generate the transformational change, but can carry high levels of risk. The government approved the construction of Hinkley Point C, for example, before the type of reactor that the power station would use had been successfully operated.

Cross-cutting benefits and impact

1.4 The benefits and impact of a mega-project can affect many parts of society, the economy and the environment, and so cut across the interests of multiple departments and agencies. The original stated objectives for High Speed Two (HS2), for example, included increased rail capacity along the West Coast Main Line, encouraging sustainable long-term (including regional) economic growth and reducing carbon emissions. Through the lifetime of the project, responsible bodies have had other issues to consider, including conservation of wildlife along the route and interdependencies with other parts of the transport network.

1 Comptroller and Auditor General, *Investigation into preparations for potential COVID-19 vaccines,* Session 2019–2021, HC 1071, National Audit Office, December 2020.

A high level of complexity

1.5 The environment in which mega-projects are delivered is often highly complex and challenging. They may, for example, require primary legislation – as was the case with each phase of HS2 – have multiple stakeholders, be delivered over multiple electoral and economic cycles, or involve extensive supply chains. We reported in 2024 that expansion to the scope of work at and around Euston station, which is only one part of HS2, involved a large number of stakeholders, including the Department for Transport (DfT), High Speed Two Limited (HS2 Ltd), Network Rail, Lendlease (the developer of the area), the London Borough of Camden, Transport for London, the Euston partnership, Ministry of Housing, Communities & Local Government, and a yet-to-be-established new station delivery body.[2] In December 2024 HS2 Ltd stated that HS2 was supported by 3,300 businesses within its supply chain.

A combination of high cost, risk and uncertainty

1.6 Mega-projects are often so costly, and carry so much risk and uncertainty, that cost increases can dominate the financial position of a department or even the whole of government and can also create opportunity costs elsewhere. Complexity can also lead to projects and their promised benefits being delayed. In 2023, the government decided to cancel Phase 2 of HS2 due to the increasing costs of Phase 1, repeated delays to the schedule and changing patterns of travel since the COVID-19 pandemic. The government stated that the HS2 project accounted for over one-third of all government transport investments at that time, and that it prevented the government from spending on other transport priorities.

Substantial time to complete and for value and benefits to materialise

1.7 A full return on investment in mega-projects can take years, or even decades, to materialise, and the projects themselves can take decades from inception to completion. Mega-projects are often designed to solve long-term infrastructure issues, so are designed with long-term benefits in mind. The development of Crossrail – now the Elizabeth Line – began in the early 2000s and the railway did not become fully operational until 2023. Its value to the economy is likely to continue for many decades. Similarly, the government began exploring the options for supporting Hinkley Point C in 2012. We reported in 2017 that the reactor was expected to begin generating electricity in 2025 and to do so until 2085.[3]

1.8 Government does not distinguish between major projects and mega-projects, so neither the Infrastructure Projects Authority nor HM Treasury systematically identify which projects might benefit from an alternative approach to governance and decision-making.

2 Comptroller and Auditor General, *HS2: update following cancellation of Phase 2*, Session 2024-25, HC 128, National Audit Office, July 2024.
3 Comptroller and Auditor General, *Hinkley Point C*, Session 2017-18, HC 40, National Audit Office, June 2017.

Part Two

Risks and issues with the standard model of governance on mega-projects

2.1 Governance is the system that provides a framework for managing organisations or projects and making decisions. It includes both formal structures and processes, and people and behaviours. In major and mega-projects, good governance is clear about who has authority and accountability and about the role of the investing organisation in defining and controlling a project. It also emphasises the importance of outcomes, benefits and value as well as cost.

2.2 HM Treasury and Cabinet Office generally allocate funding to individual departments to deliver their policies and projects.[4] An individual department, which tends to be the project's sponsor, will produce a business case, be responsible for delivering the project within its delegated authorities and be accountable for the project's performance. However, when it comes to mega-projects, this model may not be the most effective, and government does not systematically identify whether an alternative approach might be more appropriate.

2.3 This part sets out the risks and issues we have identified, and some questions for sponsors to consider as they set up governance systems for mega-projects.

Establishing the purpose of a mega-project across government

2.4 Timely and effective decision-making on mega-projects can suffer when, for example, views about the reason for a project or how to deliver it differ between a department and the centre of government. Interviewees for this report and our February 2024 report on *Delivering value from government investment in major projects* told us that mega-projects need vision, energy and continuous leadership in the sponsor organisation.[5] The role that HM Treasury plays in decisions about whether and how to proceed with a project and how to fund it is particularly important. Some tension between spending departments and HM Treasury is expected, and is part of the scrutiny process, but projects have a much stronger chance of success where there is clear alignment between departments and HM Treasury on critical issues.

4 Comptroller and Auditor General, *Lessons learned: a planning and spending framework that enables long-term value for money,* Session 2024-25, HC 234, National Audit Office, October 2024.
5 Comptroller and Auditor General, *Lessons learned: Delivering value from government investment in major projects*, Session 2023-24, HC 554, National Audit Office, February 2024.

2.5 We have seen cases where there is a strong, shared purpose. For example, the preparations for the London 2012 Olympic Games benefitted from alignment of purpose between all levels of central government, from the Prime Minister down, as well as local government, the Games organisers and other stakeholders. This is perhaps unsurprising given the priority that the government gave the programme and the reputational damage that failure to deliver on time could have resulted in. Indeed, in the run-up to the Games, the Cabinet Committee for the Olympics, chaired by the Prime Minister, became the main decision-making body for the Games, thereby providing the project with executive authority at the highest level. The Cabinet Committee also included representation from the main local and central government delivery bodies.

Governance and decision-making on complex cross-cutting mega-projects

2.6 Under the current system the ultimate responsibility for a mega-project tends to sit with one department. Yet mega-projects can affect multiple sectors of society and the economy. Delivering mega-projects – including managing the risks and achieving the full scope of benefits – can therefore require multiple departments, different tiers of government and other organisations to be involved in decision-making and governance structures. We know from our work on the planning and spending framework that government is not set up to work in this way.[6] The government is introducing mission boards to lead delivery of its missions.

2.7 Where not managed well, this complexity can cause complicated and confused governance structures. These can result in ineffective decision-making, poor engagement and attendance on boards, or a lack of the joined-up thinking, responsiveness and coordination required for the project to be successful.

2.8 In our report on East West Rail (EWR), we set out that the Department for Transport (DfT) was responsible for delivery of the railway, but that achieving many of the key benefits, such as those related to housing and economic growth, relied on the combined work of the Department for Levelling Up, Housing & Communities, Homes England, local government and HM Treasury. The government established cross-government arrangements in 2018 to provide coordination across a portfolio of inter-related programmes. This included an inter-ministerial group and an inter-departmental portfolio board reporting to the inter-ministerial group. The government disbanded these cross-government structures in 2021, favouring instead locally led plans for growth. There were no new formal cross-government arrangements set up until 2023, when HM Treasury created the EWR economic growth board to coordinate central government activity and support local development.[7]

6 See footnote 4.
7 Comptroller and Auditor General, *Investigation into the East West Rail project (Oxford – Cambridge),* Session 2023-24, HC 359, National Audit Office, December 2023.

2.9 However, well-designed governance structures can provide coordination, clarity and effective decision-making to complex and cross-cutting mega-projects. There were six operational workstreams in the London 2012 Olympic and Paralympic Games programme, each with its own Senior Responsible Owner (SRO) drawn from across four different lead organisations. The Senior Responsible Owners Group, which included the six SROs as well as representatives from other delivery bodies and stakeholders, became the main forum for programme-wide operational decision-making in the run up to the 2012 Games. In 2011 we found that that the Group was well attended and that risks and issues raised at meetings resulted in agreed mitigating actions. Representatives from the main delivery bodies told us the group was a more effective forum for decision-making than its predecessor.[8]

The effect of mega-projects on finances and delivery of other priorities

2.10 The scale of financial and human resource that mega-projects need can lead to particular risks.

- Government approves an overall funding envelope for a major project for its whole-life cost. Projects then receive a shorter-term commitment to an annual funding profile, often for a spending review period, which can lead to uncertainty. For mega-projects, the whole-life cost can be a significant amount of money, required over a long time, which can span decades. However, annual budgets can be changed if a sponsor department needs to reprofile its spend, either to give more money to the mega-project or to reduce project spend to fund other commitments. Managing funding uncertainty can be difficult for mega-projects and reducing spend in the short term means the project can take longer and cost more in the long term.
- Given the length of time mega-projects are likely to run for, they are more likely to encounter significant factors outside of their control that impact on cost. Given the scale of mega-projects, any cost increases are likely to be significant. Recent examples of external events include the COVID-19 pandemic and the war in Ukraine. In the case of High Speed Two (HS2) Euston station, we found budget pressures were compounded by inflationary costs which DfT would need to manage closely.[9]
- The sponsor department may need to make trade-offs with its other objectives and projects, particularly where forecast costs increase. In our 2017 report on progress with Highways England's first Road Investment Strategy, we noted that increases in cost estimates on large, expensive and complex projects can distort the financial position of the overall portfolio. This can result in smaller projects being delayed or cancelled to help manage the cost increases in larger projects and improve the affordability of the overall portfolio.[10]

8 Comptroller and Auditor General, *Preparations for the London 2012 Olympic and Paralympic Games: Progress report December 2011,* Session 2010–2012, HC 1596, National Audit Office, December 2011.
9 Comptroller and Auditor General, *High Speed Two: Euston,* Session 2022-23, HC 1201, National Audit Office, March 2023.
10 Comptroller and Auditor General, *Progress with the Road Investment Strategy,* Session 2016-17, HC 1056, National Audit Office, March 2017.

Questions for project sponsors to consider

- Do the governance arrangements reflect the main risks to delivery and achieving value?
- Is there a shared understanding of the purpose of the project across key stakeholders?
- Where there are jointly led or external programme boards, or mission boards, is it clear how they fit within the overall governance and decision-making model and what they are accountable for?
- Have we thought about the potential impact of the project on other departmental priorities and how we might need to react?

Part Three

Governance in early decision-making

3.1 Given the nature of mega-projects, it is important that those involved in governance and decision-making are clear about the need for a mega-project, its deliverability, affordability and the value it will produce, particularly in the early stages.

3.2 This part of the report explores:

- the importance of basing key decisions on clear, shared and agreed visions of what the project is for;
- the risks of committing to mega-projects – and their budgets and timetables – too soon;
- the importance of thoroughly developing mega-projects before spending significant amounts of public money on delivery; and
- some questions for sponsors to consider.

Basing decisions on a clear, shared and agreed vision

3.3 One of the functions of governance is to focus on outcomes, benefits and value as well as cost and schedule. In our report *Delivering value from government investment in major projects*, we noted that clear vision and objectives, strong political leadership and a leadership culture focused on the intended value of the project are key.[11] This was also reinforced in our interviews for this report. However, we have seen some recent mega-projects where the purpose of the project was not clear, where there has been a lack of clear strategic rationale and a failure to secure widespread support for the project.

11 Comptroller and Auditor General, *Lessons learned: Delivering value from government investment in major projects*, Session 2023-24, HC 554, National Audit Office, February 2024.

3.4 Our work on High Speed Two (HS2) shows that the main, core reason for building the railway changed over time, with emphasis being placed variously on increasing capacity, speed, growth and regional economic regeneration. In its 2024 review of the cancellation of Phase 2, the Institution of Civil Engineers noted that there were multiple senior decision-makers, including Prime Ministers, Secretaries of State and senior officials, involved in the project over its lifetime. It stated that differing opinions about why HS2 was important meant that decisions were no longer aligned to a central purpose, leading to the project losing crucial political support.[12]

3.5 The early competitions to kickstart carbon capture and storage, which the government cancelled in 2011 and 2016 respectively, failed in part due to the lack of sufficient planning to underline its strategic importance and make the case for the required funding. Our most recent report on carbon capture and storage shows how establishing the net-zero target has led to the government deeming carbon capture and storage as essential for achieving the target, which has provided a strategic framework and so placed the project on a somewhat firmer footing.[13] Without clarity on how a project fits into the government's wider strategic objectives, projects are at greater risk of cancellation or reversal of decisions.

3.6 We have seen examples of how a clear, well-supported strategic vision, and clarity about how the proposed project fits into that agenda, can make it easier for decision-makers to engage with stakeholders and to commit to decisions to continue with the agreed scope of the project.

3.7 Our 2020 report on the COVID-19 vaccine rollout stated that the government's overall objective when responding to the pandemic was "to return to life as close to normal as possible, for as many people as possible, as fast and fairly as possible".[14] The government recognised that a successful vaccination programme played a central role in achieving this objective. This made decisions more sustainable over the life of the project, with early and decisive action being noted as a key reason for why the project was delivered successfully at speed.

12 Institution of Civil Engineers, *ICE Briefing Paper: The cancellation of HS2's northern leg – learning lessons,* September 2024.
13 Comptroller and Auditor General, *Carbon Capture, Usage and Storage programme*, Session 2024-25, HC 120, National Audit Office, July 2024.
14 Comptroller and Auditor General*, Investigation into preparations for potential COVID-19 vaccines*, Session 2019–2021, HC 1071, National Audit Office, December 2020.

Committing to mega-projects – and their budgets and timetables – too soon

3.8 The design, cost forecast and probable delivery date of a mega-project are likely to be subject to high levels of uncertainty because of characteristics such as complexity, novel design or innovation. However, our work contains many examples of mega-projects being announced – and their budgets and timetables made public – before adequate options appraisal and costing and feasibility analyses have been performed, and before there is assurance that, for example, the supply chain has the capacity and capability to deliver.

3.9 It is important that those involved in governance and decision-making are clear about what they are deciding and when, and that they ask for and use the best information to support their decisions. Mega-projects are characterised by high levels of uncertainty, meaning that cost estimates and delivery dates may be uncertain for some time. We recommend that departments use cost and schedule ranges to communicate uncertainty.

Taking time to develop a mega-project

3.10 HM Treasury, the Infrastructure and Projects Authority and Cabinet Office produce a wealth of guidance about how to initiate major projects, produce business cases and use decision gateways. In theory, these processes should prevent projects from moving to delivery before they are ready. Adhering to existing guidance and processes for developing a project is fundamental to placing a large, complex, mega-project on a firm footing. Yet, despite their size and complexity, it is not always the case that process is followed strictly.

3.11 There is often pressure on major projects to get started quickly. We were told that this pressure is often political, sometimes occurring so that progress can be announced, or to fit a spending review or electoral cycle. The pressure to start quickly and often to deliver at speed can mean that it is not possible for decision-makers to fully understand a project's risk and uncertainty.

3.12 The inherent complexity, scale and long duration of mega-projects mean that establishing whether something is deliverable or feasible, and understanding the level of uncertainty and risk, tends to be even more challenging and take longer to fully understand. Moving to the delivery phase of a mega-project and spending public money too soon can therefore result in poor decisions, or decisions that are later reversed.

3.13 In its September 2024 review of the cancellation of the northern leg of HS2, the Institution of Civil Engineers noted that decisions to move at pace gave High Speed Two Limited (HS2 Ltd) far too little time to develop the design of the project, with expensive early groundworks taking place while the design was still very immature. The report notes that the importance of mature design and the planning process still tends to be under-estimated on major infrastructure projects, and that immature designs and consents greatly contributed to cost escalation on HS2. The Institution recommended that "sponsoring departments and clients must be ruthless in gate reviews and controls until design and planning are sufficiently mature".[15]

Questions for project sponsors to consider

- Do we have a decision pathway that sets out what decisions will need to be made, when and by whom?
- How have we followed central guidance, in particular on long-listing, short-listing, and feasibility and affordability analysis?
- Do we need to do a mega-project, or can we achieve the same or similar results by doing something else?
- At each decision stage, has the work we have done given us the assurance that the project should continue?
- Do we know at what point a project would be considered unaffordable and a project review triggered?
- Do we need to carry out an Accounting Officer assessment, and seek a Direction under the terms of Managing Public Money in the event that we are not satisfied that the project will deliver value for money?

For more information, see our reports, *Lessons learned from Major Programmes*,[16] *Lessons learned: a planning and spending framework that enables long-term value for money*,[17] and our good practice guide *Managing uncertainty*.[18]

15 See footnote 12.
16 Comptroller and Auditor General, *Lessons learned from Major Programmes,* Session 2019–2021, HC 960, National Audit Office, November 2020.
17 Comptroller and Auditor General*, Lessons learned: a planning and spending framework that enables long-term value for money,* Session 2024-25, HC 234, National Audit Office, October 2024.
18 National Audit Office, *Managing uncertainty: Questions for decision-makers to ask in an uncertain environment*, August 2023.

Part Four

Governance through the life of a mega-project

4.1 Mega-projects can take decades to go from design to delivery. Given the complexity of these projects, alongside the time and scale, it is likely that they will face issues, and that those issues will be difficult to resolve. This part of the report explores:

- how governance might need to adapt during a project's lifecycle;
- responding to change;
- getting and using assurance; and
- culture and behaviour.

How governance might need to adapt

4.2 All major projects will go through multiple phases, such as from planning to a construction or implementation phase, then to operational delivery and finally to value-realisation and completion. On a mega-project, each phase can be particularly complex and have different risk profiles and stakeholders involved, and previously set decisions can be reopened several times. Projects perhaps need to apply different ways of working, emphasising flexibility and an iterative design and planning approach. All of this is likely to mean that different skills and expertise are required of leadership teams and governance boards at different stages of the project.

4.3 Failure to make adaptations to who is involved in the governance and decision-making on a project can cause issues to materialise. For example, by keeping a leadership team and governance boards staffed predominantly by civil engineers throughout the programme, Crossrail Ltd failed to identify the need to start operational and systems integration planning early enough, which resulted in cost increases and delays.

4.4 In October 2020, the Department for Transport and Transport for London (TfL) revised governance arrangements on the Crossrail programme to streamline decision-making and give TfL greater responsibility for overseeing completion. The sponsors told us that there were many benefits to bringing in the new governance arrangements then, such as all decision-makers being side by side and able to make decisions together around trade-offs. We considered the governance change appropriate to reflect the stage of the programme, helping support programme completion by ensuring the eventual operators and maintainers of the new railway line worked more closely with the delivery body building it.[19]

4.5 Where decision-makers introduce new or amended governance, it is important that they make responsibilities, accountabilities and authorities clear. There is a risk that decision-makers add more governance arrangements with additional boards, which risks confusing the programme.

Responding to problems

4.6 Given the nature of mega-projects outlined in Part One, they are likely to encounter problems during delivery, such as cost and schedule increases, being overtaken by external or once-in-a-lifetime events, or new technologies being difficult to introduce. High Speed Two (HS2), for example, faced issues such as protests, planning appeals and judicial reviews. Governance systems therefore need to be prepared to respond effectively to issues, and it can be helpful to test how it might react to different scenarios.

4.7 Making decisions to respond swiftly to issues, while maintaining discipline over scope, cost and schedule, and with many stakeholders to consider is necessary but can be difficult. These projects are often highly political and affected by the political cycle, and they can potentially have sizeable sunk costs, which means cancelling is less palatable.

4.8 Our report on *Resetting major programmes* looked at where major projects had been reset after encountering issues that sponsors could not manage through routine change control procedures. We found that, during and after resets, governance and approvals processes may need to evolve so they remain proportionate to the programme risks, bringing in relevant decision-makers from across the organisations involved.[20]

19 Comptroller and Auditor General, *Crossrail – a progress update*, Session 2021-22, HC 299, National Audit Office, July 2021.
20 Comptroller and Auditor General, *Lessons learned: Resetting major programmes,* Session 2022-23, HC 1198, National Audit Office, March 2023.

Assurance

4.9 Assurance helps those involved in governance to make decisions, to challenge the programme to take corrective action, and to have confidence in how it is progressing. However, given the size, scale and complexity of mega-projects, assurance can get complicated, with different layers/types of assurance in place.

4.10 The National Infrastructure Commission's report *Cost drivers in major infrastructure projects in the UK* found that "there is a tendency for sponsoring departments to see their role as providing additional assurance on the details of clients' work, rather than ensuring strategic outcomes are being met". It also found cases where assurance was carried out by those with "neither the expertise or the position in project governance to act". The report concluded that "little value is added by these processes, which come at a significant additional cost".[21]

4.11 Those involved in governance need to think through what internal and external assurance they need, the skills and experience they need within that assurance, when they will need it, and how the various types of assurance fit together in an integrated assurance plan. If this is not done, there is a risk that, instead of there being informed assurance at key points, assurance becomes ongoing non-expert commentary which could cause delay and confuse accountability.

4.12 We have seen cases where governance bodies have not listened to or acted on assurance findings in a timely manner. However, we have also seen cases where mega-project teams have welcomed external scrutiny and recommendations, leading to positive changes in the project. For example, in its April 2023 Gateway review of the carbon capture and storage programme, the Infrastructure and Projects Authority recommended the programme "implement a fundamental review of the governance arrangements to ensure a fit-for-purpose delivery model for the Programme". The most recent Government Internal Audit Agency review at the time of our report, carried out in March 2024, concluded that the Department for Energy Security & Net Zero had addressed almost all its recommendations and that it had made "significant progress". One of the changes it made following the review was to include HM Treasury in the carbon capture and storage programme board to manage project risks. As discussed above, including central government oversight in decision-making on mega-projects can help manage cross-departmental risks more effectively.[22]

21 National Infrastructure Commission, *Cost drivers of major infrastructure projects in the UK,* October 2024.
22 Comptroller and Auditor General, *Carbon Capture, Usage and Storage programme,* Session 2024-25, HC 120, National Audit Office, July 2024.

Culture and behaviour

4.13 Governance structures and processes can only go so far, particularly given the nature of mega-projects. We have seen many examples of good news cultures presiding, where decisions are not made and where disagreements between stakeholders are not resolved. Communication and influencing skills across complex eco-systems of stakeholders, and the ability to champion, advocate and challenge constructively, and to foster transparency and honesty, are all vital skills that those involved in governance must work on.

Questions for project sponsors to ask

- Do those charged with governance have the appropriate skills, qualifications and experience to be able to challenge and make decisions on the project?
- Do we know how we will balance adapting to changing circumstances with the need to limit change during delivery?
- Have we applied sufficient scenario testing to understand how the governance arrangements might react to events and where those arrangements might need to be strengthened?
- Have we set out the full range of project interdependencies and how we will manage them?
- Do we have an integrated assurance plan, and appropriately skilled independent oversight and assurance in place, and do we know how we will ensure that recommendations and concerns are taken seriously and acted upon?

Appendix One

Our audit approach

Our scope

1 The purpose of this report is to improve how the government approaches strategic governance and decision-making in the largest, riskiest and most complex major projects as it undergoes changes in the way in which major projects are organised and overseen. We have seen that the repercussions of poor governance and decision-making in these projects are potentially greater than for other more standard major projects. The report:

- sets out some characteristics of 'mega-projects', and some thoughts on why standard models of governance and oversight may not be effective for these projects (Parts One and Two); and
- examines governance in the early stages and throughout delivery for mega-projects (Parts Three and Four).

Parts Two, Three and Four end with some questions for project sponsors to consider. We set out some recommendations for the centre of government.

2 We have examined major projects across different parts of government and at different stages of delivery over many years. In this report, we have examined whether and how governance and decision-making enabled government to manage risks and make timely decisions in a sample of the projects that we have previously reported on. We reviewed previous National Audit Office (NAO) reports, interviewed officials, and tested our insights with delivery departments, the centre of government and external experts.

3 This report is not an exhaustive account of how governance works on major projects, nor about all governance challenges faced by major or mega-projects. We do not seek to reproduce or revise the comprehensive guidance on project management techniques and effective governance of major projects that already exists. It is critical that departments understand and use that guidance as they develop and deliver their major projects.

Our evidence base

4 We conducted our fieldwork between September 2024 and January 2025. We drew on a variety of evidence sources.

Document review

5 We used our knowledge management tools and colleagues' expertise to identify around 85 NAO reports and insights products on major projects and programmes where findings on governance and decision-making featured prominently.

Project-focused interviews

6 We spoke with officials from government involved in managing, delivering, funding and assuring some of the largest, most complex and critical major projects mentioned in this report. We spoke to the following government bodies: the Department for Energy Security & Net Zero; the Department for Transport; and HM Treasury.

Discussions

7 We facilitated a series of discussions with experts from government and the private sector. This included a panel discussion with project delivery experts from outside of government and a panel discussion with government heads of profession with experience of delivering large and complex government projects. We also held bi-lateral discussions with those involved in the analysis, audit, assurance and funding of large and complex government projects.

8 Our discussions involved people from the following bodies:

- the Association of Project Management;
- Cabinet Office;
- the Department of Health & Social Care;
- the Infrastructure and Projects Authority;
- the Institute for Government;
- HM Treasury (Office for Value for Money);
- the Major Projects Association;
- the Ministry of Defence;
- the Ministry of Housing, Communities & Local Government;
- the National Infrastructure Commission;
- the Government Internal Audit Agency; and
- University College London.

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